Vestern U.P. PLANNING & DEVELOPMENT REGION

COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY



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Chapter 1 | **Introduction**

PURPOSE

The Western Upper Peninsula Planning and Development Region Commission (WUPPDR or "Western Region") has served as an Economic Development District under the United States Economic Development Administration (EDA) since 1970. Since then, WUPPDR has worked closely with EDA to monitor and plan economic development initiatives. A comprehensive economic development strategy, or CEDS, serves as one of our region's primary economic development plans (supplemented by the Regional Prosperity Plan described later in this document). EDA, in its CEDS Content Guidelines, describes the CEDS as follows:

Simply put, a CEDS is a strategy-driven plan for regional economic development. A CEDS is the result of a regionally owned planning process designed to build capacity and guide the economic prosperity and resiliency of an area or region. It is a key component in establishing and maintaining a robust economic ecosystem by helping to build regional capacity (through hard and soft infrastructure) that contributes to individual, firm, and community success. The CEDS provides a vehicle for individuals, organizations, local governments, institutes of learning, and private industry to engage in a meaningful conversation and debate about what capacity building efforts would best serve economic development in the region. The CEDS should take into account and, where appropriate, integrate or leverage other regional planning efforts, including the use of other available federal funds, private sector resources, and state support which can advance a region's CEDS goals and objectives.

Initially created as a planning document for EDA-funded projects, the CEDS has since evolved into a multipurpose and comprehensive planning tool. Along with its original purpose, the CEDS is used as a reference in developing projects across many of WUPPDR's program areas.

THE CEDS PROCESS

The CEDS is prepared by WUPPDR staff based on planning and input from the CEDS Committee under oversight of the WUPPDR Commission. In 2020, the WUPPDR Commission authorized a new structure for the CEDS Committee. (Previously the Regional Prosperity Collaborative, under the now-defunct Michigan Regional Prosperity Initiative, had served as the CEDS Committee.) The current committee is shown in **Table 1.1**.

WUPPDR staff drafted the CEDS by supplementing existing content with updated information and data gathered through comprehensive research and engagement with partner organizations. Later chapters, beginning with the SWOT analysis, were based largely on committee input. The CEDS draft was released for a 30-day public review period on November 16, 2021, posted on the WUPPDR website, publicized through social and traditional media, and e-mailed directly to a large number and variety of regional stakeholders. The final CEDS was adopted by the WUPPDR Commission on December 20 with edits to address feedback received and necessary updates identified during review.

Major updates to the CEDS are completed every five years, with annual performance updates in the intermediate years.

Chapter 1 | **Introduction**

Name	Organization	Economic Interests
	-	
John "Brad" Barnett	Keweenaw Convention and Visitors Bureau	Community Leader
		Private Sector Representative
Thomas Bergman	City of Ironwood Community Development	Community Leader
	Department	Local Government
Joe Bonovetz	Gogebic County Board of Commissioners	Public Official (Elected)
Richard Bourdeau	Ontonagon County Board of Commissioners	Public Official (Elected)
Debb Brunell	Upper Peninsula Michigan Works!	Workforce Development
Melissa Davis	New Power Tour	Nonprofit Sector
		Private Individual
Emily Gochis	Western U.P. MiSTEM Network	K-12 Education
Jared Hyrkas	OHM Advisors	Private Sector
Robert LaFave	Village of L'Anse	Public Official (Administrator)
Mark Massicotte	L'Anse Manufacturing	Private Sector
	Baraga County EDC	Workforce Development
	Workforce Development Board	
George McNulty	Gogebic Community College	Higher Education
Doug Mills	Baraga County Road Commission	Community Leader
-		Public Official (Administrator)
Jeff Ratcliffe	Keweenaw Economic Development Alliance	Community Leader
		Private Sector Representative

Table 1.1: CEDS Committee

ECONOMIC DEVELOPMENT ACCOMPLISHMENTS

In the last 10 years, WUPPDR has collaborated with local governments and organizations on the development of several EDA-funded planning and construction projects and prospective EDA projects in the region. Some highlights include:

2012: EDA provided \$35,000 for Baraga County for development of an economic development strategy. Entitled "Go! Baraga County," the strategy identified several opportunities for new or expanded industries to improve and diversify the county's economy. One of these was to supply infrastructure to an industrial park later funded by EDA. In 2009, in the depths of the Great Recession, Baraga County at one time had the highest county unemployment rate in the nation.

2014: WUPPDR assisted the Village of L'Anse in Baraga County in securing \$1.3 million dollars toward sewer and road infrastructure to serve the mostly undeveloped Lambert Road Industrial Park. After years of environmental complications, the project was completed in 2019. Since then the Village has worked to recruit industry tenants, with one successful thus far, and has also developed a community solar array at the park. Baraga County Economic Development Corporation assisted the Village in 2020 to secure a MEDC Site Readiness Program grant to optimize the park's assets and market positioning.

2016: WUPPDR assisted Keweenaw County in obtaining \$20,000 from MEDC and \$25,000 from EDA toward a commercial appraisal and Best Use Study for the beleaguered Keweenaw Mountain Lodge resort and conference facility located near the northern tip of the Keweenaw Peninsula.

Chapter 1 | Introduction

2019-20: WUPPDR engaged in numerous conversations and meetings with Gogebic County, community leaders within the county, and MEDC regarding an EDA EAA application to hire an Economic Recovery Coordinator for the county. Unfortunately, political factors and match commitments have been obstacles, but WUPPDR continues to work with the parties to explore options to meet this need.

2020: WUPPDR assisted the cities of Hancock and Houghton with preparing and submitting EAA public works applications for a business and technology park and a downtown public pier, respectively. WUPPDR also worked with Michigan Department of Natural Resources (DNR) to plan for submission of a public works application for reconstruction of recreation trails destroyed by flooding. The Hancock and DNR applications were submitted for FY2019 disaster funds, and Houghton application for the CARES Act appropriation.

In conjunction with the Partnership Planning program and CEDS, WUPPDR received EDA CARES noncompetitive funding to develop a Pandemic Response and Resiliency Plan and undertake other initiatives to recover from the Coronavirus Pandemic.

2021: EDA awarded funding for the Hancock Business and Technology Park, and WUPPDR began to administer the grant. Later, WUPPDR assisted Calumet Charter Township with preliminary work for an Economic Adjustment Assistance application for water system improvements. WUPPDR also assisted the City of Bessemer with preliminary work for an ARPA Travel, Tourism, and Outdoor Recreation infrastructure application and arranged for an economic impact analysis of the potential project – a trailhead facility – to be done by University of Michigan Economic Growth Institute (UM EGI). Finally, WUPPDR prepared to submit a co-application with UM EGI to conduct a regional tourism economic impact analysis.

Ongoing:

In alignment with EDA-funded economic development projects, WUPPDR runs a variety of programs which provide broad support to the region. Related areas of work include transportation planning, housing development initiatives, master/comprehensive planning, recreation planning, asset management, hazard mitigation planning, and geographic information systems (GIS) services.

Over the next five years, WUPPDR looks forward to continuing collaborative support from its funding partners to create economic development and regional support opportunities in the Western U.P. More details on current and future projects can be found later in this plan.

REGIONAL PLANNING ORGANIZATIONS

A regional planning organization (RPO) in Michigan is a multi-service entity with state- and locally defined boundaries that delivers a variety of federal, state, and local programs, and acts as a technical assistance provider and "visionary" to its member local governments. As such, they are accountable to local units of government and are effective partners for state and federal, and tribal governments.

RPOs in Michigan were first conceived in the 1960s with the perspective that local governments must work together regionally to provide important services to their communities, including comprehensive and transportation planning, economic development, workforce development, the environment, services for the elderly, and clearinghouse functions. Most of the 14 planning regions in Michigan are also EDA economic development districts. In this capacity and others, the three regions of the Upper Peninsula—regions 11, 12, and 13—often work beyond their boundaries to provide cross-regional opportunities for development.

Planning at the regional level is different from the county, municipal/township, and tribal levels. Regional planners respond to regionwide problems in a single integrated area, but they usually report back to a variety of governments rather than to just one. Since they are not usually responsible to a single unit of government, regional planning organizations encourage independent governments to act in concert if regional objectives are to be attained.

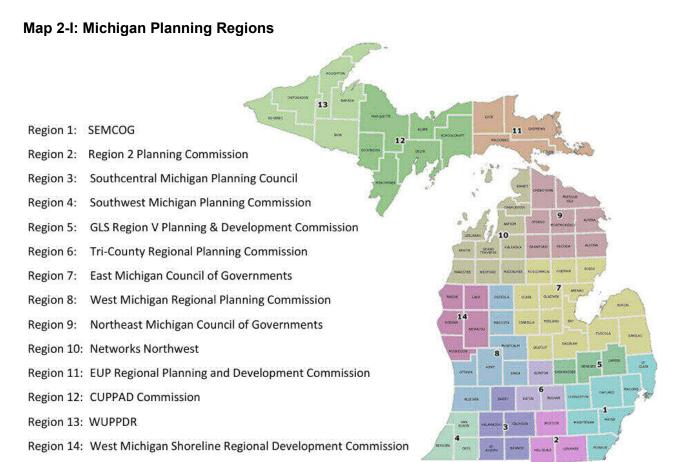
With all governments facing budget reductions, the importance of regionalism and collaboration is becoming apparent in order to provide programs and services to a larger geographic boundary. Regional organizations would benefit from more stable financial resources, along with more consistent support from a wide variety of federal aid programs and strong support from and linkage to state governments.

Regional problems and needs occur everywhere, and regional planning and regional organizations will remain highly important and effective in the decades ahead.

WUPPDR's Organization and Management

WUPPDR was first formed as the Western Upper Peninsula Economic Development District (EDD) under the auspices of the Michigan Department of Commerce and EDA. The organization was constituted in 1968 through Michigan Public Act 46 of 1966, the County or Regional Economic Development Act, and Michigan Public Act 281 of 1945, the Regional Planning Act. In 1970, the organization changed its name to Western Upper Peninsula Planning and Development Region Commission and reconstituted itself to operate under sole authority of Public Act 281, to which it still adheres today. WUPPDR's mission is to foster stable and diversified economies in the Western Upper Peninsula.

Executive Directive No. 1968-1 established official and uniform planning and development regions to be used by principal departments and agencies as instrumentalities of state government. The overall objective of this action was to better coordinate state programs with one another and with federal, regional, local, and private-sector programs. Other executive directives reaffirmed the precepts of 1968-1 and modified the regional configurations that would best facilitate continued progress toward its objectives. The six counties of WUPPDR conformed to the sub-state regional boundaries established by the governor at the time and became Planning Region 13. See **Map 2-I**.

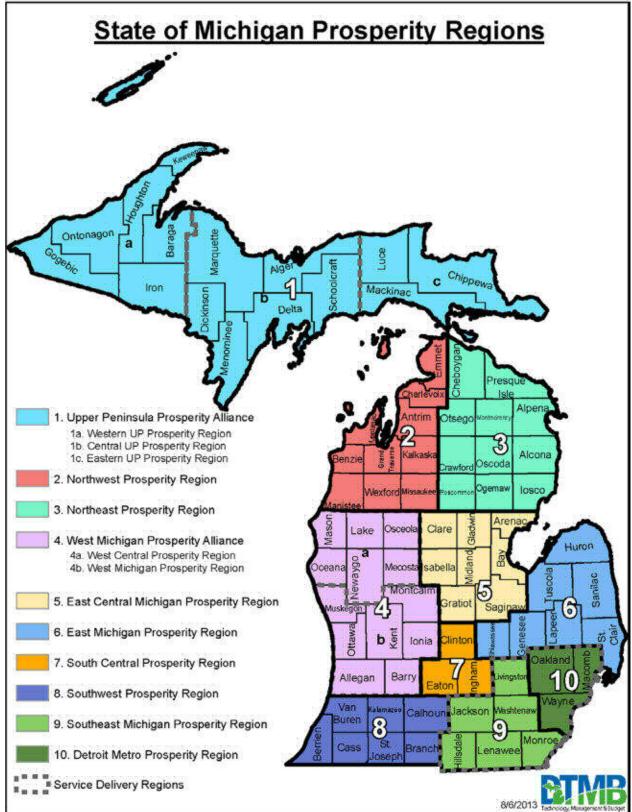


Michigan's Prosperity Regions

In 2013 the State of Michigan created the Regional Prosperity Initiative (RPI), a grant program to build and improve collaboration among a wide range of organizations within regions throughout the state. RPI made funding available, on a voluntary competitive basis, to planning regions and metropolitan planning organizations "to encourage local private, public and non-profit partners to create vibrant regional economies." This included a planning and stakeholder engagement process with regular meetings to include, at minimum, representatives of the following focus areas: economic, workforce, and community development; adult and higher education; and transportation. WUPPDR secured funding each year of the program, and much of the planning and project implementation was closely aligned with the Partnership Planning program and CEDS.

Another major goal of RPI at the state level was to align disparate service areas of state and regional agencies. A legacy of this remains, as 10 prosperity regions that were derived in part from the 14 planning regions continue to be recognized by some state agencies and programs. WUPPDR is part of Prosperity Region 1, which is comprised of the entire Upper Peninsula. See **Map 2-II**.





Governance

WUPPDR's membership is composed of local governments. Currently these members include the counties of Baraga, Gogebic, Houghton, Iron, Keweenaw, and Ontonagon; the cities of Hancock and Houghton; the villages of L'Anse and Ontonagon; and the charter townships of Calumet and Portage. Tribal governments are also eligible for membership.

WUPPDR's governing body is an approximately two dozen-member commission composed mainly of public elected officials. Commissioners are appointed to the WUPPDR Commission by participating members and represent a diverse group of public and private interests. Membership and apportionment of commissioners is based upon financial contributions, which are determined by a formula accounting for population and state-equalized value. The full Commission meets quarterly.

The officers of the Commission are elected every two years. Each five counties is represented by one officer. The five officers, plus an additional rotating member from the sixth county, comprise the Executive Committee. The Executive Committee makes recommendations to the full Commission and acts in lieu of the Commission as needed in interim months. The current members (2021) are:

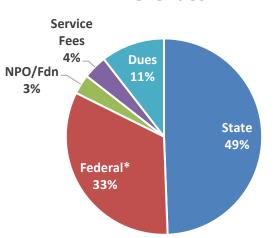
- Robert Nousiainen, Ontonagon County Chair
- Joe Bonovetz, Gogebic County 1st Vice Chair
- Patti Peretto, Iron County 2nd Vice Chair

Operations and Finances

WUPPDR currently employs six full- and part-time staff, supplemented by occasional interns, to conduct WUPPDR's business and program implementation.

In FY 2019-2020 (the year most recently audited), WUPPDR's revenues from external sources were approximately \$528,000. Membership dues provided approximately 11% of revenues; fees for local projects, 4%; nonprofit organizations and foundations, 3%; state-originating sources, 49%; and federal-originating sources (*including via state agencies), 33%.

- Bill Rolof, Baraga County Treasurer
- James Vivian Jr., Keweenaw County Secretary
- Albert Koskela, Houghton County Member



FY2020 Project and Program Revenues

AREA AND BOUNDARIES

The Western Region is bounded to the north and west by Lake Superior. The southern boundary is formed by the Montreal River, the Michigan-Wisconsin boundary line, and the Brule and Menominee Rivers. The east side of the region is defined by the eastern boundaries of Baraga and Iron counties. The region also includes the Isle Royale archipelago located approximately 40 miles northwest of the mainland.

The region contains Michigan's counties with the smallest population (Keweenaw) and lowest population density (Ontonagon, which also has the third-largest land area). Five of the counties in the region (the exception being Iron) border Lake Superior and thus have relatively high percentages of water area in their jurisdictions. Keweenaw and Ontonagon counties both have larger water areas than land areas. **Table 3-I** shows the land and water areas of each county and the region as a whole.

	S	Acres		
County	Land	Water	Total	Land
Baraga	898	171	1,069	574,720
Gogebic	1,102	374	1,476	705,280
Houghton	1,009	492	1,501	645,760
Iron	1,166	45	1,211	746,240
Keweenaw	540	5,426	5,966	345,600
Ontonagon	1,311	2,430	3,741	839,040
TOTALS	6,026	8,938	14,964	3,856,640

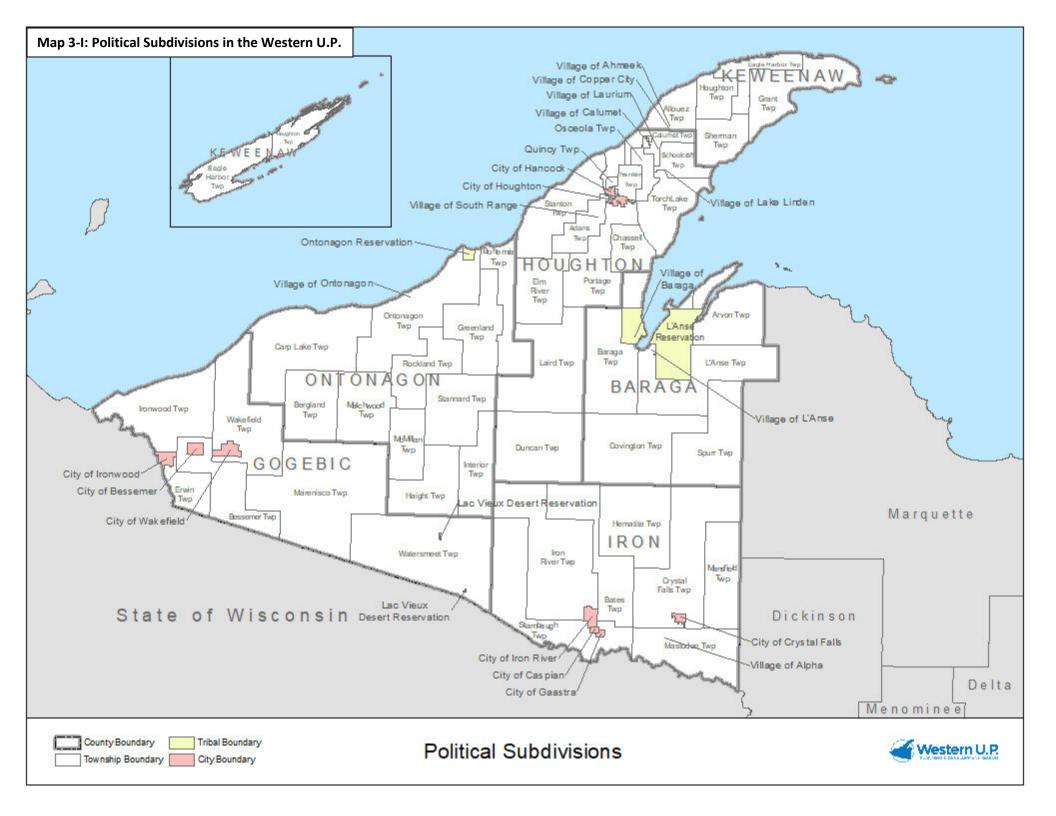
Table 3-I: Land and Water Areas by County

CIVIL DIVISIONS

There are 73 minor civil divisions within the Western Upper Peninsula, most of which are shown in **Map 3-I**. Besides the six counties, which include Baraga, Gogebic, Houghton, Iron, Keweenaw, and Ontonagon, there are 48 townships, 10 incorporated villages and nine incorporated cities. Two of the cities— Houghton and Hancock—are the core of a Census-designated micropolitan statistical area comprised of Houghton and Keweenaw counties. The other cities are generally distributed over the southern corners of the region. Two Native American reservations and 27 Census designated places (CDPs) also exist.

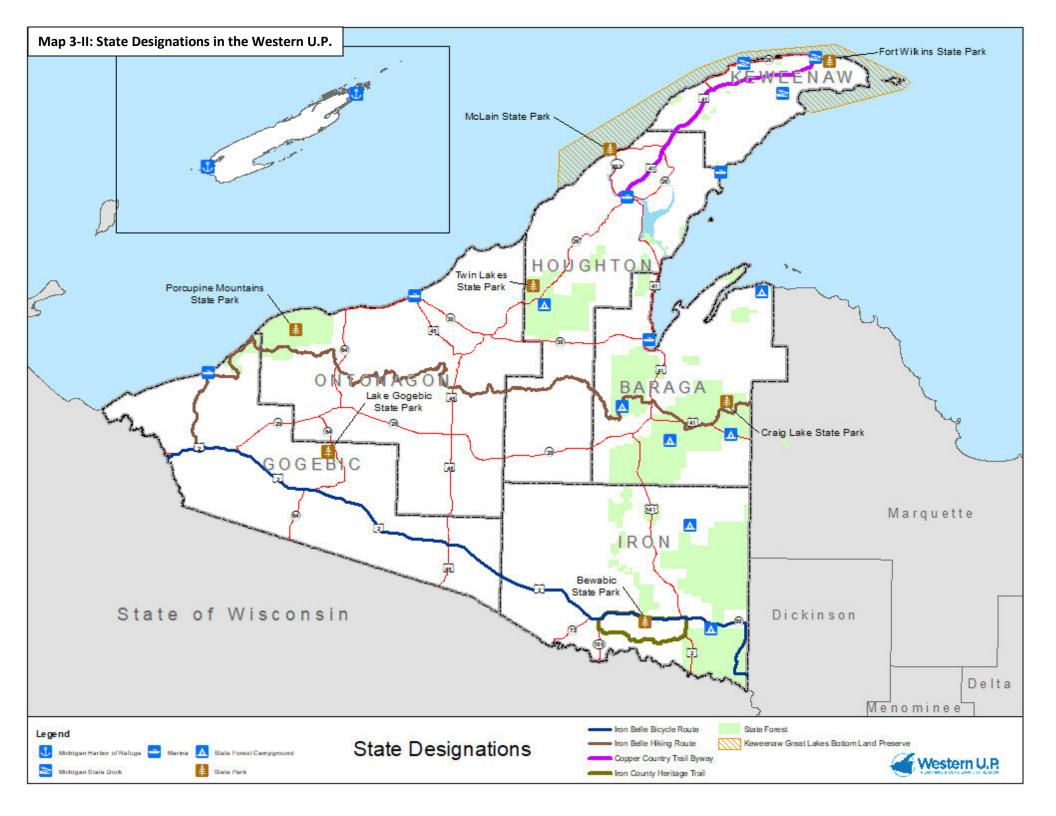
STATE AND FEDERAL DESIGNATIONS

Besides the corporate and other municipal civil divisions outlined above, the Western Region contains a large number of State- and Federal-designated sites, routes, facilities, and other subdivisions. Some are preserved for public access, recreation, or environmental quality; others are utilized for promotion of tourism; and still others are set aside for targeted economic development. Federal designations also including Reservation lands, which are defined as domestic dependent sovereign nations within the United States. **Tables 3-II** and **3-III** and **Maps 3-II** and **3-III** display the major State and Federal designations in our region, including designations significant to recreation, forestry, economy, and transportation.



Department	Designation	Name	County	Notes		
Department of EGLE	Underwater Preserve	Keweenaw Great Lakes	Houghton,	A 243 square mile area of Lake Superior bottomland designated as		
Program		Bottomland Preserve	Keweenaw	an area of significance for divers.		
		Agate Falls Scenic Site	Ontonagon	Facilities: Hiking, Picnic Area		
		Baraga State Park	Baraga	See also: michigan.gov/baraga		
		Bewabic State Park	Iron	See also: michigan.gov/bewabic		
		Bond Falls Scenic Site	Ontonagon	See also: michigan.gov/bondfalls		
		Craig Lake State Park	Baraga	See also: michigan.gov/craiglake		
	State Parks	Fort Wilkins State Park	Keweenaw	See also: michigan.gov/ftwilkins		
		Lake Gogebic State Park	Gogebic	See also: michigan.gov/lakegogebic		
		McLain State Park	Houghton	See also: michigan.gov/mclain		
		Porcupine Mountains	Ontonagon,	See also: michigan.gov/porkies		
		Wilderness State Park	Gogebic	See also. michigan.gov/porkies		
		Twin Lakes State Park	Houghton	See also: michigan.gov/twinlakes		
Department of		Baraga State Forest	Baraga			
Natural	State Forests	Copper Country State Forest	Baraga	See Map 3-II for locations.		
Resources		Keweenaw Point State Forest	Keweenaw			
		Beaufort Lake	Baraga	All MI State forest campgrounds are		
		Big Lake	Baraga	located on a river or lake, providing		
	State Forest	Deer Lake	Iron	excellent access to fishing, boating		
	State Forest Campgrounds	Emily Lake	Houghton	and canoeing. Other recreation		
		Big Eric's Bridge	Baraga	opportunities include picnicking,		
		Glidden Lake	Iron	mushroom gathering, berry picking,		
		King Lake	Baraga	cross country skiing and hunting.		
		Iron Belle Trail (Bicycle)	Gogebic, Iron	Mainly concurrent with US 2		
	State Trails		Baraga, Gogebic			
		Iron Belle Trail (Hiking)	Houghton,	Concurrent with North Country Trail		
			Ontonagon			
	Pure Michigan	Copper Country Trail	Houghton,			
Department of	Byways	National Scenic Byway	Keweenaw			
Fransportation		Iron County Heritage Trail	Iron			
	Marinas/Harbors	Harbors & Harbors of Refuge	All except Iron	See Map 3-II for locations.		
		City of Bessemer	Gogebic			
		City of Ironwood	Gogebic	Core Communities designations provide communities with three		
		City of Wakefield	Gogebic	economic development tools:		
	Core	City of Houghton	Houghton	Brownfield Redevelopment		
	Communities	City of Caspian	Iron	Incentives; Neighborhood Enterprise		
		City of Crystal Falls	Iron	Zones; and Obsolete Property		
		City of Gaastra	Iron	Rehabilitation Exemptions.		
Michigan		City of Iron River	Iron			
Economic		Village of Ahmeek	Keweenaw	-		
Development		Village of Baraga	Baraga	-		
Corporation		City of Bessemer	Gogebic	Low Moderate Income Community		
	Low- and	Village of Calumet	Houghton	Low-Moderate Income Community designation is a requirement for		
	Moderate-	City of Caspian	Iron	community development block grant		
	Income	City of Houghton	Houghton	(CDBG) programs that fund projects		
	Communities	City of Iron River	Iron	based on the low-moderate income		
		City of Ironwood	Gogebic	National Objective.		
		Village of Lake Linden	Houghton	4		
		McMillan Township	Ontonagon	4		
		Village of Ontonagon	Ontonagon]		

Table 3-II: State Designations in the Western U.P.



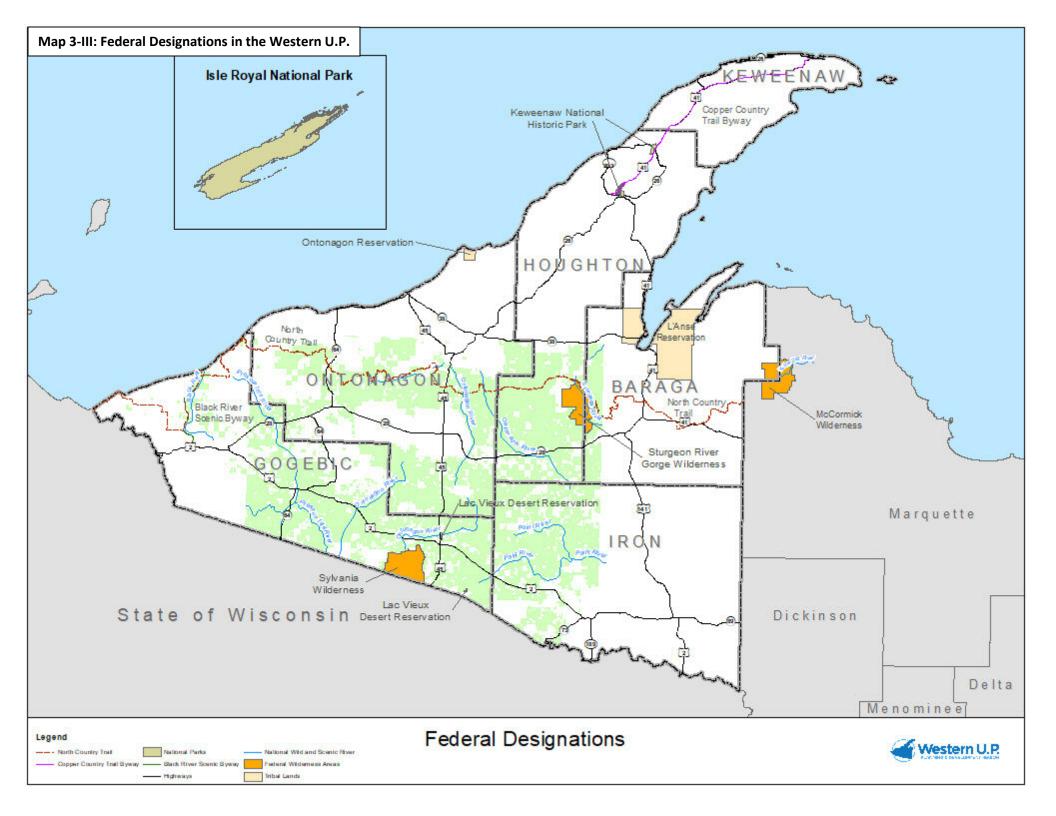
Designator	Designation	Title	County	Notes			
	National Wild	Sturgeon River	Baraga, Houghton				
	and	Yellow Dog River	Baraga, Marquette	See Map 3-III for locations;			
	Scenic Rivers	Black River	Gogebic	additional information is available			
	System	Presque Isle River	Gogebic, Ontonagon	at <u>www.rivers.gov/michigan.php</u>			
Congressional		Paint River	Iron				
Designation	National	McCormick	Baraga, Marquette	Established by National			
	Wilderness	Wilderness	Dalaga, Marquette	Established by National Wilderness Act in 1964 to			
	Preservation System	Sturgeon River Gorge Wilderness	Baraga, Houghton	preserve Federally managed land areas in their natural condition.			
	System	Sylvania Wilderness	Gogebic				
Department	US National Forest	Ottawa National Forest	Baraga, Gogebic, Houghton, Iron, Ontonagon, Marquette	Composed of 981,000 acres, which cover 63% of total forested land within forest boundaries.			
of Agriculture	National Forest Scenic Byway	Black River Scenic Byway	Gogebic	In cooperation with Federal Highway Administration's Byway Program.			
	Indian	L'Anse Indian Reservation	Baraga and Ontonagon				
	Reservations	Lac Vieux Desert Reservation	Gogebic	See Map 3-I for locations.			
		Keweenaw National Historical Park	Houghton	The park is comprised of two units, located in Calumet and north of Hancock (Quincy Mine Hoist Association site).			
Department of Interior	National Park	Isle Royale National Park	Keweenaw	Includes 132,018 acres of above- water land; total boundary area is 571,790 acres. Park is also designated as a Biosphere Reserve by the United Nations Educational, Scientific, and Cultural Organization (UNESCO).			
	National Scenic Trail	North Country Trail	Baraga, Gogebic, Houghton, Ontonagon	The North Country Trail runs through seven states and links 4,600 miles of scenic, natural, historic and cultural areas.			

Table 3-III: Federal Designations in the Western U.P.

HISTORIC FEATURES

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The National Register of Historic Places (NRHP) is the official list of the nation's historic places worthy of preservation. Authorized by the National Historic Preservation Act of 1966, this Federal program supports efforts to identify, evaluate, and protect America's historic and archaeological resources. Historic Districts allow communities and property owners to take advantage of tax credits and grants and allow for historic design guidelines and ordinances. Thirty-two sites in the Western Region listed by the United States Department of the Interior (USDI) on the NRHP are inventoried in **Table 3-IV**.



Name of District or Establishment	County
Assinins	
Herman and Anna Hanka Farm	Baraga
Big Traverse Bay Historic District	
Calumet and Hecla Industrial District	
Calumet Downtown Historic District	
Calumet Historic District	
East Hancock Neighborhood Historic District	
Lake Linden Historic District	Houghton
Laurium Historic District	Houghton
Painesdale Historic District	
Quincy Mining Company Historic District	
Quincy Mining Company Stamp Mills Historic District	
Quincy Street Historic District	
Shelden Avenue Historic District	
Alpha Public Building and Historic Complex	
Amasa Historic Business District	
Courthouse Residential Historic District	
Falls Location Historic District	
James Mine Historic District	
Mansfield Mine Location Historic District	Iron
Park City Historic District	
Triangle Ranch Headquarter Historic District	
Van Ornum's Addition Historic District	
Van Platen-Fox Lumber Camp Historic District	
Hiawatha Mine Number One Complex	
Camp Gibbs	
Central Mine Historic District	
Eagle River Historic District	
Fort Wilkins	Keweenaw
Johns Hotel	Reweendw
Keweenaw Mountain Lodge	
Minong Mine Historic District	
Ontonagon Harbor Piers and Historic District	Ontonagon
Designator: USDI (NRHP)	

Table 3-IV: Federal Historic Designations in the Western U.P.

POPULATION PROFILE AND TRENDS

The Region's Industrial Era Population History

The territory we now know as the Western Upper Peninsula of Michigan was inhabited in the early 1800s by Native Americans, primarily of the Anishinaabe. There were also a few non-native Americans and some Europeans. These were trappers, traders, fishermen, and missionaries. Settlement of the territory did not begin, however, until the United States Government negotiated a treaty with the Chippewa during 1842, at which they ceded their lands in the Western Upper Peninsula to the United States. The treaty helped prepare the way for the opening of the part of the territory that would become known as the Lake Superior Copper District, which would culminate, shortly after mid-century, in the establishment of one of the greatest mining areas of the world.

As the copper and tin mines in Cornwall, England fell on hard times, Cornish miners quickly turned their attention to the promising reports from the northern tip of Michigan. As a result, a large number of Cornish people began immigrating to the area in the mid-1840s. In the second half of the 19th century, Finnish immigrants came to the region. Excessive tax burdens, elusive land titles, and opposition to new religious teachings along with poor soil and growing seasons in their native land stirred their migratory spirits. These two groups were augmented with French Canadians, Irish and Scandinavians, also lured by the logging and mining opportunities. These nationalities were followed by Italians, Germans, Poles, Slovenians, Croats, and Scots, among others.

The population grew slowly until after the Civil War in 1865, when the region's natural resources of copper, timber, and iron ore helped support the nation's rapid industrialization and westward expansion. The exploitation of these resources required large numbers of laborers, which in turn offered an opportunity for them to earn a respectable living. This population was composed of people from other parts of the nation as well as many ethnic groups from Europe, recruited specifically to fill the manpower shortage.

The region's population zenith was reached in 1920 and thereafter declined with each decennial census until 1970, after closure of almost all remaining mines in the 1960s. A small recovery occurred from 1970 to 1980, with a population increase of 2.0%. Thereafter, despite a regional increase of 261 in the 1990s, regional population has continued long-term decline to the year 2020. The region's population declined by nearly half from 1920 to 2020 but only 11.5% from 1970 to 2020. Thus, even though there is a widespread perception among residents of severe population loss over the past several decades, losses were much greater prior to 1970. The regional population trend based on the Decennial Census is illustrated in **Figure 3-I**. In 2020, the Western U.P. accounted for less than 1% of Michigan's population.

Data in the early years displayed in Figure 3-I was influenced by changes in geographic boundaries and Census methodology. First, in 1843 the Michigan Legislature divided the Upper Peninsula into six counties: Chippewa, Delta, Mackinac, Marquette, Ontonagon, and Schoolcraft. These original counties were subdivided by the Legislature over the years, ultimately resulting in the current 15 Upper Peninsula counties. It wasn't until the 1880-1890 period that territorial adjustments to these counties ceased and the boundaries remained as they are found today. Second, it was not until 1860 that the Federal government counted American Indians in the decennial census, and even then, American Indians were counted only if they had left their reservations. The 1890 census was the first attempt to obtain a complete census of American Indians throughout the country.

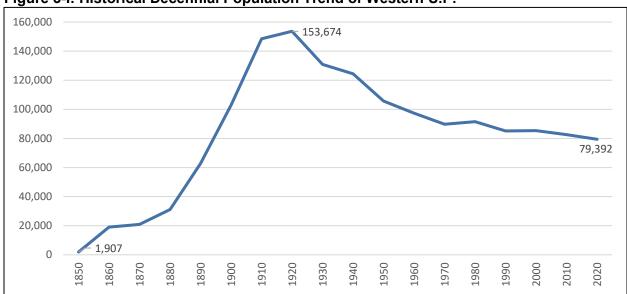


Figure 3-I: Historical Decennial Population Trend of Western U.P.

The Western U.P. counties have not uniformly partaken in the long-term population loss. **Figure 3-II** illustrates each county's population each 10 years from 1960 to 2010. Three counties have seen severe declines over this period: Gogebic, Iron, and Ontonagon. Keweenaw's long-term change has been minimal. Houghton and Baraga counties increased, the latter probably owing to construction of the Baraga Correctional Facility in 1993. A correctional facility was constructed in Gogebic County in 1971. The population impact at that time is unclear, but the facility's closure in 2019 resulted in a loss of over 1,000 residents.

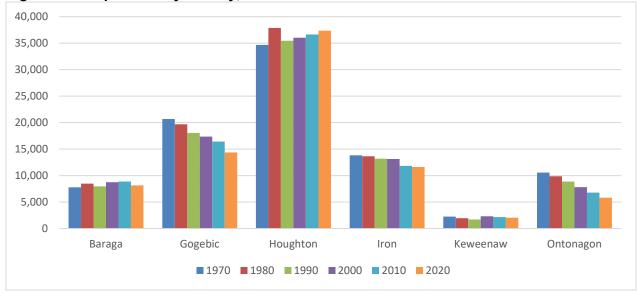


Figure 3-II: Population by County, 1970-2020

Table 3-V shows total Decennial Census population figures and trend from 1970 to 2020.

		U.S. Census (Decennial)								
County	1970	1990	2000	2010	2020	1960- 2020 Change				
Baraga	7,789	7,954	8,746	8,860	8,158	4.7%				
Gogebic	20,676	18,052	17,370	16,427	14,380	-30.5%				
Houghton	34,652	35,446	36,016	36,628	37,361	7.8%				
Iron	13,813	13,175	13,138	11,817	11,631	-15.8%				
Keweenaw	2,264	1,701	2,301	2,156	2,046	-9.6%				
Ontonagon	10,548	8,854	7,818	6,780	5,816	-44.9%				
TOTALS	89,742	85,182	85,389	82,668	79,392	-11.5%				

Table 3-V: Population by County, 1970-2020

Ontonagon, Gogebic, and Iron counties, in decreasing order, experienced the greatest percentage population loss from 1970 to 2020, each exceeding the regionwide loss of 11.5%. Total population of the region stabilized from 1990 to 2000 but again declined from 2000 to 2020.

The current population projections available for Michigan were developed in 2019 for the period 2020-2045 by the Bureau of Labor Market Information and Strategic Initiatives (BLMISI), Department of Technology, Management and Budget (DTMB). The 2020 benchmarks for the projections *have not* been adjusted to reflect actual 2020 Census counts. With that caveat, **Table 3-VI** shows population projections for counties in the region to the year 2045. The numbers project a continuing slow long-term decrease at the regional level, but trends vary dramatically within the region. By 2045, Ontonagon County is expected to lose nearly one-half of its previously estimated 2020 population, closely followed by Keweenaw County. Baraga County is projected to lose approximately one-quarter, with more moderate but still concerning losses in Gogebic and Iron counties. Houghton County, on the other hand, is projected to see a steady and significant increase in population by 2045.

County	2020	2025	2030	2035	2040	2045	Cha	ange
Baraga	8,245	7,930	7,600	7,203	6,762	6,235	-2,010	-24.4%
Gogebic	13,914	13,570	13,385	13,108	12,759	12,199	-1,715	-12.3%
Houghton	36,230	36,820	38,069	39,394	40,536	41,241	5,011	13.8%
Iron	10,923	10,731	10,653	10,518	10,328	9,967	956	-8.8%
Keweenaw	2,024	1,870	1,692	1,516	1,358	1,202	-822	-40.6%
Ontonagon	5,561	5,058	4,586	4,095	3,555	3,000	-2,561	-46.1%
TOTALS	76,897	75,979	75,985	75,834	75,298	73,844	-1,141	-1.5%

Table 3-VI: Population Projections, 2020-2045

Source: DTMB BLMISI

Demographic Indicators

Age Structure

The aging of the Western U.P.'s population is a key factor in the region's population decline. As a statistical matter, aging is also a *result* of the population decline, as young people continue to leave the region in disproportionate numbers.

Figure 3-III shows the median age trend for each county and the State of Michigan. The median age of each county other than Houghton has increased almost every decade from 1970 to 2010 and again to

2019. (Age data from the 2020 Census have not yet been released.) Based on ACS, In Houghton County, where students make up a large percentage of the population, the median age in 2019 is 33.0 years – well below the state median age of 39.7. The median age in every other county in the region is much higher than the states. Ontonagon County's median age is 58.6 years, and nearly 70% of residents there are 45 years or older; more than one-third are 65 or older. Region-wide 22.8% of residents are 65 or older; statewide this figure is 16.7%. Such disparities are important to consider in ongoing evaluation of regional needs and services.

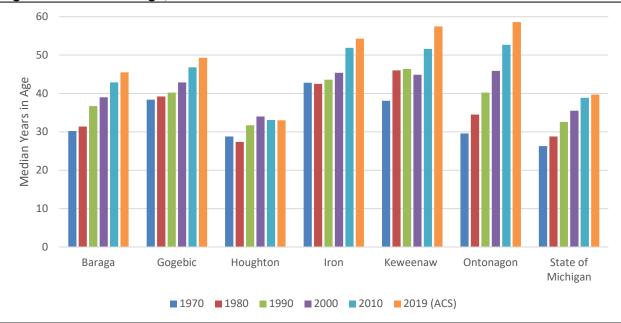


Figure 3-III: Median Age, 1970-2019

Racial Composition

The region's population is overwhelmingly White. White persons of one race account for 89.8% of the region's total population, American Indian & Alaska Native persons of one race, 2.4%; and Black or African American persons of one race, 1.3%.

The largest minority population is in Baraga County, where 7.4% of the county population is composed of Black or African American persons of one race and 13.4% is composed of American Indian & Alaska Native persons of one race. Notably, these percentages are a decrease from 18.5% and an increase from 4.5%, respectively, reported in the 2015 ACS. The second-largest minority populations are American Indian & Alaska Native persons of one race in Gogebic County (3.6% of county) and Asian persons of one race in Houghton County (2.3% of county). Hispanic or Latino persons of any race account for 1.6% of the region's population.

Since the 2010 Census and 2015 ACS, there has been a large increase in the number of persons identifying as two or more races within each of the region's counties, Michigan, and the United States. This can be attributed in part to changes in the Census form that expanded response options for race, but it also reflects growing racial diversity and identity.

Table 3-VII shows the racial composition of the region and its counties in comparison to Michigan and the United States, both of which have much larger minority populations.

Educational Attainment

The region overall has a somewhat lower level of educational attainment among persons 25 years and older than the State. However, the region has a smaller percentage of persons with less than a high school education (7.6%) than the State (9.2%). In addition, Houghton and Keweenaw counties have higher levels of educational attainment than the State, with about 32% of residents having at least a bachelor's degree compared to the State's 29.1% and about 14% having a graduate or professional degree versus the State's 11.4%. The presence of Michigan Technological University in Houghton is a contributing factor.

Race	Baraga	Gogebic	Houghton	lron	Keweenaw	Ontonagon	Region	Michigan	U.S.
One Race	92.3	95.7	95.6	95.8	96.5	95.9	95.3	93.7	89.8
White	70.8	90.8	91.3	94.0	95.5	94.1	89.8	73.9	61.6
Black or African American	7.4	0.5	0.8	0.2	0.2	0.1	1.3	13.7	12.4
American Indian & Alaska Native	13.4	3.6	0.4	0.8	0.0	1.1	2.4	0.6	1.1
Asian	0.2	0.2	2.3	0.4	0.0	0.4	1.2	3.3	6.0
All Other		0.5	0.8	0.5	0.7	0.2	0.6	2.2	8.6
Two or More Races		4.3	4.4	4.2	3.5	4.1	4.7	6.3	10.2
Hispanic or Latino (of any race)	1.3	-	-	1.8	1.3	1.2	1.6	5.6	18.7

Table 3-VII: Racial Composition (%), 2020

NOTE: All subheadings are percentages of the total population, not that of the higher-level headings.

Region-wide, 34.4% of persons age 25 and older have attained at least an associate's degree, 24.1% at least a bachelor's degree, and 9.5% a graduate or professional degree. These percentages have markedly increased since the previous five-year CEDS. Baraga, Iron, and Ontonagon counties have similar relatively low levels of attainment, with Gogebic County somewhat higher and Houghton and Keweenaw the highest. See **Figure 3-IV**.

HOUSING

As of the 2020 Census there were 50,469 housing units in the region, a decrease of 1,568 units, or 3.0%, from the 2010 Census count of 52,037. The number of housing units decreased in every county except Houghton, which was virtually flat. (In comparison, from 2000 to 2010 the number of housing units regionwide had *increased* by 4.7%).

Table 3-VIII shows the housing stock of the region, Michigan, and United States by year built, based on the 2019 ACS¹. The region's housing is extremely old, with over one-third of units having been built in 1939 or earlier, compared to the State's 14.8%. Housing starts in the decade beginning in 2010, with long-term impacts from the Great Recession, have drastically decreased from the 2000 to 2009 construction period.

¹ It should be taken into account for this and other housing statistics that the 2019 ACS appears to have significantly overestimated the number of housing units in the region, at 52,376 (versus the 2020 Census count of nearly 2,000 fewer).



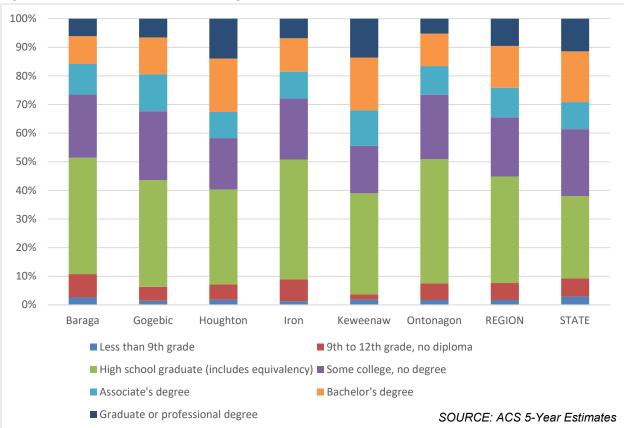


Figure 3-IV: Educational Attainment, Age 25 and Over, 2019

Table 3-VIII:	Housing	Units	Year	Built,	2019
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	Regio	Region Michigan United Sta			ates	
Year Built	# of Units	% of Units	# of Units	% of Units	# of Units	% of Units
Total	52,376		4,596,198		137,428,986	
Built 2014 or later	459	0.9%	59,439	1.3%	3,399,842	0.1%
Built 2010 to 2013	650	1.2%	57,274	1.2%	3,690,038	1.5%
Built 2000 to 2009	4,160	7.9%	451,118	9.8%	19,186,932	14.9%
Built 1990 to 1999	4,877	9.3%	604,882	13.2%	19,072,607	14.0%
Built 1980 to 1989	4,900	9.4%	455,280	9.9%	18,455,307	13.7%
Built 1970 to 1979	6,754	12.9%	708,543	15.4%	20,877,555	15.7%
Built 1960 to 1969	4,292	8.2%	545,317	11.9%	14,526,829	10.9%
Built 1950 to 1959	4,922	9.4%	685,448	14.9%	14,142,147	10.7%
Built 1940 to 1949	3,258	6.2%	349,293	7.6%	6,748,599	5.3%
Built 1939 or earlier	18,104	34.6%	679,604	14.8%	17,329,130	12.6%
SOURCE: ACS 5-Year	Estimates					

SOURCE: ACS 5-Year Estimates

Table 3-IX indicates the total number and occupancy status of housing units in each county as of 2020.Regionwide, 67.3% of units were occupied and 32.7% were vacant. No further detail on

occupancy/vacancy characteristics are available from the Decennial Census, but based on the 2019 ACS, 76.2% of the region's "vacant" units, or 29.1% of all housing units, are "for seasonal, recreational, or occasional use." This reflects the very strong presence of second/vacation homes in the region, with a tendency for "snowbird" residents to live in the region for the summer season and travel to the southern U.S. for winter. It may also indicate an ongoing conversion of owner-occupied and long-term rental properties to short-term vacation rentals. Seasonal home incidence is highest in Keweenaw County, where both the economy and the population have a strong seasonal dynamic, and lowest in Houghton County, which has a stronger base of year-round employment and activity.

Table o IX. Housing occupancy and vacancy oracas, 2010/2020									
County	Total Units	Occupied		Vacar	nt	Seasonal/Temporary/ Occasional Use (2019)			
County	(2020)	#	% of Total	#	% of Total	% of Total	% of Vacant		
Baraga	5,052	3,328	65.9%	1,724	34.1%	36.2%	87.5%		
Gogebic	10,393	6,874	66.1%	3,519	33.9%	28.0%	74.8%		
Houghton	18,632	14,299	76.7%	4,333	23.3%	17.3%	60.1%		
Iron	8,878	5,521	62.2%	3,357	37.8%	35.2%	80.0%		
Keweenaw	2,270	1,000	44.1%	1,270	55.9%	51.1%	90.6%		
Ontonagon	5,244	2,966	56.6%	2,278	43.4%	44.4%	87.2%		
Region	50,469	33,988	67.3%	16,481	32.7%	29.1%	76.2%		
Michigan	4,570,173	4,041,760	88.4%	528,413	11.6%	6.3%	43.7%		
U.S.	140,498,736	126,817,580	90.3%	13,681,156	9.7%	4.0%	32.6%		
SOURCE total unit accuracy and vacanavy 2020 Canava; type of vacanavy ACS E Vacy Estimates									

 Table 3-IX: Housing Occupancy and Vacancy Status, 2019/2020

SOURCE, total unit occupancy and vacancy: 2020 Census; type of vacancy: ACS 5-Year Estimates

Table 3-X shows that, based on 2019 ACS, the Western U.P. has a greater percentage of of owner-occupied (75.2%) over renter-occupied (24.8%) units than Michigan (71.2% owner/28.8% renter) or the U.S. (64% owner/36% renter). The greatest percentage of renter-occupied units as compared to owner-occupied units among the region's counties is in Houghton County, where one-third are renter-occupied – attributable to the presence of the county's large population of college students. The smallest percentages of renter-occupied units are in Keweenaw and Ontonagon counties, both around 12%.

The table also shows that among types of housing structure, 81.4% of occupied housing units in the region are single-unit detached dwellings. This compares to 72.2% in Michigan and 61.6% in the U.S. The counties in the region range from 83% to 89% single-unit detached, except Houghton County (73.1%), which has a greater number than the others of apartments and condominiums.

County	Occupied	Owner-Occupied		Renter-Occ	upied	1-Unit	Median	
	Units	#	%	#	%	Detached, % of All Units	Home Value	
Baraga	3,107	2,494	80.3%	613	19.7%	84.2%	\$102,200	
Gogebic	6,744	5,224	77.5%	1,520	22.5%	83.9%	\$67,100	
Houghton	13,386	8,954	66.9%	4,432	33.1%	73.1%	\$108,700	
Iron	5,225	4,220	80.8%	1,005	19.2%	87.3%	\$77,700	
Keweenaw	1,081	941	88.0%	130	12.0%	89.0%	\$121,100	
Ontonagon	2,793	2,464	88.2%	329	11.8%	88.8%	\$70,000	
Region	32,336	24,307	75.2%	8,029	24.8%	81.4%		
Michigan	3,935,041	2,802,699	71.2%	1,132,342	28.8%	72.2%	\$154,900	
U.S.	120,756,048	77,274,381	64.0%	43,481,667	36.0%	61.6%	\$217,500	

Table 3-X: Housing Tenure and Other Indicators, 2019

SOURCE: ACS 5-Year Estimates

Historically, homeownership has been more financially attainable in the region than in Michigan and the U.S. overall. The region's county median home values range from \$67,100 in Gogebic to \$121,100 in Keweenaw – far less than the State and U.S. medians of \$154,900 and \$217,500 respectively. However, home values have greatly increased since the previous CEDS update. At that time, Keweenaw County, with a median value of \$102,000, was the only county whose value exceeded \$100,000. As of 2019, there is a distinct split, with three counties having median values over \$100,000 and the other three counties having much lower values ranging to \$77,700. A housing price surge associated with the Coronavirus Pandemic will likely accelerate home value increases throughout the region.

Construction of residential units in the Region has been influenced by the overall economy. Over the past 10 years, from a low point in 2011 following the Great Recession, activity on the regional level has been fairly stable, though Houghton County's permitting has fluctuated greatly. It is likely that with a new influx of residents, over the next five years permit activity will again begin to rise. See **Table 3-XI** and **Figure 3-V**, which includes a trendline. (Tribal governments can have separate permitting systems, and these are not included here.)

Tuble V-Al Estimated Dunang Ferring 1950ed											
County	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	TOTAL
Baraga	8	13	11	15	15	7	5	8	7	14	103
Gogebic	24	13	15	22	13	20	12	14	22	20	175
Houghton	35	58	53	33	44	44	71	56	51	45	490
Iron	35	34	34	20	25	17	14	30	30	(x)	239
Keweenaw	9	11	11	8	12	8	8	13	11	18	109
Ontonagon	6	8	8	7	12	9	12	4	19	7	92
TOTAL	117	137	132	105	121	105	122	125	140	104	1,208

Table 3-XI Estimated Building Permits Issued

SOURCE: U.S. Census Building Permits Survey

(x) = Omitted due to known error in Iron County's 2020 Census data. Self-reported permits are 98 in total, but these include types other than the Census-tracked new construction.

Hash pattern indicates one or more multi-unit buildings that year (each counted as 1)

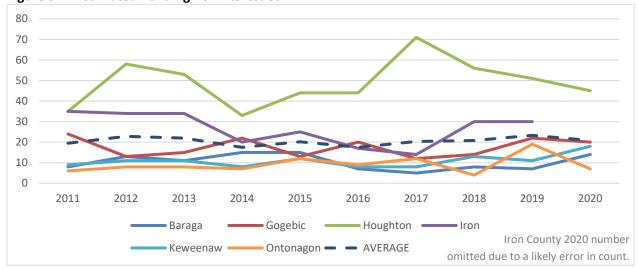


Figure 3-V: Estimated Building Permits Issued

PHYSICAL FEATURES

The Great Lakes Ecosystem & Lake Superior Basin

The nonliving environment and all living organisms occupying and interacting in a given area are considered an ecosystem. The Western U.P. is part of the Great Lakes drainage basin, an ecosystem that encompasses 292,000 square miles and contains the largest supply, 20%, of the world's fresh water. The five Great Lakes (Superior, Huron, Michigan, Erie and Ontario) and almost 80,000 other lakes are a key link in this fragile ecosystem, supporting the 35 million inhabitants (27 million in the U.S. and roughly 8 million in Canada) that share responsibility for its health.

Within the Great Lakes drainage basin lies the Lake Superior basin, home to the WUPPDR Region. The basin encompasses three States on the U.S. side—Minnesota, Wisconsin, and Michigan—and the province of Ontario on the Canadian side. The basin is sparsely populated with roughly 700,000 persons. Almost half of the population resides in the urban areas of Duluth, Minnesota; Thunder Bay, Ontario; and Sault Ste. Marie, Ontario. The rest is scattered in small towns mostly near the coastline of the lake. Early French traders gave it the name "Lac Superior," French for "Upper Lake." Lake Superior is the largest freshwater lake in the world with 31,700 square miles of surface area and it holds 53.8% of the water in the Great Lakes. The lake is 350 miles in length and 160 miles across at its widest point. Its mean depth is 489 feet and 1,333 feet at its deepest point. It has a coastline of 1,826 miles, of which 909 miles are in the United States and 917 miles are in Canada. Approximately 91% of the basin is forested. In Canada (Ontario) about 95% of land is in public ownership, and in the United States, about 25% is in public ownership.

Regional Water Resources

The Western U.P. has 354 miles of Lake Superior coastline and another 96 miles of Keweenaw waterway. The coastline is over 50% developed—largely by small residences—and development continues. The region also has approximately 7,500 inland water bodies with well over 100,000 acres of water and 6,721 stream miles. The six counties of WUPPDR contain all or parts of seven watersheds discharging into Lake

Superior, numerous small coastal watersheds, one that discharges to Lake Michigan, and one that discharges to the headwaters of the Wisconsin River as part of the Mississippi River basin.

Groundwater resources are provided via two physiographic divisions, the Superior Upland and the Central Lowlands. The Superior Upland includes most of the Western Upper Peninsula with quality ground water available but in low-yielding Precambrian glacial deposits. Central Lowland is found in the northeast quadrant of the region primarily along the Lake Superior coastline and groundwater levels differ considerably in these areas.

In the Western Upper Peninsula, 220,235 acres or approximately 5.5% of the region has been identified as wetlands. They are found in each of the six counties and range from a low of 3.0% in Ontonagon County to a high of 8% in Iron County. The wetlands acreage percentages in the remaining counties are as follows: Gogebic, 4.8%; Houghton, 5.4%; Baraga, 6.6%; and Keweenaw, 7.5%. In their natural conditions wetlands provide many benefits to the region. These include food and habitat for fish and wildlife; water quality improvement; flood protection; shoreline erosion control; natural products for human use and opportunities for recreation; and aesthetic appreciation. Each wetland works in combination with other wetlands as part of a complex, integrated system that delivers these benefits. Michigan and Native American tribes have comprehensive regulatory programs aimed at preserving and protecting wetland resources.

Natural Resources

Beyond water itself, the economic foundation of the region has been shaped by its people and natural resources—particularly native copper, iron ore, timber, and fisheries. Since at least 3000 B.C. Lake Superior copper has played a significant role in the lives of Indigenous peoples throughout eastern North America. By the mid-1800s both the copper and iron ore deposits had attracted a large European population who settled parts of the region around these mines. Large-scale commercial harvesting of the region's timber and Great Lakes fish stock came after profitable minerals were exhausted.

Forestlands

History

Following the mining booms of the mid-1800s, the eastern part of the forest in the Western Region was composed primarily of white and red pine while the western part had pine interspersed with hardwood and hemlock. The first logging occurred in the pine stands near settlements established around mining areas. Here, timber companies produced mine and building timbers, flat lumber for surface construction, and cordwood for fuel.

By the end of the 19th century the peak of the pine lumber era in Michigan had passed and by 1910 hardwood logging replaced it. Raw stumps, tangles of tree wastes, and ghost towns replaced the pine stands. In order to divest themselves of these cutover lands, the railroads, large landowners, and governments promoted the settlement possibilities of these former pine lands. However, once settlers moved onto the land it was clear that potential prosperity was a myth. Credit on reasonable terms was difficult to obtain, startup capital was very high, and the price of retail goods was inflated due to dispersed settlement patterns.

Due to tax homestead laws and land abandonment, these lands changed hands continually between the public and private domains until the 1920s when the State acquired title to almost two million acres of

abandoned land and kept it. This broke the cycle of parcels being acquired, exploited and eventually reverting to the State. The forestlands were in poor condition, and keeping them in the public domain contributed towards the national conservation movement. The combination of these factors eventually produced several State forests, a county forest, and three national forests in the Upper Peninsula that were dedicated in 1931.

Characteristics

Today the Ottawa National Forest is located in the Western Upper Peninsula, as are the Copper Country State Forest and Gogebic County Forest. These conservation measures have, over many decades, created new forests which again are contributing significantly to the economic development and diversification of the region's economy. While a source of solid wood and wood fiber products, forests have also come to be valued for their recreational and environmental attributes as evidenced by the designation of wilderness areas and wildlife refuges. The forests and their associated recreation activities provided the foundation for a strong and growing tourism industry.

Currently forestlands in the Western Upper Peninsula constitute a complex set of natural resources which supply the basic sectors of the regional economy including travel and tourism. These forestlands include approximately 3,552,952 acres and account for over 90% of the region's land base. The forests are dominated by Northern Hardwoods, a maple-birch forest type which covers 51% of the region. This is twice the area of Aspen, the second most extensive forest cover type. Other important forest cover types ranked by coverage area include Pine (White, Red and Jack), Swamp Conifers (Balsam Fir, Spruce, Cedar and Tamarack), and Lowland Hardwoods (Ash and Red Maple.)

In resource utilization, hardwoods have historically taken second place to softwoods. The softwoods have been generally more useful due in part to their long length fibers and usefulness in construction. Highquality hardwoods used in furniture manufacture have been an exception to this overall pattern. Breakthroughs in utilization and marketing of hardwoods have taken place in recent decades. The developments through technology have increased the usefulness of a considerable number of hardwood species. This technology includes the press-drying process for paper production and the saw-dry-rip process used in making lumber. Aside from uses that require harvesting, maple is being increasingly utilized for syrup production, including movement toward large-scale processing.

Hardwood forest types comprise approximately 95% of these totals with the remainder in softwood forest types. The surplus is interpreted as being able to produce greater volumes in the short-term by catching up on accumulated over-mature acreages. In the long term, greater volumes will be available as increased harvests will decrease mortality rates and increase net growth rates. Overcutting has been occurring in pine forests as well as in the other softwood types, which makes it imperative that softwood regeneration regimes be put into place to accommodate future demand.

The region's forests are a source of industrial raw materials and are important to the regional economy, particularly in providing employment opportunities in forest products primary and secondary industries. Over 50% of the region's manufacturing establishments are associated with these industries. The establishments produce such products as dimension lumber, furniture and furniture components, hardwood flooring, railroad ties, shingles and paper products.

Sustainability and Ownership

Forest stewardship is becoming more important in order to provide diversified uses, which include a variety of habitats for wildlife, recreational opportunities, scenic landscapes, jobs which support a rural

lifestyle, clean air, stable soil, high quality water, wood products for everyday life, and healthy trees for the future. Sustaining both ecological and economic systems is imperative to ecosystem management, since the well-being of both systems is co-dependent over time. Sustainable use is also critical to limiting the impacts of climate change.

The Western U.P. contains approximately 2,114,000 acres of private forestland, which is well over half of all forestland in the region. The balance is included within 998,782 acres of national forest, 132,018 acres of national park (Isle Royale), and 340,494 acres of state land, the majority of which is state forest. As of March 2017, 1,204,683 acres, or 57%, of private forestland is enrolled in the Commercial Forest Act (CFA) program. The CFA program, created by Michigan Public Act 94 of 1925, promotes the establishment of commercial forests on private lands within the State that are conducive to such use. Along with providing tax benefits to landowners, it requires landowners to permit public access for hunting, trapping, and fishing.

At the time of enrollment in the program, CFA lands must carry sufficient forest growth of suitable character and assurance that a stand of merchantable timber will be developed within a reasonable time. Lands offered and approved under the CFA are not subject to ad valorem general property tax but rather to an annual specific tax. This tax is a financial incentive for which the owner agrees to develop, maintain, and actively manage the land as a commercial forest through planting, natural reproduction, and other silvicultural practices.

The productive potential of the CFA resource base has shaped and continues to shape the land ownership of the region. CFA land ownership falls into two main categories: 1) private nonindustrial forest and 2) forest industry, which has traditionally accounted for the majority of large, homogeneous tracts. Private nonindustrial forestlands are owned by farmers, private individuals, and corporations not a part of the forest industry, such as utilities with hydroelectric facilities. Traditionally industrial forest ownership has been by timber product companies with vested interests in managing the land for use in their company mills. More recently there have been changes in ownership patterns away from timber product companies (vertically integrated timber product companies) to large-tract forestland investors including timber investment management organizations and real estate investment trusts. This change in ownership has and is expected to continue to result in fragmentation of lands as higher-value lands are sold, leading to a loss of public access and wildlife habitat.

Sales to small landowners can result in a loss of public access and wildlife habitat. Helping to mitigate impacts on natural resources is Michigan's Qualified Forest Program (QFP). QFP provides an exemption from school operating millages on privately owned forest property that is managed sustainably for commercial harvest, habitat enhancement, and improvement of other resources, in accordance with a forest management plan. This program, unlike CFA, does not require provision of public access.

Another means of forest management is for landholders to sell carbon credits on their dormant forests in order to balance pollution generated in other areas. Carbon credits can generate revenues for landholders while sustaining the region's forest stock. Keweenaw Bay Indian Community has enrolled a portion of its forests in such a program, and Michigan DNR recently established its first project elsewhere in the state.

Fish and Wildlife

Historic Fisheries

Narrative accounts of the exploration of Lake Superior noted the existence of Native American maintenance fisheries as early as the 17th century with commercial fisheries established in 1835. Soon after, fisheries were established at many points along the Lake Superior shoreline by the first white settlers. Between the 1930s and 1950s the fishing industry yielded its greatest production of high value fish due to several technological advancements. However, this came to an end in the 1950s due to a collapsing lake trout population, which was attributed to the sea lamprey invasion of the Upper Great Lakes. The loss of the trout resource was an economic disaster for the fishing industry.

The Great Lakes Fishery Commission worked on controlling the sea lamprey population and restocking the lake trout in the 1950s, and in the 1960s Michigan Department of Natural Resources (DNR) began planting hundreds of thousands of Chinook and Coho salmon. Additionally, DNR began heavily regulating the commercial fishing industry, which in turn contributed to its demise. These restrictions were challenged by Native Americans who claimed the regulations violated their treaty rights, an argument which was won in Federal court. In 1979 it was ruled that the State could not regulate or restrict those tribes whose treaty rights include the right to fish in ceded Michigan waters of lakes Huron, Michigan and Superior. The ruling caused considerable controversy, and in 1985 the tribes, the State of Michigan, the US Department of Interior and various fishing organizations negotiated an Entry of Consent order. Today, the small number of commercial fishermen is in sharp contrast to the 1940s and 50s when there were 50 or more operators fishing in the waters of the Western Upper Peninsula.

Current Wildlife Management

Fish and wildlife (game and nongame) management in the Western U.P. is primarily the responsibility of DNR, along with Indian tribes represented in the region. In the past, before the era of conservation, these resources received scant consideration, and the various native species of fish and wildlife thrived or suffered as their habitats were altered. More recently, fish and wildlife biologists have focused primarily on effectively managing fish, birds and mammals of sporting or economic value to certain segments of the public. Examples of some of these wildlife species include waterfowl (ducks and geese), upland birds (woodcock, grouse, and turkey), big game (deer and bear), small game (rabbit and squirrel), and fur bearers (muskrat, beaver, fox, coyote, mink, bobcat, and raccoon). Examples of fish species include trout (brook, rainbow, brown, and lake), salmon (chinook and coho), whitefish, herring, northern pike, walleye, and perch.

In 1989, Keweenaw Bay Indian Community established a fish hatchery that produces brook trout (inland and coaster), walleye, and lake trout, the last of these helping to replenish Lake Trout stock depleted from Lake Superior in previous decades. DNR supplements sports fisheries with stock from a hatchery in Marquette.

Today the broad topic of fish and wildlife management runs the gamut of concerns, ranging from habitat protection to species preservation to predator control. These concerns involve activities which include fish and wildlife research, hunter education, game and fish stocking, and law enforcement. The activities, however, principally address how to facilitate and regulate fishing, hunting and trapping. Environmental threats to fish and wildlife include introduction of non-native plant and animal species, with numerous entities and funds being directed at invasive species control, and the presence of stamp sands in Lake Superior remaining from the mining era. A chronic migration of stamp sands onto Lake Superior's Buffalo Reef off the Keweenaw Peninsula is impacting the lake trout fishery and other resources in that area, and

various agencies are engaged in a long-term effort to mitigate or resolve the issue. Stamp sands have migrated as far south as Baraga County. There has been some research into beneficial industrial uses for the stamp sands, which could help encourage their removal.

Minerals

The western six counties of the Upper Peninsula have a rich history of mineral resource development. Some of these are still mined today, and some have potential for further development in the future. The Western Upper Peninsula has a wide variety of geological settings that are promising environments for such deposits. Some of the mineral commodities and other mineralized resources known to exist, both metallic and non-metallic, are described below.

Copper

Copper mining is at the core of the region's modern history and is currently undergoing a resurgence. Native copper occurs in nature uncombined with other elements such as silver and gold. Most of the native copper lies along a narrow belt, two to four miles wide and a hundred miles in length, along the spine of the Keweenaw Peninsula. The vast majority of native copper production—96 percent—and its associated silver came from a 28-mile stretch between Painesdale in Houghton County and Mohawk in Keweenaw County.

Modern mining of native copper deposits in the Lake Superior Copper District began in 1845 at the Cliff Mine near Eagle River in Keweenaw County. The copper mining industry then slowly moved down the Keweenaw Peninsula as well as northward from Ontonagon as new copper deposits were discovered. The Lake Superior Copper District's popularity began to wane in the 20th Century. As the mines went deeper underground the copper content per ton of copper rock began to decline. It was only through the development of different technologies that the mining industry was able to maintain its profitability for as long as it did. The war years of both the First and Second World Wars gave a reprieve to the industry, but retrenchment followed the peace.

As profitable operation became more difficult, the assets of smaller mining companies were acquired by the large ones until there were only three firms left: Quincy Mining Company, Calumet & Hecla Consolidated Copper Mining Company (C&H), and Copper Range Company. The Quincy Mining Company operated until the Second World War then ceased in 1945. C&H survived into the 1960s, but insurmountable labor/management problems in 1968 closed the company down after 125 years of operation. Through its history (1845-1968) the native copper district produced over 11 billion pounds of refined copper and 10 million ounces of silver.

Copper Range Company had ceased mining native copper in the 1930s but had turned its attention to developing its copper sulfide (Cu₂S) deposits in the Nonesuch Shales of Ontonagon County. In the 1950s the United States became a net importer of copper. As the Korean War was starting, the Federal government took measures to boost domestic production of this metal. It assisted Copper Range Company in getting these deposits into production through the development of an integrated modern mine, mill, and smelter facility. It was not until fall 1995 that the White Pine Copper Mine became the last to close. The company was Canadian-owned, and several factors including environmental problems and low copper prices led to the decision to close the mine, laying off over 1,000 workers in the Region.

The White Pine Mine in Ontonagon County produced some native copper but mostly copper sulfide and silver as a by-product. The mine operated almost continuously from 1955 to 1995. Interest in the property

was renewed with its acquisition by Highland Copper in 2017 along with the Copperwood Mine in Gogebic County. This created high hopes for new jobs amongst much of the population. However, no new productive activity has yet occurred on the acquired properties, and operations are dormant at this point. Lack of activity has in the past been blamed on regulatory burdens and inadequate copper prices. If renewed mining does occur, its benefits must be balanced against environmental and economic sustainability concerns.

Iron

While copper mining flourished in the 1850s through 1870s in the northern part of region, the southern part remained mostly an inaccessible wilderness until iron ore mining began in the late 1870s. Gogebic and Iron counties contain portions of two of the nation's six principal iron ranges, the Gogebic and the Menominee Ranges. In Gogebic County in 1884 the Colby Mine in Bessemer became the first operating mine on the Gogebic Range. By 1890, 26 mines produced and shipped 2,226,000 tons of ore. However, the Great Depression closed all but five mines by 1932.

World War II caused production activity to rebound. Iron ore mining activity reached its peak in the late 1940s when there were 42 producing mines in Iron County and 96 producing mines in total on the Menominee Range. Mining on the Gogebic and Menominee Ranges declined quickly during the 1950s until Gogebic County lost its last mine in 1966 when the Peterson Mine closed ending 82 years of activity in the county. By 1967 there were only four producing mines remaining in Iron County, and by 1978 the last mine in that county closed. In the period between 1884 and 1967, over 323,000,000 tons of iron ore had been shipped from the Gogebic Iron Range.

There are no longer any operating iron mines in the Western U.P. Several decades after the cessation of iron mining in Gogebic and Iron counties, the counties continue to suffer the economic consequences. The iron ore mining industry overall has faced a number of difficulties in recent decades due to trade policies, changes in world supply, and technical changes in the mining and steel industries. Even so, the single remaining open-pit iron ore mine in the Upper Peninsula, in Marquette County east of Baraga County, today remains active and fairly prosperous.

The Western and Central U.P.'s historic iron and copper deposits are shown in **Map 3-IV**.

Graphite

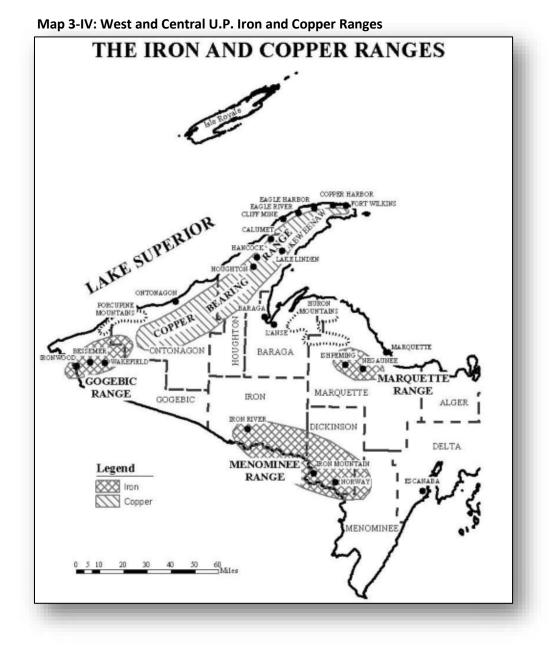
Some graphite was mined in Baraga County at the turn of the 20th century. These graphite slates have been studied both for their graphite content and potential uses. While large deposits are available for industrial uses, insufficient efforts have been made to entice private investment.

Manganese

A small manganese deposit in the Keweenaw Peninsula was mined in the 1800s. Further exploration could reveal economic deposits for future development.

Diamonds

There have been several explorations undertaken in the last ten years to discover diamond-bearing Kimberlite deposits in the region. While several micro-diamond-bearing Kimberlites have been found, no macro-diamonds greater than one millimeter (1/25 of an inch) have been located.



Sandstone and Limestone

At the turn of the century, red sandstone quarries furnished building stone. The potential still exists for developing a building and decorative stone industry in the Western Region. Minnesota, Wisconsin, and the province of Ontario all produce stone for the world market which is similar to some stone found in the Western U.P. Limestone is also a viable option: currently a small deposit is being quarried near Pelkie in Baraga County. Most of this stone was previously shipped to White Pine to be used as flux in the copper smelting process. Now most of it is used as agricultural lime and road building material. *Clay* This mineral is an abundant substance in part of the Western Upper Peninsula, but little is known of its economic value as a raw industrial material.

Sand and Gravel

Deposits of these non-metallic minerals are distributed unevenly throughout the region. Some areas have abundant supplies, and some areas are notably deficient. Certain types of sand are particularly important for application to roads for winter traction.

Agricultural Lands

Agricultural land is the third-largest land cover category following forestlands and wetlands. In 2017, according to the U.S. Agricultural Census, farmlands occupied approximately 99,951 acres. This is a slight decrease from 103,324 in 2012. The largest acreage, 27.1% of all farmland in the region, is in Ontonagon County, followed by Houghton (26.0%), Iron (23.5%), Baraga (17.6%), Gogebic (5.5%), and Keweenaw (0.2%).

The region includes 583 separate farms, an increase of 10.4% from 528 in 2012. This increase may be due to subdivision of larger plots of land and a national trend towards hobby farm activities. The average farm size region-wide is 191.9 acres. The largest average size is in Baraga County (271 acres), followed by Ontonagon County (238), Iron (176), Houghton (125), Gogebic (103), and Keweenaw (27). Farm sizes may be impacted by large farms acting as outliers in some counties. Farm sizes may also be dependent on the needs and characteristics of crops grown in different parts of the region.

The potential of the agricultural lands is based primarily on physical factors such as soil, physiology, and microclimate that influence the types of agriculture undertaken as well as access to funding, knowledge, and community support. Production types include dairying, beef (cow/calf) production, pork, potatoes, small fruits (strawberries and raspberries), greens and other cold climate vegetables, sheep, and egg production.

In recent years there has been an accelerating trend of localized food growing and processing, both for subsistence and commercial trade, in order to take advantage of the many benefits of obtaining food from closer to home. Small-scale opportunities and projects include community gardens to increase residents' access to fresh produce and hoop houses to extend the growing season. Larger-scale indoor agriculture has also been explored in the past, including in a 2013 EDA-supported economic strategy for Baraga County. Agricultural lands and value-added food processing are likely to become the focus or more economic activity over time.

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INFRASTRUCTURE AND THE ECONOMY

The quality of a region's infrastructure is a critical indicator of its economic vitality. Reliable transportation, clean water, and safe disposal of wastes are basic elements of civilized society and a productive economy. Basic infrastructure includes highways and roads, airports and airways, public transit, water supply, wastewater treatment, water resources, and refuse and recycling services. Other elements include communications and power production facilities, railroads, schools, public housing, hospitals, and public buildings.

Private and public investment must be balanced to support stable economic growth. Firms have some flexibility to adjust labor and capital inputs to produce desired outputs. However, this flexibility is greater in growing areas than in declining areas. As a result, adequate infrastructure is critical in those areas to help close the gap with private investment. Deficiencies in public investment may increase the downward spiral of a depressed area. This is of significance to the Western Region and reinforces the argument that the region needs a strong infrastructure strategy in its economic development program.

HEALTHCARE INFRASTRUCTURE

The rural nature of the Western Upper Peninsula has geographic and financial implications for healthcare, and coupled with state and federal policy, this produces real challenges for health care providers. To meet these challenges, healthcare networks have been established to provide complete health care services to consumers in the most cost-effective manner possible. These networks are addressing both current service issues and how future trends in healthcare may affect this region.

Acute and On-Demand Care

There are six acute care facilities in the region:

- Baraga County Memorial Hospital, L'Anse
- Aspirus Ironwood Hospital, Ironwood
- Aspirus Keweenaw Hospital, Laurium
- UP Health System Portage, Hancock
- Aspirus Iron River Hospital, Iron River
- Aspirus Ontonagon Hospital, Ontonagon

Each facility listed provides 24-hour emergency care and walk-in clinic services. UP Health System Portage, a privately owned LifePoint Hospital, is the region's largest: a secondary-level facility that is classified as a Level III ASC trauma center. All others in the region are classified as critical access hospitals. Baraga County Memorial Hospital is independently operated, not part of a network. The remaining four are owned and operated by Aspirus, a nonprofit corporation based in Wausau, Wisconsin. Most practitioners throughout the region are located in facilities of the hospital systems. Each tribe also has a health system and facility.

Long-Term Care

This type of care is provided by medical care facilities operated by county governments, private corporations, and hospitals. Gogebic, Houghton, and Iron counties, along with UP Health System Portage, operate long-term medical care facilities. Aspirus Ontonagon Hospital's long-term care facility will close in 2022. There are also several private licensed nursing home facilities in the region.

PROTECTION SERVICES

In addition to providing lifesaving services for residents, high-quality emergency services are critical prerequisites for economic development. Partially because of the increase in visitors not familiar with the

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risks associated with the region's recreation, demand for emergency and health care services has increased, which puts pressure on funding for services and staffing levels for visitors and residents alike. WUPPDR is currently exploring solutions to these issues in conjunction with service providers, local governments, and state legislators.

Police

Many incorporated cities and villages in the region, as well as Michigan Technological University, have small police departments to handle law enforcement and provide protection to citizens. Township constables perform certain law enforcement functions in some areas. Each tribe also has a police department with its own jurisdiction. In other jurisdictions police services are handled primarily by the county sheriff departments. The local police network is augmented by the Michigan State Police with additional road patrols and technical services such as detective investigations, the crime laboratory, canine, drug enforcement, fire marshal, and other special units.

Fire Protection

Community fire protection in the region is provided by approximately 60 fire departments. Firefighters are mainly unpaid volunteers. Fire protection costs can be a serious challenge to rural communities. To help offset some of these costs, the U.S. Forest Service makes Volunteer Fire Assistance Grants available to local fire departments through the Michigan Department of Natural Resources, and the Federal Emergency Management Agency Assistance to Firefighters Grant Program provides funding to local fire departments for training and equipment. The Bureau of Indian Affairs provides funding to the tribal governments for fire protection.

Ambulance Services

The main paramedic (advanced life support) ambulance services in the region are Bay Ambulance in Baraga County; Sonco Ambulance in Ontonagon County; Beacon Ambulance, serving most of Gogebic County; Mercy Ambulance, serving Houghton and Keweenaw counties; and Aspirus MedEvac, serving Iron County and Watersmeet Township in Gogebic County. There is a small number of local EMS and first responder services. Air ambulance (via helicopter) is provided by hospital systems as needed. Valley Med Flight provides critical air medical transportation from Houghton County Memorial Airport in Houghton County.

Rural ambulance services have long been strained by financial pressures, training requirements, and workforce difficulties, and these have been exacerbated by the pandemic. Financial burdens became acute in Gogebic County in 2018: Beacon Ambulance could have ceased operations, but for short-term local government contributions followed by passage of a countywide ambulance millage to support the private service. The millage was renewed for three years in November 2021. The county is now evaluating alternatives for long-term sustainability.

One obstacle to funding support in Michigan is that the state is not one of the 39 states that consider ambulance service to be an "essential service." Gogebic County has been advocating to change this designation.

Search and Rescue

With the region's dominance of outdoor recreation, often in isolated areas far from well-maintained roads, off-road search and rescue is a critical function. Unfortunately, such services are either secondary functions of fire departments or entirely separate volunteer affairs, and there are no dedicated federal or

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state funding sources (such as those previously mentioned for firefighting) for these services. Equipment costs and lack of dedicated storage facilities are impediments. Potential state-level funding sources, including a lodging excise tax, are currently under consideration.

TRANSPORTATION INFRASTRUCTURE AND SERVICES

Aviation

General Aviation Airports – These facilities are also referred to as utility airports and provide a basic level of air service to communities. There are two categories: paved and turf utility airports. Paved utility airports are medium to large facilities that have paved runways capable of handling approximately 95 percent of general aviation type aircraft. Turf utility airports are smaller facilities and can handle approximately 75 percent of general aviation aircraft.

There are three **public-use paved utility airports** in the region. Iron County operates two, the Crystal Falls Airport and the Stambaugh Airport. Ontonagon County operates the third. All three facilities are unstaffed. Both Houghton and Baraga counties operate **public-use turf utility airports** in the region. These are the Prickett-Grooms Field at Sidnaw in Duncan Township in Houghton County and the Baraga Airport four miles west of the Village of Baraga.

Air Carrier Airports – An air carrier airport is one used by certified airlines with regularly scheduled flight service. These facilities are also classified as transport airports and are capable of handling virtually all types of general aviation aircraft. There are two such facilities in the region. One is the Houghton County Memorial Airport near Hancock. The other is the Gogebic-Iron County Airport near Ironwood. Another air carrier airport, Ford Airport in Iron Mountain, is located just past the southeast corner of the region. These are all modern staffed facilities with paved runways capable of handling jet aircraft. They are equipped with passenger terminals, hangars, navigational aids, and emergency vehicles to handle emergency situations.

The air carrier airports receive commuter air service through the Federal Essential Air Service (EAS) subsidy program that was established in the mid-1970s to ensure that small communities, served by full-service airlines prior to deregulation, continued to receive a minimal level of commercial service. EAS requires at least two arrivals and two departures a day for each qualifying airport. Houghton County has service to Chicago O'Hare, provided by SkyWest Airlines operating for United Airlines. Gogebic-Iron County is served by Denver Air Connection, a regional airline with service to O'Hare and Minneapolis-St. Paul. Ford Airport is served by SkyWest Airlines operating as Delta Connection, with service to Minneapolis-St. Paul and Detroit Metropolitan Wayne County Airport. All three services transport passengers on regional jet aircraft.

At an EAS airport, an airline to provide subsidized service under contract is generally procured every two years. The selection of an airline, which must be approved by the U.S. Department of Transportation, can be a topic of great interest to the public and business community. Gogebic-Iron County's Denver Air was one of three airlines to bid in summer 2021 on service to take over from another regional airline that voluntarily exited after two in-flight incidents. Denver Air is the first to provide passenger jet service there. In Houghton County, community and business leaders have made efforts for several years to obtain service to Minneapolis-St. Paul and/or Detroit, rather than Chicago, as hubs. For complex reasons, this has not yet occurred, but it remains a priority by community consensus.

The nine public-use airports in the region are significant to the future economic development of the region. A primary consideration, therefore, is protecting existing general aviation airports from slipping out of existence and commercial passenger service from being removed from the air carrier airports. Maintenance of adequate facilities is important to accommodate air freight as well as passengers.

See Map 4-I for the region's airports and scheduled passenger routes along with water-based transportation facilities, ferry routes, and major roads, which are discussed below.

Marine

The St. Lawrence River and the Great Lakes form a maritime transportation system extending more than 2,000 miles from the Gulf of St. Lawrence to the western end of Lake Superior. Michigan's 3,200 miles of shoreline contains over 100 ports. About 90 of these ports can accommodate commercial activities, including cargo handling, ferry services, commercial fishing, ship building, marine contracting, and excursion services. A commercial harbor in the Great Lakes is one with commercial dock handling facilities and a minimum water depth of 18 feet.

Ports and Harbors – There are 23 Michigan ports which regularly accommodate commercial cargoes. The region has one deep-draft commercial port located at Ontonagon. Despite a lack of large-scale commercial operations, the port continues to be dredged periodically by the Army Corps of Engineers.

There are 11 recreational harbors in the region, which are part of Michigan's recreational harbor network, located in:

Ontonagon

- City of Houghton
- Grand Traverse
- Lac La Belle
- Copper Harbor •
- City of Hancock
- Houghton County • Eagle Harbor
- Rock Harbor (Isle Royale)

•

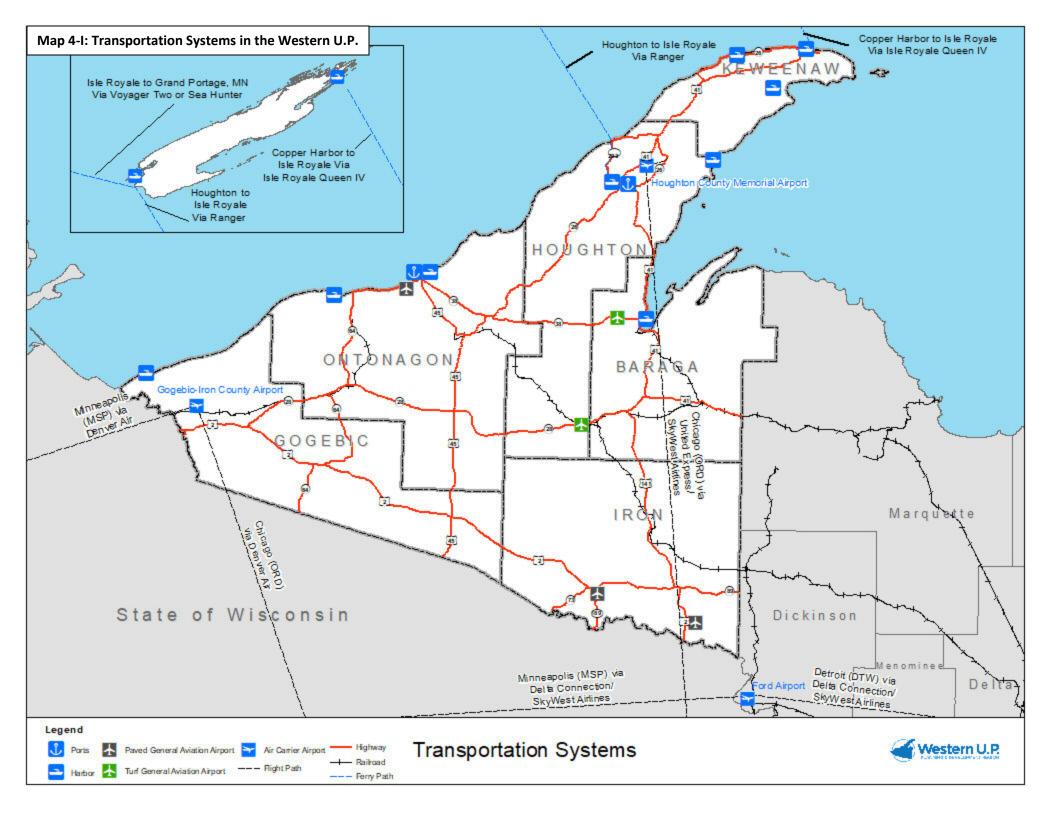
Keweenaw Bay

Black River Harbor

Inland Waterway – The Keweenaw Waterway, which facilitates both recreational and commercial travel, is located in northern Houghton County. The waterway is approximately 22 miles in length and utilizes a natural river and lake along with a man-made canal to cross the Keweenaw Peninsula. The waterway's channel averages 300 feet in width and 25 feet in depth. Importantly, this waterway is used to convey road salt to the area road agencies. There is also a burgeoning passenger cruise industry. No other inland waterways in the region are suitable for any commercial use.

Aids to Navigation – The Coast Guard Station – Portage on the Keweenaw Waterway in Dollar Bay is responsible for placement and service of all aids to navigation in its area of Lake Superior within and near the region. These also include those at Isle Royale and those in the Keweenaw Waterway. Aids to navigation assist mariners in making landfalls, mark isolated dangers, make it possible for vessels to follow the natural and improved channels, and provides a continuous chain of charted markers for coastal piloting. In all waters over which the United States has jurisdiction, these aids are designed, built, and maintained by the United States Coast Guard.

Ferry Services – Ferry services are provided on three routes in the region, all connecting with Isle Royale National Park, located in Lake Superior approximately 40 miles from the mainland of Keweenaw County. These ferry services operate seasonally with sailing frequencies that include one round trip daily to two and three round trips per week. The National Park Service operates a service between Houghton and Rock Harbor, the Isle Royale Ferry Service provides service between Copper Harbor and Rock Harbor. The Grand



Portage Isle Royale Transportation Service operates between Grand Portage, Minnesota and Windigo. Seasonal daily transportation to Isle Royale is also available from Hancock and Grand Marais, MN via Isle Royale Seaplane Service.

Great Lakes Shipping Services – Great Lakes waterborne commerce is predominately confined to bulk commodity movement. Sand, stone, iron ore, and coal account for the major traffic. Cement, petroleum, and chemicals account for a minor amount. The vast majority of Michigan's waterborne commerce is shipped to and from U.S. and Canadian ports on the Great Lakes or along the St. Lawrence River. Any overseas shipping that may occur passes through the Port of Detroit. While Michigan business and industry generate a large volume of overseas trade, most of it is transported overland by truck or rail to coastal ports for ocean shipping.

Surface

Rail Network – Rail service within the Western U.P. and to outside areas is provided by two companies: the Canadian National Railway (CN) and the Escanaba & Lake Superior Railroad (E&LS). CN is the only Class I carrier in the Upper Peninsula, linking with Wisconsin and the U.S. rail system via Chicago and with Canada at Sault Ste. Marie.

CN's operations within the Western U.P. include two routes. One is a spur from Baraga south and east to Ishpeming. Here the route connects south to Escanaba. This short line is primarily used to transport wood products: biomass to fuel the L'Anse Warden power plant as well as some timber. Research has been conducted to explore use of this line for export of manufactured goods, but sufficient demand by potential customers has not been illustrated, and the line is not well equipped for access by individual customers. CN's other route, known as the White Pine Subdivision, runs south and west into Wisconsin from the former White Pine mine and is currently not in use.

E&LS operates a line from Mass City southeast through Amasa where a sports flooring manufacturer accesses the line. The line then continues to Channing (just east of the region's eastern Iron County boundary), a junction where freight can continue east to Escanaba or south to Iron Mountain and ultimately Green Bay, Wisconsin. A previous segment from Mass City northwest to Ontonagon has been abandoned, and another segment from Sidnaw east to Nestoria is currently used only for car storage.

Rail Traffic Characteristics – All rail traffic in the Western U.P. either originates or terminates within the region, and the lines in the region are used mainly for shipment of wood products. Financial benefit of this use for Class I carriers, in particular, is minimal, and as a result, it is a relatively low priority for CN. The Northwoods Rail Transit Commission (NRTC), a consortium of 8 U.P. and 12 Northern Wisconsin counties, advocates for rail expansion and preservation in and around these counties.

In April 2021, after years of communications among NRTC and CN officials regarding alternative operations of CN's lines in the NRTC area, a proposed transaction was announced whereby Watco, a short line operator, would acquire many of these lines with the goal of optimizing short-line services. (These lines had been presented by CN in 2020 as candidates for divestiture.) The White Pine Subdivision is included in the proposed acquisition, holding promise for eventually reactivating the line if industry warrants. The Baraga short line is not included in the proposed acquisition, suggesting CN intends to continue current services there. After weighing pros and cons of the proposed acquisition and engaging in extensive communications with Watco and CN, ultimately WUPPDR and NRTC lent support for the acquisition. Action by the Surface Transportation Board is pending.

Beyond short line operations, there may be potential for greater utilization of existing rail routes if a multimodal truck/rail "transload" facility is established, but such a facility requires a critical mass of committed customers to be viable, and advocates have been unable to establish demand thus far. For most goods and commodities, rail transportation is most cost-effective to transport large volumes over hundreds of miles, to or from locations far outside of the Western U.P. – usually metropolitan rail hubs.

Despite the often divergent priorities of railroads and industry in the Western U.P., freight rail is not likely to leave the greater U.P. anytime soon. Goods transported in the Central U.P. are more diverse. Outbound commodities transported include metal concentrates, pulp, paper, and allied products. Inbound commodities include bentonite clay (used in refining iron ore); chemicals used by the mining, pulp, and paper industries; coal; and propane gas. Waste and scrap paper reprocessed by the pulp and paper mills are also transported by rail. Commodities of these types can often be more profitably shipped by rail than by truck, even for relatively short distances. The active rail service in the Central U.P. in association with its mining and paper production preserves some potential for the Western U.P. to have greater access.

Road Network – The region's highways, roads and streets comprise a total of 7,971 road miles. This network is composed of six separate systems operated by state, federal, local, and tribal government agencies.

The first of the six systems is the state trunkline system (state and federal highways) operated by the Michigan Department of Transportation (MDOT). This system has 620 miles of roads in the region, 543 miles of which are all-season routes.

The second system is made up of roads under purview of the county road commissions. This system includes a total of 3,375 road miles and is responsible for moving people and goods between areas of the region that are not served by the state trunkline. This road system has two classifications. There are 1,282 miles of primary roads and 2,093 miles of secondary or local roads. Primary roads are more highly trafficked and hold higher funding and maintenance priority over local roads. Many of the latter comprise unincorporated communities' local street networks.

The third system is made up of local streets under the jurisdictions of incorporated cities and villages. City streets have two additional classifications: Major streets, which total 113 miles, and local streets, which total 238 miles.

The fourth and fifth systems are 125 miles of seasonal roads located in the Copper Country State Forest and 3,500 miles of roads in the Ottawa National Forest. These systems are the responsibility of the DNR Forest Management Division and the U.S. Forest Service (USFS) respectively. These two systems provide access for harvesting and transporting forest products out of the forests as well as for wildfire suppression and recreational activities. One USFS road, Federal Forest Highway 16 through Houghton, Ontonagon, and Iron counties, is more typical of county primary roads and is maintained by the county road commissions.

Tribal road systems, including that of the Keweenaw Bay Indian Community, are the six category. These roads are maintained through funding from the Federal Highway Administration and Bureau of Indian Affairs (BIA).

Roadside Development –Thousands of travelers take advantage of the travel information available at state welcome centers. These centers inform visitors of services and activities that can be found locally, regionally, and throughout Michigan. MDOT operates one welcome center in the region on US-2 in

Ironwood, a major gateway into the state. In addition, there are many roadside parks and scenic turnouts provided and maintained by MDOT, USFS, tribal, and county, township, and municipal governments.

Motor Carriage Service – Over-the-road trucking is the primary means of freight transport in the Western U.P. State law in Michigan regulates truck freight by weight. High transport costs and inefficiencies result from long distances between supply points and markets, as well as restrictions on hours of work for drivers and export/import imbalances that limit backhauling potential.

Intercity Bus Service – Indian Trails bus system provides a vital link to most Upper Peninsula population centers and key destinations in Wisconsin and Minnesota. Indian Trails services can be accessed on two routes: 1) Ironwood à Sault Saint Sainte Marie à St. Ignace, with stops in Wakefield, Watersmeet, Iron River, and Crystal Falls; and 2) Hancock à Marquette à Escanaba à Green Bay à Milwaukee à Chicago Route, with stops in Hancock, Houghton, Baraga, and L'Anse. MDOT subsidizes Indian Trails to offset the cost of these services.

Public Transit – Public transit is essential so trips for medical, employment, shopping, and educationrelated activities can occur without depending on the automobile. Within the Western Upper Peninsula there are two countywide transit agencies and two city services. The county services are Gogebic County Transit Authority (a special district government supported by a countywide millage) and Ontonagon County Public Transit (On-Tran) (part of general county government). The cities of Houghton and Hancock each operate bus transit services within the borders of both cities. These systems receive financial assistance through Michigan's Comprehensive Transportation Fund and Federal Section 5311 funds.

Baragaland Senior Citizens, Baraga-Houghton-Keweenaw Community Action Agency, and U.P. Community Services (for Dickinson-Iron Community Services agency) provide mainly demand-response services to Baraga, Houghton/Keweenaw, and Iron counties, respectively, with priority given to seniors and persons with disabilities. These systems receive federal Section 5310 capital funds. The level of service in these counties, however – particularly Iron and Keweenaw, which also lack local taxi service – is relatively low.

Multiple efforts have been made to expand and increase service levels of transit in the region. In 2012 a study for Baraga, Houghton, and Keweenaw counties included a five-year plan for a regional transit authority. (Broader service in Baraga and Houghton counties, including an intercounty route, briefly existed in the late 1970s.) KBIC has a tribal transportation plan created with 2014 funding from BIA. Also in 2014, a Governor-led Regional Transit Mobility initiative directed prosperity regions to conduct research, assess needs, and plan actions to improve inter-county and other transit services throughout the state, culminating in a consultant-produced Coordinated Mobility Plan for Prosperity Region 1 (Upper Peninsula) in 2016. A lack of new state and federal transit programs and funding has repeatedly hindered implementation of such plans.

In 2020-21 WUPPDR and the other U.P. planning regions worked together to produce a non-emergency medical transportation needs assessment for the Upper Peninsula Commission for Area Progress. It is hoped that this project will serve as a strong basis to secure additional funding for implementation of medical transportation services in targeted areas.

Bicycle Routes – While bicycling is permitted on all highways, roads, and streets in Michigan, except on limited access freeways, an effort has been made by cyclists to ensure that all roadways in the state have paved shoulders (four feet or more in width) suitable for bicycling. Bicyclists affirm the need for direct and convenient access to every destination served by the state's road system.

Since 2004 WUPPDR has assisted MDOT in developing and updating a map highlighting on-road bicycle facilities and related amenities throughout the region. In addition, this map allows consumers to see shoulder widths on trunklines. When MDOT is conducting projects in the region, generally the agency widens paved shoulders to accommodate bicyclists. US2 in the Western U.P. is a federally designated bicycle route.

Other Trail Systems – There are a variety of trail systems in the region, including groomed cross-country ski trails and facilities, mountain bike and hiking trail systems, off-road recreational vehicle (ORV) trails, and over 1,200 miles of groomed snowmobile trails. The region also has several segments of multipurpose trails using abandoned railroad rights-of-way connected by local roadways. Many of the trails have segments that cross private property. The uncertainty of trail easements over these lands continually threatens the region's network of recreational trails.

Development and maintenance of off-road trails varies with ownership. The bulk of the motorized systems are maintained through Michigan Department of Natural Resources programs including grants to local organizations. The volunteer organization MI-TRALE (Michigan Trails and Recreation Alliance of Land and the Environment) maintains hundreds of miles of ATV, ORV, multi-use, and equestrian trails in Baraga, Gogebic, Houghton, Iron, and Ontonagon counties. Keweenaw County's ATV/ORV network is maintained by the Keweenaw ATV Club.

Most non-motorized systems are built and maintained by volunteer organizations such as conservation groups, but some long-distance trails have state and national designations that afford a certain amount of higher-level support. One of these is the North Country National Scenic Trail which is a component of the National Trails System supported by the National Park Service. This 3,200-mile trail extends from Crown Point, New York to Lake Sakakawea in North Dakota. A 120-mile segment runs through the region. Development and maintenance assistance in this region falls to USFS and three volunteer chapters of the national North Country Trail Association.

The Iron Belle state trail from Belle Isle in Detroit to Ironwood is under jurisdiction of DNR. This trail was conceived in 2014 as the flagship of the Governor's initiative to make Michigan the "Trail State." In the U.P. the trail consists of two routes: a northern hiking route, which is mainly concurrent with the North Country Trail, and a southern bicycling route, which is mainly concurrent with US 2. Short non-motorized segments of the southern route have been constructed in parts of Gogebic and Iron Counties.

In Baraga County, a nonmotorized trail/pathway along Keweenaw Bay is being developed in phases as a cooperative effort among KBIC, state agencies, nonprofit organizations, and local governments. Future nonmotorized trail opportunities in the region include improvement of disused rail grades.

WATER RESOURCES

Dams

There are numerous water impoundment structures located in the region. Some of these were created to stabilize the flow of water for production of hydroelectric power. Five hydroelectric systems exist in the region. These are owned and operated by the region's private regulated utilities – Upper Michigan Energy Resources Corporation (UMERC), Upper Peninsula Power Company (UPPCO), Xcel Energy Corporation (Northern States Power Company) – and the City of Crystal Falls. These and other dams also maintain water levels to promote recreational activities and to enhance fish and wildlife habitat. Dams in the region range from simple plank dams to much more complicated devices that include pumps and fish ladders.

Water Supply

The vast majority of the region's potable water supply is drawn from groundwater sources. The remainder is drawn from surface water sources—primarily Lake Superior. Some general reasons for not using surface water include costly construction along with operation and maintenance of treatment facilities. Utility water systems are located primarily in cities, villages, and some unincorporated population centers within townships. The community of Zeba in Baraga County has a water system operated by KBIC. All of these systems are publicly owned and operated, with the notable exception of the Michigan-American Water Company, which serves an area from the Houghton County Airport north into Keweenaw County. Calumet Township is pursuing federal funding to bring this system into public ownership.

A great deal of rehabilitation work has been undertaken on water systems across the region, but many of the systems are troubled by aging, lead-based, and undersized lines; inadequate treatment facilities; lack of secondary sources for backup; and local dynamics hindering development of intercommunity water transmission lines. Shallow lines are also frequently damaged by freezing.

ENERGY RESOURCES

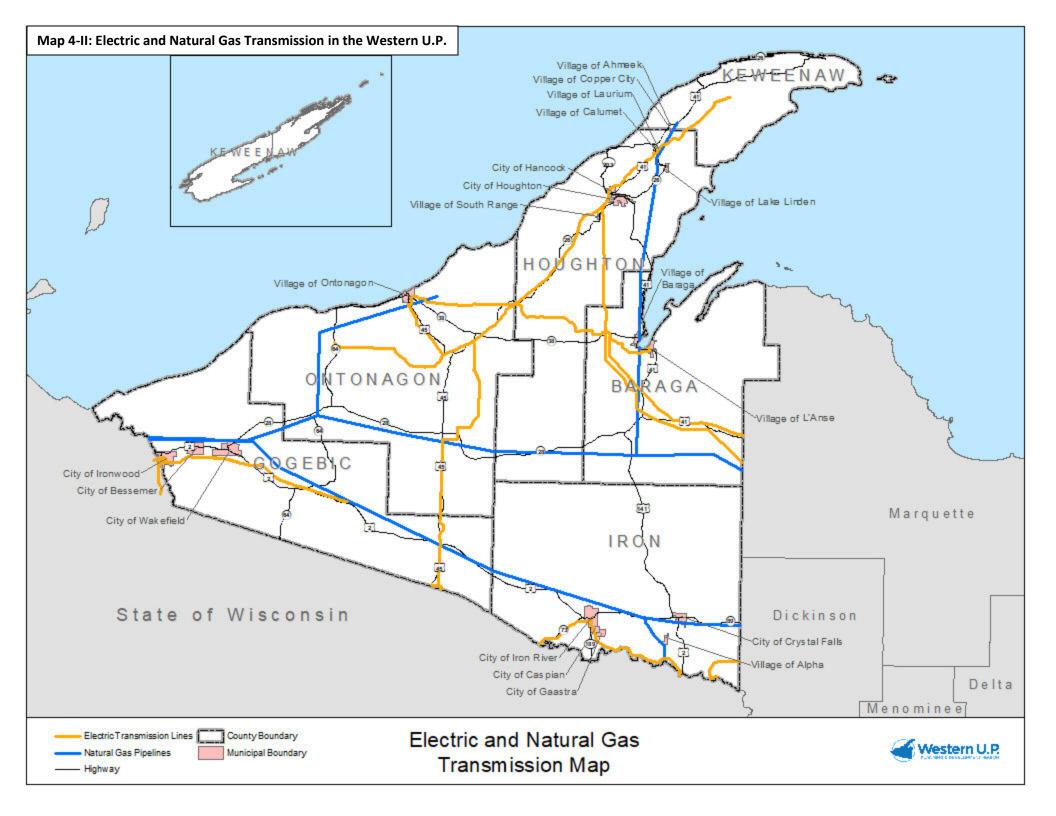
With the exception of energy generated from hydroelectric facilities on some of the river systems, the region is energy-poor, lacking fossil fuels such as natural gas, oil, and coal. Isolation from fuels, dispersed population, and loss of key energy loads have resulted in overall high energy costs. Lack of redundant electrical and fossil fuel transmission infrastructure reduces reliability and resiliency in some areas. The possible future closure of Enbridge Line 5, a transmission line for various petroleum fuels beneath the Straits of Mackinac in the Eastern U.P., is a threat to propane availability across the Upper Peninsula: Currently the line supplies about two-thirds of the U.P.'s propane.

In 2019, Michigan Governor Gretchen Whitmer created by executive order the U.P. Energy Task Force (UPETF). The task force was charged to assess the U.P.'s overall energy needs and ways they are currently being met; formulate alternative solutions, with a focus on security, reliability, affordability, and environmental soundness; and evaluate potential changes that could occur to energy supply and distribution in the U.P., including various impacts of these changes and alternatives to respond to them. UPETF provided energy supply recommendations to the Governor in March 2021, with a special focus on propane.

Electricity

Several utilities provide electrical energy to the region. All transmission of electrical energy, using the large electric lines that transport electricity over long distances (see **Map 4-II**), is controlled by American Transmission Company (ATC) with oversight from the Midcontinent Independent Service Operator (MISO), which ensures adequate supply throughout the Midwest.

Most areas within the region are served by investor-owned utilities: Xcel Energy Corporation, mainly in the southwest; UPPCO, mainly in the north; and UMERC, mainly in the southeast. Two nonprofit cooperatives also exist: Bayfield Electric Cooperative in a small part of the southwest and Ontonagon County Rural Electrification Association (OCREA) in the north. UPPCO and OCREA charge among the highest residential electrical rates in the state and nation, due in part to lack of existing local generation and long distribution distances to a dispersed customer base. The villages of Baraga and L'Anse and cities of Crystal Falls and Wakefield purchase power from the nonprofit WPPI Energy and provide their own local distribution as municipal utilities.



As a result of high rates along with climate change and regulatory concerns, renewable energy has become a priority for the region. Publicly regulated utilities in Michigan are subject to a renewable energy standard that requires a certain percentage of their generation to originate from renewable energy. Fully "off-grid" solar systems are also growing in popularity. Solar energy also has the side benefit of presenting economic and workforce development opportunities.

Customers who choose to develop on-site grid-connected generation from renewables are able to sell excess energy generated back to the utility at wholesale electric rates under a mechanism called "distributed generation." The current use of wholesale rates, as opposed to retail rates which were implemented under the previous system of "net metering," reduces the desirability of residential solar installations by extending the periods for return on investment. Furthermore, state law allows utilities to cap distributed generation at one percent of their regulated peak demand. Regulated utilities have little direct financial incentive to increase distributed generation much beyond the cap, though UPPCO voluntarily raised its cap to two percent. Neither regional cooperatives nor municipal utilities purchasing from WPPI have such a cap. (The Village of L'Anse, whose utility purchases from WPPI, developed a community solar array in 2019 with assistance from WUPPDR.) Tribal governments, which have unique energy sovereignty, are able to negotiate with utilities for buyback. On the L'Anse reservation, a possible community solar array in Baraga was researched around the same time as the Village of L'Anse's.

Prospects for commercial wind generation have grown in recent years and have produced considerable controversy and political strife at two proposed development areas, in Baraga and Houghton counties. Elements of controversy include aesthetic and environmental concerns weighed against the benefits of increased tax revenues and energy supply on the regional grid. Complicating matters in Houghton County was that the two affected townships lacked zoning or other mechanisms to regulate generation infrastructure. This in particular, and controversy in general, will continually be a challenge as renewable energy becomes more desirable.

Energy efficiency measures are another means to reduce environmental impacts and cost of energy. In the past several years, WUPPDR administered three separate grant programs to facilitate community energy planning, audits, and efficiency upgrades. State-mandated energy optimization or waste reduction programs are also implemented by utilities in the region. The utility programs offer rebates and technical assistance to residential, commercial, and industrial programs but have been underutilized.

Fuels

Natural Gas – Typically the most desirable fossil fuel for heating and other fixed-site uses, natural gas is limited mainly to large communities, population corridors, and certain smaller communities located along natural gas transmission lines. SEMCO ENERGY services Baraga, Houghton, Iron, Keweenaw, and Ontonagon counties and the eastern half of Gogebic County. Xcel supplies the western half of Gogebic County and the communities of Bergland and Ewen in Ontonagon County. DTE provides natural gas to portions of Iron County. Utilization of natural gas is at or near capacity in parts of the region including the Keweenaw Peninsula. (Pipelines are shown in **Map 4-II** above).

Other Energy Resources

- Consumers without natural gas access rely on fuel oil and liquid petroleum/propane gas for heating and other uses. There are a variety of distributors across the region.
- Coal is also an important energy source but used primarily for heavy industrial purposes and sees little if any use in the region.

- Wood or woody biomass is an alternative to fossil fuels. Some commercial establishments and
 institutions have successfully converted to wood and continue utilizing it as an energy source. The
 L'Anse Warden Power Plant uses biomass to produce electricity for sale on the wholesale market,
 and its waste heat is utilized by an adjacent manufacturing plant. The forest products industry has
 used wood for years as a fuel to lower energy costs and reduce its solid waste disposal problems.
- Geothermal heating and cooling is another potential energy source in the region. Studies conducted by Michigan Technological University's Keweenaw Research Center indicates that geothermal projects that take advantage of trapped mineshaft water resources can be used to heat and cool commercial and potentially residential spaces. The economic feasibilities of these projects improve in areas with high-cost electricity, but none have yet been implemented.

Home Heating – Natural gas is the most common home heating fuel in the region, serving 57% of occupied housing units in the region as of the 2019 ACS. Bottled LP/propane is second-most common, at 20%, followed by wood (10%), electricity (8%), and fuel oil/kerosene (4%).

EDUCATIONAL INSTITUTIONS

Local and Intermediate School Districts – The region has a range of educational opportunities at the K-12 level. There are 23 local public school districts, four Christian/Catholic schools, two alternative schools, and one charter school. The public school districts are arranged within three intermediate school districts (ISDs): Copper Country (CCISD), Gogebic-Ontonagon (GOISD), and Dickinson-Iron (DIISD). **Table 4-I** lists, and **Map 4-III** maps, the local public school districts in the region by county.

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Wakefield-Marenisco School District	Gogebic-Ontonagon	Carabia	Ironwood Area Schools
Watersmeet Township School District	ISD (GOISD)	Gogebic	Wakefield-Marenisco School District
			Watersmeet Township School District

Table 4-I: Western U.P. School Districts

	Gogebic-Ontonagon ISD (GOISD)	Ontonagon	Ewen-Trout Creek Consolidated School District (crosses into Houghton County)					
			Ontonagon Area School District					
Dickinson-	Iron ISD	Iron	Forest Park School District					
(DIISD)	Iron	West Iron County School District						

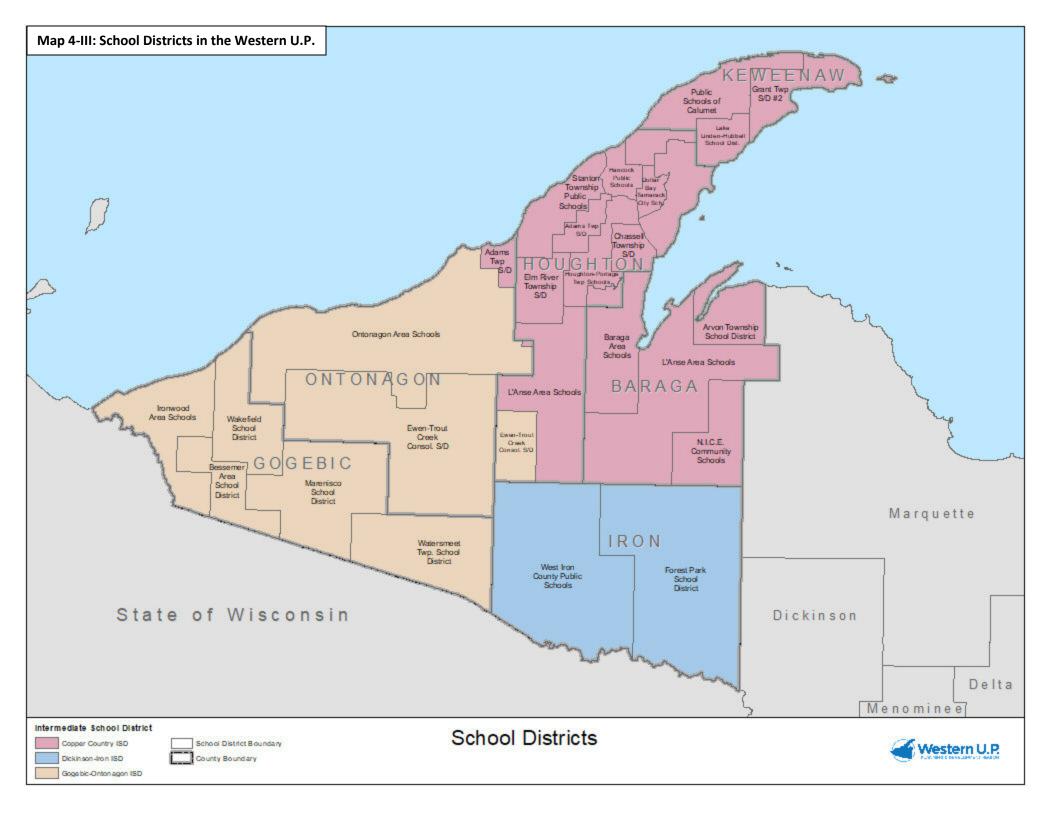
Table 4-I: Western U.P. School Districts

The ISDs fill a much-needed role in the form of training to faculty and staff, shared services such as administrative and technology support for local districts, special education, and additional educational opportunities for students and adults. The three ISDs in the region offer Career and Technical Education (CTE) courses for high school students that offer either credit toward a college degree or the opportunity to graduate high school with a career-oriented degree or other credential. Available programs are shown in **Table 4-II**. The ISDs also offer adult enrichment classes exclusive of high school.

Table 4-II: CTE Programs Offered by Western U.P. ISDs, 2021-2022 School Year

		DIISD	GOISD
Accounting	•		•
Agriculture			•
Automotive Technology	•	•	
Building/Construction Trades	•	•	•
Business Management			•
Computer-Aided Drafting & Design (CADD)			•
Certified Nurse Assistant (CNA)	•		•
Computer Networking and Security		•	
Computer Programming/Robotics			•
Culinary Arts	•		
Cybersecurity	•		
Early Childhood	•		
Electrical and Mechanical Systems in Industry		•	
Graphic Arts	•	•	
Health Careers/Occupations	•	•	•
Machine Tool	•		
Marketing & Entrepreneurship		•	
Mechatronics	•		
Medical Terminology		•	
Multimedia		•	
Welding/Manufacturing	•	•	•

K-12 schools in the Western U.P. have faced declining enrollment for decades. Enrollment in GOISD local school districts and the region's two local districts within DIISD dropped 42.7% and 39.2%, respectively, from the 2002-03 to 2020-21 school years. The corresponding drop in CCISD districts was less severe, but still concerning, at 14.8%. See **Figure 4-I**.



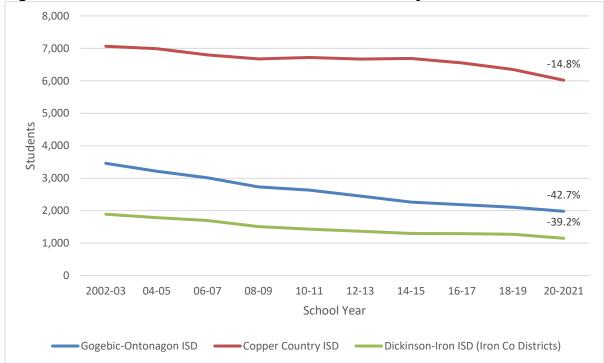


Figure 4-I: Western U.P. Local Public School Enrollments by ISD

Despite decades of school consolidations, the number of districts is relatively large for the region's population, and districts in the Keweenaw Peninsula, in particular, remain highly fragmented. Rural school districts in the region suffer from general population loss and from loss of students to neighboring districts through Michigan's Schools of Choice program. These factors limit most districts' ability to offer a large number and variety of courses. However, some schools in the region, including Calumet-Laurium Keweenaw, have attained state-level recognition, and local districts throughout the region are important representations of individual community identities.

Post-Secondary Institutions – The region has four post-secondary educational institutions: Gogebic Community College (GCC), Keweenaw Bay Ojibwa Community College (KBOCC), Michigan Technological University (Michigan Tech), and Finlandia University. Together, the institutions offer a great number and variety of academic and career programs that prepare students for the regional and global economies. However, there is a long-term trend of brain drain, with high school graduates leaving the area for outside institutions and not returning to the area until later in life, if at all. To mitigate this issue, the region's community colleges, in particular, make great efforts to match their programs to regional employer workforce needs, resulting in viable local career opportunities to students.

 GCC was formed in 1932 as Ironwood Junior College. In 1965 it became the Gogebic Community College District. The campus site was established in the city of Ironwood. (Later GCC established the Copper Country Center, a satellite campus in Houghton.) GCC is a two-year institution with approximately 1,000 students. The school's academic programs fall into two major categories. One category is oriented toward students planning to transfer to four-year universities or colleges. The other is oriented to students planning to enter the workforce following graduation, primarily into skilled trades using credentials from CTE programs. GCC offers a variety of certificates and associate degrees in such diverse areas as welding, nursing, and business, along

with the highly regarded ski area management program. Some CTE programs, such as welding, are offered to Gogebic and Ontonagon County high school students, who have the option of transitioning from high school graduation directly into credentialed CTE programs.

- **KBOCC** was originally formed in 1975 as a non-profit educational corporation. The college closed its doors from about 1980 to 1998 and reopened that year after the Tribal Council approved the college's revitalization. In 2014 KBOCC opened a new campus in the overhauled former Baraga County Memorial Hospital building in Downtown L'Anse, though the main campus remains in Baraga. KBOCC offers associate degrees in liberal studies, environmental science, business administration, and early childhood education, along with ten certificate programs. The college is also developing agricultural facilities in a former elementary school.
- **Finlandia University** was founded in 1896 as Suomi College. Finlandia is a private liberal arts college in the City of Hancock. It has several hundred students and approximately 180 faculty and staff. Finlandia offers approximately 30 certificate, associate, and baccalaureate programs of study in four colleges: Arts & Sciences, Art & Design, Health Sciences, and Business. Many of the programs have both liberal arts and career preparation components. Enrollment is around 450.
- Michigan Tech was founded in 1885 as the Michigan Mining School and became Michigan Technological University in 1964. With a faculty of approximately 400, Tech offers 125 academic program options to a student body of over 7,000. The school awards associate, baccalaureate, master, and Doctor of Philosophy degrees. Michigan Tech is nationally known for its engineering, technology, and science programs. In U.S. News & World Report's 2021 Best Colleges, Tech was ranked #71 (tie) in top public schools and #69 (tie) in undergraduate engineering programs where a doctorate is offered. Michigan Tech is also the largest employer in the Western U.P.

TELECOMMUNICATIONS INFRASTRUCTURE

Regional Resources – Today's global economy depends on how well organizations move and manage information. Application of information technologies in businesses, schools, governmental, and public agencies is critical to future economic and community development in the region. These technologies are essential to rural organizations because they can help to overcome two barriers to rural growth: geographic isolation and economic specialization. To take advantage of these opportunities, a public telecommunications infrastructure that is capable of supporting advanced equipment and services at affordable prices must be in place.

- The Regional Educational Media Center (REMC) collocated with CCISD offers a variety of services including technical support and videoconferencing for educational members, other nonprofit users, and commercial users.
- The Upper Peninsula TeleHealth Network serves health care providers by maximizing the practical use of technologies to provide health care to residents of the Upper Peninsula and surrounding areas.
- Merit Network, Inc. is a nonprofit, member-owned organization formed in 1966 to design and implement a computer network between public universities in Michigan. Merit operates a network of fiber-optic broadband cables to provide rapid data transfer for these and other public institutions.

Videoconferencing – One of the greatest opportunities offered by telecommunications is the ability to mitigate travel costs – both financial and time – through remote meetings via videoconferencing. Videoconferencing can be implemented through personal workstation and mobile applications like Zoom

and GoToMeeting or through dedicated "room-based" ("H.323" protocol) infrastructure at group meeting sites. Many facilities that once used room-based infrastructure have switched to mainstream applications like those above due to a lesser need for specialized technology expertise.

Videoconferencing has been possible for decades but became ubiquitous during the Coronavirus Pandemic, fostering resilient workforces and making work from home a viable option for far more employees and occupations than in the past. Videoconferencing also began to be used more regularly for nonwork purposes such as social gatherings. It is expected that the availability of videoconferencing for the workplace will lead more employers to permanently allow complete or partial remote work arrangements.

Broadband – Despite vast improvements to and utilization of videoconferencing, technologies are still hindered by poor broadband internet availability and quality in many parts of the region. Commercial and residential users in most large communities are served by coaxial cable service, with lesser prevalence of fiber optics and some legacy Digital Subscriber Line (DSL) service. Many outlying areas rely on fixed wireless service, which offers sufficient bandwidth for many purposes in a best-case scenario but is less reliable and lower bandwidth than cable and fiber. Space-based satellite service, the only option in some rural areas, usually has data caps, is relatively expensive, and traditionally suffers from high latency (lags in data transfer due to long signal transmission distances). However, the Starlink low earth orbit satellite service offers higher speeds and much lower latency. The service is in limited beta testing, but early results have been promising.

Cellular data LTE service offers a similar experience to fixed wireless, but signal strength varies widely throughout the region, and data caps for high-speed service are common. Both LTE and standard voice and text service are high quality in the region's large communities, but in outlying areas, even along major transportation routes, cellular service is spotty and hindered by low data speeds. This limits mobile workers' ability to reliably join audio and video meetings while traveling.

A great number of federal broadband programs have emerged in recent years, including several in connection with the Coronavirus Pandemic. Perhaps the most impactful is the Rural Digital Opportunity Fund (RDOF), which conducted a "reverse auction" to select companies that would receive federal subsidies to provide new service of at least 100 Mbps to areas with speeds below a certain threshold. In 2021, most eligible Census blocks in the Western U.P. were "won" by Atlantic Engineering Group, a contractor new to the Upper Peninsula that is engaging Highline Broadband as the end-user service provider. Service will be fiber optic-to-home at 1 Gbps download. Buildout of thousands of miles of fiber is required by 2027; however, the company intends to complete all required construction within a shorter time period. The companies also plan to offer service to end users along the main fiber lines in areas that were not subject to the RDOF auction.

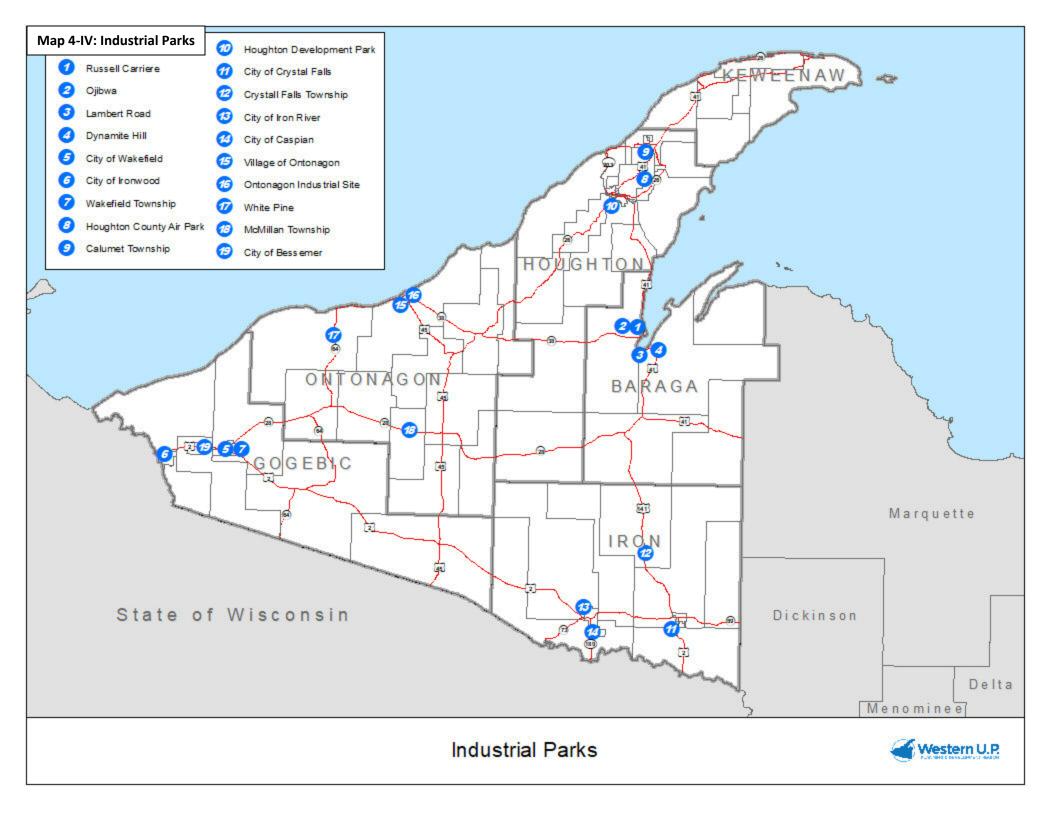
Traditional copper wire-based (analog) landline telephone service is being largely phased out in favor of cellular and voice over internet protocol (VOIP). VOIP service in the Western U.P. is usually offered in conjunction with coaxial cable television and/or broadband service. Some customers have been left without telephone service as a result of a state law that allowed telephone companies to terminate analog systems beginning in 2017.

INDUSTRIAL PARKS

These are tracts of land designated for specific industrial uses such as light manufacturing, research and development, or business services. Industrial parks are platted properties that have roads, water, sewer, and energy services in place or planned to be implemented when required. Site and building restrictions are established for maintaining the integrity of the facility and for the individual protection of the tenants. Current industrial parks located in the region are listed in **Table 4-III** and **Map 4-IV** below. EDA funding was committed in 2021 for infrastructure development of a new 40-acre business and technology park in the City of Hancock (scheduled for completion in the 2022 construction season). The Lambert Road Industrial Park, which was built out with EDA Public Works funding prior, has been the subject of two Michigan Economic Development Corporation grants to further improve readiness for development.

Map Key	Industrial Park Name	Location (Municipality/Township)	Area (acres)
1	Russell Carrier Industrial Park	Baraga	40
2	Ojibwa Industrial Park	Baraga (KBIC-owned)	400+
3	Lambert Road Industrial Park	L'Anse	20
4	Dynamite Hill Industrial Park	L'Anse	20
5	City of Wakefield Industrial Park	Wakefield	27
6	City of Ironwood Industrial Park	Ironwood	160
7	Wakefield Township Industrial Park	Wakefield Township	60
8	Houghton County Air Park	Hancock	202
9	Calumet Township	Calumet Township	160
10	Houghton Development Park	Houghton	26
11	City of Crystal Falls Industrial Park	Crystal Falls	91
12	Crystal Falls Township Industrial Park	Crystal Falls Township	100
13	City of Iron River Industrial Park	Iron River	77
14	City of Caspian Industrial Park	Caspian	Unknown
15	Village of Ontonagon (M-64)	Ontonagon	Approx. 41.5
16	Ontonagon Industrial Site	Ontonagon	Approx. 50.9
17	White Pine Industrial Park	White Pine	28
18	McMillan Township	McMillan Township	200
19	City of Bessemer Industrial Park	Bessemer	100

Table 4-III: Western U.P. Industrial Parks



ECONOMIC SETTING: A CHANGING RURAL LANDSCAPE

Following the heyday of mining and forestry, the Western U.P. struggled for decades to redefine itself and maintain strong communities. Amid the ensuing economic lull, many disused and often contaminated industrial sites remained. Today, though the region has made much progress in many industries, it continues to face physical obstacles and regional and global economic environments that are not friendly to isolated, infrastructure-lean areas.

Limited infrastructure, including electronic communications and longer-standing impediments such as the transportation network, is an ongoing problem. The region is also characterized by unfavorable socioeconomic indicators such as unemployment rates, wages, poverty levels, educational attainment, and age profile. High energy costs and property tax rates compound socioeconomic problems. In addition, the prospect of climate change threatens natural resources and the associated recreation that's been built around the region's distinct four seasons.

Today, most areas in the region are driven by service industries, largely in connection with tourism, as well as institutions such as hospitals, higher learning, and government, which, despite their own external pressures, are relatively stable. There are some strong concentrations of specialized manufacturning scattered throughout the region, and high-tech entrepreneurialism facilitated by Michigan Technological University, Finlandia University, and MTEC SmartZone in Houghton and Hancock. The SmartZone technology business incubator has created numerous small companies in the area. These serve as examples for other parts of the region in building more fluid long-term economies.

Another path to economic diversification is to grow the workforce that lives in the region but works remotely for employers located in other areas. This can produce beneficial tax revenues and business sales while allowing people to live in the region who otherwise would not be able to. Remote work has been actively promoted in the region for years, particularly through an initiative called Remote Workforce Keweenaw. The pandemic naturally increased prevalence of remote work as people moved to the region from other areas during and following a period of widespread office closures. In 2021, promotion of remote work opportunities grew and entered the collective consciousness of employers and workforce from across the Upper Peninsula. However, along with the benefits of remote work to the region, it is important to be cognizant of the potential competition from remote employers that may impact the ability of locally based companies to hire from within the local workforce.

Internet-based services and retail have also offered more diverse options for residents of the region, supplementing those that the local market can support. This reduces the region's competitive disadvantage for population attraction and retention. It does, however, produce spending leakage outside of the region.

Resource extraction is also a significant economic force. Large-scale timber production continues to occur, and there is ongoing consideration of opportunities for value-added uses. These include everything from cross-laminated timber for building construction to fuel pellets and wood components such as lignin. The burgeoning "circular economy" also brings new opportunities for the marketing of bio-based materials. The circular economy – more advanced in some parts of Europe than in the U.S. – has been a focus of communications and partnerships with Finland that have originated in the region in recent years, owing to its strong Finnish heritage.

Renewed mining operations, primarily for copper, continue to be an economic possibility. However, mining activity raises the problem of boom and bust, where the economy struggles with peaks and valleys of employment. Anytime a boom is on the horizon and underway, special efforts must be made to mitigate this cycle by building a resilient economic base that can sustain some of the growth and job base after mining ceases.

INTERDEPENDENT ECONOMIES

The Western U.P. is somewhat stagnant in comparison to the national economy and that of the relatively prosperous Ninth Federal Reserve District of which it is a part (the Ninth District also includes Montana, North and South Dakota, Minnesota, and Northwestern Wisconsin). The Western U.P. shares much in common with northern parts of Wisconsin and Minnesota but stands in stark contrast to other parts of the Ninth District. For example, the Twin Cities of Minneapolis-St. Paul, Minnesota, where the Ninth District is based, are home to multiple Fortune 500 companies, many of them focused on technology-based or professional industries. Large parts of the Ninth District also heavily depend on agriculture. These industries have only a fledgling presence in the Western U.P.

There are three planning regions in the Upper Peninsula. Since the entire peninsula is home to only three percent of Michigan's population, it is vital and common for the three regions to work together to accomplish peninsula-wide goals. Sparse population, long distances between economic centers, and an underdeveloped transportation network necessitate collaboration to break down barriers to efficiency. Only by engaging in U.P.-wide collaboration and participating to the greatest extent possible in Michigan's statewide discussions, objectives, and programs, can the Western U.P. reach its full potential.

FINANCIAL STATISTICS: INCOME

Per capita income is a proxy for the wealth and spending patterns in an area. However, caution must be exercised in relying on any single year's data, since unusual circumstances, such as a bumper crop or natural disaster, could skew the measure. **Table 5-I** shows 2015-2019 per capita personal income in the region, the State of Michigan, and the United States. (Note that these figures contain different components than the Census Per Capita Income measure.)

Area	2015	2016	2017	2018	2019	2015-2019 Change
Baraga County	\$30,357	\$30,721	\$31,504	\$32,448	\$34,044	12.1%
Gogebic County	\$36,548	\$37,687	\$37,204	\$39,790	\$44,113	20.7%
Houghton County	\$34,187	\$34,939	\$35,594	\$37,519	\$39,124	14.4%
Iron County	\$40,283	\$41,425	\$42,733	\$43,968	\$45,463	12.9%
Keweenaw County	\$41,810	\$42,937	\$45,194	\$46,997	\$47,963	14.7%
Ontonagon County	\$35,614	\$37,059	\$37,900	\$39,348	\$41,363	16.1%
Western U.P.	\$35,410	\$36,302	\$36,897	\$38,720	\$40,813	15.3%
Michigan	\$43,655	\$44,809	\$45,983	\$47,708	\$49,277	12.9%
United States *	\$48,891	\$49,812	\$51,811	\$54,098	\$56,047	14.6%

Table 5-I: Per Capita Personal Income

Source for counties & region:U.S. Bureau of Economic Analysis (BEA) via StatsAmerica, Oct. 2021 Source for MI & U.S.: BEA as of Sept. 23, 2021 update

NOTE: 2015 entries do not match those in the 2017 CEDS due to later adjustments to data

The region's 2019 per capita personal income reported by BEA, which includes income received by all persons from all sources, is \$40,813. By far the lowest per capita income was in Baraga County, at \$34,044, where there is a large institutional population. The highest per capita income was in Keweenaw County, at \$47,963. The region's 2015 per capita income is \$8,464 (17.2%) below the State's and \$15,234 (27.2%) below the United States'. However, the region's rate of growth was higher than both the State's and U.S.'.

Household income is an indicator less skewed by institutional populations. This measure is reported by ACS and includes only a subset of income sources. This measure ranks the region's counties much differently: Keweenaw County has the highest 2019 median household income, at \$50,292 (an increase of 33% since 2015), followed by Baraga County at \$46,065, Houghton County at \$43,183, Iron County at \$41,599, Ontonagon County at \$41,546, and Gogebic County at \$38,839.

Another reason for divergence of the two measurements may be that the personal income statistic is a *mean* (average) versus the *median* reported for household income.

FINANCIAL AND EMPLOYMENT STATISTICS: LABOR AND INDUSTRY

Labor Force

The labor force or workforce, the foundation of all other employment-related statistics and trends, is somewhat volatile, fluctuating with broader economic trends, age ranges, migration, and many other factors and forces both internal and external. **Table 5-II** displays the labor force size for 2015-2020..

Area	2015	2016	2017	2018	2019	2020	% Change	
Alea	2015	2010	2017	2010	2019	2020	15-19	15-20
Baraga Co.	3,314	3,230	3,179	3,163	3,208	3,163	-3.2%	-4.6%
Gogebic Co.	6,528	6,354	6,315	6,204	6,006	5,852	-8.0%	-10.4%
Houghton Co.	16,648	16,612	16,467	16,185	16,248	15,945	-2.4%	-4.2%
Iron Co.	5,233	5,233	5,165	5,142	5,119	4,985	-2.2%	-4.7%
Keweenaw Co.	944	944	901	883	901	884	-4.6%	-6.4%
Ontonagon Co.	2,306	2,209	2,166	2,099	2,082	2,053	-9.7%	-11.0%
Western U.P.	34,973	34,582	34,193	33,676	33,564	32,882	-4.0%	-6.0%
U.P.	141,215	139,711	138,322	137,274	136,520	134,262	-3.3%	-4.9%
State (1,000s)	4,760	4,849	4,887	4,918	4,949	4,841	4.0%	1.7%

Table 5-II: Persons in Civilian Labor Force, Annual (not seasonally adjusted)

Source: Michigan Bureau of Labor Market Information and Strategic Initiatives (BLMISI) Local Area Unemployment Statistics (LAUS)

Customarily the CEDS shows trends over a five-year period; however, in this iteration, due to unique impacts of the pandemic, the trends from 2015 to 2019 and 2015 to 2020 are displayed separately. The labor force decreased in all counties during both periods, but Baraga, Houghton, Iron, and Keweenaw counties had disproportionately high losses in labor force from 2019 to 2020 compared with the preceding four years. The region's loss of labor force during both periods was greater than the U.P. overall. Meanwhile, the State's labor force grew significantly from 2015 to 2019. Most of this gain was erased from 2019 to 2020 as a result of the pandemic, but it has since begun to rebound.

Unemployment

The unemployment rate, shown in **Table 5-III** and **Figure 5-I**, steadily declined from the Great Recession's early recovery in 2011 until a spike in 2020 resulting from the pandemic. The 2020 spike, however, does not fully illustrate the extent of unemployment that year, as it reached levels as high as 26 percent in Baraga and Ontonagon counties in March. A regionwide recovery occurred in mid- to late summer as most employers were permitted to reopen and tourism to the Upper Peninsula greatly increased.

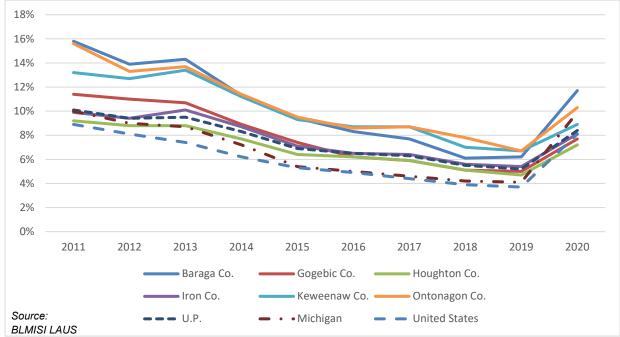
Historically, the U.P.'s unemployment rate has been reliably higher than Michigan's, and Michigan's higher than the United States'. However, in 2020, the U.P.'s initial pandemic recovery in employment occurred more quickly than the State's, leaving the U.P.'s annual unemployment rate for 2020 1.5 percent points lower than the State's. (Both, however, were higher than the United States'.) In early 2021 the U.P.'s not-seasonally-adjusted unemployment rate was once again considerably higher than the State's, though by June and July the two were again approximately equal.

Area	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
	-				2013			2010		
Baraga Co.	15.8	13.9	14.3	11.3	9.4	8.3	7.7	6.1	6.2	11.7
Gogebic Co.	11.4	11.0	10.7	8.9	7.4	6.2	5.9	5.1	5.0	7.7
Houghton Co.	9.2	8.8	8.8	7.7	6.4	6.2	5.9	5.1	4.7	7.2
Iron Co.	9.9	9.4	10.1	8.7	7.1	6.5	6.4	5.6	5.4	8.1
Keweenaw Co.	13.2	12.7	13.4	11.2	9.3	8.7	8.7	7.0	6.7	8.9
Ontonagon Co.	15.6	13.3	13.7	11.4	9.5	8.6	8.7	7.8	6.7	10.3
U.P.	10.1	9.4	9.5	8.3	6.9	6.5	6.3	5.5	5.2	8.4
Michigan	10.0	9.0	8.7	7.2	5.4	5.0	4.6	4.2	4.1	9.9
United States	8.9	8.1	7.4	6.2	5.3	4.9	4.4	3.9	3.7	8.1

Table 5-III: Annual Unemployment Rate (%) (not seasonally adjusted)

Source: BLMISI LAUS





Unemployment rates can decrease either as a result of unemployed people finding work or as a result of a drop in the number of unemployed people who are actively looking for work. Comparing **Tables 5-II** and **5-III** reveals that the labor force size was decreasing in Western U.P. counties (except Iron) at the same time unemployment rates were dropping, suggesting that most available jobs were being preserved and filled but also that many people leaving the labor force had previously been looking for work.

Houghton County leads the region in employment, with generally the lowest annual unemployment rate in the region. However, Gogebic County's rate was identical to Houghton's from 2016 to 2018, followed closely by Iron County; all three counties followed the Upper Peninsula's rate closely beginning in 2016. The other three counties took turns having the region's highest unemployment, except in 2014 and 2015 when they were nearly identical to each other.

Public Versus Private Sectors

The proportion of earnings and employment provided by the public sector, the "Government" industry, is a notable characteristic of the region's economy. **Table 5-IV** shows earnings and employment for Government versus all industries in each county. The table shows that government accounts for 37% of nonfarm earnings and 24.5% of nonfarm employment within the region. These percentages are far greater than the 2019 statewide totals of 13.6% and 10.8% respectively, but less than the 2014 Western U.P. totals of 38.3% and 29.8% respectively.

Table 3-14. Government versus Total Nomann Lannings & Employment, 2019										
County		Earnings			Employment					
County	Total	Gov't	% Gov't	Total	Gov't	% Gov't				
Baraga	\$166,491	\$82,731	49.7%	3,525	1,480	42.0%				
Gogebic	\$314,404	\$100,366	31.9%	7,124	1,715	24.1%				
Houghton	\$775,099	\$311,543	40.2%	16,255	3,860	23.7%				
Iron	\$212,037	\$54,767	25.8%	5,149	962	18.7%				
Keweenaw	\$23,376	\$7,045	30.1%	771	146	18.9%				
Ontonagon	\$68,737	\$21,411	31.1%	1,971	376	19.1%				
TOTAL *	\$1,560,144	\$577,863	37.0%	34,795	8,539	24.5%				

Table 5-IV: Government Versus Total Nonfarm Earnings & Employment, 2019

Earnings Source: BEA, Table CAINC5N Employment Source: BEA, Table CAEMP25N

Within the counties, Baraga has the highest proportion of government versus total earnings and employment, and Iron the lowest. (Baraga's high proportions are likely due to the presence of both the Keweenaw Bay Indian Community's L'Anse Indian Reservation and a state correctional facility.) The region's government industry percentage share continues to be higher in earnings than in employment; this suggests that on average government jobs pay more than non-government jobs.

Based on measures of both employment and total earnings, the public sector plays a leading role in the economy. Government employment has traditionally provided stability to an economy strongly oriented toward natural resource commodities which react sharply to business cycle changes. Reduced government sector earnings and employment in recent years will continue to impact not only public services but the staff who provide them. Despite these negatives, increased private sector employment can be an indicator of a more diversified economy.

Private Sector Earnings

In **Table 5-V**, total nonfarm employee earnings are displayed by county along with the earnings in 10 major categories of industry. Notable elements are the predominance of professional, scientific, and technical services, health care & social assistance, and government in Houghton County relative to other counties; the predominance of manufacturing in Baraga and Gogebic counties; and the minimal role of manufacturing in Ontonagon County. Total employee earnings in the region were \$1.56 billion in 2019. About half of this is attributed to Houghton County.

				1		
Industry	Baraga	Gogebic	Houghton	Iron	Keweenaw	Ontonagon
Construction	6,113	15,523	50,908	15,230	3,411	3,316
Manufacturing	37,164	50,693	46,222	12,603	(D)	695
Wholesale Trade	2,336	(D)	11,745	2,815	(D)	(D)
Retail Trade	6,108	22,582	56,054	29,107	1,334	11,840
Finance &	(D)	5,844	20,224	6,635	(D)	
Insurance	(D)	5,044	20,224	0,035	(D)	(D)
Professional,						
scientific, and	(D)	6,462	53,287	8,494	(D)	1,085
technical services						
Health Care &	(D)	(D)	110,440	26,132	146	9,199
Social Assistance	(D)	(D)	110,440	20,102	140	3,133
Accommodation	(D)	21,548	31,928	6,409		(D)
& Food Services	(D)	21,540	51,920	0,409	(D)	(D)
"Other Services"	5,312	16,620	29,337	22,738	1,963	4,052
Government	82,731	100,366	311,154	54,767	7,045	21,411
TOTAL *	166,491	314,404	775,099	212,037	23,376	68,737

Table 5-V: Employee Earnings by (Nonfarm) Industry (\$ thousands), 2019 Annual

Source: BEA, Table CAINC5N

(D): Not shown to avoid disclosure of confidential information

* Greater than sum of above rows as it includes other industries and estimates of (D) entries

Private Sector Employment

Separating private from public employees can bring out small differences between industries that might not otherwise be apparent. **Table 5-VI** shows number of employees, number of establishments, total wages, and average weekly wages for the 12 industries that are known to employ more than 300 persons in the region. (The numbers can be misleading since **data are not provided for some industries in some counties**. The Hospitals industry, which had the highest employment in the previous CEDS, is excluded in this table due to data withholding.) These classifications are more specific than the earnings categories in Table 5-IV.

Table 5-VI: Industries Employing >300 Persons, Western U.P., 2020 Annual

Table o VII Industrico Employing - oco i orosino, western oli i, zozo Annau								
Industry (with NAICS code)	Jobs	Establish- ments	Total Wages (1,000s)	Average * Weekly Wage				
722 – Food Services and Drinking Places	1,625	197	\$26,050	\$311				
621 – Ambulatory Health Care	690	76	\$34,456	\$961				

Table 5-VI. Industries Employing >500 Fersons, Western 0.F., 2020 Annual								
Industry (with NAICS code)	Jobs	Establish- ments	Total Wages (1,000s)	Average * Weekly Wage				
Services								
541 – Professional and Technical Services	671	101	\$41,066	\$1,178				
445 – Food and Beverage Stores	631	20	\$15,483	\$472				
452 – General Merchandise Stores	582	39	\$13,103	\$433				
238 – Specialty Trade Contractors	476	108	\$22,159	\$895				
236 – Construction of Buildings	458	111	\$19,633	\$823				
333 – Machinery Manufacturing	447	13	\$29,765	\$1,284				
447 – Gasoline Stations	434	38	\$9,304	\$413				
721 – Accommodation	383	33	\$9,079	\$459				
367 – Credit Intermediation and Related Activities	367	26	\$17,620	\$925				
441 – Motor Vehicle and Parts Dealers	318	42	\$12,962	\$785				
624 – Social Assistance	313	24	\$8,240	\$506				

Table 5-VI: Industries Employing >300 Persons, Western U.P., 2020 Annual

SOURCE: QCEW via DTMB

Calculated for each industry as follows: Average weekly wage in each county is multiplied by number of jobs in that county; the products of all counties are then added together, and the sum is divided by the total number of jobs in the region.

The table shows an overwhelming dominance of employment in Food Services and Drinking Places, with over twice as many jobs as any other industry . Hospitals, which was the second top-employing industry in 2015, was dropped from the industry list in every county in 2020, possibly in order to protect the information of a small number of establishments.

The high employment number of the top-employing industry was nevertheless a drop of 17.8% since 2015 – possibly a result of the pandemic. This industry, unlike most, reported numbers from all six counties in both 2015 and 2020, making possible a sound comparison. From 2011 to 2015, employment in the industry had increased by 2.8%.

Among the industries employing more than 300 workers, there is a clear divide in wage ranges. Six industries have average weekly wages of around \$500 or less, whereas the other seven industries have average weekly wages of around \$800 or more. Average weekly wages of these industries range from \$311 in Food Services and Drinking Places (which has a high prevalence of part-time workers and low hourly wages) to \$1,284 in Machinery Manufacturing.

Table 5-VII shows changes in jobs numbers from 2015 to 2020 in: 1) all industries employing over 300 for which all of the same counties had data available for the two years , and 2) three manufacturing industries, comparing only the counties for which data were available both years. All of the top-employing industries that had data available for five or six counties lost jobs, to varying degrees. From 2011 to 2015, Food Services and Drinking Places jobs had *increased* by 2.8%. Manufacturing employment trends were mixed.

Industry	Jobs		Ch	ange	Counties Reporting	
	2015	2020	#	%	Reporting	
722 – Food Services and Drinking Places	1,976	1,625	-351	-17.8%	BGHIKO	
621 – Ambulatory Health Care Services	775	690	-85	-11.0%	BGHIO	
238 – Specialty Trade Contractors	494	476	-18	-3.6%	BGHIO	
447 – Gasoline Stations	462	434	-28	-6.1%	BGHIO	
441 – Motor Vehicle and Parts Dealers	369	318	-51	-13.8%	BGHIO	
333 – Machinery Manufacturing	284	323	39	13.7%	BG	
332 – Fabricated Metal Product Manufacturing	217	209	-8	-3.7%	BH	
321 – Wood Product Manufacturing	154	170	16	10.4%	I	

Table 5-VII: Employment Trends, Select Counties and Industries, Western U.P., Annual

SOURCE: QCEW via DTMB

2015 jobs are not adjusted to reflect any updates since the 2016/17 CEDS.

Most of the region's Fabricated Metal Product Manufacturing jobs and a sizable share of Machinery Manufacturing jobs in counties for which data are available are located in Baraga County. From 2006 to 2009, with the onset of the Great Recession and closure of one major manufacturer, the county's employment in these industries decreased by 160 (68.4%) and 66 (28.2%) respectively. In response, the Superior Suppliers Network (SSN), LLC, was formed in 2009 through a formal agreement of 11 fabricators to collectively pursue new business opportunities. The group proceeded with a united front for a few years, and a business development manager was hired in 2010 to represent the group's interests. The county managed to regain 30 jobs in Fabricated Metal Product and Machinery Manufacturing from 2009 to 2015 but lost 14 jobs in those industries from 2015 to 2020.

Industry Clusters

Another way to evaluate industry composition is through clusters. These are defined by <u>clustermapping.us</u>, an EDA-supported project of the Harvard Business School, as regional concentrations of related industries. Clusters can be key economic building blocks for enhancing competitive advantages and advancing a region's existing strengths.

Clusters vary considerably across the Western U.P., and examining each local area in depth is beyond the scope of the CEDS. On a regional basis, the large majority of employment is in local clusters, rather than traded clusters. By far the largest-employment clusters in the region, with nearly 6,000 combined employees, are the local clusters of Health Services and Hospitality Establishments. However, the prominence of these in the region ranks low among clusters nationwide. The largest-employment traded cluster in the region is Hospitality and Tourism, followed by Wood Products. Most of the traded clusters also rank low on a nationwide basis. However, Forestry, which is separate from Wood Products, is considered by <u>clustermapping.us</u> to be a "strong traded cluster" having a high degree of employment specialization. The Western U.P. accounts for 0.5% of nationwide employment in this cluster.

Clusters employing more than 500 persons in the Western U.P. are shown in Table 5-VIII.

Industry Cluster	Employment	Rank in U.S.	Туре
Health Services	3,498	180	Local
Hospitality Establishments	2,462	180	Local
Real Estate, Construction, & Development	1,618	180	Local
Hospitality and Tourism	1,364	174	Traded
Motor Vehicle Products and Services	1,219	180	Local
Food and Beverage Processing and Distribution	1,117	180	Local
Retailing of Clothing and General Merchandise	1,076	180	Local
Community and Civic Organizations	971	180	Local
Wood Products	775	124	Traded
Financial Services	750	180	Local
Commercial Services	676	180	Local
Business Services	631	180	Traded
Production Technology and Heavy Machinery	590	149	Traded
Logistical Services	537	180	Local

Table 5-VIII: Clusters Employing >500 Persons, Western U.P., 2016

SOURCE: https://www.clustermapping.us

BUSINESS SIZE CLASSIFICATIONS

The federal definition of a small business varies among industries, often being based on an employment or revenue threshold. To most people, the overwhelming majority of establishments in the Western U.P. would be considered small businesses. This is significant in several ways. Small businesses lend themselves to resilience through diversity: There is not as much risk of sudden economic shock when employment is not concentrated in large companies. However, the limited applicability of some federal laws and regulations to small businesses – for example, the Affordable Care Act and Family and Medical Leave Act – has potential implications for employee welfare.

As of 2019, there were 2,006 business establishments in the region with fewer than 500 employees. Regionwide, the number of businesses decreased by 34 since 2014, but the number in Houghton and Keweenaw counties increased by 23 and 2 respectively. **Table 5-IX** shows the number of businesses by county in 2019 within three different employment size thresholds used by the Census Bureau.

The only private employer with a presence of 500 or more employees in the region is UP Health System Portage in Hancock, which has a staff of nearly 600 (as of 2020). Before the hospital changed from nonprofit to private sector ownership in 2014, it had been over 20 years since another private business with 500 or more employees existed in the region: the White Pine Mine, which closed in 1995.

The region has two other employers with over 500 employees. Michigan Technological University in Houghton is the largest employer in the region and second-largest U.P.-based empoyer, with a staff of over 1,500. Keweenaw Bay Indian Community employs over 500 people in Baraga County.

Employees	Baraga	Gogebic	Houghton	Iron	Keweenaw	Ontonagon	TOTAL
Under 20	154	321	764	318	63	160	1,780
20 to 99	17	33	102	18	4	5	179
100 to 499	3	6	8	6	0	0	23
TOTAL	174	360	874	342	67	166*	2,006

Table 5-IX: Small Business Establishments by County and # Employees, 2019

SOURCE: U.S. Census Bureau County Business Patterns * Discrepancy in total is not explained by source

Small businesses have contributed to the regional economy by introducing new technologies and products and serving new markets; implementing better working conditions; and creating new jobs. They have also helped the economy to adapt. Small firms and opportunities for self-employment function as a safety net for employees laid-off by larger firms and have helped stabilize the economy during downturns.

EMPLOYMENT FORECASTS

There are two types of employment forecast included in this section: industry forecast and occupational forecast. The current long-term forecasts produced by Michigan DTMB range from the year 2018 (baseline) to the year 2028. DTMB produces forecasts for the Upper Peninsula (the Upper Peninsula Prosperity Alliance) as a whole – not for the three regions within it.

Table 5-X shows the forecast for the 10 industries projected to offer greatest employment in 2028. Except for Specialty Trade Contractors, the rankings are the same for 2018 and 2028. Only three are expected to grow in employment by more than one percent. Five of the U.P.'s top 10 projected industries are included in the Western U.P.'s top 10 employing industries in 2020. From the top ten 2012 to 2022 projections in the previous CEDS, State Government has been removed from the list of all industry projections.

Industry	Industry 2018 20		Employment Growth	
(NAICS 3-digit)	2010	2020	#	%
930 – Local Government	13,070	12,460	-610	-4.67%
611 – Educational Services	10,220	10,190	-30	-0.29%
722 – Food Services & Drinking Places	9,260	9,310	50	0.54%
622 – Hospitals	6,810	6,660	-150	-2.20%
621 – Ambulatory Health Care Services	4,720	5,090	370	7.84%
452 – General Merchandise Stores	3,660	3,630	-30	-0.82%
238 – Specialty Trade Contractors	2,900	3,070	170	5.86%
813 – Religious, Grantmaking, Civic, Professional, Similar Organizations	3,300	3,040	-260	-7.88%
721 – Accommodation	3,040	2,940	-100	-3.29%
623 – Nursing & Residential Care Facilities	2,660	2,780	120	4.51%

Table 5-X: 2018-2028 U.P. Employment Projections by Industry, Top 10

SOURCE: DTMB Labor Market Information & Strategic Initiatives (LMISI)

Table 5-XI shows the forecast for the 10 occupations projected to offer greatest employment in the U.P. in 2028, primarily white-collar and skilled labor occupations. There were few changes in ranks since the 2012-2022 projections, but there was a very large decrease in the projected number of employees in Office & Administrative Support occupations. In 2012, it was projected that there would be 19,340 Office & Administrative Support employees in 2022 – an increase of 10 employees over 10 years. Instead, there was a loss of 2,690 employees in these occupations from 2012 to 2018, and a further decrease of 1,400 is projected by 2028. In 2012, jobs among the top 10 projected occupations were projected to *increase* by a total of 4,500 by 2022. In 2018, the top 10 projection for 2028 was instead a *decrease* of 2,110.

Table 5-XI. 2016-2026 U.P. Employment Projections by Occupation, Top 10				
Occupation Major Group	2018	2028	Employmt. Growth	
			#	%
43 – Office & Administrative Support	16,640	15,240	-1,400	-8.4%
35 – Food Preparation & Serving	11,740	11,850	110	0.9%
41 – Sales & Related	12,230	11,780	-450	-3.7%
51 – Production	9,590	9,180	-410	-4.3%
29 – Healthcare Practitioners & Technical	8,590	8,670	80	0.9%
53 – Transportation & Material Moving	8,260	8,200	-60	-0.7%
47 – Construction & Extraction	6,620	6,770	150	2.3%
25 – Education, Training, & Library	6,350	6,390	40	0.6%
11 – Management	6,420	6,320	-100	-1.6%
49 – Installation, Maintenance, & Repair	5,940	5,870	-70	-1.2%
SOURCE: DTMR MISI				

Table 5-XI: 2018-2028 IJ P Employment Projections by Occupation Top 10

SOURCE: DTMB LMISI

Table 5-XII shows the 10 occupational titles in the U.P. expected to see the fastest growth from 2018 to 2028 on a percentage basis. Most are skilled and professional occupations. Of these, the two projected to create the largest number of new jobs are Home Health Aides (80) and Market Research Analysts & Marketing Specialists (70). These were projected to create the most jobs from 2012 to 2022 in the previous CEDS, but in greater numbers(230 and 100 respectively). The only other occupations projected to have greater increases from 2018 to 2028 are food preparation/cook and serving occupations.

Occupational Title		Employment Change	
		%	
Home Health Aides	80	28.6%	
Veterinary Assistants & Lab Animal Caretakers	20	25.0%	
Veterinarians	20	25.0%	
Biological Science Teachers, Postsecondary	10	25.0%	
Market Research Analysts & Marketing Specialists	70	20.6%	
Speech-Language Pathologists	30	20.0%	
Substance Abuse, Behavioral Disorder, and Mental Health Counselors	20	16.7%	
Refuse and Recyclable Material Collectors	20	14.3%	
Physical Therapist Aides	10	14.3%	
Physical Therapist Assistants	20	14.3%	

SOURCE: DTMB LMISI

In general, the projections show faster rates of employment growth for occupations that require moderate to high levels of education and training. Depending on the occupation, this can come in the form of a traditional college education or skilled trade / career and technical education programs.

Table 5-XIII presents annual job openings by occupation major group from 2018 to 2028 in the Upper Peninsula. Total openings are divided into openings due to absolute change and openings due to employee exits or occupational transfers. Food Preparation and Serving is expected to produce the largest number of job openings during this period, followed by Office & Administrative Support and Sales & Related. For all occupations, the vast majority of openings are projected to be due to exits or transfers. Office & Administrative Support occupations appear to be undergoing a significant overall contraction (decrease in job openings due to "change"), despite many openings due to exits and transfers. (Classification of openings has changed since the 2012-2022 projections, which attributed openings to either "growth" or "replacement.")

Occupation Major Group	Total Openings	Due to Change	Due to Exits or Transfers		
Food Preparation & Serving	2,040	10	2,030		
Office & Administrative Support	1,720	-140	1,860		
Sales & Related	1,720	-45	1,765		
Production	1,025*	-40	1,070		
Transportation & Material Moving	995*	-5	995		
Construction & Extraction	755*	15	745		
Personal Care & Service	690	30	660		
Building and Grounds Clearing & Maint.	615*	-10	620		
Education, Training & Library	575	5	570		
Installation, Maintenance, & Repair	565	-5	570		

Table 5-XIII: Top 10 Occupations for Projected 2018-2028 Annual Job Openings in U.P.

SOURCE: DTMB LMISI

* Discrepancy in total is not explained by source

Chapter 6| Planning/Economic Development Network

INTRODUCTION

Organizations dealing with planning and economic development activities, like WUPPDR, have continued to reposition themselves by creating new relationships. In these relationships, terms like collaboration, partnership, and cooperation, which were once used more rhetorically, have now gained greater meaning in practice. Community and economic development organizations in the Western U.P. are not only sharing information and programs among themselves but are frequently working cooperatively with organizations in other disciplines. They have discovered in the process that cooperation can mean access to new constituents, new sources of funding, and increased effectiveness.

INVENTORY OF ORGANIZATIONS

Below are listed many of the organizations WUPPDR has partnered or otherwise interacted with in some manner, and in many cases continues to do so. Some are funding agencies, whereas others are fellow service providers or complement WUPPDR's activities in other ways. While all collaborations are important, the number of these organizations and their individual missions make it inappropriate to discuss them all here. The following, therefore, are mainly public organizations that WUPPDR has worked with most recently or frequently.

U.S. Department of Agriculture Forest Service

The Forest Service is responsible for the administration and management of close to a million acres within the boundaries of the Ottawa National Forest. These lands occupy approximately 24 percent of the total area of the Western Upper Peninsula. With this amount of land and the number of different programs the Forest Service must operate to meet its mission, the agency has a significant impact on rural development in the region. It meets many of its obligations through partnership arrangements.

U.S. Department of Agriculture Natural Resources Conservation Service

The Natural Resources Conservation Service works with individual property owners, non-governmental organizations, tribal governments, and local governments in areas involving soil and water issues. Through its Resource Conservation and Development (RC&D) Program, it provides technical and financial assistance to local RC&D councils. These councils identify problems and priorities along with setting goals to solve problems in four broad areas: land conservation, water management, community development, and environmental enhancement.

U.S. Department of Agriculture Rural Development

The programs of this agency are used to support public works programs in partnership with other agencies. The agency's housing programs have also been used effectively throughout the region, and RD is currently directing resources toward certain aspects of rural business infrastructure assistance.

U.S. Department of Commerce Economic Development Administration (EDA)

Besides operating a multi-county economic development planning program, EDA also offers a number of programs that allow for the economic development implementation through financial assistance. Since financial resources are limited, cooperative partnerships to undertake projects—particularly in public works—are commonplace.

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U.S. Department of Interior Bureau of Indian Affairs

This agency is applicable to the two tribes based in the region in the, at the L'Anse Reservation in Baraga County mainly around the communities of L'Anse and Baraga, with another section in Ontonagon, and the Lac Vieux Desert Reservation in Gogebic County in and near Watersmeet. Both tribal governments are pursuing community and economic development programs and interact with adjacent local governments.

U.S. Department of the Interior National Park Service (NPS)

NPS works in partnership with local organizations and local units of government that have special interests in these parks. Since the parks attract visitors that use both private and public services, addressing different user groups' needs and how best to fulfill them requires coordinated planning to reduce possible negative impacts on both the parks and local communities. Two national parks are located within the region. Isle Royale National Park is mostly isolated on an island northwest of the Keweenaw County mainland, whereas Keweenaw National Historic Park includes partner sites across much of the peninsula's mainland, drawing special attention to historic town sites and features.

Michigan Department of Community Health and County/Regional Health Departments

These public agencies provide consultation, assistance, and service in the areas of environmental health, food service licensing and training, employee health testing, wellness education, disease prevention, and inoculation clinics.

Michigan Departments of Technology, Management and Budget; Natural Resources; Environment, Great Lakes and Energy; and Transportation

Each of these agencies has planning functions and programs that offer a wide range of rural, community, and economic development initiatives, many of which impact the Western U.P.

Michigan Economic Development Corporation (MEDC)

This quasi-governmental agency functions as a public-private partnership fostering community development, job creation, and economic expansion. Services in the region are offered via two separate but related entities: the Community Assistance Team (CATeam) and Business Development program. The former works with local units of government to improve community environments and opportunities, and the latter works with economic development organizations and directly with businesses, performing retention visits and identifying needs for and potential benefits from public funding. MEDC also has programs focusing on other opportunities such as foreign investment and also purview over the *Pure Michigan* statewide tourism campaign.

Michigan State University Extension

Through a network of field offices, county extension directors and extension specialists, many of the economic and social needs of Michigan residents, particularly in rural areas, are being addressed. Focus areas include agriculture (including food processing and 4-H), product development, and planning and zoning education. The Upper Peninsula has a Government and Public Policy Educator who WUPPDR regularly works with on topics of mutual interest, and the District 1 Director serves ex officio on the WUPPDR Commission.

Northern Michigan Public Service Academy

This organization provides high-quality, affordable training to U.P. municipal employees, with a mission to "foster and encourage the personal and professional development of its members" to serve their communities and organizations.

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Upper Peninsula Collaborative Development Council (UPCDC)

The Region 1 (Upper Peninsula) Collaborative Development Council was formed in or around 2011 as a venue for state agency representatives and "strategic partner" organizations to work collaboratively with local economic development organizations. Key functions are to provide an information sharing venue and implement regional projects and capacity building through dedicated grant funding from MEDC. The regional CDC also send delegates to a centralized CDC at the state level.

Upper Peninsula Commission for Area Progress (UPCAP)

This nonprofit organization was the organizing entity for the three Upper Peninsula planning and development districts, including WUPPDR, in 1968 (at EDA's request). Today UPCAP is responsible for development, coordination, and provision of human, social, and community resources across the Upper Peninsula. It is also designated as the U.P.'s Area Agency on Aging to advocate for and provide services to older adults.

Upper Peninsula Economic Development Alliance (UPEDA)

This nonprofit membership organization promotes the entire Upper Peninsula as a business location by integrating and improving on the region's many unique qualities. UPEDA provides marketing and informational services to its private and public members. Services are funded in part through a matching grant from MEDC.

Upper Peninsula Michigan Works! (UPMW)

Michigan Works! is a business-led policy and oversight agency responsible for creating a comprehensive, community-wide response to the challenges of building a highly skilled workforce and a competitive regional economy across the U.P. The agency is responsible for employment services within the state. The agency provides labor market information, recruitment, counseling, testing, training referrals, and job placement via its one-stop service centers and field offices. Michigan Works! also works directly with businesses to address their workforce needs. UPMW is the region of Michigan Works that serves the entire U.P.

The UPMW County Commissioners Board has representation from every county in the U.P. by locally elected county commissioners who appoint members to the UPWARD Workforce Development Board (WDB). The WDB has a majority private sector membership that sets the strategic direction for workforce development in the U.P. The two boards work together to foster economic development, encourage and support employers, and promote full employment for U.P. residents. Besides working with job seekers, UPMW engages with businesses across the U.P. to address workforce needs.

UPMW partners with multiple organizations in the region, both regional and state-level, either informally or through formal agreements. The agency provides funding support to some local economic development organizations through vendor or "employer of record" arrangements to assist in the delivery of localized business services. This regional partnership approach increases the connectivity of local partners, raises awareness surrounding all U.P. economic development projects, and creates efficiency that leads to more successful outcomes across the U.P.

Upper Peninsula Travel and Recreation Association (UPTRA)

Upper Peninsula Travel and Recreation Association is a private non-profit organization composed of members that represents the small businesses that make up the tourism industry. Its primary mission is to promote the tourism attributes of the Upper Peninsula to other markets.

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Invest UP

Invest UP is the lead, private sector-led regional economic development organization for the Upper Peninsula. It partners with local economic development organizations, regional planning agencies, state agencies, legislators, and other organizations to provide a united front for U.P.-wide economic development initiatives and business growth.

MTEC SmartZone

This establishment serves as a high-technology business accelerator (a type of incubator) for connecting all types of enterprises, from private entrepreneurs to Fortune 500 companies, with Michigan Technological University student talent. MTEC provides business infrastructure systems and support along with consulting services to facilitate the commercialization of technology emerging from Michigan Tech Research are private companies. MTEC is one of the first of 15 SmartZones in the state. MTEC operates as a non-profit corporation with a board currently composed of local business leaders, educational leaders, and public administrators. It is financed through a local development finance authority through tax increment financing, with foregone local tax revenues reimbursed by the Michigan Strategic Fund.

FinnZone

An offshoot of MTEC SmartZone, FinnZone is a partnership of MTEC, Finlandia University, Finnish-American Chamber of Commerce Upper Peninsula Chapter, Keweenaw Economic Development Alliance, and WUPPDR, along with other informal participants, that provides a "commercial launchpad" for the entry of Finland-based small companies and startups into the U.S. market. Supported by staff of the partner organizations, each of which has a different contributing role, FinnZone capitalizes upon the Keweenaw's Finnish heritage and connections to provide a welcoming, individually tailored set of tools to any Finnish company that needs assistance in accessing the U.S. market. The focus, however, is on companies that intend to establish a U.S. satellite or base of operations, rather than only import/export arrangements.

Northern Initiatives

This private non-profit community development corporation, once an academic department of Northern Michigan University in Marquette, provides a broad range of technical and economic development services to small businesses in Northern Michigan including lending, training, informational and efficiency consulting, and regional strategies such as tourism promotion.

Operation Action U.P.

This private non-profit organization is an advocate for industry on key issues affecting Upper Peninsula businesses. It also facilitates economic development through industrial prospecting and promotions.

Local Community and Economic Development and Planning Organizations

There are a variety of local organizations that address planning and economic development issues. These include chambers of commerce, industrial development councils, convention and visitors bureaus, downtown development authorities, economic development corporations, and planning commissions. They are all involved in the network for planning and economic development to some degree, and they all make contributions to their local communities. These organizations work to strengthen area businesses through cooperation, association, and marketing, while also offering services to benefit tourists and the public at large.

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Among these organizations, the Keweenaw Economic Development Alliance (KEDA) provides business retention, attraction, coordination of services, and technical assistance within the Keweenaw Peninsula. WUPPDR has a strong partnership with KEDA in community development and grants administration. Baraga and Iron counties also have active economic development organizations.

Regional Planning Organizations

There are 14 official state regional planning organizations (RPOs) in Michigan. While each has its own particular set of issues, these organizations all pursue planning and economic development activities which address problems and seek solutions from a regional perspective. Like WUPPDR, almost all of Michigan's RPOs are designated as economic development district organizations by EDA. All RPOs implement regional transportation planning programs under purview of MDOT. WUPPDR works closely and regularly with the Central U.P. Planning & Development Region and the Eastern Upper Peninsula Regional Planning and Development Commission to coordinate and prevent duplicative and conflicting efforts in the Upper Peninsula.

State and National Nonprofit Organizations

WUPPDR or its staff maintain strong relationships with three nonprofit membership organizations that advocate, conduct research, and provide professional development related to planning and development. The Michigan Association of Regions is the state association for the 14 RPOs. The Michigan Association of Planning is the professional association for planners and the state chapter of the American Planning Association. The National Association of Development Organizations connects a wide range of economic development and planning organizations on the national level, including metropolitan and regional planning commissions and councils of government. Finally, state organizations such as the Michigan Municipal League, Michigan Association of Counties, and Michigan Townships Association support and advocate for local units of government.

Chapter 7 | **Issue Identification**

PROCESS AND LIST OF ISSUES

The CEDS Committee conducted a SWOT analysis over the course of two meetings in July and October 2020. The SWOT from the previous CEDS was used as a guide, but special attention was devoted to considering what had changed over the past several years, particularly as influenced or impacted by the pandemic. Even so, new developments over the past year may have resulted in different input were the SWOT to have been conducted again.

Strengths (Internal)

- Natural resources
- Water resources/freshwater
- Sense of community/quality of life
- Isolation/seclusion
- Tourism
 - o Recreational
 - o Historic and cultural
 - Scenic/natural resource-based
 - o "Four-season"
 - Geo-tourism
- Trail systems (motorized and nonmotorized)
- Unique, world-class skiing assets such as Mount Bohemia and other downhill skiing resorts
- Michigan Technological University; other universities and community colleges
- Career and technical education programs
- High School diploma attainment
- Overall strong work ethic
- Public transportation
- Low cost and large supply of some types of housing (including "fixer-uppers") and other real estate
- Productive workforce
- Great Lakes ports
- Varied/diverse business base
- Ability and willingness to collaborate
- Coordinated healthcare systems
- Emergency services

Opportunities (External)

- International community (attraction, utilization, engagement)
- Expanded and improved broadband access
- Healthcare access through telemedicine
- Electrical energy
 - Improved affordability and reliability/redundancy
 - Alternative energy sources
- Multi-modal transportation hubs/network
- Improvement of recreation access infrastructure such as roads and paths
- Marketing, development, and capitalization of/upon recreation assets
- Recreation events/facilities
- Expansion and interconnection of water, silent, and motorized trail networks
- Leveraging of winter weather/climate
- Ski flying at Copper Peak
- "Missing middle" housing
- Retention of young people
- Attraction of young and middle-aged former residents to return to the region
- Attraction and facilitation of workforce that can work remotely
- Increased awareness of skilled trades opportunities
- Entrepreneurship training/pathways
- Outside perception of good work ethic
- Cultivation of next generation of community/regional leaders
- New business development and attraction
- Online business presences
- Engagement of private sector in public initiatives
- "Vertical space launch" site in Marquette County

Weaknesses (Internal)

- Wireless/broadband access
- High prevalence of unskilled jobs
- Economic disadvantage
- Lack of qualified workforce/employees
- Lack of employee priorities or interest in continued learning/professional development
- Lack of employer recognition of, and remuneration for, employee skills
- Difficulty in recruiting professionals
- Lack of employment opportunities for "trailing spouses"
- Low wages
- Lack of good-quality (move-in-ready) housing in \$100-200K range
- Seasonal workforce factors
 - Normalization of partial-year work
 - Permanent loss of skilled tradespersons during "off-seasons"
- Shortage of construction trade contractors, resulting in high prices
- General shortage of well-paying career opportunities
- Relatively low wages in particular professions/trades
- High cost of living in many respects
- Inadequate and relatively expensive broadband
- Very expensive residential electricity in much of the region
- Lack of energy efficiency improvements
- Inadequate professional networks
- Relatively old population
- Lack of progressivism to defeat status quo
- Marketing of business
- Poor customer/hospitality services
- "Brain drain"
- Transportation costs
- Shortage and high cost of certain natural resources used as construction materials
- Winter weather/climate, from the perspective of many
- Perception of isolation
- Lack of commercial and industrial space

Chapter 7| Issue Identification

Weaknesses (Internal) continued

- Capacity of local units of government
- Lack of advocacy on state level
- Large amount of tax-exempt land/property
- Funding Resources (state, federal, foundation)

Threats (External)

- "One size fits all" regulations
- State-level focus on Lansing and Southeast Michigan, and related attitudes
- Outside influence being subject to decisions of others; lack of control/power
- Lack of progress and responsiveness in emergency repairs and preparedness
- Disproportionate influence of antidevelopment groups, fed by social media; difficulty balancing with alternative views
- "Single source" services/limited options in general; reliance on outside resources
- Risk of inability to capitalize on positive trends due to status-quo mentality
- Loss of young people who want to leave the area for another environment/experience
- Difficulty of assessing, or lack of recognition of, the wage vs. cost of living dynamic
- Healthcare
 - Regulatory impediments to options and affordability
 - Shortage of specialized providers; long wait times for appointments
 - Financial pressures on critical access hospitals and ambulance services
- Aging population not being replaced by natural increase or in-migration
- Impacts of climate change
- Rising lake levels and high cost of mitigation
- Reliance of trail networks on temporary agreements and annual easements
- Closure of Enbridge Line 5
- Long-term impacts of pandemic, especially workforce shortages
- Averseness to pandemic control measures, causing impacts to last longer than necessary

Chapter 7 | **Issue Identification**

OVERVIEW OF ISSUES

Culture, Environment, and Lifestyle

A major attractor of current and prospective residents to the region is its unique culture and locationbased amenities. The Upper Peninsula overall, and the Western Region specifically, possess a strong sense of place arising from a common heritage. A collaborative spirit arises out of necessity among the region and its many networked organizations. The region's physical and social properties are attractive by any measure. Housing and real estate are relatively affordable. Educational and healthcare opportunities are strong and growing, with the latter being increased by telemedicine. The natural environment is attractive and serene, offering endless recreational opportunities over the course of four distinct seasons. The region possesses a large amount of Great Lakes shoreline along with inland lakes and streams. Severe weather can be viewed as either an advantage or a disadvantage, but it allows for specialized recreational opportunities, and despite extreme precipitation events, the risk of natural disasters is low.

On the downside, the region's population is aging and somewhat resistant to change, and outside perceptions of the region as an eccentric, out-of-the-way place tend to exacerbate this disadvantage. Obtaining employment and conducting business operations can be a challenge, especially to people from outside the region, due to nepotism and inefficient, multi-level government and educational systems. Institutional memory among staff, while advantageous in some ways, also contributes to closed-mindedness. There has been a lag in cultivating the much-needed next generation of community leaders. The natural resources that are so inviting to outdoor adventurists are also attractive to extractive industry, and conflicts occasionally arise as a result. Anti-development sentiments are prevalent in the region. Although housing is mostly affordable, in many cases it is low-quality. Many in-demand workers cannot be recruited to or are driven away from the region, because of its geographic isolation and limited access to the amenities of more populated areas, along with severe winter weather that for many people is untenable.

Regardless of the reasons, net population loss is the overarching threat to the region's prosperity. All of the region's negatives are contributors to population loss, but many of the region's positives can be leveraged to reduce or reverse it. Advancing our community and economic development can, through concerted efforts over time, naturally move the population trend in the right direction. Much anecdotal evidence indicates that net migration has started to change over the course of the pandemic, as newly liberated workers gained flexibility to work from home Data will need to be tracked over the next several years to determine the reality and permanency of this phenomenon.

Institutions, Infrastructure, and Economy

Many economic challenges result from the region's geographic isolation, but with a mixture of good fortune and special efforts to counter the region's competitive disadvantages, this can be overcome. The institution that has produced the greatest impact in leveling the playing field is Michigan Technological University The collaboration of Michigan Tech University with Finlandia University, the cities of Hancock and Houghton, and MTEC SmartZone, have created and sustained many technology startups that have remained in the area. There are also many small manufacturers throughout the region that produce high-value, low-volume products that can be and have been successfully sold – some internationally exported – despite transportation infrastructure challenges. And, of course, improved internet connectivity has begun to lessen the effects of isolation.

Chapter 7 | **Issue Identification**

Even so, in many mainstream industries, limited infrastructure makes transportation of goods and services difficult, and broadband still needs considerable improvement. In hospitality industries, customer service is often perceived, at least by visitors, as substandard. Relatively low levels of pay in many industries causes outward migration, and the complexity of the cost of living/wage dynamic makes it difficult for workers to judge the region's cost position relative to other areas. Partial-year work in seasonal industries has become normalized, and skilled workers who depart in the off season sometimes never return. Rising costs of travel and health care have a disproportionate impact on the sparsely populated region, as do unstable commodity prices and global economics. Due to the predominance of the government sector, long-term reductions in government spending limit the region's prosperity. Many local governments are already under-resourced, threatening services as basic as ambulance and police protection along with blight enforcement and community development capacity. Public policy and regulations are often based on top-down direction from state-level agencies in the Lower Peninsula, and there is a perceived lack of political advocacy for the region.

Summary

In many ways the Western U.P. is a region of paradoxes. Many strengths are often weaknesses when viewed in a different light. This is hardly unique to this region, as most SWOT analyses yield similar results. Still, it is important to recognize and react to the upsides and downsides of aspects such as winter weather, isolation, natural resource extraction, opportunities for remote workplaces, and relative detachment from the global economy. The region is often left to fend for itself in many respects, and the people have largely risen to this challenge. By necessity, collaboration is stronger in the Western U.P. than in many other areas of Michigan and even nationally. With that base already established, the region has the opportunity to apply all available resources to achieve its goals, objectives, and actions identified in the chapters to follow.

AN ATTAINABLE VISION

With one minor adjustment to account for dual infrastructure types, the CEDS Committee has reaffirmed the vision from the previous CEDS, demonstrating that the region has been on the right path and should continue our efforts to persevere through the pandemic and while taking of new opportunities that arise. The vision for the Western U.P. is:

A stable, diversified economy fostered through investments in quality built and natural environments; affordable, accessible, and robust physical and service infrastructure; a productive and resourceful populace; and an open, progressive, collaborative mindset

Regional Goals and Objectives

Goals and objectives have been revisited for this iteration of the CEDS, resulting in many additions, deletions, and changes, but most notably, the Strategic Direction/Action Plan has been directly aligned with the objectives. Almost every objective has one or more actions pertaining to it, and of these, the CEDS Committee has developed a prioritized list of the most readily implementable actions. These will serve as WUPPDR's Action Plan for the near term; of course, there are always possibilities to step outside of the prioritized order and to pursue other projects that are consistent with goals and objectives.

The following goals are expanded upon with objectives and action items in **Appendix 1** to the CEDS.

- I. Build upon the uniqueness of the region's rural resources to leverage sustainable and diverse enterprise opportunities
- **II.** Mitigate and modify natural and economic forces that threaten the region's resiliency
- **III.** Improve the region's physical infrastructure and services to ensure availability and mobility of people, freight, utilities, and information while ensuring safety and security and protecting the environment
- **IV.** Promote a community development framework for improved design, preservation of assets, and general welfare to create quality places to live, work, and conduct business
- **V.** Build and enhance the region's capacity to attract, retain, and educate individuals to build their capacities, meet workforce needs, and create continuously rejuvenating communities
- VI. Improve community health for all residents

Most Readily Implementable Projects/Actions

The objectives and actions are detailed in the pages ahead, but for convenience, the key projects and other actions are below. Within six project categories, which are functional and not the same as the six goals, they are prioritized based on a CEDS Committee ranking exercise:

Tourism

- 1. Regional tourism data portal and strategy*^
- 2. Adventure-based recreation services gap analysis
- 3. Arrangement of customer service training programs
- 4. Reconvening of Copper Country Trail National Byway Committee

Food Systems

- 1. Food systems assessment(s) with gap analysis and priority needs
- 2. Technical assistance with local regulations impacting food outlets
- 3. Shared-use kitchen feasibility study*

Resilience-Related

- 1. Educational programming with regional partners around sustainable development, hazard mitigation, climate adaptation, community resilience, and growth opportunities*
- 2. Convene and facilitate regional business funding collaborative if access to time-sensitive grants becomes difficult to manage
- 3. Implement hazard mitigation plans
- 4. Implement Pandemic Recovery and Resilience Plan*

Infrastructure

- 1. Facilitate recreation authorities for improvement of trail network, including water trails*
- 2. Evaluate alternative models for sustainable delivery of ambulance service within region*
- 3. Provide technical assistance with infrastructure asset management planning*
- 4. Help to facilitate buildout of electric vehicle charger network within region*
- 5. Provide technical assistance and access to resources for energy efficiency planning and implementation
- 6. Provide technical assistance with materials management (solid waste, recycling) planning

Community Development

- 1. Form and facilitate stakeholder group(s)/committee(s) to assess and find solutions to housing needs*^
- 2. Develop and facilitate implementation of regional housing data portal and strategy/study*^

Economic Development

- 1. Conduct regional labor force assessment and/or contribute to U.P. labor market study*^
- 2. Assist with capacity building and sustainability planning for establishment of county EDOs where lacking
- 3. Facilitate remote worker attraction initiatives and worker readiness programs*

* In progress

^ Implementation item in Pandemic Recovery and Resilience Plan

Asked about the highest priority items in all of these categories put together, **labor market data and worker recruitment** were indicated as top general priorities by the largest number of CEDS Committee members. In general, these priorities can be classified as talent attraction – an objective that is indirectly advanced by many of the other action items.

WUPPDR intends and expects to be able to implement several of these projects and actions over the next five years.

Evaluation Framework

Evaluation will be conducted through two different mechanisms:

Annual status report on implementation

Progress will be measured through a brief report on what actions have been fully or partially implemented or have not yet been implemented. Other projects that WUPPDR undertakes consistent with the CEDS will also be summarized.

Regional data tracking

Readily available regional economic data will be tracked on an annual or more frequent basis, in a format accessible to the general public online. This will demonstrate the region's progress based on broad indicators in comparison to the state and nation, which are beyond WUPPDR's direct control but will help to refine future priorities and identify areas for improvement. The online data access webpage or portal is being set up in coordination with EDA CARES Noncompetitive funding and thus will be finalized by summer 2022. One component in the initial dataset will be public access to regional metrics and county/municipal financial status data in Munetrix, for which WUPPDR purchased a sponsorship subscription in October 2021.

Implementation Resources

Technical Assistance

WUPPDR has established a technical assistance program to respond to requests, primarily from local units of government, for addressing specific economic and community development needs. The most frequent types of assistance include comprehensive, recreation, and hazard mitigation planning; geographic information systems maintenance and mapping; data analysis and packaging; and completion of forms and applications. By offering this assistance, WUPPDR supplements the capacity of local governments in the region, most of which do not have sufficient staffing or expertise to accomplish these tasks.

Information Services

To be able to respond to technical assistance requests as well as informational inquiries from other agencies and the general public, WUPPDR has developed and maintains an extensive information network for planning and development purposes. The system includes internal electronic databases, streamlined access to public and limited access data sources, and intergovernmental liaison network.

Regional Economic and Community Development

WUPPDR continuously seeks project opportunities consistent with the CEDS to leverage the region's unique resources and pursue new opportunities. This is made possible in part through contact with public agency staff and legislators at the local, state, and federal levels, enabling WUPPDR to serve as a conduit to key officials who have the ability to facilitate access to resources and to mitigate program impediments. WUPPDR also engages private sector leaders whenever possible to obtain their input in regional initiatives and to build private-public partnerships whenever possible.

Designation and support as an EDA district organization allows WUPPDR to participate in meetings and initiatives at all levels that offer access to opportunities that might not otherwise be known or attainable.

This allows WUPPDR to not only find new opportunities but to provide a regional perspective and ongoing communications to local governments that often are inwardly focused.

Grants Administration and Implementation

WUPPDR staff has expertise to apply for, administer, and frequently implement grants from a wide variety of state and federal agencies. WUPPDR has a long and strong history of administering grants from EDA, MDARD, MDOT, MEDC, MSHDA, Michigan State Police, USDA, and many other state and federal agencies. WUPPDR employs certified grant administrators to provide Community Development Block Grant administration services required by MEDC for most grants to local governments. Grants are administered through a variety of arrangements: WUPPDR may self-administer a grant as the grantee, may be reimbursed by a funding agency for a grant to another organization, or may be directly paid as a fee for service from a local government grantee.

A PATH TO RECOVERY AND OPPORTUNITY

Since March 2020, the Coronavirus Pandemic has vastly changed lifestyles across the nation – exacerbating existing socioeconomic problems and creating some new ones, while also revealing new opportunities. Both the positives and negatives should be taken into account when assessing impacts on the region and finding a path forward.

In early March 2021 – approximately a year after the severity and national implications of the pandemic became apparent in the United States – WUPPDR completed the initial release of a Pandemic Response and Resiliency Plan. The plan and its related activities and expenses were funded in summer 2020 through EDA CARES Noncompetitive Funding for EDD organizations.

WUPPDR approached the PRRP as a rapid-response planning process, which we believed would be the way to create the greatest cumulative impacts for the region. However, this meant that the plan was being developed even as the pandemic situation was constantly changing – and it continues to change. Most of the PRRP contents remain relevant, but a major look-back and status update will be conducted in late spring to early summer 2022.

The Pandemic Response and Resiliency Plan is incorporated as **Appendix 2** to the CEDS.

Projects

The plan included a blueprint for action which included approximately a dozen potential implementation projects for WUPPDR to undertake. After the plan was completed, we invited stakeholders to rank the potential projects for WUPPDR to consider undertaking for the remainder of the grant period. Three projects emerged as the clear top priorities:

- Regional Housing Study and Strategy
- Regional Labor Force Assessment
- Regional Tourism Study and Strategy

It was unsurprising that these were the "winners," as these topics have been at the forefront of many economic development meetings and discussions in the region since the pandemic got underway. The three issues frequently overlap, but each has a different balance of needs, threats, and opportunities within the current economic and social situation:

- The **housing** market has been challenging for many years, particularly since the Great Recession, with pressures greatly increasing more recently. Elements of the problem include housing cost, quality, age, incompatibility of available formats with market preferences, and contractor shortages with an associated low level of construction activity. An influx of new residents and movement among the region's existing residents have warranted a new, detailed, region-specific look at the housing market, with the end goal of illustrating demand and developing strategies communities can take to improve and increase their housing stock.
- The **labor force** of the region has been declining for decades due to population aging and outmigration. The pandemic accelerated workforce exits further, resulting in employer difficulties in recruiting and retaining workers within the traditional employment paradigm.

There is a growing acceptance that major changes will need to be made to accommodate the preferences – or demands – of the workforce that have developed with the pandemic. There exists much speculation and lack of evidence, especially within the Western U.P. specifically, about the factors influencing workforce shortages. WUPPDR is conducting an evidence-based process to determine what is impeding workforce participation and solutions to help mitigate the issue.

• **Tourism** is one of the most positive economic development trends that has come of the pandemic. Many nontraditional visitors discovered or rediscovered the region as the pandemic nudged people to consider "safer" outdoor-focused destinations, while other options, such as international travel, were cut off. Businesses in the region have benefited greatly from increased visitor numbers; in turn creating a new set of challenges. Workforce shortages have limited the ability of many businesses to capitalize on that growth, and some communities have become discontented with the increased presence of tourist traffic. Some recreational assets that are seeing heavier tourist traffic, though withstanding the pressure, are nevertheless increasingly at risk of loss of public access for various reasons. WUPPDR is working with many tourism-focused organizations to examine the good and the not so good, and to develop strategies to build upon the former while mitigating the latter.

Each of the implementation projects has been led by a steering committee of volunteers. Beginning in January 2022, the separate committees will be combined into one, which will meet approximately monthly to guide and provide feedback for the later stages of all of the projects. This change is occurring at the point that more targeted one-on-one and small group input sessions will begin to occur for each project.

Other Updates to the PRRP

Most of the underlying issues and themes of the PRRP have continued without significant change since the plan was completed. However, there have been several new developments that are worth mentioning:

American Rescue Plan Act

This federal legislation adopted just days after completion of the PRRP continued several existing pandemic mitigation measures; at the time of PRRP completion the prospects of these programs were unclear:

- Extension of expanded unemployment benefits
- Extension of increased "food stamp" benefits
- Additional funding for Emergency Injury Disaster Loans and Paycheck Protection Program

Many new programs and funding supports were also created:

- \$1,400 direct payments to individuals
- Tax credits to employers who voluntarily provide emergency paid leave
- Expansions of the child tax credit, child and dependent care credit, and earned income tax credit
- Restaurant Revitalization Fund and Shuttered Venue Operators grants
- Funding to mitigate budget shortfalls and shock for state, local, and tribal governments
- Funding to assist schools in reopening, and support funding for colleges and universities
- Supplementary funding for new and existing EDA programs

- Increased and new funding for rental and homeowner assistance, rental vouchers, homeless support, energy cost support, and other housing purposes
- Numerous vaccine-, testing-, and PPE-related costs and programs
- Funding for Department of Veterans Affairs and Indian Health Service
- Workforce programs for pandemic response workers in public health departments
- Funding/grants for public transit providers, airlines, airports, and Amtrak
- Funding for federal cybersecurity costs
- Funding for USDA food/agriculture and rural healthcare programs
- COBRA subsidies, and changes to ACA, Medicaid, and CHIP
- Numerous multiemployer pension fund bailouts

Local Fiscal Relief Funds

One of the most obviously impactful ARPA-derived programs at the regional level is *Coronavirus Local Fiscal Relief Funds (CLFRF)* – flat dollar amounts allocated to counties, townships, and municipalities based on population and other factors. The funds can be used for several flexible purposes, including to compensate for revenues lost over the course of the pandemic. County funds were granted directly by the U.S. Treasury, whereas townships and municipalities were required to apply to the Michigan Treasury for their allocated funds. To date, almost all of the local governments in the Western U.P. have requested their funds, with many already processed and others pending audit or validation. Most units have not yet determined what their funds will be utilized for. WUPPDR, in collaboration with partner agencies, has made efforts to educate local governments as to allowable uses. There is some concern about the eligibility of various expenditures, which local governments will continue to work through.

Broadband Internet

Broadband has remained the lynchpin to continuation of many aspects of life throughout the pandemic. Since March, several new state and federal broadband grant programs have either been created or moved into the implementation stage. Most notable is the Rural Digital Opportunity Fund (RDOF), which will result in hundreds of miles of new fiber optic service to previously underserved or unserved parts of the region. Over the next few years, this program is likely to produce impacts beyond what was expected during the development of the PRRP.

Remote Work

During development of the PRRP, WUPPDR engaged a Michigan State University Urban and Regional Planning Practicum course to conduct a regional remote work study as a student-led, faculty-guided project. The project surveyed the status and potential for expansion of remote work in the region, including ability and potential incentives to attract remote workers.

WUPPDR also worked with the preexisting Remote Workforce Keweenaw (RWK) initiative to develop new branding and a professional website. RWK had existed for years in the region but took on new relevance amid the pandemic, and anecdotal evidence suggests it has been highly effective in helping to facilitate incoming remote workers' access to housing and jobs.

Over the past year, remote work promotion and attraction has spread to be goals for many businesses and organizations across the Upper Peninsula. WUPPDR will continue to seek new opportunities to attract and support potential new workers who would not otherwise come to the region.

Education

Over the course of 2021, many issues that impeded successful remote K-12 instruction, particularly limited broadband access, have been mitigated somewhat through interim technology measures and new federal funding. But in many ways, remote teaching and learning has become no less challenging.

By the end of the 2020-2021 school year, public schools had generally returned to in-person learning. This return to some degree of normal was generally successful, but sporadic COVID-19 outbreaks resulted in temporary school closures, and inconsistent recommendations and mandates for use of face coverings remained a logistical and controversial issue.

Colleges and universities have also mostly returned to in-person instruction, and dramatic losses in funding that resulted from closures and decreased enrollments in the early months of the pandemic have been mitigated by ARPA funding. The State of Michigan's "Futures for Frontliners" program offers free tuition to essential workers who reside in community college districts. Other programs are under consideration to make college access available to new populations.

Childcare

Almost all childcare providers in the region that were closed due to the pandemic have reopened. By the time the PRRP was developed, about 60% of 75 providers in the region had reopened. As of November 2021, all but one of 74 providers are open. Still, the effects the pandemic has had on childcare need and availability continue to be an issue. Many parents have been unable to maintain their employment during the pandemic due to reductions in, high costs of, and health risks of childcare services – and services were decreased at the very time that school closures made them highest in demand. Policies and programs to improve access to childcare are being explored at the state and federal levels.

Healthcare and COVID-19 Trends

Hospitals have continued to be strained by high COVID-19 case and hospitalization rates, to an even greater degree than when the PRRP was completed. Vaccination levels have increased slowly in the region since the vaccine became available, and they continue to significantly lag state and national levels. As of November 2021, approximately 7 in 10 Michiganders had received their first dose of a COVID-19 vaccine. In comparison, the Western Upper Peninsula Health Department (whose service area includes all of WUPPDR's counties except Iron) indicates that just 53.4% of residents of the five counties have received their first doses. In addition, all five counties' overall case rates far exceed the CDC threshold for "high" transmission (the highest of four categories). There have been 184 known deaths attributed to COVID-19 in the five-county area. This situation will continue to be a challenge for pandemic recovery, especially with the threat of new virus variants developing.

2020 Census

Redistricting data from the 2020 Census were released in August 2021 and indicate the Western U.P. had lost 4% of its population since 2010. As with many aspects of the region's people and economy, there was wide variation among counties and communities. Houghton County was the only county in the Upper Peninsula with a net population gain, and the City of Houghton had the greatest net gain of any U.P. city. Based on existing population projections to 2045, roughly the same dynamics among Western U.P. counties can be expected to persist. However, a U.P. migration study conducted in late 2021 indicates population loss has significantly slowed or even reversed in many parts of the U.P. since the pandemic began – as a result of in-migration rather than natural increase. This is consistent with anecdotal evidence of remote workers and new homebuyers and renters coming from other regions since the pandemic began. If this trend continues, the U.P.'s population trends may drastically change from their decades-long decline.