



*Charter Township
of
Chocolay*

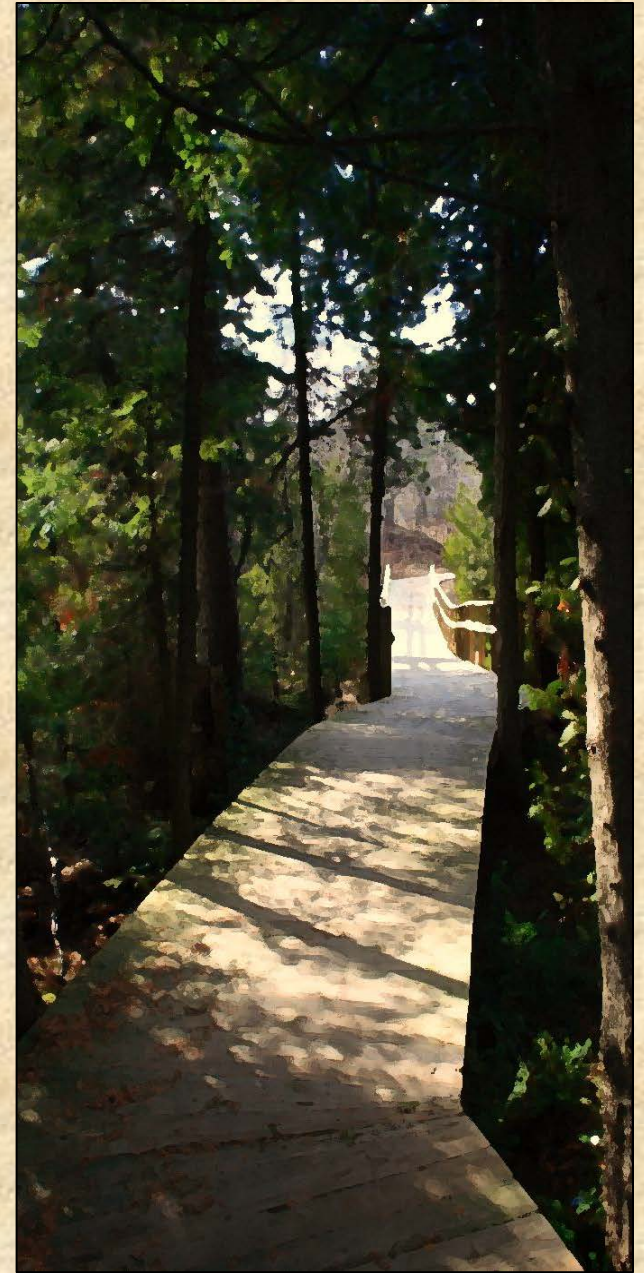
Master Plan

2015 Edition

*Toward Community
Prosperity and Resilience*



Adopted May 18, 2015



CHARTER TOWNSHIP OF CHOCOLAY

COUNTY OF MARQUETTE, MICHIGAN

RESOLUTION OF ADOPTION

CHARTER TOWNSHIP OF CHOCOLAY MASTER PLAN 2015 EDITION

WHEREAS the Michigan Planning Enabling Act (MPEA), Act 33 of 2008, as amended, authorizes the Planning Commission to prepare a Master Plan for the use, development, and preservation of all lands in the Township; and

WHEREAS the Charter Township of Chocolay Planning Commission has supervised an update to the Charter Township of Chocolay Comprehensive Plan, adopted on August 4, 2005, to be called the Charter Township of Chocolay Master Plan 2015 Edition; and

WHEREAS citizens were given the opportunity to provide input for the development of the Plan via a public meeting held on September 22, 2010, and through widely distributed public opinion surveys in 2010 and 2013; and

WHEREAS the Charter Township of Chocolay Planning Commission, in preparing this Master Plan, has studied present and future conditions within the Township and neighboring jurisdictions, and has addressed future land use and development, the transportation system and other public infrastructure and services, natural resources, and future zoning within a framework of community sustainability and resilience; and

WHEREAS the Charter Township of Chocolay Planning Commission and the Charter Township Board of Trustees have reviewed the draft Plan over the course of many meetings and provided comments for its refinement which have been incorporated into the Plan; and

WHEREAS on February 9, 2015, the Charter Township of Chocolay Board of Trustees approved the distribution of the plan to the notice group entities identified in the MPEA for review, and a 63 day public comment period was duly noticed and completed; and

WHEREAS all the required notifications and draft documents were distributed per the requirements of the MPEA; and

WHEREAS the Charter Township of Chocolay Planning Commission has duly reviewed the draft plan consisting of three introductory chapters; resilience analysis for community, private, and natural systems; strategic plan (including future land use and zoning plans); implementation plan; and 22 appendices containing maps and reference documents; and accepts this plan as a guide for development of the Township pursuant to the authority of the MPEA; and

WHEREAS the Charter Township of Chocolay Planning Commission conducted a duly advertised public hearing on May 18, 2015 to receive public comment on this plan; and

WHEREAS a set of Plan amendments were presented at the hearing as a result of public comment; and

WHEREAS Pursuant to MCL125.3843 the Township Board has not asserted by resolution its right to approve or reject the proposed Master Plan and therefore the approval granted herein is the final step for adoption of the plan as provided in MCL 125.3843;

NOW THEREFORE BE IT RESOLVED that the Charter Township of Chocolay Planning Commission does hereby adopt on the date listed below the Charter Township of Chocolay Master Plan 2015 Edition, along with the amendments attached to the minutes of the May 18 public hearing, and does direct the Secretary of the Township Planning Commission to deliver a copy of the adopted Plan to the Township Board and to the County Planning Commission and other notice group entities identified in the MPEA along with this Resolution as certification of the adoption of the Plan;

BE IT ALSO RESOLVED that this Resolution be published inside the back cover of each copy of the Charter Township of Chocolay Master Plan 2015 Edition to certify that all maps, charts and descriptive and explanatory matter therein are a part of the Plan as so signified by the signature of the Chairperson of the Charter Township of Chocolay Planning Commission on this Resolution.

The Master Plan shall be effective as of the date of adoption of this resolution.

The foregoing resolution offered by Planning Commissioner Bruce Ventura

Second offered by Planning Commissioner Dr. Richard Bohjanen

Roll Call Vote:

Ayes: Tom Mahaney, Eric Meister, Andy Smith, Bruce Ventura, Kendell Milton, Dr. Richard Bohjanen, and Andy Sikkema

Nays: none

The Chair declared the resolution adopted.

Date: May 18, 2015



Andy Sikkema, Chair

Charter Township of Chocolay Planning Commission

Acknowledgements

Local Elected Officials

Gary Walker - Supervisor
Max Engle - Clerk
John Greenberg - Treasurer
Richard Bohjanen - Trustee
David Lynch - Trustee
Mark Maki - Trustee
Judy White - Trustee

Township Staff

Steve Lawry - Manager
Kelly Drake Woodward - Planning Director / Zoning Administrator
Dale Throenle - Community Development Coordinator
Brad Johnson - Department of Public Works
Gary Johnson - Fire and Rescue Chief
Greg Zyburt - Chief of Police

Planning Commission

Andy Sikkema - Chair
Andy Smith - Vice Chair
Eric Meister - Secretary
Richard Bohjanen - Trustee
Tom Mahaney
Kendell Milton
Bruce Ventura

Other Participants

Geraldine Grant - Superior Watershed Partnership

Subcommittee

Jill Bradford
Don Britton
Wayne Dees
Bob LaJeanesse
Kathy Vermaats

Zoning Board of Appeals

Michelle Wietek-Stephens - Chair
Karen Alholm - Vice Chair
Mark Maki - Trustee
Kendell Milton - Planning Commissioner
Sandra Page
Geno Angeli - Alternate
Paul Charbeneau - Alternate

FORMER INVOLVED

Greg Seppannen - Supervisor
Dr. Ken Tabor - Trustee, Planning Commission
John Trudeau - Trustee, Zoning Board of Appeals
Bernard Stanaway - Trustee, Planning Commission
Sue Carlson - Trustee
Gary Heinzelman - Chair, Planning Commission
Lee Snooks - Zoning Board of Appeals
Raymond Gregory - Zoning Board of Appeals

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Introduction

Chapter 1





Chapter 1: Introduction

Chocolay Township provides residents with diverse places to experience a high quality of life, whether living in close relationship with Lake Superior, wind-swept dunes and beautiful sunsets; nestled amid pastoral rural landscapes of rolling forests and working farms; relaxing at a remote camp along a river or deep in the woods; or enjoying the benefits of home ownership in traditional subdivisions with close neighbors. Chocolay Township is also home to diverse creatures that inhabit water, land, and sky such as trout, salmon, migratory waterfowl, fox, domestic buffalo, chickens, and eagles.

Chocolay residents reap the benefits of living in close proximity to the largest city in the Upper Peninsula, with typical activities that accompany University towns and centers of health care and commerce. However, this proximity provides a challenge to maintaining a healthy local economy when so many residents must travel outside the Township for employment or shopping. Like other municipalities that are strongly balanced in favor of residential development, Chocolay Township also faces challenges related to a lack of diversity in the tax base needed to support community services and amenities. This plan focuses on balanced strategies for local sustainability while keeping an eye on niche opportunities within the region. It involves taking a fresh look at the Township's people, economy, built environment, natural environment, and social conditions to document important changes and address anticipated opportunities and risks.

PURPOSE

The Master Plan is meant to be a framework that rests on the foundation of community vision and technical analysis. Communities undertake planning processes with hopes of creating a proactive document that reflects consensus, is a basis for informed decisions, and provides clear direction for the years to come. The plan is meant to be a guide for future decisions on land use policy, regulations, capital improvements and economic development. The plan is advisory in nature, not regulatory. Master Plans are long-range policy documents that translate values into strategies. They are living documents that require periodic updates.

The zoning ordinance is one regulatory mechanism that is meant to implement the Master Plan. State law requires that the zoning ordinance be based on an adopted plan. Zoning decisions that are consistent with an adopted Master Plan are presumed by courts to be valid. In this way, the Master Plan strengthens the legal basis for the Township's land use regulations.

This Plan is prepared under authority of the *Michigan Planning Enabling Act, P.A. 33 of 2008, as amended*. It provides the basis for zoning under the *Michigan Zoning Enabling Act, P.A. 110 of 2006, as amended*. The plan also provides a basis for land division and land use regulations and capital improvements programs (CIP). It is intended to be consistent with other regional plans, thereby setting the stage for regional collaboration.

PROCESS

The planning process provides a foundation for public participation, interaction, and collaboration.

1

In March of 2010, surrounding jurisdictions were notified of the intent to plan. A subcommittee was formed to guide the update process. Data gathering and analysis was undertaken to identify trends, issues, and opportunities.

2

A public visioning session was held on September 22, 2010 at the Cherry Creek School.

3

In 2010, the first of two public opinion surveys was implemented. This survey was promoted by direct mail to 3,416 Township taxpayers. There were 491 respondents to this survey.

4

In 2013, the second public opinion survey was implemented. Residents were notified and reminded of the survey by several means, including a postcard mailing, newspaper article, notice on the sign at Township Hall, and announcement on the Township website. The postcard was mailed to every address in the Township (3,167). In addition, 170 postcards were hand delivered to Tribal housing and mobile home park residents (who do not have individual addresses in Township records). A total of 3,337 notices were distributed. Residents were asked to request or collect paper versions of the survey at Township Hall, or to take the survey online. The survey asked respondents to identify the Character Area in which their property was located so that differences in opinion could be compared per area. There were 600 respondents to the 2013 survey.

Multimodal data collection methods were used for both surveys (paper copy or online version). Multiple household members were invited to take the survey.

RELATIONSHIP TO PREVIOUS PLANS

In 2010, Chocoday Township began the process of updating the 2005 Comprehensive Plan. To fund the plan update, the Township partnered with the Superior Watershed Partnership to apply for a Michigan Coastal Zone Management Grant through the Michigan Department of Environmental Quality and the National Oceanic and Atmospheric Administration.

NEXT STEPS

Implementation of the Plan is an ongoing process requiring continuous monitoring of changing conditions and progress toward results. At the very least, the Master Plan should be reviewed every five years after adoption for necessary changes. It is advised that progress be assessed yearly as part of the Annual Report. After adopting the Plan, the Planning Commission or Township Board should prepare a prioritized capital improvements program of public structures and improvements in accordance with the requirements of the Michigan Planning Enabling Act which requires this of all townships that own or operate a water supply or sewage disposal system. It is also important to initiate immediate efforts to communicate the contents of the Plan to residents and property owners and solicit implementation assistance as needed.

SUMMARY OF MAJOR CHANGES SINCE THE 2005 COMPREHENSIVE PLAN

2006

The Township contracted with U.P. Engineers and Architects to begin the process of updating the zoning ordinance per recommendations of the 2005 Comprehensive Plan. The Board voted to support the abandonment of the 20' alley in block 3 of the Plat of the Village of Harvey. A study was performed by STS Consultants to determine projected future wastewater flow for the Marquette Area Wastewater Treatment Facilities, with the idea that Chocolay's ownership percentage in the plant should be reduced based on using less than three percent of allowed maximum flow. The Emergency Management Ordinance #56 was adopted. The Board moved to support the formation of the Recreation Authority for the development, management, and maintenance of the Iron Ore Heritage Trail.



Markers on the Iron Ore Heritage Trail

2007

Chocolay Township adopted a 17-year plan for road projects and passed a five year millage for resurfacing roads. The Board also accepted a grant (no match required) for a portable generator and accessories from the Marquette County Emergency Management Department. The Township Hall was expanded and improved. The Board authorized a request from the Silver Creek Church to use a portion of the Silver Creek Recreation Area for a Disc Golf Course that would be free to the public and maintained by the Church. Bids were awarded for fabrication of a kayak storage locker at the Chocolay Township Marina. Tom Lakenen offered land for a dry hydrant to support fire protection, and a perpetual easement was approved by all parties. Work was approved for a Township History Book.



Kayak storage locker at the Township marina

2008

Road improvements were completed in Harvey east of US-41 on Green Bay, Baker, Fairbanks, Kellogg, Terrace, Wright, and Corning streets. See Appendix D for a road map.



Intersection US 41 / M-28 and M551 Cherry Creek Road

2008, continued

The County leased the State Mangum Prison Farm for use as a County jail for misdemeanors and a working farm. The Board reiterated its position that no roads be designated for ORV use in Chocolay Township.

The Zoning Ordinance was extensively amended to implement some recommendations of the 2005 Comprehensive Plan. Rural residential districts were combined into one district called Agricultural/Forestry (AF) with a minimum lot size of 20 acres.

Regulations were changed to allow up to four homes to share one common driveway without having to apply for a private road. An amendment was subsequently approved for home occupations and political signs.

2009

The intersection of US-41S/M-28E/Cherry Creek Road (551) was reconstructed to allow for better flow of traffic and to reduce the number of accidents at the intersection.

Road improvements were completed in Harvey west of US-41 on Quarry Road, Fairbanks, Hoppock, Reservoir, Ripley Court, Terrace, Van Epps Place, and Wright streets. See Appendix D for a road map. Improvements were also made in the Ewing Plaza and Ewing Park subdivisions including Carmen Drive and Jean, Judy, Juliet, and Veda streets. See Appendix B for a subdivision map.

The zoning ordinance was amended in relation to density for multi-family housing. Parks were added as conditional uses in the AF and WFR districts as a response to questions regarding private parks such as Lakenenland. Kennels were added as conditional uses in the AF district with 20 acres or more. A height increase for accessory structures was also approved to accommodate trusses that met energy conservation standards. New standards for outside lighting were adopted to address dark sky standards.

SUMMARY OF MAJOR CHANGES SINCE THE 2005 COMPREHENSIVE PLAN

2010

The Township received a \$2 million MDOT Enhancement Grant and DNR Trust Fund Grant to construct 1.9 miles of new non-motorized pathway, a pedestrian tunnel under US-41, a multi-use bridge over the Chocolay River, and remove the existing pedestrian overpass. This allowed citizens to walk or bike from M-28E to the bike path along US-41 and into Marquette.

The project also included the planting of 200 trees and shrubs along US-41 in the Harvey business corridor to improve aesthetics.

Security cameras were installed in the new pedestrian tunnel.

The traffic signal at Silver Creek Road/Corning Street and US-41 was modified to include a pedestrian push button to trigger longer crossing times.

Road improvements were completed in the Candace and Fernwood Park subdivisions including Timber Lane, Candace, Candee, Fernwood Drive, Jennifer, and Ridgewood Drive streets. See Appendix B for a subdivision map.

In 2010, the MDNRE also graded and resurfaced 6.2 miles of trail along the former Soo Line Railroad grade using compacted crushed limestone. The resurfacing began at the Michigan Welcome Center on US-41 and extended east to Kawbawgam Road. The new surface accommodated walkers, bicyclists, and other non-motorized wheeled users. Linked to the US-41/M-28 pathway at the Welcome Center and Timber Lane, the trails provided a 4.26 mile exercise loop with minimal street crossings for the health and enjoyment of Township residents. See Appendix E for a trail map.

The Township applied for a TARP (Troubled Asset Relief Program) grant but was denied because shovel ready plans were not available. So the Township awarded a contract for development of design documents for a new fire station, and continued to build a sinking fund to be used as matching funds for grants for the new facility.



Multi-use bridge adjacent to M-28



Iron Ore Heritage trail near Welcome Center



Wood chipper purchased in 2010

2010, continued

The Township was awarded a Coastal Zone Management Grant to work with the Superior Watershed Partnership to update the Township Comprehensive Plan.

Irrigation was installed in all the baseball fields.

Public Works purchased a wood chipper and a sewer cleaner.

General office, nursing homes, and medical/veterinary clinics were added as conditional uses in the R-2 district. Churches and schools were added as conditional uses in the AF district. Swimming pools were deleted from conditional uses since they are regulated by the County.

2011

Road improvements were completed in the Riverside and Riverland subdivisions including Riverland, Vidy Drive, Forest Road, Glenwood, Riverdale, Riverside, and BV streets. Dana Lane was also improved. See Appendix B for a subdivision map.

The Township replaced two police patrol vehicles.

Free wellness clinics and congregate senior meals were introduced as Township services in partnership with U.P. Home Health and Hospice and AMCAB (Alger-Marquette Community Action Board). These services were not well utilized and were eventually discontinued.

Ordinances relating to snowmobile traffic and outdoor burning were adopted. The zoning ordinance was amended in relation to communication towers.

The Planning Commission approved a Planned Unit Development (PUD) project on a lot less than the 5 acre requirement (per ZBA approval) which redeveloped a vacant medical building into five apartments with basement storage. Administrative provisions of the Zoning Ordinance were amended.

SUMMARY OF MAJOR CHANGES SINCE THE 2005 COMPREHENSIVE PLAN

2012

MDOT reconstructed US-41 from the Carp River bridge in Marquette to Bayou Street in Chocoley Township. Portions of the sanitary sewer main that connects Harvey with the Marquette Wastewater Treatment Plant were reconstructed. Staff videotaped several hundred feet of sewer line on Lakewood Lane and located several major leaks.

Road improvements were completed in the Country Side Estates subdivision including Briarwood Drive, Meadow Lane, Dandelion Lane, Sandy Lane, and Ridge Lane. See Appendix B for a subdivision map.

The Planning Commission conducted a public hearing on the preferred route for the Iron Ore Heritage Trail through the Township. While choosing to retain the railroad grade as the primary designated route for the Iron Ore Heritage Trail (including assumption of maintenance costs), the Iron Ore Heritage Trail Recreation Authority agreed to designate the paved route paralleling US-41/M-28 through the business corridor as an alternate business route for the Iron Ore Heritage Trail and to provide signs to mark it as such. The Authority was not willing, however, to assume the maintenance responsibility for the alternate business route. See Appendix E for a trail map.

The first Chocoley Community Garden was created on property leased from the Harvey Baptist Church with the assistance of Eagle Scout candidates Matt Collins and Ethan Park.

The Adopt-A-Tree program was implemented with the assistance of Eagle Scout candidate Michael Edwards. This volunteer effort was organized to care for the trees and shrubs that were planted as part of the 2010 grant. An interactive web page was created to facilitate adoption. Some dead plantings were replaced.

Township residents approved a dedicated fire hall millage of up to 1.7 mills for six years to finance the construction of a new \$2 million facility.



Subdivision road resurfacing project



Scouts assisting with the Adopt-a-Tree program



New fire hall completed in 2013

2012, continued

A risk analysis was completed with the Michigan Municipal Risk Management Authority (MMRMA) representative for all Township recreation sites.

PUD's were eliminated for inclusion in the AF district. Wireless communication facilities were included as conditional uses in the AF district.

2013

Road improvements were completed in the Briarwood Estates subdivision including Edgewood Drive, Katers Drive, and Penny Way; and in the Holiday Villa Estates subdivision including Surrey Lane and Carriage Lane. See Appendix B for a subdivision map.

Construction of the new fire hall was completed.

Assessing re-inspection of all improved Township properties (2,585 properties) was finished after a five year effort.

Public surveys were conducted for the Master Plan and Recreation Plan updates and broadband communications.

The U.P. Disc Golf Association partnered with the Township to expand the disc golf course located at the Silver Creek Recreation Area and the Silver Creek Church from a 9-hole course to 18-hole course.

The Township Planning Commission, after receiving predominantly negative input during a public hearing, denied a plan for ORV travel on parts of CR-480, Basal Road, Mangum Road, and Kawbawgam Road in Chocoley Township.

After four years of discussion, the zoning ordinance amendment pertaining to signs was approved. Zoning amendments pertaining to home occupations, conditional use standards, notification distance, and outside lighting were also approved.

Conditional uses were approved for a Montessori School, two group day care homes, and earth changes at a residential property in the Lake Superior Shoreline/Dune Protection Overlay district.

SUMMARY OF MAJOR CHANGES SINCE THE 2005 COMPREHENSIVE PLAN

2014

In 2014 the Township Hall was opened up for use as a senior drop-in center two days a week. Due to dedicated leadership, this project was highly successful, and continued to grow in participation. Some events included potluck dinners, crafts and games, bus tours, and live polka music and Christmas carols.

The Township Board approved the use of the Township property known as the Beaver Grove Agriculture Area for purposes of a community farm to include large plot community gardens and hoop houses, farm plots, u-pick berry patches, permaculture and other demonstration gardens, and a children’s garden. A cover crop was planted while the citizen management team, the Chocolay Community Farm Collaborative, began applying for grant funding and establishing management and organizational procedures. The group received an \$800 grant from Rural Partners of Michigan to assist in purchasing interpretive signs and installing children’s play infrastructure.

The Township approved adoption of the Charter Township of Chocolay 2014-2018 Recreation and Natural Resource Conservation plan in February.

The Township submitted a DNR Natural Resources Trust Fund grant application and was successful in getting \$50,000 for improvements to establish a trailhead for the Iron Ore Heritage Trail at Lion’s Field. Project partners include the Chocolay Lion’s Club and Iron Ore Heritage Trail Recreation Authority.



Expanded Silver Creek disc golf



Above and below - Participants in the Senior Drop-In program



The Board adopted an intergovernmental agreement to create the Superior Trade Zone under the Urban Cooperation Act for the purpose of economic development. This establishes the Township as a voting member in the Trade Zone encompassing Delta and Marquette counties.

The Township approved a land use agreement and development plans for a communications tower at the Silver Creek Recreation Area and improvements to the Holiday Gas Station, including a connecting drive between Snyder’s Drug and Holiday.

Chocolay Township’s first brew pub was opened as the Chocolay River Brewery LLC and the former Grove Restaurant was reopened as Root 41 Restaurant.

Rezoning was approved for properties at 118 W. Wright Place and 225 W. Terrace St. The Board also approved an amendment to a PUD for the Corning Apartments located at 425 Corning Ave. The basement record storage was converted to four new apartments.

A new ordinance #59 Outdoor and Open Burning was approved, and provisions on this topic in the Zoning Ordinance were removed. This Ordinance is enforced by the Chocolay Township Police and Fire departments.

The Township approved a citizen initiative to select “Two Sisters Creek” as the name for an unnamed tributary of Dorow Creek.

PROGRESS TOWARD RECOMMENDATIONS OF THE 2005 COMPREHENSIVE PLAN

This section highlights progress toward specific action-oriented goals, policies, and objectives of the adopted 2005 Comprehensive Plan, referencing the applicable headings of that plan. See Appendix A for the full text from the referenced policies, goals, and objectives.

BALANCED GROWTH

ACCOMPLISHMENTS	<ul style="list-style-type: none"> ■ Balanced Growth Most of the “balanced growth” goals and policies are intended to support compact development within or adjacent to already developed areas, provided with appropriate infrastructure and services, and compatible with development in adjacent municipalities. The 2008 zoning ordinance update supports these principles. ■ Planned development New development is evaluated according to the Master Plan and is consistent with all applicable ordinances. (Balanced Growth Policy #3) ■ Private property rights The Planning Commission has deliberated with respect for private property rights. (Balanced Growth Policy #7)
TO BE DONE	<ul style="list-style-type: none"> ■ Mixed use Plan for a balanced mix of land uses so that the tax burden of public services is not all borne by residential landowners. Mixed use zoning has not yet been implemented. (Balanced Growth Policy #1, Commercial Goal #1 Policy #4) ■ Zoning updates The Zoning Ordinance is still being updated to implement the 2005 plan, but much has been done. (Balanced Growth Objective #1) ■ Educated public There is still a need to educate the public on the nature and benefits of planned growth, management of areas of particular concern, and walkable communities. (Balanced Growth Objective #3, Natural Features Objective #6, Recreation Objective #4)

HOUSING / RESIDENTIAL

ACCOMPLISHMENTS	<ul style="list-style-type: none"> ■ Prevent incompatible land uses The Planning Commission consistently takes steps to protect residential areas from the encroachment of incompatible land uses. (Housing/Residential Goal #1 Policy #7) ■ Discourage rural sprawl The change in minimum lot size in the AF district (20 acre minimum) has contributed toward the discouragement of a continued pattern of scattered rural housing in areas of important and prime farmland. (Housing/Residential Goal #1 Policy #9 & #12) ■ Compatible home occupations A recent zoning amendment ensures only quiet, low traffic, low intensity home occupations are allowed in neighborhoods. (Housing/Residential Goal #1 Policy #15) ■ Home splits Although the Township has no provisions for the preservation and retention of older homes (there aren't that many), homeowners have been prevented from splitting homes into multiple family apartments or condominium units. It should be noted that this accomplishment conflicts with many other goals of the plan to encourage housing diversity and affordability. (Housing/Residential Goal #1 Policy #17) ■ Transparency Township ordinances are posted on the website, and some educational materials on land division practices have been distributed. (Housing/Residential Goal #3 Objective #2 & #3)
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HOUSING / RESIDENTIAL

TO BE DONE

- No development in sensitive areas
More could be done to discourage residential development in floodplains. (Housing/Residential Goal #1 Policy #2, Natural Features Policy #3)
- Residential diversity
More work is needed to encourage a variety of residential dwelling types in a wide range in prices, that are compatible with existing neighborhood character, but this is not widely supported by residents according to the 2013 survey. The areas zoned for multi-family and mobile home development encompass only existing development and does not allow for future development. (Housing/Residential Goal #1 Policy #3, #10, #14, Objective #2; Housing/Residential Goal #2 Objective #2)
- Residential design
Education and creative solutions are still needed for more energy efficient homes, improved housing and subdivision design, and improvement of deteriorated homes. (Housing/Residential Goal #1 Policy #4, #5 and #8, Objective #3 and #4)
- Emergency response
A numbering system to improve emergency response has not been implemented, although residents have been encouraged to post addresses more visibly. (Housing/Residential Goal #1 Policy #6, Community Facilities Objective #5)
- Housing assistance
The Township has not become involved in housing assistance for the elderly, low income, and handicapped families except in permitting the PUD that included apartments with Universal Design. The existing senior housing development has been rendered nonconforming by the 2008 zoning ordinance changes. The Township has not encouraged eligible landowners to participate in housing rehabilitation grant programs. (Housing/Residential Goal #1 Policy #11 & #18)
- Affordable housing
The Township has not amended the zoning ordinance to accommodate more affordable housing options. Examples include reducing the area and width requirement for single-family homes to accommodate tiny houses, cottages, and mobile homes; creating areas for multi-family housing or duplexes; or accommodating detached accessory housing units. (Housing/Residential Goal #1 Policy #13)
- Property maintenance
The Township has not considered or adopted a basic property maintenance code except in regard to nuisances such as dilapidated structures. (Housing/Residential Goal #1, Policy #16, Community Character Objective #5)
- Housing trends
The Township has not annually evaluated housing stock change in relation to diverse supply, and has not collaborated with other groups to study and provide educational materials regarding housing trends and alternatives that reduce impact on community finances, the transportation system, scenic character, and the environment. (Housing/Residential Goal #1 Objective #1, Housing/Residential Goal #2 Objective #3)
- Homes on seasonal roads
New development has not been discouraged in areas without all season roads because the Township has allowed this development if applicants sign a “hold harmless” agreement. (Housing/Residential Goal #2 Objective #4)
- Private roads
The Township is still addressing issues with private roads. (Housing/Residential Goal #2 Objective #5)
- Land division
The Township does have Land Division ordinances, but they need to be updated and may not reflect all the stated goals. (Housing/Residential Goal #3 Policy #2 and Objective #1 and #3)
- Residential design standards
The Township has not developed rural residential development standards or design guidelines to set aside open space and employ vegetative buffers along roadsides and in sensitive or scenic areas except in relation to conditional uses. More could be done to discourage the percent of impervious surfaces allowed on a lot and to encourage the retention of vegetated buffers along roadways for all development. In the 2013 public opinion survey, only 3% of respondents perceived that cleared lots with homes built close to the road reflected rural character. (Housing/Residential Goal #4 Policy #1 and #2, Community Character Objective #4)

COMMERCIAL

ACCOMPLISHMENTS	<ul style="list-style-type: none"> ■ Commercial development The Township has not deviated from the practice of concentrating commercial development along US-41 and in small commercial centers without allowing strip development. (Commercial Goal #1 Policy #1 & #2) ■ Access Management The zoning ordinance was amended to include access management provisions for the US-41/M-28 corridor through Harvey (Commercial Goal #1 Policy #9, Transportation Goal #1 Policy #4 Objective #4) ■ Commercial and non-motorized enhancement Non-motorized access to small commercial nodes at the intersection of Hiawatha Road and M-28, Varvil Center, and the Casino has partially been addressed by the improvements to the Iron Ore Heritage Trail. There is still a need for trailheads in those areas. (Commercial Goal #1 Objective #3)
TO BE DONE	<ul style="list-style-type: none"> ■ Commercial development The Township has not yet accommodated neighborhood commercial development. (Commercial Goal #1 Policy #3) ■ Design guidelines The Township has not implemented design guidelines for commercial plazas, historic preservation, the inclusion of non-motorized facilities, commercial aesthetics, tree preservation, or berms (there are some landscaping requirements). There are currently no requirements for the interconnection of developments by non-motorized transportation. (Housing/Residential Goal #5 - all; Commercial Goal #1 Policy #5 and #6, Objective #4; Community Character Policy #2 & #5, Economy Policy #4 Objective #4) ■ Maintenance There are no provisions to encourage commercial structure maintenance. In some cases, the lack of mixed-use zoning has discouraged reuse and reinvestment. (Commercial Goal #1 Policy #7) ■ Shared access & parking These provisions have only been adopted in the Access Management Overlay District, and might be beneficial in other circumstances as well. The Township has not addressed centrally placed parking lots (Commercial Goal #1 Policy #6 & #8). ■ Harvey Commercial Center The Township has not assisted in design and creation of a commercial center in Harvey. (Commercial Goal #1 Objective 1) ■ Boulevard A boulevard design has not been implemented for the US-41/M-28 corridor through Harvey. (Commercial Goal #1 Objective #2, Transportation Goal #1 Objective #1) ■ Commercial and non-motorized enhancement Aesthetic improvements and non-motorized access to small commercial node at US-41 and CR 480 have not been addressed. Visual enhancement has not occurred at the small commercial nodes at Hiawatha/M-28, the Varvil Center, and the Casino, but these locations are now accessible to bicyclists and pedestrians from the Iron Ore Heritage Trail (Commercial Goal #1 Objective #3)

INDUSTRIAL

TO BE DONE	<ul style="list-style-type: none"> ■ Industrial development Essentially, nothing has been done to create more areas for future industrial development or to encourage it. Zoning changes are needed to support this. (Industrial goals, policies, and objectives - all)
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TRANSPORTATION

ACCOMPLISHMENTS	<ul style="list-style-type: none"> ■ Non-motorized and alternative transportation Improvement projects supporting pedestrian and bicycle access and connection have occurred along the route of the Iron Ore Heritage Trail regular and business routes. (Transportation Goal #1 Policy #2 & #3, Recreation Policy #4 Objective #3) A carpool lot has been established by MDOT near the intersection of US-41/M 28 and Cherry Creek Road. A tunnel was constructed for non-motorized traffic under US-41 at Fairbanks Street. (Transportation Policy #3) ■ Corridor Capacity and Safety The Township has protected the capacity and safety of the US-41/M 28 corridor through Harvey with access management provisions in the zoning ordinance. These regulations may be useful in other areas where commercial proliferation or small lot development has occurred along the highway corridor. (Transportation Policy #4 Objective #4) ■ Ring Road or US-41/M-28 bypass road Such a road has not yet been developed, but interconnections and easements for frontage connections are being explored as part of development review. (Transportation Objective #2 & #3) ■ Pedestrian signals The US-41/M-28 and US-41/Silver Creek Road intersections were improved with pedestrian activated cross-walk signals. (Transportation Objective #5) ■ Public transportation The Township pursued a potential collaborative project with Marq-Tran to provide a transit station near the Park 'N Ride lot, but was not yet successful. (Transportation Objective #10)
TO BE DONE	<ul style="list-style-type: none"> ■ Alternative transportation There have been efforts to support alternative transportation such as the Iron Ore Heritage Trail and MDOT carpool lot. Additional strategies are needed in other locations to make more neighborhoods accessible. A car sharing program has not been initiated at this time. (Transportation Goal #1 Policy #3) ■ Residential density and gravel roads There is no differentiation of zoning standards in relation to density along gravel roads. (Transportation Policy #5) ■ New roads The Township has not developed a ring road around the US-41/M28 intersection or a new road into Harvey (Transportation Objectives #2 and #3) ■ Capital Improvement Program The Township needs to revise the previously adopted 2007 Plan which was developed by the Marquette County Road Commission to continue with annual Capital Improvements Programming for road improvements. (Transportation Objective #7, Community Facilities Policy #8 Objective #8) ■ Road evaluation The Township has not implemented annual review of road conditions. (Transportation Objective #8) ■ Right-of-Way (ROW) abandonment The Township has not pursued the reduction in the number and length of unused county road ROW. (Transportation Objective #11)

ECONOMY

ACCOMPLISHMENTS	<ul style="list-style-type: none"> ■ Economy Because the Commercial district does not allow mixed-use or the continuation of nonconforming residential uses, conversion of non-commercial land use is encouraged. (Economy Objective #3)
TO BE DONE	<p>Note This section of the plan has largely gone unaddressed, probably because so much depends on the private sector based on their demand, willingness to pay, and individual vision. However, the Township was fortunate to have approved and received a well-designed new commercial development near the intersection of US-41/M 28/Cherry Creek Road in recent years, including a national retailer. Staff is actively working to provide positive support for new business inquiries.</p> <ul style="list-style-type: none"> ■ Economic development Remaining tasks include ensuring services are paid by users when possible, identifying area economic trends, working within the region to expand employment opportunities, and the encouragement of retail, wholesale and service industries with limited tax incentives. (Economy Goal #1, Policy #3, Objective #1 and #2)

NATURAL FEATURES

ACCOMPLISHMENTS	<ul style="list-style-type: none"> ■ Dune protection The Township continues to enforce dune protection provisions, but clarity of interpretation is needed. (Natural Features Objective #4)
TO BE DONE	<ul style="list-style-type: none"> ■ Agricultural preservation The Township has no formal policy to encourage the preservation of prime agricultural and forest production areas from more intense development except the limited provisions in the Zoning Ordinance. (Natural Features Policy #2) ■ Habitat preservation More can be done to preserve high quality fish and wildlife habitat in collaboration with other organizations, including reducing sedimentation. (Natural Features Policy #4 Objective #2) ■ Watershed management Collaborative watershed management activities are not currently underway except as part of Superior Watershed Partnership projects, to which the Township provides annual support. (Natural Features Policy #5, Community Facilities Objective #4) ■ Regulations and Education for development in "Areas of Particular Concern" The Township does not regulate development on "areas of particular concern" except dunes. Floodplain regulations are enforced by the County and DEQ. The High Risk Erosion Area designation was removed by the DEQ. Wetlands are regulated by the DEQ. (Natural Features Policy 3, Objective #1, #3, and #6)

RECREATION

ACCOMPLISHMENTS	<ul style="list-style-type: none"> ■ Recreation collaboration The Township collaborated with the Iron Ore Heritage Trail Recreation Authority and U.P. Disc Golf Association for recreation improvements. They also participate in discussions regarding the proposed Recreation Authority for the Heartwood Forest. (Recreation Policy #1) ■ Community Center The 2005 plan suggested the Township examine the feasibility of, and establish if feasible, a shared use building to house a community center to serve residents of all ages. (Recreation Policy #2) In 2001, the Township purchased a former school for this purpose, and the facility was widely utilized while it was operating. However, the facility was more expensive to operate than anticipated. Township officials decided to fund the operations of the facility through a millage. Voters rejected this millage twice, so the building was sold in 2005. Then the Township made the Township Hall available for senior activities, including wellness screenings, meals, and other recreation. These activities were not well attended and were discontinued. Although a community center has obtained demonstrated support in public surveys, the financing of the former center at the proposed rate was not supported. An alternate opportunity has not yet been identified. ■ Park maintenance Park facilities are actively maintained and improved per current Recreation Plan. (Recreation Policy #6 Objective #1 & #2)
TO BE DONE	<ul style="list-style-type: none"> ■ Community Center The Township has not yet identified an alternate shared use community center facility since the sale of the school in 2005. (Recreation Policy #2) ■ Public beach facility expansion The 2005 Plan called for expansion of low cost opportunities for public beach facilities. The Township has not altered the public beach facilities, but handicapped access is needed. (Recreation Policy #3) ■ Seasonal festivals There has been limited governmental participation in community events or festivals, such as contributing to the annual Marquette community fireworks display and helping to expand the Disc Golf course so that regional or national tournaments can be held. (Recreation Policy #5)

COMMUNITY FACILITIES

ACCOMPLISHMENTS	<ul style="list-style-type: none"> ■ Administrative facilities Recent improvements have been made to ensure adequate administrative facilities, including an expansion and upgrade of Township Hall in 2007 and new fire hall in 2013. Other improvements are ongoing, such as energy efficiency (Community Facilities Policy #1) ■ Garbage and recycling Adequate services exist and improvements are actively pursued. For example, in 2012, the Township implemented an expanded list of recyclables collected at curbside. (Community Facilities Policy #5 & #11) ■ Recreation Adequate recreation facilities are actively planned for and pursued. (Community Facilities Policy #6 & #10 Objective #2) ■ Police and fire These services are exceptional in the Township (Community Facilities Policy #7) ■ Township office expansion The Township offices were expanded in 2007. (Community Facilities Objective #1)
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COMMUNITY FACILITIES

TO BE DONE	<ul style="list-style-type: none"> ■ Water facilities There is no feasible plan for a public water supply at this time. (Community facilities Policy #3 Objective #6) ■ Water conservation Water conservation and quality measures have not been implemented for the groundwater supplies. (Community Facilities Policy #4) ■ Chocoley River mouth The Township has no current plan for dredging or maintaining the mouth of the Chocoley River. (Community Facilities Objective #3) ■ Water for firefighting A 30,000 gallon underground tank was installed with the fire station project in 2013. There is still a need for more dry hydrants or other water storage in the east side of the Township near the jack pine stands. (Community Facilities Objective #6) ■ Special Assessment districts None have been implemented. (Community Facilities Objective #7)
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COMMUNITY CHARACTER

ACCOMPLISHMENTS	<ul style="list-style-type: none"> ■ Tree planting Indigenous trees have been planted and are being maintained along the highway corridor in Harvey, and also planting has occurred at the M-28 beach turnouts. (Community Character Policy #5) ■ Enforcement Ordinances are being improved and enforced to preserve character. (Community Character Policy #8) ■ Dark Sky provisions Outdoor lighting provisions of the zoning ordinance were amended in 2013 to be consistent with dark sky principles. (Community Character Policy #9) ■ Sign provisions Sign provisions of the zoning ordinance were amended in 2013 to protect visual quality. (Community Character objective #2)
TO BE DONE	<ul style="list-style-type: none"> ■ Gateway improvements More could be done to beautify gateways to the Township, although progress was made through the grant-funded plantings and Adopt-A-Tree program. (Community Character Policy #4) ■ Bigfoot homes This kind of overscale development could still happen in Chocoley Township. (Community Character Policy #6) ■ View Protection There is no view protection regulation in Chocoley Township at this time. (Community Character Policy #7 Objective #1)

Community Values

Chapter 2



Key Concepts

COMMUNITY CHARACTER

- A.** Based on public input, rural character in Chocolay Township seems to be experienced as aesthetically pleasant, mostly natural places that offer a feeling of peace and privacy and a quality of life that invites participation. Community input makes it clear that Chocolay Township contains many features that people care about.

HEALTHY & LIVABLE COMMUNITY

- B.** Chocolay Township values policies and projects that address the needs of the aging population while providing better opportunity for all residents. This means looking at public places in a new way.

CRITICAL SYSTEMS

- C.** The food supply system is recognized as a critical system in Chocolay Township in much the same way as water supply, waste management, and the environment are critical systems.

SUSTAINABLE AND RESILIENT COMMUNITY

- D.** A sustainable community is one that is economically, environmentally, and socially healthy and resilient.

SUSTAINABILITY PRINCIPLES

- E.** A sustainable community depends on inspiring, effective, and responsive leadership; active, organized, and informed citizenship; and responsible, caring, and healthy community institutions, services, and businesses. Therefore, every part of the community has a stake in and a responsibility for community sustainability and resilience.

RESILIENCE PRINCIPLES

- F.** Capacity for resilience relates to the ability of people and organizations to identify and anticipate shocks, avoid them when possible, and work together to devise a positive response when avoidance is impossible.

COMMUNITY CHARACTER – PLACES WE CARE ABOUT

It is reasonable to assume that the most enduring elements of communities are those that people care about. This could explain continued investment and patronage of historic downtowns even with the encroachment of bustling highway corridors that accommodate modern growth patterns. It also explains the subsequent abandonment of those same bustling highway corridors. People care most about places that look good or offer a pleasant or useful experience. And when people care about places, they are more likely to preserve them.

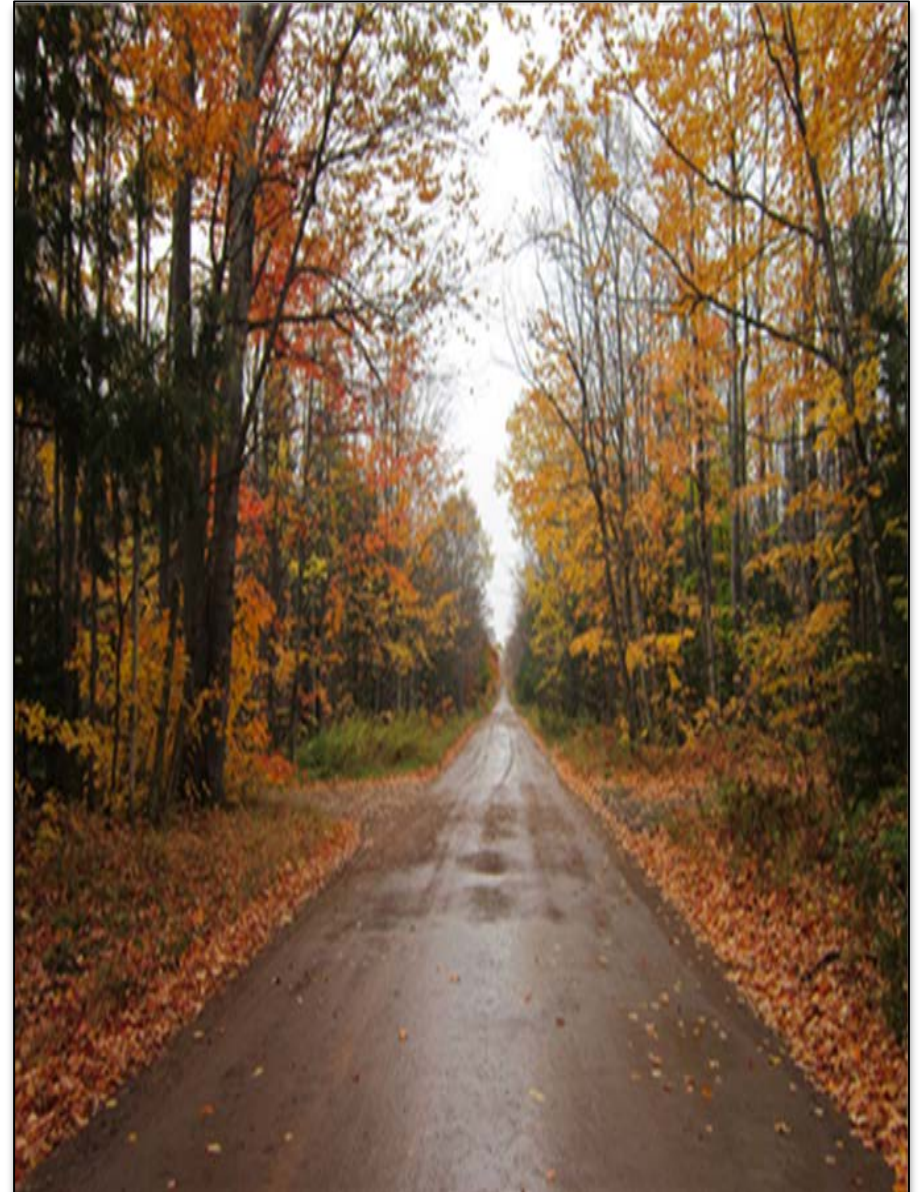
Although the 2013 survey indicates some dissatisfaction with portions of the built environment of Chocoday Township, it is clear that the natural environment creates an enduring attachment among residents. In a 2010 community survey, 63 percent of respondents identified rural character as the top reason they reside in Chocoday Township (290 responses). 88 percent (389 responses) said that rural character was the most positive aspect of living in Chocoday Township.

This begs the question “what is rural character”? The Chocoday Township Zoning Ordinance defines rural character thus:

“The rural character of Chocoday Township embodies a quality of life based upon traditional rural landscapes, activities, lifestyles, and aesthetic values. . . For purposes of this section, rural character shall also be defined to mean areas perceived as having a low density pattern of development, being generally void of man-made improvements such as city essential services, and exhibiting open fields, farmlands, or woodlands as common elements of the visual landscape.”

Character is perceived through how things look, feel, or function. In other words, it is perceived through experience. In the 2013 community survey, the majority of residents indicated that rural character means the following things, in order of most frequent response:

- Places to enjoy the sights and sounds of nature
- Large wooded lots with plenty of privacy between neighbors
- Access to outdoor recreation
- Hiking/biking trails
- Quiet country roads fronted by farms and single-family homes
- Dark areas that let you see the stars
- Living in a place where you don’t have to deal with a lot of government regulations
- Small hobby farms





Rural section of the Iron Ore Heritage Trail



Fishing platform at the Township marina

An overwhelming majority of respondents neglected to choose “large, busy retail strips”, “cleared lots with homes built close to the road”, “stately homes with well-maintained lawns and park-like open spaces”, “commercial areas with ample, well-lit parking lots”, or “living with the sights, sounds, and smells of farm animals” as representing rural character. In their comments, several indicated that there are appropriate places for these things in the Township even though these elements are not perceived as representing rural character. What seems clear is that many people in Chocoday Township value a peaceful, quiet lifestyle that is compatible with enjoyment of nature. While they don’t value a lot of government regulation, they are accepting of regulations to manage elements that conflict unnecessarily with important community values. For example, in the 2013 community survey, the majority of respondents were supportive of land use regulations to protect water quality, wildlife habitat, and sensitive natural features such as wetlands, steep slopes, and dunes. They were also supportive of regulations to require removal of dilapidated structures, control outdoor accumulations of inoperable cars, equipment and junk, or to require screening for such accumulations. This is probably because these items were not perceived as contributing to a positive experience.

HEALTHY & LIVABLE COMMUNITY

Research has shown that obesity, asthma, diabetes and heart disease are all aggravated by the auto-centric way we live our lives today. This is one of the ways that land use and community design are related to public health, and why public health departments have become involved, asserting that development that does not provide for physical activity, access to healthy food, and clean air and water can reduce positive health outcomes and lead to increases in preventable illness.

The National Association of County and City Health Officials (NACCHO) has created a checklist to assist agencies in their review of applications for new development and redevelopment plans. Here are some examples of development principles they say support healthy communities:

- Sustainable water supply
- Landscaping plan that includes water conservation measures
- Opportunities for recycling or reuse of water and wastewater
- Absence of air quality impacts
- Project designed to reduce vehicle emissions (connectivity of streets, mixed-uses)
- Encourages alternative modes of transportation
- Separation from cell towers, power lines, and other uses that emit potentially harmful electromagnetic radiation
- Open spaces and trails to provide opportunity for physical activity and play
- Mix of uses so that people can walk to destinations
- Sidewalks of sufficient width to accommodate multiple uses
- Lighting along trails and sidewalks to increase comfort and security for users
- Traffic quieting design
- Access to public transportation
- Accommodation for the disabled

Chocolay Township, like many other communities, has an increasingly older population. The U.S. Census Bureau estimates that by 2030, as many as one in five Americans could be age 65+. People in this age group are more likely to be retired from work, engaged in civic life, volunteering in their communities, and even starting new businesses.

Healthy and livable communities also recognize that as people age, they have different needs and desires. Growing older is more difficult in communities that lack accessible transportation and safe walkways or do not provide diverse leisure facilities and cultural opportunities. As people age, they experience changes in mobility that impact their ability to use stairs, cut the grass, or mount a ladder for home repairs. This impacts their ability to stay in their homes. They may also experience changes in vision and hearing that impact their ability to drive. This limits their opportunities if they don't live in a walkable community. The good news is that communities that work well for older adults also work well for everyone else.

It is also clear that healthy food is integral to the health and well-being of our community. Healthy food is defined as food that is fresh and nutritious and grown without harming its producers or our air, water, or soil. The food system is made up of all the ways in which food moves from farm (or producer) to table (consumer). It includes the farms on which it's grown, the manufacturers who process food, the venues in which the foods are delivered to the public, and the way the consumer receives and consumes food. More and more local governments are concerning themselves with food systems because of the link to public health, environmental health, and the economy. Strengthening the local food supply system also strengthens people and the economy.

SUSTAINABLE AND RESILIENT COMMUNITY

The concepts of sustainability and resilience are linked. Sustainability does not mean maintaining the status quo, because change is a reality of our world. Sustainability means being able to respond positively to change or adapt to adverse conditions. It often means embracing a "new normal" instead of returning to previous norms. Achieving sustainability requires a long-term perspective focused on both the present and the future, extending well beyond the next budget or election cycle.

Guiding Principles for Sustainability

Sustainability is commonly defined as the capability to equitably meet the vital needs of the present without compromising the ability of future generations to

meet their own needs. This concept describes a condition in which human use of natural resources is in balance with nature's ability to replenish them. From a community perspective, this means managing human, natural, and financial resources in a sustainable way. It means thinking to the future while designing solutions for the present.

Sustainable systems mean a better quality of life, healthier ecosystems, economic security, and security of critical needs. It is achieved through collaboration supported by more effective governance and meaningful and broad-based citizen participation.

Guiding Principles for Resilience

Resilience is a process rather than an outcome. Resilience results from the capacity to absorb shocks and stresses. These shocks or stresses can be economic (such as rising energy prices), climate-related (such as an increase in severe weather events or changes in regional weather patterns), or social (such as population change or migration). For a local government, resilience means that the economic, social, political, and physical infrastructure systems can retain their basic function and structure regardless of change.

It is difficult to establish common elements of resilience when considering complex relationships. However, it is safe to say that systems that are **flexible**, **diverse**, contain some **redundancy** (backup plan), and are **integrated** have a greater capacity for resilience. These principles can be translated into strategies or criteria for decision making. For example, redundancy is particularly important for critical infrastructure such as drinking water supply, electrical power, heating and cooling systems, and public safety services. It is also important that transportation systems offer multiple routes and modes in case of emergency. Sometimes redundancy can be achieved through decentralization.

Here is an example of how decisions are viewed through the lens of resilience. We know that demand for all forms of energy is projected to increase in the coming years due to the increase in world population and level of affluence. All our systems are particularly dependent upon oil while the future supply is uncertain. A reduction in this dependence is critical. This includes our transportation systems, shelters, and even our food systems. A resilient process that works to improve energy performance and reduce energy consumption in order to lessen the impact associated with future energy availability or costs will provide greater sustainability.

PRIORITY DECISION CRITERIA

The following priority decision criteria are meant to support community character and a healthy, livable, sustainable, and resilient community. All projects in Chocolay Township should be evaluated in accordance with these priority criteria and measured based on expected outcome:

- **Diverse Users**

To what extent does the activity involve infrastructure or services that will benefit diverse interest groups and support healthy and livable communities?

Facilities or services that can satisfy the needs of diverse interest groups and support healthy, livable communities will receive higher priority, whether those interest groups are based locally or regionally, because local sustainability is related to regional sustainability. The inclusion of diverse user groups increases the beneficiaries of the project, spreads the costs, and makes administrative allocation of funds more justifiable.

- **Diverse Uses**

To what extent does the facility or service satisfy multiple purposes?

Facilities or services that serve multiple purposes will receive higher priority because they have greater potential to satisfy diverse users, involve cost efficiencies, and invite greater political support.

- **Flexibility**

To what extent can the facility or service be adapted to meet changing needs or contexts in the future?

Facilities or services that are more easily modified to adapt to changing conditions or needs will receive higher priority because of potential for greater sustainability and resilience.

- **Strengthen Critical Systems and Public Health**

To what extent does the activity, service, or project strengthen critical life-support systems or conditions?

Projects that are linked to critical human and environmental needs relating to water, food, energy, mobility, and public safety systems, or systems with a direct relationship to public health, will receive higher priority than non-critical needs.

- **Redundancy in Critical Systems**

As related to critical needs, to what extent does the activity or project provide redundancy or backup for other critical activities or systems?

Facilities or services that provide an alternative for critical systems will receive higher priority because of the greater capacity for sustainability and resilience.

- **Efficiency in Non-Critical Systems**

As related to non-critical needs, to what extent is the facility or service supported by non-governmental groups, other agencies or organizations, or volunteers (funding, implementation, or continuing maintenance)?

14 Decision Criteria

- 1 Diverse users
- 2 Diverse uses
- 3 Flexibility
- 4 Strengthen critical systems and public health
- 5 Redundancy in critical systems
- 6 Efficiency in non-critical systems
- 7 Integration with other jurisdictions
- 8 Capacity building
- 9 Sustainability or resilience over time
- 10 Prevent or mitigate risks
- 11 Replication
- 12 Collaboration
- 13 Renewable Resources
- 14 Catalytic opportunity

Facilities or services that are supported by organizations, agencies or individuals outside of or in addition to local government will receive higher priority because the greater number and diversity of stakeholder groups helps to ensure continued maintenance while governmental reserves are focused on critical systems.

■ Integration with other jurisdictions

To what extent does the facility or service also support the goals or strategies of other project or planning entities within the region?

Facilities or services that are consistent with the goals or strategies of other project collaborators or planning entities within the region will receive higher priority because of the potential to attract additional resources, funding, and work capacity; address issues that cross jurisdictional boundaries; deliver solutions to complex problems; provide more coherence and support; and provide broader benefits.

■ Capacity Building

To what extent does the activity improve the ability of participants to understand and achieve Chocolay Township Master Plan outcomes?

Activities that increase the capacity of local government representatives or project partners to achieve plan outcomes will receive higher priority because the only successful plan is a well-implemented plan.

■ Sustainability or Resilience over time

To what extent does the project have the necessary support over the life of the project?

Projects that have multi-year or enduring support for the life of the project will receive higher priority.

■ Prevent or mitigate risks

To what extent does the project or activity prevent or mitigate identified risks to sustainability or resilience?

Projects or activities with greater potential to prevent or mitigate risks will receive higher priority, especially those that prevent irreversible loss.

■ Replication

To what extent can the project or activity be replicated to benefit or provide a positive role model for other locations?

Projects or activities with greater potential to positively influence others and therefore have a more far-reaching benefit will receive higher priority.

■ Collaboration

To what extent will the project or activity improve and increase opportunities for partnership with other jurisdictions, agencies, organizations or volunteers or provide additional inclusiveness for residents?

Projects or activities that increase capacity for partnership, collaborations and inclusiveness will receive higher priority.

■ Renewable Resources

To what extent will the project or activity reduce dependence on non-renewable resources?

Projects or activities that provide greater sustainability by reducing dependence on non-renewable resources will receive higher priority.

■ Catalytic opportunity

To what extent will the project or activities stimulate other beneficial projects or activities?

Projects or activities that include greater potential for catalytic economic, environmental, or social impacts will receive higher priority.

MEASURING PROGRESS

As part of the *Annual Report*, all departments in Chocolay Township should assess and summarize progress toward the outcomes and targeted strategies of this plan which are intended to achieve greater community sustainability and resilience.

Historic and Regional Context

Chapter 3



Chapter 3: Chocolay Township in History and in the Region

This section provides a big picture view of the Township from a regional and historical perspective. The Township is considered as a part of the larger social, economic, and environmental systems.

HISTORIC CONTEXT

The area was used by Native Americans as a summer camping place. Early French explorers used the name “Chocolate” for the dark brown color of the river. The color was caused by tannic acid from decaying vegetation of the interconnected swamps and marshes. The Chocolate River became the boundary for the Treaty of 1842 when the mineral lands to the west were ceded to the U.S. by the Chippewa Indians. In the early 1900’s the name was changed to Chocolay.¹

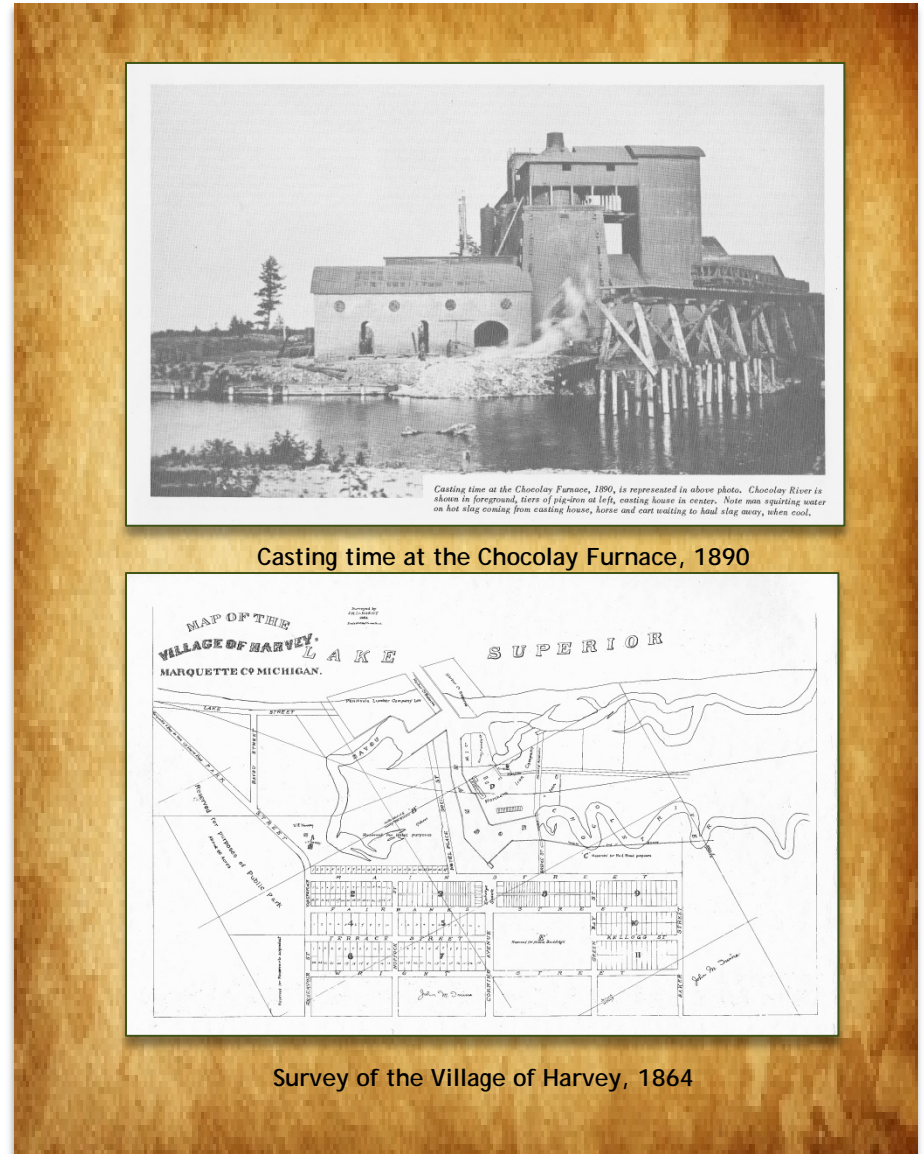
Chocolay Township became part of the colorful history of the iron ore industry in 1860 when a blast furnace was built at the mouth of the Chocolay River at the direction of Charles T. Harvey. Lorenzo D. Harvey, no relation to Charles, described as an expert furnace man, was hired by Charles Harvey to come from Massachusetts to build furnaces. He built the Pioneer furnace in Negaunee, converted the Collinsville forge at Marquette to a furnace, and built the furnace on the Chocolay, thus making the first pig-iron in a blast furnace on Lake Superior.

The Township became a political and geographical unit in 1860. Charles Harvey platted the Village of Harvey in 1864.² Portions of the Village along Fairbanks, Terrace and Wright Streets were replatted in 1890. Lakewood, East Lakewood, and the Riverside Addition (Section 5 along Lake Superior) were platted in 1905-1906, beginning the development of the Lake Superior shoreline. This was followed by the platting of Sinclair Heights east of Shot Point in 1906.

Sawmills were built to support the furnace operation which experienced many economic ups and downs over the subsequent years. Some issues were related to exhaustion of the available timber within economical hauling distance. There was also a quarry located at the rock cut by the current MDOT Welcome Center. The State fish hatchery at Cherry Creek opened in 1922 and is still operating today. Other businesses developed to support the growing community, such as dairies and service businesses. However, logging and farming were mainstays of the Township’s economy for many years. The most successful farmers settled on lands with hardwoods as opposed to pine. The soils associated with the pines were not as productive. In those days, people farmed during the summer and cut timber in the winter to support their families. Currently, the only heritage farm in the township is the Heitman farm located near Green Garden. Early agricultural products

¹ 1964. History and Background of Chocolay Township: 1860-1964.

² Ibid.



included meat, hay, oats, dairy products, sweet corn, Christmas trees, blueberries, strawberries, brambles, potatoes, gladiolus, maple syrup, and other vegetables.

Willow Farm, which is located on US-41 adjacent to the Township Hall, was purchased in the 1920's. The white barns that are close to the highway were built in the 1920's by the Loudon Company who also built the Granot Loma barns. The main house, which was a summer home, was built in 1933 and used as a gathering place for community groups. It was an early dairy operation, but became a horse boarding operation and riding stable in 1969. The first therapeutic riding program in the U.P. was started in 1973 at Willow Farm.

Lakeshore residential development continued with the platting of Hiawatha Shores in 1931, however, most of the residential plats were established in the 1960's and 1970's. Lakeshore subdivisions include Agate Beaches near the Bayou. Landward lots along Lakewood Lane began to be developed in 1971 (Woodside Estates).

Development along the Chocoday River began in 1967 with the Jacobson's Riverside Subdivision along Riverside and Riverdale Roads. South of M-28, riverside development began along CR BU with Fernwood Park in 1977, and more recently the Timberlane Subdivision.

Development in the woods along Ortman Road began in 1966 with Whispering Pines Addition and continued in 1977 with Highland Meadow.

Plats were created along Kawbawgam Road from 1967 to 1972.

The Brookfield Village Subdivision (along South Big Creek Road near the intersection of US-41S) was platted from 1970 - 1974. Development along US-41 continued with the Holiday Villa Estates along Carriage and Surrey Lanes in 1971.

The Woodvale Subdivision was platted along Ford, Ortman, Wildwood, Woodvale and Aspen Roads off Cherry Creek Road in the mid 1970's.

Lands along M-28 began to be platted with the Riverland Subdivision, Grace Estates, and Dana Estates in the early 1970's and Ridgewood Subdivision in 1978.

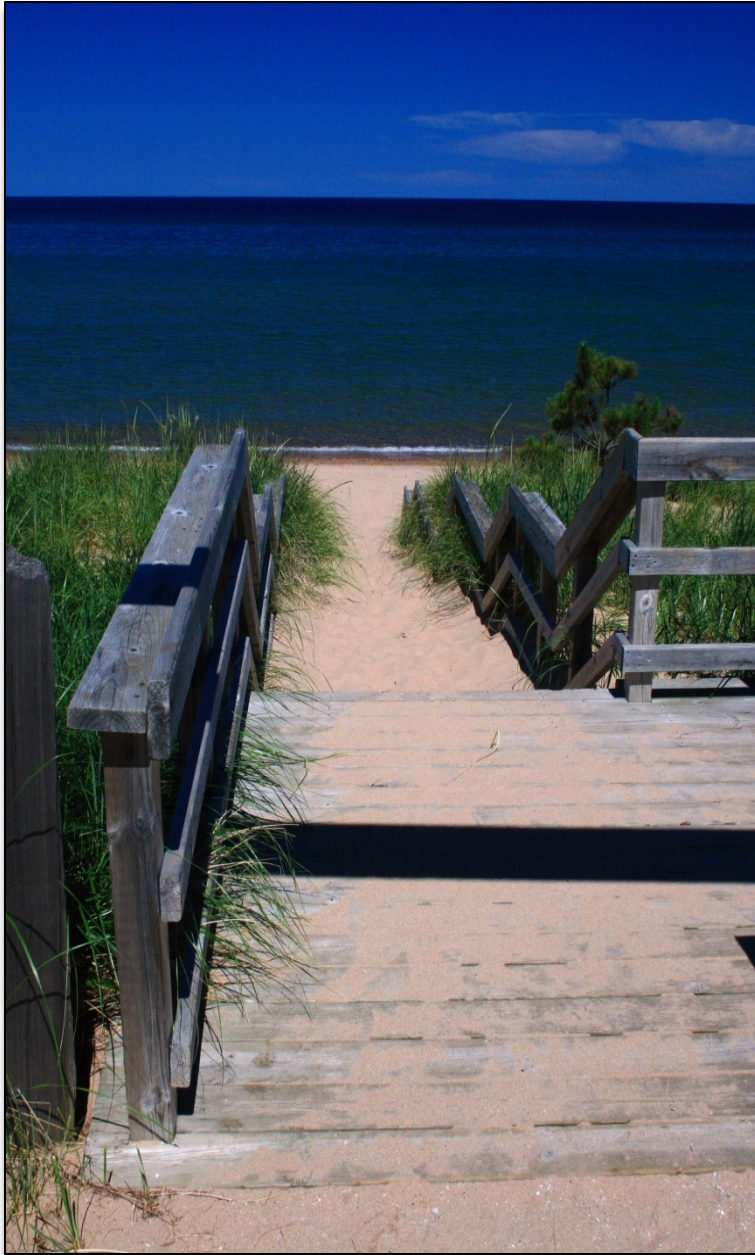
Development along CR 480 began with Retirement Acres (Cedar Lane) in 1974, followed by Briarwood Estates, Countryside Estates, and Candace Estates in the mid 1970's.



Heritage Heitman Farm



Willow Farm



M-28 MDOT turnouts provide public beach access to Lake Superior

Ewing Plaza was created in 1976, establishing the commercial area on the southwest intersection of US-41/M-28 and Cherry Creek Road. The nearby residential plat of Ewing Park was created in 1977. The Green Garden Hills Subdivision was created along CR 545 in 1977.

More recent subdivisions include Chocolay Downs, Springwood Condos, and Ewing Pines. Today, residential construction continues with development of vacant lots or redevelopment of older structures in established areas.

Most commercial development was established along US-41/M-28 in the Village of Harvey or at the intersection of US-41 and CR 480 in Beaver Grove. There is also commercial development at the Varvil Center near Lion's Field off M-28.

See map in Appendix B for locations of subdivisions in Chocolay Township.

REGIONAL CONTEXT

Geography, Tourism, and Transportation

Chocolay Township is located in Marquette County along the southern shore of Lake Superior in the Upper Peninsula of Michigan. Marquette County consists of 19 townships and the three cities of Marquette, Negaunee, and Ishpeming. It is the most populous county in the Upper Peninsula. At just over 21,000 people, Marquette is most populous city in the Upper Peninsula. Harvey, an unincorporated village in Chocolay Township, is only about 4 miles from downtown Marquette. Municipalities adjacent to Chocolay Township include Sands, West Branch, and Skandia townships in Marquette County, and Onota Township in Alger County. Harvey is a census designated place. Beaver Grove is another unincorporated community in Chocolay Township. See location map in Appendix C.

Marquette County is one of six counties comprising the Central Upper Peninsula Region #12 which includes Marquette, Dickinson, Menominee, Delta, Alger, and Schoolcraft counties. The region is rural and heavily forested with numerous inland lakes. Average population density is about 24.5 persons per square mile. The primary job base in the region is tourism, service industries, mining, and forest-based timber industry.

The area is part of the Great Lakes Circle tour, an auto tour that passes through the Canadian province of Ontario and three U.S. states - Minnesota, Wisconsin, and Michigan. The tour passes through Chocolay Township and the City of Marquette. The Lake Superior Circle Tour was the first "official" Great Lakes tour route and is approximately 1,300 miles long. The North Country trail is America's longest National Scenic Trail stretching 4,600 miles from New York to North Dakota, linking seven states, ten National Forests, and more than 150 public lands. In Chocolay Township, the North Country trail traverses near the Jeske Flooding area and continues through the sandy plains in the eastern portion of Chocolay Township, along Lake LeVasseur near the cross country ski trail before connecting to the Iron Ore Heritage Trail that continues into the City of Marquette. This trail provides direct access to the Noquemanon Trail network and several premier parks in the City of Marquette, including Presque Isle Park. Forest trails are located at Little Presque Isle, Harlow Lake, Blueberry Ridge, and Anderson Lake in Marquette County and many other locations.

Regional attractions include Pictured Rocks National Lakeshore, Seney National Wildlife Refuge, Hiawatha National Forest, Lake Superior State Forest, many state parks including Van Riper, Craig Lake, Laughing Whitefish, Fayette and others, numerous waterfalls, and miles of beautiful sand beaches. The area is a popular destination for fall color tours and lighthouse tours. Visitors to Chocolay

Township often stop at one of three Lake Superior public beach access areas along M-28 or at the MDOT Welcome Center in Harvey; walk or cycle along the non-motorized paths; or hunt and fish in the woods along the Chocoday River and other recreational sites.

Nearest commercial airports include K.I. Sawyer International Airport in Forsyth Township (about 15 miles from Harvey), and the Delta County Airport in Escanaba (65 miles). There are commercial ports in Marquette and Escanaba. There are no passenger rail services in the region, but freight rail service is available.

Chocoday Township contains the nexus of two County-wide public transit systems which are MarqTran (Marquette County Transit) and ALTRAN (Alger County Transit). Within the region, the highway transportation corridor of national and international significance is US-2 which runs from the Mackinaw City/St. Ignace area west to Wisconsin. The corridor of statewide significance is M-28/US-41 which runs from Sault Ste. Marie west through Chocoday Township and Marquette to Houghton.

Regional secondary educational institutions include Northern Michigan University in Marquette and Bay College in Escanaba. Michigan Technological University is two hours away in Region 13, Houghton, MI.

Because of the close proximity to Marquette, it has often been assumed that Chocoday Township is a bedroom community for the city. It is true that Chocoday Township is a particularly prominent place of residence for workers in Marquette County (3rd among all County subdivisions) and workers in the City of Marquette (2nd among all County Subdivisions). However, Chocoday Township also figures prominently in supplying jobs within the County, ranking 4th among all County subdivisions (1st among all jurisdictions other than cities).³

Chocoday Township ranks 2nd in the County for jobs supplied in the retail sector.⁴ Most residents would probably find this information to be surprising since Chocoday Township does not contain any visibly prominent employers or a congested highway corridor. The top industry sectors in Chocoday Township are retail trade (average of 762 jobs) and accommodation and food services (average of 245 jobs).⁵

Within Marquette County, the City of Marquette is the primary source of jobs in most sectors, except that the City of Negaunee leads in the transportation and warehousing sector. The City of Ishpeming leads in the agriculture, forestry, fishing and hunting and mining, quarrying, oil and gas extraction sectors. Other Townships that are secondary leaders in job provision include Ishpeming Township (2nd highest average in mining, quarrying, oil and gas extraction), Marquette Charter Township (prominent in the retail trade and real estate rental and leasing sectors), and Forsyth Township (2nd highest average in manufacturing and information sectors).

Chocoday Township in the Region

2nd most prominent place of residence for workers in the City of Marquette

3rd most prominent place of residence for workers in Marquette County

4th most prominent job location for workers in Marquette County (first among townships)

4th largest population center in Marquette County

³ U.S. Census Bureau. 2013. OnTheMap Application. Longitudinal-Employer Household Dynamics Program. For 2002-2011 all jobs (average). <http://onthemap.ces.census.gov/>. Information is derived from payroll tax (Unemployment Insurance) payment records maintained by the State, Bureau of Labor Statistic's Quarterly Census of Employment and Wages (QCEW) and Census Bureau source. This typically does not include data on agriculture and some public sector jobs, though on average 96% of all private-sector jobs are covered.

⁴ Ibid.

⁵ Ibid.

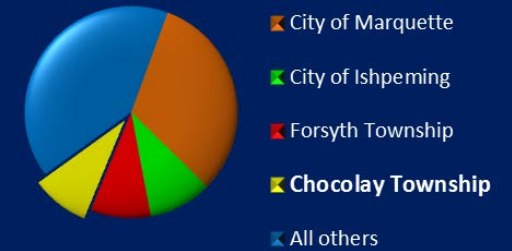
Population

In 2010, total Marquette County population was 67,077. Prominent County population centers include:

- ◆ City of Marquette - 31.8% of County population (21,355 people)
- ◆ City of Ishpeming - 9.6% of County population (6,470 people)
- ◆ Forsyth Township - 9.2% of County population (6,164 people)
- ◆ Chocolay Charter Township - 8.8% of County population (5,903 people)

The median age of the Region’s population is increasing at a greater rate than that of the State of Michigan as a whole.

Figure 3-1 - Marquette County Population

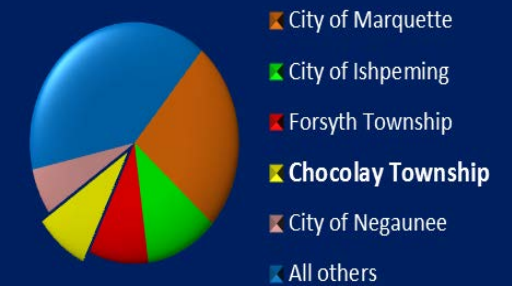


Housing

In 2010, there were a total of 34,330 housing units in Marquette County. The County Subdivisions containing the highest percentages of housing units in Marquette County include:

- ◆ City of Marquette - 26% or 8,756 units
- ◆ Forsyth Township - 11% or 3,866 units
- ◆ City of Ishpeming - 9% or 3,149 units
- ◆ Chocolay Charter Township - 8% or 2,824 units
- ◆ City of Negaunee - 6% or 2,119 units
- ◆ Marquette Charter Township - 6% or 1,907 units⁶

Figure 3-2 - Marquette County Housing Units

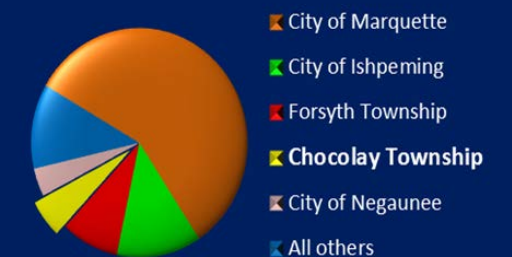


Economy – Jobs

From 2002 to 2011, there was an average of 27,592 jobs in Marquette County. The County Subdivisions containing the highest percentages of these jobs include:

- ◆ City of Marquette - 57.4% (average of 15,833 jobs)
- ◆ City of Ishpeming - 12.6% (average of 3,490 jobs)
- ◆ City of Negaunee - 8.6% (average of 2,384 jobs)
- ◆ Chocolay Charter Township - 5.4% (average of 1,485 jobs)
- ◆ Forsyth Township - 4% (average of 1,099 jobs)
- ◆ Marquette Charter Township - 3.9% (average of 1,080 jobs)⁷

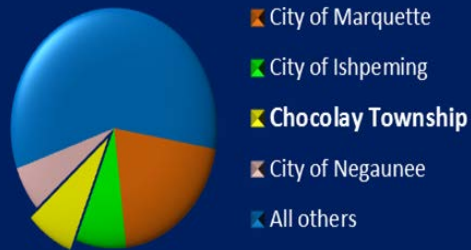
Figure 3-3 - Marquette County Jobs



⁶ Census 2010 Summary File 1 QT-H1 data

⁷ U.S. Census Bureau. 2013. OnTheMap Application. Longitudinal-Employer Household Dynamics Program. For 2002-2011 all jobs. <http://onthemap.ces.census.gov/>

Figure 3-4 - Marquette County Worker Residences



Economy – Marquette County Worker Residences

In 2011, there were a total of 27,607 workers employed in Marquette County. The County Subdivisions where the majority of these workers live include:

- ◆ City of Marquette - 20% or 5,621 workers
- ◆ City of Ishpeming - 8% or 2,172 workers
- ◆ Chocolay Charter Township - 7% or 2,066 workers
- ◆ City of Negaunee - 6% or 1,675 workers⁸

Figure 3-5 - City of Marquette Worker Residences



Economy – City of Marquette Worker Residences

In 2011, there were a total of 15,646 workers employed in the City of Marquette. The County Subdivisions where the majority of these workers live include:

- ◆ City of Marquette - 29% or 4,491 workers
- ◆ Chocolay Charter Township - 9% or 1,421 workers
- ◆ Marquette Charter Township - 6% or 958 workers
- ◆ City of Negaunee - 5% or 735 workers
- ◆ City of Ishpeming - 5% or 717 workers⁹

From 2002 to 2011, Marquette County's employment increased by over 1,400 jobs. Jurisdictions experiencing job growth include the cities of Marquette and Ishpeming and the townships of Ishpeming, Chocolay, Marquette, and Sands. The City of Ishpeming decreased in number of jobs, along with the townships of Forsyth and Richmond.¹⁰ County-wide, the largest increases were evident in the accommodation and food services and public administration sectors. The largest decreases were evident in the educational services and information sectors. This is not good news for the notion of a New Economy which prioritizes the education of the future workforce.¹¹

⁸ U.S. Census Bureau. 2013. OnTheMap Application. Longitudinal-Employer Household Dynamics Program. For 2002-2011 all jobs. <http://onthemap.ces.census.gov/>

⁹ Ibid.

¹⁰ Ibid.

¹¹ The New Economy Program is part of the Michigan Prosperity Initiative led by the Michigan State University Land Policy Institute. www.landpolicy.msu.edu/

Natural Systems



A prominent cliff of exposed bedrock called “the Rock Cut” serves as the northern gateway to the unincorporated Village of Harvey. These are some of the oldest exposed rocks in North America. Chocoday Township is located on the southern shore of Lake Superior. This shoreline contains spectacular stretches of beautiful sand beaches accessible to the public at the MDOT Welcome Center (across from the Rock Cut) and three turnouts on M-28.

Chocoday Township contains almost 61 square miles of diverse natural features, of which about one square mile is water. The Township includes two major watersheds (Chocoday River and Sand River) with direct drainage to Lake Superior. The entire Chocoday watershed encompasses 159 square miles of which 41 square miles lie within Chocoday Township. The Sand River watershed covers 19 square miles, of which 13 square miles lie within Chocoday Township.

There are 86 miles of rivers and streams in Chocoday Township which are used for recreation and which attract residential development. The Chocoday River with its tributaries, in particular, is a dominant and outstanding natural asset of Chocoday Township. The Michigan Department of Natural Resources classifies the watershed as a cold water system with a constant base flow that discharges from glacial deposits¹². Portions of the Chocoday and Sand River are designated trout streams by the State of Michigan (November 2007, under the authority of Section 48701(o), as amended, being Sections 324.48701(o) of the Michigan Compiled Laws). Not only do the gravelly moraines provide abundant groundwater flow, they also create ideal spawning habitat. Fly fishermen come to the river seeking brook trout, brown trout, steelhead, and pink and chinook salmon.

The Township has about 561 acres of lakes and impoundments. Lying within the Chocoday Watershed, Lake LeVasseur and Lake Kawbawgam are two water bodies impounded on LeVasseur Creek, east of its junction with the Chocoday River. In the Sand River Watershed, the James D. Jeske wildlife flooding area provides yet more open water and marsh habitat. There are only a few mapped, named lakes that are not impoundments with the largest being First, Second, and Quantz lakes.

Unlike portions of the county to the north and west, Chocoday Township does not have known economically viable deposits of either ferrous or non-ferrous minerals (e.g. gold, silver, lead, zinc, copper). Throughout the Township, with its layers of glacial deposits, there are various locations that can be mined for gravel and sand.

¹² Premo, Dean B. 1999. Chocoday River Watershed Restoration and Adaptive Management Plan. White Water Associates, Inc. A project completed under contract with Marquette County Soil Conservation District and under direction of the Chocoday River Watershed Council. 61 pages.

Community Systems Resilience

Chapter 4



Chapter 4: Working For Resilience in Community Systems

Today is the right time to
secure the future.

Planning ahead will preserve a
greater capacity for public
response.

Local government may be the
scale at which government can still
operate within the public trust
because of the opportunity for
direct engagement in the process.

This portion of the Master Plan takes a closer look at resilience in relation to the major components of community systems, including government operations, critical infrastructure, critical services, growth and development, economic development, and recreation. Critical community infrastructure systems and services include transportation, water, wastewater management, energy, food, public safety and emergency systems, public health, and recycling and solid waste management. It is particularly important to plan for resilience in critical systems so that any significant damage or insufficiency in one part of the system does not create cascading failures. The private sector contributes to the provision of some critical needs.

Each element contains a profile of existing conditions, a risk assessment, and a discussion of opportunities. Goals and strategies related to community systems are contained in Chapter 7: Strategic Plan.

OVERVIEW

Governments exist for the purpose of civic leadership and stewardship. The public sector collects taxes and generates revenues to perform functions and provide infrastructure and services that would not otherwise be provided by the private sector, but are needed for the well-being of the community. In providing for public well-being, Charter Townships may enact and enforce such ordinances as may be deemed necessary to provide for the public peace, health, and safety of persons and property within the boundaries of the enabling legislation.

To govern effectively, leaders must look ahead to anticipate risks and assess opportunities. However, multiple forces of instability and uncertainty are building within the local, regional, and global reality (forces that are beyond the scope of this plan and beyond individual or local governmental control). Because we live in a world of complex and far-reaching inter-relationships, communities may not currently have the ability to identify and anticipate all risks. Planning is supposed to be about anticipating the future. But what if past trends don't reflect future reality? In times of rising uncertainty, community leaders may not be successful in making tomorrow's decisions today. On the other hand, people don't make their best decisions under times of stress or crisis.

The way to preserve a long-term view is to secure local essentials. If essential goods, services, and systems are covered, communities can afford to look ahead. Essential safety cushions reduce the potential for over-reaction to things like global economic contraction, social instability, and/or catastrophic environmental disruption.

Along with rising uncertainties may come a trend of greater dissatisfaction and distrust of government. People tend to forget that in the U.S. *people are the government*. Civic leaders are elected, appointed or hired on behalf of the community with the expectation that they will be good caretakers of public funds and the public trust. Good leaders inform and prepare citizens to be engaged in creating more resilient communities. Citizen engagement matters at the smaller scale of local governance where there are fewer people and resources to get things done.

LOCAL GOVERNMENT FINANCING

Local governments face both internal and external challenges. As with most other municipalities, Chocoday's challenges involve declining revenues and rising expenses, and the related problem of aging infrastructure. This impacts the Township's ability to provide essential services.

Profile

The seven member Board of Trustees controls the various activities and services of Township government through the approval of an annual budget. The budget adoption process incorporates input of staff, officers, trustees, and the general public. Chocoday Township annually adopts budgets for the General Fund, Road Fund, Fire Department Millage Fund, Capital Improvements Fund, and Sewer Fund. Total budget, all funds, in 2014 is provided for at \$2,345,700.

Major components of Township revenues include property taxes (\$705,000 or 30 percent of total budget), state revenue sharing (\$440,000 or 19 percent of total budget), and franchise fees (\$75,000 or 3 percent of total budget, originating from Charter Communications). Other small, diverse sources of income are related to administrative fines, fees, licenses, and interest income. User fees contribute to the Sewer Fund. The Keweenaw Bay Indian Community and various grants also contribute to revenues periodically.

Major expenditures within the General Fund include salaries (28 percent of total budget), contract services (8 percent of total budget), and health insurance (7 percent of total budget). Chocoday Township provides 13 full time jobs, 9 part-time jobs, 19 jobs on boards and commissions and up to 25 jobs for volunteer firefighters. However, 88 percent of contract services expense is for sanitation (garbage and recycling). Sanitation also generates revenues from garbage bag tag sales and rebates from the sales of recycling; however, revenues do not entirely offset expenses, necessitating support for this service from the General Fund.

The Township currently collects a total of 6.2235 mills, of which 3.7745 mills is for general operations (61 percent), 1.6932 is for the fire department (27 percent), and 0.7558 is for the library (12 percent). The Iron Ore Heritage Trail Recreation Authority also receives another 0.2 mills to provide the 38 mile regional trail.

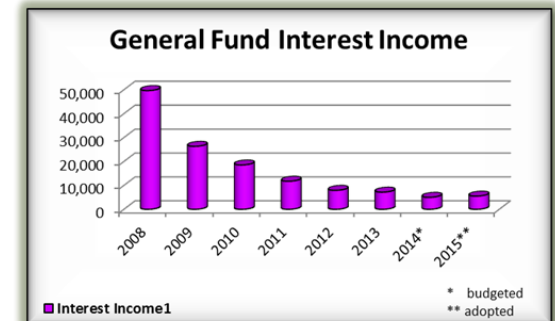
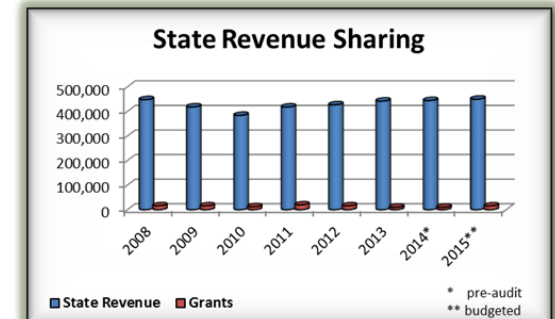
Risk Assessment

There has been a **gradual decline in Township revenues**. State shared revenues and interest earnings continue to fall annually (see *Figure 4-1*). There have been declining revenues from some services such as garbage bag tag sales due to an increase in recycling. Recently, the only significant revenue growth resulted from uncapping property values that were subject to Proposal A limitations until ownership was transferred. A reassessment of all improved Township properties from 2009 to 2013 led to increases in property value related to unrecorded improvements. However, this boost is not likely to repeat since improvements have now been recently recorded, and construction of new homes and businesses remains low. Property values have remained fairly constant or experienced only a modest increase. Low interest rates have had a dramatic impact on this once valuable revenue source.

As the economy of the State of Michigan slowly recovers, constitutional sharing of the State sales tax revenue is slowly rising, with an increase of 4.7 percent expected from 2013 to 2014. But with declining net revenues, no new grants on the horizon, and inflationary increases in most of the Township's operating expenses, recent budgets have been balanced by minimizing capital expenditures, reducing the general fund balance and implementing minor increases in fees. It can be expected that rising economic uncertainty will increase the cost of borrowing and thereby reduce revenue alternatives. Chocoday Township has typically avoided long-term debt scenarios.

In 2014, there will be a public vote on the maintenance of **personal property taxes for businesses**. The legislature has not yet identified replacement revenue for local governments if the personal property tax is eliminated. If voters approve the ballot measure, any business with personal property valued at less than \$80,000 will be exempt from the tax for 2014. Chocoday Township stands to lose about \$7,000 per year if the measure passes.

Figure 4-1 - Government revenues



LOCAL GOVERNMENT FINANCING

Health care costs are rising, including a 5-6 percent increase in taxes and fees imposed by state and federal regulations. Employees are absorbing some, but not all, of these cost increases.

Another unexpected Township expense involves Microsoft’s abandonment of the XP operating system, necessitating upgrades to hardware and software of approximately \$22,000.

General fund expenditures are typically projected to exceed revenues, requiring a use of fund balance to balance the budget. However, unanticipated KBIC and grant revenues and spending restraint by Township staff makes use of contingency dollars very rare. *However, the inability to generate enough revenue to match operating cost projections illustrates the tight fiscal constraints under which the Township must operate. It also makes the expansion of existing services or the provision of new services or facilities impossible without identifying new funding sources.*

Opportunities

The State places limits on property tax rates, increases in assessments, and levels of debt for local governments. Because of reduced State revenue-sharing levels and the above limitations, *Chocolay Township needs to create a more diverse revenue stream that is less dependent on property taxes.*

In the past, local governments have responded to the increased burden of revenue-raising responsibility by reducing services, privatizing some public services, and resorting more frequently to user fees. States began to allow development impact fees and the creation of special tax districts such as business improvement or tax increment financing districts.

Impact fees are charged to a developer to recover a portion of the cost of certain off-site improvements or facilities to support the development. In this way, costs are born by the beneficiaries of the new development, not the entire community. Currently in Chocolay Township, impact fees would be low in most development areas because of the use of private well and septic systems versus public water and sewer infrastructure (unless conditions require costlier sampling and oversight based on conditions). Low impact fees could be attractive to development as long as reasonable service is provided, and provided the market is conducive to new development.

Residents of Chocolay Township would benefit from a larger tax base from which the Township could achieve revenues to support services. Therefore, a sustainable strategy probably does not include long-term tax abatements. *To increase the tax base, the Township should take a more proactive role in promoting and facilitating new development and redevelopment of underutilized existing commercial areas.* Strategies may include talking with property owners and developers, paying for development studies, pursuing brownfield funding, providing infrastructure support (water or access roads), implementing zoning changes, simplifying approval procedures and pursuing placemaking or aesthetic enhancement projects. These strategies may require innovative funding mechanisms or collaborations.

The Township could consider creating a Corridor Improvement District which would enable some alternate funding mechanisms such as lease or rental income, revenues from a tax increment financing (TIF) plan, and proceeds from a special assessment district. This should only be considered if it is expected that development would not occur without such measures. The Township could issue bonds to finance public improvements. TIF revenues would materialize from the property tax levy applied to the increase in valuation. These revenues would be used to pay off the bonds.

PUBLIC INPUT

In a 2013 survey, 57% of respondents said they “realize that some small property tax increases may be necessary, within reason, to provide a few additional services or community facilities.”

25% said that “keeping taxes low is important, so we should not add any new services or facilities if it means raising taxes”.

Almost 8% said they favor a strategy to “lower taxes, which may require reducing public services”.

Only 5% agreed that “Chocolay Township should offer similar services and facilities as the City of Marquette and I am willing to pay higher property taxes, if necessary, for those services and facilities.

LOCAL GOVERNMENT FINANCING

To qualify as a development area under *P.A. 280 of 2005 (Corridor Improvement Authority Act)*, the area would have to meet the following conditions:

- Adjacent to or within 500 feet of an arterial or collector according to federal highway functional classification (US-41 and M-28 are arterials; CR 551, CR 480, and CR 545 are collectors)
- Contain at least ten contiguous parcels or at least five contiguous acres
- More than half of the existing ground floor square footage in the area is classified as commercial real property
- Residential, commercial, or industrial use has been allowed and conducted under the zoning ordinance or conducted in the entire development area for the immediately preceding 30 years
- Is presently served by municipal water or sewer
- Is zoned to allow for mixed use that includes high-density residential use
- The municipality agrees to all the following:
 - ◆ To expedite the local permitting and inspection process in the development area
 - ◆ To modify its master plan to provide for walkable non-motorized interconnections, including sidewalks and streetscapes throughout the development area

Clearly the only area that qualifies for a Corridor Improvement District is located along US-41/M-28 in Harvey where there is sewer service. The Township currently allows a mix of uses in this area although in separate zoning districts.

The majority of respondents to a 2013 survey supported a small increase in taxes to support necessary services (see sidebar). Additionally, every opportunity to obtain grants to leverage greater impact for Township investment should be pursued.

Chocoley Township can ensure greater fiscal sustainability through considering life cycle costing for any given purchase (cost in the long run).

Chocoley Township should maintain a capital improvements program (CIP) with at least a six year schedule of capital projects to avoid being confronted with a sudden need for large capital expenditures. This CIP should be in conformance with this Master Plan, and should be prepared by a collaboration of staff, the Planning Commission, and the Township Board. This avoids making capital decisions based solely on the effects on operating and maintenance costs. The priority decision criteria presented in Chapter 2 should serve as a guide.

CRITICAL INFRASTRUCTURE: TRANSPORTATION SYSTEMS

The economy is heavily dependent on a safe and functional transportation system. Because the majority of our food, supplies, and durable goods are produced outside the region, the transportation system is critical to regional commerce and public health.

PUBLIC INPUT

The 2010 survey results indicate that respondents rank the “improvement or maintenance of existing roads” as by far the most important item for spending in comparison to expenditures for “improvements/maintenance of existing parks and open space”, “aesthetic improvements to the existing commercial corridor”, “expansion of the sewer system and/or creation of public water supply”, or “acquisition of new parks and open space”.

Respondents also indicated dissatisfaction with existing transportation resources by choosing “road maintenance”, “transportation accessibility”, and “lack of availability of non-motorized transportation” as within the top category for the most NEGATIVE aspects of living in Chocoley Township.

However, in a 2013 survey, respondents ranked “maintain or improve road conditions” as fourth highest in importance after “protect water resources”, “maintain curbside recycling services”, and “preserve public access to water resources”.

CRITICAL INFRASTRUCTURE: TRANSPORTATION SYSTEMS

Profile

Within the Township, the principal transportation mode is vehicular movement on public roads. See map in Appendix D. Alternate modes include public transit (Marq-Tran and ALTRAN bus services), private transit (such as Checker), and (seasonally) snowmobile, bicycle, and walking which are largely recreational modes. Nearby transportation modes include air (Sawyer International Airport), water transportation (Marquette's harbor), and rail (Lake Superior and Ishpeming - LS&I, Canadian National - CN, Escanaba and Lake Superior - E&LS).

ALTRAN (Alger County Transit) provides regional service between Harvey (Cherry Creek Market) and Munising three times daily Monday through Friday. Marq-Tran (Marquette County Transit) provides service between downtown Marquette and Sawyer International Airport via US-41 and M-553, stopping at the Krist Oil Station in Harvey en route. From Marquette riders can travel through Negaunee and Ishpeming to western portions of the County to Republic Township, or south through Palmer to Gwinn. Special trips can be arranged.

The Iron Ore Heritage Trail has two main routes through Chocoday Township. One portion is crushed aggregate and runs along the old rail grade. This trail is used as a DNR snowmobile trail in the winter and non-motorized trail in the summer. The other portion is paved, and runs from the Welcome Center through Harvey and east along M-28 to the bridge overpass near Hiawatha Road. This trail is mostly for non-motorized access, but accommodates snowmobiles on some portions in the winter. See Map in Appendix E.

Chocoday Township has been the fortunate recipient of grant funds for recent capital improvements to roadways, trails, and even portions of the sewer system, mostly thanks to the Michigan Department of Transportation (MDOT) and the Michigan Department of Natural Resources (MDNR). In 2009, the intersection of US-41S/M-28E/Cherry Creek was reconstructed to allow for better flow of traffic and to reduce the number of accidents at the intersection. In 2010, almost two miles of new non-motorized pathway, a pedestrian tunnel under US-41, and a multi-use bridge over the Chocoday River were constructed. The traffic signal at Silver Creek Road/Corning Street and US-41 was modified to better accommodate pedestrians. Over six (6) miles of trail along the former Soo Line Railroad was also graded and resurfaced to accommodate non-motorized users in the summer and snowmobile traffic in the winter. In 2012, MDOT reconstructed portions of US-41 in Chocoday Township and portions of the sanitary sewer main that connects Harvey with the City of Marquette Wastewater Treatment Plant.

Risk Assessment

Michigan's road system is on the verge of rapid and serious decline. Currently 32 percent of Michigan's roads are ranked in poor condition. It is estimated that this number will jump to over 65 percent by 2018. In general, road maintenance in Michigan is more challenging because of climate related conditions, including damage from freeze/thaw cycles and the extra costs of snowplowing and salting. However, reduced revenues are also to blame. State collected gas tax, vehicle registration fees and other state-collected revenues contribute to road funding.

The funding sources do not generate enough revenues to adequately maintain public roads. The State's declining population (between 2000 and 2010) and increased fuel efficiency resulted in fewer funds from the gas tax. Revenues are not keeping up with inflation and rising costs (fuel taxes are "flat" taxes, meaning the tax does not increase with inflation or rising fuel prices). Rising costs for construction materials (due to rising global demand) resulted in less buying power from the revenues. The State's reliance on borrowing has resulted in strains related to the rising cost of debt. The road system is also rapidly declining because of a lack of timely maintenance resulting in higher costs (it is around six times costlier to repair deteriorated roads than to maintain them).

PUBLIC INPUT

Based on the 2010 survey results, the intersections and roadways indicated as top priorities for improvement include:

Lakewood Lane

*US-41**

*Intersection of US-41 / M-28 / Cherry Creek Road***

Intersection of US-41 & Main Street

Mangum Road

Ortman Road

*Riverside Road**

Kawbawgam Road

*Intersection of US-41 & Silver Creek Road**

South Big Creek Road

Willow Road

Shot Point Drive

**Improvements have been made since the 2010 survey*

***survey was conducted after the improvements made to this intersection, but many respondents indicate continued dissatisfaction*

CRITICAL INFRASTRUCTURE: TRANSPORTATION SYSTEMS

Besides reducing maintenance and construction programs, agencies have delayed implementation of traffic safety measures such as restriping roads, and reduced or eliminated roadside mowing and brush control. To make up for insufficient state-collected funds, county road commissions (who are responsible for all township roads except state and private roads) have created partnerships with townships to supplement road budgets. In Marquette County, the County Road Commission reported that they fund maintenance and construction of primary (numbered) roadways such as CR 480, CR 545, and CR 551 (Cherry Creek Road) at 100 percent of costs (may not include walkways within these right-of-ways). This accounts for almost 5.6 miles of roadways in the Township. However, there are almost 74 miles of local roadways in the Township.

For local roadways (lettered roads, subdivision roads - all other roads except private roads), State law requires that at least 50 percent of funding for upgrades comes from sources other than those that fund the County Road Commission. The Marquette County Road Commission has a policy that requires that townships to cover 60 percent of costs, with the Road Commission covering 40 percent of costs if the Road Commission is contracted to do the work. There is no guarantee, however, that the County Road Commission can provide that 40 percent contribution. The Township pays 100 percent of costs if a private contractor does the work, or if matching funds are not available from the Road Commission. Either way, the Road Commission provides in-kind contributions of design and specification services for projects.

In 2007, the Marquette County Road Commission created a 17-Year Road Resurfacing Plan. This plan allowed for a Township commitment of \$225,000 annually with the Road Commission providing equal matching funds. However, the County matching funds did not materialize. Regardless, Chocoley Township completed the first five years of work in the plan while paying 100 percent of costs by the end of 2013. This included improvements to roadways in Harvey and the subdivisions of Ewing Plaza, Ewing Park, Candace, Fernwood Park, Riverside, Riverland, Holiday Villa Estates, Briarwood Estates, and Countryside Estates. This work was funded by a road millage which has now expired, with another contribution from the general fund to complete the work that exceeded millage revenues.

The 2010 survey indicated several roadways and intersections that are perceived as problematic by residents (see sidebar previous page).

The Township chose to delay implementation of another road millage until Township staff could re-assess road conditions and propose a maintenance/replacement schedule that is more proactive and sustainable but also more responsive to actual conditions.

The following information is supplied by the Marquette County Road Commission, and condition ratings, treatment, and costs may be revised upon review by Chocoley Township staff. Based on PASER ratings collected in the summer of 2013, almost **11 percent** of rated roads are rated **excellent** (PASER ratings 8-10), meaning these roads currently need only routine maintenance because they are newly constructed or rehabilitated, have received a structural overlay, or were recently seal coated.

About **30 percent** of rated roads are rated **good** (PASER ratings 6 & 7), meaning these roads need capital preventive maintenance including crack filling and chip sealing. Total cost is estimated at almost \$400,000 (\$20,000 to \$50,000 per mile).

Another **30 percent** of rated roads are rated **fair** (PASER ratings 4 & 5), and are indicated as needing overlays. Total cost is estimated at about \$2,246,000 (\$175,000 per mile).

About **29 percent** of rated roads are rated **failed, very poor, or poor** (PASER ratings 1 to 3), and need reconstruction. Total cost is estimated at about \$5,074,800 (\$400,000 per mile).

ROAD CONDITIONS

*Based on the 2013 PASER rating data
(for rated roads):*

*11% Excellent:
Routine Maintenance*

*30% Good:
Capital Preventive Maintenance*

*30% Fair:
Needs Overlay*

*29% poor, very poor, or failed:
Needs reconstruction*

*Portions of the following roads may
need reconstruction:*

*Aspen Drive
N. Big Creek Road
S. Big Creek Road
Cherry Creek Road
Ford Road
Foster Creek Road
Green Garden Road
Little Lake Road
Mangum Road
Meadowbrook Lane
Orchard Lane
Ortman Road
Shot Point Drive
Townline Road
Woodvale/Wildwood Drives*

CRITICAL INFRASTRUCTURE: TRANSPORTATION SYSTEMS

In the future, barring revisions to State road funding, Chocolay Township taxpayers will bear a greater burden for transportation costs associated with public roadways.

There are many private roads in Chocolay Township. See Appendix F for updated list. These roads are privately maintained and many were not constructed according to County Road Commission standards. Safety risks occur with roads that are not properly constructed and that cannot accommodate emergency services such as fire trucks or ambulances, or community services such as waste collection, school buses, or deliveries. The Township has required property owners

to sign hold harmless agreements and to file maintenance agreements in some cases to address Township liability, but this does not address the underlying safety and service concerns. *When private agreements fail, the Township can coordinate Special Assessments to fund road improvements on private roads.*

There are similar difficulties associated with seasonal roads in Chocolay Township. These are county roads meeting certain criteria that are not maintained or snowplowed from November through April. The Township has seen an increase in the number of newly constructed homes that are occupied on a year round basis and located on seasonal roads. Township liability is addressed through hold harmless agreements, but this does not address safety or service concerns.

The emerging road system in the Township exhibits problematic conditions. Much of the new residential development is served by an independent system that is not well interconnected to other developments or roadways. Single access systems do not provide redundancy in case of road closures due to natural disasters such as storms or wildfires. Bypass or frontage roads are needed in several locations to alleviate congestion, provide greater connectivity, alleviate safety concerns, and create new opportunity. See Map in Appendix G.

Opportunities

Because the Township will have to assume greater costs associated with maintaining and improving the local road system, new long-term strategies are needed. The Township can generate funds for road improvements through millages, the general fund, special assessments, from private developers, or donations from private citizens. There are also grants available for infrastructure for certain industries such as agriculture or food processing, tourism, forestry, high technology research, manufacturing, mining, or office centers.


Proactive asset management planning will ensure that the Township makes good decisions when faced with a “pay me now, or pay me more later” scenario. Citizens assisted in funding road improvements by approving a millage. This will no doubt be essential in the future as well. However, *it will be important for citizens to also understand the importance of continued investments in capital preventive maintenance for recently resurfaced roadways.* Without continued investment in

crack and chip sealing, the previous investment in resurfacing will not be optimized. It will be hard for citizens to accept more millage funds going to roadways that were recently improved while so many others await improvements. The Township should hold public information sessions and involve citizens in the road plan so that a good balance can be created between capital preventive maintenance and reconstruction schedules.

Before these information meetings take place, the Township needs to inventory the roadways to reaffirm the condition, and create a reasonable maintenance/replacement plan. The voters could consider allocating a road millage that is paid by all taxpayers to support resurfacing and capital preventive maintenance efforts on an ongoing basis. Additionally, the Township could coordinate neighborhood planning sessions to present information, discuss and reach agreement on the possibility of using special assessments to fund reconstruction in areas where conditions are particularly poor or where a higher level of performance is desired by residents. If State and County road funding improves, funding practices can be revised.

The Township has made great strides in providing non-motorized infrastructure that connects the main commercial district, schools, and nearby residential areas. The Iron Ore Heritage Trail Recreation Authority designated the paved route paralleling US-41/M-28 through the business corridor as an alternate business Heritage Trail Route while assuming maintenance costs on the rail grade route. They also widely promote the trail. In 2014, the remainder of the Iron Ore Heritage Trail business route was paved, and then ownership and maintenance responsibility was transferred to the Township. These trails support the attraction of visitors to the Township as well as provide transportation options for residents. Already there has been a noticeable increase in the number of people traveling between Harvey and Marquette on these trails. However, the Township may need to invest in equipment or arrange for collaborations for year-round maintenance of the urban trail sections. There is a need for bike racks, benches, wayfinding signs, lighting, and other amenities to enhance function and user perceptions of safety and security. Thermal comfort may be improved in some sections of the trail through the use of vegetation or other barriers to control the impact of wind and drifting snow. Winter maintenance should include snow removal for priority

CRITICAL INFRASTRUCTURE: TRANSPORTATION SYSTEMS



paved paths along the west side of the US-41/M-28 corridor, or alternately, management of a snow pack on these paths to facilitate walking, fat tire biking, kicksledding, or skiing.

The Township needs to plan for further improvements to existing bus stops to better accommodate transit services, and also needs an all-weather transit station. The Township should also consider the need for four-sided all weather transit structures located close to mobile home parks and businesses that cater to pedestrians. In the winter months, kicksled rentals could facilitate safe transportation to errands or recreation sites within the commercial district of the Village of Harvey. Grants should be sought for these improvements in collaboration with interested agencies, organizations, and businesses.

Road design must allow efficient traffic movement and also access to adjacent properties. In general, traffic moves efficiently and functionally through Chocoley Township at this time.

The Township has adopted access management standards to help ensure that future development does not adversely impact road function along the US-41/M-28 corridor from the northwest boundary to the intersection of US-41/M-28 and CR 551 (Cherry Creek Road) and along intersecting streets within 350 feet of the highway right-of-way.

The Township also participates as part of a US-41/M-28 Corridor Advisory Group which meets once a month to review proposed access changes and corridor improvement opportunities. However, there are existing access problems that need to be phased out as properties are redeveloped.¹³ See Appendix H for locations. If the Township anticipates additional commercial expansion along the highway beyond the confines of the existing Access Management Overlay District, the overlay district may need to be expanded before development occurs to ensure continued highway function. Future development can be facilitated by planning for the necessary service or frontage roads and connectors to

preserve highway function and provide safer, more convenient access to businesses.

In future street plans, the Township needs to adopt strategies to provide greater redundancy through interconnected routes. See Appendix G for locations. When new routes are developed, they should include elements of “Complete Streets” design to provide for alternative transportation modes such as walking, biking, electric scooters and wheelchairs, and public transit.

It is important that the Township address resident safety through re-evaluating policies and standards for private and seasonal roads and posting of addresses.

In the future, if energy costs impact transportation systems and threaten reliability and affordability of transportation, the Township may need to consider coordinating a community ride-share system to activity centers, or a car-sharing program for residents. This could be a public/private or strictly private venture.

CRITICAL INFRASTRUCTURE: WATER SYSTEMS

A clean, healthy, convenient and affordable water supply is a critical need for all development, and also impacts property values.



Profile

Currently, there is no public water supply system in Chocoley Township. All development is served by wells.

To facilitate development and satisfy the increasing demand for utility services, Chocoley Township has conducted multiple assessments regarding the feasibility of a municipal water supply for portions of the US-41 corridor and surrounding residential areas. This was precipitated in 1993 by the issuance of a health advisory concerning a groundwater contamination plume resulting from underground petroleum tanks and other unknown sources that contaminated shallow residential wells in the Harvey area east of US-41. In 1993, after a public hearing, the Board resolved to own and operate a municipal water supply to serve the health advisory area in Harvey provided appropriate funding to construct the system was made available via the Environmental Response Act. This funding did not materialize.

¹³ 2004 US-41/M-28 Comprehensive Corridor And Access Management Plan, updated in 2010.

CRITICAL INFRASTRUCTURE: WATER SYSTEMS

The issue was extensively studied through an ad hoc water committee and private studies including a 1994 Water System Feasibility Study for Chocolay Township and a 2001 Water System Phasing Study for Chocolay and Sands Townships. These studies addressed both ground and surface water sources for a township municipal system, and also a connection with the City of Marquette’s water system. The main issue has been the cost of the system.

The 1994 study estimated that monthly costs per family would be over twice as high as the average rate in the region unless outside funding could be obtained. The connection to Marquette’s system would require the resolution of extensive policy issues. In the meantime, the contaminated area underwent mitigation, and contaminated groundwater wells were replaced by drilling to a deeper aquifer. However, these types of wells are much more expensive (currently around \$10,000).

In June of 1998, the Chocolay Township Board voted to support the concept of forming a regional water and sewer authority with Chocolay Township, KBIC, and Sands Township. Money was put into a water fund. Grant opportunities were researched. Some funding sources are distributed based on the ratio of low to moderate income families in the project area, so a survey was conducted. Other grants are dependent on the affordability of the system. It is possible that the requirements of grant agencies may not be met in Chocolay Township, depending on conditions and area served.

The 2001 study indicated that Chocolay and Sands Townships should continue to use groundwater from existing individual residential and commercial wells unless the monitoring programs indicate immediate necessity. It was evident that the mitigation systems were effective at that time. However, the report indicated agreement with the DEQ that the Harvey/Silver Creek area would eventually need a water supply and distribution system, and that development along Lakewood Lane and Kawbawgam Road should be considered for future connection.

The study recommended that if groundwater sampling indicated a community water system was needed, the option of choice would be a connection with the City of Marquette if there was mutual agreement. The report cautioned against placing a municipal well in the Silver Creek Area as the geology was less than optimal and a municipal system in that area could overtax the local aquifer. The report indicated there was excellent groundwater in the Cherry Creek and Beaver Grove areas, so no public system would be needed there. Because of this, it would be difficult to convince users in this area as well as lending agencies that a municipal system was necessary.

Risk Assessment

Currently most wells for commercial development in Harvey fail to meet minimum isolation distances between a wellhead and a potential major source contaminant as required per the *Michigan Safe Drinking Water Act, P.A. 399 of 1976*. This necessitates the issuance of multiple deviations through a complex approval process with MDEQ and the County Health Department involving more strict sampling requirements and water supply oversight. Some businesses are required to have certified water supply operators under employ and are subject to very strict and sometimes costly sampling requirements.

Other water issues create challenges. There are some shallow wells along Lakewood Lane that have become bacteriologically contaminated over time because of the increased density. The solution is to replace old point wells with drilled wells. Additionally, lower lake levels may have dried up some shallow point wells that are less than 25 feet deep.

The Shot Point area has shallow soils with underlying fractured sandstone. There have been problems with contamination in shallow wells and chlorides in deeper wells.

PUBLIC INPUT

In the 2010 survey, respondents ranked the “expansion of sewer system and/or creating a township water supply” as LESSER in importance than improvements and maintenance of existing roads, parks and open space and aesthetic improvements to the existing commercial corridor. There were only 5 people who noted poor water or lack of water/sewer services as a negative aspect of living in Chocolay Township. Additionally, “offer a water supply to all residents” was the LEAST supported item, followed closely by “offer a water supply to residents in the Harvey area”.

In the 2013 survey, many items were ranked of GREATER importance than expanded sewer or public water supply, including trail amenities, aesthetic enhancements, informational communications, and underground utilities. Most comments in favor of a public water supply mentioned areas with poor well water, such as Kawbawgam Road, or a need to support fire protection.

CRITICAL INFRASTRUCTURE: WATER SYSTEMS



High nitrates (close to the health limits) have been found in some sandy areas such as the Timberlane subdivision. It is uncertain whether this is because of excessive use of lawn fertilizer or concentration of septic systems. In some areas along Kawbawgam Road, wells have been sunk into a buried swamp, resulting in rather “skunky” water. Property owners can treat the water with a three stage filtration system. However, sandstone doesn’t yield a large quantity of water. One Planned Unit Development was denied based on water supply concerns.



Opportunities

Although the contamination issue has largely been mitigated at this time, the Township continues to ponder the benefits of a **municipal water system** to support new development to create a stronger tax base.

The Township should periodically revisit the feasibility of a municipal water system, which could be altered by conditions such as changing regulations, an increasing need for fire protection, further contamination, or increased demand. It is anticipated that new EPA rules could make the process of permitting private wells even more complex and burdensome. There may be future issues with capacity.

Costs for a public system may be justified if as a consequence the Township can remove limitations to density, therefore reducing per unit cost and increasing tax base. The furthest extent of such a system might include the Harvey area with extensions along Lakewood Lane and M-28 to include adjacent subdivisions, the Tribal residential areas, and development along Kawbawgam Road. A cost analysis should include ancillary considerations such as repaving roads as they are disrupted and assessing the impact on user affordability (costs associated with wells and fire insurance vs. monthly system user fees).

CRITICAL INFRASTRUCTURE: WASTEWATER MANAGEMENT SYSTEMS

The process of treating wastewater and sewage involves removing contaminants through physical, chemical, and biological processes. This can either be done close to where the sewage is created (in decentralized septic tanks or other biological or aerobic treatment systems) or within a centralized system where wastes are collected and transported by a network of pipes and pump stations to the municipal treatment plant in Marquette.



Profile

The Township sewer system is illustrated in Appendix J. The remaining properties are serviced by septic tanks. Most of the Township’s sanitary sewer infrastructure was installed in 1975. With proper construction techniques and routine cleaning and inspection, the portion of the system consisting of pipes and manholes can be expected to deliver nearly 100 years of service. The pumps, motors and other mechanical and electrical components of the Township’s sewage pumping stations generally have a design life of 20-25 years.



Risk Assessment

Four of the Township’s major pump stations have now been operating with the original components for 38 years. In addition to bringing their future reliability into question, this also means that the stations are operating on **technology that is now generations old and far from energy efficient**. Additionally, the piping is not of approved design to allow less than 50 lineal feet of isolation between the sewer line and residential wellheads, leading to complications in the well permitting process and limitations to well placement on the site. Approved forms of sewer pipe would allow a ten foot lineal isolation distance to the wellhead. The issue could also be addressed with a municipal water system.

Chocolay’s sewer system has a **relatively small customer base** (510.3 residential equivalent users and 275.6 non-residential equivalent users). Fees have historically covered regular operating costs, but have not adequately provided for reinvestment. An increase of \$1 per month per equivalent user generates just over \$9,000 per year. Rate increases in recent years have gone to cover Chocolay’s share of technology and equipment upgrades at the Marquette treatment plant, increases in wage and benefit costs for the portion of employee time allocated to the system, and replacement of the Township sewer cleaning equipment. With the loss of a large non-residential user (a business that was closed because of tax delinquency), it became even more difficult to fund reinvestment and replacement of obsolete infrastructure.

Fiscal feasibility of the sewer system is also related to **energy costs**. Expected increases in energy costs will continue to raise operating costs.

Equipment upgrades and replacement at the major pump stations could be expected to total several hundred thousand dollars per station, but engineering analysis of

CRITICAL INFRASTRUCTURE: WASTEWATER MANAGEMENT SYSTEMS



options is needed to determine the necessary funding levels. With five major pump stations, three minor ones, and other infrastructure components to address, clearly additional savings will be necessary to tackle any major upgrades, even with 50 to 75 percent grant funding.

The Marquette County Health Department inspects and permits all **private septic systems**, ensuring that soil conditions will allow systems to operate properly and that they will not contaminate wells or surface water in the vicinity. There are issues with private septic systems in some areas. Some private septic systems have been denied and approved through variance, resulting in exceedingly large mound systems. Others were denied because the clay soil lacks filtration. Some septic systems for properties along Mangum Road at the end of Kawbawgam Road have been denied because of high water table issues.



Opportunities

Maintaining the sewer infrastructure within the Township must be a priority since this is strictly a Township responsibility. Staff has begun compiling data and formulating an **asset management plan** for the major components of the Township sewer system. Engineering assistance will be needed to identify and evaluate options for

replacement of the obsolete equipment and prioritization of replacement work. Future energy costs will also need to be considered, as well as technological improvements. There are presently several programs at both the state and federal levels to assist with this type of work, but local matching funds are required.

The sewer system was designed for **expansion**, particularly into Section 9. Public support for a special assessment to fund construction and maintenance for expansion would be more likely if the expansion is funded by development, or if there are identified failures in private septic systems that cause public health risks and necessitate replacement of those private systems.

CRITICAL INFRASTRUCTURE: ENERGY SYSTEMS

Many researchers agree that in the near future our society will face a transition related to the supply of a key energy and material resource, oil. Economic growth has largely been dependent on this relatively cheap and energy dense resource that is yet unmatched in net energy return. ***Every aspect of our lives would be impacted by uncertain supplies and rising costs of energy.*** We rely on cheap oil for everyday necessities such as transportation, food, clothing, health care, and electricity.

Although it is expected that we won't run out of oil for many years, it is likely that rising global demand will impact supplies in the near future. Rising demand (or shrinking supplies) will cause the price of oil to rise and become more volatile. A rise in the price of oil also impacts the price of electricity, natural gas, and other energy resources.

To be prepared, communities must anticipate probable effects of various energy scenarios which could impact the economy, municipal services, transportation systems, land use patterns, housing, and basic sustenance. For example, a rise in energy costs would impact the manufacturing and trucking industries, and the cost of transported goods would rise. Supply would become less certain, especially to remote rural areas like the Upper Peninsula. Rising costs would challenge communities to cover costs of treating and pumping drinking water, treating wastewater, heating and cooling buildings, providing fuel for law enforcement and fire protection, repairing roadways, and picking up trash and recycling. Personal mobility, health care, and consumer patterns would be disrupted. Commuters may move closer to jobs. To address housing affordability, people formerly living apart may move in together. Or people may look for more affordable types of housing within walking distance of necessities.

Governor Rick Snyder in a special address on November 18, 2012 entitled "Ensuring our Future: Energy and the Environment", said:

"How do we know what the right decisions are? The hard part is that we don't know exactly what our future will hold and what challenges to our energy and environmental futures we will face. But that is no excuse for standing still or failing to be proactive. What we need to do is identify those actions or decisions that are adaptable. These are solutions that are good for Michigan, not just in one possible future, but in many possible futures. We have a lot of opportunities to take action today - action that is "no-regrets" even if things turn out differently than we predict."

The Governor said that building on that foundation of adaptability, there are three pillars that every decision must stand on: ***"excellent reliability, an affordable price, and a protected environment"***. Although Chocoy Township is not yet an energy producer, the Township can take steps to ensure greater reliability of supply for residents, and to plan for greater affordability through efficiency and conservation measures.

CRITICAL INFRASTRUCTURE: ENERGY SYSTEMS

Profile

A portion of property owners in the Township obtain electricity from the Marquette Board of Light and Power (BLP) which has a coal powered generating plant in the City of Marquette. The remainder is served by Alger-Delta Cooperative Electric (Alger-Delta). There is a large cost discrepancy for the end users between these providers as Alger-Delta purchases electricity for resale. Most Township facilities are served by the Marquette BLP which currently offers excellent reliability and affordability.

Some property owners in the Township have access to natural gas, but others must use propane, which is currently significantly more expensive. The Township offices and fire hall use natural gas.

Risk Assessment

Even a small change in a critical system can have far-reaching impacts. For a power company, lost revenue contributions to cover fixed, embedded production costs translate into rate increases. Local conditions illustrate coming realities. **Rate increases** of over eight percent were recently implemented for BLP customers, and are expected for at least the next three years. Alger Delta rates have been stable, with no increase since October 2010. Electric rate increases will have greater impacts on higher energy users such as businesses, educational institutions, the hospital, and local governments. This will translate into **higher consumer costs** for goods, education, health care, and public services. Further increases are anticipated within the entire American Transmission Company service area (provider of energy transmission lines) to support the Presque Isle Plant after the loss of much of its customer load (mining company). Uncertainties associated with the future of the Presque Isle Power Plant in Marquette could lead to cost increases (perhaps very significant) for most Upper Peninsula ratepayers, regardless of whether the plant remains open or is closed. If the Presque Isle Power Plant is closed, it would trigger a necessity to build billions of dollars' worth of transmission lines and/or power generation with costs borne by ratepayers. The plant closure would cause severe impacts to City of Marquette tax revenue and funding for the Marquette Area Public Schools, thereby impacting the greater Marquette area. It could also pose problems from an energy standpoint for the BLP.

Opportunities

Chocoley Township supports measures and policies to address the rising energy costs for homes, businesses, and transportation while enhancing energy and economic security. Sustainable energy use is based on a combination of strategies for the near- (1-5 years), mid- (5-10 years), and long- (10+ years) terms.

Near-term strategies focus on education and conservation to address cost and supply disruption. The Township will also engage in gathering of data on consumption and costs within the Township to develop strategies targeting the highest energy-consuming sectors. Mid-term strategies focus on retrofit of existing assets and design strategies for efficiencies. Long-term strategies involve incorporating new technologies and new methods of generation.

Policy

Chocoley Township's energy policies should **prioritize energy conservation and efficiency criteria** when making and evaluating plans, programs, and projects. Because of the unpredictability of the emergence and evolution of technology, the Township must **consider a variety of possible energy scenarios** in land-use and transportation planning. In anticipation of price volatility, the Township could create an **emergency fuel fund** to help buffer spiraling costs in the future.



CRITICAL INFRASTRUCTURE: ENERGY SYSTEMS

Conservation

Reducing consumption will reduce energy costs. Chocoley Township should continue to identify and implement energy conservation measures for public facilities such as programmable thermostats, occupancy sensors, power management for electronic equipment and behavioral measures. Staff education may be needed.

The first step in a successful energy program is to collect data on Township facility energy usage and costs. The Township should also convene volunteers to gather data and identify trends in relation to local consumption and energy costs for the purpose of identifying at-risk businesses and institutions and working with them to identify energy strategies.

The Township can also reduce mowing frequency by planting low-mow grasses or naturalizing more areas so that no mowing is required.

Efficiency Retrofits

Chocoley Township has conducted an energy analysis for the Township Hall and Fire Hall facilities, and has already implemented some energy efficiency measures such as lighting upgrades and weatherization. According to the Comprehensive Technical Energy Analysis Report by Michigan Energy Options, efficiency upgrades for various facilities include insulating water heater pipes, retrofitting lighting, and using more energy efficient small appliances, electronics, and water heating systems. Other suggestions include demand controlled ventilation in the HVAC system for Township Hall, and a gas-fired radiant tube heater for the Township storage garage. Fleet vehicles should be transitioned to more energy efficient models as they are replaced.

The Township should investigate opportunities to fund improvements with **energy bonds** payable through the resulting energy cost savings. Some communities have also promoted energy efficiency by allowing commercial property owners to receive a **voluntary special assessment** for financing energy upgrades by using the municipality's bonding authority to create a pool of available funding. Participants repay assessments with interest. This program is authorized by P.A. 270 of 2010, the Property Assessed Clean Energy Act.

Production Options

A mix of energy generation options produces greater resilience. Increasing the share of energy produced by renewables will reduce greenhouse gas emissions, improve air quality, enhance energy security, and reduce strain on the existing energy grid. Some of these solutions may be implemented by the main power producer in the region. However, there are also benefits for generating and distributing power on a local, decentralized basis. Smaller systems placed near the point of consumption decrease transmission and distribution power losses, and can make cogeneration possible (using heat that is a byproduct of electricity production). Chocoley Township can consider implementation of alternative systems for energy production on Township properties or in collaboration with the private sector, especially if funding is made available. These systems could serve Township facilities, or could be implemented on a community neighborhood scale. Such options could include cogeneration, solar, biomass, hydropower, wind, and geothermal installations. In the 2013 community survey, the majority of respondents supported the leasing of Township property for alternative energy structures (see sidebar).

P.A. 295 of 2008, the Michigan Clean, Renewable and Efficient Energy Act, requires Michigan electric producers to obtain 10 percent of their electricity sales from renewable resources by 2015. As a result, a number of new

PUBLIC INPUT

Based on the 2013 survey results, the majority of respondents approved leasing Township land for alternative energy structures (wind, solar, geothermal, etc) as follows:

47.6 % - Yes

27.6 % - Yes, as long as it doesn't cost taxpayers money

24.8 % - No

CRITICAL INFRASTRUCTURE: ENERGY SYSTEMS

renewable energy projects are operating in Michigan, with Michigan consumers paying a surcharge to support the expansion. It is expected that decreases in renewable energy costs will lower surcharges beginning in 2014.¹⁴

National studies estimate that only 20 to 30 percent of homes or businesses are suitable sites for solar energy. Many are shaded or lack proper orientation. In addition, renters and condominium owners lack property ownership for these installations. Large up-front costs are also prohibitive for some. **Community solar** may be a viable alternative. With these programs, the customer subscribes to a portion of an off-site shared solar energy facility (much like they might rent space in a community garden), and then receives a portion of the benefit based on their investment. In this way, costs are shared by multiple owners with benefits divided among participants. Shareholders can take advantage of economies of scale from larger systems operating at a lower cost-per-installed-kilowatt. They can also share in the services of a professional project developer to design, install, operate, and maintain the system. Investors also benefit from shared tax credits, rebates, special financing, and other incentives. Some utilities are interested in participation in these projects. Chocolay Township should partner with other municipalities to explore the feasibility of community solar installations in the region, and to formulate a viable business model. This could provide an alternative for those who must rely on more expensive power options, or those who want to minimize risk through diverse generation. Similar options could be available for neighborhood-scale generation using other power sources such as wind. Reliable transmission systems are critical for managing intermittent supplies such as wind and solar.

Local governments generally retain control of siting decisions for renewable energy installations. Chocolay Township should ensure that **zoning standards** are supportive of appropriate scale renewable energy facilities across the Township. The Township may need to consider passing **solar access laws** to limit restrictive or prohibitive covenants for solar installations.

Chocolay Township should ensure that all **public facilities serve as a positive demonstration model** for conservation, efficiency, and even renewable energy generation. These model projects could be implemented in partnership with energy businesses for promotional purposes.

The Township could also consider **tax incentives** for property owners who implement renewable energy measures, ensuring at least that these measures don't increase property taxes.

CRITICAL INFRASTRUCTURE: FOOD SYSTEMS

Food is critical to the health and well-being of all citizens. The inability to access fresh, healthy, affordable food triggers health risks for many people in communities, resulting in lost wages, taxes, and jobs; decreased quality of life; and increased health care costs.¹⁵ Food also impacts the local economy as food is a huge market in which every consumer must invest. When more components of the food system are supplied locally, the local economic multiplier effect is increased, and the hidden costs associated with importing food are decreased. A strong local food system increases food security, provides better nutrition, and contributes to a greater sense of community. Additionally, the Michigan Zoning Enabling Act requires local governments to provide for all lawful land uses where there is a demonstrated need and an appropriate location. Many would argue there are few needs that are greater in importance than food.

Profile

The food system consists of components related to growing, harvesting, packing, marketing, distributing, processing, consuming, and disposing of wastes. Food can be grown on parcels of land large and small, for family sustenance or commercial purposes, with one product or many. "Farms" may sell directly to consumers through Community Supported Agriculture (CSA) programs or Farmer's Markets, or may sell to retail grocers, institutions, or restaurants. They may also sell directly to food processors or large-scale producers. Various laws impact these transactions.

Currently, food seems to be readily and conveniently available. However, according to the U.S. Department of Agriculture, 22 percent of U.S. children - more than one in five - live in a household that was **food insecure** during 2011. Many people don't realize that their food travels an average of 1,500 miles before it reaches their dinner table. Or that by some estimates grocery stores contain only a three day food supply at any one time.

¹⁴ Reading Michigan to Make Good Energy Decisions - Renewable Energy report. November 4, 2013. Michigan Public Service Commission and Michigan Energy Office.

¹⁵ "Michigan Community and Regional Food Systems Policy", Michigan Association of Planning, September 23, 2013 Draft.

CRITICAL INFRASTRUCTURE: FOOD SYSTEMS

Michigan has the essential building blocks of a strong and resilient food system including land and rich soil, abundant fresh water, skilled farmers, and a climate that supports diverse agriculture. However, Michigan's agricultural systems are under threat from demographic shifts, environmental factors, land use patterns, and industry consolidation.¹⁶

In the central Upper Peninsula, \$430 million in food is consumed each year. \$400 million comes from outside the region, meaning dollars go elsewhere.¹⁷

Risk Assessment

Across the United States, consumers are becoming increasingly interested in local foods. At the same time, the U.S. farm population continues to age. The Upper Peninsula Agriculture Assessment¹⁸ indicates that 70 percent of U.P. farmers are over the age of 51. There is also evidence of a shift from the conventional system of passing down farms within the same family for generations. The U.P. Ag Assessment showed that 75 percent of the farmers surveyed do not have someone to continue their operation when they stop farming. The loss of farm families has also created a rip in the fabric of community in many rural areas. There is a growing concern about who will be the future food producers in this country. Because of these concerns, there is an increase in the number of programs targeted at beginning farmers and ranchers. In particular, there is a rising need for resources and programs for the smaller-scale, more diversified operations.

U.P. farmers face many challenges. These include a challenging climate with shorter growing season, less productive soils, and microclimates that can include drought conditions or extreme weather events. Beginning farmers are even more challenged with limited access to start-up capital for land and equipment, lack of training, limited marketing and distribution resources, and lack of storage and processing facilities.

Some negative impacts to the food system are irreversible, such as allowing development to occur on prime agricultural soils. Some negative impacts are unpredictable, such as climate change. Unpredictable, extreme weather events impact how food is grown locally, nationally, and globally. Because our food often comes from very far away, we can be impacted by multiple events. For example, scientists think the shrinking ice pack in the Rocky Mountains will result in falling water supplies in California, which currently supplies about half the fruits and vegetables for the country. Droughts and rainy periods in other parts of the country similarly impact supply chains. This highlights the urgency of developing local food systems.

While global and national food supply chains are well developed, local supply chains that provide food directly from field to table are only now emerging. Policies, rules, and practices within the industry are designed to support large scale supply chains rather than local ones, and often serve as obstacles to local food systems. Requirements are often beyond the capacity of small or start-up businesses, ultimately constraining choices for both producers and consumers.¹⁹

The national food system has become increasingly concentrated and consolidated in the last few decades. A limited



¹⁶ "Michigan Community and Regional Food Systems Policy", Michigan Association of Planning, September 23, 2013 Draft.

¹⁷ "Central Upper Peninsula (Michigan) Local Farm & Food Economy", Ken Meter, Crossroads Resource Center (Minneapolis), for the U.P. Food Exchange, October 30, 2013.

¹⁸ The U.P. Ag Assessment is a cooperative effort between the Marquette Food Co-op, MSU Extension, the Eastern Upper Peninsula Food Hub Project, and the NMU Center for Community and Economic Development to conduct a comprehensive survey of U.P. farms that sell directly to consumers, 2011.

¹⁹ The U.P. Ag Assessment, 2011.

CRITICAL INFRASTRUCTURE: FOOD SYSTEMS

number of companies process and distribute food. For example, four firms control 50 percent of the poultry market in the U.S. This heightens **food safety threats** from widely distributed, tainted foods. Similarly, seed stocks have become consolidated and have declined in diversity. Many local residents recognize the dire environmental impacts that are frequently associated with the industrial food system. Because they value the beauty and integrity of our natural environment, many consumers are willing to support local food supply systems. *The difficulty is that there is currently not enough local supply to satisfy this demand.*

Local regulations can be prohibitive to agriculture, which is why the *Michigan Right to Farm Act* (RTFA) was designed to override local agriculture regulation in some cases. This may, however, present problems for municipalities who seek ways to permit an acceptable level of micro-agriculture which is consistent with local conditions and character without opening the door to all types or scales of agriculture. However, newly adopted changes to the Site Selection GAAMP²⁰ involving livestock operations have been interpreted by some as possibly empowering local government to accommodate small farms in response to a growing interest in urban agriculture. The changes mean that local governments may now have zoning authority over livestock operations in “primarily residential” areas (as defined in the newly revised site selection GAAMP, but not related to zoning). The idea is that these issues may best be addressed locally, where different types and scales of agriculture could be permitted based on local conditions and levels of acceptance. The difficulty is that these changes are highly controversial, and may be irrelevant if the RTFA, which was not written to embrace urban agriculture, is not amended. The real authority resides in the RTFA. The controversial GAAMPS may again be rewritten, again necessitating a changed local approach. It is still important to have local ordinances that are not in conflict with the RTFA to avoid pre-emption.

Agriculture is also subject to risk due to rising energy costs for transporting raw materials, working the land, and processing and transporting produce. There may be food shortages related to spoilage in transit or storage because of power outages from energy disruptions. Rising production and distribution costs lead to rising prices for consumers and falling discretionary income. There may also be shortages in supply resulting from a lack of credit availability.

Opportunities

As the energy transition shortens commercial and trade supply lines, communities can benefit from **greater localization** of essential community needs such as food and hard goods, assuming supply is adequate. This will create new opportunities within the local economy, and certainly within close proximity to population centers such as Marquette. For example, if Central U.P. residents purchased \$5 of food each week directly from farmers in the region, this would generate \$45 million of new farm revenue for the region.²¹ This illustrates the power of local economic development, and the potential market for local food. There is increasing demand for local, fresh food, and even large retailers are trying to capture this **growing market for local food**.

Technology can yield new opportunity. For example, in North America, approximately two acres is required to feed a person for a year. A high-efficiency hydroponic farm needs just 0.1 acres to feed a person for a year, a 95%

PUBLIC INPUT

The 2013 survey attempted to gain public input about the appropriate scale or intensity of animal homesteading activities in their neighborhood.

Overall, the majority of respondents (over 50%) agreed with the following:

57.5 % - The keeping of less than ten small animals such as chickens, rabbits, turkeys, in a portable or fixed cage (similar to a dog pen with a shelter and run)

55.5 % - A chicken coop 100 square feet or less (10' x 10')

For the following items, a majority was not achieved by either those who Agree or Disagree. In this case, a decisive vote from those who said Maybe could indicate a majority either way.

The keeping of one or two potbelly pigs as pets like dogs - 201 Agree, 215 Disagree, 58 Maybe

The keeping of a couple of sheep or goats to control the growth of vegetation - 185 Agree, 232 Disagree, 65 Maybe

Overall, respondents did not support accessory homesteading activities involving medium to large animals or free-range poultry.

²⁰ GAAMP stands for Generally Accepted Agricultural and Management Practices. A farmer may use the Right to Farm Act as an affirmative defense in a nuisance lawsuit if GAAMPS are followed. The Act gives the Michigan Commission of Agriculture and Rural Development the authority to approve GAAMPS.

²¹ “Central Upper Peninsula (Michigan) Local Farm & Food Economy”, Ken Meter, Crossroads Resource Center (Minneapolis), for the U.P. Food Exchange, October 30, 2013.

CRITICAL INFRASTRUCTURE: FOOD SYSTEMS

reduction in acreage.²²

The resilience of local food supplies depends on strengthening and improving the system at all levels, from food production in residential yards, to small organic farms, to larger traditional family farms, to industrial farms. Diversity and sustainable growing practices are needed to ensure sufficient supply and environmental sustainability.

Although the food system involves private sector participants, there are many things that local government can do to support local food systems and thus protect the health, safety, and welfare of residents in relation to this critical need. Agricultural opportunity can be facilitated through land use decisions, farmland preservation programs, and supportive zoning.

Chocolay Township can start by **advocating** for local food production and increasing access to relevant information to support production and processing.

Although municipalities may be impacted by the Right to Farm Act pre-emptions, it is important for the Township to **adopt policies and regulations to support local food systems at every level** from production, processing, marketing, and distribution to waste management. To this end, the Chocolay Township Planning Commission first chose to support the Marquette County Local Food Supply Plan as a basis to guide Township policy. The Planning Commission also considered draft regulations pertaining to “Accessory Homesteading Activities”. The purpose was to develop regulations to permit micro-agriculture activities not addressed by the Right-to-Farm Act protections, such as the non-commercial raising of chickens, in additional areas of the Township (besides the Agriculture Forestry district). The idea was not to open up the entire Township to traditional agriculture activities, but to provide for context appropriate homesteading activities as accessory uses to residences to support households in attaining some level of self-sufficiency or resilience. In considering these regulatory changes, the Planning Commission decided public input was essential. This led to the distribution of the 2013 Public Opinion Survey (see Appendix K and sidebar for results). Zoning strategies related to local food systems and farms are also addressed in Chapter 6: Farmlands, Forests, and other Productive Lands.

Local governments can support **agriculture as an interim use of publicly-owned lands**, thereby providing for community green space, public education, and outdoor centers for community. This can be facilitated through collaborative projects such as community gardens, food forests, community u-pick areas, community hoop houses, edible landscaping, farmer’s markets, and farm incubators. Chocolay Township has already partnered in the creation of the Chocolay Community Garden on land owned by the Harvey Baptist Church. It is expected the gardens will expand to another site owned by St. Louis the King Catholic Church in 2014. Future opportunity may involve creating larger plot community gardens at the Township’s Beaver Grove agricultural property to satisfy demand.

Latter stages of the food supply chain can be supported through projects to create or support kitchen incubators, community processing facilities, and mobile food vendors.

Local food supply projects must be supported by a **public engagement and education process**. It is essential for Chocolay Township to **collaborate** with other public, private, and nonprofit entities such as the Marquette Food Co-op, U.P. Food Exchange, Farmer’s Guild, Michigan State University Extension, U.P. Land Conservancy, and Northern Michigan University. The Township acknowledges this form of planning as critical to Township sustainability and resilience. Chocolay Township should seek to be a leader in the region in supporting local food systems by participating in food policy councils and other regional initiatives.

PUBLIC INPUT

Based on the 2013 survey results, the majority of respondents approved leasing Township land for public use for food production (community garden or public greenhouse) as follows:

60.5 % - Yes

31.8 % - Yes, as long as it doesn’t cost taxpayers money

7.7 % - No

²² “Future Proofing Cities: Strategies to Help Cities Develop Capacities to Absorb Future Shocks and Stresses”, Craig Applegath, 2012.

CRITICAL SERVICES: PUBLIC SAFETY AND EMERGENCY

Public safety and emergency services are the hallmark of government services, contributing directly to public health, safety, and welfare.

Profile

Chocolay Township provides excellent public safety and emergency services, and residents have been very supportive of funding for these services. The departments have also been successful in obtaining many grants to improve services and equipment.

Police Department Profile

The Chocolay Township Police Department was established in 1963. The priority at that time was to resolve dog complaints. By 1975, the Department purchased its first radar to control excessive speed.

Today the department is a progressive, community-oriented department that is staffed by four full-time officers, three part-time officers, and one full-time administrative assistant. They respond to a variety of complaints, enforce Township ordinances and state laws, and assist in emergency calls.

Table 4-1 presents incidents eliciting police response for the last five years. It is apparent that while the number of citations has increased, the number of crimes against people and property and the number of traffic related incidents has decreased. Table 4-2 shows that over the last five years, the number of accidents has declined. Implementation of an aggressive road patrol has aided in the reduction of total accidents.

Table 4-1 - Accident data

YEAR	2008	2009	2010	2011	2012	2013	2014
Total accidents	154	134	136	107	91	95	98
Injury accidents	12	12	17	11	11	11	9
Fatal accidents	0	1	1	1	0	0	0

The Police Department currently operates the following vehicles; a 2011 Dodge Charger, 2012 Chevrolet Tahoe, 2013 Dodge Charger, 2005 Ski doo snowmobile, 2006 Yamaha snowmobile, and a 2010 CanAm ATV.

Technology has become a critical part of law enforcement solutions, and the Chocolay Township Police Department has kept up-to-date with new technology. The Department was the first in the Upper Peninsula to install in-car cameras, body-worn cameras and in-car computers.

The first in-car camera was installed in 1993. Each patrol vehicle has an installed system which is updated as needed to the latest technology.

The police department received a Snowmobile Enforcement grant from the MI Department of Natural Resources in 1999, which has been renewed annually every year since. This involves enforcing speed limits and other rules of the trail and responding to complaints.

Body-worn cameras were introduced to the Department in August 2008. Vidmics were implemented to provide documentation of traffic stops and incidents. Wolfcom 3rd Eye was purchased in December 2012 to replace one irreparable Vidmic. The Wolfcom 3rd Eye provides several features the Vidmics did not, such as night vision viewing, still picture capture, GPS to document crime scenes, plus the ability to view around corners to protect the officer's life.

Motorola Laptops were provided from Michigan State Police for both patrol cars. In 2013, a Toughpad computer was purchased for the third patrol vehicle, thus giving each patrol vehicle computer access. During 2013, the Law Enforcement Information Network (LEIN) was installed on all Department computers making traffic stops

Table 4-2- Incident data for Police Department

DESCRIPTION	2007	2008	2009	2010	2011	2012	2013	2014
General assistance	565	576	677	798	889	809	724	713
Crimes against persons	131	205	111	137	142	181	200	191
Crimes against property	403	347	358	289	277	188	130	151
Traffic related	253	332	313	359	314	271	168	188
Juvenile	14	24	28	19	38	24	24	16
Animal	129	126	115	115	103	104	61	70
Drug law violation							18	21
Yearly Incident Totals	1,495	1,610	1,602	1,717	1,763	1,577	1,325	1,350
Citations	558	589	561	581	843	892	749	819

CRITICAL SERVICES: PUBLIC SAFETY AND EMERGENCY

safer and providing more rapid information in the office. LEIN provides driving and criminal history to officers when investigating traffic violations and criminal incidents.

Iye-Crash software was implemented by the Michigan State Police in July of 2011. Iye-Crash is a program designed by Iye-Tek to electronically submit traffic crashes to the Michigan State Police instead of mailing/faxing reports. This has reduced the amount of time and office supplies associated with processing traffic incidents, as well as providing a reduced response time to the people involved in the accident who request a copy of their report.

Social media has also become an important part of law enforcement public outreach. The Chocolay Township police have used the Department Facebook page to post road closures, distribute important information, and provide community safety education. Another program that has helped the Department keep connected to the public is Nixel. Nixel provides the opportunity to post announcements such as extreme road conditions, road closures, and office closures. This service is provided free to the Department and to the public.

The bulletin board in the Department has up-to-date information on law changes, identity protection, and public safety. The information is kept concurrent with seasonal issues such as snowmobiling, bicycling, walking, back to school, and travel safety.

Officers participate in community activities (Lion's Club and Silver Creek Church Halloween parties, Silver Creek Church Neighborhood Block Party). They do fingerprinting for children at day care centers and at the Block Party. Gun education was presented to a Boy Scout troop.



Fire Department Profile

Chocolay Fire-Rescue was established in 1967 by a group of dedicated volunteers seeking to improve their community. The Department is currently staffed by a team of 23 men and women. At full capacity, staff includes up to 30 on-call paid members including the Chief, Assistant Chief, two Captains, two Lieutenants, two training officers and up to 22 Firefighters. The Department seeks to provide professional level service to the public at minimal costs to taxpayers. The Township has mutual aid agreements with surrounding communities.

Chocolay Fire-Rescue has four response apparatus which includes the following:

- 1998 Pierce Saber pumper - primary response to all fires; secondary response to all traffic accidents
- 2009 Pierce Velocity Pumper/Tanker - primary response for rescues, motor vehicle accidents, and EMS assists; secondary response to all fires
- 2002 Pierce/Freightliner pumper/tanker - third to respond to larger fires and if needed, traffic accidents; first to respond when other departments request mutual aid
- 1995 Chevrolet 2500HD 4x4 Pickup - secondary response to brush and grass fires. In the spring, summer, and fall this unit carries a brush fire skid unit. In winter this unit pulls the snowmobile trailer which is equipped with a snowmobile and a rescue sled and a support trailer which is used as a command post on large incidents and used for transport of a 4-wheeler ATV for rescue.

Chocolay firefighters complete many hours of training, meeting four times each month. Training topics include firefighting, vehicle extrication, rescue, HAZMAT operations, and many more areas of life and property preservation. See Four-Year Fire Department Incident Report in Table 4-3.

After outgrowing its fire station three times in 30 years, Chocolay Township completed the construction in 2013 of the new Township fire hall which could accommodate contemporary Department needs. The former structure was about 45 years old and had additions dating from 1986 and 1996. The approximately \$2,131,000 project was funded through an approved millage of up to 1.70 mills for up to six years. The 12,000 square foot fire station includes seven (7) bays (including an equipment wash bay), mezzanine storage, offices, and a training room. It also includes replacement of the emergency alert siren and installation of a 30,000 gallon underground water reservoir to



CRITICAL SERVICES: PUBLIC SAFETY AND EMERGENCY

provide a ready supply of water for firefighting in the Harvey area. The reservoir is filled from an existing well on the property; and the use of well water instead of river water means reduced maintenance demands on firefighting equipment pumps. Three Township-based sub-contractors and suppliers were utilized in the project.

The Chocoley Fire-Rescue Department conducts Fire Safety Presentations to the kids at Cherry Creek School and fire station tours annually during Fire Prevention Week. Chocoley Fire-Rescue also assists with the Easter Egg Hunt and Neighborhood Block Party at the Silver Creek Church.

Table 4-3 - Incident data - Fire Department

Description	Incidents			
	2011	2012	2013	2014
Accidents				
Personal damage	1	1	6	2
Personal injury	13	17	6	12
Traffic	2	0	0	0
Total Accidents	16	18	12	14
Fire				
Alarm	7	4	0	8
All other	2	3	7	16
Appliance	2	1	0	1
Brush / grass	10	5	3	3
Carbon monoxide	6	1	1	3
Chimney	4	0	2	0
Electrical	8	2	1	1
Gas & other odors	3	1	3	4
Smoke	1	3	0	0
Spill	1	1	2	0
Structure	5	4	7	4
Vehicle	1	1	2	4
Total Fire	50	26	27	44

Description	Incidents			
	2011	2012	2013	2014
Medical				
Back pains/breathing/chest	3	0	0	0
Death	0	0	0	0
Fall	3	2	0	0
Medical Assist	0	0	14	13
Medical Transfer	3	0	0	0
Rescue	0	0	0	4
Sick person	1	0	0	0
Total Medical	10	2	14	17
Other				
Animal Rescue	1	0	0	0
ATV accidents	0	0	0	0
Boat/swimming accidents	1	1	0	0
Dangerous drugs	1	0	0	2
Dispatched / Cancelled en route	0	0	7	11
Electrical arcing	2	2	0	2
Power line down	22	10	8	4
Traffic problems	1	0	0	0
Total Other	28	13	15	19
Total Incidents	103	59	68	94

CRITICAL SERVICES: PUBLIC SAFETY AND EMERGENCY

Risk Assessment

Risks for both departments relate to **budget constraints** in relation to demand for services. In times of economic hardship, illegal activity and violence tend to escalate, necessitating additional investment in resources. Additionally, **rising energy costs** in these departments would have a significant impact on the Township budget. Both departments rely on continuous investment in equipment and fuel. The new Township fire station has resulted in an increase in operating costs.

Chocolay Fire-Rescue has identified the following potential **public safety risks**:

- Addresses not clearly marked
- Seasonal residences not maintaining driveways
- Lack of adequate fireground training facility to provide realistic fire burns and suppression, vehicle extrication, and wildland fire suppression training, etc.
- Lack of new members on the fire department. Trends show fewer volunteers showing interest in joining a fire department.

- Ability to send fire department personnel to professional trainings as necessary.
- Lack of adequate water supply locations in the Township for fire suppression. Because the Township does not have a municipal water system, all water used in firefighting must be transported by tanker and mutual aid trucks or extracted from dry hydrants located along creeks and rivers, provided suitable access is available.

Opportunities

Both local public safety and emergency departments have a unique opportunity to be aware of community events and issues, and to connect with the public in meaningful ways. For example, as part of their **community outreach activities**, the Chocolay Township Police Department performs free property inspections to help prevent break-ins and theft for property owners who are out of town for extended periods.

Both public safety departments may need to establish **fuel reserves** in case of fuel shortage.

Police Department Opportunities

The Chocolay Township Police Department has experienced enough activity (as evidenced by necessary overtime) to hire an **additional full-time officer**. This will give 24-hour coverage, and will alleviate the necessity for overtime expenses, saving the Township money.

In 2014, the Police Department will implement a **state-wide record management system**. This is a collaborative

effort with other area agencies. The system will allow Chocolay Township Police to data share with other agencies.

Iye-Tek has **E-Citations software** that will eliminate paper tickets. The purchase of the software and ticket printers will allow more safety to officers on the side of the road. It also will reduce costs of writing citations in the long run.

Services can be improved through updated **electronics**. During the next five years the two in-car laptop computers will be obsolete and require replacement. They will be replaced with Toughpads that give officers more space in the interior of the car. By 2017, all Vidmic cameras will be replaced with the Wolfcom 3rd Eye cameras. Grants will aid in reducing the cost to the department.

To better serve businesses, the department will update **business information** to assist in responding to emergencies or alarms.

The Police Department can implement **energy saving measures** by using vehicles that consume less energy, either through fuel efficiency, or by using alternate vehicles such as motorcycles and bicycles. The Police can also work with neighborhood watch groups for more targeted patrols.

Fire Department Opportunities

The Fire Department may need to provide public education regarding fuel-hoarding and non-conventional home heating practices and safety measures related to each in the future.

Chocolay Fire-Rescue Department has identified the following opportunities to help improve services and minimize risk to the residents of the Township:

- **Dash cameras** — allow members to use in-house for training and review of incidents
- **GPS** — assist in quickly locating structures in emergency situations
- **Wildland Brush Truck** — currently have a skid unit in the bed of a pickup. A dedicated truck specifically designed to fight wildland fires is essential for suppression of these types of fires.
- **Hydrant system** in the Village of Harvey for consistent water supply to the commercial district and higher populated residential areas. This type of system would help reduce the Insurance Services Organization (ISO) rating for Chocolay Township, which would in turn reduce homeowner and business insurance premiums. This would happen in conjunction with the installation of a public water supply system in Chocolay Township.

CRITICAL SERVICES: PUBLIC SAFETY AND EMERGENCY



■ Supplement dry hydrants at river crossings in more remote areas by having **dry hydrants connected to underground storage tanks**. Potential areas include Green

Garden in the southern portion of the Township and the vicinity of Shot Point in the eastern portion of the Township. This would also contribute to a favorable ISO rating.

■ Keep turn-out gear up-to-date by replacing a percentage of gear each year.

CRITICAL SERVICES: PUBLIC HEALTH

The way land is used can impact public health outcomes, yet decisions about land-use planning and regulation are often made without consideration of the potential health consequences. For example, development that does not enable physical activity (no sidewalks, dangerous intersections, poor lighting), access to healthy food (no neighborhood grocery stores or farmer’s markets) or provide for clean air and water can lead to increases in obesity, heart disease, asthma, and other preventable illnesses. Community elements that can impact public health include transportation, walkability, safety and security, shopping, housing, health services, recreation and cultural activities, and community social connections. Demographic changes also impact overall public health, such as the aging population.



Profile

Most health care services are available in Marquette. Marquette General Hospital and associated doctors provide a wide array of emergency, surgical, diagnostic, treatment, and wellness services. Marq-Tran provides door-to-door transportation services for medical/dental appointments. There is a lack of general medical services in Chocolay Township, although some specialty care is available. Marquette General Hospital recently came into private ownership. This will mean the implementation of various changes, some of which could include the development of a new facility in a different location, perhaps further from the Township.



Risk Assessment

Between 2000 and 2010, America’s total population increased by 9.7 percent while its older population grew by 15.1 percent.²³ By 2010, according to the U.S. Census Bureau, as many as one in five Americans could be age 65+. This represents more than twice the number of older adults present in 2000.²⁴ This **demographic shift** means that communities must focus on making changes that allow more people to age in place, or to have appropriate care if they cannot.

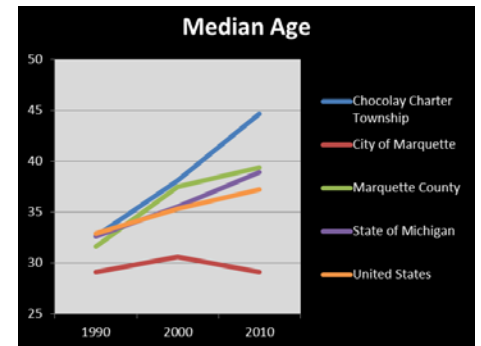
The **median age** in Chocolay Township has increased since 1990, and at 45 years is the highest in comparison to other jurisdictions including the City of Marquette, Marquette County, State of Michigan, and United States. (See **Figure 4-2**)

Ironically, as a result of the recession which began in 2007, **spending for aging supports and services is shrinking** at precisely the time when it is needed most. State and local governments are increasingly financially distressed and struggling to maintain the status quo, much less add new programs.

Transportation and housing are significant issues for ageing residents. For example, walking paths that are poorly lit, poorly maintained, dirty, blocked by parked cars and other obstructions, crossed by vehicular traffic, slippery with ice and snow, and lacking in benches and public bathrooms are a waste of public investment for many people. While able-bodied people may manage poor conditions, winter can virtually imprison the elderly or disabled if safety and shelter issues are not addressed.

There is a great deal of transition in the health care system as the Affordable Care Act is implemented. It is difficult to assess the impact of this change on community resources at this time. However, **health care costs** are expected to continue to increase. This will impact the Township budget, and will also impact disposable income for individuals.

Figure 4-2 - Median age comparison



²³ U.S. Census Bureau, 2010 Census Briefs, “The Older Population: 2010”, p.1.

²⁴ U.S. Administration on Aging, “Profile of Older Americans: 2011 - Future Growth”, p.1.

Opportunities

The biggest opportunity associated with planning for the ageing population is that in meeting their needs, communities become more livable for all ages. Land use planning and regulations must focus on enabling a safe pedestrian environment, easy access to grocery stores and necessary services, a mix of housing types, and nearby health centers and recreational facilities. These things positively impact our daily lives. Poor community design can make it difficult to remain independent and stay involved in the community, no matter what your age or ability.

The first step in improving community livability is to hear from the community. Chocolay Township should convene a Livability Committee to evaluate community conditions and identify areas where it can be made more livable. This community audit should consider climate-responsive design (see section on Managed Economy). Citizen participation is key to a positive response. The chosen group should be diverse in income, age, and interests. They should identify the issues and discuss strategies for improvements. They can be identified through volunteer or civic organizations, faith-based groups, businesses, or by volunteering for service.

The group should identify places where people meet, shop, or recreate; transportation issues of significance, including challenging driving, walking, or transit conditions; items that are essential but lacking in the community; and other common issues or challenges. Once the issues are identified, they should be prioritized so solutions can be implemented in partnership with local government and other organizations. The goal should be planning solutions with universal and four season benefits. Many strategies that impact public health and safety are addressed in other sections of this plan.

CRITICAL SERVICES: RECYCLING AND SOLID WASTE MANAGEMENT

A sustainable waste management program encourages practices that promote environmentally sound disposal methods, maximizes the use of materials recovered from waste, and fosters resource conservation.

Profile

Township residents generate about 25 pounds of solid waste per resident per month. Total residential solid waste is between 65-75 tons per month, depending on the time of year. The Township contracts with private haulers to provide curb-side garbage collection. Residents pay for tags for each garbage bag. Businesses hire private waste haulers for their solid waste. Solid waste is deposited in the Marquette County Landfill, which is located about 9 miles west of the Township. Residents may haul their own waste (garbage, construction materials) to the landfill by stopping by Township Hall to complete a Hauler's Agreement accompanied by a \$10 monthly user fee and deposit. Metal items, cardboard and other recyclables can be dropped off at the landfill for free.

Weekly curbside recycling is available and takes place along with garbage collection. There are no figures on the amount recycled, but sanitation workers report that recyclables are put out at nearly every residence on collection day. On alternate weeks, collections involve fiber products or rigids (plastic, metal, glass). Cardboard is picked up with fiber, or can be dropped off at the Township Hall. Scrap metal pickup is negotiated by private contract with participating businesses (list available on the Township website).

The Marquette County Solid Waste Management Authority provides for household hazardous waste collection free to county residents on a schedule from May through October at specific locations. They also accept drop-offs of compostable/organic materials such as food, coffee filters and grounds, tea bags and leaves, cooking oil and grease, bones, soiled paper and cardboard, and vegetated material. In the Township, Gentz's Homestead Golf Course accepts leaves, grass

clippings, and pine needles seasonally (when they are open).

Brush can be dropped off at the Township Hall seasonally. Brush is chipped and provided to residents for landscaping.

Goodwill in Marquette accepts computer and television equipment for recycling at no charge. Target store in Marquette accepts household batteries for recycling. Several stores including Econo Foods, J.C. Penney, Shopko, Target, and Walmart accept plastic bags for recycling. Fluorescent tubes and compact fluorescent light bulbs can be recycled at the Marquette Board of Light and Power. Used syringes and extra medications can be brought to participating pharmacies including Snyder's in Chocolay Township.

CRITICAL SERVICES: RECYCLING AND SOLID WASTE MANAGEMENT

Risk Assessment

The Township generates revenues from garbage bag tag sales and rebates from the sales of recycling; however **revenues do not entirely offset expenses**, necessitating support for this service from the General Fund. There have been declining revenues from garbage bag tag sales due to an increase in recycling. Questions regarding solid waste management and recycling take a significant amount of staff time, and generate a great deal of resident concern even though the information is readily available from several sources.

Rising energy costs would have a direct impact on waste management contracts and recycling costs. This service is heavily dependent on transportation costs. The collection of waste and recyclables is essentially a trucking function which is wholly reliant on liquid fuel for operation. Similarly, the trucking of recyclables for processing is dependent on transportation costs. A reduction or interruption in collection services could result in **illegal dumping**.

Opportunities

Chocolay Township should continue to explore new solutions consistent with the goals of the Marquette County Solid Waste Management Authority (MCSWMA) to provide services at a **reasonable cost** while operating in an environmentally sound manner. **Public education** regarding solid waste management and recycling should continue on a regular basis through all available outreach methods. Township staff should **stay abreast of issues** as identified by the MCSWMA in order to proactively create solid waste management strategies. The Township should also periodically **solicit input** from residents as to their satisfaction with these services.

PUBLIC INPUT

Based on the 2013 survey results, recycling is an issue that is important to residents.

Respondents were asked to rate the importance of various issues facing Chocolay Township in the near or distant future. Rating was on a scale of 1 to 5, with 5 equal to "Very Important" and 1 equal to "Not Important". Items receiving an average rating of 4 or more include "Maintain curbside recycling services" (4.58 rating) and "Improve curbside recycling services" (4.01 rating).

MANAGED DEVELOPMENT AND GROWTH

Terms such as "sustainable development" and "Smart Growth" have become more commonplace in communities of all sizes, although these concepts are still debated in relation to local context. *It may be simpler to think of working toward development that can achieve net positive impacts over time in comparison to pre-development conditions and in relation to economic, social, and environmental conditions.* It's about getting the most out of future growth and development while avoiding negative consequences. When it comes to future growth and development, **inaction** can have lasting negative consequences. That is why Chocolay Township seeks to proactively manage future growth and development to ensure positive development patterns.

Profile

Although Chocolay Township has not faced the considerable growth pressures of Marquette Township, it is reasonable to assume that these pressures could develop in the near future with build out in those areas adjacent to Marquette. When communities face growth pressures, farmland and open space preservation, rural character, traffic issues, and lifestyles become important. It is imperative that Chocolay Township continue to foster places that people care about even while seeking net positive development.

This issue is often considered as a balance between density and sprawl. The economic and social advantages of more compact or concentrated development are often weighed against aesthetic considerations relating to community character and quality of life, and against environmental impacts.

Higher density lowers the per capita costs of infrastructure capital and operating costs, and reduces per capita use of all types of energy, whether for transportation or heating/cooling. Movement of people and distribution of goods and services becomes more efficient with density; and housing becomes more

affordable. This is particularly important during times of shrinking municipal and private budgets.

Density catalyzes opportunity through a critical mass of activity that stimulates the market to provide additional development and the necessary infrastructure to support it. Density can promote vibrant and healthy social environments, and contribute to more active lifestyles.

Density also creates conditions more supportive of vulnerable populations who rely on public transportation or must walk to obtain employment or essential goods and services, increasing social capital. Low density single family housing may fail to meet the

MANAGED DEVELOPMENT AND GROWTH

needs of single parent households, single-person households, empty nesters, and couples without children who now comprise the majority of American households. The fastest growing population groups, people in their mid-20s and empty nesters in their 50s, are the groups most likely to look for a more easily-maintained alternative to low-density, single-family housing.

Density can have favorable environmental impacts when compact development is paired with open space preservation strategies. But density is not appropriate in every natural environment. Soils, water, geologic conditions, and other elements of

Risk Assessment

Chocolay Township has a strong rural tradition that may be impacted by development pressures.

Portions of Chocolay Township serve as a gateway to the beautiful coastline of Lake Superior. Development pressures are particularly intense here where there are sensitive natural features and water quality concerns. People seeking to live along Lake Superior or the Chocolay River want to be able to enjoy the natural setting, but smaller lot widths often place residents near enough to neighbors to provoke conflict. Some people utilize lakefront properties as vacation or tourist (investment) homes. This can provoke conflict with year round residents who value stability and peace. Portions of Chocolay Township serve as an edge community under pressure to provide housing and services to people accessing economic opportunities in Marquette.

local context impact development feasibility. Chocolay Township provides limited opportunity for more dense development, but density is important to the resilience of the Township.

See Appendix L for the Character Area study illustrating and describing the existing development context. Analysis includes primary development patterns, circulation and access, natural features, land uses, public facilities, and zoning. This study was used as a basis for the 2013 public opinion survey, the results of which are in Appendix K. Existing Character Areas include the following:

1. Corridor strip commercial and mixed-use
2. Village mixed-use
3. Corridor cluster mixed-use

Development pressures in both these areas work to undermine a land-based resource economy. Tensions mount between “old” and “new” residents, “permanent” and “seasonal” residents, and those who favor “rural simplicity” vs. those who long for “urban amenities”.

Within the built environment of Chocolay Township, some **obsolete buildings** that no longer serve a vital function reduce the viability of the commercial district. Civic activities are currently limited, contributing to a less coherent sense of place. Current zoning standards fail to embrace mixed-use and diverse housing opportunities. In fact, there are no undeveloped lands zoned for multi-family development at this time, nor is there any provision for redevelopment for the purpose of multi-family housing. Only the PUD district provides for multi-family opportunity, however, this is meant for properties with a five acre minimum. This does not facilitate infill development, but encourages greenfield development.

4. Isolated commercial
5. Village residential
6. Transportation-oriented residential
7. Water-oriented and recreational residential
8. Sub-urban residential
9. Sub-rural residential
10. Rural residential
11. Country estate
12. Primary working lands
13. Natural preserve
14. Recreational preserve

The current Zoning Map and district descriptions can be found in Appendix M.

The **lack of a public water supply** may limit some commercial and residential opportunity. Some areas would not geologically support an increase in water withdrawals for private wells, or would have water quality issues. Sensitive natural areas and State-owned lands offer additional limitations to development. All these conditions may discourage new investment unless Chocolay Township takes a more proactive role in shaping development patterns.

Energy costs can impact the enduring value of existing development patterns. The physical separation of where we live from where we carry out the activities of everyday life - work, food, school, health care, and community - is the biggest threat posed by energy disruptions. Remote properties may face disinvestment in the future if energy costs rise. The environmental and economic costs of winter energy consumption are also significant in the region, impacting economic viability.

MANAGED DEVELOPMENT AND GROWTH

Opportunities

Density does not necessarily mean large apartment buildings and high-rises. “Density” in this case means new residential and commercial development at a density that is higher than what is typically found in the existing community.

Blending apartments into low-density communities can help pay for schools and other amenities without drastic increases in the number of students. **Diverse housing options** such as granny flats, accessory dwelling units, condominiums, townhomes, or duplexes can increase density without having significant impacts on local character. Mixing apartments into commercial developments and small stores into neighborhoods can improve quality of life, provide an economic boost to the community, and help pay for infrastructure and public services that everyone needs.

“There is ample evidence to suggest that well-designed higher-density development, properly integrated into an existing community, can become a significant community asset that adds to the quality of life and property values for existing residents while addressing the needs of a growing and changing population.”²⁵ “New multi-family housing, particularly as part of mixed-use development, often makes an area more attractive than nearby communities that have fewer housing and retail choices.”²⁶ Multi-family housing is no longer the housing of last resort for people who can’t afford

single-family homes. Condominiums are often the most sought after and highly appreciating real estate option.

To have a healthy balance of resource production lands, natural areas, wildlife corridors, and economically beneficial development, it is important to focus new development into already developed areas with all the basic infrastructure and services. **Rural Smart Growth strategies** address this healthy balance. Smart Growth principles for rural communities are based on supporting the rural landscape, helping existing places thrive, and creating great new places.

Supporting the rural landscape means ensuring the viability of the resource economy such as farming and forestry, promoting rural products in urban areas, supporting rural-urban links, and implementing land conservation and preservation strategies for resource production lands.

Chocolay Township has adopted a 20 acre minimum lot size in the Agriculture Forestry (AF) zoning district to try to discourage the splitting of viable farming and forestry lands and to maintain rural character. However, there are no farmland preservation tools in place to support the development of agriculture instead of large lot residential use. At a minimum, Chocolay Township should negotiate with the State to ensure that their agricultural properties are preserved for this purpose through conservation easements.

Residential uses of working lands should be very limited. Chocolay Township does have provisions for rural cluster development subdivisions and district planned unit developments. Currently, district planned unit developments, which allow a mixture of residential, commercial and light manufacturing uses, are not permitted in the AF district. This is helpful to ensuring the viability of the resource economy. Chocolay Township should review the rural cluster development subdivision regulations to ensure that these provisions as applied to typical situations are also supportive of the conservation of working lands. Changes may be needed.

Chocolay Township also needs to amend the zoning ordinance to support the resource economy by allowing agricultural production, processing, packaging, and distribution (at appropriate scales) in more zoning districts, particularly the commercial/mixed-use and agriculture-forestry zones. The Right to Farm Act will pre-empt the ability of the Township to limit such activities for commercial farm operations following Generally Accepted Agricultural and Management Practices (GAAMPS). The processing of raw food, fiber, and forestry materials into value-added products allows landowners to supplement their income and also supports local food systems and the local economy.

Chocolay Township should support the marketing and distribution of products from the local resource economy directly to consumers through farmer’s markets and community supported agriculture and also through retail outlets in the developed area. These strategies may require changes to use and sign provisions in the zoning ordinance.

Agritourism and ecotourism strategies that support resource economies are explored in the next section.

Existing places can thrive through concentrated economic development efforts and land use policies that promote redevelopment and reuse of existing developed areas. For example, encouraging form-based, rather than use-based development with a stronger commitment to compact, mixed-use patterns of development and increased density in Harvey can recreate a more vibrant urban landscape while preserving open space. Form-based codes also provide more predictability in the public realm, which encourages investment. The Township should resist zoning more vacant land available for commercial or industrial development until the existing developed areas are more fully utilized with the exception of PUD projects; however, rezoning could be considered if there are no suitable properties to accommodate the development. An alternative would be to consider modifying the PUD provisions for these purposes.

²⁵ “Higher Density Development: Myth and Fact”, Urban Land Institute, 2005.

²⁶ “Top Ten State and Local Strategies to Increase Affordable Housing Supply”, Arthur C. Nelson, *Housing Facts & Findings*, vol. 5, no. 1.

MANAGED DEVELOPMENT AND GROWTH

Providing core neighborhoods with essential services within walking distance (Traditional Neighborhood Development²⁷) can be achieved through an activity nodes overlay in strategic locations that accomplishes the following:

- Incorporates elements that support pedestrian environments and encourage transit use, walking, and bicycling;
- Provides for a mix of uses;
- Provides for parks and other public and private open spaces;
- Provides for a mix of housing types and densities.

Great new places can be created through implementing climate-responsive design solutions and placemaking projects. These strategies are discussed in the next section.

MANAGED ECONOMY

Profile

The State of Michigan, as part of the Michigan Prosperity Initiative, has adopted 14 strategic categories requiring the right mix of **People** assets, **Place** assets, and **Policy** to promote and assist economic development. The strategies require effective collaboration among stakeholders including K-12 and higher education, local government, state government, and diverse public, private, and nonprofit organizations. It is important to clarify Choccolay Township's role in creating economic prosperity.

People-based strategies involve enhancing talent. Such strategies address creating an entrepreneurial culture, advancing innovation and technology, educating our future workforce, retooling our existing workforce, attracting and retaining talent, and marketing each region. These strategies are generally pursued by educational institutions; state, regional and local organizations; and private and nongovernmental economic development organizations.

Policy-based strategies involve enhancing the business climate. Such strategies address creating an entrepreneurial culture, increasing capital funding, diversifying and globally connecting business, shaping responsive government, designing a fair and competitive tax structure, and enhancing transportation connections. These strategies are generally pursued by State government; state, regional and local organizations; and private and nongovernmental economic development organizations.

Place-based strategies involve enhancing community assets. Such strategies address strengthening quality of place, marketing each region, seizing green opportunities, optimizing infrastructure investment, and enhancing transportation connections. These strategies are generally pursued by local governments; state, regional and local organizations; and private and nongovernmental economic development organizations and are explored in the "Opportunities" section.



Risk Assessment

The difficulty in managing a local economy is the interconnectedness of the local economy with the regional, national, and global economies. The Township is limited in what it can do to influence the economy even though the economy has intimate impacts on local government financing.

There is greater risk in failing to help manage the local economy. Net positive opportunities can be missed, and net negative situations can take root with long running implications.

²⁷ Traditional Neighborhood Development typically return to the past and employ smaller lots, a variety of housing types, front porches and sidewalks, shops and offices within walking distance, and public transit nearby.

MANAGED ECONOMY

Opportunities

Chocolay Township can assist in the following People-based strategies:

- *Create a more business friendly environment*
- *Entrepreneurial support*
- *Expand mentoring and internship opportunities*

Chocolay Township should ensure that regulations and permitting processes are conducive to the development of local entrepreneurship. Site plan review standards should be analyzed to see if application requirements and approval processes can be shortened for certain types of property improvements such as the addition of accessory structures. Instead of requiring a zoning compliance permit for new businesses entering existing structures, a simple business registration form with more applicable content should be required. Data such as anticipated market area and target market served, products or services offered, and infrastructure and services needed should be gathered. A business welcome packet with area information should be provided, including copies of maps that may be useful to business patrons. The packet should include a brochure detailing applicable regulations and specialty permit information such as lighting and signs. The business owner should be given the opportunity to be included in the Township online business directory. Properly permitted home occupations should also be given the opportunity to be listed in the online business directory. These efforts should be coordinated by the Planning Director and Community Development Coordinator.

The Township should continue to work with area entrepreneurial support organizations

such as Accelerate UP, the Lake Superior Community Partnership, NMU Center for Economic Education and Entrepreneurship, Marquette County Convention and Visitors Bureau, Michigan Small Business and Technology Development Center, and Northern Initiatives, among others. Working collaboratively, an information document can be created to refer prospective entrepreneurs to other organizations for business plan and financing support.

The Township can directly assist prospective entrepreneurs in locating potential local properties for use, and navigating the Township permitting process. The Township should also provide a document describing other permits that may be needed from the County and State. In association with the Chocolay Area Business Association (CABA), the Township should sponsor a yearly business meet and greet with local businesses, farmers, and those with home occupations to discuss support strategies including marketing efforts.

Chocolay Township can help expand mentoring and internship opportunities by utilizing interns from NMU or other educational institutions to assist in local government operations or special projects. Chocolay Township should continue to invest in annual education and training to enhance staff talent.

Chocolay Township can assist in the following Policy-based strategies:

- *Support the targeting of underutilized places*
- *Reform local government regulations*
- *Align local plans with regional assets, strategies, and plans*
- *Gather, analyze, and regularly share business data*
- *Expand regional processing of natural resource-based products*
- *Explore emerging opportunities to connect assets*
- *Benchmark public sector economic development*

Up-to-date property information should be kept by the Township on vacant buildings and properties that are prime redevelopment opportunities. This information, including property owner contact information, should be made available to prospective tenants or purchasers with the permission of the property owner.

Chocolay Township should stay abreast of policy and regulatory changes that impact local government and take appropriate action. The Township should also be aware of the contents of plans for adjoining jurisdictions, the county, and the region, and strive for consistency between the plans when possible. The Township should collaborate with other jurisdictions as much as possible to achieve the goals and strategies of this plan.

The gathering and sharing of business data can be accomplished through a partnership with CABA, the Marquette County Convention and Visitors Bureau, Lake Superior Community Partnership, and other regional organizations.

To assist in the expansion of opportunities for natural resource-based products, *Chocolay Township should promote and pursue a niche economic development opportunity associated with local food systems.* The Township is optimally located between prime agricultural areas and the City of Marquette on regional transportation routes, and can provide diverse space for kitchen incubators, food processing facilities, food aggregation and storage facilities, and distribution centers. Local zoning should reflect this goal. Chocolay Township already hosts a multitude of mini-storage facilities that could be retrofitted for food storage. Chocolay Township also has multiple obsolete restaurant facilities that could be redeveloped for these purposes. Additionally, local ordinances should support the operations of mobile food vendors at various locations in the Township near residential neighborhoods, in the commercial district, near public recreation areas, and near institutions such as schools.

MANAGED ECONOMY

Chocolay Township should explore opportunities for **collaborations** in planning and funding projects associated with **connected assets** such as trails, watersheds, prime habitats, and transportation corridors; and with **inter-connected issues** such as disaster mitigation, responses to climate change, tourism, and recreation.

Economic development benchmarks should be evaluated annually in conjunction with the preparation of the Chocolay Township Annual Report. Appropriate benchmarks for local public sector economic development include:

- Number of businesses contained in the Township database
- Number of businesses in the online business directory
- Number of business support information documents provided
- Number of entrepreneurial referrals resulting in assistance
- Number of businesses attending the annual “meet and greet” event
- Number of interns involved in local government activities
- Number of employees/Board/Commission members involved in mentoring activities
- Number of employees/Board/Commission members attending education and training programs
- Timeliness of prime redevelopment opportunity information
- Amount of private funds invested in the restoration of vacant, blighted, or underutilized properties
- Number of businesses associated with local food system support

- Number of collaborations involved in local economic development projects
- Number of businesses associated with “green” or “clean” technology industries
- Amount of grant funds leveraged for local or collaborative economic development projects
- Number of volunteers involved in supporting economic development initiatives

Chocolay Township can assist in the following Place-based strategies:

- *Assist in leveraging vacant properties*
- *Participate in regional marketing initiatives*
- *Revitalize and recreate vibrant places*
- *Make targeted community investments in place-based improvements*
- *Make targeted investments in the rural community*
- *Promote renewable energy*
- *Support the green building culture*
- *Capture grant funding*

Placemaking involves value-added strategies that relate to local or regional assets and generate improved quality of life and enhanced economic impact while minimizing negative environmental impacts. These strategies attract people, businesses, and jobs. Because of these benefits, placemaking initiatives often receive funding priority.

In Chocolay Township, natural features offer inherent value of place. For example, lakeside property values are the highest in the Township. However, the built environment falls short of creating a sense of place. Placemaking projects must be based on thorough community visioning exercises. However, they must also consider the values of people they want to attract to the community.

Chocolay Township has identified **cultural placemaking projects** for the urban route of the Iron Ore Heritage Trail through Chocolay Township. Funding may be available for a **historic mural** detailing the iron ore heritage of Chocolay Township to be located in the US-41/M-28 pedestrian tunnel.

Area artists should be favored in this effort if possible.

Local scouting organizations have expressed interest in coordinating a service project to decorate the exterior pedestrian tunnel entrances with **handmade art tiles**. This project should involve multiple generations of community members in a coordinated effort to decorate tiles around a community-chosen theme. The purpose of these projects is to provide a destination art installation to attract more users for this portion of the Iron Ore Heritage Trail, to educate the public on the iron ore history of Chocolay Township, and to involve the community in an effort to create a unique sense of place around this local amenity.

Another placemaking project is intended to draw visitors along the entire length of the Iron Ore Heritage Trail, and particularly the urban section, for the purpose of drawing attention to local businesses and providing family recreation. This project involves the creative positioning of **geocaching stations** along the route, either near the trail or on the properties of cooperating businesses or organizations. This project should also involve a coordinated community effort, but could include multiple themes.

Placemaking initiatives can be supported in form-based codes, as can climate-responsive design strategies.

In Chocolay Township, targeted investments in place-based assets should incorporate **climate-responsive design**. Climate-responsive design is the practice of bringing the built environment in harmony with the natural environment, or making public places that are inviting all year. In our climate, this practice often focuses on making places more livable, comfortable, and accessible in the winter (sometimes referred to as “winter cities” strategies).

MANAGED ECONOMY

According to Dr. Norman Pressman²⁸, high quality microclimates are an essential element of an ideal winter community, along with accommodating the winter needs of our most vulnerable groups and teaching residents to enjoy winter through special community festivals and events. These efforts can be facilitated by the Livability Committee as detailed in the Public Health section.

New public projects that are suitable for utilization in all seasons should receive highest priority for funding and implementation. Some climate-responsive design strategies have been discussed in the sections on Transportation Infrastructure and Public Health. Others will be discussed in the Recreation section.

Form-based codes can implement climate-responsive design solutions. For example, taller buildings can be required to incorporate exterior balconies or stepped facades to help reduce wind speed and wind tunneling effect below. Wherever possible, ramps or stairs can be required to be covered to protect from snow and ice, and handrails can be provided for all public and private walkways. Roofs can be designed to keep snow and ice from shedding into parking areas or onto pedestrians. All developments should include snow management and storage areas. Outdoor furniture should be constructed of better insulated materials such as wood or vinyl-coated metal for greater year round comfort.

Favorable micro-climates that encourage year round outdoor activities can be created through “sun pocket” effects in public gathering areas rather than “wind tunnel” effects. This can be achieved by including vegetated buffers with coniferous trees, or creative arrangements of buildings, walls, fences, or berms to provide shelter for public areas.

Chocolay Township needs a community gathering space for year round entertainment in the Village of Harvey near the Corning Street intersection where it is easily accessible from the entire Village and supported by a safe road crossing. This space need not contain permanent structures, but would ideally be able to “flex” with the season. For example, a privately sponsored gathering space could consist of a large yurt with vented fireplace or “outdoor” community oven on an insulated, raised platform that can serve as a winter shelter and eating/drinking space served by mobile food vendors. In the summer, the yurt could be disassembled and the platform used for café seating and as an outdoor concert venue.

Targeted investments in the rural community can be achieved through regional collaborations, for example, supporting the efforts of the Marquette Food Co-op to sustain local farmers by promoting **agritourism**. The Township can assist in these efforts by ensuring that zoning regulations permit the operation of such resource-based businesses as breweries, wineries, wine tasting rooms, food stands, and other businesses selling or promoting the value-added products of local farms and crafters in the AF district. This would include the ability of producers to hold agriculture-related events, host guests, and construct educational or recreational facilities allowing visitors to experience and learn about their agricultural activities. This strategy supports direct marketing to consumers, which strengthens farm incomes and increases the viability of the occupation, contributing to local food systems.

Similarly, Chocolay Township will support local or regional “Buy local” campaigns through making information available on the Township website and in resident mailings. Chocolay Township will participate in educating the public on the many economic and

social benefits of supporting local businesses and organizations.

Chocolay Township will collaborate with the efforts of other area economic development organizations to promote the establishment of “clean” and “green” businesses in the Township. Although the sensitive natural resources of Chocolay Township limit the opportunity for heavy manufacturing involving intensive processes, materials, and wastes, the Township welcomes the opportunity to host light manufacturing and assembly operations that create local jobs and do not threaten the environment or the rural character of the Township. Efforts to support “green” businesses dealing with renewable energy are detailed in the section on Energy systems.

²⁸ Dr. Norman Pressman is the founding president of the Winter Cities Association and a consultant in climate-responsive urban design emphasizing “winter cities”.

RECREATIONAL INFRASTRUCTURE

Profile

Chocolay Township’s recreation infrastructure is presented in detail in the 2014-2018 Recreation Plan. A summary is contained in this plan.

The people of Chocolay Township enjoy recreation opportunities all across the region. Accordingly, Chocolay Township collaborates with other entities such as the Iron Ore Heritage Trail Recreation Authority and the State of Michigan to enhance recreation opportunity in the Township. The Township has also participated in a working group to determine the feasibility of a regional recreation authority for Marquette Township, the City of Marquette, and Chocolay Township.

Chocolay Township is also fortunate to have assistance from the Boy Scouts (Community Garden and Brower Recreation Area Plan), Girl Scouts and local citizens (Adopt-a-Tree program), Chocolay Community Gardens Group and local Rotary Clubs (Community Garden), and the Chocolay Township Lion’s Club (Lion’s Field). Other recreational opportunities in the Township are provided by the Cherry Creek Elementary School, U.P. Disc Golf Association, Silver Creek Church, St. Louis the King Catholic Church (Community Garden), Harvey Baptist Church (Community Garden), Superior Watershed Partnership and State of Michigan (M-28 turnouts).

Featuring miles of beaches along the Lake Superior shoreline, and a multitude of lakes, streams, and reservoirs throughout the Chocolay watershed, Chocolay Township provides ample opportunity to enjoy nature-based recreation opportunities. Natural features facilitate some of the most valued recreation experiences in the Township, including biking and walking trails, hiking and nature trails, cross-country ski trails, and fishing and hunting opportunities. Natural features, to a large extent, are also what draw recreation enthusiasts to live in Chocolay Township. Residents enjoy being close to their outdoor “playground”, watching birds, picking wild berries, gardening, sledding, snowshoeing, and relaxing on the beach.

An inventory of all parks and recreation facilities is provided in Appendix N. This includes properties owned by Chocolay Township, cooperative facilities, facilities owned by other public entities, and private facilities.

In evaluating recreation opportunities, data was collected on the following:

- Citizen preferences as expressed through public opinion surveys
- User preferences through focus group meetings and opinion surveys
- Resources available to support facilities and programs
- Capabilities of Township staff to maintain the facilities or programs
- Existing parks and recreation facilities in relation to accessibility, current use, condition, and potential use
- Existing Township-owned undeveloped parcels in relation to potential use
- Other lands open to public use
- Existing character
- Transportation accessibility
- Natural features
- Existing policies and regulations
- Review of regional public and private recreational opportunities
- Identified needs for both residents and visitors



Community garden located at Harvey Baptist Church



Beaver Grove pavilion

RECREATIONAL INFRASTRUCTURE

In addition to the Priority Decision Criteria contained in Chapter 2, the following criteria apply to recreation decisions:

- The extent to which the opportunity increases opportunities for partnership, collaboration, and inclusiveness
- The extent to which the opportunity supports four-season use
- Accessibility (universal or ADA access)

The following additional criteria shall be used to evaluate future opportunities for open space/natural area acquisition:

- The opportunity to preserve areas of essential habitat to support plant and animal biodiversity
- The presence of special scenic resources
- To provide public access to interactive nature experiences
- To provide beneficial connections through wildlife corridors
- The opportunity to protect water quality or sensitive natural areas
- The opportunity to maintain ecosystem function

The recreation public input process and results are contained in Appendix O.

Risk Assessment

Recreation opportunities are currently funded through the General Fund, with additional funds coming from grants, the Keweenaw Bay Indian Community, and local donations (both financial and in-kind). Accordingly, recreation funding faces the same financial risks as overall Township funding.

The climate also poses challenges for providing and maintaining recreational infrastructure. The cost of energy resources will also impact financial resources available to operate and maintain recreational resources.

Representatives from the Township's insurance provider conducted a risk assessment of all existing facilities and equipment in 2013. The results of this analysis are contained in the 2014-2018 Recreation Plan. The analysis indicates a need to update various facilities to prevent or mitigate safety risks.

Opportunities

The most readily implementable recreation opportunity involves the promotion of existing opportunities. The 2013 survey showed that many residents are not aware of existing facilities. It can be assumed that non-residents are even less aware, unless they are involved in organized group activities. The Township can remedy this situation through signage; published and distributed maps, guides, and brochures (located at Township Hall, area businesses, local civic locations, and the Welcome Center); a Township newsletter; information on the Township website; and collaborations with area tourism organizations.

There is a need to establish long-term maintenance plans for existing facilities, and to implement annual capital improvement planning based on life-cycle costing.

It is essential to address the needs of the aging population, and to provide more winter recreation opportunity. There is a need for a four season community center. Greater attention to Universal or ADA access is needed when upgrading or planning for new facilities.

In general, survey respondents favor cost efficient recreation opportunities that won't significantly add to the tax burden. They also favor passive recreation opportunities that serve all age groups, such as walking/biking paths, fishing paths, and neighborhood parks.

Recreational strategies including both general and site specific activities and staff responsibilities are provided in detail in the 2014-2018 Charter Township of Chocolay Recreation and Natural Resource Conservation Plan. These detailed strategies will not be reiterated here, as it is anticipated that strategies will be updated every five years through the recreation plan process.



Boardwalk at the Township marina

Private Systems Resilience

Chapter 5



Chapter 5: Working for Resilience in Private Systems

Private households and businesses face many of the same risks as the overall community, including risks related to financial condition; critical infrastructure such as transportation, facilities, and energy; life support systems such as food and water; and critical goods and support services. This portion of the Master Plan takes a closer look at resilience in the private sector, and how individuals and communities together can address risks and opportunities. Goals and strategies are contained in Chapter 7: Strategic Plan.

OVERVIEW

Chocolay Township's population has leveled since 1980, as shown in **Figure 5-1**. This is in contrast to the population of Marquette County, which declined after 1980²⁹ and rebounded slightly between 2000 and 2010 for an overall slightly downward trend.³⁰ This plan assumes a stable or slightly rising population in Chocolay Township as the baby boomers move toward old age and people search for affordable housing options near the City of Marquette.

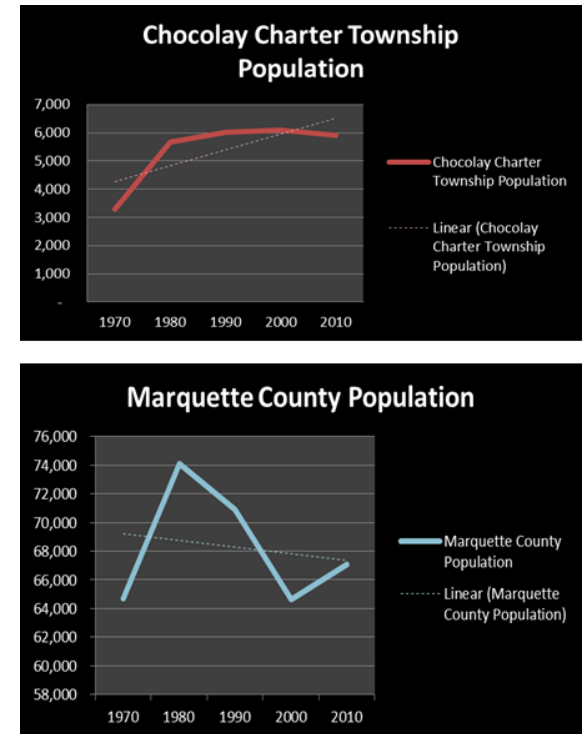
Compared to the State of Michigan, Chocolay Township has a greater percentage of the population of working age (assumed to be 18 to 64 years of age). See **Table 5-1**, which shows that Chocolay has a greater support ratio of working to non-working age population (1.85 vs. 1.67 in Michigan).³¹ The difference is that Chocolay Township has fewer people in the younger age bracket. The percentage of people age 65 and older is the same in the Township and State. However, the median age is much higher in Chocolay Township than the State (almost 45 years in Chocolay Township versus almost 39 years in Michigan). See population pyramids in Appendix P for a visual representation for 2010.

The people of Chocolay Township have higher educational attainment in comparison to the City of Marquette, Marquette County, State of Michigan, and the United States, as shown in **Table 5-2**. This is evidenced by higher percentages of the population with education beyond a high school degree, and lower percentages of the population with high school degree or lower. Additionally, in Chocolay Township, at every level of educational attainment, there are higher percentages of people in the labor force who are employed. Chocolay Township has higher percentages of people with an educational attainment greater than high school degrees that are not in the labor force, probably indicating more retirees. This is especially true of people with Bachelor's degrees or higher. These people may be particularly important in lending their time and skills to community initiatives involving volunteerism.

Average household size in Chocolay Township in 2010 is slightly lower than in Michigan (2.4 compared to 2.49). Again, this is related to lower percentages of children. Almost 28 percent of Chocolay Township households had individuals under 18 years compared to 31.6 percent of State households. Average household size of renter-occupied housing units in Chocolay Township is smaller in comparison to owner-occupied units (2.04 compared to 2.46).³²

In Chocolay Township, a lower percentage of householders live alone than in the State (23 percent compared to 28 percent). Of the 572 single person households in Chocolay Township in 2010, there were more males (303) than females (269). However, there were many more female single householders age 65 and older (106 females, 41 males). This is because women tend to live longer than men. Additionally, there were 89 female-headed households (no husband) with children under 18 compared to 52 male-headed households (no wife) with children under 18.³³ Single-person households and single householders with children may be more vulnerable and have more specialized needs than the general population.

Figure 5-1 - Chocolay Township and Marquette County Population



²⁹ The County population decline was due in part to the closure of the K.I. Sawyer Air Force Base in 1995.

³⁰ U.S. Census data, 2010 Decennial Census.

³¹ Ibid.

³² Ibid.

³³ Ibid.

OVERVIEW

Table 5-1 - Support ratio

2010 Support Ratio	Michigan	Chocolay Township
Total Population	9,883,640	5,903
Non-working population (under 18; 65 and older)	3,705,598	2,069
Working population (18 to 64)	6,178,042	3,834
Ratio working / non-working	1.57	1.85
% working age	62%	65%
% under 18	24%	21%
% 65 and over	14%	14%
Median age	38.9	44.7

Table 5-2 - Educational attainment

2012 American Community Survey Estimates	United States	Michigan	Marquette County	Marquette City	Chocolay Township
Less than high school graduate:	12.3%	9.0%	4.4%	5.9%	2.4%
In labor force:	61.6%	54.5%	42.0%	21.7%	75.3%
Employed	85.8%	76.4%	82.0%	91.1%	94.8%
Unemployed	14.2%	23.6%	18.0%	8.9%	5.2%
Not in labor force	38.4%	45.5%	58.0%	78.3%	24.7%
High school graduate:	26.8%	28.8%	31.0%	25.0%	21.2%
In labor force:	74.4%	70.4%	64.4%	48.4%	79.5%
Employed	89.9%	85.3%	90.0%	88.9%	89.6%
Unemployed	9.8%	14.7%	9.8%	11.1%	10.4%
Not in labor force	25.6%	29.6%	35.6%	51.6%	20.5%
Some college or associate's degree:	30.6%	34.9%	34.2%	31.1%	37.1%
In labor force:	80.4%	78.5%	75.3%	73.1%	76.7%
Employed	91.4%	89.3%	94.5%	95.7%	97.8%
Unemployed	7.7%	10.5%	4.9%	3.7%	2.2%
Not in labor force	19.6%	21.5%	24.7%	26.9%	23.3%
Bachelor's degree or higher:	30.2%	27.4%	30.4%	38.0%	39.2%
In labor force:	86.2%	85.2%	83.3%	87.2%	77.9%
Employed	95.3%	94.9%	96.2%	97.8%	98.3%
Unemployed	4.1%	5.0%	3.8%	2.1%	1.7%
Not in labor force	13.8%	14.8%	16.7%	12.8%	22.1%

HOUSEHOLD FINANCIAL RESILIENCE

Household financial resilience is related to level of income in comparison to expenditures, and decisions on saving versus spending. Expenditures are impacted by household location in relation to jobs and goods (transportation expenses) and in relation to services (utility fees). Expenditures are also impacted by housing choice (costs for upgrades, repairs and energy). Taxes impact disposable income. Household resilience is also strongly related to levels of debt.

Profile

Chocolay Township households reside in and pay taxes to multiple jurisdictions, including the Township, school district, and the County. Other millages may be approved by voters of the tax district, such as the millage for the library, Iron Ore Heritage Trail and fire hall. Residents may locate themselves in places with a favorable fit between the taxes they are willing to pay and the services they want to receive. Chocolay Township currently has a moderate level of general operating millage levied in comparison to other jurisdictions within Marquette County (see sidebar).

Census Bureau estimates show that in Chocolay Township 75 percent of all families with children up to 17 years old have both parents in the labor force.³⁴ Median household income estimates are shown in Table 5-3. Chocolay Township's median household income is estimated to be higher than all areas of comparison.

Table 5-3 - Median Household Income

Median Household Income Estimates 2008-2012				
Michigan	Marquette County	Chocolay Township	Marquette City	Marquette Township
\$ 48,471	\$ 45,349	\$ 61,268	\$ 37,355	\$ 56,313

Figure 5-2 shows estimated percentage of households in various income brackets in 2012 inflation-adjusted dollars (household income and benefits). Chocolay Township shows lower percentages of households in the lower income brackets (up to \$49,999) than comparison areas, and higher percentages of households in the higher income brackets (\$50,000 and higher).

Census 5-year estimates show about 6 percent of the population in Chocolay Township to be below poverty level, or around 358 people. This percentage is lower among people under 18 years (3.4 percent) but higher among people 65 years and over (about 8 percent).

Poverty among people age 25 and over who are high school graduates with no further schooling is about 11 percent. Poverty levels for people age 25 and over without a high school diploma is even higher at 19 percent.

Poverty levels are particularly high among female householders with no husband present (29 percent) and especially those with children (39 percent).

It is estimated that about 27 percent of the population over 65 years (about 265 people) has a disability, with the most common disabilities being hearing and ambulatory difficulties.³⁵

TAX COMPARISON

A 2013 comparison found that Chocolay Township's general operating millage was sixth highest of County jurisdictions at 3.7897 mills.

This is third highest among Townships, being significantly lower than Forsyth Township (6.0807 mills) and Marquette Township (4.9095 mills).

³⁴ 2008-2012 American Community Survey Estimates.

³⁵ Ibid.

HOUSEHOLD FINANCIAL RESILIENCE



Risk Assessment

Some risk factors for household financial resilience include variable or fixed incomes, rising costs, and rising debt. Those who have part-time jobs with variable hours cannot fully anticipate income. Those who live on fixed incomes (typically the aging) may not always be able to anticipate variable expenses. These households are more vulnerable to rising costs for energy, food, medical care, and transportation. The variability of the stock market also impacts those trying to live off investment income.



Opportunities

The best ways for households to work toward financial resilience is to reduce debt, put aside savings for contingencies, make sure they have effective insurance, and implement cost control measures in relation to transportation, energy, and sustenance.

These cost control measures will be explored in the following sections.

PRIVATE TRANSPORTATION RESILIENCE

This section will examine the impact of transportation costs on household resilience.



Profile

Because public transportation is limited, and the majority of Township residents work and shop outside the Township (see Appendix Q for County-wide information), transportation infrastructure is a critical local need. Reliable transportation improves the ability of participants to get to jobs, improve their financial situation, and change spending and saving patterns. It also improves access to health care, nutritious food, educational opportunities, and day care options, and increases community involvement.

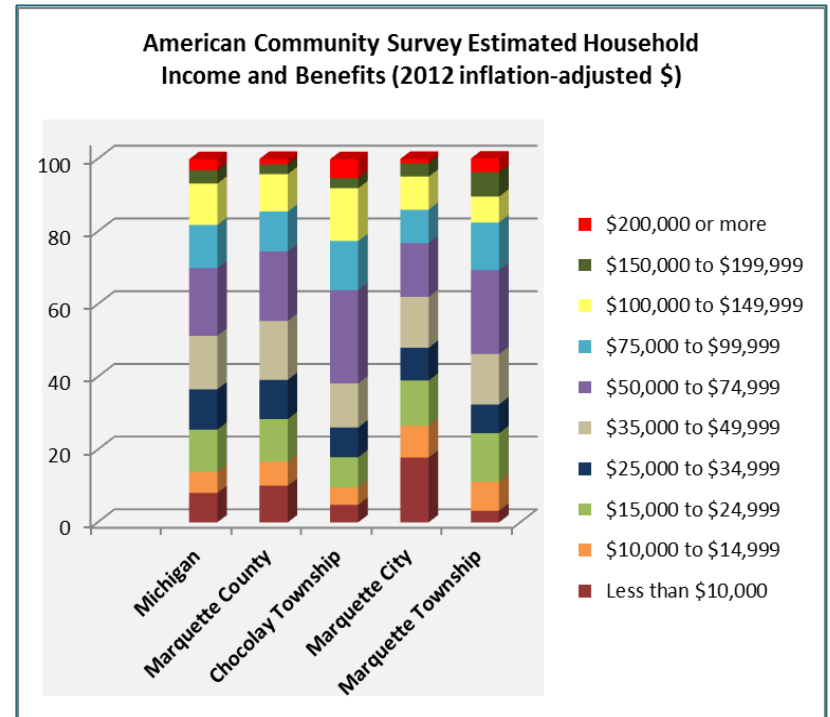
According to Census Bureau data from 2002 - 2011, an average of 1,241 people are employed in Chocolay Township but live elsewhere. An average of 2,627 people live in Chocolay Township but are employed elsewhere (mostly in Marquette). An average of only 153 people live and work in Chocolay Township.³⁶ Most workers commute to jobs.



Risk Assessment

People with lower incomes and those traveling greater distances are most vulnerable to fuel price increases. **Table 5-4** illustrates the impact of increased fuel prices for various income brackets, assuming Chocolay Township residents travel approximately 15 miles per day at an average efficiency of 20.3 miles per gallon.³⁷

Figure 5-2 - Percent households in various income brackets



³⁶ U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (Beginning of Quarter Employment, averages 2nd Quarter of 2002-2011), Inflow/Outflow analysis. all workers, primary jobs. See Appendix Q.

³⁷ Based on US EPA's computer model - MOBILE 6.2 - for estimating emissions from highway vehicles.

PRIVATE TRANSPORTATION RESILIENCE

Table 5-4 - Impact of fuel prices on income

Impact on Income: Increasing Fuel Prices at Average MPG & Average VMT					
Price per Gallon	\$2	\$3	\$4	\$5	\$6
Cost per mile @20.3 average MPG	\$0.10	\$0.15	\$0.20	\$0.25	\$0.30
Costs per capita per day @ 15 miles per capita per day	\$1.48	\$2.22	\$2.96	\$3.69	\$4.43
Costs per person per year, assume travel 6 days / week	\$461.08	\$691.63	\$922.17	\$1,152.71	\$1,383.25
Fuel expenses as % yearly per capita income \$29,758*	1.55%	2.32%	3.10%	3.87%	4.65%
Fuel expenses as % yearly per capita income \$15,000	3.07%	4.61%	6.15%	7.68%	9.22%
Fuel expenses as % yearly per capita income \$10,000	4.61%	6.92%	9.22%	11.53%	13.83%
* U.S. Census Bureau, Selected Economic Characteristics, 2008-2012 American Community Survey 5-year estimates					

Notice that at an average gas mileage of 20.3 mpg, and a gas price of \$5 per gallon, average miles driven would have to decrease from 15 to 6 miles per capita per day for the percentage of fuel expenditures to income to stay the same as they were at \$2 per gallon. Assuming residents do not cut back on driving and continue to average 15 miles per capita per day, at a price of \$5 per gallon, fuel economy would have to increase to almost 51 miles per gallon for the percentage of fuel expenditures to income to stay the same as they are at \$2 per gallon and an average fuel efficiency of 20.3 miles per gallon. Of course, purchasing a fuel efficient vehicle may be beyond the reach of low income households. Therefore, the most likely scenario is that people with lower incomes will

have to reduce vehicle miles traveled since they can't substantially increase the percentage of fuel expenditures as part of their income. They can do this by moving closer to jobs, if housing is affordable, or they can look for alternative transportation options, such as walking, bicycle, public transit, or carpooling.

Whether these alternatives are feasible will depend on the distance residents need to travel and the availability and cost of public transit. No doubt, these options will increase typical travel times. A car driving at an average speed of 50 mph (average speed between Harvey and Marquette) travels about 8.3 miles in 10 minutes. At a pace of 3 mph, it would take a person on foot 2.75 hours to travel the same distance on foot. At a pace of 9 mph, it would take a person on

bicycle almost 1 hour to travel the same distance. It is unlikely that these commute times would be acceptable for most people, and our climate does not easily accommodate these alternate modes of travel for much of the year. If enough people were impacted, public transit or carpooling would be a more suitable option for most people. Public transit buses don't take direct routes to individual destinations, and therefore increase commute times. These options would mean a big change in habits since people often make multiple trips to different destinations, which may be difficult or impossible when relying on carpooling or public transit.

The impact on lower income workers may be even more profound since they are more likely to own

PRIVATE TRANSPORTATION RESILIENCE

older and less fuel efficient vehicles. Gasoline may consume a more significant portion of their income, especially if land use patterns do not permit jobs near housing.

Rising fuel costs will impact the profitability of public transit agencies unless ridership increases or fares are raised. Rising fuel costs will also increase expenses for wholesalers and retailers of goods. These costs will most likely be passed along to the consumer if other costs cannot be decreased to compensate.

Opportunities

It is important that Chocolay Township enable a variety of housing to be built in close proximity to Marquette where most people are employed.

This is particularly important for low income housing options. The best way to do this is to ensure that higher density housing options are permitted in the sewer district surrounding Harvey. It is important to revise the zoning ordinance to accommodate mixed-use options such as apartments above commercial or accessory dwelling units. This will make lower cost housing options available, revitalize the village, and provide property owners with additional income opportunities. The priority is to change how existing structures can be used.

Another way to mitigate rising fuel prices is to reduce the distance that raw materials, goods, and people must travel to reach their endpoint. Chocolay Township should ensure there are sufficient commercial and light industrial land use opportunities available so that critical goods and services are undertaken and made available in close proximity to residents.

If fuel prices reach a prohibitive level, Chocolay Township can implement an **electronic carpooling match system** to facilitate ride share opportunities, or collaborate with other organizations to do so. **Additional carpool lots** may be needed in the future, and should be considered along with future development.

The Township can also encourage the development of **car-sharing programs**. A private, for-profit venture would operate as a rental service allowing members to reserve a rental car for variable time periods, and to pick it up somewhere nearby, such as in their neighborhood. This allows people who only use a car occasionally to forego car ownership. The rental rates would cover the fuel, maintenance, insurance, and parking fees for the vehicle at the home site, so these cars would need to have maximum utilization to ensure profitability. A non-profit organization could also coordinate a car-sharing program. Alternately, this type of program could develop from private agreements between neighbors, friends, or family maintaining a vehicle through similar sharing of usage and costs.

To facilitate car-sharing opportunities, Chocolay Township can permit designated car-share vehicle parking stalls throughout the Township at multiple locations on public or private property. The Township

could also work with the City of Marquette to ensure that car-share or bike rental options are available there to facilitate travel to diverse and multiple destinations. The Township can provide examples of car-share agreements to help residents organize their own initiative.

To enhance ridership for public transportation, the Township should investigate opportunities to **construct additional transit shelters** in more locations. One such location is near the Silver Creek Recreation Area in the Village of Harvey west of US-41. These locations can be established by surveying residents regarding their need and willingness to use public transportation and locating stops near anticipated concentrations of users. Additional shelters would make the use of public transit more convenient and comfortable and possibly increase ridership. These shelters should be modest in cost and easy to maintain. Private enterprises might also support the development and maintenance of such structures if they could coordinate pick-ups from them.

Arranging **flexible work options** can help reduce transportation costs, such as telecommuting and 4-day work weeks.

Chocolay Township should also collaborate in any regional initiatives to bring **passenger rail transportation** to the area.

HOUSING RESILIENCE

Housing resilience relates to issues of affordability and diversity. Affordability is related to proximity to destinations, energy efficiency, and condition of the structure. Diversity is related to meeting the needs of the population as they continue to age, and providing housing for a variety of economic circumstances.

Profile

There were 2,824 total housing units in Chocolay Township in 2010, and 87 percent were occupied compared to 85 percent in Michigan. Of the 371 vacant housing units in Chocolay Township, 259 were for seasonal, recreational, or occasional use. Michigan had much lower percentages of vacant housing units for seasonal, recreational, or occasional use (5.8 percent compared to 9 percent in Chocolay Township).

The homeowner vacancy rate in Chocolay Township was a low 0.9 percent, with renter vacancy rate much higher at 7.6 percent. Both these numbers are much lower than the State however, where the homeowner vacancy rate is 2.7 percent and renter vacancy rate is 11.5 percent.³⁸ The housing market is strong near the City of Marquette. However, the national trend is for retiring baby boomers to abandon large single family homes for housing that fits better with their lifestyle choices and needs. The next boom generation, the millennials, seek more walkable, compact housing options in close proximity to culture, entertainment, and restaurants. So certain housing types, particularly single family homes, may sit vacant or underutilized, while there is an undersupply of alternatives.

Of the owner occupied housing units, 66 percent had a mortgage or loan. The remainder were owned free and clear.³⁹

The median value of owner-occupied units in Chocolay Township is estimated to be \$171,100, compared to a median value of \$126,300 in the County and \$128,600 in Michigan. No doubt the lake and river-front properties influence this higher value.⁴⁰ The median selected monthly owner costs for housing units in Chocolay Township with a mortgage is moderate at \$1,177, compared to \$1,092 in the County and \$1,355 in the State. Median selected monthly owner costs for housing units in Chocolay Township without a mortgage is estimated to be \$338.⁴¹

Median gross rent in Chocolay Township is estimated to be \$703, compared to \$504 in the County and \$755 in the State.⁴²

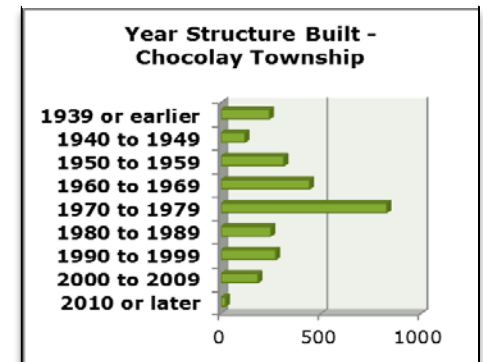
Risk Assessment

Figure 5-3 shows the percent of housing built per decade. The largest percentage of Chocolay Township housing was built in the 1970's. This may indicate that repairs and energy efficiency upgrades may soon be needed. Homes built between 2000 and 2005 used 14 percent less energy per square foot than homes built in the 1980's, and 40 percent less energy per square foot than homes built before 1950.⁴³ However, larger home sizes have offset these efficiency improvements.

According to the U.S. Department of Energy, 78 percent of total energy consumption in residential buildings comes from consumption of space heating and cooling, lighting, and water heating.⁴⁴ In a climate such as ours, heating is of primary concern much of the year.

Energy efficiency is even more a concern in rental housing. When renters assume the costs of their utility bills, landlords don't have much financial incentive to make their units more energy efficient.

Figure 5-3 - Housing Per Decade



³⁸ 2010 U.S. Decennial Census data, Summary File 1.

³⁹ Ibid.

⁴⁰ 2008-2012 American Community Survey 5-Year Estimates.

⁴¹ 2008-2012 American Community Survey 5-Year Estimates. Includes the sum of payments for mortgages and similar debts on property; real estate taxes; fire, hazard, and flood insurance; utilities; and fuels.

⁴² 2008-2012 American Community Survey 5-Year Estimates.

⁴³ U.S. Department of Energy 2011 Buildings Energy Data Book, March 2012.

⁴⁴ Ibid.

HOUSING RESILIENCE

Opportunities

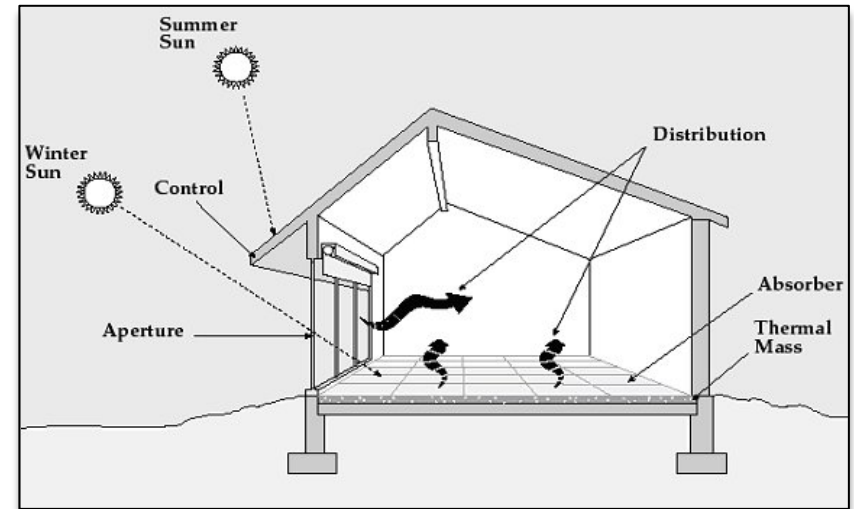
It will be important to facilitate community awareness of programs to improve housing affordability, such as **energy optimization/weatherization** and **renewable energy programs**. Some lenders offer mortgages that allow the borrower to use the money saved in utility bills to finance energy improvements. In some states, property tax incentives have been used to ensure that the renewable energy system has no impact on assessed value of properties. Currently Michigan does not have a tax exemption policy in place for residential owners. So the tax increase associated with an average solar system could essentially double the cost per kWh to a homeowner, creating a significant disincentive for homeowners to implement photovoltaic systems. If tax laws change and provide an incentive rather than a barrier for these installations, Chocoley Township should encourage homeowners to install renewable energy systems. This will grow these markets, provide jobs, increase sales tax revenues, and improve housing resilience.

It is also important to **permit more multi-family housing, small houses and accessory dwelling units** which offer multiple benefits including energy efficiency, affordability, less maintenance, and care of senior or youth family members. On average, multi-family homes used 9 percent less Btu per household than mobile homes and 40 percent less than single-family homes.⁴⁵

It is also important for homeowners to become more aware of energy usage, and to implement **energy conservation** measures. Changing habits is as important as changing infrastructure.

The construction of **passive solar homes** (see *Figure 5-4*) should be encouraged. In addition to being oriented to take advantage of the sun, these homes are super-insulated, airtight, and use thermal mass for heat storage, thereby reducing energy use significantly. These homes improve resilience in case of a power failure because much less supplemental heat is needed. They have proven successful in northern climates, and have been most widely used in Germany and Scandinavia.

Figure 5-4 - Passive house design
<http://academics.triton.edu/faculty/fheitzman/architecturalmethodology-C.html>



PRIVATE ENERGY RESILIENCE

This section focuses on energy issues in the non-residential sector.

Profile

In the U.S., the buildings sector accounted for about 41 percent of primary energy consumption in 2010, 44 percent more than the transportation sector and 36 percent more than the industrial sector. Homes account for 54 percent of the energy use in the building sector, with commercial buildings accounting for 46 percent. Currently, 75 percent of energy comes from fossil fuels, and only 9 percent from renewable sources (remainder nuclear).⁴⁶

Primary energy consumption by the U.S. building sector increased by 48 percent between 1980 and 2009. The Energy Information Administration projects this growth will stagnate due to the recession until 2016 when steady growth is predicted through 2035.

⁴⁵ U.S. Department of Energy 2011 Buildings Energy Data Book, March 2012. Ibid.

⁴⁶ Ibid.

Risk Assessment

In the Marquette area, most of our electricity is powered by coal. Coal requires oil for mining and transport. Therefore, as the price of oil rises, the price of electricity will rise. As the price of electricity increases, more people will look to other energy sources such as natural gas, if it is available. As more people rely on natural gas, the price will increase. Others may rely on wood burning fuel sources. The increased burning of wood may increase the particulates in the air, cause deforestation, and result in an increased risk of fire. Additionally, local biomass supplies may prove insufficient, and sufficient quantities may not be able to be cut and moved to all destinations.

A significant increase in the cost of fuel will stress the budgets of households who are reliant on personal vehicles, and will have an especially regressive effect on the community's lower wage earners. Disposable income will decline as the price of many products rise (either because oil is a key input in the product or because the cost of transporting the product rises).

The potential impacts of energy scarcity include:

- The personal automobile is a less affordable means of transportation
- There is a much greater need for public transportation
- The cost of food and other critical goods rises due to increases in transportation and production costs
- Commuting is a less affordable lifestyle
- People may look for smaller, more energy efficient homes, and then large or energy inefficient homes will decline in value. Those people who have their net worth tied up in these homes may be negatively impacted.
- Alternative power sources could be needed if there are increasing power disruptions. Without electricity, pumps and toilets won't work. This could include generators that run on multiple fuel sources, or renewable energy sources that are not grid tied.

Businesses that require more energy will be more vulnerable to rising costs. Warehouses, storage facilities, and churches use less energy. Medical buildings and food sales and service businesses are more vulnerable due to energy-intensive end uses and more frequent occupancy.

Opportunities

Reducing per capita energy consumption is critical in reducing the impact of shocks or stresses associated with future energy costs or shortages. Buildings and transportation are the primary focus for savings, with passive strategies providing the highest levels of resilience. Retrofitting is critical given the fact that some 66% of the houses that will exist in 2050 are already standing.⁴⁷

The Marquette BLP and Alger Delta Electric Cooperative offer **energy optimization programs** for both residential and commercial/industrial customers. These include:

- Residential low income programs for energy efficiency and weatherization
- Residential rebates on high efficiency products and appliances (LED fixtures, ceiling fans, power strips, and Energy Star appliances)
- Residential appliance recycling
- Rebates on efficient residential heating, ventilation, and air conditioning
- Online home audit
- Agribusiness rebates for installation of energy efficient products and equipment (waterers, fans, heaters, controls, pumps, refrigeration)
- Commercial and industrial rebates for installation of energy efficient products and equipment (lighting, HVAC, food service equipment, grocery and commercial refrigeration, industrial processes)

⁴⁷ 2012. Future Proofing Cities: Strategies to help cities develop capacities to absorb future shocks and stresses, Applegath, Craig.

PRIVATE ENERGY RESILIENCE

Michigan Saves is a public-private partnership which works with private lenders to provide affordable financing to help homes and business save energy and money. This program also supports local construction jobs.

Methane digesters transform locally-generated waste into biogas which can be used for power in fixed installations such as power plants or pumping stations. The by-product of this process can be used as fertilizer for local gardens and farms. These systems may benefit private consumers.

OTHER OPPORTUNITIES FOR PRIVATE RESILIENCE

Opportunities

Residents should voice support for local regulations that permit them to raise food at their homes and increase their food security.

Residents can increase water supply available for outdoor and non-potable indoor water use by **collecting rainwater** from roofs and other runoff. Avoiding the use of well water for irrigation takes the stress off well pumps and provides less shock to plants from cold water (see *Figure 5-5*). Water storage capacity should be expanded to provide for short-term emergencies in power failures when well pumps won't work.

Consumers should be encouraged to buy products that require **less packaging** that will be thrown away. Less waste means lower costs for transporting them. Household composting also reduces garbage and yields a valuable soil amendment product. Neighborhood scale composting programs can benefit community gardens.

Some neighborhoods are exploring ways to work together through **resilience circles**. These groups provide an opportunity for learning, sharing skills, providing mutual aid, exchanging services, pooling resources, and getting to know each other. It is important that people within the community work together to solve problems, instead of thinking they must stand on their own. Resilience increases when people work together.

Figure 5-5 - Rain barrels at the Chocolay Community Garden warm the well water before use on plants



Natural Systems Resilience

Chapter 6



Chapter 6: Working for Resilience in Natural Systems

This portion of the Master Plan takes a closer look at resilience in relation to natural systems, including issues such as climate change, disaster mitigation, and management of sensitive environmental areas and productive lands.

Each element contains a profile of existing conditions, a risk assessment, and a discussion of opportunities. Goals and strategies for natural systems are contained in Chapter 7: Strategic Plan. An in-depth natural features inventory is included for reference in Appendix R.

CLIMATE CHANGE

Climate is not the same as weather. **Weather** is the state of the atmosphere at any given time and place (temperature, humidity, precipitation, wind, etc.). **Climate** is the set of meteorological conditions that prevail in a particular place or region over a long period of time. **Climate variability** describes fluctuations that are natural and brief. **Climate change** describes long-term (decades or longer) persistent changes.

Globally, climate change is occurring from increases of carbon dioxide in the atmosphere. Impacts will vary widely per region. Extreme weather and climate events associated with climate change can include regionally variable droughts, flooding, storms, wildfires, and heat waves. These events impact lives, livelihoods, health, ecosystems, economies, services, and infrastructure.

Profile

Our area is currently located in the USDA plant hardiness zone 5b. The climate is characterized by an extended winter (November through March) and short, cool summers. The average first frost day is in mid-October, and the average last frost day is mid-May.

Some regional indications of climate change include:

- Lake Superior has warmed 4.5 degrees F in only 30 years, which is twice as fast as air temperatures
- Regional data gathered since 1900 shows that the 2000s were the hottest decade, 1990s the second hottest, and 1980s the third hottest
- Plant hardiness zones are moving north⁴⁸

The largest observed temperature increases in the Midwest have occurred in Minnesota

and the Upper Peninsula of Michigan. Most models suggest further increases over the 21st century. These two areas are also predicted to experience the largest regional increase in winter temperatures.⁴⁹ Plant hardiness zones are likely to shift 0.5 to 1.0 zone every 30 years.⁵⁰

Lake Superior has a significant impact on the regional climate system. In the summer, the lake breeze circulation keeps the shoreline areas cooler compared to surrounding inland areas. Lake-effect precipitation is common in late fall and winter as cool air flows over warm lake waters.

It is projected that the following changes will take place near the Great Lakes over the next century:

- Number of days with low temperatures below 0 degrees Fahrenheit will drop by 50% or more
- Number of days with high temperatures above 90 degrees Fahrenheit will more than double
- Largest increases will occur over western portions of the Great Lakes region

- Extreme or heavy rainstorms will become 50-100 percent more frequent⁵¹

Responses to climate change involve mitigation and adaptation. Mitigation strategies address the cause, and may involve strategies such as reducing emissions of greenhouse gases (GHG) and reforestation (carbon sequestration). Adaptation strategies address the symptoms, and may involve strategies such as water resource management, stormwater control, storm shelters, etc.

Climate change responses can often lead to collateral benefits, resulting in a “no regrets” approach. For example, a reduction in GHG emissions also reduces pollution; further, if these emissions reductions are achieved through green building development and reductions in vehicle-miles-traveled, there are economically measurable savings in energy expenses and traveler convenience. A more compact urban form has the potential to reduce both GHG emissions and infrastructure costs. Responses may involve land use and transportation policy, building standards, housing, energy, water conservation, and local food production as discussed elsewhere in this plan. This chapter will focus on natural systems.

⁴⁸ “Lake Superior Climate Adaptation, Mitigation, and Implementation Plan”, Superior Watershed Partnership.

⁴⁹ “Climate Ready Great Lakes”, NOAA and Sea Grant presentation.

⁵⁰ Ibid.

⁵¹ Ibid.

Risk Assessment

Although the exact impacts of climate change in any one area can't be predicted because there are so many interacting variables, the likely risks of climate change in this region include:

Higher water temperatures

- Higher bacterial counts leading to closing of beaches, negatively impacting tourism.
- Negative impacts to cold water fish and the diatoms that feed the fish.

More extreme weather

- More extreme weather events involving wind, flooding or erratic freeze/thaw cycles cause property damage, utility service disruptions, and increased insurance claims and costs.
- Extreme weather events cause increased damage/erosion to Lake Superior beaches and cliffs, impacting tourism and infrastructure.

- Flooding overwhelms stormwater management systems, damages infrastructure, and exacerbates shoreline erosion along rivers.
- Warmer temperatures mean more winter precipitation in the form of rain, sleet, ice, or ice on snow causing transportation and power problems and damaging trees.

Drought, less precipitation, falling lake levels

- Drought causes agricultural challenges, stressed forests with increased vulnerability to pests, and greater wildfire danger.
- Declining snowfall impacts winter tourism, local culture and the local economy.
- Less ice cover on the lake means more wave action and increased evaporation.
- Falling lake levels disrupt the maritime shipping industry and create infrastructure challenges.

Impacts on plants, animals, and humans

- Changes in animal migration patterns put some organisms out of synch with food sources.

- Increased tree mortality and associated forest dieback due to increased temperatures and drought poses risks for carbon storage, biodiversity, wood production, water quality, and economic activity. Changes in forest cover could negatively impact the forest product industry. There could be a decline in some species such as sugar maple, birch, jack pine, black spruce, balsam fir, quaking aspen, eastern hemlock, tamarack and perhaps an increase in oak, hickory - but will the adaptation occur fast enough to compensate?
- Warmer temperatures cause an increase in pests and diseases.
- Warmer temperatures stress wetlands, which are essential waterfowl and amphibian breeding grounds and sources of shelter, food, and storm protection.
- Disruptive events cause emotional distress and social issues. Populations may even migrate out of impacted areas, causing climate refugees to surge into other areas.

Opportunities

The best opportunity for climate change response is to be ready rather than react. Readiness means anticipating impacts and planning for solutions ahead of time to reduce risk. Governments at various levels are starting to develop mitigation and adaptation plans. Examples include disaster management plans, adjustments in technologies and infrastructure, ecosystem-based approaches, basic public health measures, and livelihood diversification.

Opportunities may include:

- Expansion in "green" jobs related to climate change adaptation, clean energy industry, infrastructure improvement projects, and emergency services.
- Longer summer recreation season with more tourism
- Longer growing season
- Longer construction season
- Lower energy cost needs in winter (although higher in summer - air conditioning)

Building adaptive capacity means putting in place policy frameworks, data collection and evaluation processes, awareness-raising programs, and support

systems to encourage, allow, or require adaptation strategies. Climate readiness must be embedded in routine planning processes.

Specific strategies are addressed in detail in Chapter 7. Specifically these involve researching, identifying, and disseminating data on local conditions and vulnerabilities; improving outreach and communications; and effecting or advocating various projects such as:

- Habitat protection and restoration - Preserve or restore vegetation near cold water streams and rivers, wetlands, and Lake Superior for ecosystem health, flood control, and storm protection for infrastructure

CLIMATE CHANGE



- Plant diversity - Advance planning for future plantings that fit changing conditions (especially trees which take longer to grow). Increased diversity may ensure productivity/survival even with climate variability.

- Better drainage systems for area roadways
- Advance planning for emergency response to climate events
- More widespread water conservation/storage measures

The priority of these strategies should be continually assessed based on an updated understanding of potential level, extent and immediacy of projected impacts.

HAZARD MANAGEMENT

Emergency or hazard management consists of four elements: preparedness, mitigation, response, and recovery. Mitigation reduces the impact of events and lessens the need to respond to succeeding events. It is often tied to development decisions which are controlled by local government, but could also be related to decisions made by individuals or businesses.

High risk hazards are categorized as natural (fire, flood, severe weather, unstable ground), technological (hazardous materials, infrastructure failure), and societal (civil disturbances, large public gatherings, terrorism, transportation accidents, public health emergencies, environmental threats, economic disaster).

In Chocolay Township, the natural hazards that have a high risk of occurring or which would have a high degree of potential damage if they do occur include:

- Wildfire in the wildland/urban interface particularly exacerbated by extensive jack pine forests with accumulated fuel sources
- Flooding along Chocolay’s many rivers and streams
- Flooding along roadways

Fire Hazards



Profile

Wildfires occur throughout the spring, summer, and fall in Michigan, however most take place in March through May when the vegetation is dead, brown, and combustible with little green vegetation to serve as a barrier to wildfire. The burning of yard waste leads to the majority of wildfires.

Wildfires are also caused by vehicle exhaust, sparks from trains and heavy equipment, camping, smoking, arson, and lightning.

The sand dunes paralleling Lake Superior are ideal jack pine habitat, but are also favored areas for development. According to the Marquette County

Hazard Mitigation Plan, aerial photography revealed 480 structures with a combined value of \$26.1 million within jack pine forests, primarily near the Lake Superior Shore.



Risk Assessment

The greatest risks of wildfire are in areas of jack pine forests, which are extensive in Chocolay Township, especially along Lake Superior. Forested areas of Chocolay Township are being increasingly populated and property values are increasing as former camps are converted to year round homes. This increases the exposure and vulnerability to wildfire. The development of homes and camps in forested areas increases fire risks through the introduction of activities and decrease of professional management and

harvesting of mature trees.

Homes and camps in remote areas are at greater risks due to the difficulty of getting police, fire, and emergency services on private, substandard, inadequately maintained or poorly identified roadways, driveways, and bridges. Recreational use of ATVs on unimproved county roads or in unauthorized remote areas can increase fire risks during dry periods due to carbon particles in exhaust. It may also be difficult to reach the remote areas traveled by these vehicles with fire suppression equipment.

Small particles of fuel such as dry grass, leaves, and small twigs dry out most rapidly, providing a combustible fuel source. Burning embers can move from one-quarter to one mile with the wind. Wind-driven embers can be blown under decks and porches, into cracks in the foundation, and into attics through faulty eave and roof vents. They can also ignite combustible vegetation adjacent to the home. Wildfires move more rapidly uphill, so homes built at the top of slopes are more vulnerable to wildfires. Winds off the lake can also increase fire intensity,

Fire Hazards

making fire suppression more difficult.

Wildfires are also costly in timber losses, with long-term effects including aesthetics, reduced soil productivity, changes to forest succession patterns, erosion, reduction in water quality, loss of wildlife and disruption of recreational use.⁵²

Unattended campfires along with high winds and dry conditions can provide high risk. Such fires are often started near the shores of lakes on soils with high organic content that smolders and later ignites.

Fireworks also start many lakeshore fires. Dune grass is one of the most important plants along the shoreline for holding sand in place and managing erosion. However, it is also one of the most flammable plants, and therefore a major wildfire threat. Flames from dune grass fires can reach 10 to 20 feet high.

Other kinds of fire danger occur in the home or yard. Homes built before 1964 are more problematic because of the balloon frame construction that allows fires to spread in wall cavities. Wiring fires may be caused by overloading with appliances without

cut-offs. Candles and saunas are other sources of fires caused by human error.

Fires in scrap tire piles are difficult to contain and extinguish, and produce acrid, oily smoke and oily residue that leaches into soil and can migrate to streams. Accumulated tires are also breeding grounds for mosquitoes, increasing the risk of West Nile Virus.

Opportunities

Preparedness and Mitigation

The Michigan DNR use burn permits to communicate to homeowners when it is safe to burn and when it is not. Any open fire larger than a campfire requires a burning permit unless the ground is snow covered. The DNR also provides resources for best burn practices. For example, campfires should be built away from dune grass and other flammable vegetation, and should be extinguished with water. Otherwise, they may continue to smolder and pose a risk for unsuspecting beach walkers.

The Chocolay Township Zoning Ordinance contains burn provisions that detail appropriate designs for covered burn barrels, setbacks of burn barrels from adjacent structures, prohibited materials for burning, and supervisory standards. Grated covers help keep burning embers from escaping.

The Firewise program promoted by MSU Extension is intended to create awareness for mitigating the risks of wildfire. Strategies generally relate to controlling fuel sources for fires. For example, it is especially important to remove fuel that is downhill from homes, and fuel that is within three feet of homes. This means keeping leaves, dead grass, and other debris out of this zone, and especially from under decks or porches.

Using fire resistant landscaping plants and materials can also help, as will frequently watering plants. Maintaining defensible space also means storing flammable items including firewood, boats, and RVs at least 50 feet from homes or attached structures.

The Firewise program also offers suggestions for zoning regulations to reduce fire risk.

Response and Recovery

A 30,000 gallon underground tank was installed with the fire station project in 2013, improving response potential. Additional dry hydrants or other water storage facilities are still needed in the eastern portion of the Township near residential areas and jack pine stands. It is important to establish regular maintenance inspections on the dry hydrants to ensure they remain functional.

Vegetation should be trimmed back from private roadways and driveways as fire vehicles and water tankers need a clearance 12 feet wide and 15 feet high for easy access. Steep grades, sharp curves, and narrow roads make it difficult or impossible for fire vehicles to respond to fires. If possible, a turn-around with a radius of 50 feet should be placed near homes to accommodate fire suppression vehicles. Residents can also facilitate emergency response by conspicuously posting addresses.

⁵² 2007. Hazard Mitigation Plan for the County of Marquette, MI. Marquette County Resource Management/Development Department.

Flood Hazards

Profile

Chocolay Township participates in the National Flood Insurance program (NFIP). This program makes available privately issued flood insurance that is subsidized by the federal government to communities that agree to manage flood prone areas within their boundaries to reduce future flood risks to new construction. This insurance is designed to provide an alternative to disaster assistance to meet the escalating costs of repairing flood damage.

Chocolay Township has adopted and enforces a floodplain management ordinance that meets NFIP requirements. Flood insurance is not available in communities that don't participate in NFIP. In non-participating communities, federal officers and agencies may not provide any form of financial assistance for acquisition or construction purposes, and loans guaranteed by Federal agency lenders such as the USDA

Risk Assessment

The Chocolay River drains 159 square miles. The floodplain map is shown in Appendix S. According to the County Hazard Mitigation Plan, aerial photography revealed 198 structures with a value of \$9.6 million within the designated flood zones.

There have been many flood events within the Chocolay River watershed. Flooding can occur within a short time from excessive rainfall, a rapid snowmelt, or sudden release of water from an ice jam. Flooding has been exacerbated in the past because of ice dams or sedimentation blocking the mouth of the Chocolay River where it enters Lake Superior. Some homes are too close to the river, and some are threatened by

Rural Housing Services, Federal Housing Administration, and the Department of Veterans Affairs would be prohibited. No federal financial assistance may be provided for reconstruction or repair within the flood hazard area.

Flood hazard maps indicating Special Flood Hazard Areas (SFHA) are available from the Federal Emergency Management Agency (FEMA). These maps were upgraded in 2014. A SFHA is a high-risk area defined as any land that would be inundated by a flood having a one percent chance of occurring in any given year (also referred to as the base flood or 100-year flood). The floodway is the stream channel and that portion of the banks that must be kept free from encroachment in order to discharge the base flood without increasing flood levels by more than one foot. Major storms, flash floods, and increased upland development can cause flooding higher than the base flood elevation. For example, fill in the floodplain reduces the ability of the floodplain to store floodwater, so the impacts of flooding will increase.

erosion. Erosion down and across the stream is caused from rock armor installed by some property owners. The river would normally meander through the sand dunes, but man has attempted to curb the natural relocation of the riverbed. Development in the Chocolay River drainage basin increases the amount and speed of run-off, exacerbating problems for older development downstream.

Silver Creek is a tributary to the Chocolay River. It can flood independently, but is often flooded due to backwater effects of flooding on the Chocolay.

Flooding can also occur on roadways in rapid melt situations when drainage ditches are inadequate or ice/snow piles interfere with drainage. This is particularly problematic when the roadway is the only source of ingress/egress for a large number of homes.

Development may take place within the SFHA if minimum requirements are met, as enforced by the Department of Environmental Quality and the Marquette County Building Department. Development may be prohibited in the floodway.

Property owners who feel their property has been incorrectly included in a designated SFHA can seek a Letter of Map Amendment (LOMA) with proof (usually an elevation survey).

For virtually every mortgage transaction involving a structure, the lender will review the current flood maps to determine if the structure is in the SFHA. If it is, the borrower is notified of the need to purchase flood insurance as a condition of receiving the loan. This review and notification also happens when a loan is sold on the secondary market, or when lenders do routine reviews of their mortgage portfolio.

Other areas of particular concern include portions of watercourses with narrower channels and steeper gradients, rock outcrops, and impermeable soil. Secondary hazards can include mudslides and subsidence of soil. Flooding can pollute drinking water sources, particularly when wells or septic tanks are flooded. Other services such as gas, electric, cable, and phone may be disrupted. In areas of particularly severe flooding, there could be permanent changes of river channels and shoreline, destruction of wildlife habitat, and financial hardship due to repair and replacement costs.

In April of 1985, spring rainfall combined with rapid snowmelt and a broken dam at Lake LeVasseur exacerbated flooding causing structural damage to homes in the Fernwood subdivision.

Flood Hazards

It was reported that twelve units received major damage and 33 units received minor damage in this event.⁵³ In January of 1986 the Chocolay River flooded due to ice blocking its mouth. There was concern that the sewer system would flood, so the ice was blasted by the Michigan National Guard. Since then, the Township has declined further requests from residents to blast ice dams due to complaints of damages to nearby homes. In July 2002, six structures in the upper Chocolay watershed were flooded when 5.6" of rain fell in an eight hour period. Prior to this, flood damage had not been reported in this area, other than washed out culverts on Mangum Road and Green Garden Road in 1985.

Chocolay Township would also be negatively impacted by flooding on the Carp River. When flooding occurs from ice or debris near the Carp River mouth, the blockage may back-up water, causing damage to the US-41/M-28 highway and disabling the City of Marquette's wastewater treatment facility which serves Chocolay Township.

Runoff from the storm event caused two regional dams to fail, flooding roads and bridges and cutting off utilities and access. It is expected that the area will experience warmer annual temperatures and an increase in extreme precipitation events, particularly more frequent rain events that occur in the spring when flooding is already a risk. Infrastructure may not be sufficient to handle more severe storm events.

Areas with only one main evacuation route are particularly vulnerable to disasters, such as the Agate Beach Association which frequently is cut-off due to flooding of Bayou Road.

In 2003, the Marquette area experienced devastating spring floods resulting from an excess of rain falling on frozen ground.

Opportunities

One way to decrease flood impacts is to prevent development in flood prone areas. Of course, this is usually where people want to live - close to the water. But decision makers should keep in mind that the person seeking the development is likely not the only one impacted. Downstream property owners might be the ones who are negatively impacted.

Impervious surfaces increase run-off two to six times over that occurring on natural land. Alternatives include permeable pavement or biofiltration areas (rain gardens) instead of dense grass.

Vegetated buffers should be protected or restored along streams that run through agricultural land to protect water from pollutants, provide habitat, and preserve cooler water temperatures.

Chocolay Township should keep detailed reports of flood damage since mitigation grants are tied to documentation of repeat flooding.

The upper reaches of the Chocolay River drainage basin should be studied to determine the capacity of water storage areas to contain runoff. The Township should help create a greater awareness of natural water catchment strategies, and consider adopting more low impact development standards in the zoning ordinance.

Individuals who live in flood risk areas should keep itemized lists of personal property including photographs to file claims and document uninsured losses which are tax deductible. They should have evacuation plans and a hazard kit handy in case of emergency, and keep sandbags, plywood, plastic sheeting, and lumber on hand.

If time permits, before evacuation, all utilities should be turned off at the main power switch and main gas valve should be closed.

All insurance policies and important documents should be kept in a safe place, along with names and contact information for agents. Containers can be filled with clean water ahead of time in case regular supplies are contaminated in the event.

⁵³ 2007. Hazard Mitigation Plan for the County of Marquette, MI. Marquette County Resource Management/Development Department.

WATERSHED PLANNING

Today, humans are the primary agents of change in the watershed. Logging at the turn of the century, the fires which followed, and the continuing agriculture and settlement of areas resulted in profound, long-term changes to the landscape.

The Chocoday River Watershed Council was formed in 1990 to provide stewardship for the Chocoday River Watershed. It is not in active status today.

Profile

Chocoday Township is one caretaker of the Chocoday River Watershed ecosystem. Five townships have boundaries within the Chocoday River Watershed, including Chocoday, Sands, West Branch, Skandia, and Forsyth.

The first order, headwater streams are not named or well-studied in the watershed. Named streams of the Chocoday River Watershed that are in Chocoday Township include (with their stream order) the Chocoday River (5), Silver Creek (2), Cherry Creek (2), Cedar Creek (2), Big Creek (3,4), Voce Creek (2), LeVasseur Creek (2,3), Dorow Creek (2), O'Neil Creek (2), and Foster Creek (2,3).

Streams in the Chocoday River have very consistent base flows, indicating a strong ground water influence. Base flows emanating from ground water is what provides water in streams during the driest parts of the annual cycle. Silver Creek, Big Creek, Cherry Creek, and Cedar Creek are all important tributaries in the Chocoday system that are fed by the Sands Plain aquifer. Generally, flood peaks in all four creeks dissipate quickly because stream gradients are steep, drainage areas are small, and sandy soils predominate.⁵⁴

The riparian area is the zone adjacent to the water that both influences and is influenced by the water. The riparian corridor provides habitat and areas of activity for many animals and plants. Maintaining natural vegetation along stream corridors is important for perpetuating these features and functions. These areas provide for bird feeding, breeding, and nesting, and the movement of wildlife.

The Chocoday River Watershed is a designated cold water fishery that is managed for trout and salmon and is a crucial watershed for the natural reproduction of many Lake Superior fish species. Trout and salmon require cool, clean streams with gravel bottoms to feed and reproduce.

In a 1999 report, the year round residential population of the Chocoday River Watershed was estimated at approximately 11,500 with some increase during summer months. About 11 percent of the watershed was urban/residential use, 14 percent agriculture, 60 percent forest.⁵⁵

There are 3 waterfalls in the watershed. Public access sites include the MDNR handicapped fishing access on M-28 in Chocoday Township, Chocoday Township Marina which includes a boat launch and kayak locker (Main Street, Village of Harvey), and Lake LeVasseur, Big Trout Lake, Engman Lake, Strawberry Lake, and Sporley Lake public access sites. Other informal public access sites exist at rivers.



⁵⁴ Premo, Dean B. 1999. Chocoday River Watershed Restoration and Adaptive Management Plan. A White Water Associates, Inc., project completed under contract with Marquette County Soil Conservation District and under direction of the Chocoday River Watershed Council.

⁵⁵ Ibid.

WATERSHED PLANNING

Risk Assessment

Possible watershed threats include the following:

- Chemical
 - ◆ Agriculture and forestry activities using herbicides, pesticides, fertilizers, and nutrients
 - ◆ Urban activities such as municipal and industrial waste contaminants
 - ◆ Underground storage tanks and volatile organic compounds
 - ◆ Closed landfills
 - ◆ Household hazardous wastes
 - ◆ Stormwater runoff from streets (salts, oils, grease)
 - ◆ Fire training sites
 - ◆ Lampricides
- Biological
 - ◆ Improper grazing management
 - ◆ Improper forestry practices
 - ◆ Recreational activities
 - ◆ Introduction of exotic flora and fauna species (purple loosestrife, sea lamprey)
 - ◆ Wetland loss or degradation due to development
- Physical - especially mobilization of sediments into streams
 - ◆ Flood control
 - ◆ Forest management
 - ◆ Road building and maintenance
 - ◆ Agricultural tillage
- Social
 - ◆ Zoning and land use planning
 - ◆ Poor stewardship

Almost half the soil types in the Chocolay River watershed are classified as highly erodible or potentially highly erodible. Sediments are caused by weathering and erosion. Agriculture can cause significant erosion. The causes of excessive sedimentation include land disturbance such as culverts and bridges, agricultural tilling, grazing of cattle in the riparian area, clearcutting of forests, poorly designed selective cutting, housing and other development, road construction and maintenance, and poorly designed and maintained gravel pits.

Too much suspended sediment causes stress to aquatic organisms and reduces light penetration into the water. Excessive instream sand and sediment bedload is the primary factor limiting the natural production of aquatic invertebrates and fish.

Elevations in water temperatures can cause reduced oxygen concentrations. This happens in areas where the stream vegetated canopy is reduced, turbidity is high, or where water is impounded.

Opportunities

The fact that ecosystems are inherently resilient is to our great advantage. In fact, some of today's best watershed managers state that "... successful restoration usually has less to do with skillful manipulation of ecosystems than it does with staying out of nature's way".⁵⁶

Still, if you are going to work with nature for the benefit of the watershed, the best approach is one that encompasses all the municipalities within the watershed. For example, a watershed overlay ordinance might be a way to get uniform zoning and development standards to benefit the entire watershed. Due to the differences between local zoning ordinances, and the costs and expertise associated with changing regulations, this could be difficult to implement across the watershed. Such a project is best coordinated by a County or Regional organization, such as Marquette County Resource/Development Department or the Central Upper Peninsula Planning and Development Region (CUPPAD).

Watershed improvement projects are intended to reduce sedimentation, improve aquatic habitat, control erosion, improve stream flow, enhance fish

migration, manage water temperatures, and protect groundwater/drinking water sources.

Projects include sediment traps, stream crossings, dam removal, bank stabilization cattle crossings, cattle exclusions, culvert replacement, and rip-rap installation. Also included are seeding and tree planting, storm sewer maintenance and street sweeping, stream restoration, Adopt-A-Stream program, stream monitoring, abandoned well closure, and water testing.

⁵⁶ Premo, Dean B. 1999. Chocolay River Watershed Restoration and Adaptive Management Plan. A White Water Associates, Inc., project completed under contract with Marquette County Soil Conservation District and under direction of the Chocolay River Watershed Council.

FLOODPLAINS, WETLANDS, DUNES, AND OTHER AREAS OF PARTICULAR CONCERN

The 2005 Comprehensive Plan highlighted goals and strategies for areas of particular concern. These areas were identified as cultural and natural resources which are significant because of their importance to human quality-of-life and the enrichment of the human experience. This is a human-centered perspective. This plan evaluates the risks and opportunities associated with these areas of particular concern from a larger ecosystem perspective, of which human systems are a part. The focus of this section is sensitive environmental areas such as floodplains, wetlands, dunes, steep slopes, and other natural features that provide vital ecosystem functions or that need protection so that other vital functions will not be compromised.

Periodic flooding is the lifeblood of the riparian corridors, marshes, beaches, and other natural areas. For example, flooding provides tangible benefits such as increased soil fertility, wetland creation, rejuvenation of spawning gravel, creation of barrier islands, promotion of aquatic habitat, transportation of woody material that provides fish habitat and bank stability, promotion of plant establishment, and the evolution of channels and shoreline features such as dunes. Wetlands reduce erosion, prevent flooding, filter contaminants, trap sediments, and serve as habitat for a wide variety of species including many game species. Michigan's sand dunes are a unique natural resource of global significance as the largest assemblage of freshwater dunes in the world. Dunes support numerous threatened and endangered plant and animal species and provide outdoor recreation opportunity.

Profile

The Township's management program consists mostly of zoning and development controls which, when combined with the efforts of other regulatory agencies, provides protection for areas of particular concern. Floodplain regulations were addressed in the flood hazard section.

Wetlands

Development restrictions are mandated by State law in wetlands. Most, but not all, wetlands are regulated by Michigan's wetland statute (Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended). Michigan is one of two states that have the authority to administer Section 404 of the federal Clean Water Act, the primary legislation that protects wetlands, and thus shares its jurisdiction with the U.S. Army Corps of Engineers. Regulated (or jurisdictional) wetlands are those that are located within 1,000 feet of a Great Lake; connected to or located within 500 feet of an inland lake, pond, river, or stream; or, if not connected, greater than 5 acres in size, or determined by the DNRE to be essential to the preservation of the State's natural resources. A permit from the State is required before dredging, removing,

or permitting the removal of soil or minerals from a wetland; depositing or permitting the deposit of fill material in a wetland; constructing, operating, or maintaining any use or development in a wetland; or draining surface water from a wetland. In order for a permit to be issued, the Michigan DNR must determine that the activity would otherwise be lawful, that the permit would be in the public interest, that the permit is necessary to realize the benefits from the activity, that no unacceptable disruption to aquatic resources would occur, and that the proposed activity is wetland dependent or that no feasible and prudent alternatives exist.

Non-jurisdictional wetlands are not regulated. These are small isolated wetlands that can be dredged and filled without a permit and yet often serve many of the same functions as the regulated wetlands, albeit on a smaller scale. They can be particularly important as sites for unique plants, breeding areas for frogs and toads, habitat for wildlife as varied as black bears and wood ducks, and integral to groundwater recharge. This latter function is of particular concern in Chocoley Township with its relatively slow recharge rates. The Township could promote or offer incentives for the preservation or restoration of these wetlands through the site plan review process.

The Conservation Reserve Program (CRP) is a voluntary program available to agricultural producers to help them safeguard environmentally sensitive land.

Enrollees plant long-term, resource-conserving covers to improve the quality of water, control soil erosion, and enhance wildlife habitat. In return, the U.S. Department of Agriculture (USDA) Farm Service Agency (FSA) provides them with rental payments and cost-share assistance. The Wetland Restoration Initiative enrolls wetlands and buffers within the 100-year floodplain. There is also a non-floodplain wetland initiative.

Local units of government are authorized to adopt and administer their own wetland regulations, provided they are at least as restrictive as state regulations. The DEQ must be notified if a community adopts a wetland ordinance, but it has no review or approval authority. Zoning standards could extend wetland protection to small depressional wetlands under 5 acres, or encourage the establishment of buffer zones or the preservation of native vegetation or mature trees around existing jurisdictional wetlands.

Dunes

Both the U.S. Army Corp of Engineers and the Michigan Department of Environmental Quality (DEQ) regulate how private landowners manage the land along the Great Lakes according to the federal Clean Water Act and Part 325 Great Lakes Submerged Lands of the Michigan NREPA. These regulations relate to the ordinary high water mark (OHWM), which is a line defining the boundary between upland and bottomland as determined by the Army Corp of Engineers or MDEQ.

FLOODPLAINS, WETLANDS, DUNES, AND OTHER AREAS OF PARTICULAR CONCERN

Activities that are carried out using human power on a limited scale do not require permits. Mechanized activity or work on a large scale requires permits from both agencies.

There are two types of permits, general or individual. The general permit applies only to activities proposed below the OHWM and above the water's edge, such as leveling or grooming sand or constructing a path. This can only be done in areas naturally free of vegetation or where vegetation removal is in accord with NREPA. Natural lake contours and shoreline location may not be altered or basins excavated. Grooming can only be done in the top 4 inches of sand, and plant roots cannot be disturbed. There are specific standards for construction of paths and mowing of vegetation. Other activities require individual permits.

Protection of the Lake Superior shoreline in Chocoday Township is furthered through

Risk Assessment

Risks associated with flooding have already been discussed. It is common to think of floods as destructive forces of nature. However, floods do not cause damage or suffering. Our decisions about where to live, work, and play are the cause.

Management of flood prone areas has typically been development-centered. A typical approach is to confine the waterway or water body to a predefined size and capacity that maximizes the extent of developable or agricultural land and also keeps the flood water away from people and their property. Under such a framework, the floodplain serves a human-centered role as a

enforcing the standards of the Lake Superior Shoreline/Dune Protection Overlay District. The intent of the overlay district is to protect property values, reduce the risk of structure damage from erosion and flooding, and preserve this unique ecosystem. The overlay district extends landward from the erosion hazard line (the landward edge of the zone of active erosion) to encompass the entire foredune, or to a maximum of 100 feet inland, whichever is the lesser distance. Vegetative management occurs under recommendations and requirements of the principle use clause. Earthmoving changes are regulated through a conditional use permitting process. In general, the overlay district guides vegetative and topographical modifications and encourages the preservation and/or restoration of native vegetation for erosion control and habitat values.

Shorelines

The zoning ordinance mandates that structures be setback 100 feet from the shorelines of water bodies, with options to increase the setback if water quality, aesthetics, or recreational value is threatened. This

conveyance network to pass the "excess" water as quickly as possible, with no consideration of the loss of ecological function, the potential damage to downstream property owners, or the cultural, economic, or environmental effects of that strategy.

Further, floodplains have been viewed as suitable sites for human development; the concern, if any, has been to ensure that structures built there are elevated above some minimal flood level, so they are considered "safe," and also to insure them. Hence, as recent flood disasters and their aftermath have indicated, communities often respond to such disasters by applying more of the same techniques that caused or exacerbated the problem in the first place.

waterfront setback is not always adequate in areas of steep topography, such as the Chocoday River, where development in the riparian zone on steep slopes can lead to erosion and habitat degradation. The Township could establish a river overlay district to establish setbacks in a similar approach to that of the shoreline/dune overlay.

The zoning ordinance further mandates and defines natural cover for a strip 30 feet wide adjacent to the waterbody. The Inland Lakes and Streams Act, Part 301 of PA 451, dictates that work below the ordinary high water mark or highest legal lake level requires a permit from the State. On an area greater than 1 acre, anyone disturbing soil, removing existing vegetation or changing topography within 500 feet of a lake or stream must obtain a Soil Erosion and Sedimentation Permit (regulated under Part 91 of PA 451) from the County. The Township could consider extending erosion control to areas less than 1 acre in extent through site plan review standards.

In the past, drainage of wetlands for agriculture and mosquito control was the primary factor of loss of coastal wetlands. Today, activities associated with urban development are the primary cause, such as construction of residences, roadways, flood control structures, recreational facilities, and industrial sites. Silviculture (controlling the establishment, growth, and composition of forests) is the major threat to northern forested wetlands, but other threats include peat mining and vacation home development. Michigan supplies nearly 30 percent of the U.S. demand for peat. The removal of peat can degrade wetlands by releasing toxic metals, organic pollutants, and causing eutrophication of surface waters; increasing runoff; changing groundwater conditions; and leading to soil loss through fires.

FLOODPLAINS, WETLANDS, DUNES, AND OTHER AREAS OF PARTICULAR CONCERN



Opportunities

Instead of controlling watercourses, the Township should control how and where human activities are allowed to adversely affect water bodies and wetlands. The greatest risk to the stability of these ecosystems is development pressure and mismanagement of the resources.

FARMLANDS, FORESTS, AND OTHER PRODUCTIVE LANDS

Actions dedicated to the preservation of productive lands are important to support the maintenance of a critical supply of land for the production of essential goods such as agriculture and timber products. Some economic benefits from productive farmlands include associated agricultural jobs and agritourism. Farm, forests, and open lands more than pay for the municipal services they require, therefore helping to mitigate the greater costs to maintain residential land use services. In addition to economic benefits, there are environmental, cultural, and quality-of-life benefits such as preservation of food and cover for wildlife, maintenance of air quality, groundwater recharge, stormwater storage, wetland protection, local food security, recreation opportunities, and preservation of scenic landscapes and rural character.

Profile

Chocolay Township contains 60 square miles of land area (38,401 acres). The Township has approximately 3,638 acres of primary working lands that are characterized by cleared pasture, farms and actively managed forests. Of these lands, 926 acres (25 percent) are publicly owned. These primary working lands are identified as area 12 on the character area map included in Appendix L. In addition, there are approximately 22,162 acres of natural preserve lands that are characterized by mostly wooded natural areas. Of these lands, 12,348 acres (56 percent) are publicly owned. These natural preserve lands are identified as area 13 on the character map included in Appendix L. In total, these lands consist of about 25,800 acres, 51 percent publicly owned, that are about 67 percent of Chocolay Township's total land area.

Chocolay Township has an agricultural past, with some heritage farms still in existence. The Township is also home to contemporary or hobby farms which distribute produce through local farmer's markets, direct to institutions, or direct to consumers through community supported agriculture (CSA) programs.

There are also government-owned lands that are dedicated to agricultural production. The State of Michigan owns approximately 700 acres of land that was managed as a State Prison farm and is now leased to area farmers for crop production. Chocolay Township also owns 14 acres of farmland adjacent to the Beaver Grove Recreation Area that has been used for private crop farming. In 2014, the Township Board approved a project to preserve these 14 acres for public agricultural use to include farm incubator plots, large plot community gardens, hoop houses, public u-pick bramble patches, food forest, agricultural support structures, and associated public spaces including trails. In essence, this project is to be an agriculture/permaculture park. This project is managed by a group of private citizens called the Chocolay Community Farm Collaborative, which is organized in association with the 501(c)(3) non-profit organization, Superior Sustainability.

Chocolay Township also contains approximately 12,348 acres of forest lands owned and managed by the State of Michigan or the Michigan Department of Resources or the Township. The rest is owned by either private individuals or corporations. Seven-hundred seventy-five (775) privately owned acres are enrolled in the Commercial Forest Program through the State of Michigan. Enrollees receive a significant property tax reduction as an incentive to retain and manage their forest land for long-term timber production in support of the state's forest products industry. These lands are open to the public for food access for hunting and fishing, but cannot be used for agriculture, grazing, or industrial, residential, resort, or commercial activities. In the state, the majority of forest land is in private ownership by families and individuals, so preservation and management programs for private citizens are very important to Michigan's future. A map of critical agriculture and habitat areas, groundwater recharge areas and other critical natural features is found in Appendix R.



FARMLANDS, FORESTS, AND OTHER PRODUCTIVE LANDS

Risk Assessment

Land used for agriculture and forestry often cannot compete with the land's value for other uses, and the large contiguous parcels that these industries need for their operations are being fragmented into smaller blocks which are less economically viable for production. Fragmentation of farmland can result in decreased economic viability in an already challenging industry. This is one reason that Chocolay Township maintains a larger minimum parcel size for lands in the Agriculture/Forestry zoning district.

In many areas of the Country, much of the land base is being converted for non-agricultural uses due to development pressures and lagging profitability. The

American Farmland Trust, through the National Resources Inventory, illustrates one startling fact - Florida and California, two of the three states experiencing the largest acre losses of agricultural land, currently account for 47 percent of the nation's vegetables and 71 percent of its fruit production based on market value. This enhances food security risks in other areas of the country.

Farm lands are desirable for development because the land is generally level and already cleared of trees. Chocolay Township lands that are at risk of conversion include the State lands that were once managed as a prison farm. Because they are close to Marquette, and located on good roadways, they are at risk of conversion should the State decide to divest itself of land. Good productive farmlands are in such short supply in the Upper Peninsula, particularly in close

proximity to population centers, that such conversions should be discouraged or limited.

Expansion of residential uses also leads to forest conversion. One problem associated with these conversions is increased risk of wildfire. This places a strain on firefighting resources in remote areas which are more difficult to access and are further from water sources. As humans move into forest habitat, they also pose a threat to wildlife habitats and forages. If food security were threatened, people would appreciate abundant wild deer and grouse populations. If energy security was threatened, people would also appreciate abundant timber resources to warm their homes.

Opportunities

Citizen Action

Well-managed and sustainable agricultural lands can help address a changing climate, growing population, and serious concerns about the nation's food and energy security. However, less land would need to be preserved for agriculture if more people would utilize their residential properties for growing food, as in gardening or homesteading. An increase in food supply provided by residents would enable more land to be left in a wild condition, for either wildlife habitat or environmental purposes.

In some areas of the Township, Lake Superior offers a climate moderating effect for growing. However, some inland areas have more extreme climate conditions. The Township has abundant surface waters and ample Superior shoreline, presumably indicating an abundant supply of fresh

water. However, Chocolay residents utilize groundwater, not surface or Great Lake water, and some groundwater supplies are less than ideal. The use of surface water for food irrigation involves working through regulations relating to amount of withdrawals and water testing. Residents can also capture rainwater to help with irrigation.

There are also less than ideal soils in many areas. The Upper Peninsula Research and Extension Center (UPREC) in Chatham, MI (30 minute drive from Harvey) is doing applied research on building healthy soils, and offers educational opportunities related to successful growing in northern climates. They provide a two-year, residential apprentice farmer program to help people get started with their own farming enterprise. They also offer specialized skill-building workshops open to the public on topics such as soil health, season extension, organic vegetable production, and post-harvest handling and food safety. Growers utilizing land at the Chocolay Community Farm are expected to benefit from partnerships with the UPREC and

Marquette Food Co-op for education and training, and from partnerships with local farm mentors. The Chocolay Community Farm will make land available for use close to Marquette and Northern Michigan University, and offers a growing opportunity for residents who have less than adequate growing conditions at home.

Property owners can collaborate to voluntarily protect productive lands. In the Upper Elk River Valley of Colorado, a group of ranchers worked together to create a voluntary compact with an established set of principles to allow home construction only where it would not harm agricultural operations or valley views. This became the first private, community-wide agreement of its kind in the nation. This collaboration led to the implementation of formal conservation easements and voter-approved preservation programs. Chocolay Township should maintain awareness of programs for private property owners that encourage preservation or conservation of productive lands, and share this information with property owners.

FARMLANDS, FORESTS, AND OTHER PRODUCTIVE LANDS

Local Government Action

It is difficult to weigh the long-term benefits of preserving productive lands and maintaining rural character versus the immediate gain in tax revenue from residential development. However, Chocolay Township still has many opportunities to increase the residential tax base closer to the population center. Once developed, prime productive lands are permanently lost.

In developing a future land use plan, the Township should direct new development to areas that are not current productive farmlands. This can be done by maintaining larger minimum lot sizes on these lands to limit subdivision, and making larger parcels closer to the population center available for residential subdivision. This also contributes to more efficient provision of public services. Development types that conserve land for productive use, such as rural cluster development subdivisions or development-supported agriculture, can alternately be considered as conditional uses with special review in rural areas less suitable for productive use. These terms are more fully defined in Chapter 7: Chocolay Township Future Land Use Plan.

Chocolay Township has already implemented the open space preservation mechanism (rural development subdivisions) in the zoning ordinance per the Michigan Zoning Enabling Act. This enables land zoned for residential development to be developed, at the option of the landowner, with the same number of dwelling units on a smaller portion of the land than specified in the zoning ordinance, provided at least 50

percent of the land area remains in a perpetually undeveloped state by legal means.

The Township should implement a purchase of development rights (PDR) ordinance per the Michigan Zoning Enabling Act, and then seek federal, state, or local funds to support the program to preserve prime productive lands. This would enable the County also to purchase development rights in the Township with Township approval. These programs can be financed from general local government appropriations, grants, donations, issuance of bonds or notes, general fund revenue, special assessments, etc.

The State has an interest in preserving farmlands, and has historically supported agriculture in Chocolay Township. However, the Township should prepare for the possible divesting of State lands to private ownership, which might lead to residential conversion. For example, these lands should be placed in a special zoning district with 40 acre or higher minimum lot size. The State could be approached to establish conservation easements on the lands before they are sold. A PDR program would allow the Township to purchase the development rights for these lands if necessary to preserve them.

The Township should stay up-to-date on federal and state preservation programs, and also private foundation resources. Availability may vary depending on the current farm bill.

The least costly way to save farmland is to make it so valuable that farmers don't want to sell it. Local government regulations should support innovative programs that improve agricultural profits such as value-added production, processing, distribution, retail, and tourism facilities and energy solutions such as biomass digesters that turn manure into electricity.

State or Federal Government Action

The U.S. Department of Agriculture and Natural Resources Conservation Service provide funding to

preserve land for various purposes. In Michigan, the Farmland and Open Space Preservation Program consists of six methods for preserving farmland and open space. Five of the programs involve agreements between the State and a landowner. The other program is designed to assist local units of government in implementing a local purchase of development rights program using public funding.

Conservation easements are voluntary permanent restrictions that a landowner may put on property, requiring or prohibiting certain actions by easement, covenant, or condition in a deed, will, or other legal instrument. The purpose is generally to retain natural, scenic, or open condition, or to preserve agricultural or forest use. These easements must be recorded with the register of deeds, and they run with the land regardless of ownership. This designation impacts the property assessment.

Under Michigan law, these easements may be granted to a governmental entity, charitable or education association, corporation, trust or other legal entity. Such an organization may include a charitable land trust that takes care of long-term enforcement and management. In the area, the U.P. Land Conservancy is one such organization. To participate in the U.P. Land Conservancy program, in addition to "donating" the land, a property owner wishing to establish a conservation easement with the U.P. Land Conservancy must provide an endowment fund for future care of the land. Another program is the Nature Conservancy.

Temporary agreements include farmland development rights agreements, local open space easements, and designated open space easements. These agreements involve preservation of land for certain purposes in exchange for certain tax benefits and exemptions from special assessments.

Community Resilience Strategic Plan

Chapter 7



Chapter 7: Strategic Plan for Community Resilience

CHOCOLAY TOWNSHIP VISION STATEMENT



Chocolay Township strengthens and promotes collaborations between inspired, responsive leadership and an active, informed citizenship who are working together to achieve greater community sustainability and resilience for natural places, the built environment, the economic climate, and the people of the Township and region.

CHOCOLAY TOWNSHIP POLICY STATEMENTS

LONG TERM PERSPECTIVE

1

Work toward achieving community sustainability and resilience through maintaining a long-term perspective focused on balancing the needs of the present with those of the future, and the needs of human systems with those of natural systems. This includes such strategies as considering life cycle costing, or cost over the long run, to ensure greater fiscal sustainability.

DIVERSE LONG-TERM REVENUES

2

Pursue a more diverse long-term revenue stream that is less dependent on property taxes (avoid strategies that involve long-term abatements of taxes).

ENHANCE ENERGY, FOOD, AND ECONOMIC SECURITY

3

Support measures to enhance energy, food systems, and economic security, such as exploring options that address the rising energy costs for homes, businesses, and transportation, or providing greater localization of essential community needs.

ENGAGE CITIZENS

4

Chocolay Township leadership will strive to inform and prepare citizens to be engaged in creating more resilient communities.

COMMUNITY WELL-BEING

5

Recognize the importance of “soft” assets such as a slower pace of life, privacy, and a sense of belonging as essential to community well-being and act accordingly to sponsor or support beneficial activities and events.

STRENGTHEN LOCAL FOOD SYSTEMS

6

Recognizing the relationship of local food systems to public health and a vibrant economy, the Township will take action to strengthen and improve the local food system at all levels, from food production in residential yards, to small organic farms, to larger traditional family farms, to industrial farms, with particular attention on increasing the availability of local value-added products.

IN BALANCE WITH RURAL CHARACTER

7

Promote balanced development and human activity that is compatible with a sense of rural character that is important to Township residents, and which is experienced as aesthetically pleasant, mostly natural places that offer a feeling of peace and privacy and a quality of life that invites participation.

PUBLIC PLACES FOR ALL PEOPLE

8

Look at public places in a new way by recognizing and considering the needs of diverse residents, including the aging population, while providing better opportunity for all residents.

SMART GROWTH

9

Work toward consistency of development decisions with smart growth tenets as follows:

- o Foster a distinctive, attractive community with a strong sense of place
- o Create a more walkable and bike-able community
- o Promote a range of housing opportunities and choices
- o Facilitate mixed use development through appropriate zoning
- o Provide a variety of transportation choices
- o Preserve prime productive lands (e.g. agriculture and forestry), scenic resources (e.g. natural areas along rural and residential roadways), sensitive environmental areas (e.g. floodplains, steep slopes, dunes, shorelines), and critical ecosystem areas (e.g. wetlands, high-quality habitat, aquifer recharge and wellhead protection areas)
- o Promote development first in existing built areas that have developed infrastructure, utilities, municipal services, and impervious surfaces
- o Promote compact or cluster development patterns that preserve natural and recreation areas, conserve energy, encourage affordability, and promote neighborhood-serving commercial services
- o Encourage community participation in development decisions
- o Make development decisions predictable, fair, transparent, and cost-effective

RECREATION CRITERIA

10

In addition to the Priority Decision Criteria, the criteria of the 2014-2018 Charter Township of Chocolay Recreation and Natural Resource Conservation Plan apply to recreation decisions.

LAND ACQUISITION

11

The following additional criteria shall be used to evaluate future opportunities for open space/natural area acquisition:

- o Criteria 1 - Habitat preservation
 To what extent does the purchase preserve areas of essential habitat to support plant and animal biodiversity?
Properties with essential habitat will receive higher priority for purchase.
- o Criteria 2 - Scenic resources
 To what extent does the purchase preserve special scenic resources?
Properties with special scenic resources that can attract visitors and promote enjoyment of natural resources will receive higher priority for purchase.

11

(continued)

- o Criteria 3 - Interactive experiences
To what extent does the purchase provide public access to interactive nature experiences?
Properties that provide public access to interactive nature experiences while preserving the integrity of the resource will receive higher priority for purchase.
- o Criteria 4 - Wildlife corridors
To what extent does the purchase provide beneficial connections through wildlife corridors?
Properties that create safe paths for wildlife to travel to different forage and habitat areas will receive higher priority for purchase.
- o Criteria 5 - Environmental protection
To what extent does the purchase protect water quality or sensitive natural areas?
Properties that provide an opportunity to protect the water supply or other sensitive natural areas will receive higher priority for purchase.
- o Criteria 6 - Ecosystem function
To what extent does the property help to maintain essential ecosystem function?
Properties that are related to the protection of essential ecosystem functions such as water filtration, decomposition of wastes, provisioning for wildlife or human survival needs, regulating or controlling the climate or disease will receive higher priority for purchase.

ASSET MANAGEMENT CRITERIA

12

Township asset management projects will be prioritized for maintenance and improvement based on the level of Township responsibility for that asset class and perceived need as follows:

- o Priority 1 - Sewer System
 First allocate capital improvement funding to support the necessary improvements to the existing sewer system which is the sole responsibility of the Township.
- o Priority 2 - Road System
 Secondly, determine a collaborative program of support for the existing Township road systems which are a shared responsibility.
- o Priority 3 - Public Water Supply System
 Thirdly, determine a collaborative program of support for a potential public water supply system and expansion of the sewer system which is a projected future Township responsibility.
- o Priority 4 - Energy System
 Lastly, determine a collaborative program of support for projects to address energy conservation and efficiency as well as diversity in both the public and private sectors.

PRESERVE ROAD INVESTMENTS

- 13** Roads most recently reconstructed or resurfaced will receive higher priority for capital preventive maintenance, occurring ideally not more than two years after the structural improvement to protect the initial investment.

IMPROVE ROADS

- 14** Roadways will be prioritized for structural improvement based on the following criteria (which will be explained in greater detail in the asset management plan):
- Pavement condition
 - Public input (see 2010 and 2013 surveys and hold public hearings)
 - Safety concerns
 - Traffic volume
 - Role in regional transportation network
 - Relationship to activity centers or population density
 - Ability to coordinate project with utility work
 - Cost of fix versus added service life achieved
 - Remaining service life

PRIORITY DECISION CRITERIA

15

Recognizing that flexible, diverse, redundant, and integrated systems have a greater capacity for resilience; and understanding that the following are meant to support community character and a healthy, livable, sustainable, and resilient community; Township decision makers will evaluate all projects in accordance with the following priority decision criteria (based on expected outcome) shown in **Table 7-1**.

Table 7-1 - Priority Decision Criteria

Score	Criteria	Score	Criteria
—	<p>Criteria 1 - Diverse Users</p> <p>To what extent does the activity involve infrastructure or services that will benefit diverse interest groups and support healthy and livable communities?</p> <p>Facilities or services that can satisfy the needs of diverse interest groups and support healthy, livable communities will receive higher priority, whether those interest groups are based locally or regionally, because local sustainability is related to regional sustainability. The inclusion of diverse user groups increases the beneficiaries of the project, spreads the costs, and makes administrative allocation of funds more justifiable.</p>	—	<p>Criteria 4 - Strengthen Critical Systems, Public Health, and Public Safety</p> <p>To what extent does the activity, service, or project strengthen critical life-support systems or conditions?</p> <p>Projects that are linked to critical human and environmental needs relating to water, food, energy, mobility, and public safety systems, or systems with a direct relationship to public health, will receive higher priority than non-critical needs.</p>
—	<p>Criteria 2 - Diverse Uses</p> <p>To what extent does the facility or service satisfy multiple purposes?</p> <p>Facilities or services that serve multiple purposes will receive higher priority because they have greater potential to satisfy diverse users, involve cost efficiencies, and invite greater political support.</p>	—	<p>Criteria 5 - Redundancy in Critical Systems</p> <p>As related to critical needs, to what extent does the activity or project provide redundancy or backup for other critical activities or systems?</p> <p><i>Facilities or services that provide an alternative for critical systems will receive higher priority because of the greater capacity for sustainability and resilience.</i></p>
—	<p>Criteria 3 - Flexibility</p> <p>To what extent can the facility or service be adapted to meet changing needs or contexts in the future?</p> <p>Facilities or services that are more easily modified to adapt to changing conditions or needs will receive higher priority because of potential for greater sustainability and resilience.</p>	—	<p>Criteria 6 - Efficiency in Non-Critical Systems</p> <p>As related to non-critical needs, to what extent is the facility or service supported by non-governmental groups, other agencies or organizations, or volunteers (funding, implementation, or continuing maintenance)?</p> <p><i>Facilities or services that are supported by organizations, agencies or individuals outside of or in addition to local government will receive higher priority because the greater number and diversity of stakeholder groups helps to ensure continued maintenance while governmental reserves are focused on critical systems.</i></p>

PRIORITY DECISION CRITERIA

15 (continued)

Score	Criteria	Score	Criteria
—	<p>Criteria 7 - Integration with other jurisdictions</p> <p>To what extent does the facility or service also support the goals or strategies of other project or planning entities within the region?</p> <p>Facilities or services that are consistent with the goals or strategies of other project collaborators or planning entities within the region will receive higher priority because of the potential to attract additional resources, funding, and work capacity; address issues that cross jurisdictional boundaries; deliver solutions to complex problems; provide more coherence and support; and provide broader benefits.</p>	—	<p>Criteria 11 - Replication</p> <p>To what extent can the project or activity be replicated to benefit or provide a positive role model for other locations?</p> <p>Projects or activities with greater potential to positively influence others and therefore have a more far-reaching benefit will receive higher priority.</p>
—	<p>Criteria 8 - Capacity Building</p> <p>To what extent does the activity improve the ability of participants to understand and achieve Chocolate Township Master Plan outcomes?</p> <p>Activities that increase the capacity of local government representatives or project partners to achieve plan outcomes will receive higher priority because the only successful plan is a well-implemented plan.</p>	—	<p>Criteria 12 - Collaboration</p> <p>To what extent will the project or activity improve and increase opportunities for partnership, or consolidation of efforts or infrastructure, with other jurisdictions, agencies, organizations or volunteers or provide additional inclusiveness for residents?</p> <p>Projects or activities that increase capacity for partnership, collaborations and inclusiveness will receive higher priority.</p>
—	<p>Criteria 9 - Sustainability or Resilience over time</p> <p>To what extent does the project have the necessary support over the life of the project?</p> <p>Projects that have multi-year or enduring support for the life of the project will receive higher priority.</p>	—	<p>Criteria 13 - Renewable Resources</p> <p>To what extent will the project or activity reduce dependence on non-renewable resources?</p> <p>Projects or activities that provide greater sustainability by reducing dependence on non-renewable resources will receive higher priority.</p>
—	<p>Criteria 10 - Prevent or mitigate risks</p> <p>To what extent does the project or activity prevent or mitigate identified risks to sustainability or resilience?</p> <p>Projects or activities with greater potential to prevent or mitigate risks will receive higher priority, especially those that prevent irreversible loss.</p>	—	<p>Criteria 14 - Catalytic opportunity</p> <p>To what extent will the project or activities stimulate other beneficial projects or activities?</p> <p>Projects or activities that include greater potential for catalytic economic, environmental, or social impacts will receive higher priority.</p>

CHOCOLAY TOWNSHIP FUTURE LAND USE PLAN

Introduction

The future land use map was designed to accommodate the development goals of this master plan while providing an appropriate measure of protection for lands with environmental considerations, desirable natural features, natural resources productive capabilities, or prime habitat. Another consideration was to create more, not less development opportunity where appropriate, and to avoid implementing change on parcels without a compelling reason.

Growth Sectors

Growth sectors are identified on the map in Appendix T and described below.

Redevelopment/Infill Sector (I)

The redevelopment/infill sector is currently developed, but would support development of a more dense or intense nature. These areas are generally located with direct access to main travel corridors such as US 41/M-28, CR 480, or Cherry Creek Road. It includes most of the current business district, mobile home parks, and Hotel Place in the Village of Harvey. It also includes some large lot residential properties near Harvey or other densely developed neighborhoods. The industrial area near the Varvil Center on M-28 is also designated for redevelopment or infill.

Intended Growth Sector (G)

The intended growth sector defines vacant areas that are targeted for future development. These areas are generally located with direct access to main travel corridors such as US 41/M-28, CR 480, or Cherry Creek Road. It includes the undeveloped portions of Willow Farm and adjacent properties, and undeveloped parcels north of Ford Road. Areas for mixed-use development include the area behind the commercial

and residential properties northeast of the intersection of US 41/M-28, and some parcels in the same area south of M-28. It also includes several large parcels east of the NMU golf course on M-28. Properties adjacent to Silver Creek will require environmentally sensitive development that is carefully sited with appropriate infrastructure due to the presence of floodplains and wetlands on a portion of the parcels.

Future Land Use Descriptions

The future land use maps are in Appendix U.

Corridor mixed-use (MU-C)

Intent (MU-C)

The intent of this land use category is to create a live/work node along the highway corridors.

Land Uses and Development Patterns (MU-C)

This future land use area is meant to accommodate a mix of commercial, light industrial, industrial, residential, and institutional uses, preferably in a campus-like setting. It is oriented toward larger regional- and local-serving, auto-oriented land uses. It is intended that any residential uses be included as accessory to other primary uses to provide the opportunity for conveniently located housing for workers or clients. The focus is on uses that provide local jobs. The intent is not to create shallow strips or sprawl development that compromise good access management practices.

Circulation and Access (MU-C)

This mixed-use category is intended to take the shape of an activity node with limited highway access points and mostly internal traffic circulation or shared access to support continued safe and efficient highway function. It is important to incorporate multi-modal transportation modes when possible (particularly bus), or to locate any such new development in areas adjacent to existing or planned non-motorized trail systems.

Utility Infrastructure (MU-C)

It is anticipated that appropriately engineered private sanitary and water systems will be utilized in these more remote areas. Utilization of renewable energy infrastructure is encouraged to improve energy costs and reliability, particularly shared systems. Private solar energy systems should be permitted by right, with wind systems allowed upon special review.

Natural Features (MU-C)

Surface parking or outdoor storage of equipment is accommodated in the rear of the property or screened from view to help maintain rural character along the roadways.

Preferred Amenities (MU-C)

It is preferred that new developments incorporate green infrastructure such as bio-retention areas utilizing native landscaping and requiring minimal water and maintenance. Outdoor public places for work breaks should be incorporated where public parks don't exist. Lion's Field should continue to be improved for this purpose.

Village mixed-use (MU-V)

Intent (MU-V)

The goal is to create an identifiable village center, to support commerce near affordable housing opportunities, to provide greater housing diversity, and to increase density to support utility infrastructure costs.

Land Uses and Development Patterns (MU-V)

This land use category accommodates a mix of commercial, light industrial, higher density residential, civic and institutional uses in beneficial combinations in or adjacent to the sewer service area of Harvey. A variety of residential options will be integrated with compatible commercial uses, either within the same building or in close proximity.

Multi-family residential development will be accommodated in infill/redevelopment efforts by allowing residential uses over other uses (in one structure), accessory dwelling units (attached or detached), and apartment buildings. Smaller dwelling units are encouraged to accommodate one-person households, particularly when designed to accommodate the disabled. New detached single-family housing will be discouraged unless created following a compact overlay development pattern such as development supported agriculture or cluster housing development with a permanent conservation easement for agriculture or shared public space where appropriate.

Low intensity commercial uses that do not utilize the sewer system such as mini-storage facilities (as a principal use) will be discouraged in this area. However, accessory storage may be incorporated to facilitate the needs of residents of compact residential developments utilizing small housing units such as tiny houses, cottages, or mobile homes.

Circulation and Access (MU-V)

Accommodations for pedestrian circulation and multi-modal transportation options are a priority in this entire area. It is important to provide for year-round maintenance of non-motorized pathways throughout this area so that residents without access to vehicles can safely access critical goods and services.

Utility Infrastructure (MU-V)

Public sewer facilities are available in most of this developed area, and should be extended where necessary to accommodate new and existing development. This area is a high priority for installation of a public water supply system to accommodate more dense development and eliminate the need for variances, strict sampling requirements, and water supply oversight. Community solar facilities would be particularly beneficial in this area. Private solar energy systems should be permitted by right, with wind systems allowed upon special review.



Natural Features (MU-V)

Well-tended trees and shrubs placed according to a plan for coordinated fall color are located in the right-of-way to enhance highway and gateway aesthetics. Appropriate natural buffers and careful layout of structures is important to ensure compatibility between uses. Low impact development techniques may be required in the development of sensitive areas adjacent to waterways or wetlands.

Preferred Amenities (MU-V)

The provision of year-round public spaces such as public parks and gardens, trails and private outdoor eating/gathering areas is important to enhance social interaction and the pedestrian experience. Public art installations and wayfinding signage to area attractions will be incorporated. Outdoor sales and food and beverage service would also encourage social interaction.

Neighborhood mixed-use (MU-N)

Intent (MU-N)

The goal is to provide jobs, products, services and public spaces within close proximity to housing.

Land Uses and Development Patterns (MU-N)

This land use category accommodates a mix of commercial, medium density residential, civic and institutional uses in beneficial combinations in designated nodes near neighborhoods. This land use category allows for a mix of uses within a single building, such as ground floor commercial or office with upper story residential. Also allowed is a mix of housing types along with other uses. Medium-density residential options also include accessory dwelling units (attached or detached) and small apartment buildings. Smaller dwelling units are encouraged to accommodate one-person households, particularly when designed to accommodate the disabled. Development types should be of small scale to maintain compatibility with the neighborhood.

Circulation and Access (MU-N)

Infrastructure for pedestrian circulation and multi-modal transportation should be incorporated as soon as possible.

Utility Infrastructure (MU-N)

Public sewer or private sanitary facilities are utilized along with private water systems. Public water should be provided where possible. Private solar energy systems should be permitted by right.

Natural Features (MU-N)

Appropriate natural buffers are important to ensure compatibility between uses and the maintenance of appropriate character (village or rural). Development should incorporate landscaping that is consistent with residential neighborhoods.

Preferred Amenities (MU-N)

The provision of at least seasonal outdoor gathering spaces that function as a neighborhood hub is encouraged for a greater sense of community.

Water-oriented residential (R-W)

Intent (R-W)

The intent of this district is to provide opportunity for context-sensitive residential development along the shorelines of water bodies, with particular attention paid to preserving dunes and riparian boundaries, water quality and views, and preventing erosion.

Land Uses and Development Patterns (R-W)

This land use category consists primarily of single family residential uses located on the waterfront, whether the Lake Superior shore or other inland lake or river. Ground coverage will be minimized, and open space will be maximized. Paved spaces should drain toward vegetated bio-filter areas instead of running off toward the water body. Uses that may be allowed upon special review include an accessory dwelling unit

(attached or over an accessory structure), duplex, or short-term rentals of residences.

Circulation and Access (R-W)

These properties are accessed from private driveways onto public (or private) roadways, or through 66' wide easements across other properties.

Utility Infrastructure (R-W)

Some properties have access to the public sewer system, but most currently have private sanitary and water facilities. It is important to ensure sanitary facilities are functioning properly to preserve water quality. Properties that have sandy or shallow soils may be vulnerable to well contamination or fluctuating water quality. Community solar facilities would be particularly beneficial in these areas to improve reliability and reduce costs. Residential solar energy systems should be permitted by right, with wind systems allowed upon special review.

Natural Features (R-W)

Riparian areas and dunes will be protected by regulations pertaining to retention of natural vegetation, limitations on grading and fill, control of runoff, and increased setbacks of structures. Because of possible well contamination issues due to soils, natural vegetation or vegetation that does not require chemicals for continued maintenance should be maintained. It is also important to control the amount of deadwood that is available to feed wildfires.

Preferred Amenities (R-W)

Fence regulations will be customized to accommodate the waterfront orientation and retention of water views. Outdoor storage areas should be well buffered from roadways and adjacent properties.

Village residential (R-V)

Intent (R-V)

The intent of this land use category is to accommodate primarily modest single-family residences on small lots in a peaceful, compact urban setting.

Land Uses and Development Patterns (R-V)

These are small lots (as little as 50' wide) in a platted area of the Township in the village of Harvey that has mostly all been developed according to the preferred land use pattern. Uses that may be allowed upon special review include one accessory dwelling unit per parcel (attached or over an accessory structure) or duplexes.

Circulation and Access (R-V)

These properties are accessed by driveways along public roads. Accommodations for pedestrian circulation and multi-modal transportation options are a priority in this entire area.

Utility Infrastructure (R-V)

These properties have access to the public sewer system and currently have private water facilities. This is a prime area for a public water system in the future. Solar energy systems should be permitted by right.

Natural Features (R-V)

Natural features are typical of single-family residential neighborhoods.

Preferred Amenities (R-V)

Control of outdoor storage of household goods and vehicles and regulation of pets is important in this dense developed area to reduce neighbor conflicts.

Neighborhood residential (R-N)

Intent (R-N)

The intent of this land use category is to accommodate primarily single-family residential uses within a peaceful neighborhood setting along residential streets.

Land Uses and Development Patterns (R-N)

This area contains both platted and unplatted areas that can accommodate moderately dense residential development. It is intended that accessory structures will be designed to be moderate in size and scale and of a character consistent with residential neighbor-

hoods. Uses that may be allowed upon special review include an accessory dwelling unit (attached or over an accessory structure) and appropriate accessory homesteading activities. It is preferred that new single-family development be accommodated through the subdivision (plat) process or by utilizing a compact overlay development pattern such as development supported agriculture or cluster housing development with a permanent conservation easement for shared public space or agriculture where appropriate.

Circulation and Access (R-N)

These properties are mostly accessed by driveways along public or private roads without pedestrian facilities. Where possible, it is highly desirable to add pedestrian facilities at least along the major roadways leading to the neighborhood.

Utility Infrastructure (R-N)

Some properties have access to the public sewer system, but most currently have private sanitary and water facilities. Where appropriate, neighborhood-serving systems could be incorporated. Community solar facilities would be particularly beneficial in these areas. Residential solar energy systems should be permitted by right, with wind systems allowed upon special review.

Natural Features (R-N)

Natural features are typical of single-family residential neighborhoods.

Preferred Amenities (R-N)

Control of outdoor storage of household goods and vehicles and regulation of pets is particularly important in platted areas with smaller parcels to reduce neighbor conflicts.

Rural residential (R-R)

Intent (R-R)

The intent of this land use category is to accommodate single-family residential uses in rural settings.

Land Uses and Development Patterns (R-R)

This area contains mostly unplatted areas with less dense residential development. Regulations for accessory structures should provide for larger, taller structures accommodating indoor storage of vehicles and campers only upon special review provided there is appropriate buffering from the roadway and adjacent parcels. Uses allowed upon special review include an accessory dwelling unit (attached or over an accessory structure) and appropriate accessory homesteading activities. These areas include lands that shouldn't be divided into smaller parcels like neighborhood residential because of river corridors, wetlands and other concerns or the preservation of scenic rural character. However, they are areas that need not be limited to 20 acre lot divisions.

Circulation and Access (R-R)

These properties are accessed by driveways along public or private roads without pedestrian facilities.

Utility Infrastructure (R-R)

All sanitary and water facilities are private. Community solar facilities would be particularly beneficial in these areas to improve reliability and reduce costs. Residential solar energy systems should be permitted by right, with wind systems allowed upon special review.

Natural Features (R-R)

Natural features are typical of rural areas with a mix of maintained and natural areas.

Preferred Amenities (R-R)

The preferred amenity is maintenance of rural character and privacy. Outdoor storage areas should be well buffered from roadways and adjacent properties.

Primary Working Lands – agriculture / forestry (AF)

Intent (AF)

The intent of this land use category is to preserve larger tracts of lands suitable for primary use for

forestry or agriculture activity, therefore increasing food security, providing for wood products and fuel, protecting wildlife habitat, reducing risk of wildfire, and preserving rural character. This is particularly true of State owned agricultural lands that are currently in production and could be at risk of sale and conversion sometime in the future. These areas are intended to allow resource production to take priority over other land uses by protecting these areas from the encroachment of residential and commercial sprawl. This will also limit the conflict that can occur between working lands and more urban uses.

Land Uses and Development Patterns (AF)

Regulations will encourage maximum preservation of the viability of the land for contiguous productive use. The current minimum lot size is 20 acres, which should be continued except for State productive agricultural lands which should be designated with minimum lot sizes of 40 acres in case there is a conversion to private ownership. Existing small lots can be utilized for permitted uses provided setback requirements are met, but further division of lands is prohibited to maintain the integrity of the land for productive purposes. Other uses that are compatible with these primary uses will be encouraged in less productive areas, and in a way that preserves rural character, through conditional use standards. Uses that are compatible with natural resources, such as low impact recreation, hunting camps and trails are permitted. One accessory dwelling unit may be accommodated per parcel (attached or detached). There are no restrictions on the scale or height of accessory structures used for agriculture or forestry activities, and limited restrictions on residential accessory structures.

Circulation and Access (AF)

These properties are accessed from public or private roads or easements without pedestrian facilities.

Utility Infrastructure (AF)

All sanitary and water facilities are private. Renewable energy systems should be encouraged, with solar permitted by right and wind systems allowed upon special review.

Natural Features (AF)

Natural features include primarily forests and agricultural lands.

Preferred Amenities (AF)

Nature is the primary preferred amenity. Outdoor storage will be screened from roadways and adjacent residential properties by the maintenance of vegetative buffers.

Conservation recreation lands (CR)

Intent (CR)

This intent is to preserve lands primarily used for conservation or recreation, and lands that contain sensitive natural resources or natural features and valuable habitats such as wetlands and floodplains. Maintaining contiguous habitat to sustain local biodiversity is a priority on these lands.

Land Uses and Development Patterns (CR)

The primary function is conservation, but the district will also accommodate compatible low-impact recreational uses and structures.

Circulation and Access (CR)

Access varies from locations on public or private roads to inaccessible parcels.

Utility Infrastructure (CR)

Utility infrastructure is generally not necessary, but when necessary it should be provided by solar panels when possible.

Natural Features (CR)

This area is rich in undisturbed natural features.

Preferred Amenities (CR)

Amenities may include interpretive signage for natural resources or features.

Public use (P)

Intent (P)

This land use category includes Township or other publicly owned properties that are used for governmental administration activities, recreation, and other purposes with a public benefit, and also private properties that are developed for public recreation use.

Land Uses and Development Patterns (P)

Land uses and development patterns vary depending on the use, from primarily nature-based activities to government offices. The common element is public use.

Circulation and Access (P)

Circulation and access depends on location and use. In general, the goal is to provide universal access to all public facilities. Several properties need improvements in parking, signage, and handicapped accessibility as noted in the Chocoyay Township Recreation Plan.

Utility Infrastructure (P)

Utility infrastructure varies depending on location and use, however, renewable energy sources should be utilized as soon as possible in as many locations as possible.

Natural Features (P)

Natural features vary depending on location and use, however, the Township should preserve natural features for public use when possible. Landscaping should be designed for minimal maintenance requirements, with native and edible plants preferred.

Preferred Amenities (P)

There is a great diversity of planned amenities in these public areas, but elements of focus include multiuse paths or trails, wayfinding signage, and public art which can be enjoyed by all generations of residents and visitors at their own convenience at no cost.

Future Land Use relationship to Current and Future Zoning

Table 7-1 illustrates the relationship between future land use, current zoning, and future zoning. The future land uses correlate closely with future zoning, but may not be the same. There could be more zoning districts than future land uses. For example, if proposed use or dimensional regulations are different for properties fronting Lake Superior than properties fronting inland water bodies, there could be a need for two waterfront residential zoning districts. Also, the privately owned public use areas will not be zoned the

same as the publicly owned public use areas, but the opportunity for that use will be preserved regardless of zoning district. It is the intent of the future zoning plan not to have multiple zoning district designations for one parcel – in other words, the entire parcel will have one zoning designation. Allowing multiple zoning designations per parcel makes it difficult to administer zoning requirements and is confusing for the property owner. It can also result in costly development delays.

The primary zoning change as a result of the future land use map will be the creation of three new mixed-use zoning districts to allow greater opportunity and

diversity of uses along portions of the corridor, adjacent to neighborhoods, and within the village of Harvey. The primary change in residential zoning districts will be the addition of the rural-residential category for larger parcels less than 20 acres. Built PUD projects will still be designated as PUD on the future zoning map, but approved PUDs that weren't built within the designated time (and have thus expired) will revert to designations per the future land use map.

Table 7-2 - Comparison of future land use, current zoning, and future zoning

Future Land Use	Current Zoning	Future Zoning	Future Land Use	Current Zoning	Future Zoning
Corridor Mixed-Use (MU-C)	Industrial (I) Residential 1 (R1)	Mixed Use Corridor (MU-C)	Neighborhood Residential (R-N)	Agriculture Forestry (AF) Residential 1 (R1) Waterfront Residential (WFR)	Residential Neighborhood (RN)
Village Mixed-Use (MU-V)	Commercial (C) Industrial (I) Multi-Family Residential (MFR) Residential 1 (R1) Residential 2 (R2)	Mixed Use Village (MU-V)	Rural Residential (R-R)	Agriculture Forestry (AF) Residential 1 (R1)	Residential Rural (RR)
Neighborhood Mixed-Use (MU-N)	Agriculture-Forestry (AF) Commercial (C) Industrial (I) Multi-Family Residential (MFR) Residential 1 (R1) Residential 2 (R2)	Mixed Use Neighborhood (MU-N)	Primary Working Lands (AF)	Agriculture Forestry (AF) Residential 1 (R1) State Lands Waterfront Residential (WFR)	Agriculture Forestry 1 (AF-1) Agriculture Forestry 2 (AF-2)
Water-Oriented Residential (R-W)	Agriculture Forestry (AF) Residential 1 (R1) State Lands Waterfront Residential (WFR)	Residential Waterfront 1 (RW-1) Residential Waterfront 2 (RW-2)	Conservation Recreation (CR)	Residential 1 (R1) Waterfront Residential (WFR)	Conservation Recreation (CR)
Village Residential (R-V)	Residential 1 (R1) Residential 2 (R2)	Residential Village (RV)	Public Use (P)	Agriculture Forestry (AF) Municipal Properties (MP) Residential 1 (R1) State Lands Waterfront Residential (WFR) (beach turnouts)	Agriculture Forestry (AF) Conservation Recreation (CR) Municipal Properties (MP)

Overlay Development Patterns

Conservation cluster residential (CCR)

As permitted by the *Michigan Zoning Enabling Act PA 110 of 2006 as amended* and the Township zoning ordinance, Rural Cluster Development Subdivisions supporting open space preservation may currently be implemented in the R-1 and AF districts when in conformance with various standards such as the suitability for on-site water supply and sewage disposal. This proposed overlay development pattern is similar, but would allow land in ANY zoning district to be developed with the same number of dwelling units as allowed in the underlying zoning district for the entire parcel but situated on half the land. A density bonus may also be allowed to achieve certain district goals. The other half will remain perpetually in an undeveloped state by means of a conservation easement, plat dedication, restrictive covenant or other legal means that runs with the land. Currently, the undeveloped state may include natural state, agriculture, open space, recreational trails, picnic areas, greenways, or linear parks but does not include golf courses. The undeveloped land may or may not be retained for public use. There are prime properties in other future land use areas that would be suitable for this development pattern.

Development-supported agriculture (DSA)

This development pattern is a planned residential development with farming as the central amenity, similar to residential developments that are built around golf courses. The design is intended to incubate small-scale organic farms that co-exist with residential land development. The purpose is to build a local food economy with associated health and economic benefits, put people more in touch with sources of their food, preserve agricultural land, and offer access to beneficial rural culture within appropriate urban and rural settings. Similarly to the Conservation Cluster Residential pattern, this pattern allows land zoned for residential development to be developed with the same number of dwelling units as allowed for the entire parcel but on half the land (perhaps with a density bonus to achieve district goals). The other half will remain perpetually as a working farm by means of a conservation easement, plat dedication, restrictive covenant or other legal means that runs with the land. This farm may be dedicated to food production, equestrian pursuits, community gardens, and other uses as long as they relate to productive agricultural use. The relationship between the farmer(s) and the adjacent property owners would be governed by a home owners association. For example, the farmer may be a tenant or an employee of the association, and the homeowners may have peripheral access or be utilized as volunteers.

Planned Unit Development (PUD)

Currently the Planned Unit Development is implemented as a zoning district in the Township Zoning Ordinance, and involves a rezoning process. This future land use would implement a planned unit development as an overlay zoning district to be utilized in appropriate areas without the rezoning process, and with approval of the Planning Commission and Township Board. The intent is to accommodate innovative

land developments with a mix of uses in a flexible design meeting the stated goals and purposes of the Master Plan. It is proposed that this development pattern could be implemented in any zoning district except AF, and that there be no minimum lot size established. This development pattern could incorporate innovative elements such as renewable energy infrastructure, shared parking or storage, or an artist live/work unit on a residential lot in a neighborhood. Or it could be used for a hospital, medical or research campus development, or a neighborhood center with libraries, cultural centers, schools, botanical gardens, and parks.

CHOCOLAY TOWNSHIP ZONING PLAN

In this section are other suggested updates and improvements to the Township Zoning Ordinance. The zoning strategies that relate to various chapters of this Master Plan are also detailed in the Chocolay Township Strategic Plan in the Regulatory Tasks section by topic.

Administrative Standards and Procedures

The Chocolay Township Zoning Ordinance should be reorganized to have one administrative article containing all necessary application and procedure guides to benefit the citizen user. For example, currently the administrative standards and procedures are scattered among the following articles and sections: Section 1.6, Section 5.3 US-41/M 28 Access Management Overlay District, Section 6.6 Wind Energy Conversion Systems, Section 6.7 Road Frontage Requirements, Section 6.9 Home Occupations, Section 6.1 Accessory Housing Unit, Section 6.12 Rural Cluster Development Subdivisions, Section 6.13 Fees in Escrow for Professional Reviews, Article VII Mining and Mineral Extraction, Article IX Site Plan Review, Section X Planned Unit Development, Article XI Landscape and Grading Requirements, Article XII Site Condominium, Article XIV Nonconforming Uses and Structures, Article XV Zoning Board of Appeals, Article XVI Conditional Use Permits, Article XVII Zoning Administration, Article XVIII Signs and Fences, and Article XIX Zoning Maps.

These provisions could be combined into one Article listing the different types of permits and associated application requirements and review procedures, and also the general procedures associated with appeals, zoning amendments, and enforcement. The conditions for approval would be contained along with the other zoning standards in a different part of the zoning ordinance.

The current notification standards should be reviewed for consistency with appropriate State legislation. However, the Township Zoning Ordinance seems to provide for additional notification for all zoning map changes, even those involving more than 11 adjacent parcels which are exempt under State rules. This standard should be retained for greater transparency and awareness for property owners.

There is a statement in Article IX Site Plan Review that upon denial of a site plan not requiring Planning Commission review, an applicant can appeal to the Planning Commission. There is also a statement that appeals of site plans denied by the Planning Commission shall be heard by the Township Board. State law provides that the Zoning Board of Appeals shall hear and decide appeals from and review any

administrative order, requirement, decision or determination made by an administrative official or body charged with enforcement of a zoning ordinance. A party aggrieved by the decision of the Zoning Board of Appeals can then submit an appeal to the circuit court. Standards should be changed to reflect these procedures.

There is a statement in Section 17.2 that “No zoning compliance permit shall remain valid if the use or structure it authorizes becomes nonconforming.” The legality of this statement should be investigated, unless this refers to permits for items never developed.

Definitions, Uses, and Measurement Standards

Zoning Ordinance definitions and standards need to be reviewed for consistency with state or federal legislation, particularly with regard to various state regulated residential care facilities including foster and day care, wireless communications towers, condominiums, manufactured homes, agriculture (including riding stables), and renewable energy systems. Some definitions should also match those in the *Michigan Zoning Enabling Act, PA 110 of 2006 as amended* or other applicable legislation such as the *Michigan Right-to-Farm Act*. Limitations to local regulation as contained in the *Michigan Zoning Enabling Act, PA 110 of 2006 as amended* should be discussed and provided for. This currently relates to instruction in craft or fine art as a home occupation, regulation or control of oil or gas wells or extraction of natural resources (mining), residential uses of property for foster or child care, conditional rezonings, open space preservation, purchase of development rights, biofuel production facilities, and wireless communications.

Current definitions that may need revisions for clarity or intent include:

- accessory housing unit
- accessory building or structure - can't really conform in all respects with standards for principal buildings when they have different setback and height requirements
- building
- clinic
- conditional use - does not require approval by the Township Board and is thus inconsistent with the conditional use standards
- contractor shop and contractor yard -regulate outdoor storage and reduce problems with interpretation of the meaning of contractor
- day camp
- deck - defined as a structure but not mentioned in the definition of structure where open porches of a certain type are excluded. This impacts how they are handled for permitting, nonconformities, etc.
- dwelling, multi-family - should be defined as three or more units, with duplexes regulated separately
- family - consider case law to avoid legal issues

- golf courses - does this include disc golf?
- ground coverage ratio - is this about maximum impervious surfaces, or minimum open space? Current exclusions don't make sense for either.
- hotel and resort - clarify definitions as differentiated from short-term rentals of single-family homes
- kennel
- lot - defined as contiguous land in the same ownership which creates problems when the word lot is used in lot area, nonconforming lot, lot line, etc.
- lot area - doesn't include areas under water, but it is questionable whether this includes wetlands, intermittently covered areas, etc. Context may accommodate counting the entire area within the parcel boundaries for simplification.
- lot line, side - the defined word is used in the definition and is unclear
- setback - needs to be reconciled with the definition of structure, it is unclear whether this applies to porches and decks, and it should not apply to signs and fences
- structure - consider all the implications of what is included and excluded, and ensure this definition is consistent with the intent of the other items that depend on this definition. For example, all structures need permits, but fences and decks are excluded from the definition of structure but still need permits.

Definitions that need to be reconciled for consistent meaning with each other include:

- boilers/units, outdoor wood burning and outdoor wood boilers (delete the former)
- building height and height - building height does not specify measurement from the grade before or after alteration, but height specifies measurement from the natural grade. These terms also conflict in what they measure to, whether the average height or highest point.
- common land vs common open space - what is the difference per the definition?
- conservation design subdivision and rural cluster development subdivision - refer to the same thing, but both are not needed - use the proper term and definition from *Michigan Zoning Enabling Act*
- floor area and floor area ratio - even though floor area ratio depends on the definition of floor area, they contain different exclusions
- hotel and resort - resorts are included in the definition of hotel, but they are regulated differently in use standards
- lot, lot area, and nonconforming lot
- Lot, nonconforming and nonconforming lot - different definitions for the same thing, delete Lot, nonconforming

Regulations should be removed from the definitions, as in the definition for *Bed and Breakfast*. Unused definitions should be deleted, such as *mental health center*, *ordinary high water mark*, *semi-trailer*, etc. Additional definitions are needed for

corner lots, dwelling unit, erosion hazard line, mixed use, short-term rentals, and private road.

Measurement standards should be added to address building height in relation to grade, height of other structures, lot measurements, setbacks, and lot coverage. Building height should be measured from finished grade (which is illustrated on elevation plans), but the adding of fill above the established natural grade of adjacent land should be prohibited so that buildings are not erected taller than the established natural grade plus the building height limitation. This will also help avoid issues of runoff or erosion on adjacent properties. The current definition of building height does not address natural grade or fill, and currently the standard regarding fill to increase height is buried in Section 11.11. It should be moved to the measurement standards or it could be overlooked.

The ordinance should address height and setback exemptions. For example, if freestanding solar energy structures are to be regulated as accessory structures, there may need to be an allowance for modification of setback requirements not to exceed a certain percent for optimal solar placement on a lot without going through the variance process. Other items to be considered for setback modifications or exclusions include structures or ramps to accommodate the handicapped, and awnings and other architectural projections such as fire escapes, chimneys, etc. Height exemptions may include chimneys and smokestacks, church steeples and spires, flagpoles, amateur radio towers, etc.

All use standards should be reviewed for consistency with this plan and to make sure the Ordinance does not have the effect of totally prohibiting a lawful land use in the Township provided there is a demonstrated need for that land use in the Township or surrounding area. The Ordinance should not attempt to regulate uses largely by exclusion, meaning if it's not mentioned, it's assumed not allowed. This could lead to delays in processing requests that may involve zoning ordinance interpretations or amendments, or could also lead to legal challenges. There should be an attempt to have more detailed use standards, with the idea that most uses can be allowed somewhere provided appropriate conditions are met. Uses that should be considered include accessory dwelling units; accessory homesteading activities; agricultural service establishments; agritourism; apiaries; community gardens; community or commercial solar or wind installations; composting; farmer's markets and food stands; group housing; indoor and outdoor entertainment and recreation uses; industrial service establishments (various levels); junk yards; assembly vs manufacturing; multi-unit commercial; mixed use development; outdoor food and beverage service including food trucks; outdoor sales; outdoor storage; parks; recreational units; sawmills; sexually-oriented businesses; social, educational, and religious institutions; tourist service establishments; transient amusement; and warehousing and storage.

Regulations for accessory housing units (attached and detached) need to be revised to reflect the intent of the various future land use areas. Short-term rentals of single-family homes should be discussed in relation to other lodging options, with conditions for approval related to the number of units offered and exterior impact.

For example, transient lodging facilities could be classified into different scales of activity, such as Level 1 - one unit, Level 2 - five or fewer units, Level 3 - more than five units. Level 1 would include single-family homes being used as a single unit for short-term rental. Level 2 could include bed & breakfasts, tourist inns, small resorts, etc. Level 3 could include hotels, motels, residence inns, large resorts, etc. Level 4 could be campgrounds and group camps. Each would have appropriate conditions for approval based on the zoning district. It should also be made more clear how long someone can temporarily occupy a recreational structure on a lot, and under what conditions.

Miscellaneous Zoning Standards

All regulations that are based on zoning districts will have to be updated, such as Section 6.11 Commercial Vehicle Parking in Residential Districts and Section IX Site Plan Review. With the addition of mixed use districts, there will need to be standards for different buffer types to be used between various uses or districts. There should be some effort to plan for on-street parking in appropriate areas in the village. This can be done during the development planning process for this area. Parking standards should also address location of parking, and provide for conditional reductions in parking requirements if the use utilizes non-motorized or group transportation, shared parking, public parking, or on-street parking.

All lot splits for development sites of less than 1 acre that are land divisions meeting the definition of a subdivision or a site condominium must adhere to the MDEQ Administrative Rules governing onsite water supply and sewage disposal for land divisions and subdivisions, R560.401 to R560.428 under authority of PA 368 of 1978. These rules require complete engineered plans for development sites (per the definition in the Land Division Act PA 288 of 1967 as amended) including soil evaluations for two septic system locations per lot, water quality and quantity data specific to the location, 2 foot contour intervals etc. These lot splits cannot receive development approval from the Health Department without compliance with this detailed review process. Thus, it is recommended that the Township refrain from granting approval for these proposed splits until Health Department review and approval is complete. Currently the minimum lot size is less than one acre in the R-1, R-2, WFR, and C zoning districts. The Township could consider increasing the minimum lot size to 1 acre in the R-1 and WFR districts unless the development is platted or created under a conservation development plan with appropriate health department approvals.

Many of the lots along the lake are 100' in lot width, which is nonconforming with the ordinance requirement of 125'. The Township should consider whether to reduce the minimum lot size to reflect the majority of existing parcels, or whether to encourage 125' lot widths in the R-1 and WFR districts on the few remaining undivided parcels (and parcels in other future zoning districts with similar conditions).

Accessory building height may need to be revised to accommodate accessory dwelling units, storage of RVs, or energy trusses.

The allowed floor area ratio, maximum ground coverage ratio, and minimum landscaped open space provisions should be reviewed for appropriate definition and reasonableness.

The minimum floor area for dwelling unit may need to be reduced to accommodate tiny homes or cottage developments for seniors. This will facilitate more affordable housing for people who can no longer care for, pay for, or who no longer need larger homes.

The provision of Section 6.4 regarding the combination of contiguous parcels under the same ownership to reduce dimensional nonconformities may need to be reviewed for practicality and administration issues.

Consequences need to be specified for noncompliance with the vegetation requirements of the waterfront setback standards of Section 6.8.

The Rural Cluster Development Subdivision standards of Section 6.11 need to be reviewed for consistency with the intent of the Master Plan. The examples also

seem incorrect and hard to understand, especially in conjunction with the standards as provided in the *Michigan Zoning Enabling Act, PA 110 of 2006 as amended*.

Simplified site plan review submittals could be required for some types of commercial site plan reviews when the more detailed requirements are not really necessary.

Consideration should be given to eliminating the minimum lot size and width for Planned Unit Developments provided they meet the other goals for such developments. The Township needs to review the districts in which PUDs are permitted. All other standards should be reviewed for consistency with this Master Plan.

A suggested outline for the zoning ordinance is included in Appendix V.

CHOCOLAY TOWNSHIP STRATEGIC PLAN

Strategic plan elements are categorized as administrative tasks (research, planning, educational, maintenance, operations), regulatory tasks, or capital improvement projects. They are also identified by the following topic areas:

- Economic development (ED)
- Energy infrastructure (EN)
- Community fiscal sustainability (FC)
- Food systems (FS)
- General (GN)
- Housing (HO)
- Future land use and development (LU)
- Natural systems (NS)
- Public safety, emergency, and health services (PS)
- Recreation (RC)
- Community transportation (TC)
- Household transportation (TH)
- Solid waste and recycling (SW)
- Water and wastewater infrastructure (WW)

STRATEGIC CATEGORIES

ED

Economic development strategies suggest people-based, policy-based, and place-based ways to build talent, provide a more productive business climate, and enhance community assets.

EN

Energy system strategies relate to readiness for changes in future energy supply and costs by ensuring greater reliability of supply and increased affordability through alternate production, efficiency, and conservation measures at both the community and household levels. Outcomes address re-localization, preparation for shortages and disruptions, and community solutions.

FC

Community fiscal sustainability strategies center around creating a more diverse revenue stream that is less dependent on property taxes, while optimizing the property tax base.

FS

Food systems strategies address outcomes related to public health, economic development, environmental stewardship, and social connectedness, with the goal of strengthening and improving the local food system at all levels including production, processing, marketing and distribution.

GN

General strategies address all other topic areas not otherwise covered.

HO

Housing strategies are related to issues of affordability through diversity of supply and improved energy efficiencies.

LU

Future land use and development strategies address outcomes related to sustainable development and balanced growth, supporting community character, and protecting places people care about.

NS

Natural systems strategies address outcomes such as improved readiness in response to climate change and hazards, protection of areas of particular concern, and working with nature to optimize regional opportunities related to natural ecosystems and resources.

PS

Public safety, emergency and health services strategies are designed to mitigate public safety risks, provide for the fiscal sustainability of services, and promote efficiencies in providing better service. The plan also engages members of the community in achieving a more livable community.

RC

Recreation strategies of the Master Plan are very limited. Recreation strategies are presented in detail in the 2014-2018 Charter Township of Chocoday Recreation and Natural Resource Conservation Plan, and a priority implementation matrix for the recreational capital projects is included in Chapter 8: Implementation Plan.

TC

Community transportation strategies address optimal maintenance of the existing road system, improvement of road network connectivity and circulation, and enhanced multi-modal transportation assets.

TH

Household transportation strategies encourage reliable transportation options to support household fiscal sustainability and provide access to essential goods and services.

SW

Solid waste and recycling strategies promote environmentally sound disposal and recovery methods and foster resource conservation while providing fiscally sustainable services.

WW

Water and wastewater systems management strategies support efficient provisioning for critical public needs.

ADMINISTRATIVE TASKS

Economic Development

Strategy ED-1

Assist in people-based strategies to promote economic development through talent development and attraction, entrepreneurship, innovation, and technology.

Strategy ED-1.1

Support “Buy Local” programs by educating citizens on the importance of the programs and purchasing government supplies and services locally when possible

Strategy ED-1.2

Collaborate with “UP with Local”, “Transition Marquette County”, and other similar organizations to support educational efforts and community projects that address retraining and re-localization

Strategy ED-1.3

Collaborate in retraining efforts by providing free local meeting space.

Strategy ED-1.4

Fund internship opportunities for high school and college students seeking to learn more about local governance or implementation of special projects.

Strategy ED-1.5

Organize an effort to utilize local retirees and volunteers to teach skills.

Strategy ED-1.6

Foster local businesses and “green” jobs that provide a viable alternative to distant suppliers and markets and are more relevant to future needs. Examples include carpenters and electricians knowledgeable in energy efficiency, machinists and welders to craft essential components, repair specialists, farmers, specialists in alternative health care, the manufacturing of products from recycled materials, etc.

Strategy ED-1.7

Collaborate in infrastructure investments that support workforce and economic development such as high speed internet access and improved cell phone service for local residents.

Strategy ED-1.8

Continue to invest in annual education and training to enhance staff development.

Strategy ED-1.9

Collect data such as anticipated market area and target market, products or services offered, and infrastructure and services needed for promotional purposes in the Township business directory. Include home occupations in the directory.

Strategy ED-1.10

Develop and distribute business welcome packets with area information and maps and permitting information.

ADMINISTRATIVE TASKS

Economic Development

	<ul style="list-style-type: none"> <input type="checkbox"/> Strategy ED-1.11 Collaborate with area entrepreneurial support organizations such as Accelerate UP, the Lake Superior Community Partnership, NMU Center for Economic Education and Entrepreneurship, Marquette County Convention and Visitors Bureau, Michigan Small Business and Technology Development Center, and Northern Initiatives, among others, to refer prospective entrepreneurs or new business owners. <input type="checkbox"/> Strategy ED-1.12 Directly assist prospective entrepreneurs in locating potential properties and navigating the permitting process. <input type="checkbox"/> Strategy ED-1.13 In association with area business groups, sponsor a yearly business meet and greet for local businesses, farmers, and those with home occupations to discuss support strategies including marketing efforts.
<ul style="list-style-type: none"> <input type="checkbox"/> Strategy ED-2 Assist in policy-based strategies to promote economic development through collaborations, regulations, and asset planning. 	<ul style="list-style-type: none"> <input type="checkbox"/> Strategy ED-2.1 Keep up-to-date property information on vacant buildings and prime redevelopment opportunities. This information, including property owner contact information, should be made available to prospective tenants or purchasers with the permission of the property owner. It can be gathered through a partnership with other business development organizations. <input type="checkbox"/> Strategy ED-2.2 Be aware of the contents of plans for adjoining jurisdictions, the county, and the region, and strive for consistency between the plans when possible. <input type="checkbox"/> Strategy ED-2.3 Collaborate with other jurisdictions as much as possible to achieve the goals and strategies of this plan.
<ul style="list-style-type: none"> <input type="checkbox"/> Strategy ED-3 Assist in place-based strategies to promote economic development through investing in placemaking, marketing, and special initiatives supported by funding efforts. 	<ul style="list-style-type: none"> <input type="checkbox"/> Strategy ED-3.1 Conduct community visioning exercises related to placemaking. <input type="checkbox"/> Strategy ED-3.2 Participate in joint promotion of day and multi-day trips within the region. <input type="checkbox"/> Strategy ED-3.3 Partner with other community groups to enhance cultural and entertainment assets to attract economic investment and new residents. <input type="checkbox"/> Strategy ED-3.4 Partner with other community groups to provide new public gathering places.

ADMINISTRATIVE TASKS

Energy Infrastructure

<p><input type="checkbox"/> Strategy EN-1 Prepare for possible shortages and disruptions in energy resources for Township operations.</p>	<p><input type="checkbox"/> Strategy EN-1.1 Consider the feasibility of creating an emergency fuel fund to help buffer cost variability in the future.</p> <p><input type="checkbox"/> Strategy EN-1.2 Arrange for an emergency fuel resource to prepare for a shortage, and prioritize availability to public safety and emergency responders, farmers, truckers, and other critical goods and services providers.</p>
<p><input type="checkbox"/> Strategy EN-2 Plan and implement energy conservation, energy efficiency, and alternative production measures in Township facilities.</p>	<p><input type="checkbox"/> Strategy EN-2.1 Avoid idling vehicles and reduce vehicle miles traveled.</p> <p><input type="checkbox"/> Strategy EN-2.2 Collect data on Township facility energy usage and costs to facilitate energy conservation.</p> <p><input type="checkbox"/> Strategy EN-2.3 Reduce mowing frequency on Township properties by planting low-mow grasses or naturalizing more areas so that no mowing is required.</p> <p><input type="checkbox"/> Strategy EN-2.4 Investigate opportunities to fund energy improvements with energy bonds payable through the resulting energy cost savings. This strategy could also be extended to commercial property owners who could receive a special assessment to finance energy upgrades made available by using Chocoday Township’s bonding authority to create funding per <i>P.A. 270 of 2010</i>.</p>
<p><input type="checkbox"/> Strategy EN-3 Facilitate greater awareness of energy conservation, energy efficiency, and alternative production measures in the private sector.</p>	<p><input type="checkbox"/> Strategy EN-3.1 If Michigan tax laws are modified to allow property tax exemptions for renewable energy installations, Chocoday Township should then help educate and encourage homeowners to install renewable energy systems to support economic growth and improve housing resilience.</p> <p><input type="checkbox"/> Strategy EN-3.2 Collect and distribute information from area utility providers, lenders, and other organizations to benefit Township residents.</p> <p><input type="checkbox"/> Strategy EN-3.3 Collect and distribute information regarding technological improvements or other energy solutions.</p> <p><input type="checkbox"/> Strategy EN-3.4 Encourage residents to increase the water supply available for non-potable use by collecting rainwater and other runoff.</p>

ADMINISTRATIVE TASKS

Community Fiscal Sustainability

<p><input type="checkbox"/> Strategy FC-1</p> <p>Take a more proactive role in promoting new development and facilitating redevelopment of underutilized existing commercial areas to expand the tax base through the following administrative tasks:</p>	<p><input type="checkbox"/> Strategy FC-1.1</p> <p>Initiate conversation between property owners and developers</p> <p><input type="checkbox"/> Strategy FC-1.2</p> <p>Pursue brownfield funding</p> <p><input type="checkbox"/> Strategy FC-1.3</p> <p>Pursue opportunities to obtain grants to leverage greater impact for Township investment</p>
<p><input type="checkbox"/> Strategy FC-2</p> <p>Maintain a capital improvements program (CIP) with at least a six year schedule of capital projects to better anticipate and plan for expenditures and link current and future investment costs. This should be prepared and updated annually through a collaboration between staff, the Planning Commission, and the Township Board.</p>	<p><input type="checkbox"/> Strategy FC-2.1</p> <p>Provide a clear listing of planned capital improvements (type, location, date, cost, metrics to be achieved, and financing means) and anticipated maintenance/repair costs and the year those expenses would likely occur.</p> <p><input type="checkbox"/> Strategy FC-2.2</p> <p>Identify existing infrastructure maintenance and repair needs and include the above information related to these improvements in the Capital Improvement Plan.</p>
<p><input type="checkbox"/> Strategy FC-3</p> <p>Discourage use of short-term leases of land for long-term facilities.</p>	

Food Systems

<p><input type="checkbox"/> Strategy FS-1</p> <p>Advocate for the strengthening of local food systems.</p>	<p><input type="checkbox"/> Strategy FS-1.1</p> <p>Continue staff participation in the activities of the Central U.P. Food Hub and other regional organizations or initiatives that focus on growth of local food systems.</p> <p><input type="checkbox"/> Strategy FS-1.2</p> <p>Build public, private, and non-profit partnerships to support healthy eating and active living strategies, such as supporting local food entrepreneurs or allowing municipal property to serve as a drop-off site for Community Supported Agriculture shares.</p> <p><input type="checkbox"/> Strategy FS-1.3</p> <p>Stay informed about State legislation and County standards impacting the growing, irrigation, and distribution of food, and continue staff training and participation in advocating for regulations that support local food systems.</p>
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ADMINISTRATIVE TASKS

General Strategies

<p><input type="checkbox"/> Strategy GN-1</p> <p>As part of the annual report, all departments will assess and summarize yearly progress toward the outcomes and targeted strategies of this plan.</p>	
<p><input type="checkbox"/> Strategy GN-2</p> <p>Continue to hold annual joint meetings of the Township Board and Planning Commission to discuss and achieve consensus on future activities and priorities.</p>	
<p><input type="checkbox"/> Strategy GN-3</p> <p>Facilitate public education on topics relating to resilience and sustainability. Examples include:</p> <ul style="list-style-type: none"> ◆ Recycling/waste management ◆ Toxic/hazardous materials ◆ Permaculture, gardening and urban agriculture ◆ Water conservation, safe use of surface water for garden irrigation, rainwater capture, greywater management ◆ Adaptation strategies for projected impacts of climate change 	
<p><input type="checkbox"/> Strategy GN-4</p> <p>Facilitate Planning Commission review of other jurisdictional plans such as the County Road Commission annual capital improvement program and area Master Plans and ordinances.</p>	
<p><input type="checkbox"/> Strategy GN-5</p> <p>Submit all local plans and regulations to the County Planning Commission for review and comment.</p>	
<p><input type="checkbox"/> Strategy GN-6</p> <p>Budget to send Planning Commissioners and ZBA members to meetings held in other jurisdictions for training and experience.</p>	

ADMINISTRATIVE TASKS

Housing

- Strategy HO-1**
Facilitate community awareness of programs to improve housing affordability, such as energy optimization/weatherization and renewable energy programs.
- Strategy HO-2**
Facilitate community awareness of housing designs that provide greater resilience, such as solar orientation and passive solar homes. Research these options with County Building codes before introducing to the public as a viable option.

Future Land Use and Development

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| <ul style="list-style-type: none"> <input type="checkbox"/> Strategy LU-1
Work with area experts to plan for the future management or replacement of jack pine areas. | |
| <ul style="list-style-type: none"> <input type="checkbox"/> Strategy LU-2
Increase the likelihood that property owners will place productive lands into temporary or permanent preservation programs to ensure long-term viability for production. | <ul style="list-style-type: none"> <input type="checkbox"/> Strategy LU-2.1
Research and distribute information regarding various government or foundation programs, resources, and tax advantages for agricultural land preservation or forest preservation programs. This may include encouraging property owners to collaborate to voluntarily protect productive lands. <input type="checkbox"/> Strategy LU-2.2
Continue to encourage and support the growing of food at private residences and on other suitable public lands to reduce the need to convert forest lands for agricultural production. <input type="checkbox"/> Strategy LU-2.3
Negotiate with the State to place their productive agricultural lands into permanent agriculture conservation easements. |

ADMINISTRATIVE TASKS

Natural Systems

<p><input type="checkbox"/> Strategy NS-1</p> <p>Take steps to build adaptive capacity for climate readiness.</p>	<p><input type="checkbox"/> Strategy NS-1.1</p> <p>Collaborate with the Superior Watershed Partnership, County Planning, Great Lakes stakeholder groups, and other regional partners, or attend targeted training sessions, to stay informed of research and data that will help anticipate climate change impacts. Critical things to monitor include:</p> <ul style="list-style-type: none"> ◆ Critical habitat to be protected ◆ Areas in need of dune restoration ◆ Public and private infrastructure that is vulnerable to impacts ◆ Key areas where power lines should be buried to reduce risk of disruption ◆ Establishment of invasive species <p><input type="checkbox"/> Strategy NS-1.2</p> <p>Collaborate with the Superior Watershed Partnership, County Planning, Great Lakes stakeholder groups, and other regional partners to plan and identify mitigation and adaptation strategies for anticipated climate change impacts. Such strategies might include encouraging plant diversity, designing better drainage systems for roadways, planning for disaster response, or water conservation and storage measures.</p>
<p><input type="checkbox"/> Strategy NS-2</p> <p>Keep detailed reports of flood incidents and damage to assist in obtaining mitigation grants.</p>	
<p><input type="checkbox"/> Strategy NS-3</p> <p>Enhance the capacity for water storage in the Chocolay River basin to help mitigate flooding and enhance the ecosystem.</p>	<p><input type="checkbox"/> Strategy NS-3.1</p> <p>Cooperate in an effort to study the upper reaches of the Chocolay River drainage basin to determine the water storage area capacity to retain runoff.</p> <p><input type="checkbox"/> Strategy NS-3.2</p> <p>Create a greater awareness of natural water catchment strategies to reduce runoff.</p>
<p><input type="checkbox"/> Strategy NS-4</p> <p>Coordinate the group contracting of survey services to obtain elevation certificates for homeowners seeking relief from flood insurance rate increases.</p>	

ADMINISTRATIVE TASKS

Public Safety, Emergency, and Health Services

<p><input type="checkbox"/> Strategy PS-1</p> <p>Take steps to facilitate timely emergency response to all areas of the Township.</p>	<p><input type="checkbox"/> Strategy PS-1.1</p> <p>Prepare and distribute educational materials regarding the importance of conspicuously posting addresses to facilitate timely emergency services.</p> <p><input type="checkbox"/> Strategy PS-1.2</p> <p>Prepare and distribute educational materials regarding the importance of trimming vegetation along private roadways and driveways to facilitate 12' wide and 15' high clearance for emergency vehicles; eliminating steep grades, tight curves, and narrow roads; and creating a turn-around with a 50' radius near homes when possible.</p> <p><input type="checkbox"/> Strategy PS-1.3</p> <p>Identify funding sources for the building of additional connecting roads for areas with only one road access.</p>
<p><input type="checkbox"/> Strategy PS-2</p> <p>Create a mechanism for attracting and retaining new members for the volunteer fire department, which may include such incentives as paying for a portion of training costs or providing recreation or recognition programs.</p>	
<p><input type="checkbox"/> Strategy PS-3</p> <p>Dedicate a percentage of department time to community outreach activities such as maintaining public alert systems via social media or texts, assisting in community events, providing educational presentations such as best burn practices, or other customized services.</p>	
<p><input type="checkbox"/> Strategy PS-4</p> <p>Because the current staffing of the Police Department is 30 hours short of providing 24-hour coverage, consider hiring an additional full time officer to bring staffing up to the optimal level of five full-time and three part-time officers.</p>	
<p><input type="checkbox"/> Strategy PS-5</p> <p>Continually take steps to prepare for improved general emergency response.</p>	<p><input type="checkbox"/> Strategy PS-5.1</p> <p>Establish a partnership between Public safety, the Community Development Coordinator and the Zoning Administrator to maintain updated business databases to assist in responding to emergencies or alarms.</p>

ADMINISTRATIVE TASKS

Public Safety, Emergency, and Health Services

	<p><input type="checkbox"/> Strategy PS-5.2 Partner with the County to periodically update and review the County Hazard Mitigation Plan and implement applicable strategies.</p>
	<p><input type="checkbox"/> Strategy PS-5.3 Identify alternate travel routes for evacuation</p> <p><input type="checkbox"/> Strategy PS-5.4 Identify locations for public storm shelters</p>
<p><input type="checkbox"/> Strategy PS-6 Facilitate community awareness of issues related to possible energy disruptions.</p>	<p><input type="checkbox"/> Strategy PS-6.1 Prepare and distribute “What to do if” guides in case of emergency.</p> <p><input type="checkbox"/> Strategy PS-6.2 Prepare and distribute educational materials regarding the dangers of fuel-hoarding and non-conventional home heating practices and related safety measures.</p>
<p><input type="checkbox"/> Strategy PS-7 Convene a Livability Committee among diverse community members to evaluate community conditions and identify areas for improvement.</p>	<p><input type="checkbox"/> Strategy PS-7.1 Provide meeting space and staff support as needed.</p> <p><input type="checkbox"/> Strategy PS-7.2 Assist in recruiting members of diverse income, age, and interests.</p> <p><input type="checkbox"/> Strategy PS-7.3 Assist in conducting a community audit of livability factors such as climate-responsive design in community gathering spaces, shopping areas, and recreation areas; and transportation issues including both motorized and non-motorized systems.</p> <p><input type="checkbox"/> Strategy PS-7.4 Assist in developing strategies for livability improvements.</p>
<p><input type="checkbox"/> Strategy PS-8 Take steps to strengthen community support mechanisms and networks.</p>	<p><input type="checkbox"/> Strategy PS-8.1 Facilitate planning sessions on the topic of neighborhood resilience with the goal of establishing resilience circles in each neighborhood to assist households in working together to solve issues or prepare for change. Identify community champions to facilitate this effort in conjunction with staff.</p> <p><input type="checkbox"/> Strategy PS-8.2 Establish neighborhood watch groups to passively assist in public safety and enforcement tasks by notifying appropriate officials.</p>

ADMINISTRATIVE TASKS

Public Safety, Emergency, and Health Services

<p><input type="checkbox"/> Strategy PS-9 Facilitate community awareness of issues related to possible wildfires.</p>	<p><input type="checkbox"/> Strategy PS-9.1 Prepare and distribute brochures with information on best burn practices.</p> <p><input type="checkbox"/> Strategy PS-9.2 Instead of a regulatory approach, frequently distribute FireWise educational materials that detail strategies for homeowners to mitigate risks of wildfire by controlling fuel sources, using fire resistant landscaping plants and materials, and maintaining defensible space.</p>
<p><input type="checkbox"/> Strategy PS-10 Perform regularly scheduled maintenance inspections on the dry hydrants to ensure they remain functional.</p>	
<p><input type="checkbox"/> Strategy PS-11 Research viable options for removing ice dams or sedimentation at the mouth of the Chocolay River that could contribute to increased risk of flooding.</p>	
<p><input type="checkbox"/> Strategy PS-12 Facilitate community awareness of issues related to possible flooding by preparing and distributing brochures with information on flood preparation, such as keeping lists of personal property to facilitate insurance claims, preparing evacuation plans, preparing a hazard kit, and storing clean water in case of contamination.</p>	

Recreation

<p><input type="checkbox"/> Strategy RC-1 Prepare, adopt and maintain an up-to-date five year recreation plan to facilitate grant funding and contribute to comprehensive capital improvements planning.</p>	
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ADMINISTRATIVE TASKS

Community Transportation

 Strategy TC-1**Optimize the existing road network**

The Township will develop and maintain a strategic, comprehensive asset management plan for existing roadways to avoid the need for tactical project intervention and crisis funding. If necessary, this plan will be developed in collaboration with the Central Upper Peninsula Planning and Development Region and the Marquette County Road Commission.

 Strategy TC-1.1

Dedicate staff to evaluate and update the PASAR ratings for local roads as developed by the Marquette County Road Commission at least every two years.

 Strategy TC-1.2

Road information will be entered and evaluated within a RoadSoft database maintained by the Township, and will be exported to the County Road Commission to assess the appropriate treatments, candidate projects, and project costs for the optimal preservation strategy.

 Strategy TC-1.3

Staff will set performance targets, such as an average PASER rating or percentage of roadways achieving a particular PASER threshold to be achieved by a particular year.

 Strategy TC-1.4

Using RoadSoft, staff will conduct a trade-off analysis to determine the appropriate percentage of the annual expenditure that will be allocated to capital preventive maintenance (to reduce future costs) and to structural improvements (to address current needs), with the goal that lesser amounts will go toward structural improvement over the years with the implementation of a successful capital preventive maintenance program. (See Policies 13 and 14 for criteria).

 Strategy TC-1.5

To support the plan, staff will establish a recommended annual level of road expenditure that can be realistically supported by an approved millage or special assessment, but will adequately address future sustainability of roadways and respond to resident concerns. The millage may start out higher based on the need to address capital preventive maintenance for recently improved roadways as well as pressing structural concerns, but the goal is to reduce the millage over time as capital preventive maintenance reflect reduced costs.

 Strategy TC-1.6

Staff will prepare educational materials and hold public information/neighborhood planning sessions to present the road plan to the public for comment, emphasizing the value of capital preventive maintenance for recently resurfaced roadways.

 Strategy TC-1.7

Staff will attend training in new technologies for pavement management and for asset management.

 Strategy TC-1.8

Implement a road millage or other funding options after Township staff and officials re-assess road conditions and propose a maintenance/replacement schedule.

ADMINISTRATIVE TASKS

Household Transportation

Strategy TH-1

Enhance personal alternative transportation options To mitigate the impacts of rising or variable fuel prices to which people with lower incomes and those traveling greater distances are most vulnerable, provide a framework for collaboration for private car-sharing agreements.

Strategy TH-1.1

Research and provide samples of car-sharing agreements that can be implemented between friends, neighbors, and family members, specifying ways to share maintenance, fuel, and insurance costs and coordinate parking/storage options.

Strategy TH-1.2

Facilitate designated car-sharing parking stalls throughout the Township at multiple convenient locations that are readily accessible for those utilizing private agreements.

Strategy TH-1.3

Work with nearby jurisdictions to ensure that car-share or bike rental options are available at convenient locations for group commuters to utilize to reach diverse destinations.

Strategy TH-1.4

Provide education to area businesses regarding optional flexible work options that can reduce transportation costs, such as telecommuting and 4-day work schedules.

Solid Waste and Recycling

Strategy SW-1

Continue to explore new solutions consistent with the goals of the Marquette County Solid Waste Management Authority to provide optimal processing of solid waste and recyclable materials.

Strategy SW-1.1

Stay informed about waste management issues and concerns within the community and region.

Strategy SW-1.2

Continue public outreach and education activities to achieve recycling of the most waste possible and encourage environmentally sound waste practices.

Strategy SW-1.3

Periodically seek input from residents on levels of satisfaction and participation in waste management services.

Strategy SW-1.4

Educate residents about the importance of purchasing products that require less packaging and therefore generate less waste.

REGULATORY TASKS

Economic Development

<p><input type="checkbox"/> Strategy ED-1</p> <p>Assist in people-based strategies to promote economic development through talent development and attraction, entrepreneurship, innovation, and technology (continued).</p>	<p><input type="checkbox"/> Strategy ED-1.14</p> <p>Ensure that regulations and permitting processes are conducive to the development of local entrepreneurship, such as simplified site plan review application requirements and a simple registration process for businesses entering existing structures.</p>
<p><input type="checkbox"/> Strategy ED-2</p> <p>Assist in policy-based strategies to promote economic development through collaborations, regulations, and asset planning (continued).</p>	<p><input type="checkbox"/> Strategy ED-2.4</p> <p>Stay abreast of policy and regulatory changes that impact local government and businesses and take appropriate action.</p> <p><input type="checkbox"/> Strategy ED-2.5</p> <p>Promote and pursue a niche economic development opportunity associated with local food systems, including the support of kitchen incubators, food processing facilities, food aggregation and storage facilities, distribution centers, and agritourism (events, food stands, farmer’s markets, breweries, wineries, tasting rooms, and other distributors of value-added ag products). Local zoning should reflect this goal.</p> <p><input type="checkbox"/> Strategy ED-2.6</p> <p>Ensure that local ordinances support the operations of mobile food vendors at various locations in the Township near residential neighborhoods, in the commercial district, near public recreation areas, and near institutions such as schools.</p>
<p><input type="checkbox"/> Strategy ED-3</p> <p>Assist in place-based strategies to promote economic development through investing in placemaking, marketing, and special initiatives supported by funding efforts, continued.</p>	<p><input type="checkbox"/> Strategy ED-3.5</p> <p>Support placemaking initiatives through form-based codes for prime development areas. Prioritize climate-responsive design strategies.</p> <p><input type="checkbox"/> Strategy ED-3.6</p> <p>Ensure that regulations support the development of a four-season resort in appropriate areas of the Township.</p>

Energy Infrastructure

<p><input type="checkbox"/> Strategy EN-3</p> <p>Plan and implement energy conservation, energy efficiency, and alternative production measures (continued).</p>	<p><input type="checkbox"/> Strategy EN-3.5</p> <p>Consider energy conservation and efficiency criteria when making and evaluating plans, programs, and projects.</p> <p><input type="checkbox"/> Strategy EN-3.6</p> <p>Ensure that zoning standards are supportive of appropriate scale renewable energy facilities across the Township. For example, the Township may need to consider passing solar access regulations to limit restrictive or prohibitive covenants for solar installations.</p>
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REGULATORY TASKS

Community Fiscal Sustainability

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| <p><input type="checkbox"/> Strategy FC-4</p> <p>Take a more proactive role in promoting new development and facilitating redevelopment of underutilized existing commercial areas to expand the tax base through the following regulatory tasks:</p> | <p><input type="checkbox"/> Strategy FC-4.1</p> <p>Implementing zoning changes, particularly zoning for mixed-use including high-density residential use.</p> <p><input type="checkbox"/> Strategy FC-4.2</p> <p>Simplifying approval procedures.</p> |
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Food Systems

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| <p><input type="checkbox"/> Strategy FS-2</p> <p>Amend regulations to support local food systems by increasing opportunities for context-sensitive production, processing, marketing, distribution, and waste processing in more areas of the Township.</p> | <p><input type="checkbox"/> Strategy FS-2.1</p> <p>Amend regulations to increase production opportunities by allowing accessory homesteading activities that are acceptable to a majority of residents in each character area. This may involve changes to the Zoning Ordinance, Animal Control Ordinance, and Nuisance Ordinance.</p> <p><input type="checkbox"/> Strategy FS-2.2</p> <p>Amend the zoning ordinance to increase production opportunities by implementing regulations to encourage the preservation of prime farm lands for primary agriculture use, and the preservation of high quality fish and wildlife habitat primarily for fishing and hunting.</p> <p><input type="checkbox"/> Strategy FS-2.3</p> <p>Amend the zoning ordinance to allow agriculture as a permitted use in the Municipal Properties district to support agriculture as an interim use of publicly-owned lands.</p> <p><input type="checkbox"/> Strategy FS-2.4</p> <p>Amend the zoning ordinance to allow food processing facilities (mobile or fixed) in mixed-use, commercial, industrial, agricultural and perhaps rural residential districts.</p> <p><input type="checkbox"/> Strategy FS-2.5</p> <p>Amend the zoning ordinance to allow food marketing and distribution facilities (mobile or fixed) with appropriate restrictions in all districts. Examples include farmer’s markets, food stands, mobile vendors such as food trucks, and farm stores or tasting rooms that feature products produced on-site at commercial farms.</p> <p><input type="checkbox"/> Strategy FS-2.6</p> <p>Amend the zoning ordinance to expand the accessory commercial uses permitted on farms to allow processing, packaging and direct marketing of products produced on-site, agritourism, and energy production facilities such as biomass or methane digesters.</p> |
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REGULATORY TASKS

Food Systems

Strategy FS-2.7

Amend the zoning ordinance to allow food waste facilities with appropriate restrictions in all districts. Examples include household and commercial composting activities.

Housing

Strategy HO-3

Amend the Zoning Ordinance to encourage greater housing diversity and affordability.

Strategy HO-3.1

Designate additional areas for multi-family housing, either by changing the boundaries of the Multi-Family district, or by accommodating multi-family housing in additional zoning districts by an appropriate mechanism with appropriate limitations.

Strategy HO-3.2

Designate areas that are suitable for homes of smaller size, even tiny homes. This can be done by reducing the minimum square footage requirement for residences, allowing them as accessory housing units with special conditions, and/or allowing them within the context of a PUD development.

Strategy HO-3.3

Accommodate accessory dwelling units (attached or detached) by an appropriate mechanism, with appropriate conditions, in appropriate areas.

Future Land Use and Development

Strategy LU-3

Update the Township Land Division, Subdivision Control, and Lot Splitting ordinances in accord with legislative changes.

Strategy LU-4

To support proximity of housing to employment, which will lead to greater household resilience in the event of rising transportation costs, and to achieve other net positive benefits of more dense development, revise the Zoning Ordinance to accommodate mixed-use options including diverse housing options such as apartments over commercial, urban-type multi-family options such as townhomes, or accessory dwelling units in the sewer district of Harvey and appropriate locations in nearby neighborhoods.

REGULATORY TASKS

Future Land Use and Development

<p><input type="checkbox"/> Strategy LU-5</p> <p>To support proximity of essential goods and services to housing, which will lead to greater household resilience in the event of rising transportation costs, revise the Zoning Ordinance to accommodate sufficient low impact commercial and light industrial land uses, particularly those that are neighborhood-serving or create jobs near population centers.</p>	
<p><input type="checkbox"/> Strategy LU-6</p> <p>Negotiate with the State of Michigan for the purpose of establishing agriculture conservation easements for their lands which have been used for agricultural purposes in the Township. If this is achieved, create 40 acre minimum lot sizes for farm-related residences only on these lands. Allow PUD development on these properties only if every contained use is related to food production, processing, or distribution in perpetuity. Such uses might include ag worker housing, hoop house or aquaculture facilities, food packaging and distribution operations, wineries or breweries, milk processing facilities, etc.</p>	
<p><input type="checkbox"/> Strategy LU-7</p> <p>To support more beneficial density in or near the sewer district and at preferred locations within walking distance of population centers.</p>	<p><input type="checkbox"/> Strategy LU-7.1</p> <p>Amend the PUD provisions to allow for a reduction in minimum lot size if certain stated goals of the Master Plan are satisfied by the development (such as housing diversity, incorporation of renewable energy, redevelopment of underutilized properties, neighborhood-serving mixed-use, provision of neighborhood parks, etc.) and appropriate buffers are maintained.</p> <p><input type="checkbox"/> Strategy LU-7.2</p> <p>An alternate strategy to encourage the provision of essential commercial services within walking distance of neighborhood clusters and to achieve other master plan goals is to create an activity nodes overlay district in strategic planned locations.</p>
<p><input type="checkbox"/> Strategy LU-8</p> <p>Consider the adoption of blight regulations or a basic property maintenance code to improve quality of place and discourage disinvestment.</p>	

REGULATORY TASKS

Future Land Use and Development

Strategy LU-9

Consider the following changes to the zoning ordinance:

Strategy LU-9.1

Increasing the height of accessory structures to accommodate accessory dwelling units and energy trusses.

Strategy LU-9.2

Revise administrative provisions of the zoning ordinance for greater clarity and direction to support consistent interpretation and enforcement.

Strategy LU-9.3

Revise land use provisions of the ordinance for greater detail and clarity.

Strategy LU-9.4

Revise the definition of multi-family so as not to include duplexes, and permit duplexes by right in more zoning districts.

Strategy LU-9.5

Revise the definition of ground coverage ratio to reflect the area of all impervious surfaces. Alternately, or additionally, implement a minimum open space requirement.

Strategy LU-9.6

Revise the example given for rural cluster development subdivision.

Strategy LU-9.7

Revise regulations for telecommunications facilities and mineral extraction to be consistent with state legislation.

Strategy LU-9.8

Consider increasing the minimum lot size in some districts where they could conflict with County Health Department requirements.

Strategy LU-9.9

Customize the fence location provisions in the Waterfront residential district to permit privacy fences between the road and the residence.

Strategy LU-9.10

Consider adding a public hearing requirement for site plan reviews, revise the districts subject to site plan review (to include MFR, WFR, AF, and MP), and amend the ordinance to say site plan review appeals are appealed to the Zoning Board of Appeals.

Strategy LU-9.11

Review parking standards for possible changes where results are not comparable among uses.

REGULATORY TASKS

Natural Systems

<p><input type="checkbox"/> Strategy NS-3 Enhance the capacity for water storage in the Chocolate River basin to help mitigate flooding and enhance the ecosystem (continued).</p>	<p><input type="checkbox"/> Strategy NS-3.3 Consider adopting low impact development standards for better management of runoff.</p>
<p><input type="checkbox"/> Strategy NS-5 Continue to enforce the minimum waterfront setback and shoreline vegetation maintenance provisions and communicate the importance to decision makers in relation to minimizing the downstream impact of encroachments and improving water habitats. Add clarity for the consequences of noncompliance with vegetation requirements.</p>	
<p><input type="checkbox"/> Strategy NS-6 Clarify the language for the Lake Superior Shoreline/Dune Protection Overlay district boundaries. Include a definition of erosion hazard line, and clarify the starting point for the 100 feet measurement.</p>	
<p><input type="checkbox"/> Strategy NS-7 Implement regulations establishing minimum open space and maximum impervious surface coverage on lots in residential subdivisions and along shorelines. The intent is to control the risk of overbuilding and putting incompatible massive structures on a lot, and to reduce runoff into waterbodies. Impervious surface coverage can be reduced through substitution of pervious surfaces such as gravel, permeable pavement, or biofiltration areas.</p>	
<p><input type="checkbox"/> Strategy NS-8 Consider collaborating with other jurisdictions or regional planning agencies to create consistent regulations for the protection of the watersheds through an overlay ordinance or other mechanism.</p>	

REGULATORY TASKS

Natural Systems

Strategy NS-9
 Implement a purchase of development rights (PDR) ordinance consistent with the Michigan Zoning Enabling Act, and seek federal, state, or local funds to support the program to preserve prime productive lands.

Public Safety, Emergency, and Health Services

Strategy PS-1
 Take steps to facilitate **timely emergency response** to all areas of the Township (continued).

Strategy PS-1.4
 Work with the County Road Commission to create minimum construction and maintenance standards for private driveways that serve more than one parcel.

Strategy PS-13
 Implement a separate public safety ordinance for open burning regulations, to be enforced by the fire department and police who have more specialized expertise and access to properties after hours when fires are likely to occur. Remove current regulations from the Zoning Ordinance.

Community Transportation

Strategy TC-2
 Improve road network connectivity and circulation
 The Township will assess and pursue opportunities to improve development connectivity and traffic circulation to provide greater safety and redundancy within the road network, to support alternative transportation systems, and to further economic development.

Strategy TC-2.1
 If the Planning Commission anticipates the development of new clusters of commercial development along the highway corridors, they will first consider expanding the boundaries of the Access Management Overlay District to include those areas and therefore preserve highway function and safety.

Strategy TC-2.2
 The Planning Commission and staff will work with property owners to implement the recommendations of the US-41/M-28 Access Management Plan including the closure of driveways, construction of service or frontage roads, sharing of driveways, interconnection of parking lots, and other property interconnections.

Strategy TC-3
 Monitor and improve safety on private and seasonal roads
 The Township will be proactive in improving conditions for residents who live on private and seasonal roads in the Township.

Strategy TC-3.1
 The Township Planning Commission will discuss current private and seasonal road conditions and regulations with the Fire Department and other emergency services providers to balance affordable access to new development with safety concerns related to road construction and maintenance.

Strategy TC-3.2
 The Township Board will consider the implementation of a special assessment or other funding mechanisms to fund road improvements on private roads as needed.

REGULATORY TASKS

Community Transportation

- Strategy TC-4**
Ensure that new subdivisions include multiple access connections and accommodations for multi-modal motorized and non-motorized transportation infrastructure.

CAPITAL PROJECTS

Economic Development

- | | |
|---|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> Strategy ED-1
Assist in people-based strategies to promote economic development through talent development and attraction, entrepreneurship, innovation, and technology (continued). | <ul style="list-style-type: none"> <input type="checkbox"/> Strategy ED-1.15
Partner in efforts to perform feasibility studies and obtain funds for the creation of small business incubators to improve the success of small business start-ups and assist in local job creation. |
| <ul style="list-style-type: none"> <input type="checkbox"/> Strategy ED-2
Assist in policy-based strategies to promote economic development through collaborations, regulations, and asset planning (continued). | <ul style="list-style-type: none"> <input type="checkbox"/> Strategy ED-2.7
Explore opportunities for collaborations in planning and funding projects associated with connected assets such as trails, watersheds, prime habitats, and transportation corridors. <input type="checkbox"/> Strategy ED-2.8
Explore opportunities for collaborations in planning and funding projects associated with inter-connected issues such as disaster mitigation, responses to climate change, tourism, and recreation. |
| <ul style="list-style-type: none"> <input type="checkbox"/> Strategy ED-3
Assist in place-based strategies to promote economic development through investing in placemaking, marketing, and special initiatives supported by funding efforts (continued). | <ul style="list-style-type: none"> <input type="checkbox"/> Strategy ED-3.7
Find ways to celebrate community by implementing art projects and aesthetic enhancements along both Iron Ore Heritage Trail routes.
Involve the community and local businesses in creating a geo-caching network along the Heritage Trail routes.
Involve churches, civic organizations, seniors, and children in a multi-generational art tile project to enhance the pedestrian tunnel.
Obtain grants for a destination historic art mural celebrating the history of the iron ore industry in the pedestrian tunnel. |

CAPITAL PROJECTS

Economic Development

- Strategy ED-3.8**
Continue to improve participation in the Adopt-a-Tree program for the trees and shrubs planted in the right-of-way along US-41 / M-28.
Continue the engraved brick recognition program.
Incorporate edible plantings along the path where plantings have died.
Recognize participants annually at a Township Board meeting or special get-together.
- Strategy ED-3.9**
Pursue the possibility of creating a community gathering space for year round entertainment in the Village of Harvey near the Corning Street intersection.
- Strategy ED-3.10**
Promote agritourism within the Township.
- Strategy ED-3.11**
Create and distribute wayfinding signs and maps to assist visitors in locating local natural, cultural, entertainment, recreational, and business attractions.
- Strategy ED-3.12**
Partner with the Marquette County Convention and Visitor’s Bureau in regional promotion opportunities.

Energy Infrastructure

- Strategy EN-4**
Participate in any regional planning initiative to anticipate the probable effects of various energy scenarios which could impact the economy, municipal services, transportation systems, land use patterns, housing, and basic sustenance.
- Strategy EN-5**
Plan and implement energy conservation, energy efficiency, and alternative production measures.
- Strategy EN-5.1**
To support near-term conservation, continue to identify and implement energy conservation measures for public facilities such as programmable thermostats, occupancy sensors, power management for electronic equipment and behavioral measures.

CAPITAL PROJECTS

Energy Infrastructure

 Strategy EN-5.2

To support mid-term efficiency retrofits, continue to identify and implement energy measures for public facilities as identified in the Comprehensive Technical Energy Analysis Report, such as insulated water heater pipes, and energy efficient lighting, appliances, electronics, and water heating systems. Consider also the demand controlled ventilation for the HVAC system at Township Hall and a gas-fired radiant tube heater for the Township storage garage.

 Strategy EN-5.3

Transition fleet vehicles to more energy efficient models as they are replaced, or consider using alternative forms of transportation for enforcement and public works activities (solar electric vehicles, motorcycles, biodiesel, etc.)

 Strategy EN-5.4

Incorporate long-term strategies for new methods of energy generation for use on Township properties, such as cogeneration, solar, biomass, hydropower, wind, and geothermal installations.

 Strategy EN-5.5

Explore community solar or wind installations as a viable option for properties that lack solar orientation, or people that lack property ownership or available funds for private systems. In this way, costs and benefits are shared among multiple owners, and economies of scale are realized. A typical business plan could be developed in partnership with adjacent jurisdictions.

 Strategy EN-5.6

Ensure that all public facilities serve as a positive demonstration model for conservation, efficiency, and even renewable energy generation. These model projects could be implemented in partnership with energy businesses for promotional purposes.

 Strategy EN-5.7

Look for alternative paving materials that are not as subject to energy supply and cost disruptions.

 Strategy EN-5.8

Incorporate permaculture principles to reduce landscaping maintenance and provide water catchment for irrigation, etc. on Township properties.

 Strategy EN-5.9

Consider purchasing back-up generators that run on diverse fuel resources.

CAPITAL PROJECTS

Community Fiscal Sustainability

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| <p><input type="checkbox"/> Strategy FC-5</p> <p>Take a more proactive role in promoting new development and facilitating redevelopment of underutilized existing commercial areas to expand the tax base through the following capital improvement projects.</p> | <p><input type="checkbox"/> Strategy FC-5.1</p> <p>Commissioning a development study (see LU-2) which would explore the feasibility of establishing a Corridor Improvement District to enable alternate funding mechanisms such as lease or rental income, revenues from a tax increment financing plan, and proceeds from a special assessment.</p> <p><input type="checkbox"/> Strategy FC-5.2</p> <p>Providing infrastructure (roadways, water supply) by issuing bonds for public improvements.</p> <p><input type="checkbox"/> Strategy FC-5.3</p> <p>Targeted placemaking or aesthetic enhancement projects.</p> |
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Food Systems

- | | |
|---|--|
| <p><input type="checkbox"/> Strategy FS-1</p> <p>Advocate for the strengthening of local food systems.</p> | <p><input type="checkbox"/> Strategy FS-1.4</p> <p>Support appropriate projects, facilities, and partnerships that increase production capacity and lengthen the growing season within the community, such as community gardens or farms, public food forests and u-pick areas, edible landscaping in public areas, community hoop houses, and hydroponic or aquaculture facilities.</p> <p><input type="checkbox"/> Strategy FS-1.5</p> <p>Support appropriate projects, facilities, and partnerships that enhance diverse local food processing and distribution options, such as community kitchen incubators and community food processing facilities.</p> <p><input type="checkbox"/> Strategy FS-1.6</p> <p>Ensure that municipally sponsored projects and facilities are a demonstration of sustainable agriculture practices that promote long-term environmental stewardship and minimize potential nuisance impacts, such as organic farming or permaculture. Ensure projects and facilities are consistent with Generally Accepted Agricultural and Management Practices as defined by the State of Michigan.</p> <p><input type="checkbox"/> Strategy FS-1.7</p> <p>Support projects that inspire healthy eating and active living, such as projects that link healthy food sources to the trail system or public transit, locate healthy food sources near neighborhoods, or encourage the planting of self-sustaining edible food sources, such as berry bushes, along the public trail system where appropriate.</p> <p><input type="checkbox"/> Strategy FS-1.8</p> <p>Consider leasing Township-owned land to non-profit or community partners to support the local food system where appropriate, such as implementing projects to train new farmers, engage children and youth in growing their own food, or establish and maintain public food forests or gardens, etc.</p> |
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CAPITAL PROJECTS

General Strategies

- Strategy GN-7
 - Collaborate in regional planning initiatives that benefit multiple jurisdictions such as:
 - ◆ Regional strategic growth plan
 - ◆ Regional energy plan
 - ◆ Regional watershed plan
 - ◆ Regional public transportation plan
 - ◆ Regional recreation plan
 - ◆ Disaster or risk management / mitigation plan

Future Land Use and Development

- | | |
|---|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> Strategy LU-10 <ul style="list-style-type: none"> Hire a team of consultants to create a development plan to enhance the utilization of the primary business and residential areas in the Village of Harvey. The development plan should accomplish the following: | <ul style="list-style-type: none"> <input type="checkbox"/> Strategy LU-10.1 <ul style="list-style-type: none"> Conduct a mini market study among area realtors and developers to determine levels of demand for specific development types and identify known barriers to development in Harvey. <input type="checkbox"/> Strategy LU-10.2 <ul style="list-style-type: none"> Interview the County Health Department, local well drillers, and area engineers to identify and anticipate known barriers and opportunities related to water and waste management systems in the project area. <input type="checkbox"/> Strategy LU-10.3 <ul style="list-style-type: none"> Estimate the costs vs. benefits of both public and private water supply systems and the projected catalytic impact of each for new development or redevelopment. <input type="checkbox"/> Strategy LU-10.4 <ul style="list-style-type: none"> Engage the community in a visioning process to support a placemaking strategy and form-based code for the project area. <input type="checkbox"/> Strategy LU-10.5 <ul style="list-style-type: none"> Interview key property owners in the project area to determine their willingness to participate in an effort to achieve the community vision, and to identify key obstacles and complementary opportunities. <input type="checkbox"/> Strategy LU-10.6 <ul style="list-style-type: none"> Conduct a built-out analysis to determine the appropriate density to support the demand, level of services and amenities necessary to achieve the community vision. |
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CAPITAL PROJECTS

Future Land Use and Development

	<ul style="list-style-type: none"> <input type="checkbox"/> Strategy LU-10.7 Work with MDOT, MarqTran, the Iron Ore Heritage Trail Recreation Authority and other interest groups to incorporate multiple transportation modes (walking, biking, electric scooters and wheelchairs, public transit) and context sensitive design elements to achieve the placemaking plan. <input type="checkbox"/> Strategy LU-10.8 Provide plans and basic designs for natural stormwater management techniques. <input type="checkbox"/> Strategy LU-10.9 Estimate costs of the public elements needed to support the plan, such as interconnecting roadways or frontage roads. <input type="checkbox"/> Strategy LU-10.10 Recommend preferred funding mechanisms to support the plan, which may include the establishment of a Corridor Improvement Authority district.
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<ul style="list-style-type: none"> <input type="checkbox"/> Strategy LU-11 Update and maintain land use GIS (Geographic Information Systems) software to facilitate collaborative planning and data sharing. 	
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Natural Systems

<ul style="list-style-type: none"> <input type="checkbox"/> Strategy NS-10 Work with appropriate agencies to encourage homeowners to remove infrastructure that hardens shorelines and other artificial river channeling devices to reduce problems for downstream development and impact sediments. 	
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<ul style="list-style-type: none"> <input type="checkbox"/> Strategy NS-11 Consider collaborating with other jurisdictions and agencies to implement projects to improve the watershed, such as sediment traps, managed stream crossings, cattle exclusions, culvert replacement, tree planting, stream restoration, stream monitoring and maintenance, and water testing. 	
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CAPITAL PROJECTS

Public Safety, Emergency, and Health Services

<p><input type="checkbox"/> Strategy PS-1 Take steps to facilitate timely emergency response to all areas of the Township.</p>	<p><input type="checkbox"/> Strategy PS-1.5 Purchase a GPS unit to assist in quickly locating structures.</p> <p><input type="checkbox"/> Strategy PS-1.6 Work with the County Road Commission to provide and maintain better drainage systems for roadways to prepare for anticipated climate variability which may include increased incidents of flash flooding.</p>
<p><input type="checkbox"/> Strategy PS-14 Consider creating a fireground training facility to provide realistic training for area departments in suppressing various types of fires and extrication from vehicles.</p>	
<p><input type="checkbox"/> Strategy PS-15 Implement the state-wide record management system in the police department to facilitate data sharing.</p>	
<p><input type="checkbox"/> Strategy PS-16 Continue to fund technology innovations that improve police department efficiencies and operations.</p>	<p><input type="checkbox"/> Strategy PS-16.1 Continue to update as required E-Citation software to allow greater efficiency and safety for officers when issuing citations.</p> <p><input type="checkbox"/> Strategy PS-16.2 Continue to update as required the in-car laptop computers and cameras with more space-efficient and technologically advanced models.</p>
<p><input type="checkbox"/> Strategy PS-17 Contribute to greater departmental energy efficiency.</p>	<p><input type="checkbox"/> Strategy PS-17.1 Utilize vehicles that offer greater fuel efficiency. This might include alternative types of vehicles such as bicycles or motorcycles when appropriate.</p> <p><input type="checkbox"/> Strategy PS-17.2 Work with neighborhood watch groups to facilitate more targeted patrols.</p>
<p><input type="checkbox"/> Strategy PS-18 Continue to fund technology innovations that improve fire department efficiencies and operations.</p>	<p><input type="checkbox"/> Strategy PS-18.1 Purchase dash cameras to facilitate in-house review of incidents for training purposes.</p> <p><input type="checkbox"/> Strategy PS-18.2 Purchase a dedicated truck designed to fight wildland fires.</p>

CAPITAL PROJECTS

Public Safety, Emergency, and Health Services

- Strategy PS-18.3**
Establish a hydrant system in the Village of Harvey for consistent water supply to the commercial district and higher populated residential areas. This might be implemented in conjunction with a public water supply system.
- Strategy PS-18.4**
Establish supplemental water supplies for firefighting in underserved areas of the Township (such as Green Garden or Shot Point) by implementing dry hydrants connected to underground storage tanks.
- Strategy PS-18.5**
Keep turn-out gear up-to-date by replacing a percentage of gear each year.

Community Transportation

- | | |
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| <ul style="list-style-type: none"> <input type="checkbox"/> Strategy TC-2
Improve road network connectivity and circulation. | <ul style="list-style-type: none"> <input type="checkbox"/> Strategy TC-2.3
The Township will pursue innovative funding mechanisms to construct the new connector or access roads, such as TIF funding, developer contributions, and special assessments. <input type="checkbox"/> Strategy TC-2.4
Possible new road connections that provide multiple access routes into residential subdivisions, businesses, and other activity centers are depicted in Appendix G. |
| | <ul style="list-style-type: none"> <input type="checkbox"/> Strategy TC-2.5
The Township will appoint an official or staff member to negotiate the necessary land purchase to relocate the driveway into Township Hall further from the intersection of US-41/M-28 and Silver Creek Road. <input type="checkbox"/> Strategy TC-2.6
The Township will collaborate with Sands Township on a possible secondary access road connecting neighborhoods along Ortman Road west of Cherry Creek School with those along Silver Creek Road west of Township Hall. |

CAPITAL PROJECTS

Community Transportation

 Strategy TC-5

Enhance multi-modal and alternative transportation assets

Because of the inherent health benefits, ability to serve multiple population groups, and security associated with alternative modes of transportation, the Township will actively pursue opportunities to enhance multi-modal transportation assets in the Township.

 Strategy TC-5.1

In collaboration with the appropriate road agency, the Township will seek opportunities to design or reconfigure roadways and public easements to accommodate multiple user groups (such as youth and the aging population) utilizing appropriate *Complete Streets* techniques such as parallel shared-use paths or wide shoulders, sharrows, or bicycle lanes, mid-block crossings, bus pull-outs, safety medians, traffic calming techniques, marked crosswalks, curb ramps, bicycle parking facilities, longer crossing times, smoother surfaces, and handicapped accessible facilities. See Appendix I for possible projects.

 Strategy TC-5.2

The Township will work with ALTRAN and MarqTran to seek funding to construct a four-season transit station in Chocoley Township, with the Township to assume ongoing maintenance costs. The project may involve a property purchase or easement ideally in Harvey adjacent to US-41/M-28 near Silver Creek Road or CR 551 (Cherry Creek Road).

 Strategy TC-5.3

Work with local community organizations, MarqTran, MDOT and local businesses to improve the accessibility, usability, and attractiveness of the existing bus stops (near Krist Oil gas station and Park and Ride facility at Cherry Creek Market).

 Strategy TC-5.4

Work with local community organizations, MarqTran, MDOT and local businesses to construct additional transit shelters in locations such as the Silver Creek Recreation Area and Family Dollar Store. Determine optimal locations by surveying residents regarding needs and willingness to pay. Explore the feasibility of cost-sharing with private transit organizations who can also utilize the stops.

 Strategy TC-5.5

Enhance the usability of multi-modal pathways by installing appropriate lighting, bike racks, benches, safety markings across driveways and through parking lots, and wayfinding signage for area businesses and attractions.

 Strategy TC-5.6

Enhance the usability of multi-modal pathways by improving thermal comfort through the use of vegetation or other barriers or screens to control the impact of wind, sun, and drifting snow.

CAPITAL PROJECTS

Community Transportation

Strategy TC-5.7

Enhance the usability of multi-modal pathways by establishing funding and a plan for maintenance for the alternative business route for the Iron Ore Heritage Trail through Harvey (east and west side of the highway corridor) and the connectors on Silver Creek and Cherry Creek Roads.

- ◆ Repair cracks and bumps
- ◆ Keep walkways clear of objects and debris
- ◆ Maintain adequate drainage
- ◆ Provide for winter snow removal or snow pack for critical paths based on user input on preferred modes of winter travel (walking, fat-tire biking, kicksledding, skiing, etc.) (see Appendix I for critical paths)

Strategy TC-5.8

To mitigate rising energy costs that threaten the reliability and affordability of transportation, coordinate planning for a community ride-share system or car-sharing program for area residents. This could be either a public/private project or private for-profit or non-profit venture, but should involve adjacent jurisdictions as well.

Strategy TC-5.9

Identify funding and locations to install electric vehicle charging stations throughout the community on public and private property. Investigate methods to fund the electricity costs through a solar or wind installation, non-profit agency, or through user fees.

Strategy TC-5.10

Collaborate in any regional initiative to bring passenger rail transportation to the area.

Waste and Wastewater Infrastructure

Strategy WW-1

Sewer system improvements
Program and provide long-term asset management activities for the Township sewer system.

Strategy WW-1.1

Obtain an engineering analysis to identify and evaluate options for replacement of obsolete equipment and prioritization of replacement work.

Strategy WW-1.2

Obtain a professional analysis of energy system improvements including fiscal impact.

Strategy WW-1.3

Identify funding opportunities to facilitate necessary improvements and determine phasing of the projects.

CAPITAL PROJECTS

Waste and Wastewater Infrastructure

	<p><input type="checkbox"/> Strategy WW-1.4</p> <p>Assess the adequacy of Chocolay Township’s reserve capacity through the Marquette Wastewater Treatment Plant in relation to a potential need to expand the system to accommodate future development/redevelopment or address increasing health concerns from failing private septic systems.</p>
<p><input type="checkbox"/> Strategy WW-2</p> <p>Water system analysis Continue to investigate the benefits of a municipal water system to support new development, meet changing needs or regulations, provide increased fire protection, or reduce further contamination. Particular area of interest may include Harvey with extensions along Lakewood Lane and M-28 to include adjacent subdivisions, Tribal residential areas, and development along Kawbawgam Road.</p>	<p><input type="checkbox"/> Strategy WW-2.1</p> <p>Collaborate in studies to determine the adequacy of area aquifers and groundwater sources in relation to domestic, agricultural, and fire suppression needs in the years to come, particularly if there are changing regulations, contamination concerns, or increasing demands leading to supply concerns.</p> <p><input type="checkbox"/> Strategy WW-2.2</p> <p>Include ancillary costs such as road repaving in a cost/benefit analysis comparing the costs of wells and fire insurance vs. the monthly system user fees.</p>

Project Priorities and Timeline

Chapter 8



Chapter 8: Plan Implementation - Project Priorities and Timeline

This is a multi-year, adaptable document that each department, commission, and board should use to guide their activities and justify their budget proposals.

As part of the Annual Report, all departments in Chocolate Township should assess and summarize progress toward the outcomes and targeted strategies of this plan which are intended to achieve greater community sustainability and resilience. In particular, staff, commissions, and elected officials should maintain consistency with the guiding principles of Chapter 2 and policies of Chapter 7. Actions should be prioritized based on the Priority Decision Criteria. Staff should report progress made toward the administrative, regulatory, and capital projects detailed in Chapter 7: Strategic Plan for Community Resilience.

Township decision makers can decide on benchmarks to help evaluate progress toward Township goals. The following are examples:

- Number of businesses with profiles contained in the Township database and online business directory
- Number of entrepreneurial referrals resulting in assistance
- Number of businesses attending the annual “meet and greet” event
- Number of prime development properties with profiles contained in an online directory
- Amount of private funds invested in the restoration of vacant, blighted, or underutilized properties
- Number of businesses associated with local food system support
- Number of businesses associated with “green” or “clean” technology industries
- Number of promotional or educational documents distributed
- Number of interns involved in local government activities
- Number of employees/Board/Commission members involved in mentoring activities
- Number of employees/Board/Commission members attending educational and training programs
- Number of collaborations involved in local projects
- Amount of grant funds leveraged for local or collaborative projects
- Number of volunteers involved in supporting projects

Included in this section are priority implementation matrices for the capital projects of the Township Master Plan and Recreation Plan. These projects are evaluated against the Priority Decision Criteria that are detailed in Chapter 2: Foundation of the Plan - Community Values. Also included are approximate costs if known. The resulting score indicates the priority of that project, and will impact timeline for implementation. However, if opportunities for funding or project partners arise in the time since the creation of this implementation plan, project scores may change, and priorities may shift.

The following acronyms are contained in the priority implementation matrix.

Cost **ST** – staff time **TBD** – to be determined

Participants **4H** – 4H Clubs
A – Assessor
ART – Arts Interest Group
C – Community Development Coordinator
CABA – Chocolay Area Business Association
CCGG – Chocolay Community Garden Group
CCSL – Chocolay Co-ed Softball League
CGC – Chocolay Garden Club
CH – Local churches
CRC – County Road Commission
CS – Professional consultant or specialist
CTY – County
DEQ – Department of Environmental Quality
CUPPAD – Central Upper Peninsula Planning and Development Regional Commission
DNR – Department of Natural Resources
DU – Ducks Unlimited
DPW – Department of Public Works
H – History Interest Group
HD – County Health Department
IOHT – Iron Ore Heritage Trail
KBIC – Keweenaw Bay Indian Community
LB – Local Business
LC – Lion’s Club
LF – Local farmers and farm organizations
LG – Other local governments
LL – Little League
LSCP – Lake Superior Community Partnership

MAPS – Marquette Area Public Schools
MCVB – Marquette County Convention Visitors Bureau
MDOT – Michigan Department of Transportation
MEO – Michigan Energy Options
MFC – Marquette Food Co-op and U.P. Food Exchange
MSUE – MSU Extension
NC – Nature Conservancy
NCT – North Country Trail
NMU – Northern Michigan University
OG – Other grant sources
PUB – Public
PZ – Planning / Zoning Administrator
RU – Regional utility providers
S – Scouting
SOM – State of Michigan
SSA – Superiorland Soccer Association
SWP – Superior Watershed Partnership
TM – Township Manager
TS – Township staff
TU – Trout Unlimited
U – Other universities
UPDG – UP Disc Golf Association
UPLC – UP Land Conservancy
UPREC – MSU Upper Peninsula Research and Extension Center
UPW – UP Whitetails
V – Volunteer

**Funding
commercial
source**

D – Donations (materials or in-kind) **G** – grant **P** – Private
TB – Township budget **UF** – user fees

MASTER PLAN CAPITAL PROJECTS PRIORITIES AND TIMELINE

Site	Project Description	Cost	Participants	Funding Source	Diverse Users	Diverse Uses	Flexibility	Critical Systems	Redundancy	Other Support	Region	Build Capacity	Long-Term	Risk Mgmt	Repliable	Collaboration	Renewables	Catalyst	Score	
					Priority Decision Criteria (0-3 points each)															
Economic Development	ED 1.15 – Partner in efforts to perform feasibility studies and obtain funds for the creation of small business incubators to improve the success of small business start-ups and assist in local job creation.	TBD	C, CABA, CS, CUPPAD, LB, LSCP, NMU, PZ, U, USDA	D, G, P, TB	1	1	2	2	1	1	2	2	1	2	3	3	0	3	24	
	ED-2.7 – Explore opportunities for collaborations in planning and funding projects associated with connected assets such as trails, watersheds, prime habitats, and transportation corridors.	TBD	C, CD, CRC, CS, CTY, CUPPAD, DEQ, DNR, DU, H, HD, IOHT, LG, MDOT, NC, NCT, NRCS, OG, PUB, PZ, SWP, TU, UPLC, UPW	D, G, TB	3	3	2	3	3	2	3	2	2	2	3	3	2	2	35	
	ED-2.8 – Explore opportunities for collaborations in planning and funding projects associated with inter-connected issues such as disaster mitigation, responses to climate change, tourism, and recreation.	TBD	C, CD, CS, CTY, CUPPAD, DEQ, DNR, DU, FEMA, HD, IOHT, KBIC, LB, LC, LG, LSCP, MCVB, MSUE, NMU, NRCS, OG, PUB, PZ, RU, SOM, SWP, TU, U	D, G, TB	3	3	2	2	3	2	3	2	2	2	3	3	2	2	34	
	ED-3.7 – Find ways to celebrate community by implementing art projects and aesthetic enhancements along both Iron Ore Heritage Trail routes.	TBD	4H, ART, C, CABA, CGC, CH, CS, CUPPAD, H, IOHT, KBIC, LB, MAPS, MDOT, OG, PUB, PZ, S, V	D, G	2	1	1	0	0	2	2	2	2	0	2	3	0	1	18	
	ED-3.8 – Continue to improve participation in the Adopt-a-Tree program for the trees and shrubs planted in the right-of-way along US-41/M-28.	None	C, CABA, CGC, CH, LB, PUB, PZ, S, V	D	3	2	2	1	1	3	0	3	2	1	3	3	1	1	26	
	ED-3.9 – Pursue the possibility of creating a community gathering space for year round entertainment in the Village of Harvey near the Corning Street intersection.	TBD	ART, C, CABA, CGC, CS, CUPPAD, DPW, IOHT, KBIC, LB, OG, PUB, PZ, S, TM, V	D, G, TB	3	3	2	1	1	1	0	1	0	0	1	2	0	1	16	
	ED-3.10 – Promote agritourism within the Township.	TBD	4H, C, CCGG, LF, LSCP, MCVB, MFC, UPREC, V	D, TB	2	2	2	2	2	2	1	2	2	2	2	2	0	2	25	
	ED-3.11 – Create and distribute wayfinding signs and maps to assist visitors in locating local natural, cultural, entertainment, recreational, and business attractions.	TBD	ART, C, CABA, CH, CRC, H, IOHT, LB, LSCP, MCVB, MDOT, NCT, PZ	D, P, TB	3	2	3	1	0	2	2	2	2	1	2	2	0	1	23	
	ED-3.12 – Partner with the Marquette Country Convention and Visitor’s Bureau in regional promotion opportunities .	TBD	ART, C, CABA, H, IOHT, LG, LSCP, MCVB, NCT, NMU, PZ	TB	2	2	2	1	0	3	2	2	2	1	2	2	0	2	23	
Energy Infrastructure	EN-4: Participate in any regional planning initiative to anticipate the probable effects of various energy scenarios which could impact the economy, municipal services, transportation systems, land use patterns, housing, and basic sustenance.	TBD	CRC, CS, CTY, CUPPAD, FEMA, KBIC, LB, LG, MDOT, MEO, NMU, OG, PUB, PZ, RU, SWP	D, G, TB	2	3	2	3	3	2	3	3	2	3	3	3	2	2	36	
	EN-5.1: To support near-term conservation, continue to identify and implement energy conservation measures for public facilities such as programmable thermostats, occupancy sensors, power management for electronic equipment and behavioral measures.	TBD	CS, DPW, LB, MEO, RU, TM	G, TB	2	2	2	3	1	1	1	1	2	3	2	1	1	0	22	

Site	Project Description	Cost	Participants	Funding Source	Diverse Users	Diverse Uses	Flexibility	Critical Systems	Redundancy	Other Support	Region	Build Capacity	Long-Term	Risk Mgmt	Repliable	Collaboration	Renewables	Catalyst	Score
Priority Decision Criteria (0-3 points each)																			
Energy Infrastructure	EN-5.2: To support mid-term efficiency retrofits, continue to identify and implement energy measures for public facilities as identified in the Comprehensive Technical Energy Analysis Report , such as insulated water heater pipes, and energy efficient lighting, appliances, electronics, and water heating systems. Consider also the demand controlled ventilation for the HVAC system at Township Hall and a gas-fired radiant tube heater for the Township storage garage.	TBD	CS, DPW, LB, RU, TM	G, TB	2	2	2	3	2	1	1	1	3	3	1	1	1	0	23
	EN-5.3: Transition fleet vehicles to more energy efficient models as they are replaced, or consider using alternative forms of transportation for enforcement and public works activities (solar electric vehicles, motorcycles, biodiesel, etc.)	TBD	DPW, FD, LB, OG, PD, TM	G, TB	2	1	1	3	2	1	1	2	1	3	2	0	2	1	22
	EN-5.4: Incorporate long-term strategies for new methods of energy generation for use on Township properties , such as cogeneration, solar, biomass, hydropower, wind, and geothermal installations.	TBD	CS, DPW, LB, MEO, NMU, OG, RU, TM, U	G, TB	2	2	2	3	3	2	1	2	1	3	3	2	3	2	31
	EN-5.5: Explore community solar or wind installations as a viable option for properties that lack solar orientation, or people that lack property ownership or available funds for private systems. In this way, costs and benefits are shared among multiple owners, and economies of scale are realized. A typical business plan could be developed in partnership with adjacent jurisdictions.	TBD	C, CH, CS, CTY, CUPPAD, KBIC, LF, LG, LSCP, MAPS, MEO, NMU, OG, PUB, PZ, RU, SOM, SWP, TM, U	G, P, UF	2	2	2	3	3	2	2	3	1	3	3	3	3	3	35
	EN-5.6: Ensure that all public facilities serve as a positive demonstration model for conservation, efficiency, and even renewable energy generation. These model energy projects could be implemented in partnership with energy businesses for promotional purposes.	TBD	CS, DPW, FD, LB, MEO, OG, PD, RU, TM	D, G, P, TB	2	2	2	3	3	2	2	2	1	3	3	2	2	2	31
	EN-5.7: Look for alternative paving materials that are not as subject to energy supply and cost disruptions.	TBD	CRC, CUPPAD, CS, LB, LG, MDOT, OG, TM	G, P, TB	2	2	1	3	1	1	2	2	2	3	3	2	0	1	25
	EN-5.8: Incorporate permaculture principles to reduce landscaping maintenance and provide water catchment for irrigation, etc. on Township properties.	TBD	CD, CGC, CS, DEQ, DPW, MSUE, NMU, NRCS, PUB, PZ, SWP, TM, V	D, TB	2	2	2	1	1	2	2	1	2	2	3	2	3	2	27
	EN-5.9: Consider purchasing back-up generators that run on diverse fuel resources.	TBD	DPW, FEMA, KBIC, LB, TM	G, TB	1	2	2	2	3	1	0	0	3	3	2	0	1	0	20
	Community Fiscal Sustainability	FC-5.1 – Commissioning a development study (see LU-2) which would explore the feasibility of establishing a Corridor Improvement District to enable alternate funding mechanisms such as lease or rental income, revenues from a tax increment financing plan, and proceeds from a special assessment	TBD	C, CABA, CS, CUPPAD, DEQ, HD, IOHT, LB, LSCP, MDOT, OG, PUB, PZ, TM	D, G, TB	2	2	2	2	1	2	1	2	1	1	1	2	0	2
FC-5.2 – Providing infrastructure (roadways, water supply) by issuing bonds for public improvements		TBD	CRC, DPW, PUB, TM	G, TB, UF	3	2	1	3	2	2	2	2	1	2	1	1	0	3	25
FC-5.3 – Targeted placemaking or aesthetic enhancement projects		TBD	4H, ART, C, CABA, CGC, CH, CS, CUPPAD, DPW, H, IOHT, LB, LSCP, MDOT, NMU, OG, PUB, PZ, S, TM, U, V	D, G, TB	2	1	2	0	0	2	1	1	1	0	1	2	0	1	14

Site	Project Description	Cost	Participants	Funding Source	Diverse Users	Diverse Uses	Flexibility	Critical Systems	Redundancy	Other Support	Region	Build Capacity	Long-Term	Risk Mgmt	Repliable	Collaboration	Renewables	Catalyst	Score	
Priority Decision Criteria (0-3 points each)																				
Food Systems	FS-1.4 – Support appropriate projects, facilities, and partnerships that increase production capacity and lengthen the growing season within the community, such as community gardens or farms, public food forests and u-pick areas, edible landscaping in public areas, community hoop houses, and hydroponic or aquaculture facilities.	TBD	4H, CCGG, CD, CH, HD, KBIC, LF, MAPS, MFC, MSUE, NMU, NRCS, OG, PUB, PZ, S, UPREC, USDA	D, G	2	2	3	3	3	3	3	3	2	3	3	3	2	3	38	
	FS-1.5 – Support appropriate projects, facilities, and partnerships that enhance diverse local food processing and distribution options , such as community kitchen incubators and community food processing facilities.	TBD	C, CH, CS, CUPPAD, HD, LB, LF, LG, LSCP, MAPS, MFC, NMU, OG, PZ, U, USDA	D, G, P	2	2	3	3	3	2	3	2	1	3	3	3	2	3	35	
	FS-1.6 – Ensure that municipally sponsored projects and facilities are a demonstration of sustainable agriculture practices that promote long-term environmental stewardship and minimize potential nuisance impacts, such as organic farming or permaculture. Ensure projects and facilities are consistent with Generally Accepted Agricultural and Management Practices as defined by the State of Michigan.	TBD	C, CCGG, CD, CS, DPW, LF, MFC, MSUE, NMU, NRCS, OG, PUB, PZ, U, UPREC, USDA	D, G, TB	2	2	3	3	3	2	3	2	2	3	3	2	2	2	2	34
	FS-1.7 – Support projects that inspire healthy eating and active living , such as projects that link healthy food sources to the trail system or public transit, locate healthy food sources near neighborhoods, or encourage the planting of self-sustaining edible food sources, such as berry bushes, along the public trail system.	TBD	4H, C, CABA, CCGG, CD, CGC, CH, CS, HD, IOHT, KBIC, LB, LF, MAPS, MFC, NMU, NRCS, OG, PUB, PZ, S, USDA, V	D, G	3	3	3	3	3	2	2	3	2	3	3	3	3	2	2	37
	FS-1.8 – Consider leasing Township-owned land to non-profit or community partners to support the local food system where appropriate, such as implementing projects to train new farmers, engage children and youth in growing their own food, or establish and maintain public food forests or gardens, etc.	TBD	4H, CCGG, CD, CGC, CH, HD, KBIC, LF, MAPS, MFC, MSUE, NMU, NRCS, OG, PUB, PZ, S, TM, UPREC, USDA, V	D, G	2	2	3	3	3	3	3	3	3	3	3	3	3	3	2	39
General Strategies	GN-7: Collaborate in regional planning initiatives that benefit multiple jurisdictions such as: regional strategic growth plan, regional energy plan, regional watershed plan, regional public transportation plan, regional recreation plan, disaster or risk management/mitigation plan.	TBD	C, CD, CRC, CS, CTY, CUPPAD, DEQ, DNR, DU, FEMA, HD, IOHT, KBIC, LG, LSCP, MDOT, MEO, MSUE, NC, NCT, NMU, NRCS, OG, PZ, RU, SOM, SWP, TU, U, UPLC, UPW	D, G, TB	3	2	2	3	3	2	3	3	2	2	3	3	2	2	35	
Future Land Use and Development	LU-10: Hire a team of consultants to create a development plan to enhance the utilization of the primary business and residential areas in the Village of Harvey.	TBD	C, CABA, CS, CUPPAD, DEQ, HD, IOHT, LB, LSCP, MDOT, OG, PUB, PZ, TM	D, G, TB	2	2	2	2	1	2	1	2	1	1	1	2	0	2	21	
	LU-11: Update and maintain land use Geographic Information Systems (GIS software) to facilitate collaborative planning and data sharing.	TBD	C, PZ	TB	1	1	2	1	0	0	2	2	3	1	1	1	0	1	16	
Natural Systems	NS-10: Work with appropriate agencies to encourage homeowners to remove infrastructure that hardens shorelines and other artificial river channeling devices to reduce problems for downstream development and impact sediments.	TBD	C, CD, CS, DEQ, DNR, DU, FEMA, NRCS, OG, PUB, PZ, SPW, TU	D, G	1	1	2	2	1	2	1	1	1	2	1	1	0	1	17	

Site	Project Description	Cost	Participants	Funding Source	Diverse Users	Diverse Uses	Flexibility	Critical Systems	Redundancy	Other Support	Region	Build Capacity	Long-Term	Risk Mgmt	Repliable	Collaboration	Renewables	Catalyst	Score	
Priority Decision Criteria (0-3 points each)																				
Natural Systems	NS-11: Consider collaborating with other jurisdictions and agencies to implement projects to improve the watershed , such as sediment traps, managed stream crossings, cattle exclusions, culvert replacement, tree planting, stream restoration, stream monitoring and maintenance, and water testing.	TBD	C, CD, CS, CTY, DEQ, DNR, DU, FEMA, LG, NC, NRCS, OG, PUB, PZ, S, SPW, TU, UPLC	D, G	2	2	2	2	2	2	2	2	2	2	3	2	0	2	27	
Public Safety, Emergency, and Health Services	PS-1.5 – Purchase a GPS unit to assist in quickly locating structures	TBD	C, DPW, KBIC	G, TB	1	2	1	0	0	0	0	0	3	0	1	1	0	1	10	
	PS-1.6 – Work with the County Road Commission to provide and maintain better drainage systems for roadways to prepare for anticipated climate variability which may include increased incidents of flash flooding.	TBD	CRC, FEMA, SWP, TM	G, P, TB	3	1	2	3	3	1	2	1	1	2	1	1	1	1	23	
	S-14 – Consider creating a fireground training facility to provide realistic training for area departments in suppressing various types of fires and extrication from vehicles.	TBD	CTY, DPW, FD, FEMA, KBIC, LG, OG, PZ, TM, V	D, G, TB	2	1	2	2	1	2	3	2	2	2	2	2	2	0	1	24
	PS-15 – Implement the state-wide record management system in the police department to facilitate data sharing.	TBD	OG, PD	G	2	1	2	2	2	3	3	3	3	3	3	3	2	0	1	30
	PS-16.1 – Continue to purchase or update E-Citation software to allow greater efficiency and safety for officers when issuing citations.	TBD	KBIC, OG, PD	G, TB	1	1	2	2	1	3	1	1	3	2	2	0	0	0	0	19
	PS-16.2 – Continue to replace the in-car laptop computers and cameras with more space-efficient and technologically advanced models.	TBD	KBIC, OG, PD	G, TB	1	2	2	2	2	3	2	2	3	2	2	0	0	0	1	24
	PS-17.1 – Utilize vehicles that offer greater fuel efficiency. This might include alternative types of vehicles such as bicycles or motorcycles when appropriate.	TBD	DPW, FD, LB, OG, PD, TM	TB	2	1	1	3	2	1	1	2	1	3	2	0	2	2	2	23
	PS-17.2 – Work with neighborhood watch groups to facilitate more targeted patrols.	TBD	CH, KBIC, OG, PD, PZ	D, G	3	1	2	3	3	2	2	3	1	3	3	3	3	1	2	32
	PS-18.1 – Purchase dash cameras to facilitate in-house review of incidents for training purposes.	TBD	KBIC, OG, PD	G, TB	1	1	1	2	1	3	2	2	3	2	2	1	0	1	1	22
	PS-18.2 – Purchase a dedicated truck designed to fight wildland fires.	TBD	DNR, FD, FEMA, KBIC, OG	G, TB	2	1	2	3	3	2	3	2	3	3	2	1	0	1	1	28
	PS-18.3 – Establish a hydrant system in the Village of Harvey for consistent water supply to the commercial district and higher populated residential areas. This might be implemented in conjunction with a public water supply system.	TBD	CS, DEQ, DPW, FD, FEMA, TM, USDA	G, TB	2	1	2	3	3	2	2	2	2	1	3	1	1	0	1	24
	PS-18.4 – Establish supplemental water supplies for firefighting in underserved areas of the Township (such as Green Garden or Shot Point) by implementing dry hydrants connected to underground storage tanks.	TBD	CS, DEQ, DPW, FD, FEMA, NRCS, TM, USDA	G, TB	2	1	2	3	3	2	2	2	2	2	3	2	1	0	1	26
	PS-18.5 – Keep turn-out gear up-to-date by replacing a percentage of gear each year.	TBD	FD, FEMA, KBIC, OG	G, TB	1	1	2	2	2	2	3	2	2	3	3	2	2	0	1	26
Community Transportation	TC-2.3 – The Township will pursue innovative funding mechanisms to construct the new connector or access roads , such as TIF funding, developer contributions, and special assessments.	TBD	CRC, CS, LB, SOM, PUB, PZ, TM	P, T, TB, UF	2	2	3	3	3	2	1	1	1	2	2	1	0	3	26	

Site	Project Description	Cost	Participants	Funding Source	Diverse Users	Diverse Uses	Flexibility	Critical Systems	Redundancy	Other Support	Region	Build Capacity	Long-Term	Risk Mgmt	Repliable	Collaboration	Renewables	Catalyst	Score	
Priority Decision Criteria (0-3 points each)																				
Community Transportation	TC-2.4 – Possible new road connections that provide multiple access routes into residential subdivisions, businesses, and other activity centers are depicted in Appendix G.	TBD	CRC, CS, LB, SOM, PUB, PZ, TM	P, T, TB, UF	2	2	3	3	3	2	1	1	1	3	1	1	0	2	25	
	TC-2.5 – The Township will appoint an official or staff member to negotiate the necessary land purchase to relocate the driveway into Township Hall further from the intersection of US-41/M-28 and Silver Creek Road.	TBD	CRC, CS, DPW, TS, PUB	TB	2	1	2	2	0	1	0	0	1	2	0	0	0	0	1	12
	TC-2.6 – The Township will collaborate with Sands Township on a possible secondary access road connecting neighborhoods along Ortman Road west of Cherry Creek School with those along Silver Creek Road west of Township Hall.	TBD	CRC, CS, CTY, LG, PZ, TM	TB	2	2	3	3	3	1	2	2	1	3	2	1	0	2	27	
	TC-5.1 – In collaboration with the appropriate road agency, the Township will seek opportunities to design or reconfigure roadways and public easements to accommodate multiple user groups (such as youth and the aging population) utilizing appropriate Complete Streets techniques such as parallel shared-use paths or wide shoulders, sharrows or bicycle lanes, mid-block crossings, bus pull-outs, safety medians, traffic calming techniques, marked crosswalks, curb ramps, bicycle parking facilities, longer crossing times, smoother surfaces, and handicapped accessible facilities. See Appendix I for possible projects.	TBD	CRC, CS, CUPPAD, HD, IOHT, LB, MDOT, OG, PZ	D, G, TB	2	3	3	2	2	2	2	2	2	2	3	2	2	2	2	31
	TC-5.2 – The Township will work with ALTRAN and MarqTran to seek funding to construct a four-season transit station in Chocolay Township, with the Township to assume ongoing maintenance costs. The project may involve a property purchase or easement ideally in Harvey adjacent to US-41/M-28 near Silver Creek Road or CR 551 (Cherry Creek Road).	TBD	CRC, CS, DPW, IOHT, LB, MDOT, OG, PZ, TM	D, G, TB	2	1	2	2	2	2	2	2	2	2	2	2	2	1	2	26
	TC-5.3 – Work with local community organizations, MarqTran, MDOT and local businesses to improve the accessibility, usability, and attractiveness of the existing bus stops (near Krist Oil gas station and Park and Ride facility at Jack’s IGA).	TBD	ART, C, CABA, CGC, CH, LB, MDOT, OG, PUB, PZ, S, V	D, G, TB	2	1	2	2	2	2	2	2	2	1	2	2	2	1	2	25
	TC-5.4 – Work with local community organizations, MarqTran, MDOT and local businesses to construct additional transit shelters in locations such as the Silver Creek Recreation Area and Family Dollar Store. Determine optimal locations by surveying residents regarding needs and willingness to pay. Explore the feasibility of cost-sharing with private transit organizations who can also utilize the stops.	TBD	C, CABA, CH, CRC, CS, LB, MDOT, OG, PUB, PZ, S, V	D, G, TB	2	1	2	2	2	2	2	2	2	2	2	2	2	1	2	26
	TC-5.5 – Enhance the usability of multi-modal pathways by installing appropriate lighting, bike racks, benches, safety markings across driveways and through parking lots, and wayfinding signage for area businesses and attractions.	TBD	ART, C, CABA, DPW, IOHT, LB, MDOT, OG, PUB, PZ, S, TM, V	D, G, TB	2	3	2	2	2	2	2	1	2	2	2	2	2	2	2	28
	TC-5.6 – Enhance the usability of multi-modal pathways by improving thermal comfort through the use of vegetation or other barriers or screens to control the impact of wind, sun, and drifting snow.	TBD	4H, C, CABA, CD, CGC, CH, CS, DNR, HD, IOHT, LB, MDOT, OG, PUB, PZ, S, SWP, V	D, G, TB	2	2	2	2	2	2	2	1	1	2	2	3	2	2	2	27

Site	Project Description	Cost	Participants	Funding Source	Diverse Users	Diverse Uses	Flexibility	Critical Systems	Redundancy	Other Support	Region	Build Capacity	Long-Term	Risk Mgmt	Repliable	Collaboration	Renewables	Catalyst	Score	
Priority Decision Criteria (0-3 points each)																				
Community Transportation	TC-5.7 – Enhance the usability of multi-modal pathways by establishing funding and a plan for maintenance for the alternative business route for the Iron Ore Heritage Trail through Harvey (east and west side of the highway corridor) and the connectors on Silver Creek and Cherry Creek Roads. This includes repair cracks and bumps, keep walkways clear of objects and debris, maintain adequate drainage, provide for winter snow removal or snow pack for critical paths based on user input on preferred modes of winter travel (walking, fat tire biking, kicksledding, skiing, etc.).	TBD	C, CABA, DPW, LB, LG, PUB, TM	D, TB	2	3	2	2	2	2	1	2	1	2	2	2	2	2	2	27
	TC-5.8 – To mitigate rising energy costs that threaten the reliability and affordability of transportation, coordinate planning for a community ride-share system or car-sharing program for area residents. This could be either a public/private project or private for-profit or non-profit venture, but should involve adjacent jurisdictions as well.	TBD	C, CH, CS, CTY, LB, LG, OG, PUB, PZ	P, UF	2	1	2	2	2	2	2	2	2	1	3	3	3	1	2	28
	TC-5.9 – Identify funding and locations to install electric vehicle charging stations throughout the community on public and private property. Investigate methods to fund the electricity costs through a solar or wind installation, non-profit agency, or through user fees.	TBD	C, CH, CS, DPW, KBIC, LB, MEO, OG, PZ, RU	D, G, P, UF	2	1	2	2	2	2	2	2	2	2	2	3	1	2	2	27
	TC-5.10 – Collaborate in any regional initiative to bring passenger rail transportation to the area.	TBD	C, CS, CTY, CUPPAD, LG, PZ, SOM	G, P	2	2	2	2	3	1	3	2	1	3	2	3	1	3	3	30
Water and Wastewater Infrastructure	WW-1.1 – Obtain an engineering analysis to identify and evaluate options for replacement of obsolete equipment and prioritization of replacement work	TBD	CS, DEQ, DPW, TM, USDA	G, TB	1	1	2	3	2	1	0	0	1	3	0	0	0	0	1	15
	WW-1.2 – Obtain a professional analysis of energy system improvements including fiscal impact	TBD	CS, DPW, MEO, RU, TM, USDA	G, TB	1	1	2	3	2	2	1	1	2	3	1	1	1	1	1	22
	WW-1.3 – Identify funding opportunities to facilitate necessary improvements and determine phasing of the projects	TBD	CS, DEQ, DPW, TM, USDA	G, TB	1	1	2	3	2	1	0	1	1	3	1	1	0	0	2	19
	WW-1.4 – Assess the adequacy of Chocoday Township’s reserve capacity through the Marquette Wastewater Treatment Plant in relation to a potential need to expand the system to accommodate future development or redevelopment or address increasing health concerns from failing private septic systems.	TBD	CS, DEQ, DPW, HD, TM, USDA	G, TB	1	1	2	3	3	2	1	1	2	3	1	1	0	0	1	22
	WW-2.1 – Collaborate in studies to determine the adequacy of area aquifers and groundwater sources in relation to domestic, agricultural, and fire suppression needs in the years to come, particularly if there are changing regulations, contamination concerns, or increasing demands leading to supply concerns.	TBD	CS, CTY, CUPPAD, DEQ, DPW, HD, LG, NRCS, OG, PZ, SPW, TM, USDA	G, TB	3	3	3	3	3	2	3	2	2	3	2	2	0	0	2	33
	WW-2.2 – Include ancillary costs such as road repaving in a cost/benefit analysis comparing the costs of wells and fire insurance vs. the monthly system user fees.	TBD	CRC, CS, DPW, TM	G, TB	2	2	2	3	2	2	1	1	2	2	1	1	0	0	0	21

RECREATION PLAN CAPITAL PROJECTS PRIORITIES AND TIMELINE

Site	Project Description	Cost	Partici- pants	Funding Source	Diverse Users	Diverse Uses	Flexi- bility	Critical Systems	Redun- dancy	Other Support	Region	Build Capacity	Long- Term	Risk Mgmt	Repli- cable	Collabor- ation	Renew- ables	Catalyst	Score	
2014					Priority Decision Criteria (0-3 points each)															
General	10. Promote recreation activities in various media (print, Web, social, TV, and radio), and establish scheduled updates for those promotions.	\$500	TS	TB	2	2	2	1	0	0	1	2	0	0	1	1	0	2	14	
	11. Install artwork in the tunnel, and tiles of artwork at the tunnel entrances.	\$8,000	ART, DPW, H, PZ, V	D, G	3	1	1	0	0	3	2	1	1	0	3	3	0	2	20	
	12. Pursue installation of "bike route" signs to increase awareness along both sides of US 41 and CR 480, especially within the vicinity of the Voce Creek and Beaver Grove Recreation Areas.	TBD	C, DPW, MDOT, PZ	G, TB	2	0	0	1	0	1	2	1	1	0	1	1	0	1	11	
Beaver Grove Agriculture Area	3. Negotiate a land use and lease agreement with the Chocolay Community Farm Collaborative and Chocolay Community Garden group, detailing Township and other organizational expectations and responsibilities. Township responsibilities may or may not entail investments in site specific long-term capital improvements, but the Township will cooperate as a fiduciary agent in grants pursued by the partner organizations (with or without the provision of match funding).	ST	CCGG, PZ, TM, V	TB	3	2	3	3	3	3	3	3	2	3	3	3	2	3	39	
Beaver Grove Recreation Area	3. Improve the sign boards with schedules, stain the sign boards with outdoor stain to help preserve them.	\$100	DPW	TB	1	1	0	1	0	0	2	0	1	3	1	0	0	1	11	
	5. Install temporary netting / fencing on first and third base sides of ball field to minimize the potential damage from overthrown balls from the infield.	\$2,000	DPW	D, G																
Brower Recreation Area	5. Install signs indicating that the property is Township property.	\$3,000	DPW	G, TB	2	1	0	1	0	0	1	1	1	0	0	1	0	1	9	
	6. Establish a parking area on the Kawbawgam Road side of the property.	\$3,000	DPW	G, TB																
Green Bay Street Park	3. Evaluate, establish, and clear a parking area for access to the site.	\$3,000	C, DPW, V	D, G, TB	1	1	1	1	0	2	2	1	1	2	1	2	0	1	16	
	4. Install signage to indicate the property boundaries.	\$500	DPW	G, TB																
	6. Establish a Boy Scout / Girl Scout / 4H project to: <ul style="list-style-type: none"> ■ Add rail handles for the stairway ■ Plant native plants to prevent hillside erosion ■ Plant trees ■ Replace railroad ties in stairway 	ST	C, KBIC, PZ, S, V	D, G																
	7. Establish a Native American garden to showcase Native American foods and grains.	ST	C, KBIC, PZ, V	D, G																
	9. Add a picnic table near the shoreline to be removed each year during the first week of October, and reinstalled after spring flooding has ended.	\$800	DPW	TB																
Green Garden	4. Install signs indicating that the property is Township property.	\$3,000	DPW	TB	2	1	1	1	1	2	2	1	1	0	1	2	0	1	16	

Site	Project Description	Cost	Partici- pants	Funding Source	Diverse Users	Diverse Uses	Flexi- bility	Critical Systems	Redun- dancy	Other Support	Region	Build Capacity	Long- Term	Risk Mgmt	Repli- cable	Collabor- ation	Renew- ables	Catalyst	Score	
2014					Priority Decision Criteria (0-3 points each)															
Green Garden	5. Establish project with the DNR, Superior Watershed Partnership, and Trout Unlimited to establish a fishing path along the river for fishing access from the property and the waterway.	\$2,000	C, DNR, PZ, SWP, TU, V	G																
Kawbawgam Pocket Park	3. Re-establish the cross-country ski trail connection from the park to the Kawbawgam Cross Country Ski Trail using the existing North Country Trail route. Incorporate climate responsive amenities for four season use; summer time connection already exists for hikers on the trail. Include signage in the project.	\$2,000	C, DNR, DPW, NCT, PZ	D, G, TB	2	2	2	1	0	1	2	1	1	0	1	1	0	1	15	
	4. Establish parking lot as a launch point for east-west ATV traffic. Connection would be to the existing trail that is located approximately 100 yards south of the park. Include signage in the project.	\$1,000	C, DPW, IOHT, PZ, V	D, G, TB	1	1	0	1	0	2	2	1	2	1	1	2	0	1	15	
	5. Treat and seal the basketball court, and include the court on yearly maintenance schedules.	\$500	DPW	TB	1	0	0	1	0	0	0	0	0	1	1	0	0	0	1	5
Lion's Field	4. Install sign board with schedules near backstop of the ball field.	\$500	DPW	TB	1	1	0	1	1	2	1	1	1	0	0	1	0	1	11	
	5. Install a small scoreboard for the ball field.	\$1,000	DPW	G, TB																
	7. Set up temporary / permanent fencing on the ball fields along baselines for protection from overthrows at bases.	\$2,000	DPW	G, TB																
	3. Move the restroom facility to area south of the hockey rink, and make it ADA-accessible.	\$10,000	DPW	TB	3	2	2	2	1	2	3	2	2	1	3	2	1	2	28	
	6. Establish trail head and signage to Iron Ore Heritage Trail at the west end of the facility, including map locations. Build the connector trail behind the western end of the ball field in a southern direction to connect to the Trail.	\$5,000	C, DPW, IOHT, PZ	G, IOHT, LC, TB																
8. Provide a warming shed / rain shelter for improved comfort for those using the park facilities and the Iron Ore Heritage Trail.	TBD	C, DPW, IOHT, PZ	G, IOHT, LC, TB																	
Silver Creek Recreation Area	3. Acquire property to gain direct access to the recreation area.	TBD	A, PZ, TM	G, TB	2	2	2	1	1	0	1	1	2	2	0	1	0	2	17	
	4. Replace existing 9-hole disc golf course with redesigned 18-hole course (see Silver Creek Disc Golf Course in Appendix C) in conjunction with the UP Disc Golf Association.	ST	DPW, UPDG	D, TB	2	2	2	1	0	3	3	2	3	2	3	3	0	2	28	
	5. Implement ongoing snow removal and maintenance operations and improvement of restrooms and trail lighting to accommodate winter use.	\$3,000	DPW	G, TB	3	3	2	1	0	1	2	1	1	2	1	1	0	2	20	
	7. Consider the area near the northwest corner of the west parking lot as a potential location for a cell tower, and mitigate the 50' by 50' area with additional land purchase.	ST	C, PZ, TM	TB	3	0	0	1	1	2	2	0	2	2	2	2	0	1	18	
	8. Purchase and install a replacement DNR LWCF marker sign near the soccer field.	\$275	DPW	TB	0	0	0	0	0	0	2	0	1	0	0	0	0	1	4	
Township Marina	3. Expand and pave the parking area to accommodate additional vehicle with trailer parking.	\$5,000	DPW	G, TB	2	1	1	1	0	1	2	1	1	1	1	1	0	1	14	
	9. Mark property boundaries.	\$500	DPW	TB																

Site	Project Description	Cost	Partici- pants	Funding Source	Diverse Users	Diverse Uses	Flexi- bility	Critical Systems	Redun- dancy	Other Support	Region	Build Capacity	Long- Term	Risk Mgmt	Repli- cable	Collabor- ation	Renew- ables	Catalyst	Score
2014					Priority Decision Criteria (0-3 points each)														
Township Marina	11. Determine repair / replacement process for concrete ramp.	\$25,000	DNR, DPW	G, TB															
Township Municipal Complex	3. Establish a small trout fishery next to the new fire hall. This fishery can be supported and maintained through cooperative efforts with the DNR, Trout Unlimited and the DNR Cherry Creek Fish Hatchery. Pond can be used for ice skating in the winter months.	\$2,000	C, DNR, DPW, TU	D, G	2	2	1	1	0	2	1	0	1	0	1	2	0	1	14
Voce Creek Recreation Area	3. Provide mapping and signage for the site, including boundary markers.	\$3,000	C, DPW	G, TB	1	1	1	1	0	0	0	1	1	0	0	1	0	1	8
Wick Site	4. Provide mapping and signage for the site, including boundary markers.	\$3,000	C, DPW, V	G, TB	1	0	1	1	0	0	0	1	1	0	0	1	0	1	7
2015																			
General	3. Establish a Recreation Punch Card for completed activities in the Township – sponsored by local businesses to provide discounts to those that complete the punch card.	ST	C, CABA	G, TB	3	3	2	1	0	2	1	2	2	1	3	2	0	2	24
	4. Develop “walk-in” fishing opportunities for the Chocolay River and local streams. Provide detailed maps for this activity. Develop this in conjunction with the DNR, Trout Unlimited, and local fishing groups.	ST	C, DNR, PZ, SWP, TU, V	D, G, TB	1	1	2	1	0	2	2	2	2	0	2	2	0	1	18
	5. Plan for easements to provide local access paths to trail system throughout the Township. Provide residents the capability to easily access developed trails such as the North Country Trail and the Iron Ore Heritage Trail.	ST	A, C, PZ	TB	2	2	2	1	1	1	2	1	1	0	1	2	0	1	17
	6. Seek grant funding to install solar bollards on the bike path for evening lighting. Remove the bollards in October and reinstall in May.	ST	C, CABA, DPW, PZ	D, G, TB	3	2	2	1	1	1	2	1	1	1	1	2	0	1	19
	7. Working with the DNR, Superior Watershed Partnership, Trout Unlimited, and volunteers, implement the plan for canoe / kayak trail development on the Chocolay River and Sand River systems.	TBD	C, DNR, PZ, SWP, TU, V	D, G, TB	1	1	2	1	0	2	2	1	1	0	1	2	0	1	15
	8. Purchase or arrange for the use of trail-maintenance equipment or services to ensure optimal usability and transportation mobility in all seasons. This will include proper equipment for snow removal (on priority surfaced pedestrian trails) or management (for snow-packed trails). This may also include amenities such as landscaped wind breaks or benches.	TBD	C, DPW, PZ	D, G, TB	3	2	3	1	1	1	3	2	1	2	1	1	2	2	25
Beaver Grove Recreation Area	1. Redesign the layout of the ball field and incorporate American Softball Association (ASA) - approved standards for the field dimensions (see Beaver Grove Recreation Area Ball Field in Appendix C for proposed layout of the field). Layout will include: <ul style="list-style-type: none"> ■ Dugout upgrades ■ Infield skin replacement ■ New bases 	\$30,000	C, CCSL, DPW, V	G, TB	3	3	2	1	1	1	2	2	2	2	1	2	0	2	24

Site	Project Description	Cost	Partici- pants	Funding Source	Diverse Users	Diverse Uses	Flexi- bility	Critical Systems	Redun- dancy	Other Support	Region	Build Capacity	Long- Term	Risk Mgmt	Repli- cable	Collabor- ation	Renew- ables	Catalyst	Score	
2015																				
Beaver Grove Recreation Area	<ul style="list-style-type: none"> ■ New fence coverings ■ New fencing ■ Placement of spectator bleachers 																			
	2. Upgrade and replace playground equipment.	\$40,000	DPW	G, TB																
	3. Install an IP-based security system to help reduce facility vandalism.	\$5,000	C, DPW	G, TB																
	4. Replace the restroom facility.	\$20,000	DPW	G, TB																
	5. Plant deciduous trees on the south side of the pavilion to provide summer shade, and coniferous trees near the north and west sides to block the wind for a better year round microclimate. Fill with shrub layers.	\$2,000	DPW, PZ, V	D, G, TB																
	6. Establish a walking / exercise trail that will encompass both the Beaver Grove Recreation Area and the Beaver Grove Agriculture Area.	\$5,000	C, CCGG, DPW, PZ	D, G, TB																
Brower Recreation Area	2. Establish trail head and trail signage throughout the property for interpretive trails.	\$5,000	C, DPW, PZ, S, V	G, TB																
	3. Establish a two-to-three vehicle parking area at the southeast corner of the property to accommodate public access.	\$5,000	DPW	G, TB	2	1	0	1	0	0	1	1	1	0	0	1	0	1	9	
Community Gardens	1. Establish a community garden or hoop house on the east end of the Township in conjunction with the Chocolay Community Gardens group, preferably in the Kawbawgam Pocket Park.	ST	C, CCGG, DPW, PZ, S, V	G, TB	2	1	2	2	2	2	2	2	2	2	2	2	1	1	25	
Green Bay Street Park	1. Implement plan for future goals with the DNR, Superior Watershed Partnership, and Trout Unlimited.	ST	C, DNR, PZ, SWP, TU	G, TB	1	1	1	1	0	2	2	1	1	2	1	2	0	1	16	
Green Garden	1. Establish a location for kayak / canoe carry-down, with the potential of take out on the DNR location on Mangum Road.	\$1,000	C, DNR, DPW, V	G	1	1	2	1	0	2	2	1	1	0	1	2	0	1	15	
	2. After spring flooding season is over, place a picnic table in the southern portion of the parcel near the water and anchor the picnic table (to prevent theft).	\$800	DPW	TB	2	1	1	0	0	0	1	1	1	0	0	0	0	0	1	8
Kawbawgam Pocket Park	1. Replace the restroom facility at the park to accommodate additional park traffic.	\$20,000	DPW	G, TB																
	2. Expand parking lot to accommodate vehicles with ATV / ORV/ snowmobile trailers (see Kawbawgam Pocket Park in Appendix C).	\$5,000	DPW	G, TB																
	3. Replace swing set and relocate it to the front of the park (see Kawbawgam Pocket Park in Appendix C).	\$5,000	DPW	G, TB	2	2	1	1	1	0	0	1	1	1	0	1	0	1	12	
	4. Install picnic benches near the parking lot.	\$1,600	DPW	G, TB																
	5. Establish a community garden or hoop house in the park in conjunction with the Chocolay Community Gardens group (see Kawbawgam Pocket Park in Appendix C).	\$9,000	C, CCGG, DPW, PZ, S, V	G, TB	2	1	2	2	2	2	2	2	2	2	2	2	2	1	1	25
Lion's Field	1. Install replacement aluminum bleachers and covered dugouts.	ST	C, DPW	G	1	1	0	1	1	2	2	1	1	1	0	2	0	1	14	

Site	Project Description	Cost	Partici- pants	Funding Source	Diverse Users	Diverse Uses	Flexi- bility	Critical Systems	Redun- dancy	Other Support	Region	Build Capacity	Long- Term	Risk Mgmt	Repli- cable	Collabor- ation	Renew- ables	Catalyst	Score
2015																			
Lion's Field	2. Set up ball field to American Softball Association (ASA) specifications for co-ed softball (see Lion's Field Ball Field in Appendix C for specifications and layout).	\$30,000	C, CCSL, DPW, LC, V	G															
	4. Install an IP-based security system.	\$5,000	C, DPW	G, TB															
	3. Begin process of establishing sand area behind the ball field as a dog park or archery range while preserving the wild blueberry patches.	ST	C, PZ, UPW, V	G	2	2	2	1	0	1	20	1	1	0	1	1	0	2	34
Silver Creek Recreation Area	2. Double the size of the parking area near the soccer field.	\$10,000	DPW	G	3	3	2	1	1	1	1	1	1	1	0	1	0	2	18
	3. Open a well on the west end of the property.	\$5,000	DPW	G															
	4. Install and plumb restroom near the soccer field.	\$30,000	DPW	G															
	5. Install an IP-based security system.	\$5,000	C, DPW	G															
	6. Establish lighted cross-country skiing, snowbike, and snowshoe trails at Silver Creek Recreation Area, utilizing the disc golf areas when possible.	TBD	DPW, UPDG	TB															
Township Marina	1. Install lighting in the parking area. Paint the light pole near the fishing pier.	\$5,000	DPW	G, TB	2	1	1	1	0	1	2	1	1	1	1	1	0	1	14
	2. Replace skid pier with rolling pier.	\$10,000	DPW	G, TB															
Voce Creek Recreation Area	2. Establish small parking area to provide access from US 41.	\$5,000	C, DPW, MDOT, PZ	G, TB	1	1	1	1	0	0	0	1	1	0	0	0	0	1	7
	3. Potentially use the area as a site for a cell tower, and mitigate the 50' by 50' area with additional land purchase.	TBD	C, PZ, TM	TB	3	0	0	1	1	2	2	0	2	2	2	2	0	1	18
Wick Site	1. With the assistance of the DNR, Ducks Unlimited, Superior Watershed Partnership, Trout Unlimited, and property owners that surround Kawbawgam Lake, establish a water trail from Kawbawgam Road west through Kawbawgam Lake to Township and DNR properties that border LeVasseur Creek. The trail would be limited to kayaks and canoes (necessary features to establish the trail can be found under Wick Property Design in Appendix C.)	\$5,000	C, DNR, DU, PUB, PZ, SWP, TU, V	G	1	1	2	1	0	2	2	1	1	0	1	2	0	1	15
2016																			
Silver Creek Recreation Area	1. Add additional bleachers, and replace existing bleachers with aluminum bleachers.	\$20,000	DPW	G, TB	2	2	1	1	0	1	0	1	1	2	0	1	0	1	13
	2. Update / replace the playground equipment.	\$40,000	DPW	G, TB															
	3. Install parking lot lighting.	\$10,000	DPW	G, TB															
Township Marina	1. Install playground equipment (smaller scale version of what is installed at Marquette's Lower Harbor) plus benches in the upper level of the Marina property (near Main Street).	\$40,000	DPW	G, TB	2	2	1	1	1	1	1	1	1	0	1	1	0	1	14
	2. Upgrade tent camping platforms to accommodate yurt-type facilities. Work with the DNR to ensure this is within grant compliance.	\$5,000	C, DNR, DPW	G, TB															

Site	Project Description	Cost	Partici- pants	Funding Source	Diverse Users	Diverse Uses	Flexi- bility	Critical Systems	Redun- dancy	Other Support	Region	Build Capacity	Long- Term	Risk Mgmt	Repli- cable	Collabor- ation	Renew- ables	Catalyst	Score
2017																			
Silver Creek Recreation Area	1. Design ball field according to specifications for Little League while also accommodating American Softball Association (ASA) co-ed specifications. Move sprinklers, install covered dugouts, and install new fence on the Little League field. Replace skin with new soil.	\$50,000	C, DPW, LL, V	G, TB															
	2. Upgrade tennis courts with tile surfaces, and rebuild the courts. Eliminate the basketball net and pole from the tennis court. Establish lines and correlating borders for both tennis and pickleball.	\$30,000	DPW	G, TB	2	2	2	1	1	1	2	1	1	2	1	1	0	1	18
	3. Establish new location for the basketball net and pole.	\$1,000	DPW	G, TB															
	3. Construct a pavilion near the soccer field.	\$20,000	DPW	G, TB															
Township Marina	1. Upgrade the restroom.	\$20,000	DPW	G, TB	2	0	0	1	0	1	1	1	1	1	0	0	0	1	9
2018																			
Lion's Field	1. Install a cover over the hockey rink to use as a multi-use shelter in the summer.	\$20,000	DPW	G, TB	2	2	1	1	0	1	1	1	1	0	1	0	0	1	12
Silver Creek Recreation Area	1. Pave the parking areas.	\$100,000	DPW	G, TB															
	2. Install fencing at the resident end of the soccer field.	\$10,000	DPW	G, TB	2	1	0	1	0	1	0	1	1	1	0	0	0	0	
	3. Refurbish benches in the park.	\$5,000	DPW	TB															