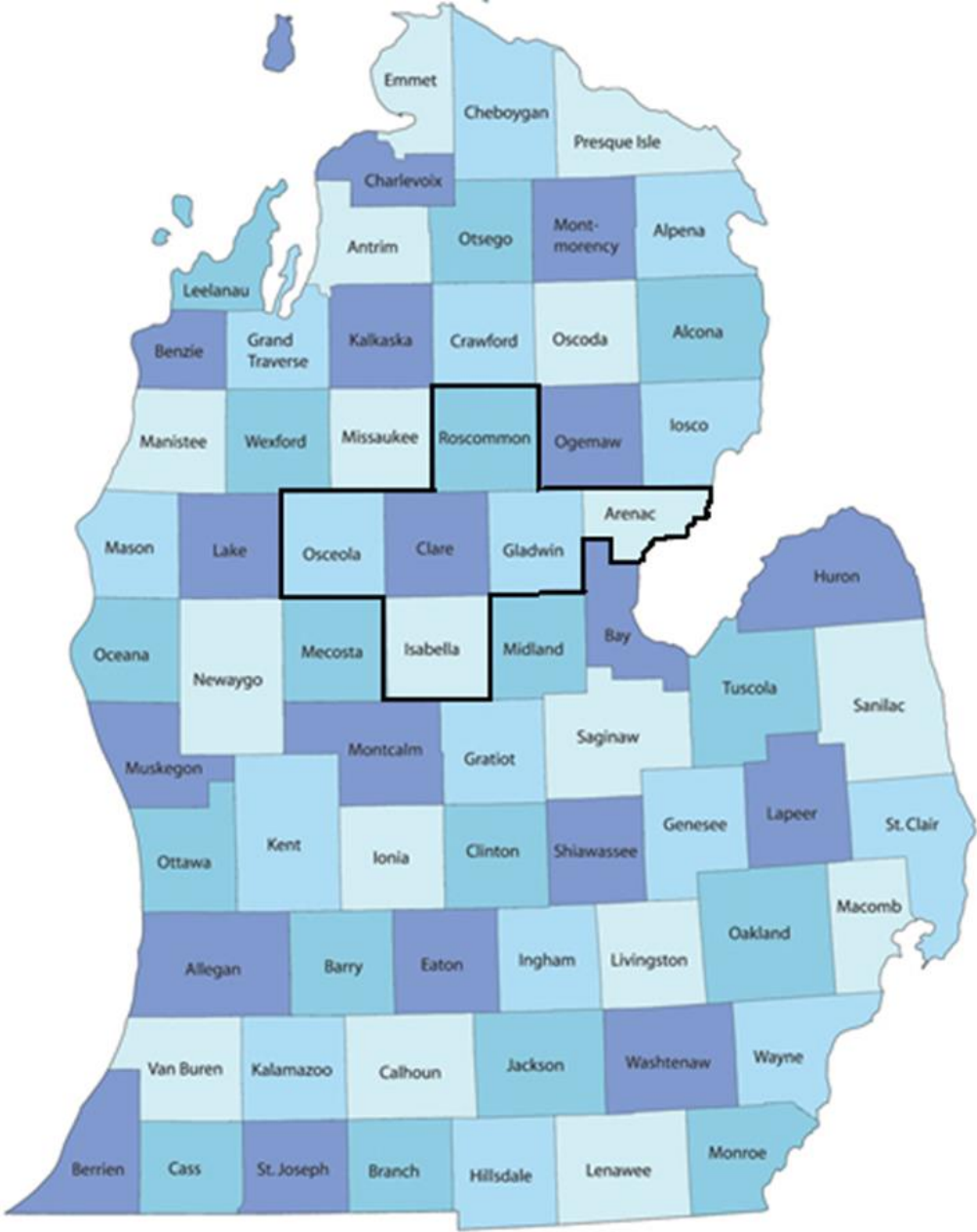


# Central Michigan Region Health Indicators Report

## Part Three: Physical Environment Data



July 2015

Contents

**Introduction**..... 1

**Physical Environment Data**..... 2

    Air Quality - Ozone..... 2

    Air Quality - Particulate Matter 2.5..... 4

    Fast Food Restaurant Access ..... 6

    Grocery Store Access ..... 9

    Housing Environment - Assisted Housing ..... 12

    Housing Environment - Housing Unit Age ..... 16

    Housing Environment - Overcrowded Housing..... 23

    Housing Environment - Substandard Housing..... 26

    Housing Environment - Vacancy Rate..... 35

    Liquor Store Access..... 38

    Low Income Population with Low Food Access..... 40

    Modified Retail Food Environment Index..... 41

    Population with Low Food Access..... 46

    Recreation and Fitness Facility Access ..... 47

    SNAP-Authorized Food Store Access ..... 49

    Use of Public Transportation..... 50

    WIC-Authorized Food Store Access..... 52

# Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

## Introduction

This report provides health indicator data for the residents of the central Michigan region which includes the Michigan counties of Arenac, Clare, Gladwin, Isabella, Osceola, and Roscommon. The report comprises six parts each in a separate volume.

**Part One: Demographic Data** - Current population demographics and changes in demographic composition over time play a determining role in the types of health and social services needed by communities.

**Part Two: Social and Economic Data** – Economic and social insecurity often are associated with poor health. Poverty, unemployment, and lack of educational achievement affect access to care and a community's ability to engage in healthy behaviors.

**Part Three: Physical Environment Data** - A community's health also is affected by the physical environment. A safe, clean environment that provides access to healthy food and recreational opportunities is important to maintaining and improving community health.

**Part Four: Clinical Care Data** - A lack of access to care presents barriers to good health. The supply and accessibility of facilities and physicians, the rate of those who are not insured, financial hardship, transportation barriers, cultural competency, and coverage limitations affect access.

**Part Five: Health Behavior Data** - Health behaviors such as poor diet, a lack of exercise, and substance abuse contribute to poor health status.

**Part Six: Health Outcome Data** - Measuring morbidity and mortality rates allows assessing linkages between social determinants of health and outcomes. By comparing the prevalence of certain chronic diseases to indicators in other categories with outcomes, various causal relationships may emerge, allowing a better understanding of how certain community health needs may be addressed.

The report was prepared with data and information provided by [Community Commons](#) on July 23, 2015. Please see [Health Indicators Report footnotes](#) for information about the data background, analysis methodologies and other related notes.

This document was produced by the Central Michigan District Health Department under a project supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number P10RH28456 for Rural Health Network Development Planning for \$98,864. This information and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsement be inferred by HRSA, HHS, or the U.S. Government.

## Physical Environment Data

A community’s health also is affected by the physical environment. A safe, clean environment that provides access to healthy food and recreational opportunities is important to maintaining and improving community health.

### Air Quality - Ozone

Within the report area, 0, or 0% of days exceeded the emission standard of 75 parts per billion (ppb). This indicator reports the percentage of days per year with Ozone (O3) levels above the National Ambient Air Quality Standard of 75 parts per billion (ppb). Figures are calculated using data collected by monitoring stations and modeled to include census tracts where no monitoring stations exist. This indicator is relevant because poor air quality contributes to respiratory issues and overall poor health.

Report Area	Total Population	Average Daily Ambient Ozone Concentration	Number of Days Exceeding Emissions Standards	Percentage of Days Exceeding Standards, Crude Average	Percentage of Days Exceeding Standards, Pop. Adjusted Average
Report Area	190,805	38.30	0	0%	0%
Arenac County, MI	15,899	38.38	0	0%	0%
Clare County, MI	30,926	38.28	0	0%	0%
Gladwin County, MI	25,692	38.07	0	0%	0%
Isabella County, MI	70,311	38.10	0	0%	0%
Osceola County, MI	23,528	38.73	0	0%	0%
Roscommon County, MI	24,449	38.50	0	0%	0%
Michigan	9,883,640	37.68	0.07	0.02%	0.02%
United States	312,471,327	38.98	1.59	0.44%	0.47%

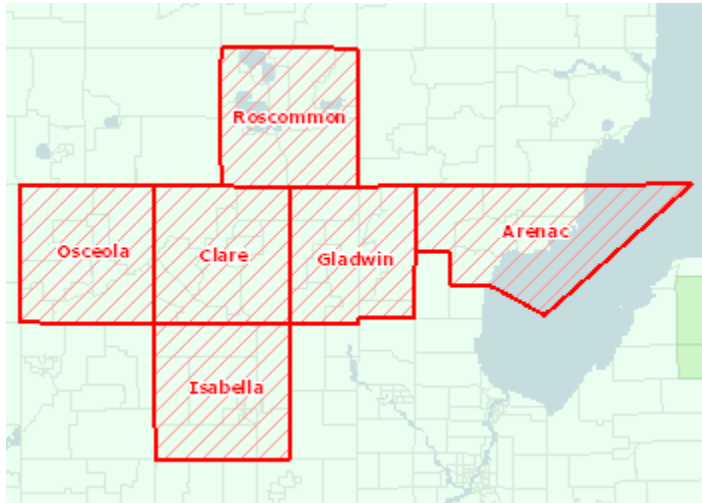
Percentage of Days Exceeding Standards, Pop. Adjusted Average










- Report Area (0%)
- Michigan (0.02%)
- United States (0.47%)

Data Source: Centers for Disease Control and Prevention, National Environmental Public Health Tracking Network. 2008. Source geography: Tract

# Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data



**Ozone Levels (O3), Percent Days Above NAAQ Standards by Tract, NEPHTN 2008**

-  Over 6.0%
-  1.1 - 6.0%
-  0.51 - 1.0%
-  Under 0.51%
-  No Days Above NAAQS Standards
-  No Data or Data Suppressed
-  Report Area

## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Air Quality - Particulate Matter 2.5

This indicator reports the percentage of days with particulate matter 2.5 levels above the National Ambient Air Quality Standard (35 micrograms per cubic meter) per year, calculated using data collected by monitoring stations and modeled to include counties where no monitoring stations occur. This indicator is relevant because poor air quality contributes to respiratory issues and overall poor health.

Report Area	Total Population	Average Daily Ambient Particulate Matter 2.5	Number of Days Exceeding Emissions Standards	Percentage of Days Exceeding Standards, Crude Average	Percentage of Days Exceeding Standards, Pop. Adjusted Average
Report Area	190,805	8.04	2.43	0.67	0.73%
Arenac County, MI	15,899	8.12	2.86	0.78	0.76%
Clare County, MI	30,926	7.75	2	0.55	0.57%
Gladwin County, MI	25,692	7.82	2	0.55	0.56%
Isabella County, MI	70,311	9.28	3.87	1.06	1.06%
Osceola County, MI	23,528	7.74	2.17	0.59	0.60%
Roscommon County, MI	24,449	6.84	1	0.27	0.27%
Michigan	9,883,640	10.66	3.43	0.94	0.92%
United States	312,471,327	10.65	4.17	1.14	1.19%

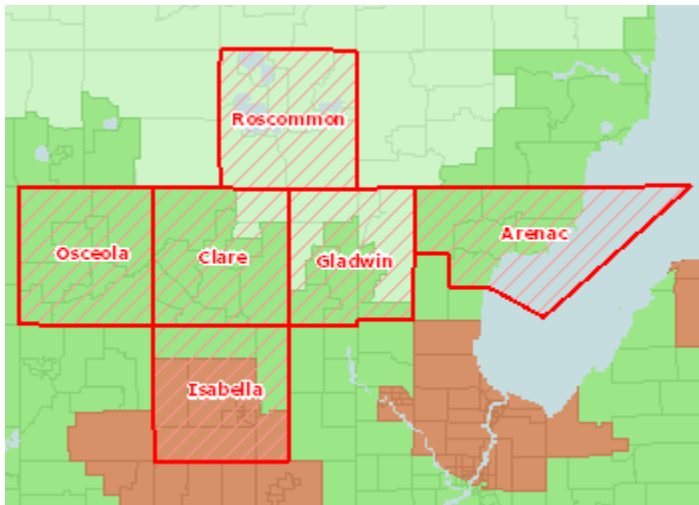
Percentage of Days Exceeding Standards, Pop. Adjusted Average



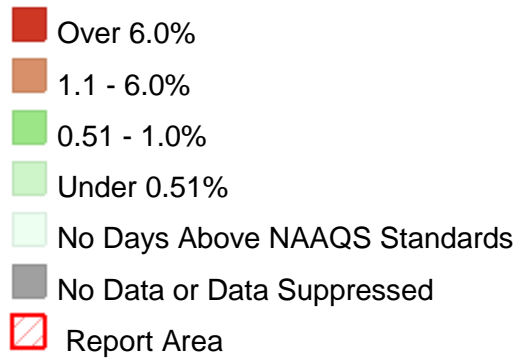
- Report Area (0.73%)
- Michigan (0.92%)
- United States (1.19%)

Data Source: Centers for Disease Control and Prevention, National Environmental Public Health Tracking Network. 2008. Source geography: Tract

## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data



**Fine Particulate Matter Levels (PM 2.5), Percent Days Above NAAQ Standards by Tract, NEPHTN 2008**



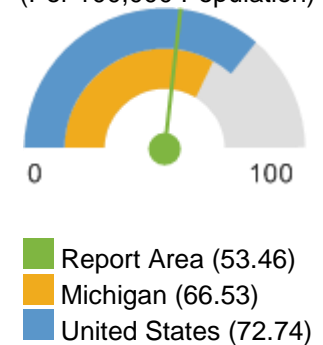
## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Fast Food Restaurant Access

This indicator reports the number of fast food restaurants per 100,000 population. Fast food restaurants are defined as limited-service establishments primarily engaged in providing food services (except snack and nonalcoholic beverage bars) where patrons generally order or select items and pay before eating. This indicator is relevant because it provides a measure of healthy food access and environmental influences on dietary behaviors.

Report Area	Total Population	Number of Establishments	Establishments, Rate per 100,000 Population
Report Area	190,805	102	53.46
Arenac County, MI	15,899	14	88.06
Clare County, MI	30,926	16	51.74
Gladwin County, MI	25,692	8	31.14
Isabella County, MI	70,311	36	51.20
Osceola County, MI	23,528	11	46.75
Roscommon County, MI	24,449	17	69.53
Michigan	9,883,640	6,576	66.53
United States	312,732,537	227,486	72.74

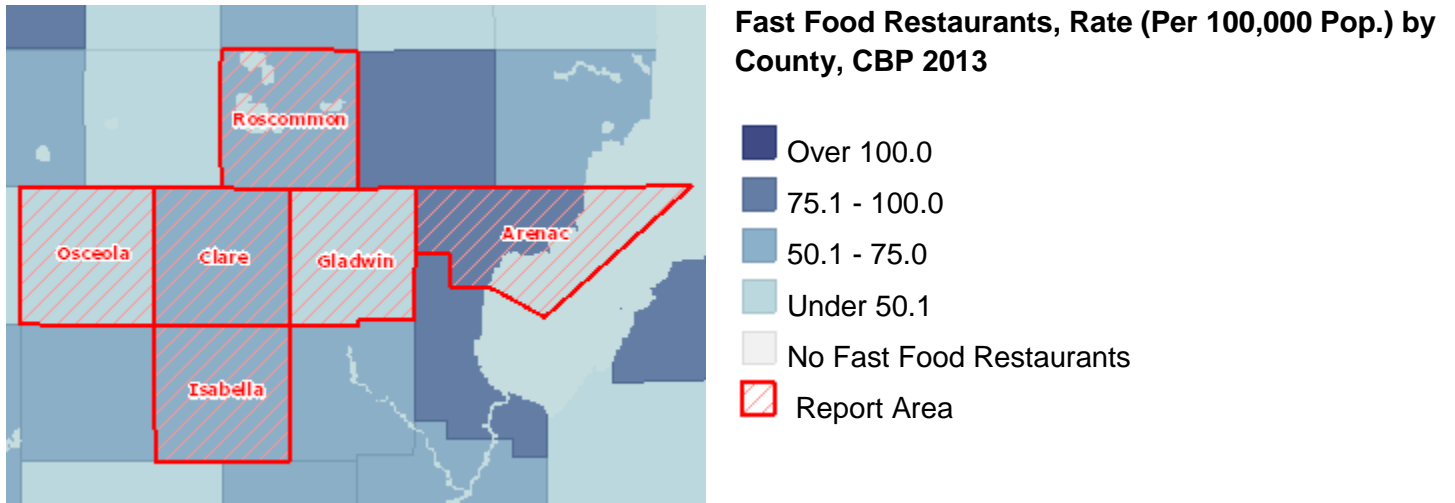
Fast Food Restaurants, Rate (Per 100,000 Population)



Data Source: US Census Bureau, County Business Patterns. Additional data analysis by CARES. 2013. Source geography: County



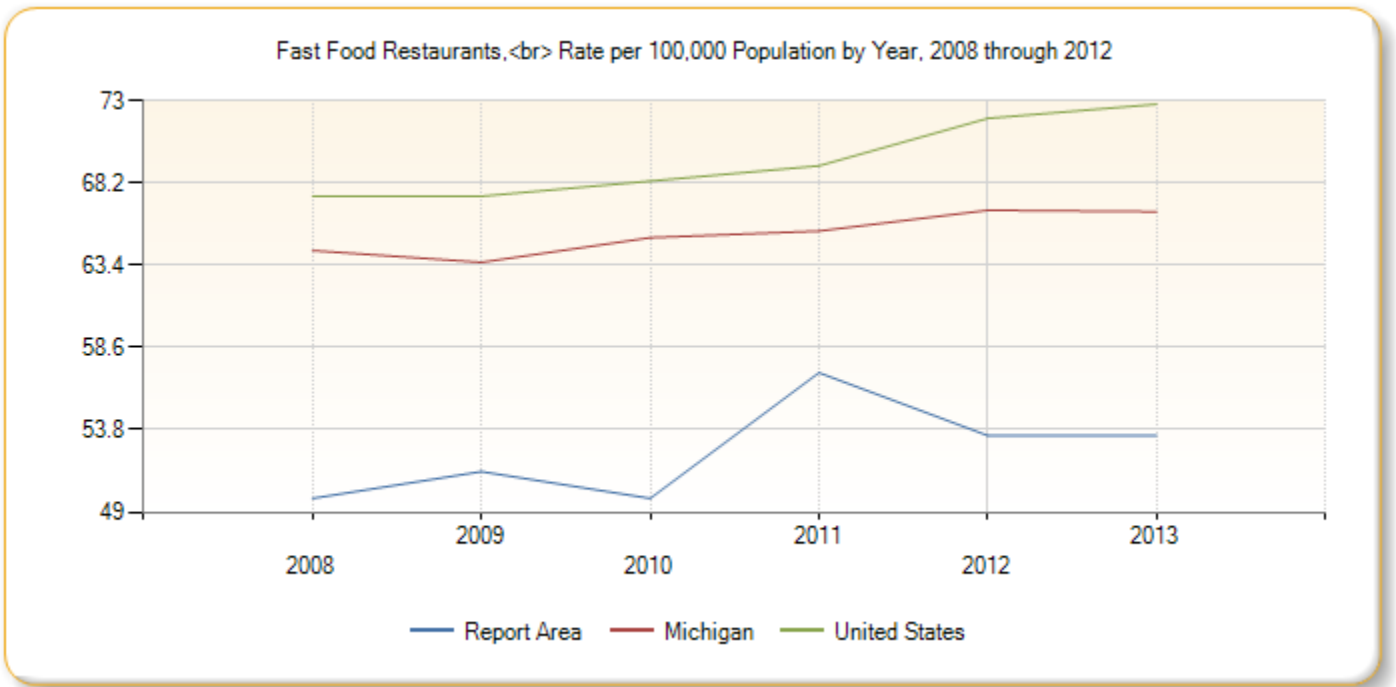
## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data



### Fast Food Restaurants, Rate per 100,000 Population by Year, 2008 through 2012

Report Area	2008	2009	2010	2011	2012	2013
Report Area	49.79	51.36	49.79	57.13	53.46	53.46
Arenac County, MI	62.9	69.19	69.19	88.06	88.06	88.06
Clare County, MI	54.97	61.44	61.44	61.44	58.2	51.74
Gladwin County, MI	27.25	31.14	23.35	35.03	31.14	31.14
Isabella County, MI	56.89	54.05	54.05	61.16	52.62	51.2
Osceola County, MI	25.5	34	34	38.25	42.5	46.75
Roscommon County, MI	61.35	57.26	53.17	61.35	61.35	69.53
Michigan	64.26	63.57	65.01	65.4	66.61	66.53
United States	67.43	67.43	68.31	69.2	71.97	72.8

## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data



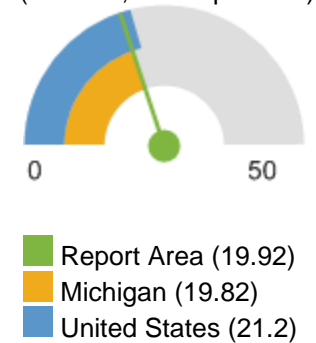
## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Grocery Store Access

This indicator reports the number of grocery stores per 100,000 population. Grocery stores are defined as supermarkets and smaller grocery stores primarily engaged in retailing a general line of food, such as canned and frozen foods; fresh fruits and vegetables; and fresh and prepared meats, fish, and poultry. Included are delicatessen-type establishments. Convenience stores and large general merchandise stores that also retail food, such as supercenters and warehouse club stores are excluded. This indicator is relevant because it provides a measure of healthy food access and environmental influences on dietary behaviors.

Report Area	Total Population	Number of Establishments	Establishments, Rate per 100,000 Population
Report Area	190,805	38	19.92
Arenac County, MI	15,899	4	25.16
Clare County, MI	30,926	11	35.57
Gladwin County, MI	25,692	3	11.68
Isabella County, MI	70,311	11	15.64
Osceola County, MI	23,528	5	21.25
Roscommon County, MI	24,449	4	16.36
Michigan	9,883,640	1,959	19.82
United States	312,732,537	66,286	21.2

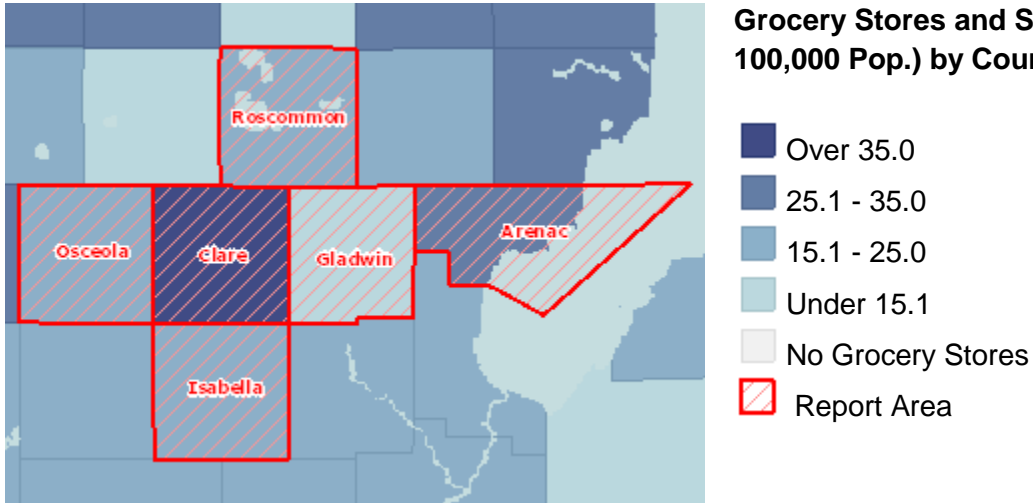
Grocery Stores, Rate (Per 100,000 Population)



Data Source: US Census Bureau, County Business Patterns. Additional data analysis by CARES. 2013. Source geography: County

## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

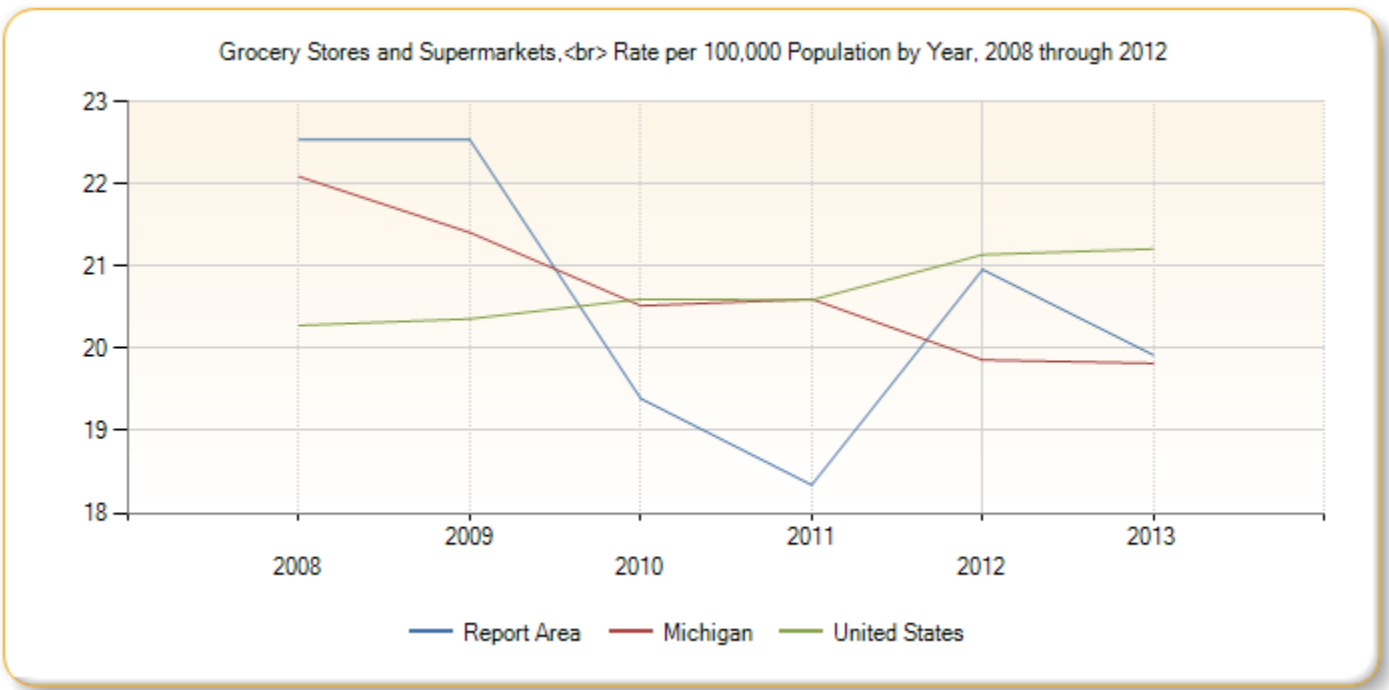
Grocery Stores and Supermarkets, Rate (Per 100,000 Pop.) by County, CBP 2013



## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Grocery Stores and Supermarkets, Rate per 100,000 Population by Year, 2008 through 2012

Report Area	2008	2009	2010	2011	2012	2013
Report Area	22.54	22.54	19.39	18.34	20.96	19.92
Arenac County, MI	25.16	37.74	25.16	12.58	18.87	25.16
Clare County, MI	35.57	35.57	25.87	29.1	35.57	35.57
Gladwin County, MI	15.57	15.57	11.68	11.68	11.68	11.68
Isabella County, MI	12.8	11.38	12.8	14.22	15.64	15.64
Osceola County, MI	38.25	34	29.75	25.5	25.5	21.25
Roscommon County, MI	24.54	24.54	24.54	20.45	24.54	16.36
Michigan	22.09	21.41	20.52	20.6	19.86	19.82
United States	20.28	20.36	20.6	20.59	21.14	21.21



## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Housing Environment - Assisted Housing

This indicator reports the total number of HUD-funded assisted housing units available to eligible renters as well as the unit rate (per 10,000 total households).

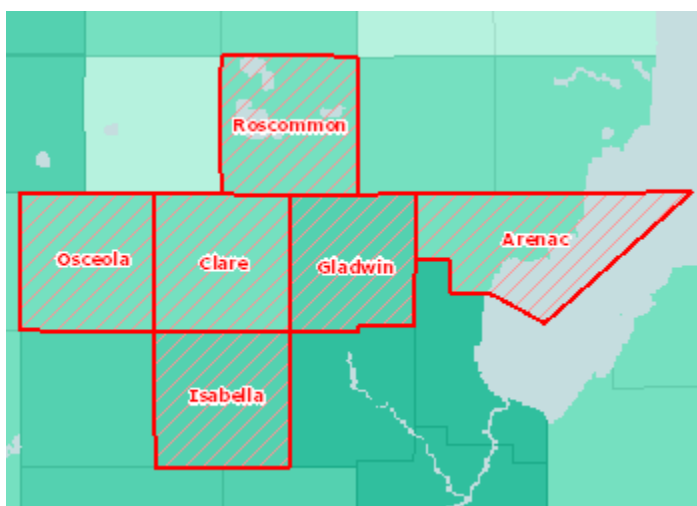
Report Area	Total Housing Units (2010)	Total HUD-Assisted Housing Units	HUD-Assisted Units, Rate per 10,000 Housing Units
Report Area	117,180	2,023	172.64
Arenac County, MI	9,803	108	110.17
Clare County, MI	23,233	304	130.85
Gladwin County, MI	17,672	422	238.8
Isabella County, MI	28,381	719	253.34
Osceola County, MI	13,632	330	242.08
Roscommon County, MI	24,459	140	57.24
Michigan	22,182,744	3,160,156	1,424.6
United States	654,954,581	96,159,779	1,468.19

HUD-Assisted Units, Rate per 10,000 Housing Units



- Report Area (172.64)
- Michigan (1,424.6)
- United States (1,468.19)

Data Source: US Department of Housing and Urban Development. 2013. Source geography: County



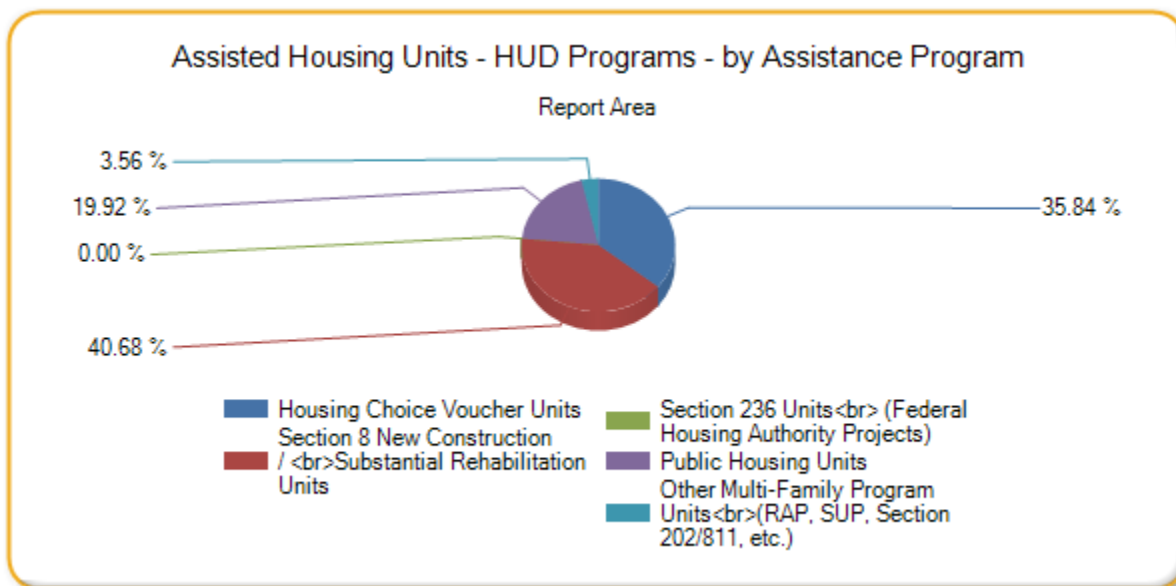
Assisted Housing Units, All by County, HUD 2013

- Over 1,000
- 401 - 1,000
- 101 - 400
- 1 - 100
- No Units
- Report Area

## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Assisted Housing Units - HUD Programs - by Assistance Program

Report Area	Housing Choice Voucher Units	Section 8 New Construction / Substantial Rehabilitation Units	Section 236 Units (Federal Housing Authority Projects)	Public Housing Units	Other Multi-Family Program Units (RAP, SUP, Section 202/811, etc.)
Report Area	725	823	0	403	72
Arenac County, MI	52	56	0	0	0
Clare County, MI	83	221	0	0	0
Gladwin County, MI	65	287	0	70	0
Isabella County, MI	297	227	0	123	72
Osceola County, MI	120	0	0	210	0
Roscommon County, MI	108	32	0	0	0
Michigan	57,225	45,778	9,975	23,824	29,003
United States	2,386,237	840,900	126,859	1,150,867	656,456



## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

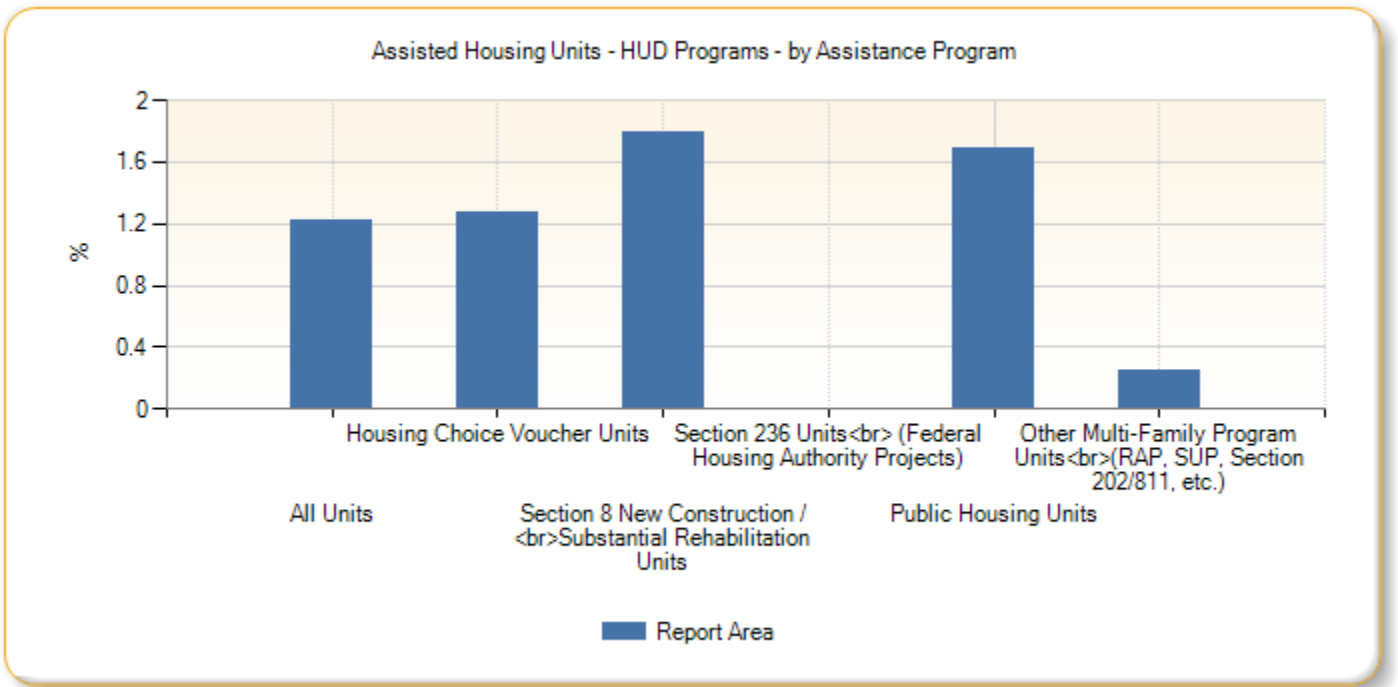
### Assisted Housing Units - HUD Programs - by Assistance Program

This indicator reports the number of assisted units in each program type as a proportion of the total state share.

Report Area	All Units	Housing Choice Voucher Units	Section 8 New Construction / Substantial Rehabilitation Units	Section 236 Units (Federal Housing Authority Projects)	Public Housing Units	Other Multi-Family Program Units (RAP, SUP, Section 202/811, etc.)
Report Area	1.22%	1.27%	1.8%	0%	1.69%	0.25%
Arenac County, MI	0.06%	0.09%	0.12%	0%	0%	0%
Clare County, MI	0.18%	0.15%	0.48%	0%	0%	0%
Gladwin County, MI	0.25%	0.11%	0.63%	0%	0.29%	0%
Isabella County, MI	0.43%	0.52%	0.5%	0%	0.52%	0.25%
Osceola County, MI	0.2%	0.21%	0%	0%	0.88%	0%
Roscommon County, MI	0.08%	0.19%	0.07%	0%	0%	0%



## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data



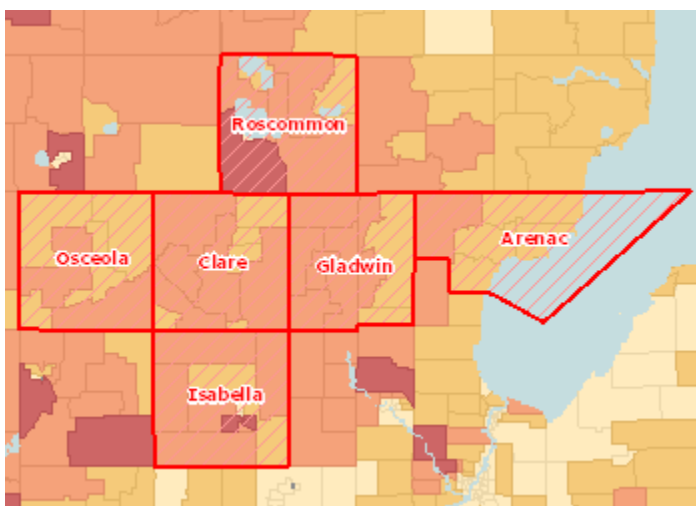
## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Housing Environment - Housing Unit Age

This indicator reports, for a given geographic area, the median year in which all housing units (vacant and occupied) were first constructed. The year the structure was built provides information on the age of housing units. These data help identify new housing construction and measures the disappearance of old housing from the inventory, when used in combination with data from previous years. This data also serves to aid in the development of formulas to determine substandard housing and provide assistance in forecasting future services, such as energy consumption and fire protection.

Report Area	Total Housing Units	Median Year Structures Built
Report Area	116,853	
Arenac County, MI	9,785	1975
Clare County, MI	23,175	1974
Gladwin County, MI	17,610	1978
Isabella County, MI	28,309	1980
Osceola County, MI	13,570	1976
Roscommon County, MI	24,404	1975
Michigan	4,529,311	1969
United States	132,057,808	1976

Data Source: US Census Bureau, American Community Survey. 2009-13. Source geography: Tract



**Median Year Structure Built by Tract, ACS 2009-13**

- Newer than 1985
- 1976 - 1985
- 1966 - 1975
- Older than 1966
- No Data or Data Suppressed
- Report Area

## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

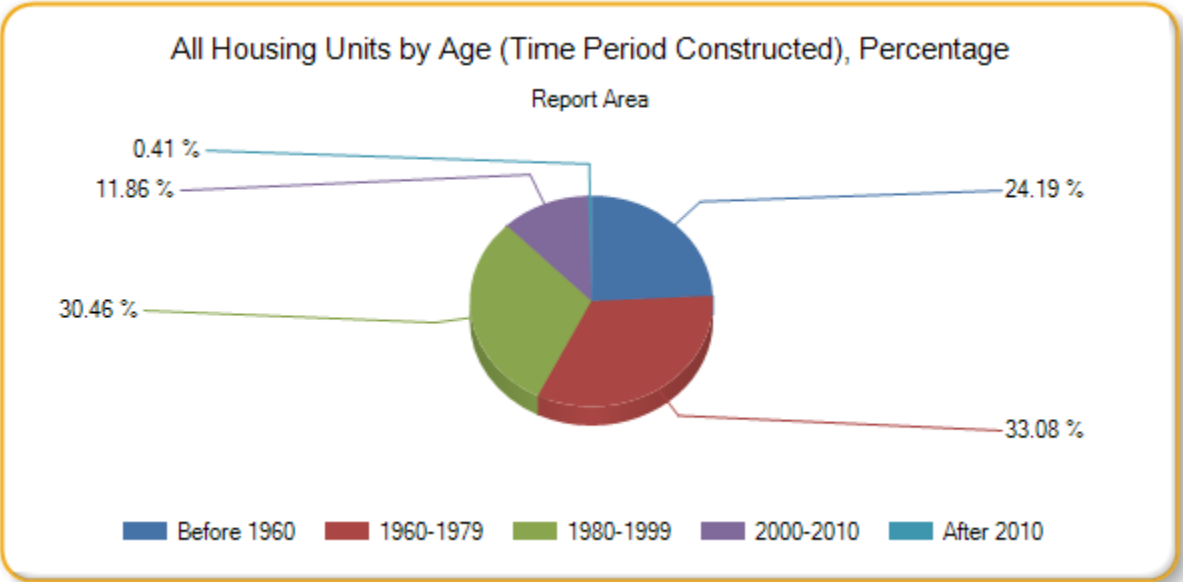
### All Housing Units by Age (Time Period Constructed), Total

Report Area	Before 1960	1960-1979	1980-1999	2000-2010	After 2010
Report Area	28,270	38,651	35,595	13,863	474
Arenac County, MI	2,786	3,240	2,770	950	39
Clare County, MI	5,650	8,785	6,346	2,359	35
Gladwin County, MI	3,915	5,525	5,874	2,283	13
Isabella County, MI	6,605	7,640	8,910	4,817	337
Osceola County, MI	3,723	4,245	4,368	1,210	24
Roscommon County, MI	5,591	9,216	7,327	2,244	26
Michigan	1,771,599	1,255,701	1,030,173	461,546	10,292
United States	39,488,480	35,676,692	36,735,368	19,385,496	771,765

### All Housing Units by Age (Time Period Constructed), Percentage

Report Area	Before 1960	1960-1979	1980-1999	2000-2010	After 2010
Report Area	24.19%	33.08%	30.46%	11.86%	0.41%
Arenac County, MI	28.47%	33.11%	28.31%	9.71%	0.4%
Clare County, MI	24.38%	37.91%	27.38%	10.18%	0.15%
Gladwin County, MI	22.23%	31.37%	33.36%	12.96%	0.07%
Isabella County, MI	23.33%	26.99%	31.47%	17.02%	1.19%
Osceola County, MI	27.44%	31.28%	32.19%	8.92%	0.18%
Roscommon County, MI	22.91%	37.76%	30.02%	9.2%	0.11%
Michigan	39.11%	27.72%	22.74%	10.19%	0.23%
United States	29.9%	27.02%	27.82%	14.68%	0.58%

Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data



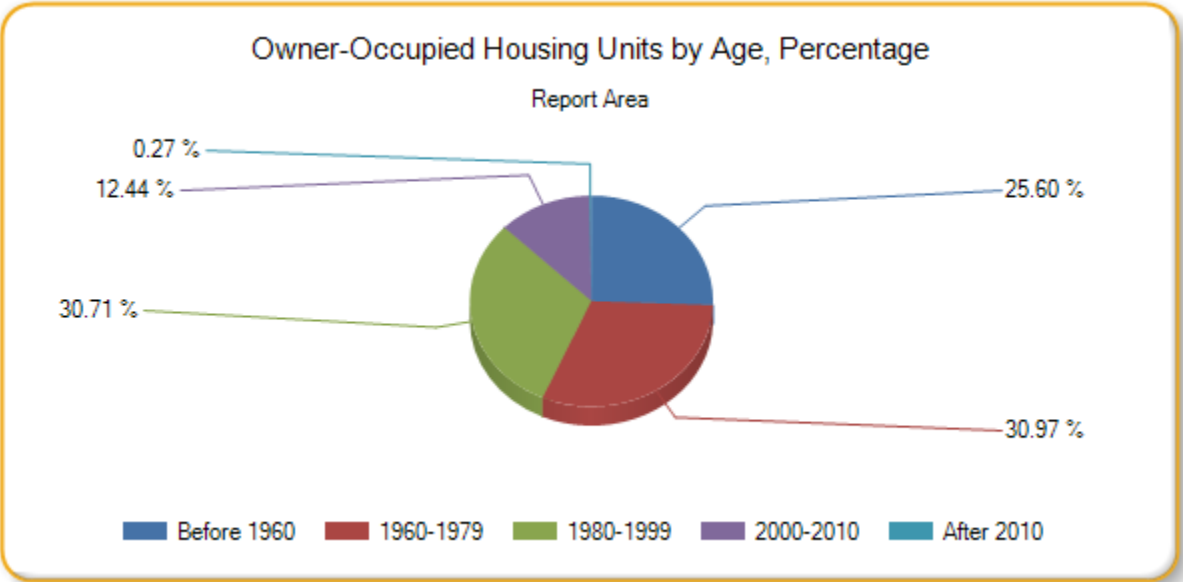
## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Owner-Occupied Housing Units by Age, Total

Report Area	Before 1960	1960-1979	1980-1999	2000-2010	After 2010
Report Area	14,383	17,397	17,252	6,989	152
Arenac County, MI	1,531	1,688	1,496	599	16
Clare County, MI	2,710	3,850	2,875	1,168	19
Gladwin County, MI	2,015	2,738	3,251	1,186	13
Isabella County, MI	4,111	4,002	4,326	2,065	58
Osceola County, MI	2,146	1,954	2,170	738	24
Roscommon County, MI	1,870	3,165	3,134	1,233	22
Michigan	1,065,519	730,919	640,369	313,826	6,429
United States	21,674,556	19,387,958	21,685,232	11,856,209	471,745

### Owner-Occupied Housing Units by Age, Percentage

Report Area	Before 1960	1960-1979	1980-1999	2000-2010	After 2010
Report Area	25.6%	30.97%	30.71%	12.44%	0.27%
Arenac County, MI	28.72%	31.67%	28.07%	11.24%	0.3%
Clare County, MI	25.51%	36.25%	27.07%	11%	0.18%
Gladwin County, MI	21.9%	29.75%	35.33%	12.89%	0.14%
Isabella County, MI	28.23%	27.48%	29.71%	14.18%	0.4%
Osceola County, MI	30.52%	27.79%	30.86%	10.49%	0.34%
Roscommon County, MI	19.84%	33.58%	33.26%	13.08%	0.23%
Michigan	38.65%	26.51%	23.23%	11.38%	0.23%
United States	28.87%	25.82%	28.88%	15.79%	0.63%



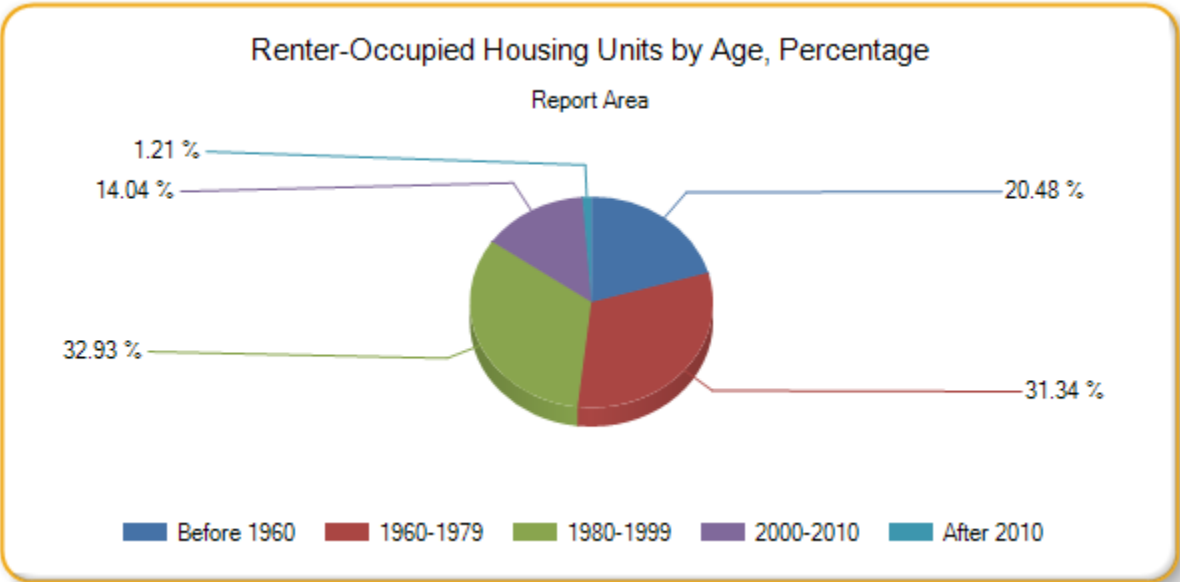
## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Renter-Occupied Housing Units by Age, Total

Report Area	Before 1960	1960-1979	1980-1999	2000-2010	After 2010
Report Area	4,039	6,181	6,494	2,769	238
Arenac County, MI	274	376	330	45	8
Clare County, MI	558	830	943	246	16
Gladwin County, MI	317	655	544	176	0
Isabella County, MI	1,733	2,762	3,549	2,001	210
Osceola County, MI	620	664	549	122	0
Roscommon County, MI	537	894	579	179	4
Michigan	388,060	337,948	246,612	90,780	2,818
United States	12,652,058	11,909,361	10,618,427	5,083,632	271,038

### Renter-Occupied Housing Units by Age, Percentage

Report Area	Before 1960	1960-1979	1980-1999	2000-2010	After 2010
Report Area	20.48%	31.34%	32.93%	14.04%	1.21%
Arenac County, MI	26.52%	36.4%	31.95%	4.36%	0.77%
Clare County, MI	21.52%	32.01%	36.37%	9.49%	0.62%
Gladwin County, MI	18.74%	38.71%	32.15%	10.4%	0%
Isabella County, MI	16.9%	26.93%	34.61%	19.51%	2.05%
Osceola County, MI	31.71%	33.96%	28.08%	6.24%	0%
Roscommon County, MI	24.49%	40.77%	26.4%	8.16%	0.18%
Michigan	36.4%	31.7%	23.13%	8.51%	0.26%
United States	31.21%	29.38%	26.2%	12.54%	0.67%



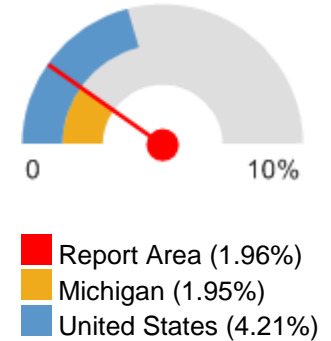


### Housing Environment - Overcrowded Housing

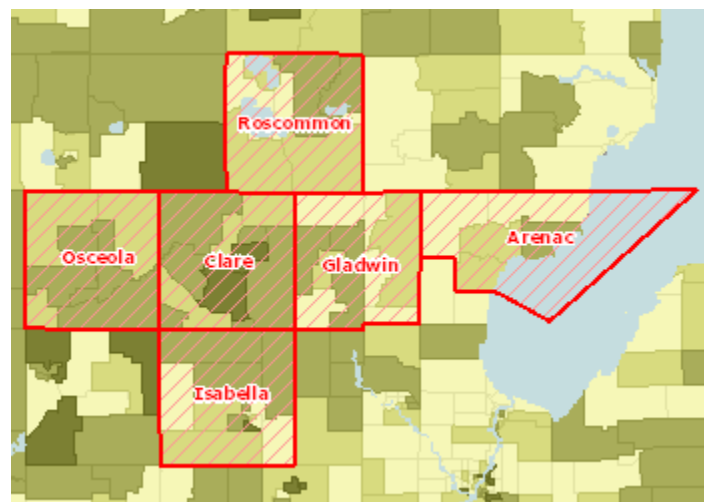
This indicator reports data on overcrowded housing from the latest 5-year American Community Survey. The Census Bureau has no official definition of crowded units, but this report considers units with more than one occupant per room to be crowded.

Report Area	Total Occupied Housing Units	Overcrowded Housing Units	Percentage of Housing Units Overcrowded
Report Area	72,550	1,420	1.96%
Arenac County, MI	6,271	74	1.18%
Clare County, MI	12,948	318	2.46%
Gladwin County, MI	10,703	197	1.84%
Isabella County, MI	22,407	469	2.09%
Osceola County, MI	8,808	207	2.35%
Roscommon County, MI	11,413	155	1.36%
Michigan	3,132,356	61,152	1.95%
United States	90,126,088	3,797,345	4.21%

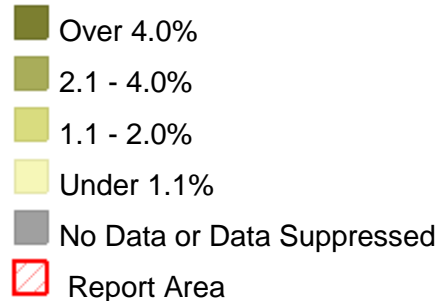
Percentage of Housing Units Overcrowded



Data Source: US Census Bureau, American Community Survey. 2008-12. Source geography: Tract



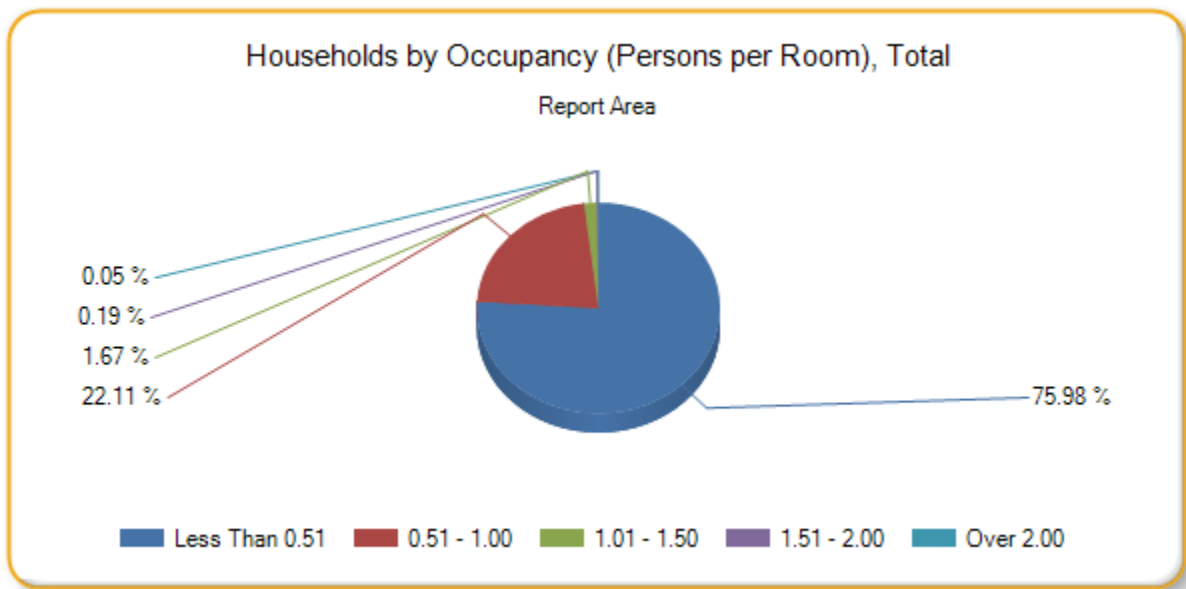
Overcrowded Housing (Over 1 Person/Room), Percent by Tract, ACS 2008-12



## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Households by Occupancy (Persons per Room), Total

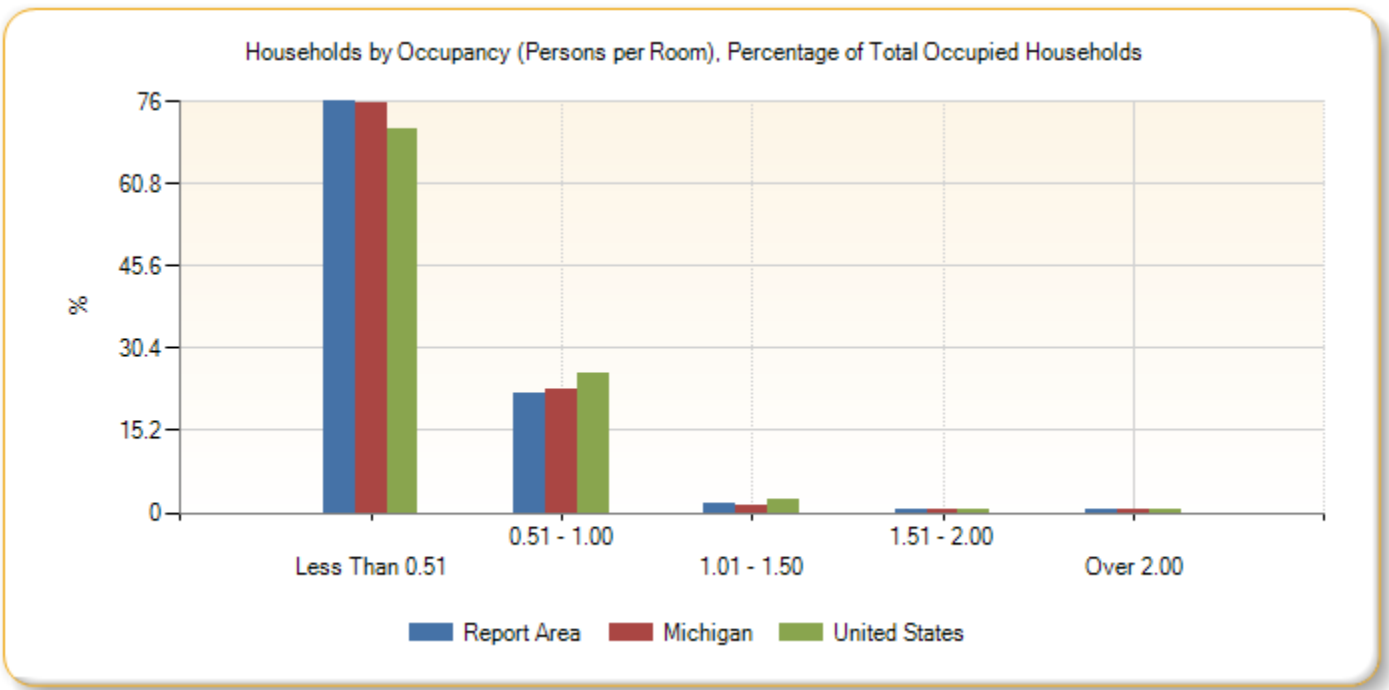
Report Area	Less Than 0.51	0.51 - 1.00	1.01 - 1.50	1.51 - 2.00	Over 2.00
Report Area	57,736	16,802	1,269	143	36
Arenac County, MI	4,995	1,344	67	21	8
Clare County, MI	10,005	2,912	351	19	14
Gladwin County, MI	8,456	2,489	125	34	7
Isabella County, MI	18,385	5,925	406	32	4
Osceola County, MI	6,728	2,016	201	16	3
Roscommon County, MI	9,167	2,116	119	21	0
Michigan	2,892,060	867,836	46,550	9,515	2,970
United States	81,770,048	29,737,792	2,579,766	815,466	323,735



## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Households by Occupancy (Persons per Room), Percentage of Total Occupied Households

Report Area	Less Than 0.51	0.51 - 1.00	1.01 - 1.50	1.51 - 2.00	Over 2.00
Report Area	75.98%	22.11%	1.67%	0.19%	0.05%
Arenac County, MI	77.62%	20.89%	1.04%	0.33%	0.12%
Clare County, MI	75.22%	21.89%	2.64%	0.14%	0.11%
Gladwin County, MI	76.1%	22.4%	1.13%	0.31%	0.06%
Isabella County, MI	74.28%	23.94%	1.64%	0.13%	0.02%
Osceola County, MI	75.06%	22.49%	2.24%	0.18%	0.03%
Roscommon County, MI	80.25%	18.52%	1.04%	0.18%	0%
Michigan	75.73%	22.72%	1.22%	0.25%	0.08%
United States	70.96%	25.81%	2.24%	0.71%	0.28%

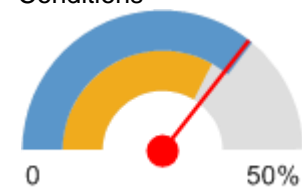


### Housing Environment - Substandard Housing

This indicator reports the number and percentage of owner- and renter-occupied housing units having at least one of the following conditions: 1) lacking complete plumbing facilities, 2) lacking complete kitchen facilities, 3) with 1.01 or more occupants per room, 4) selected monthly owner costs as a percentage of household income greater than 30 percent, and 5) gross rent as a percentage of household income greater than 30 percent. Selected conditions provide information in assessing the quality of the housing inventory and its occupants. This data is used to easily identify homes where the quality of living and housing can be considered substandard.

Report Area	Total Occupied Housing Units	Occupied Housing Units with One or More Substandard Conditions	Percent Occupied Housing Units with One or More Substandard Conditions
Report Area	75,894	26,947	35.51%
Arenac County, MI	6,363	1,819	28.59%
Clare County, MI	13,215	4,606	34.85%
Gladwin County, MI	10,895	3,567	32.74%
Isabella County, MI	24,817	10,088	40.65%
Osceola County, MI	8,987	2,709	30.14%
Roscommon County, MI	11,617	4,158	35.79%
Michigan	3,823,280	1,275,085	33.35%
United States	115,610,216	41,747,016	36.11%

Percent Occupied Housing Units with One or More Substandard Conditions

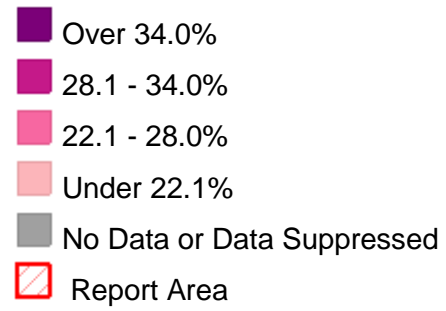
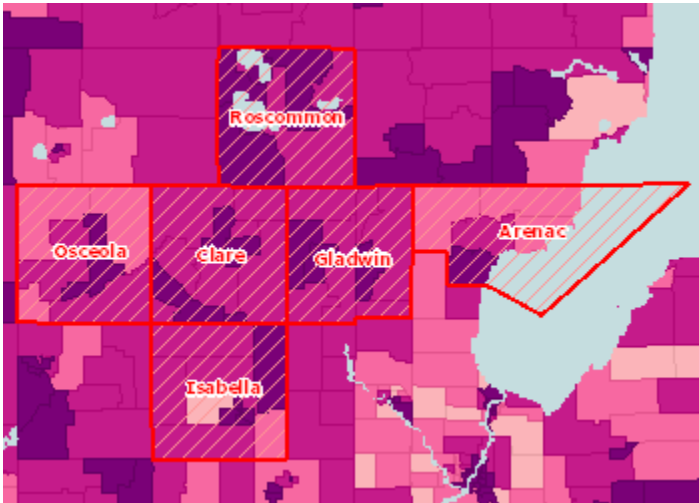


- Report Area (35.51%)
- Michigan (33.35%)
- United States (36.11%)

Data Source: US Census Bureau, American Community Survey. 2009-13. Source geography: Tract

# Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

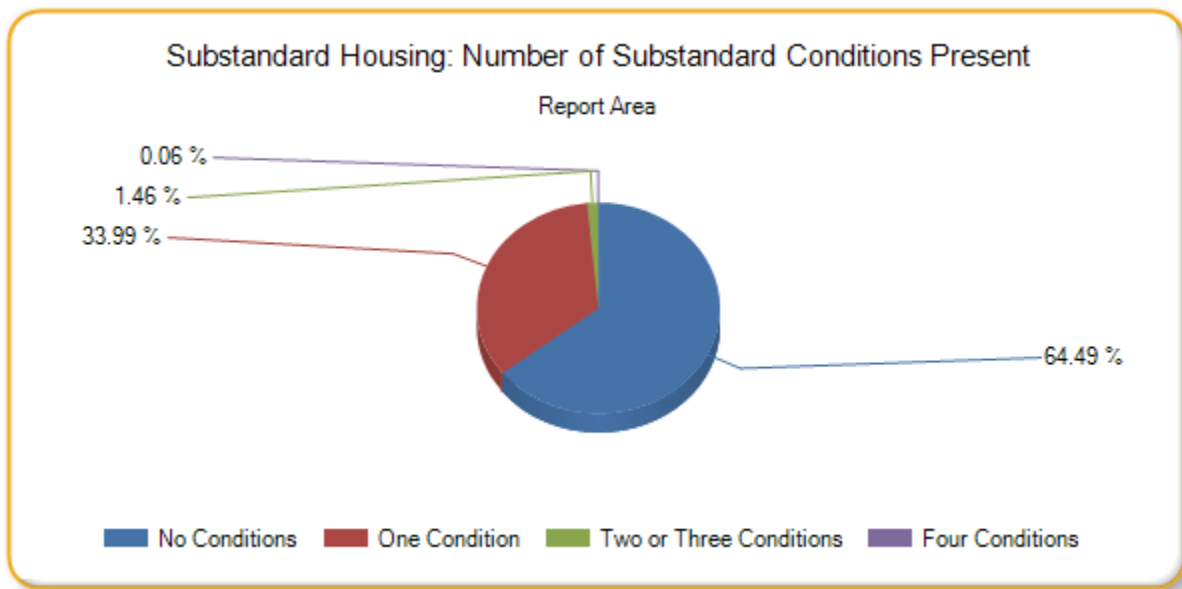
**Substandard Housing Units, Percent of Total by Tract, ACS 2009-13**



## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Substandard Housing: Number of Substandard Conditions Present

Report Area	No Conditions	One Condition	Two or Three Conditions	Four Conditions
Report Area	64.49%	33.99%	1.46%	0.06%
Arenac County, MI	71.41%	27.91%	0.68%	0%
Clare County, MI	65.15%	32.98%	1.88%	0%
Gladwin County, MI	67.26%	30.73%	1.62%	0.39%
Isabella County, MI	59.35%	39.29%	1.36%	0%
Osceola County, MI	69.86%	28.46%	1.68%	0%
Roscommon County, MI	64.21%	34.48%	1.31%	0%
Michigan	66.65%	32.08%	1.26%	0.01%
United States	63.89%	33.96%	2.14%	0.01%

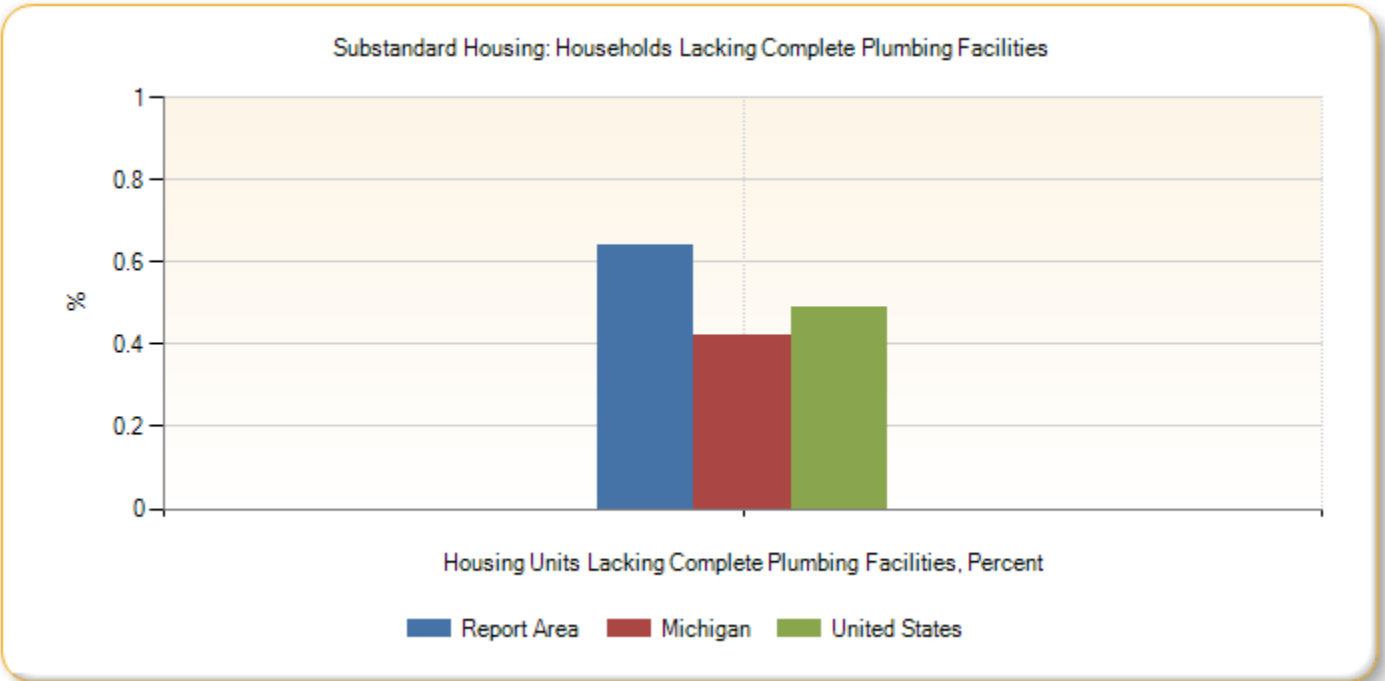


## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Substandard Housing: Households Lacking Complete Plumbing Facilities

Complete plumbing facilities include: (a) hot and cold running water, (b) a flush toilet, and (c) a bathtub or shower. All three facilities must be located inside the house, apartment, or mobile home, but not necessarily in the same room. Housing units are classified as lacking complete plumbing facilities when any of the three facilities is not present.

Report Area	Total Occupied Housing Units	Housing Units Lacking Complete Plumbing Facilities	Housing Units Lacking Complete Plumbing Facilities, Percent
Report Area	75,894	482	0.64%
Arenac County, MI	6,363	18	0.28%
Clare County, MI	13,215	52	0.39%
Gladwin County, MI	10,895	183	1.68%
Isabella County, MI	24,817	96	0.39%
Osceola County, MI	8,987	74	0.82%
Roscommon County, MI	11,617	59	0.51%
Michigan	3,823,280	16,149	0.42%
United States	115,610,216	572,007	0.49%





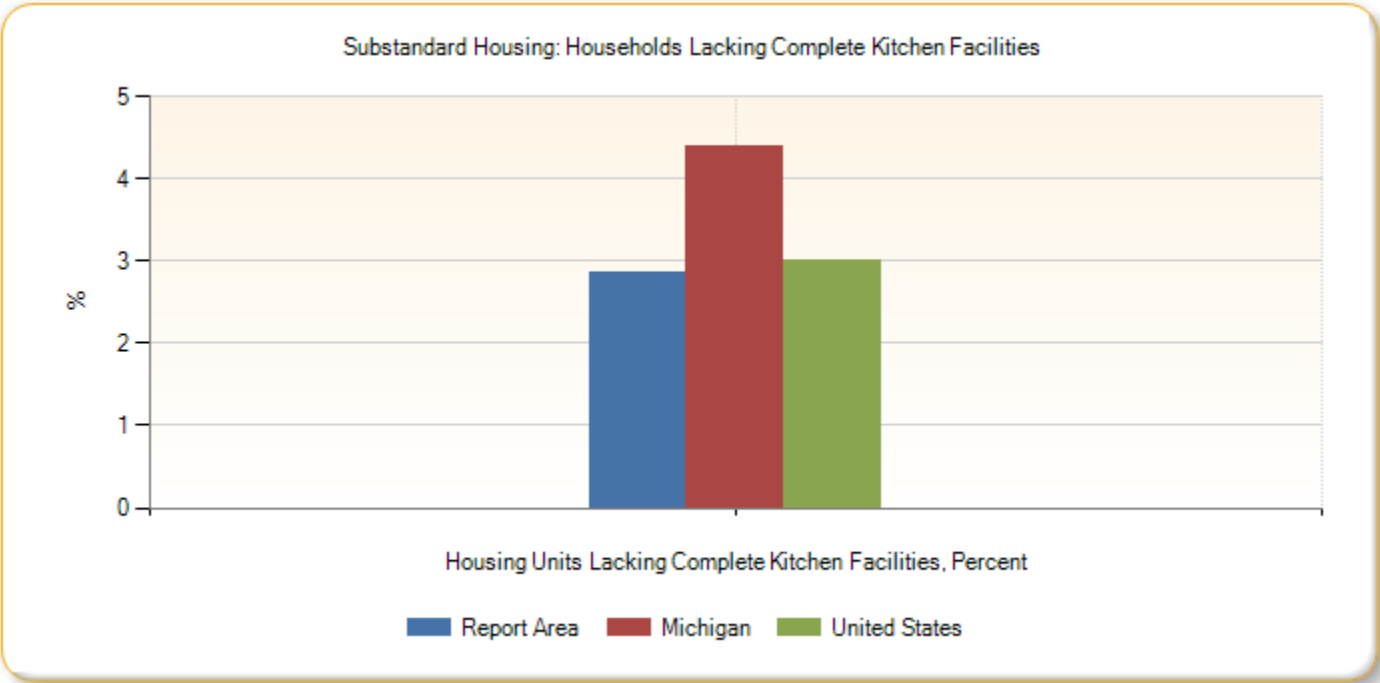
## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Substandard Housing: Households Lacking Complete Kitchen Facilities

A unit has complete kitchen facilities when it has all three of the following facilities: (a) a sink with a faucet, (b) a stove or range, and (c) a refrigerator. All kitchen facilities must be located in the house, apartment, or mobile home, but they need not be in the same room. A housing unit having only a microwave or portable heating equipment such as a hot plate or camping stove should not be considered as having complete kitchen facilities. An icebox is not considered to be a refrigerator.

Report Area	Total Occupied Housing Units	Housing Units Lacking Complete Kitchen Facilities	Housing Units Lacking Complete Kitchen Facilities, Percent
Report Area	116,853	3,332	2.85%
Arenac County, MI	9,785	240	2.45%
Clare County, MI	23,175	752	3.24%
Gladwin County, MI	17,610	827	4.7%
Isabella County, MI	28,309	510	1.8%
Osceola County, MI	13,570	388	2.86%
Roscommon County, MI	24,404	615	2.52%
Michigan	4,529,311	198,865	4.39%
United States	132,057,808	3,958,536	3%

Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data



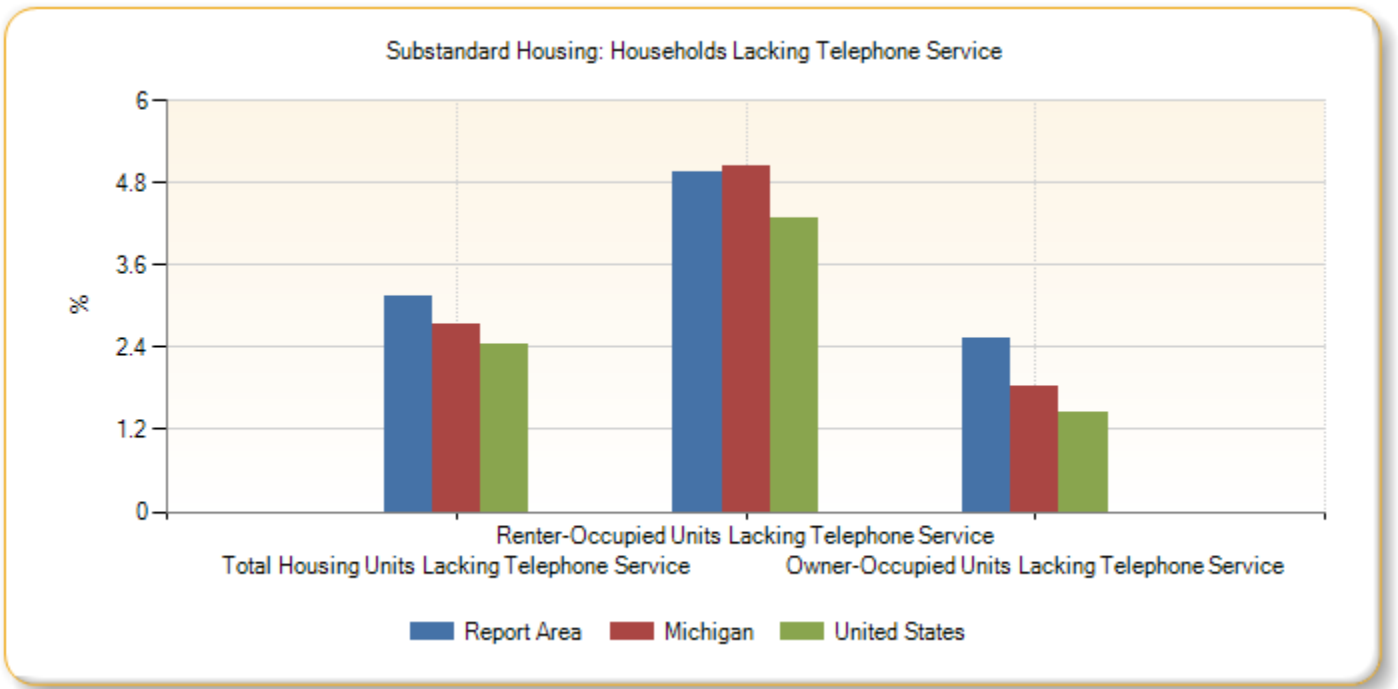
## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Substandard Housing: Households Lacking Telephone Service

A telephone must be in working order and service available in the house, apartment, or mobile home that allows the respondent to both make and receive calls. Households that have cell-phones (no land-line) are counted as having telephone service available. Households whose service has been discontinued for nonpayment or other reasons are not counted as having telephone service available.

Report Area	Total Housing Units Lacking Telephone Service	Total Housing Units Lacking Telephone Service	Owner-Occupied Units Lacking Telephone Service	Owner-Occupied Units Lacking Telephone Service	Renter-Occupied Units Lacking Telephone Service	Renter-Occupied Units Lacking Telephone Service
Report Area	2,394	3.15%	1,418	2.52%	976	4.95%
Arenac County, MI	169	2.66%	101	1.89%	68	6.58%
Clare County, MI	466	3.53%	331	3.12%	135	5.21%
Gladwin County, MI	470	4.31%	356	3.87%	114	6.74%
Isabella County, MI	661	2.66%	258	1.77%	403	3.93%
Osceola County, MI	369	4.11%	187	2.66%	182	9.31%
Roscommon County, MI	259	2.23%	185	1.96%	74	3.37%
Michigan	104,300	2.73%	50,576	1.83%	53,724	5.04%
United States	2,825,796	2.44%	1,093,979	1.46%	1,731,817	4.27%

## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data



## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Housing Environment - Vacancy Rate

This indicator reports the number and percentage of housing units that are vacant. A housing unit is considered vacant by the American Community Survey if no one is living in it at the time of interview. Units occupied at the time of interview entirely by persons who are staying two months or less and who have a more permanent residence elsewhere are considered to be temporarily occupied, and are classified as “vacant.”

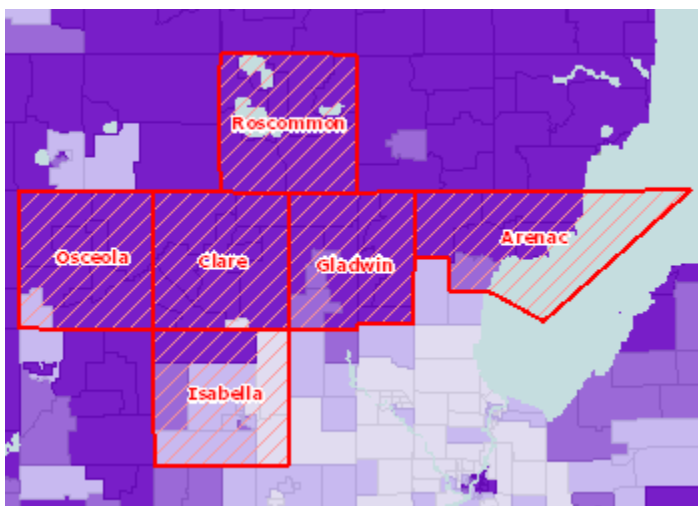
Report Area	Total Housing Units	Vacant Housing Units	Vacant Housing Units, Percent
Report Area	116,853	40,959	35.05%
Arenac County, MI	9,785	3,422	34.97%
Clare County, MI	23,175	9,960	42.98%
Gladwin County, MI	17,610	6,715	38.13%
Isabella County, MI	28,309	3,492	12.34%
Osceola County, MI	13,570	4,583	33.77%
Roscommon County, MI	24,404	12,787	52.4%
Michigan	4,529,311	706,031	15.59%
United States	132,057,808	16,447,588	12.45%

Vacant Housing Units, Percent



- Report Area (35.05%)
- Michigan (15.59%)
- United States (12.45%)

Data Source: US Census Bureau, American Community Survey. 2009-13. Source geography: Tract



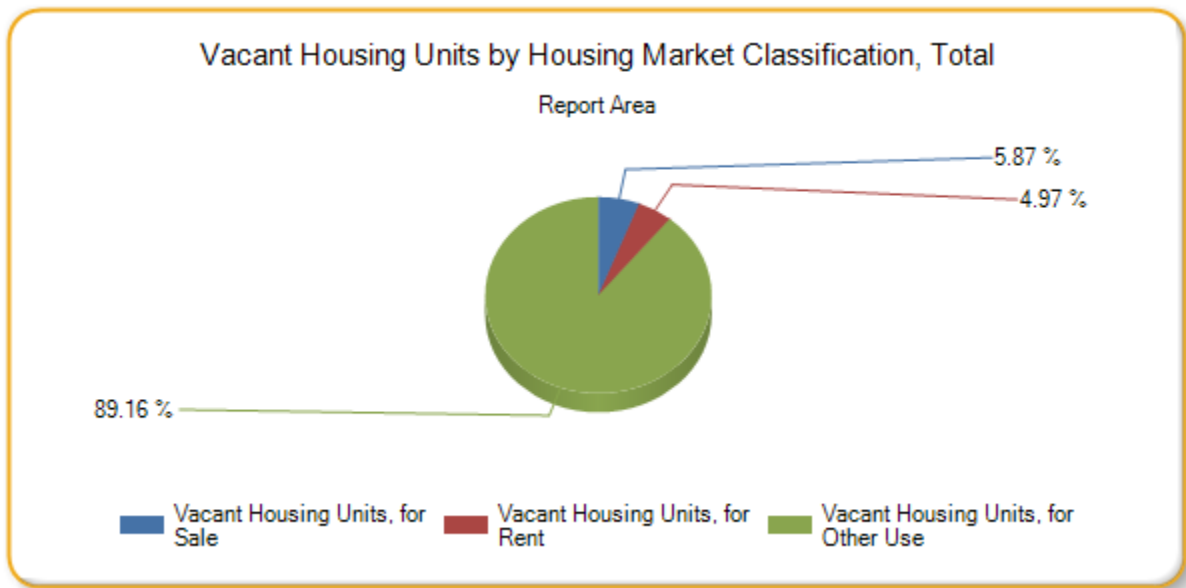
Vacant Housing Units, Percent by Tract, ACS 2009-13

- Over 20.0%
- 14.1 - 20.0%
- 8.1 - 14.0%
- Under 8.1%
- No Data or Data Suppressed
- Report Area

## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Vacant Housing Units by Housing Market Classification, Total

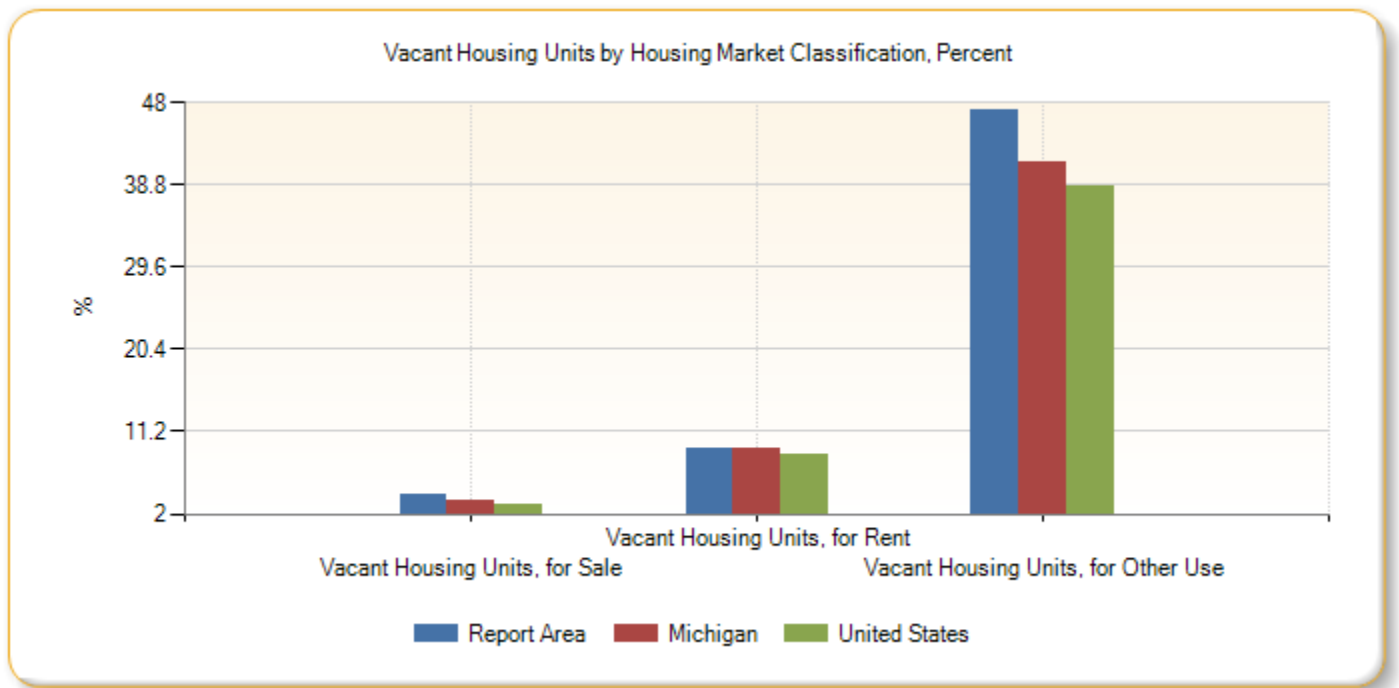
Report Area	Vacant Housing Units, for Sale	Vacant Housing Units, for Rent	Vacant Housing Units, for Other Use
Report Area	2,405	2,037	36,517
Arenac County, MI	163	68	3,191
Clare County, MI	588	164	9,208
Gladwin County, MI	485	142	6,088
Isabella County, MI	353	1,312	1,827
Osceola County, MI	256	103	4,224
Roscommon County, MI	560	248	11,979
Michigan	99,822	107,929	498,280
United States	2,290,610	3,830,007	10,326,971



## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Vacant Housing Units by Housing Market Classification, Percent

Report Area	Vacant Housing Units, for Sale	Vacant Housing Units, for Rent	Vacant Housing Units, for Other Use
Report Area	4.11%	9.36%	47.13%
Arenac County, MI	2.97%	6.18%	48.25%
Clare County, MI	5.25%	5.95%	48.04%
Gladwin County, MI	5.01%	7.74%	47.55%
Isabella County, MI	2.37%	11.34%	34.35%
Osceola County, MI	3.51%	5%	47.96%
Roscommon County, MI	5.61%	10.16%	48.37%
Michigan	3.49%	9.19%	41.37%
United States	2.96%	8.63%	38.57%



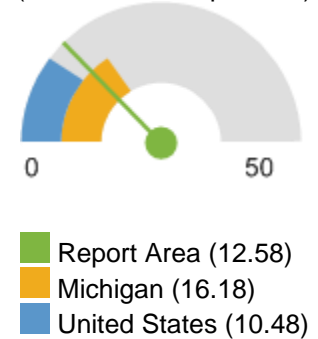
## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Liquor Store Access

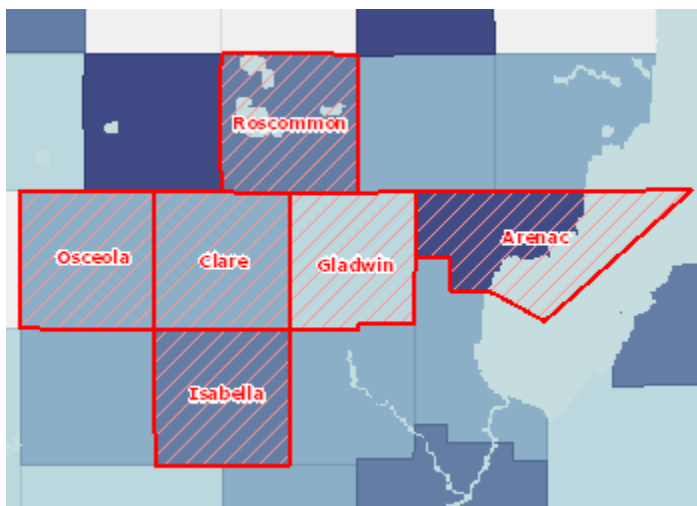
This indicator reports the number of beer, wine, and liquor stores per 100,000 population, as defined by North American Industry Classification System (NAICS) Code 445310. This indicator is relevant because it provides a measure of healthy food access and environmental influences on dietary behaviors.

Report Area	Total Population	Number of Establishments	Establishments, Rate per 100,000 Population
Report Area	190,805	24	12.58
Arenac County, MI	15,899	3	18.87
Clare County, MI	30,926	3	9.70
Gladwin County, MI	25,692	1	3.89
Isabella County, MI	70,311	11	15.64
Osceola County, MI	23,528	2	8.50
Roscommon County, MI	24,449	4	16.36
Michigan	9,883,640	1,599	16.18
United States	312,732,537	32,759	10.48

Liquor Stores, Rate (Per 100,000 Population)



Data Source: US Census Bureau, County Business Patterns. Additional data analysis by CARES. 2013. Source geography: County



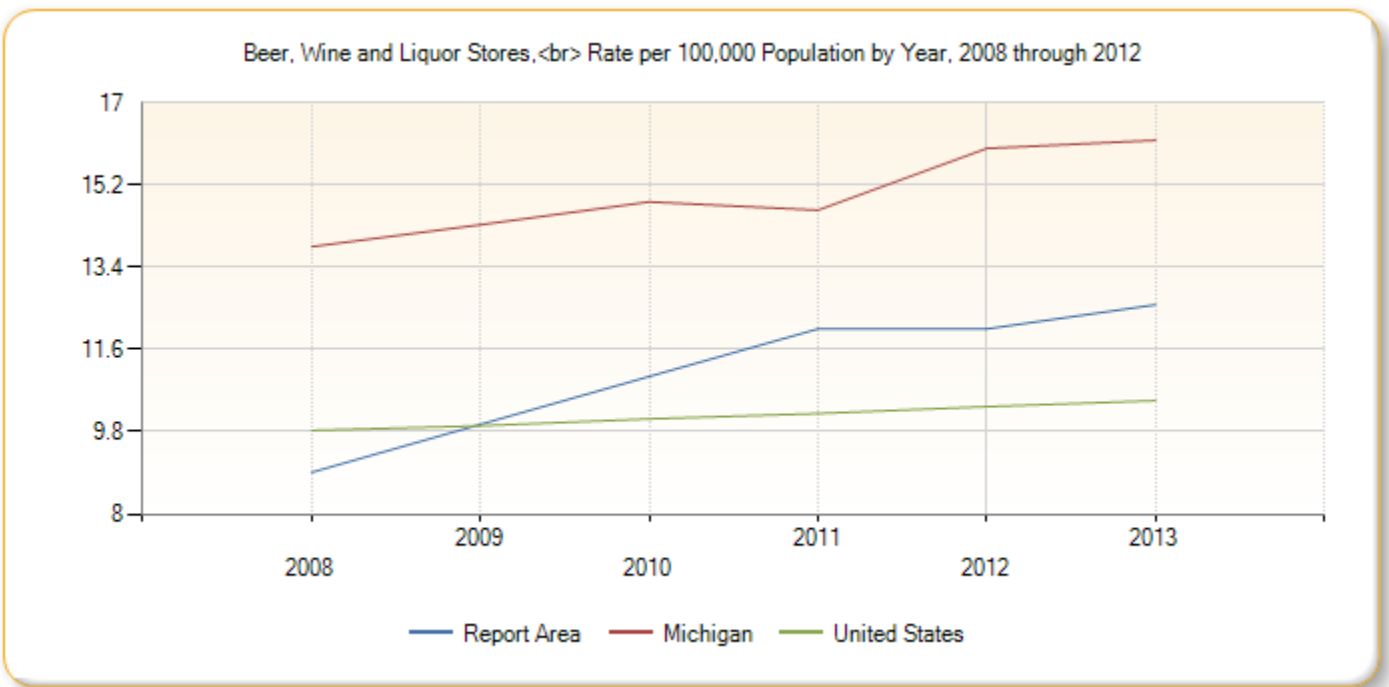
Beer, Wine and Liquor Stores, Rate (Per 100,000 Pop.) by County, CBP 2013



## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Beer, Wine and Liquor Stores, Rate per 100,000 Population by Year, 2008 through 2012

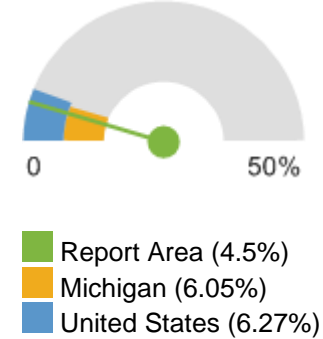
Report Area	2008	2009	2010	2011	2012	2013
Report Area	8.91	9.96	11.01	12.05	12.05	12.58
Arenac County, MI	18.87	18.87	18.87	25.16	18.87	18.87
Clare County, MI	6.47	9.7	6.47	9.7	12.93	9.7
Gladwin County, MI	0	0	0	0	3.89	3.89
Isabella County, MI	9.96	11.38	14.22	14.22	14.22	15.64
Osceola County, MI	4.25	4.25	12.75	12.75	8.5	8.5
Roscommon County, MI	16.36	16.36	12.27	12.27	12.27	16.36
Michigan	13.85	14.33	14.83	14.65	16	16.18
United States	9.83	9.93	10.08	10.2	10.35	10.48



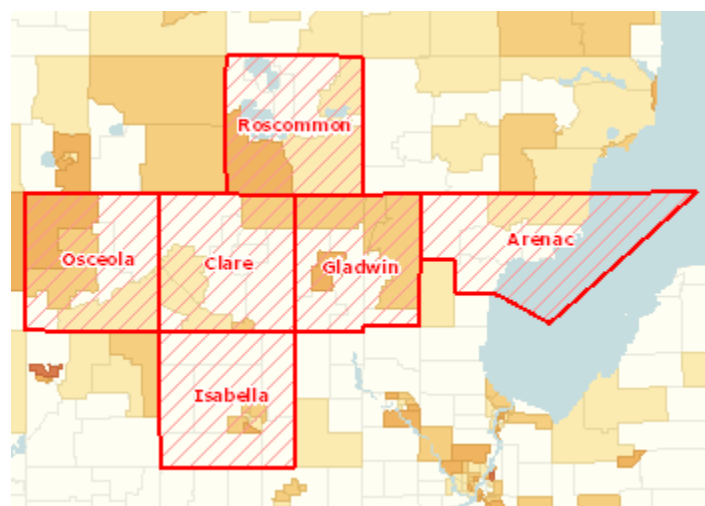
Low Income Population with Low Food Access

Report Area	Total Population	Low Income Population with Low Food Access	Percent Low Income Population with Low Food Access
Report Area	190,805	8,594	4.5%
Arenac County, MI	15,899	13	0.08%
Clare County, MI	30,926	412	1.33%
Gladwin County, MI	25,692	1,615	6.29%
Isabella County, MI	70,311	3,535	5.03%
Osceola County, MI	23,528	1,317	5.6%
Roscommon County, MI	24,449	1,702	6.96%
Michigan	9,883,640	598,380	6.05%
United States	308,745,538	19,347,047	6.27%

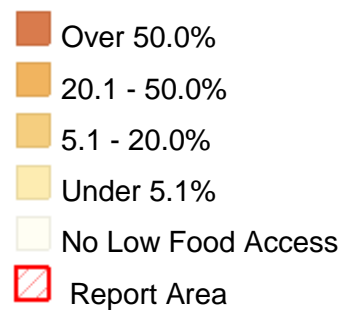
Percent Low Income Population with Low Food Access



Data Source: US Department of Agriculture, Economic Research Service, USDA - Food Access Research Atlas. 2010. Source geography: Tract



Population with Limited Food Access, Low Income, Percent by Tract, FARA 2010



## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Modified Retail Food Environment Index

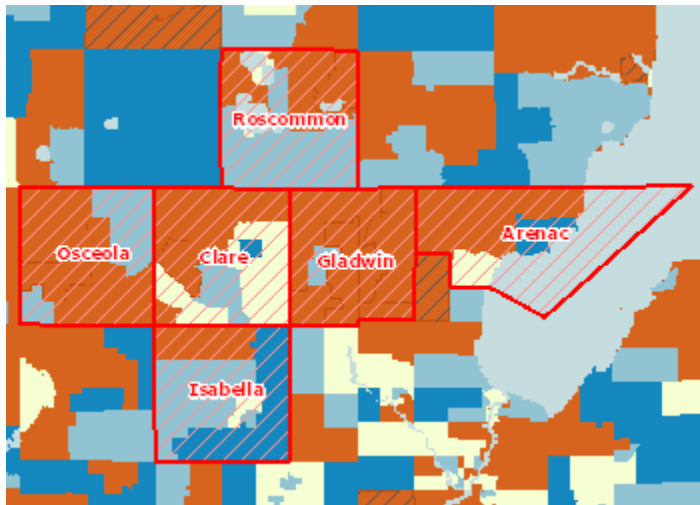
This indicator reports the percentage of population living in census tracts with no or low access to healthy retail food stores. Figures are based on the CDC Modified Retail Food Environment Index. For this indicator, low food access tracts are considered those with index scores of 10.0 or less.

Report Area	Total Population	Percent Population in Tracts with No Food Outlet	Percent Population in Tracts with No Healthy Food Outlet	Percent Population in Tracts with Low Healthy Food Access	Percent Population in Tracts with Moderate Healthy Food Access	Percent Population in Tracts with High Healthy Food Access
Report Area	190,805	10%	25.68%	2.43%	50.93%	10.95%
Arenac County, MI	15,899	0%	54.66%	0%	26.72%	18.61%
Clare County, MI	30,926	7.99%	23.63%	6.47%	56.59%	5.33%
Gladwin County, MI	25,692	45.47%	36.62%	0%	17.91%	0%
Isabella County, MI	70,311	0%	5.1%	3.76%	67.97%	23.17%
Osceola County, MI	23,528	13.24%	50.86%	0%	35.9%	0%
Roscommon County, MI	24,449	7.43%	32.87%	0%	59.7%	0%
Michigan	9,883,640	1.9%	25.45%	22.88%	42.39%	7.38%
United States	312,474,470	0.99%	18.63%	30.89%	43.28%	5.02%

*Data Source: Centers for Disease Control and Prevention, Division of Nutrition, Physical Activity, and Obesity. 2011.*

*Source geography: Tract*

## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data



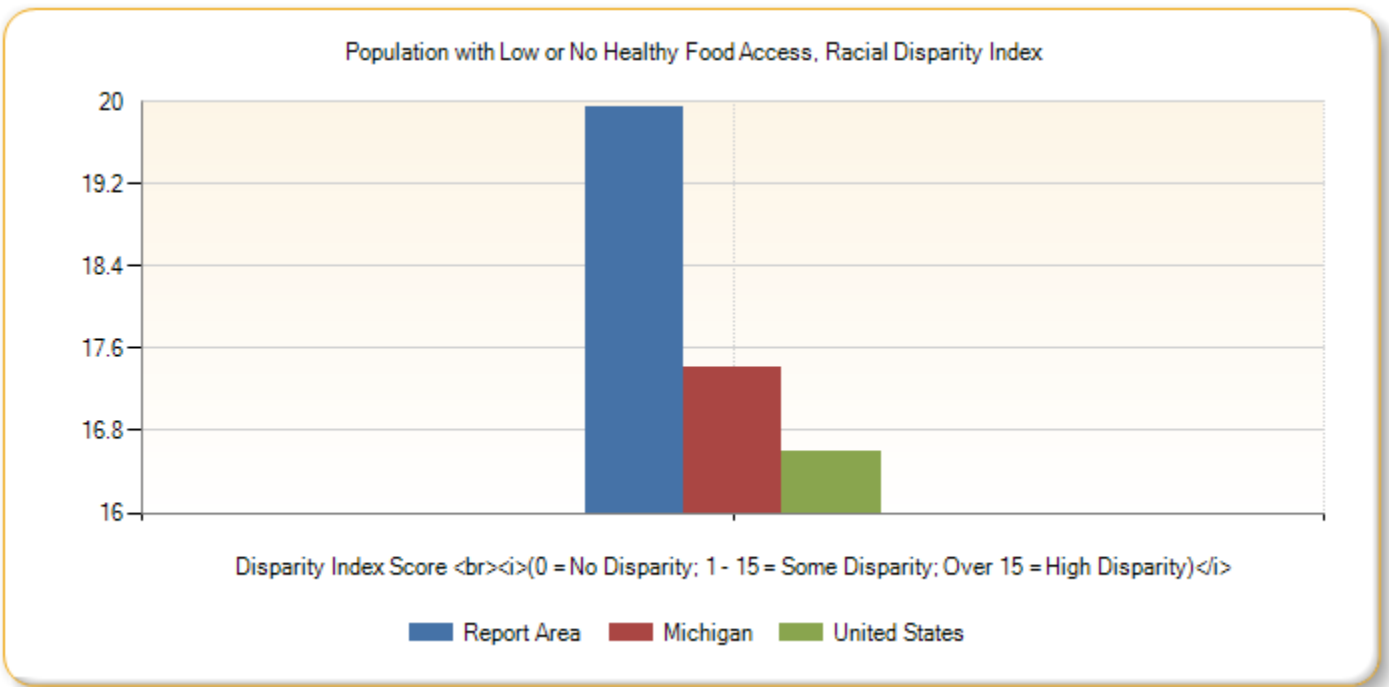
**Modified Retail Food Environmental Index Score by Tract, DNPAO 2011**

- Index Score Over 30 (High Access)
- Index Score 15 - 30 (Moderate Access)
- Index Score 5 - 15 (Low Access)
- Index Score Under 5 (Poor Access)
- No Healthy Retail Food Outlet (No Access)
- No Retail Food Outlets Present (Food Desert)
- Report Area

## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Population with Low or No Healthy Food Access, Racial Disparity Index

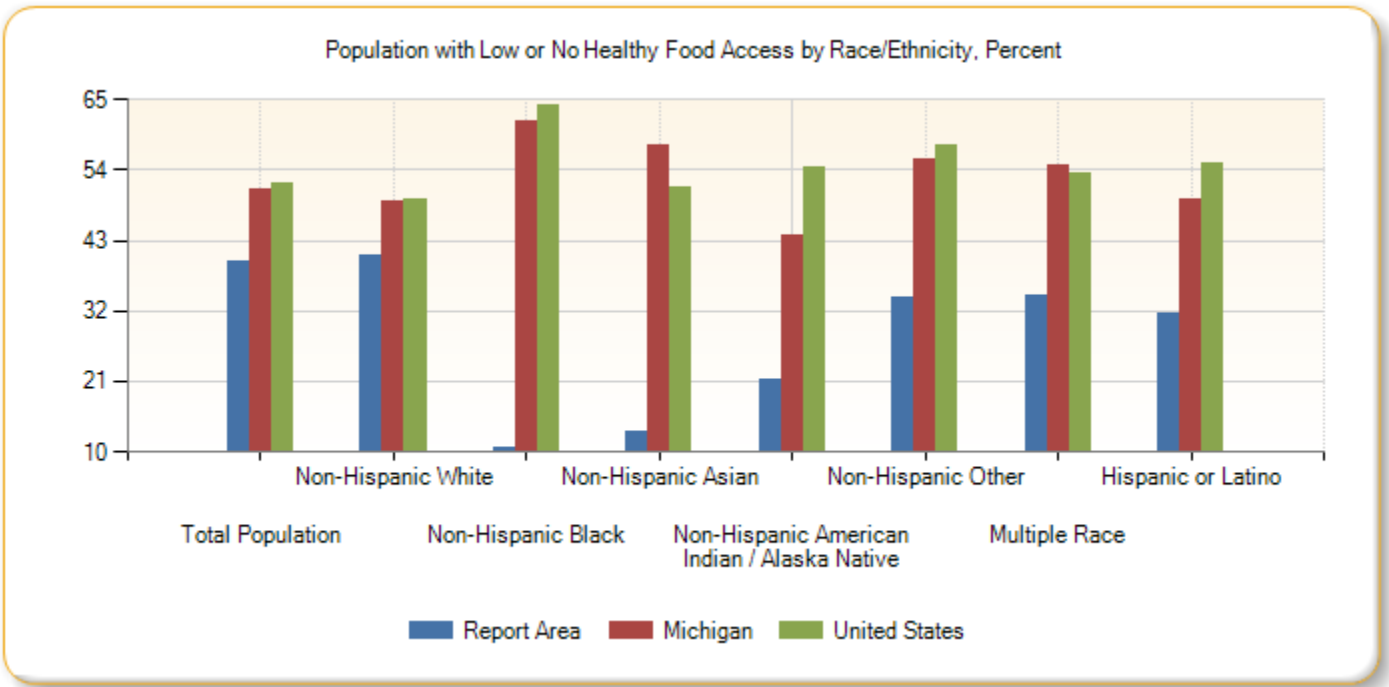
Report Area	Disparity Index Score (0 = No Disparity; 1 - 15 = Some Disparity; Over 15 = High Disparity)
Report Area	19.95
Arenac County, MI	34.17
Clare County, MI	26.50
Gladwin County, MI	12.50
Isabella County, MI	30.85
Osceola County, MI	16.44
Roscommon County, MI	13.28
Michigan	17.42
United States	16.59



## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Population with Low or No Healthy Food Access by Race/Ethnicity, Percent

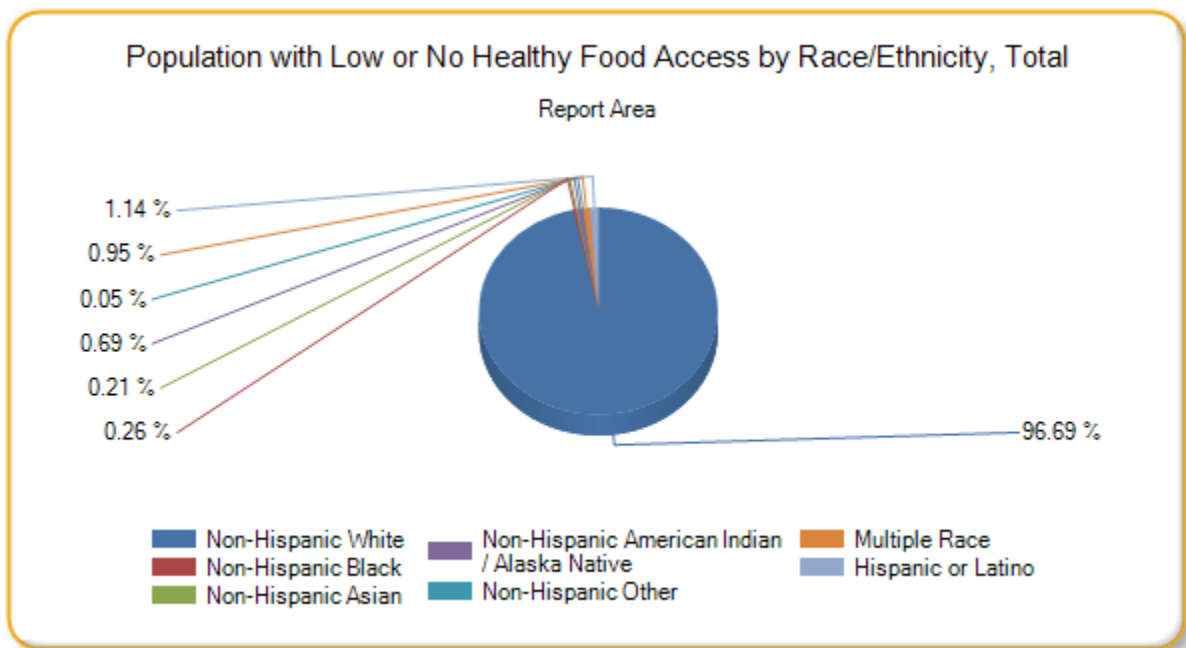
Report Area	Total Population	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Non-Hispanic American Indian / Alaska Native	Non-Hispanic Other	Multiple Race	Hispanic or Latino
Report Area	39.69	40.6%	10.71%	13.07%	21.46%	34.23%	34.54%	31.53%
Arenac County, MI	52.61	53.77%	2.27%	32%	46.54%	16.67%	43.75%	55.46%
Clare County, MI	38.96	39.11%	14%	16.67%	36.92%	60%	38.19%	37.94%
Gladwin County, MI	82.32	82.52%	78.13%	40.58%	82.14%	100%	79.47%	77.11%
Isabella County, MI	9.83	10.03%	6.44%	4.22%	7.64%	15.87%	7.69%	11.49%
Osceola County, MI	63.15	63.19%	54.43%	79.17%	63.96%	20%	60.62%	61.74%
Roscommon County, MI	41.21	41.25%	33.33%	42.86%	32.28%	57.14%	43.64%	42.65%
Michigan	50.99	48.98%	61.52%	57.75%	43.75%	55.57%	54.77%	49.5%
United States	52.02	49.33%	64.15%	51.26%	54.56%	57.92%	53.64%	54.98%



## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Population with Low or No Healthy Food Access by Race/Ethnicity, Total

Report Area	Non-Hispanic White	Non-Hispanic Black	Non-Hispanic Asian	Non-Hispanic American Indian / Alaska Native	Non-Hispanic Other	Multiple Race	Hispanic or Latino
Report Area	71,585	194	153	513	38	705	845
Arenac County, MI	8,764	7	16	74	1	91	132
Clare County, MI	11,816	14	13	79	12	110	129
Gladwin County, MI	20,840	25	28	115	10	209	192
Isabella County, MI	5,744	78	37	123	10	66	163
Osceola County, MI	14,192	43	38	71	1	157	142
Roscommon County, MI	10,229	27	21	51	4	72	87
Michigan	3,823,572	862,470	101,249	23,370	6,371	89,550	160,333
United States	95,978,903	21,776,320	5,189,224	1,128,698	270,921	2,468,453	19,410,660



## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Population with Low Food Access

This indicator reports the percentage of the population living in census tracts designated as food deserts. A food desert is defined as a low-income census tract (where a substantial number or share of residents has low access to a supermarket or large grocery store. This indicator is relevant because it highlights populations and geographies facing food insecurity.

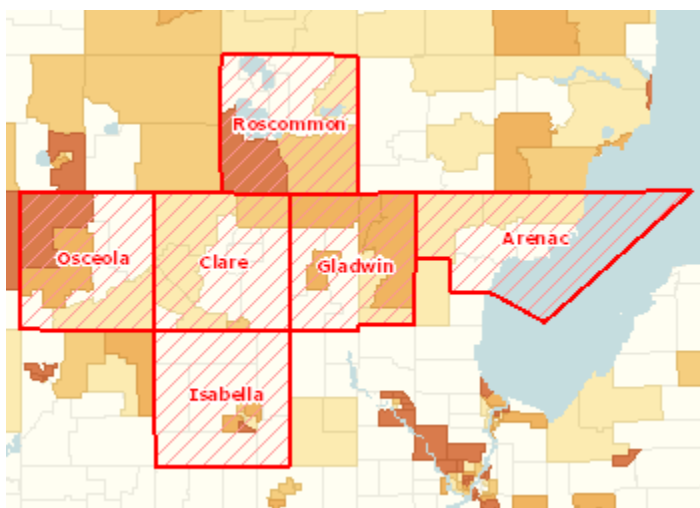
Report Area	Total Population	Population with Low Food Access	Percent Population with Low Food Access
Report Area	190,805	19,108	10.01%
Arenac County, MI	15,899	30	0.19%
Clare County, MI	30,926	750	2.43%
Gladwin County, MI	25,692	3,942	15.34%
Isabella County, MI	70,311	7,435	10.57%
Osceola County, MI	23,528	3,597	15.29%
Roscommon County, MI	24,449	3,354	13.72%
Michigan	9,883,640	2,278,075	23.05%
United States	308,745,538	72,905,540	23.61%

Percent Population with Low Food Access



- Report Area (10.01%)
- Michigan (23.05%)
- United States (23.61%)

Data Source: US Department of Agriculture, Economic Research Service, USDA - Food Access Research Atlas. 2010. Source geography: Tract



Population with Limited Food Access, Percent by Tract, FARA 2010

- Over 50.0%
- 20.1 - 50.0%
- 5.1 - 20.0%
- Under 5.1%
- No Low Food Access
- Report Area



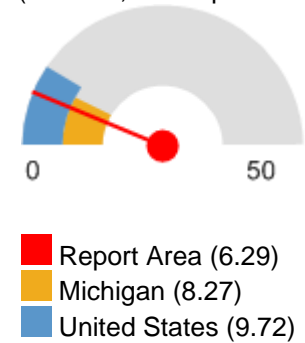
## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Recreation and Fitness Facility Access

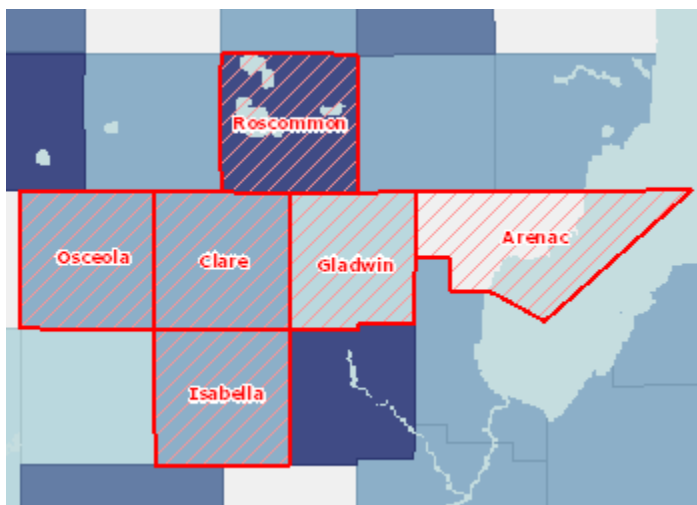
This indicator reports the number per 100,000 population of recreation and fitness facilities as defined by North American Industry Classification System (NAICS) Code 713940. This indicator is relevant because access to recreation and fitness facilities encourages physical activity and other healthy behaviors.

Report Area	Total Population	Number of Establishments	Establishments, Rate per 100,000 Population
Report Area	190,805	12	6.29
Arenac County, MI	15,899	0	0
Clare County, MI	30,926	2	6.47
Gladwin County, MI	25,692	1	3.89
Isabella County, MI	70,311	5	7.11
Osceola County, MI	23,528	1	4.25
Roscommon County, MI	24,449	3	12.27
Michigan	9,883,640	817	8.27
United States	312,732,537	30,393	9.72

Recreation and Fitness Facilities, Rate (Per 100,000 Population)



Data Source: US Census Bureau, County Business Patterns. Additional data analysis by CARES. 2013. Source geography: County



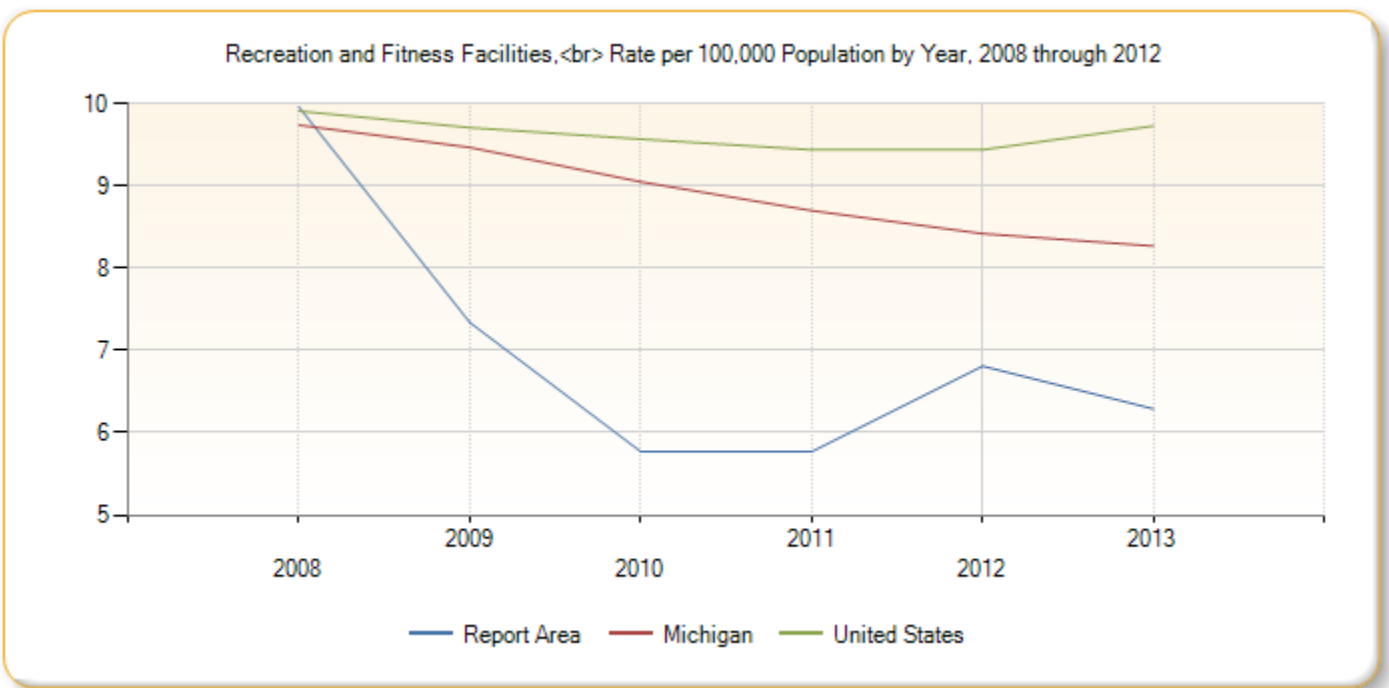
Recreation and Fitness Facilities, Rate (Per 100,000 Pop.) by County, CBP 2013

- Over 12.0
- 8.1 - 12.0
- 4.1 - 8.0
- Under 4.1
- No Fitness and Recreation Centers
- Report Area

## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Recreation and Fitness Facilities, Rate per 100,000 Population by Year, 2008 through 2012

Report Area	2008	2009	2010	2011	2012	2013
Report Area	9.96	7.34	5.77	5.77	6.81	6.29
Arenac County, MI	12.58	12.58	6.29	6.29	6.29	0
Clare County, MI	9.7	9.7	9.7	9.7	6.47	6.47
Gladwin County, MI	7.78	7.78	7.78	7.78	7.78	3.89
Isabella County, MI	9.96	7.11	5.69	5.69	7.11	7.11
Osceola County, MI	0	0	0	0	0	4.25
Roscommon County, MI	20.45	8.18	4.09	4.09	12.27	12.27
Michigan	9.74	9.47	9.05	8.7	8.42	8.27
United States	9.91	9.71	9.57	9.44	9.44	9.73



**SNAP-Authorized Food Store Access**

This indicator reports the number of SNAP-authorized food stores as a rate per 100,000 population. SNAP-authorized stores include grocery stores as well as supercenters, specialty food stores, and convenience stores that are authorized to accept SNAP (Supplemental Nutrition Assistance Program) benefits.

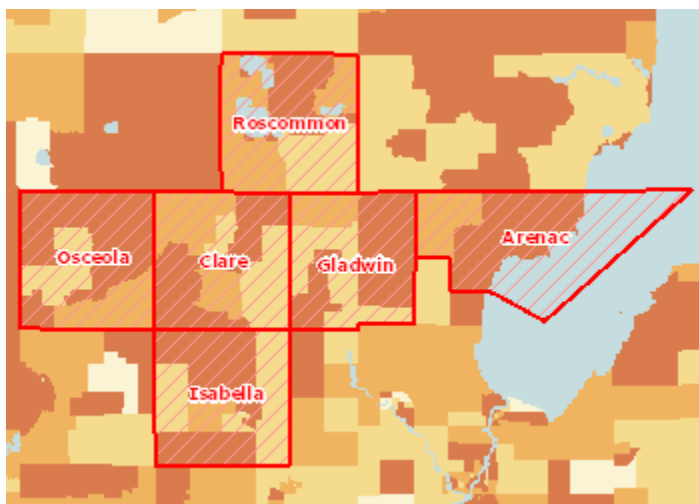
Report Area	Total Population	Total SNAP-Authorized Retailers	SNAP-Authorized Retailers, Rate per 100,000 Population
Report Area	190,805	224	117.4
Arenac County, MI	15,899	26	163.53
Clare County, MI	30,926	42	135.81
Gladwin County, MI	25,692	31	120.66
Isabella County, MI	70,311	52	73.96
Osceola County, MI	23,528	34	144.51
Roscommon County, MI	24,449	39	159.52
Michigan	9,883,640	9,827	99.43
United States	312,471,327	245,113	78.44

SNAP-Authorized Retailers, Rate (Per 100,000 Population)



- Report Area (117.4)
- Michigan (99.43)
- United States (78.44)

Data Source: US Department of Agriculture, Food and Nutrition Service, USDA - SNAP Retailer Locator. Additional data analysis by CARES. 2014. Source geography: Tract



**SNAP-Authorized Retailers, Rate per 10,000 Population by Tract, USDA 2014**

- Over 12.0
- 6.1 - 12.0
- Under 6.0
- No SNAP-Authorized Retailers
- No Population or No Data
- Report Area

## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### Use of Public Transportation

This indicator reports the percentage of population using public transportation as their primary means of commute to work. Public transportation includes buses or trolley buses, streetcars or trolley cars, subway or elevated rails, and ferryboats.

Report Area	Total Population Employed Age 16	Population Using Public Transit for Commute to Work	Percent Population Using Public Transit for Commute to Work
Report Area	70,551	719	1.02%
Arenac County, MI	5,511	35	0.64%
Clare County, MI	9,866	88	0.89%
Gladwin County, MI	8,502	57	0.67%
Isabella County, MI	30,930	409	1.32%
Osceola County, MI	8,587	36	0.42%
Roscommon County, MI	7,155	94	1.31%
Michigan	4,147,131	56,340	1.36%
United States	139,786,640	7,000,722	5.01%

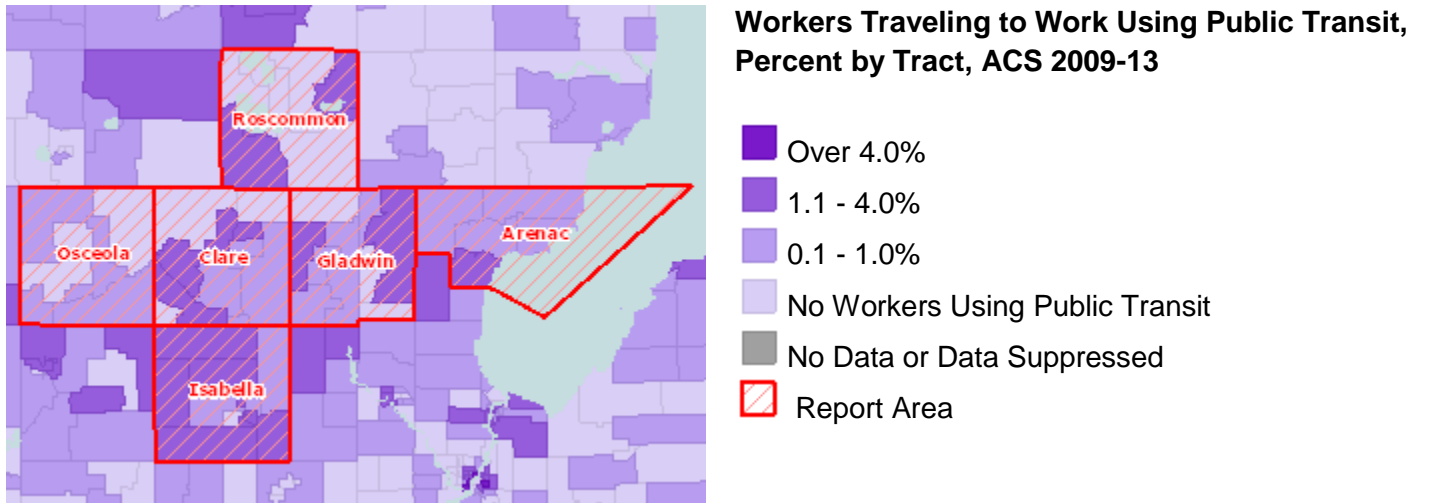
Percent Population Using Public Transit for Commute to Work



- Report Area (1.02%)
- Michigan (1.36%)
- United States (5.01%)

Data Source: US Census Bureau, American Community Survey. 2009-13. Source geography: Tract

## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data



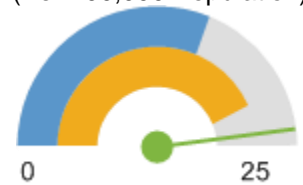
## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

### WIC-Authorized Food Store Access

This indicator reports the number of food stores and other retail establishments per 100,000 population that are authorized to accept WIC Program (Special Supplemental Nutrition Program for Women, Infants, and Children) benefits and that carry designated WIC foods and food categories. This indicator is relevant because it provides a measure of food security and healthy food access for women and children in poverty as well as environmental influences on dietary behaviors.

Report Area	Total Population (2011 Estimate)	Number WIC-Authorized Food Stores	WIC-Authorized Food Store Rate (Per 100,000 Pop.)
Report Area	191,079	46	24
Arenac County, MI	15,649	6	38.34
Clare County, MI	31,033	9	29.00
Gladwin County, MI	25,851	7	27.08
Isabella County, MI	70,622	9	12.74
Osceola County, MI	23,510	8	34.03
Roscommon County, MI	24,414	7	28.67
Michigan	9,886,994	2,149	21.7
United States	318,921,538	50,042	15.6

WIC-Authorized Food Stores, Rate (Per 100,000 Population)



- Report Area (24)
- Michigan (21.7)
- United States (15.6)

Data Source: US Department of Agriculture, Economic Research Service, USDA - Food Environment Atlas. 2011. Source geography: County

## Central Michigan Region Health Indicators Report - Part Three: Physical Environment Data

**WIC-Authorized Stores, Rate (Per 100,000 Pop.) by County, FEA 2011**

