

SECTION 1: INTRODUCTION

1.1 STATE PROFILE

INTRODUCTION

Ohio was the 17th territory to become part of the United States of America on March 1, 1803. Ohio is an Iroquoian word meaning “great river”. Located in the north-central region of the United States, Ohio has been home to eight of the forty-five Presidents of the United States including Presidents W.H. Harrison, Grant, Hayes, Garfield, B. Harrison, McKinley, Taft, and Harding.

GEOGRAPHY

The state is divided into two broad geographic regions, loosely following a diagonal line running from the south-western corner to the north-eastern corner. The portion of the state above the line was repeatedly inundated by glaciers and is generally flat with glacial sediments conducive to agriculture and large population centers. One notable exception is a region in west central Ohio where an outcropping of large hills exists. The areas south and east of the line consist of the foothills to the Appalachian Mountains, which start in southeastern Ohio.

Ohio borders the states of Pennsylvania, Kentucky, West Virginia, Indiana, and Michigan while sharing an international border with the Canadian province of Ontario. A large portion of the state’s border is associated with bodies of water including West Virginia and Kentucky along the Ohio River and Ontario near the center of Lake Erie. The majority of Ohio’s northern border is encompassed by Lake Erie, which was created by and subsequently filled with water from glaciers. River systems in the northern third of Ohio flow north into Lake Erie. The remainder of the waterways in the state flow south into the Ohio River. Ohio covers 40,952 square miles of land. Land use percentages range from a high of 39.08 percent for cultivated crops to a low of .23 percent for barren (See Chart 1.1.a).

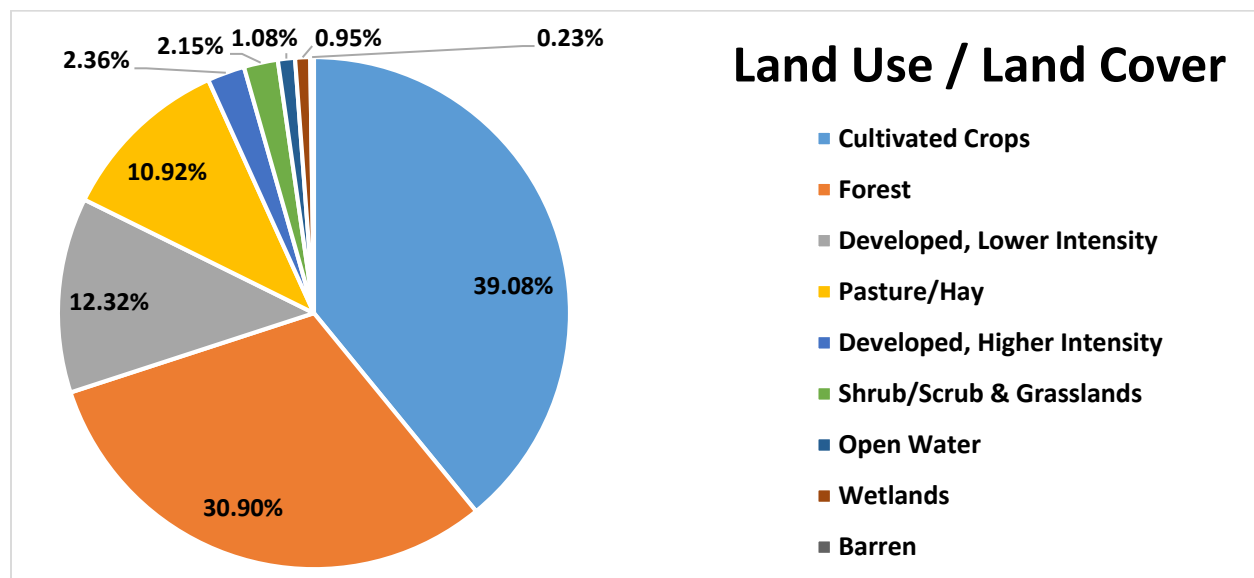


Chart 1.1.a

From the perspective of taxable land value, the distribution varies significantly from land use. Per the Ohio Development Services Agency – Ohio County Indicators Study for 2017, the State has approximately 238 billion dollars of taxable real property (See Chart 1.1.b).

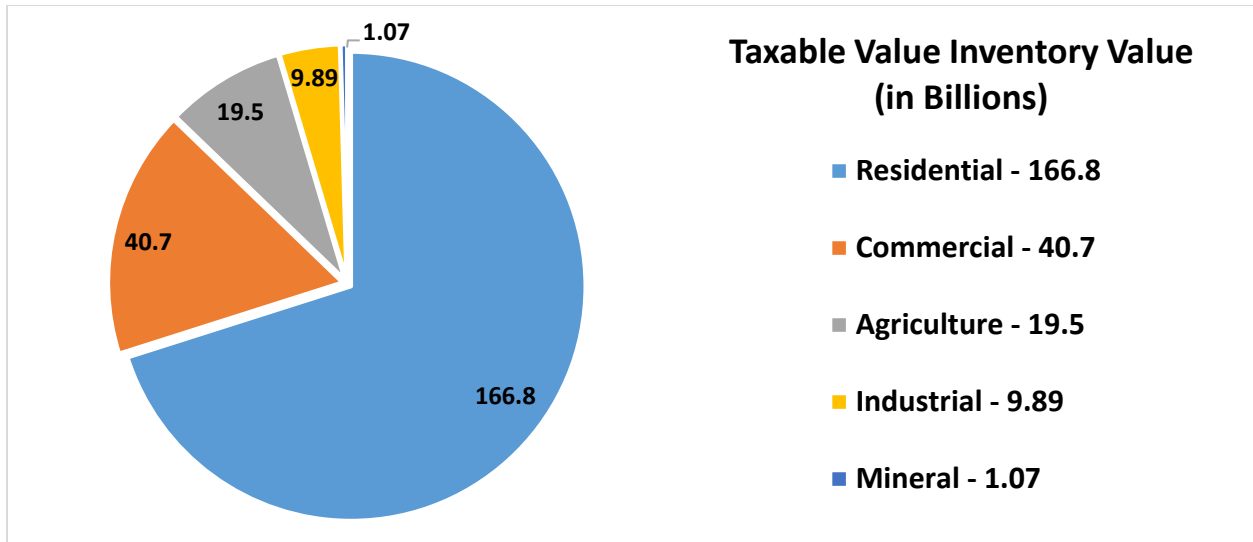
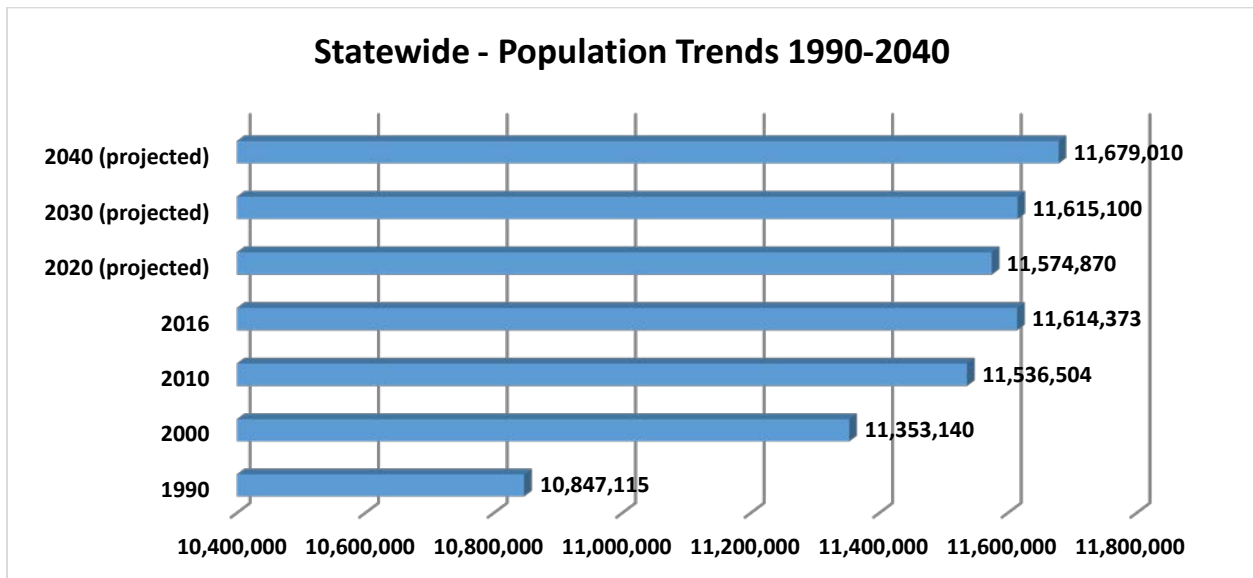


Chart 1.1.b

DEMOGRAPHY

The 2010 U.S. Census placed Ohio’s population at 11,536,504, the American Community Survey (ACS) estimates the 2016 population to be 11,614,373 and the 2010 census projected the population in 2020 to be 11,574,870 (See Graph 1.1.c).



Graph 1.1.c (projections based on 2010 census)

Based on 2017 Development Services Agency statewide data, the largest racial group in Ohio is Caucasian followed by African-American. There are a total of 2,284,674 persons falling into minority categories making up 19.7 percent of the population (See Chart 1.1.d).

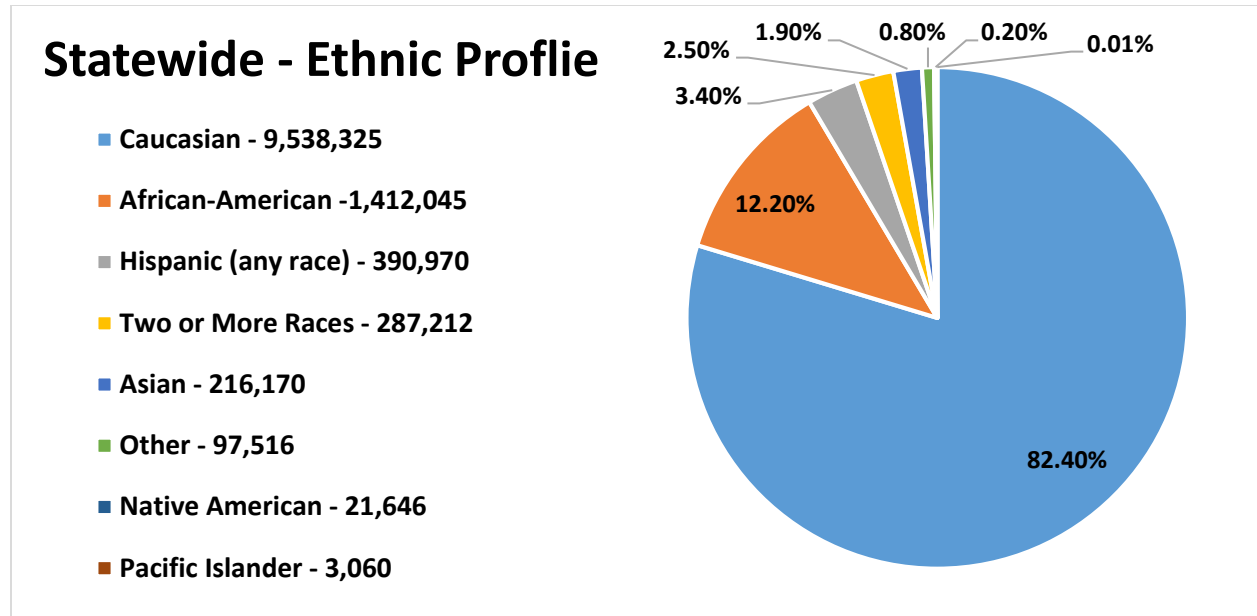


Chart 1.1.d

AGE PROFILES

The age categories, which require the most care after a disaster event, are those under 5 years of age and over 65 years of age. Statewide 6 percent of the population is under the age of 5 and 15.5 percent of the population is 65 years of age or greater. The median age of Ohioans is 39.2 years (see Chart 1.1.e).

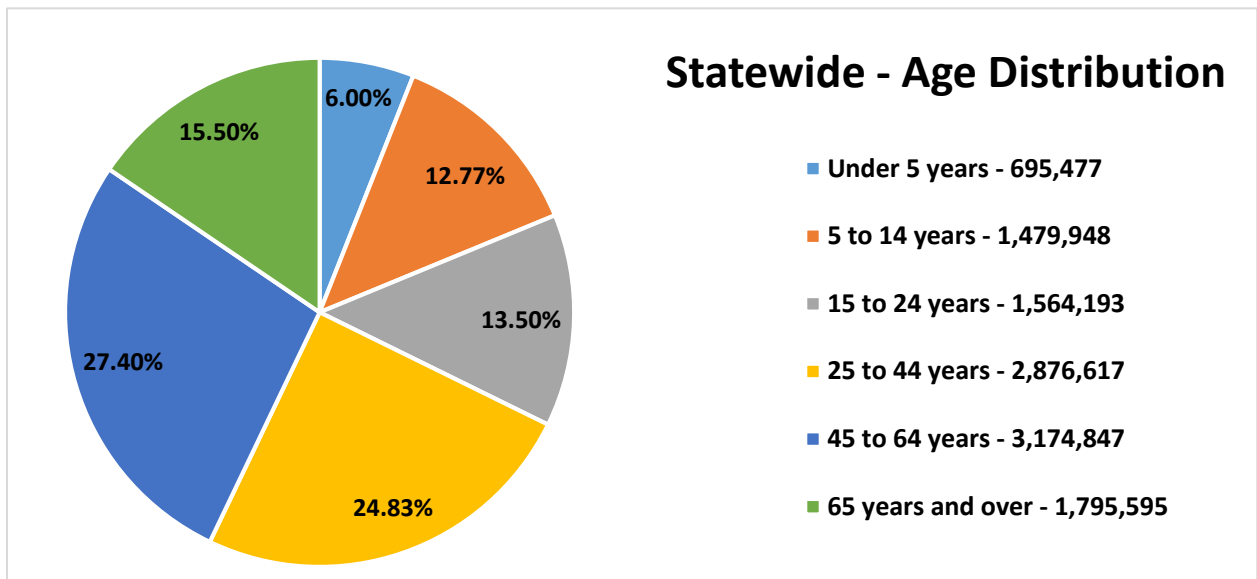
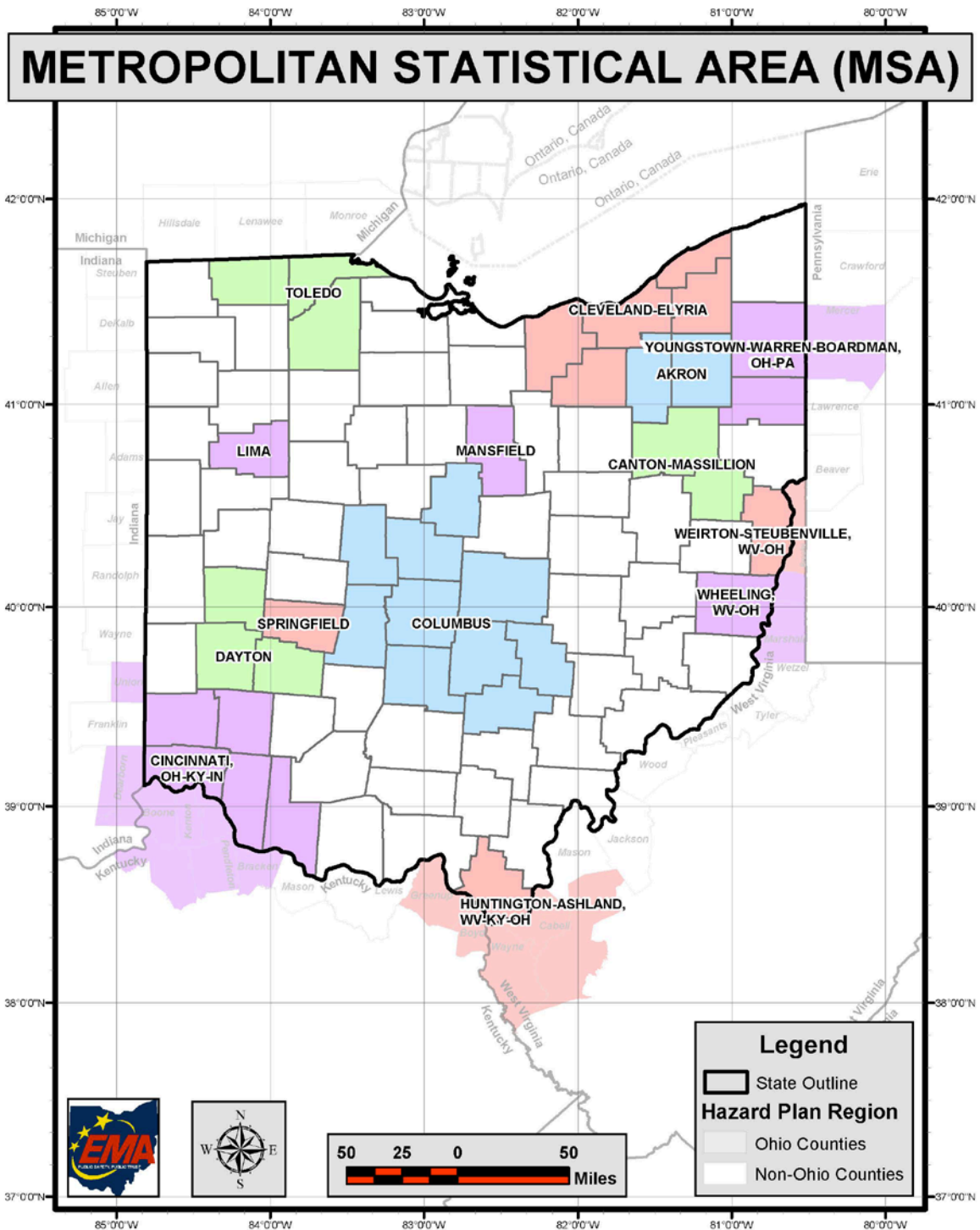


Chart 1.1.e

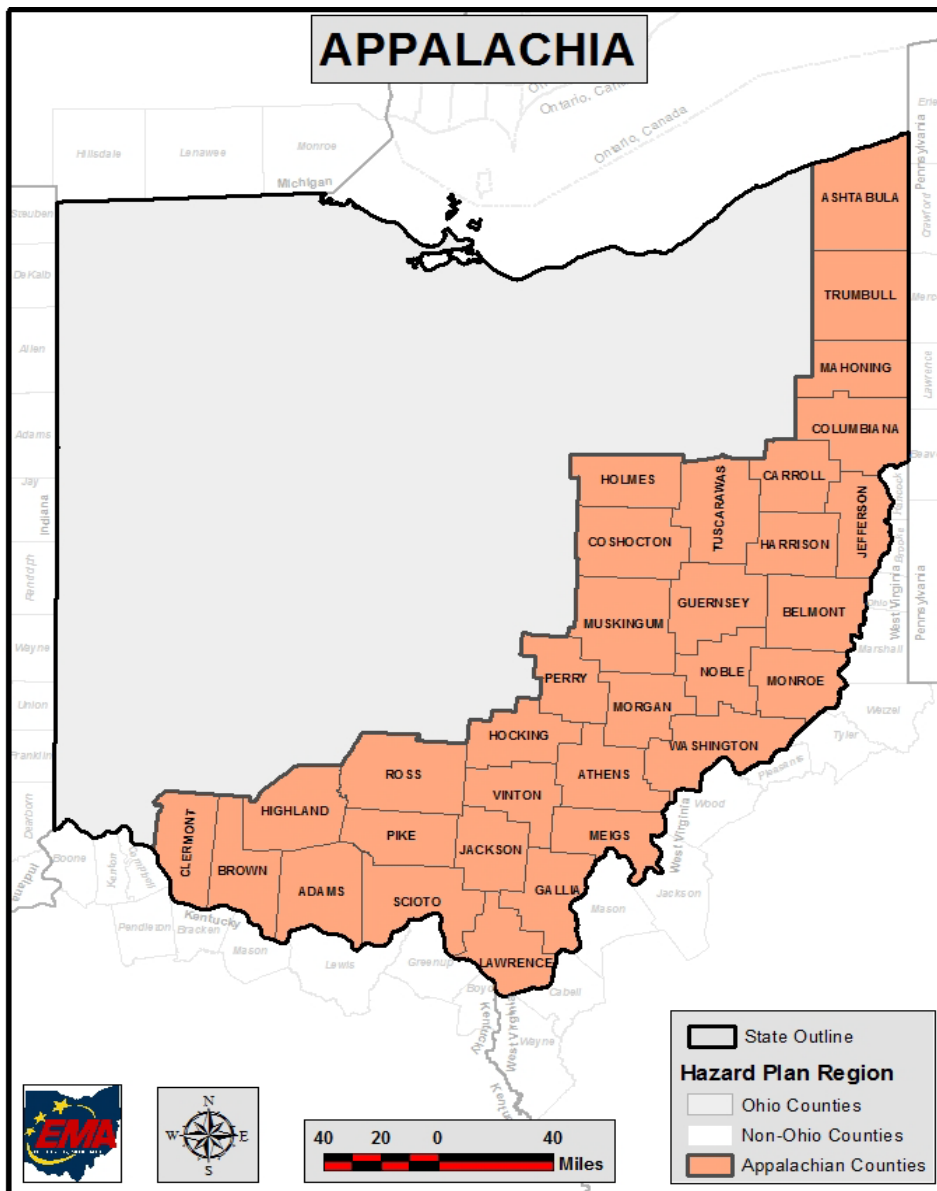


Map 1.1.F

Ohio is home to three large metropolitan statistical areas (MSA) located around the cities of Cleveland (2,077,240), Columbus (1,836,536) and Cincinnati (2,130,151) based on the 2010 Census. There are an additional four moderate-sized MSAs located around the cities of Akron (703,200), Dayton (841,502), Toledo (651,429), and Youngstown (565,773), see Map 1.1.f. Combined, these MSAs account for 9,120,655 people or 76.3% of the state’s population. Individual county populations range from a low of 13,435 in Vinton County to a high of 2,077,240 in Cuyahoga County.

APPALACHIA

Ohio contains a federally and state recognized region known as Appalachia. In 1965, the U.S. Congress identified counties in thirteen states along the Appalachian Mountain Range as part of the Appalachian Regional Commission. The Governor's Office of Appalachia represents the interests of the 32 counties comprising the Appalachia Region in southern and eastern Ohio (See Map 1.1.g).



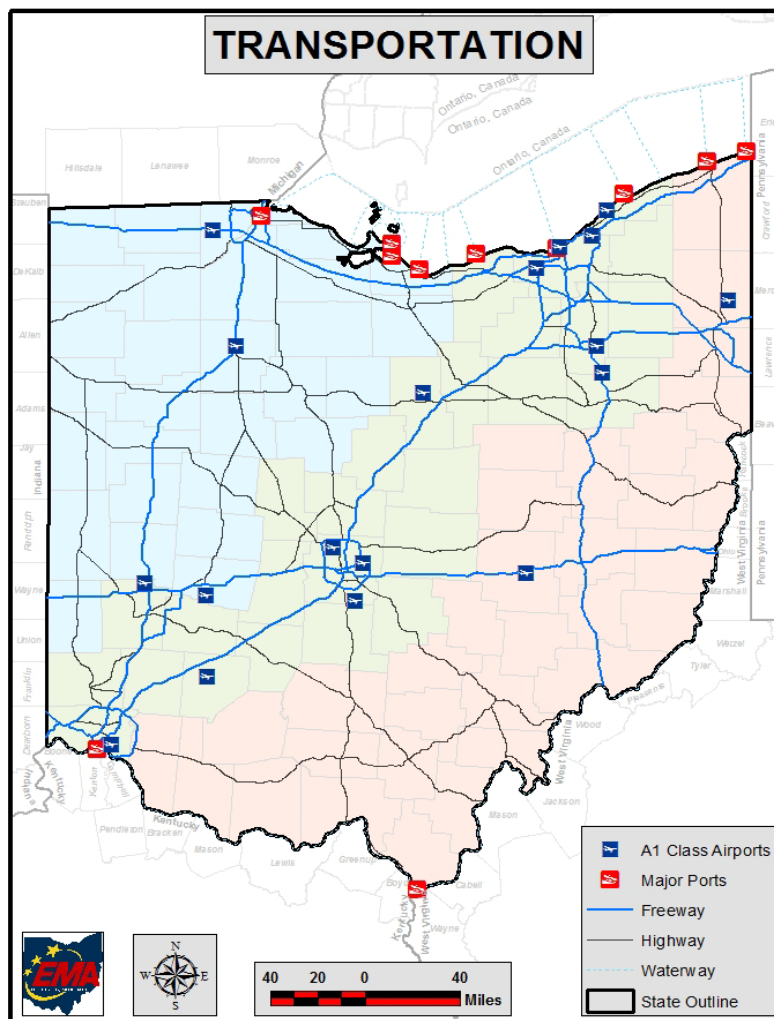
Map 1.1.g

TRANSPORTATION

Ohio has been dubbed the heart of it all connecting the eastern seaboard with the Midwest and South (See Map 1.1.h). Three major east-west interstates (I-70, I-80, and I-90) and three north-south interstates (I-75, I-71, and I-77) run through the state. Additionally, the State has a robust system of railways, airports, and sea/river ports which serve all 88 counties. Ohio’s extensive rail line system ranks 4th in total rail miles and has the highest concentration of rail lines per square mile in the nation.

Ohio is the birthplace of aviation and enjoys to this day a strong aviation system. Part of the State’s aviation heritage is the publicly-owned airport system. The system consists of seven commercial service and 97 general aviation airports and owes much of its development to a 1960’s program championed by Governor Jim Rhodes.

Ohio’s Maritime Transportation System (MTS) is a key component of the state’s multimodal transportation system. It is comprised of two major waterways Lake Erie and the Ohio River. The total MTS includes 736 navigable miles of waterway with eight principal ports on Lake Erie, 162 commercial docks, the majority of which are along the Ohio River and 9 locks and dams on the Ohio portion of the Ohio River. The ports, terminals, and docks that provide connectivity to Ohio’s MTS handle between 80 million and 100 million short tons of freight per year (2011-2015), valued at over \$12 billion (2015).



Map 1.1.h

REGIONAL LEVEL ANALYSIS

Ohio has elected to address hazard mitigation planning using three regions which have similar geographic, socio-economic, and land use characteristics. While the general trends within the regions are fairly consistent there will be variations. An example would be a region as a whole experiencing population growth, but certain counties within the region experiencing significant population decline. Analyses of these types of differences are a necessary process in the development of the risk and vulnerability assessments for each hazard as well as for the development of the hazard mitigation strategies.



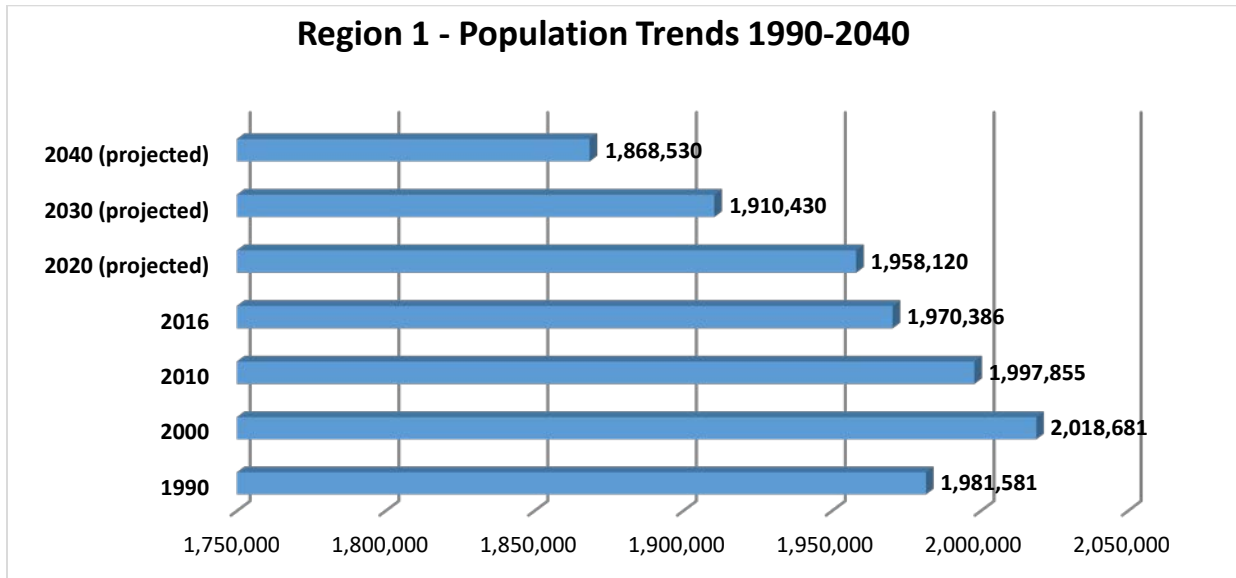
Map 1.1.i

REGION 1

Region 1 is characterized by largely rural, agricultural counties with flat to gently rolling topography. It is the western and northwestern portions of the state including portions of the state located on Lake Erie.

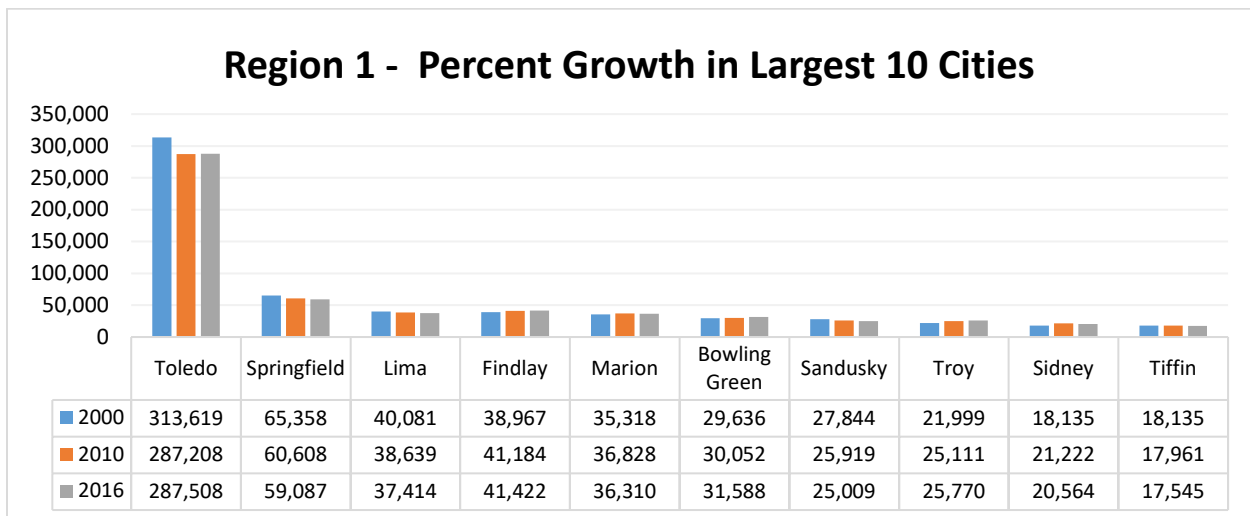
GENERAL POPULATION

The population in Region 1, according to the ACS, was 1,970,386, 17% of the Ohio total population, in 2016. Region 1 experienced minor population decreases between 1990 and 2016, with the average population decrease between these two dates being .56%. Regional contraction is expected to continue based upon current projections (See Graph 1.1.i).

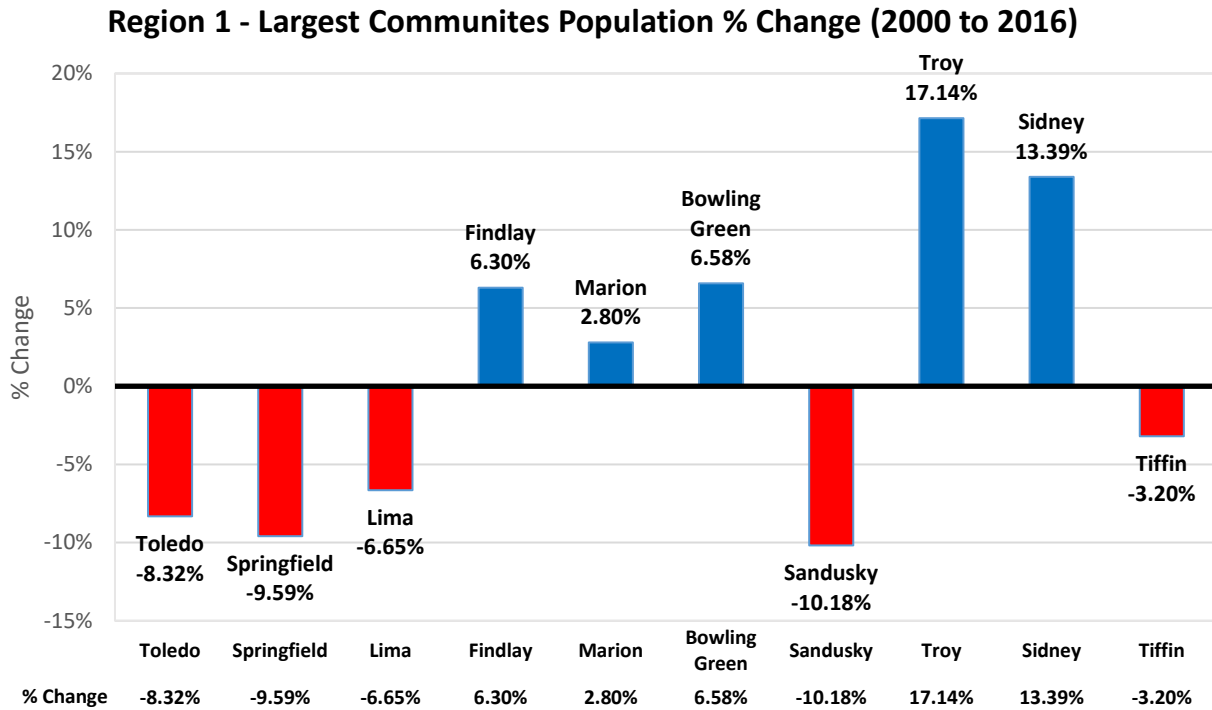


Graph 1.1.j (projections based upon the 2010 census)

Half of the ten largest communities experienced population decreases between 2000 and 2016 with Sandusky (Erie County) having the largest decrease at -10.18%. Five of the largest ten communities saw an increase with the most significant increase of 17.14% in Troy (Miami County) (See Graphs 1.1.k & 1.1.l).



Graph 1.1.k



Graph 1.1.1

SPECIAL POPULATIONS

The number of people within the special population category generally increases with the size of the county or community. These special population groups include: infant children, elderly, non-English speaking, convalescing, assisted living, and inmate populations.

CONVALESCING AND ASSISTED LIVING POPULATIONS

There are a number of facilities in Region 1 that house special or disabled populations. They include 119 nursing homes and 52 hospitals with a total of 24,610 beds. Although these facilities have their own contingency plans, they coordinate with state, county, and local hazard mitigation planning efforts.

INMATE POPULATIONS

There are four correctional facilities in Region 1 including a facility in Allen County, Lucas County, and two in Marion County. As of the fourth quarter of 2017, the combined inmate population in these facilities totals 6,725.

ETHNIC / POVERTY LEVEL CONSIDERATIONS

Caucasians comprise 89 percent of the region’s ethnic mix compared to the state’s average of 82 percent. The region’s largest minority demographic is African-American (7.19 percent) and is more concentrated in urbanized areas such as Lucas, Allen, and Clark counties (Chart 1.1.m). The Hispanic population (4.61 percent) encompasses the region’s third largest ethnic group. The main cores of Hispanic inhabitants are located in northwestern Ohio counties such as Lucas, Wood, and Sandusky.

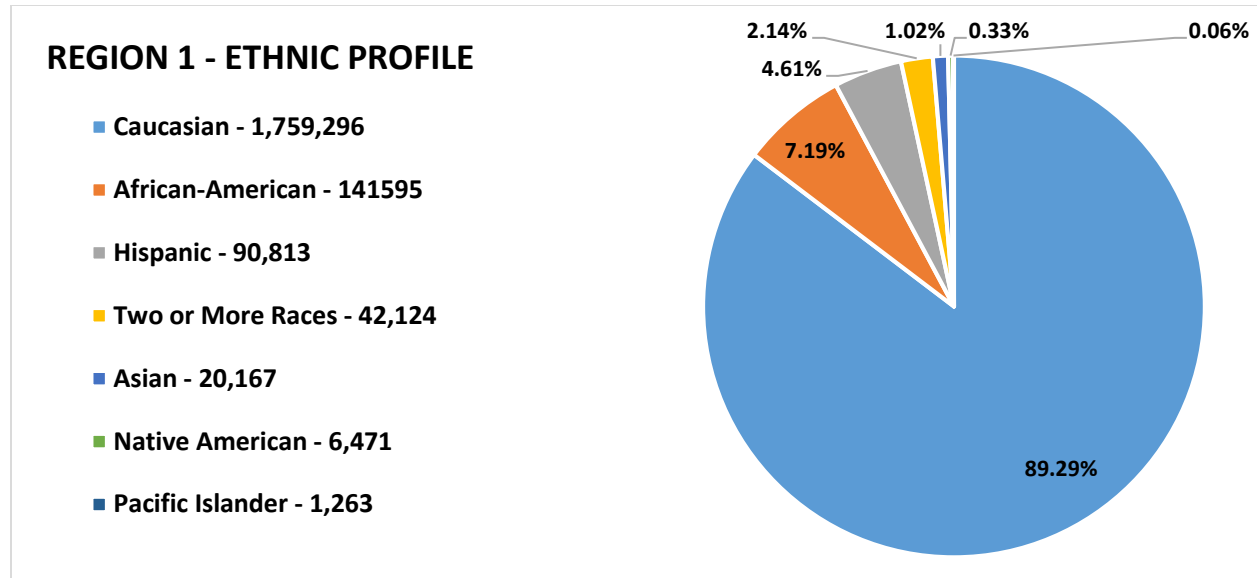


Chart 1.1.m

AGE PROFILES

The age categories which require the most care after a disaster event are the under 5 years of age and over 65 years of age. The percentage of children under the age of 5 is about the same throughout Region 1 counties, ranging from a low 4.3 percent (Ottawa) to a high 6.8 percent (Putnam). The percentage of people 65 years of age and older is also consistent with percentages ranging from a low of 13.9 percent in Wood County to a high of 22.1 percent in Ottawa county (Chart 1.1.n). The median age group in Region 1 is 40 and the highest median age for any of Ohio’s counties occurs in Region 1 (47.3 in Ottawa).

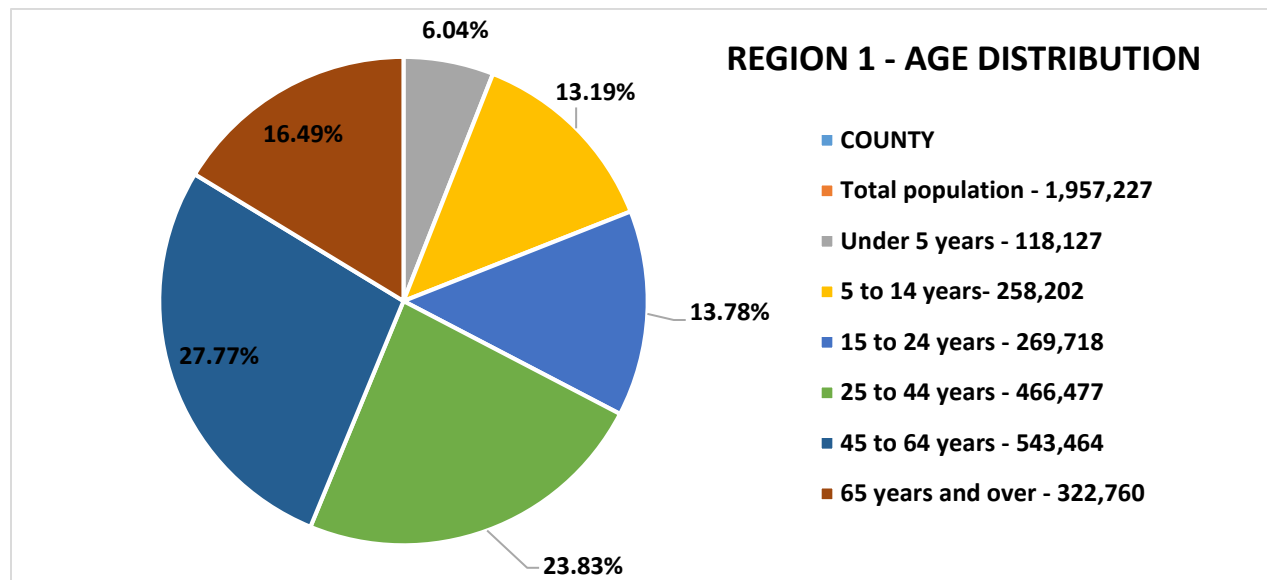


Chart 1.1.n

REGIONAL ECONOMY

The economy in Region 1 is firmly based in manufacturing both in terms of workforce and wages. Other economic sectors ranked in terms of workforce and wages include: (2) trade, transportation, and utilities,

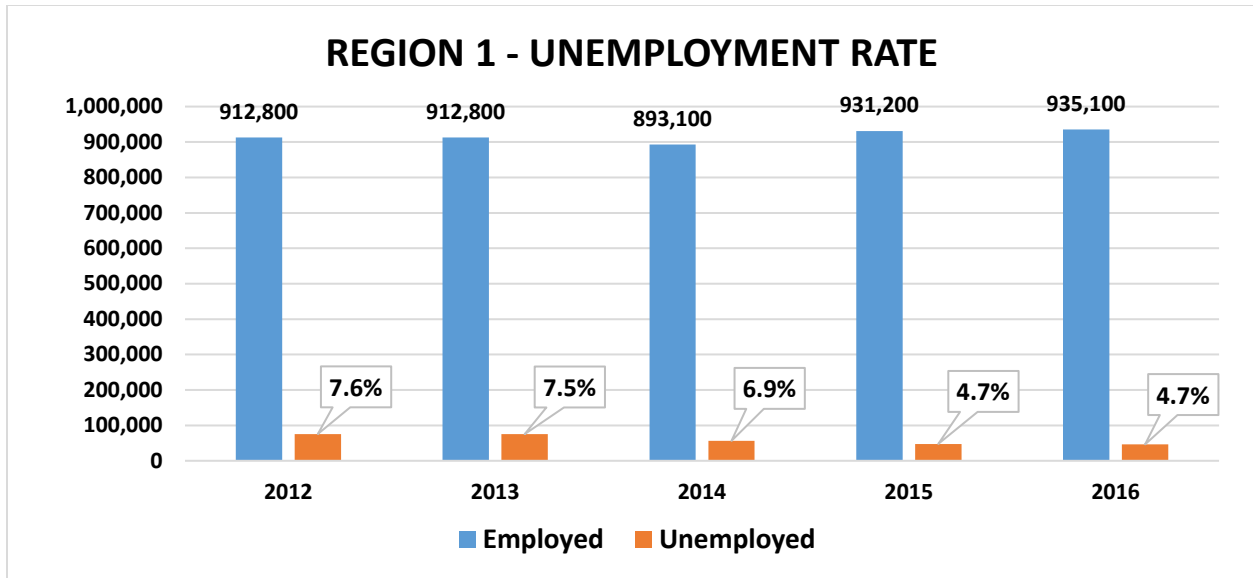
(3) education & health services, (4) leisure & hospitality, and (5) professional & business services (Table 1.1.o). While not addressed in the Bureau of Labor Statistics data, agriculture is an incredibly important economic driver in Region 1.

REGION 1 EMPLOYMENT AND WAGES BY SECTOR - 2016					
Industrial Sector	Avg. Establishment #	Average Employment	Total Wages	Avg. Weekly Wage	Annual Avg. Pay
Private Sector	40,911	739,174	\$30,640,025,866	\$759	\$39,465
Goods Producing	7,319	231,525	\$12,797,092,003	\$999	\$51,931
Natural Resources & Mining	684	8039	\$304,185,326	\$732	\$38,076
Construction	3,740	33667	\$1,923,729,043	\$966	\$50,254
Manufacturing	2,902	189,819	\$10,569,177,634	\$1,012	\$52,609
Services-Providing	33,597	507,652	\$17,842,933,863	\$613	\$31,876
Trade, Transportation & Utilities	10,102	158,620	\$5,644,399,654	\$667	\$34,700
Information	517	6859	\$297,458,088	\$727	\$37,809
Financial Services	4,064	26775	\$1,374,614,667	\$878	\$45,644
Professional & Business Services	5,378	73,837	\$3,366,502,359	\$730	\$37,933
Education & Health Services	4,985	126,871	\$5,176,396,203	\$679	\$35,324
Leisure & Hospitality	4,776	88,455	\$1,323,677,648	\$254	\$13,212
Other Services	3,756	26174	\$658,098,211	\$437	\$22,738
Federal Government	447	5503	\$324,107,403	\$1,000	\$52,011
State Government	289	15435	\$907,437,690	\$1,037	\$53,899
Local Government	2,735	89,454	\$3,653,423,587	\$735	\$38,233
Total	126,202	2,327,859	\$96,803,259,245	\$764.09*	\$39,732.06*

*shows average not total

Table 1.1.o

As the regional economic situation has improved post the late 2000's downturn, regional unemployment rates have fallen from a high in 2012 of 7.6 percent to a low of 4.75 in 2016 (Graph 1.1.p).



Graph 1.1.p

The median annual income for Region 1 households is \$48,768, which slightly exceeds that of the State of Ohio \$48,446 (see table 1.1.q). 13.6 percent of the people residing in Region 1 live below the poverty level, which is less than the state average (15.3 percent). The Region 1 counties that have comparatively high numbers of people living below the poverty level include: Hardin, Lucas, Marion, and Clark. These counties may warrant special consideration in pre- and post- disaster planning.

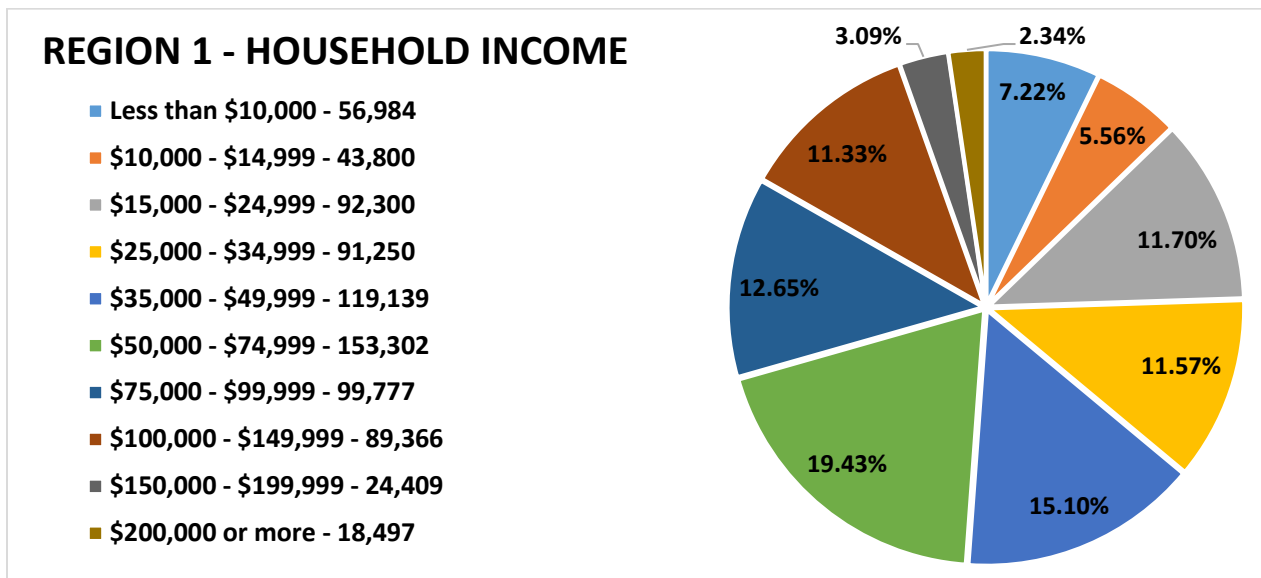


Chart 1.1.q

HOUSING

2016 ACS statistics indicate that there are approximately 887,214 housing units in Region 1, of which 99,362 (10.7 percent) are vacant (Chart 1.1.r). Ottawa and Logan counties have a surprisingly high number of vacant units. The reasons for such high vacancy rates are likely caused by housing used as seasonal and vacation property on Lake Erie, Grand Lake, St. Mary’s and Indian Lake. More than half of the houses in Region 1 were constructed before the implementation of the National Flood Insurance Program, which has important mitigation implications. It is likely that a majority of homes built in the region’s floodplains do not provide adequate flood protection.

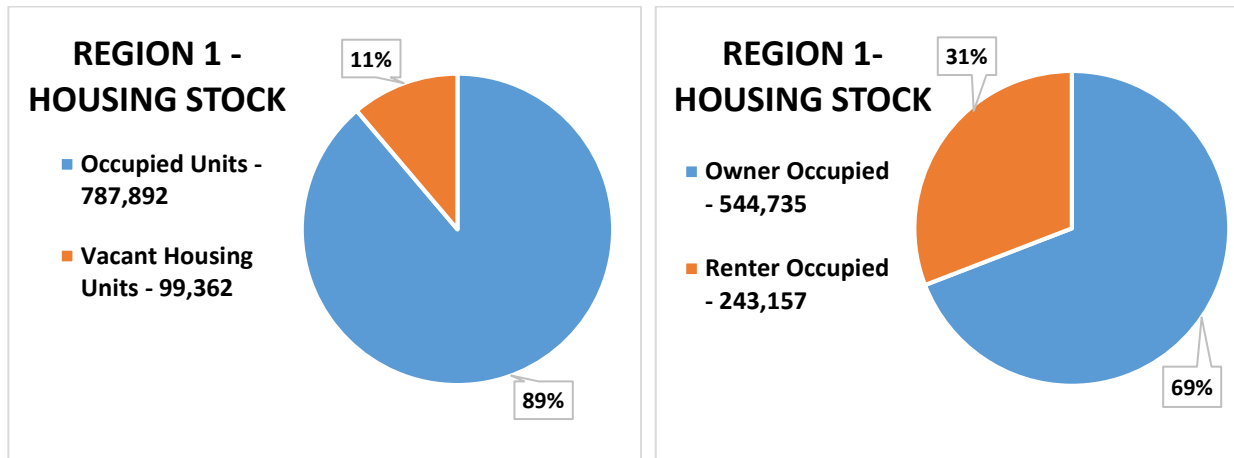


Chart 1.1.r

TRANSPORTATION

Region 1 has a well-developed transportation system, despite the fact that 15 of its 29 counties do not have interstate highways. State and U.S. highways coupled with extensive rail networks help meet the ground transportation needs in Region 1. Every county but two in Region 1 have at least 1 commercial airport and three of the counties bordering Lake Erie have ports (Table 1.1.s).

REGION 1 TRANSPORTATION SYSTEMS						
Counties	Interstate Highways	U.S. Highways	Rail Lines	Class A Airports	Total Airports	Lake Ports
Allen	X	X	4		1	
Auglaize	X	X	3		1	
Champaign		X	2		2	
Clark	X	X	3	1	1	
Crawford		X	3		1	
Darke		X	2		1	
Defiance		X	2		1	
Erie	X	X	1		3	2
Fulton	X	X	2		1	
Hancock	X	X	2	1	2	
Hardin		X	1		3	
Henry		X	3		1	
Huron		X	3		2	

Logan		X	2		1	
Lucas	X	X	3	1	2	1
Marion		X	2		1	
Mercer		X	1		2	
Miami	X	X	1		3	
Ottawa	X	X	2		5	1
Paulding		X	2			
Preble	X	X	1			
Putnam		X	3		2	
Sandusky	X	X	2		2	
Seneca		X	3		4	
Shelby	X		2		1	
Van Wert		X	2		1	
Williams	X	X	2		1	
Wood	X	X	2		4	
Wyandot		X	2		1	

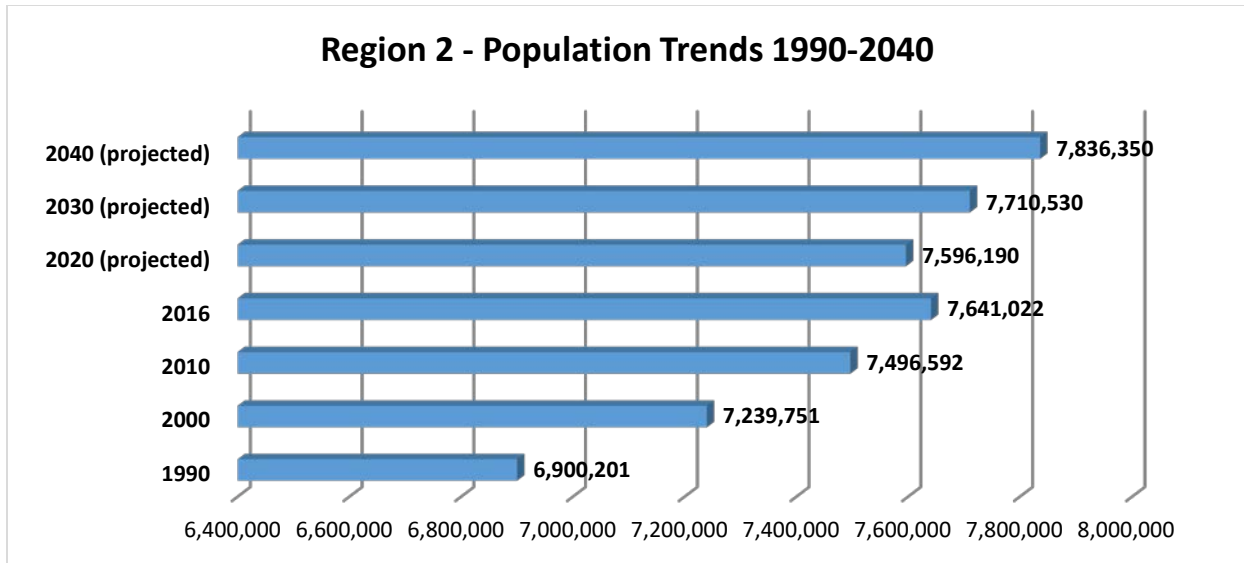
Table 1.1.s

REGION 2

Region 2 is defined by the I-71 corridor and contains Ohio’s three largest cities: Cleveland, Columbus, and Cincinnati. Geographically it is the boundary between the previously glaciated portion of the state and the unglaciated Appalachian region.

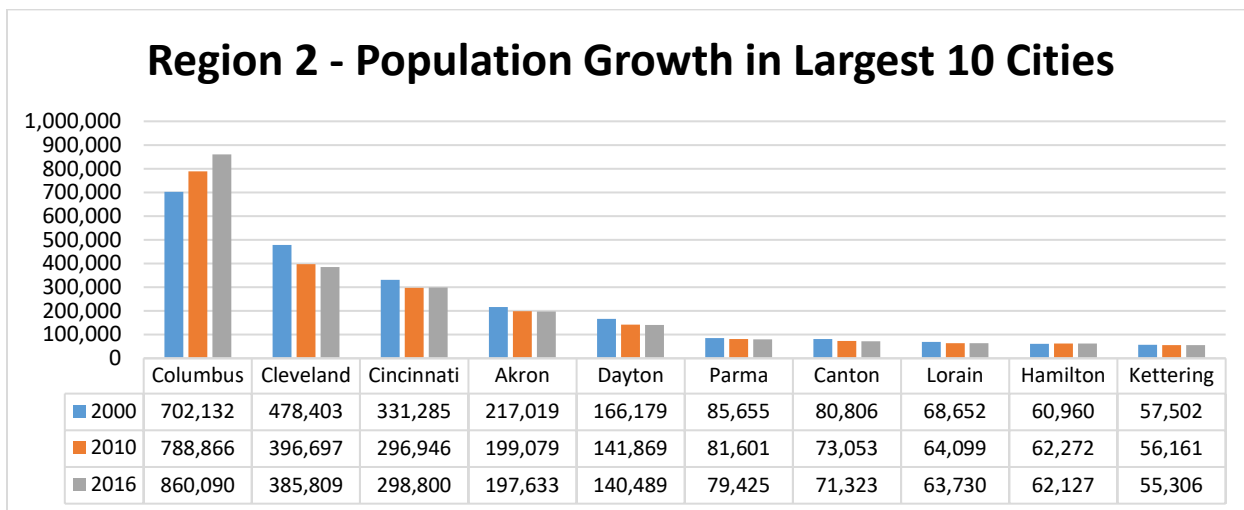
GENERAL POPULATION

The population in Region 2, according to the ACS was 7,641,022, 66% of the total population of Ohio, in 2016. The Region has experienced consistent population growth since 1990. The regional growth rate between 2000 and 2016 was 5.54% and this regional growth is expected to continue through 2040 (Graph 1.1.t). The majority of counties in Region 2 experienced minor changes in their population size, but there were several outliers. Delaware grew at a 58.4% while Cuyahoga declined by -8.2% in the same time period.

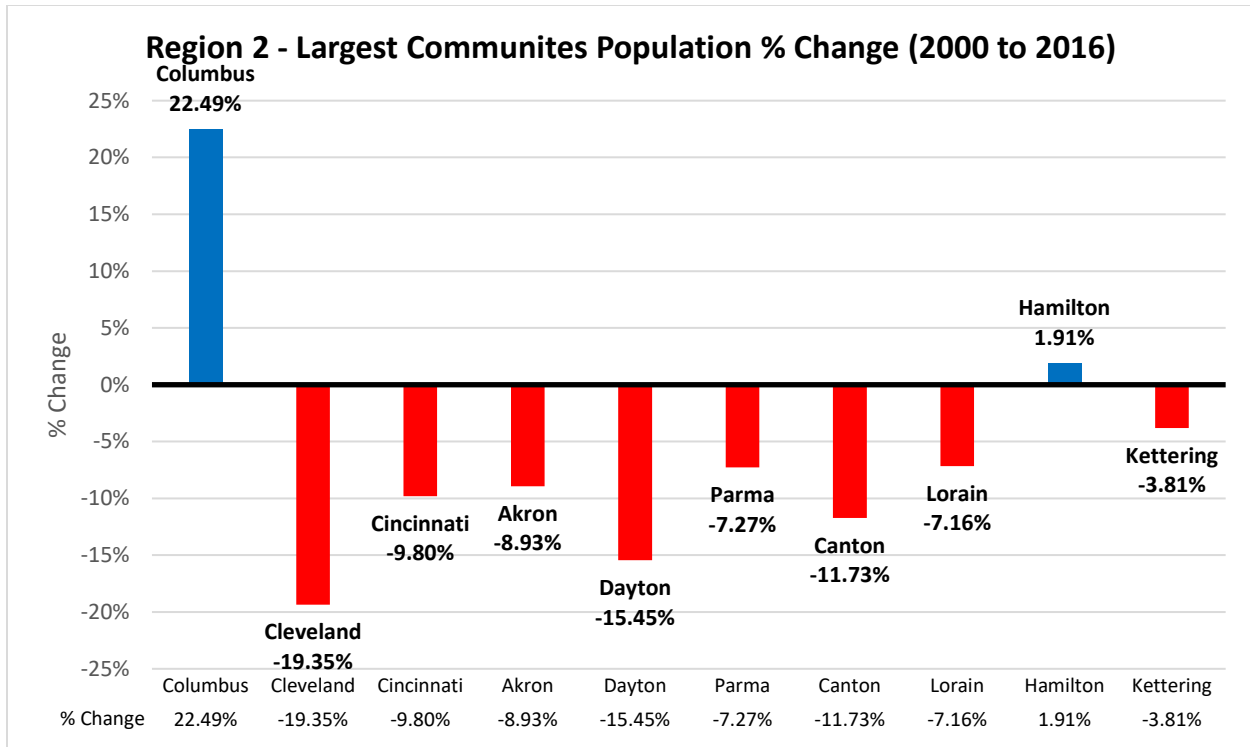


Graph 1.1.t

Eight of the ten largest communities experienced population decreases between 2000 and 2016 with the Cleveland (Cuyahoga County) having the largest decrease at -19.35 percent. The community that saw the largest increase was the Columbus (Franklin) with an increase of 22.49 percent (Graphs 1.1.u & 1.1.v).



Graph 1.1.u



Graph 1.1.v

SPECIAL POPULATIONS

The number of people within the special population category generally increases with the size of the county or community. These special population groups include: infant children, elderly, non-English speaking, convalescing, assisted living, and inmate populations. Eight of the ten most-populated counties are in Region 2. Emergency managers and mitigation planners must pay particular attention to counties having larger numbers of special populations (Cuyahoga, Hamilton, and Franklin counties).

CONVALESCING AND ASSISTED LIVING POPULATIONS

There are a large number of hospitals (122) and nursing homes (547) in Region 2 and they account for 85,306 beds. Although these facilities have their own contingency plans, they must be coordinated with state, county, and local hazard mitigation planning efforts.

INMATE POPULATIONS

There are 15 prisons within Region 2 with a total inmate population of 27,101. The follow counties have prisons: Pickaway, Montgomery, Franklin, Lorain, Warren, Madison, Lorain, Madison, Richland, Cuyahoga, Union, Pickaway, Richland, and Fairfield, and Warren. Each prison has a contingency plan that addresses a variety of circumstances. The challenge then is coordination with prison officials.

ETHNIC / POVERTY LEVEL CONSIDERATIONS

The minority population in Region 2 is 1,916,998 or 25.1 percent of the total population in Region 2 (See Chart 1.1.w). African-Americans are the largest minority (16.4 percent) followed by Hispanics (3.8 percent), and Asians (2.9 percent). Their concentrations within the largest communities may be linked to the availability of jobs in the area. The greatest concentration of people with limited English skills is in those counties with the greatest Hispanic populations (Lorain, Cuyahoga, and Franklin).

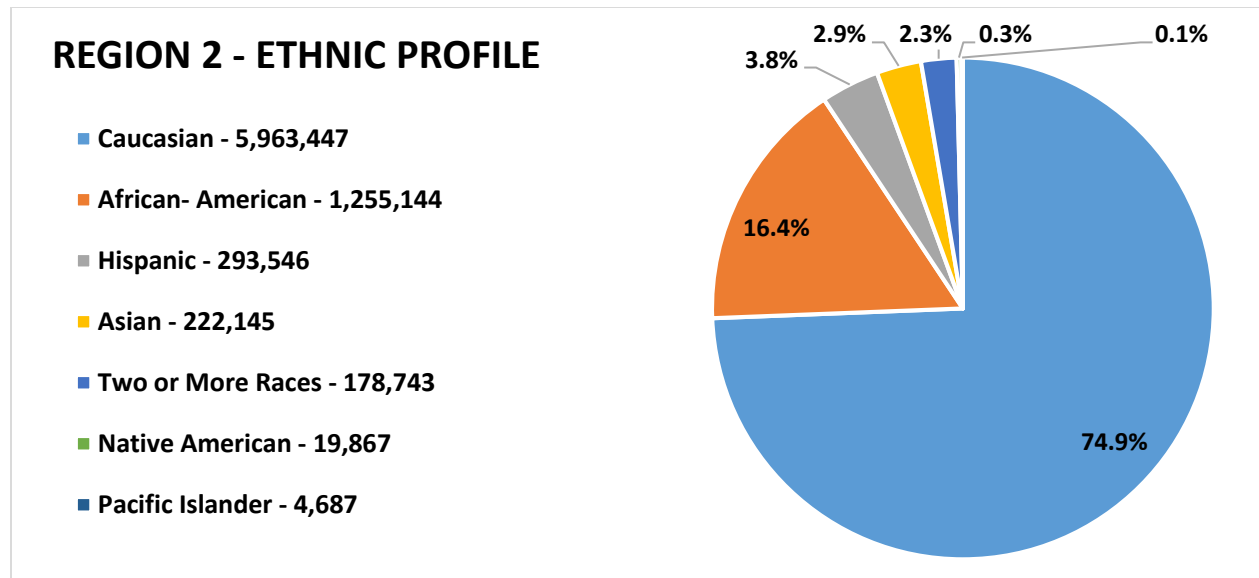


Chart 1.1.w

AGE PROFILES

The median age in Region 2 is 39.5. The age population categories which require the most care after a disaster event are the under 5 years of age and over 65 years of age. The percentage of children under the age of 5 is about the same throughout Region 2 counties with percentages ranging from a low of 4.6 percent in Portage County to a high of 7.2 percent in Franklin County. The percentage of people 65 years of age and older is also consistent with percentages ranging from a low of 11.2 percent in Union County to a high of 18 percent in Richland County (Chart 1.1.x).

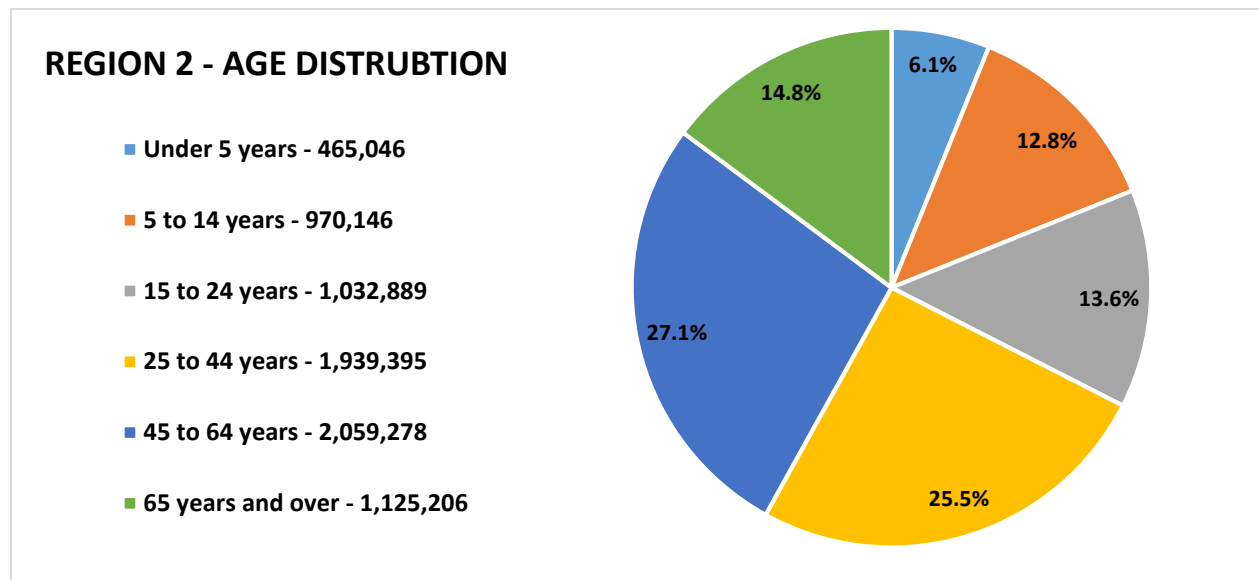


Chart 1.1.x

REGIONAL ECONOMY

Trade, transportation, and utilities are the region's principal economic sector. Other sectors, in order of economic importance, include (2) education & health services, (3) professional & business services, (4) manufacturing, and (5) leisure & hospitality (Table 1.1.y).

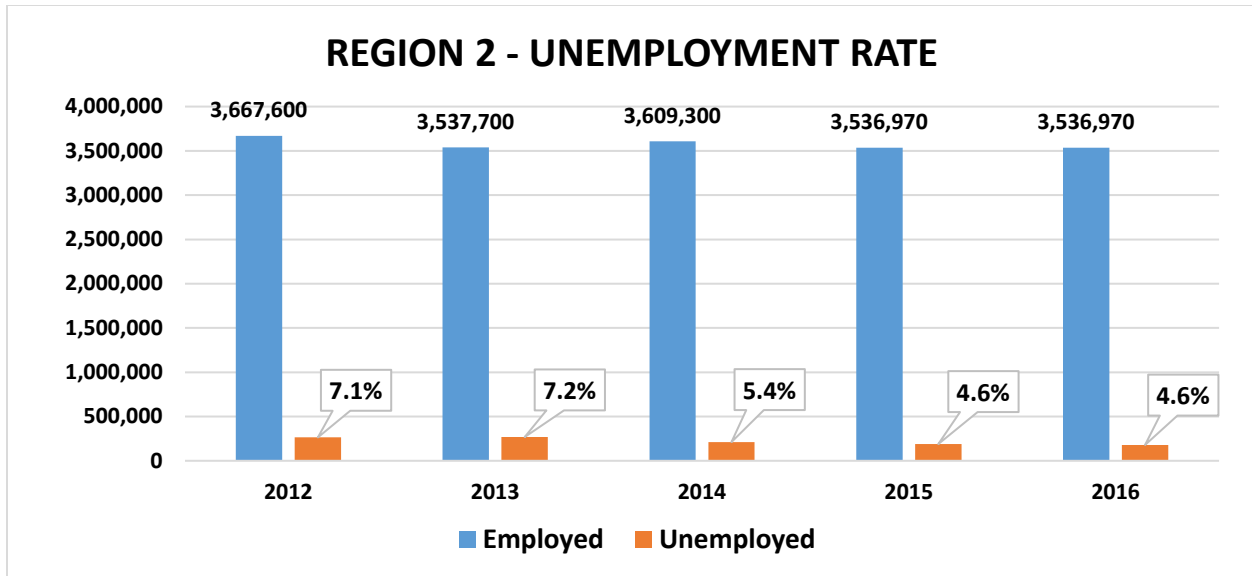
REGION 2 EMPLOYMENT AND WAGES BY SECTOR - 2016					
Industrial Sector	Avg. Establishment #	Average Employment	Total Wages	Avg. Weekly Wage	Annual Avg. Pay
Private Sector	181,079	3,220,086	\$158,026,634,922	\$832	\$43,271
Goods Producing	25,016	555,616	\$33,473,616,428	\$1,092	\$56,788
Natural Resources & Mining	986	10,860	\$456,778,368	\$758	\$39,390
Construction	14,011	138,150	\$7,992,588,068	\$1,035	\$53,803
Manufacturing	10,023	406,604	\$25,024,249,992	\$1,115	\$57,958
Services-Providing	156,065	2,664,473	\$124,553,018,494	\$739	\$38,403
Trade, Transportation & Utilities	41,373	684,948	\$28,374,382,400	\$709	\$36,865
Information	2,641	54,646	\$3,782,499,509	\$1,034	\$53,772
Financial Services	19,439	221,795	\$15,545,488,310	\$1,035	\$53,792
Professional & Business Services	35,114	559,625	\$36,036,405,318	\$955	\$49,632
Education & Health Services	22,621	642,552	\$29,518,603,941	\$761	\$39,596
Leisure & Hospitality	18,600	390,901	\$7,685,172,855	\$306	\$15,907
Other Services	15,869	109,560	\$3,592,961,991	\$553	\$28,750
Federal Government	821	63,751	\$4,921,759,094	\$1,221	\$63,474
State Government	546	87,616	\$5,730,220,090	\$1,029	\$53,494
Local Government	5,802	321,989	\$15,472,310,188	\$766	\$39,836
Total	550,006	10,133,172	\$500,186,689,968	\$871.08*	\$45,295.73*

*Shows average not total

Table 1.1.y

The region contains the Cleveland-Columbus Cincinnati corridor which follows Interstate 71. Interstate 71 bisects the region from southwest to northeast and links to other freeways leading to both the Midwestern parts of the county and the eastern seaboard. Region 2 has a strong logistics industry and contains the majority of the state's rail lines with several intermodal sites. Region 2 also is home to many of the largest universities and colleges, which are typically clustered near the larger metropolitan statistical areas. This accounts for the slight employment increase in the education and health sectors as many of the universities are associated with the hospitals which are also teaching facilities. The region is home to aerospace and defense industries such as General Electric Aircraft Engines in Cincinnati, and Wright-Patterson Air Force Base in Dayton. While not addressed in the Bureau of Labor Statistics data, agriculture is an important economic driver in Region 2.

Region 2's unemployment rates have decreased from a high in 2012 of 7.1 percent to a low of 4.6 percent in 2016 (Graph 1.1.z).



Graph 1.1.z

The median annual household income in Region 2 is \$55,596, which exceeds that of the state (\$48,446). There are 13.1 percent of people living at or below the poverty level in Region 2, this is less than the state on average (15.3 percent). The Region 2 counties that have comparatively high numbers of people living below the poverty level include: Cuyahoga, Montgomery, Fayette, and Hamilton. These counties may warrant special consideration in pre- and post- disaster planning (Chart 1.1.aa).

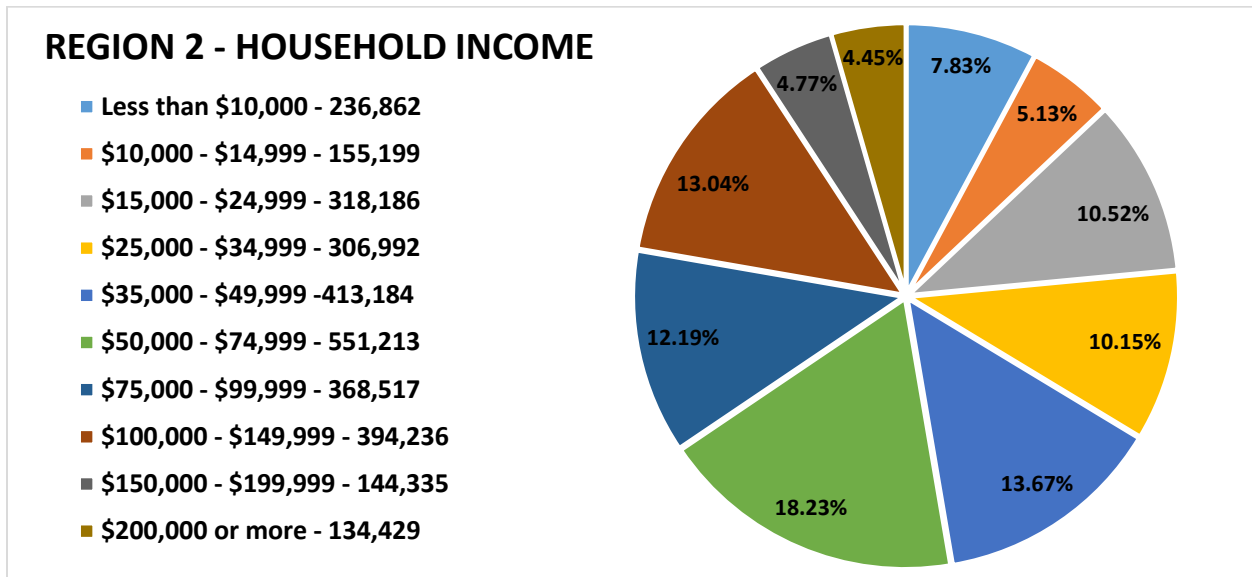


Chart 1.1.aa

HOUSING

About one half of Region 2’s housing stock was constructed prior to 1968, when the National Flood Insurance Program was created. This implies that a large number of houses constructed in the region’s floodplains do not have adequate flood protection. Most of the homes in Region 2 are owner occupied

(64.2 percent), as opposed to those occupied by renters (35.71 percent). The number of vacant homes is relatively low (11.5 percent), but livability of these vacant homes is unknown (Chart 1.1.bb).

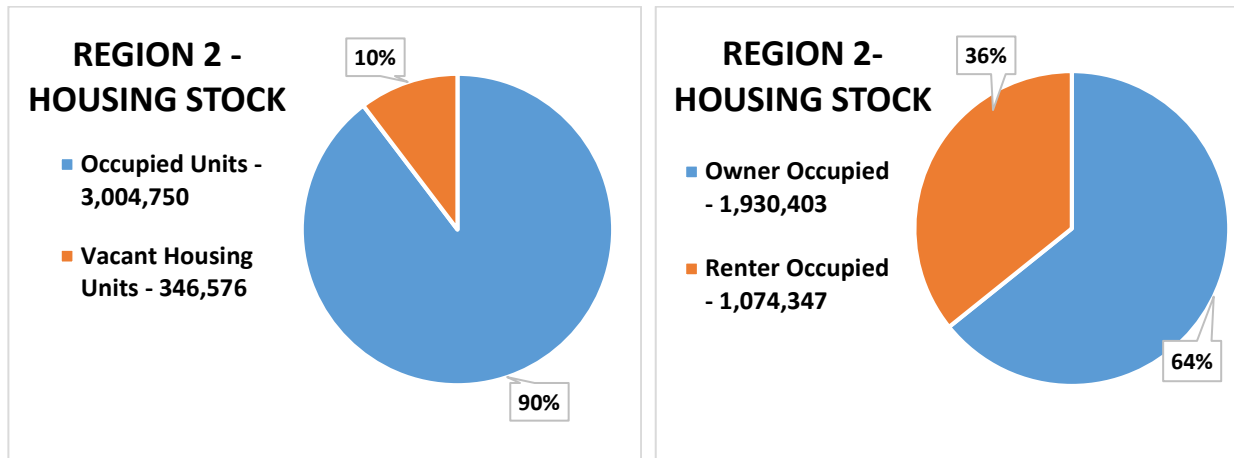


Chart 1.1.bb

TRANSPORTATION

Region 2 has a well-developed transportation system, which includes 14 Class A airports and at least one commercial airport in every county. Geauga and Knox Counties are the only Region 2 counties that do not have interstate highways. All counties are served by the U.S. Highway system and a variety of rail lines. The region possesses both lake and river port facilities (Table 1.1.cc).

REGION 2 TRANSPORTATION SYSTEMS						
Counties	Interstate Highways	U.S. Highways	Rail Lines	Class A Airports	Total Airports	Lake ports/ River ports
Ashland	X	X	3		2	
Butler	X	X	3		3	
Clinton	X	X	1	1	3	
Cuyahoga	X	X	7	3	4	1
Delaware	X	X	2		2	
Fairfield	X	X	2		2	
Franklin	X	X	4	3	7	
Gauga		X	1		2	
Green	X	X	1	*	1	
Hamilton	X	X	6	1	2	6
Knox		X	1		3	
Lake	X	X	2	1	2	1
Licking	X	X	3		2	
Lorain	X	X	4		5	1
Madison	X	X	4		1	
Medina	X	X	3		3	
Montgomery	X	X	3	1	7	

Pickaway	X	X	3		2	
Portage	X	X	4		2	
Richland	X	X	4	1	4	
Stark	X	X	5	1	3	
Summit	X	X	6	2	5	
Union		X	1		1	
Warren	X	X	5		2	
Wayne	X	X	5		1	

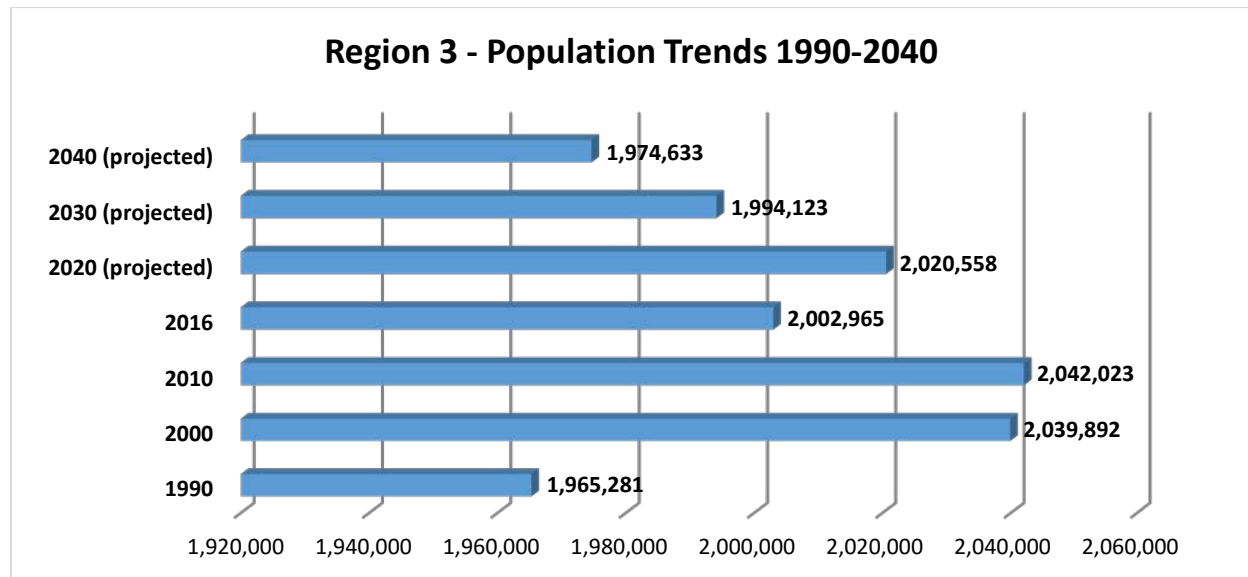
Table 1.1.cc – * Wright Patterson Airforce Base is not a commercial airport

REGION 3

Region 3 is defined largely as the Appalachian region of Ohio. This region consists largely of the Appalachian foothills, and also is the area of the state that has the most exposure to the Ohio River, a significant flooding source in the state.

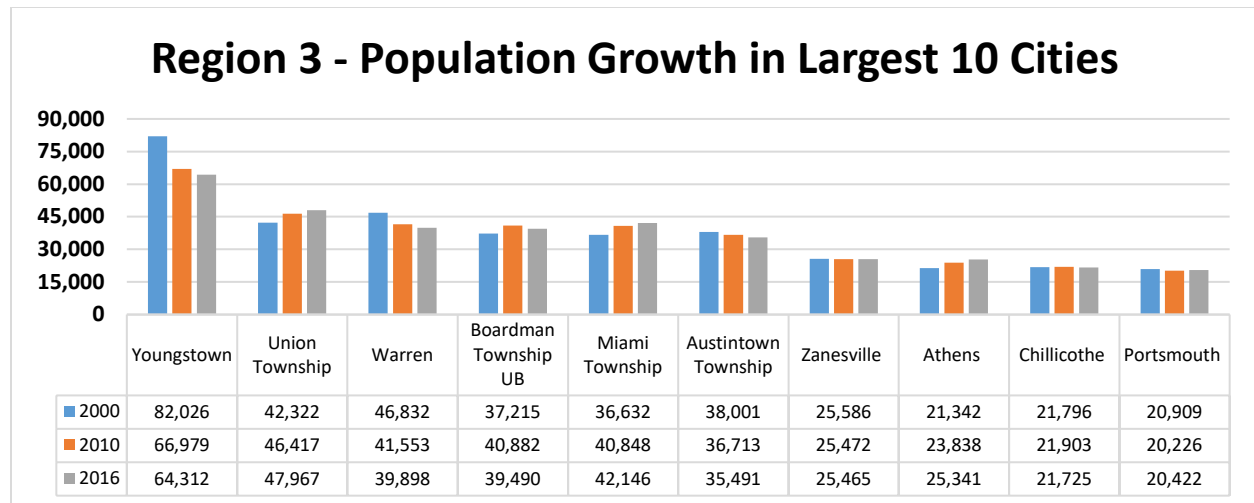
GENERAL POPULATION

The population of Region 3 in 2016 was 2,002,965, approximately 17% of the total population of Ohio, per the 2016 ACS. The region experienced a minor decrease of 36,927 people over a 16-year period (Graph 1.1.dd).

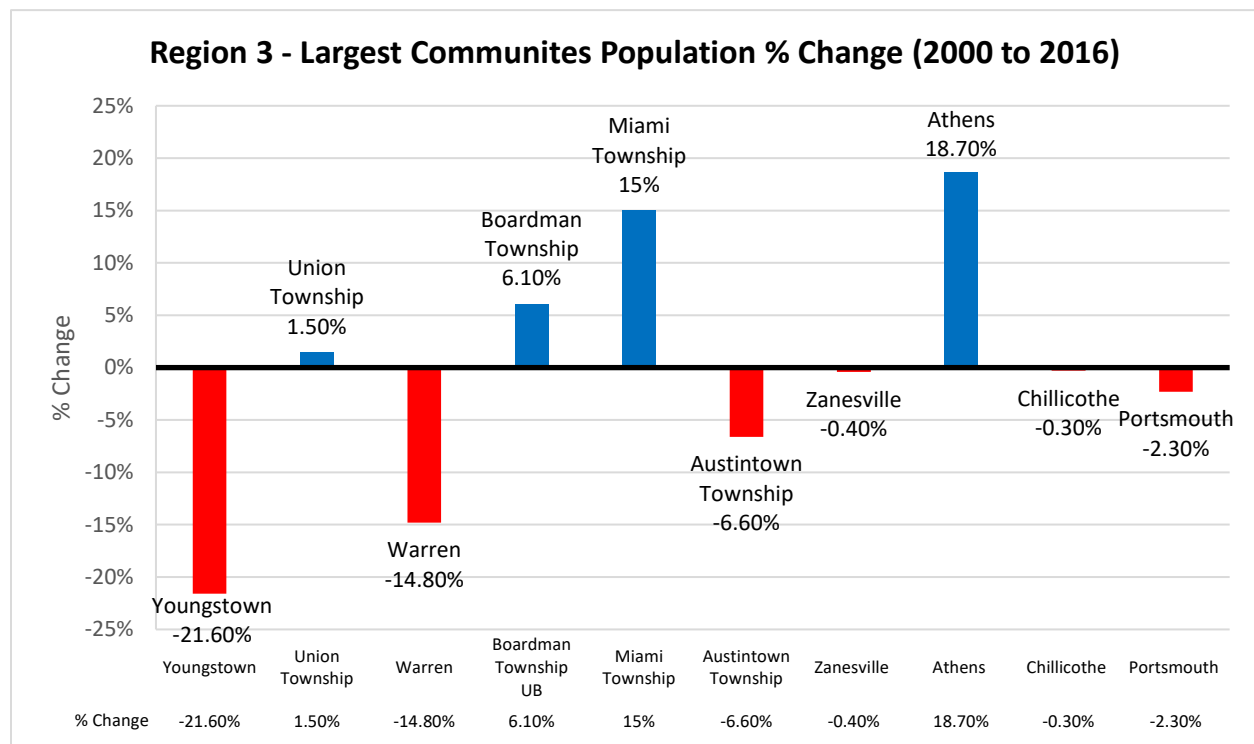


Graph 1.1.dd (projects based upon 2010 census)

The region as a whole has seen a minor decrease in population, the majority of the region’s largest cities and areas have experienced larger losses in population between 2000 and 2016 (see Graph 1.1.dd). The greatest percentage loss of population occurred in Youngstown (Mahoning) with the city losing 21.6 percent of its population, while the greatest percentage increase in population occurred in Athens (Athens) gaining 18.7 percent (Graphs 1.1. ee & 1.1. ff).



Graph 1.1. ee



Graph 1.1. ff

SPECIAL POPULATIONS

There is a significant part of the population in Region 3 that could require higher levels of assistance before and after a disaster occurs. These special population groups include: infant children, elderly, non-English speaking, convalescing, assisted living, and inmate populations.

CONVALESCING AND ASSISTED LIVING POPULATIONS

The convalescing and assisted living populations include hospitals, and nursing homes. There are 209 nursing homes and 49 hospitals in Region 3 with a total of 24,654 beds. There also are three psychiatric

hospitals in the region. Although these facilities have their own contingency plans, they coordinate with state, county, and local hazard mitigation planning efforts.

INMATE POPULATIONS

Region 3 also contains nine prisons, which are spread across the region. The inmate population is 15,497, with Ross and Belmont Counties holding the largest percentage of inmates.

ETHNIC / POVERTY LEVEL CONSIDERATIONS

Approximately 90.9% of the Region 3 is Caucasian. This leaves a total minority population of 178,573, the total minorities category is computed by subtracting the non-Hispanic-one-race-only whites from the total population. The African-American (4.4 percent) and Hispanic (2.0 percent) populations in Region 3 are comparatively small. The largest percentages of African Americans reside in Mahoning, Trumbull, and Ross counties. The majority of Hispanics reside in Mahoning, Ashtabula, and Clermont counties. Twenty- eight of the thirty-two counties within the region exceed the state’s average poverty level (15.3 percent) with Athens County having highest poverty level in the state (33 percent). Counties that are below the poverty level face potentially severe implications of ensuring that mitigation actions are implemented and often must depend on outside resources (Chart 1.1.gg).

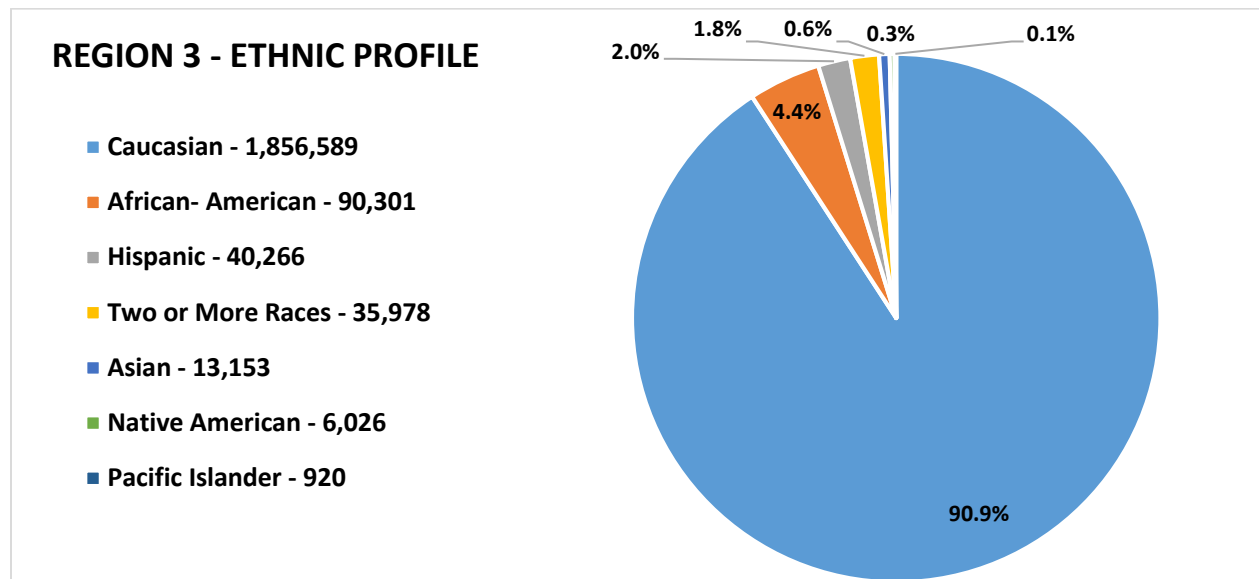


Chart 1.1.gg

AGE PROFILES

The median age in Region 3 is 41.3 years, which does not vary significantly from that in Region 1 or Region 2. The two populations, which often require special attention during disaster times are children under the age of 5 and those over the age or 65. At present, approximately 5.6 percent of the region’s population is less than 5 years of age and 17.24 percent of the population is 65 or older. Within the region Trumbull and Mahoning counties contain the largest population 65 years or older. Clermont County contains the highest number of population under the age of 5 (Chart 1.1.hh).

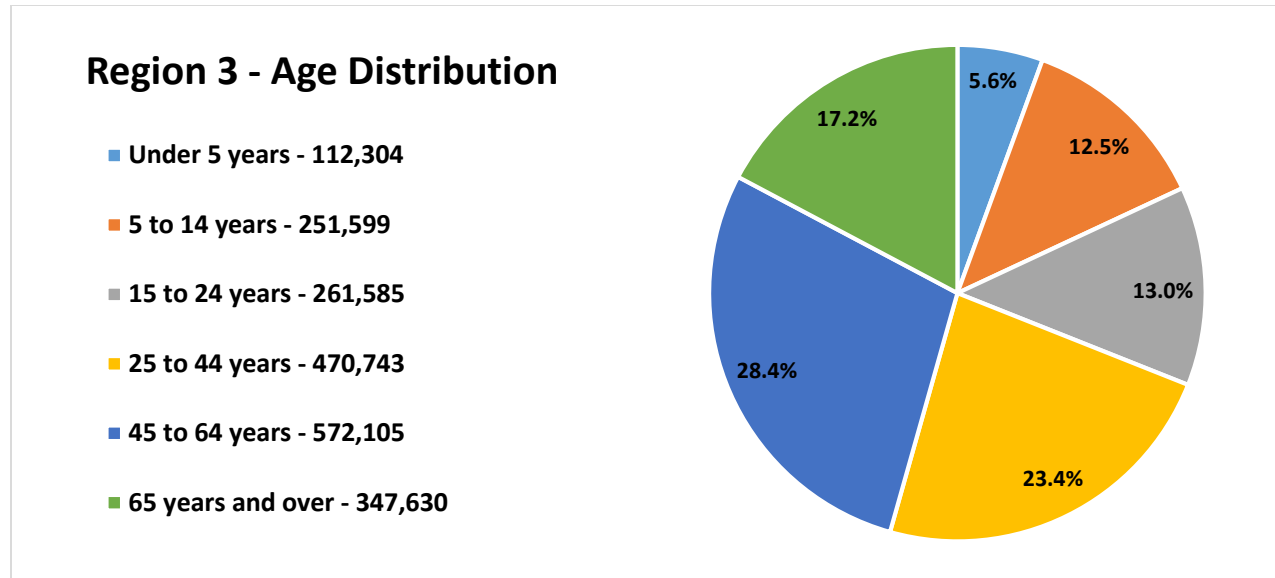


Chart 1.1.hh

REGIONAL ECONOMY

Trade, transportation, and utilities are the region’s principal economic sector. Other sectors, in order of economic importance, include (2) health care, (3) professional & business services, (4) leisure and hospitality, and (5) construction (Table 1.1.ii).

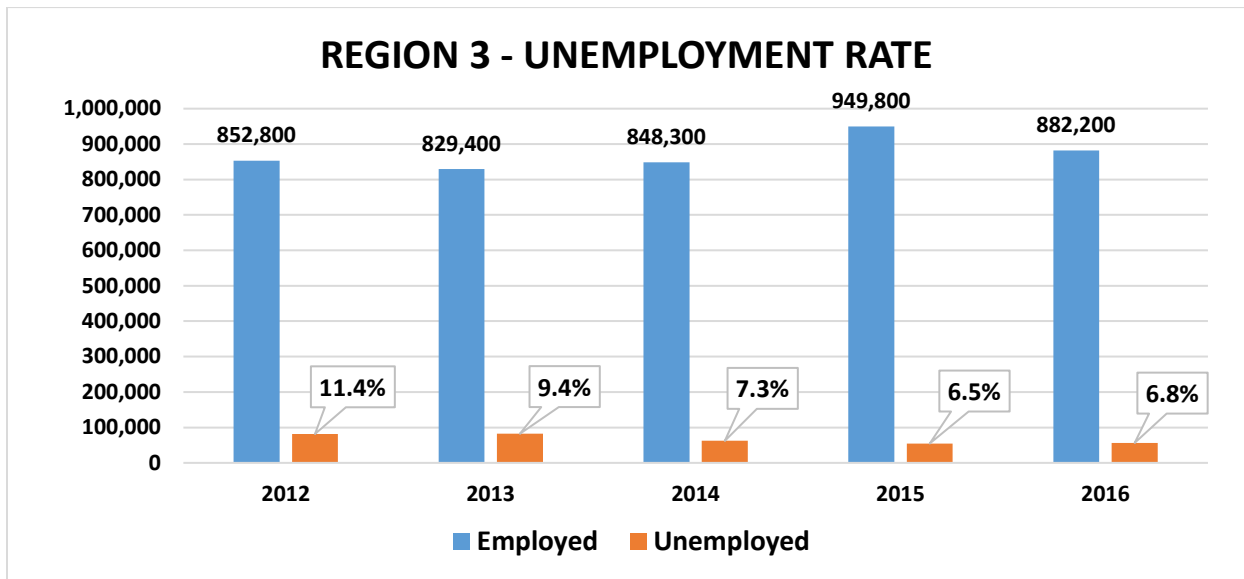
REGION 3 EMPLOYMENT AND WAGES BY SECTOR - 2016					
Industrial Sector	Avg. Establishment #	Average Employment	Total Wages	Avg. Weekly Wage	Annual Avg. Pay
Private Sector	33,115	469,459	\$17,637,738,630	\$691	\$35,918
Goods Producing	6,210	108,578	\$5,635,824,163	\$947	\$49,267
Natural Resources & Mining	637	5,644	\$299,016,240	\$860	\$44,721
Construction	3,441	25,259	\$1,283,591,263	\$919	\$47,772
Manufacturing	2,137	77,153	\$4,027,941,773	\$891	\$46,343
Services-Providing	26,904	360,884	\$12,001,914,467	\$600	\$31,190
Trade, Transportation & Utilities	8,422	117,855	\$4,012,257,295	\$627	\$32,603
Information	370	5,316	\$281,441,303	\$720	\$37,461
Financial Services	3,052	19,081	\$892,839,264	\$777	\$40,395
Professional & Business Services	4,279	44,504	\$1,831,576,148	\$720	\$37,429
Education & Health Services	4,360	98,183	\$3,728,667,396	\$652	\$33,927
Leisure & Hospitality	3,450	59,848	\$842,368,865	\$256	\$13,315
Other Services	2,945	15,967	\$408,676,408	\$443	\$23,027
Federal Government	422	6,348	\$383,777,816	\$1,014	\$52,708
State Government	274	11,418	\$602,954,195	\$981	\$50,988
Local Government	2,412	69,662	\$2,655,536,216	\$693	\$36,031
Total	102,430	1,495,159	\$56,526,121,442	\$736.89*	\$38,318.60*

*Shows average not total

Table 1.1.ii

The 2010-2015 boom in the oil and gas industries in the state has slowed due to a number of reasons. Per the Ohio Oil and Gas Association, the number of oil and gas permits dropped by 44 percent in 2016. There were 561 permits issued in 2016, down from 997 in 2015. The drop is even more severe when compared with 2014, when there were 1,659 permits issued by state regulators at the peak of the state’s Utica shale-driven boom in oil and natural gas extraction: Last year’s 561 permits marks a 66 percent drop from 2014. This slowdown has caused the drop in the number of construction jobs in Region 3 from previous years. While not addressed in the Bureau of Labor Statistics data, agriculture is an important economic factor in Region 3.

Regional unemployment rates fluctuated between 2012 and 2016, from a high of 11.4% in 2012 to a low of 6.5% in 2015 (Graph 1.1.jj).



Graph 1.1.jj

In 2016, the median household income in Region 3 was \$43,441 which is considerably lower than the state (\$49,492) and national (\$52,334) median incomes (Chart 1.1.kk).

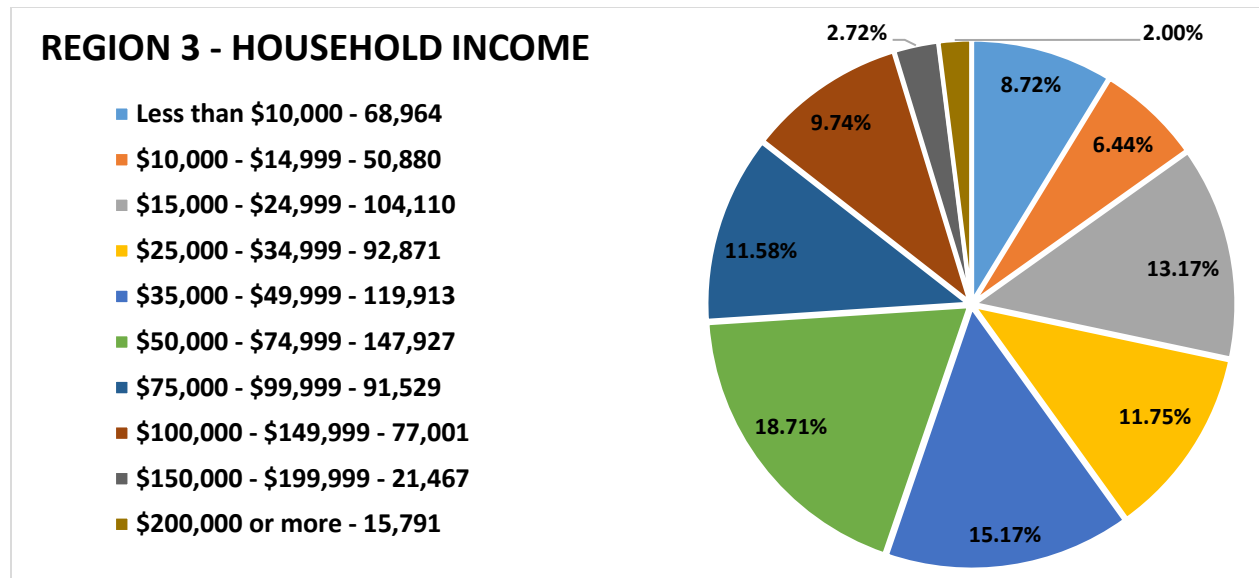


Chart 1.1.kk

HOUSING

There were 897,382 housing units in Region 3 (Chart 1.1.ii). The majority of the homes (71 percent) are owner-occupied and about 29 percent are rentals. Of the housing stock 12 percent of the region’s stock was vacant. According to the Ohio DSA, 71 percent of the region’s housing stock was built before 1970, which indicates most construction occurred prior to the creation of the National Floodplain Insurance Program (NFIP).

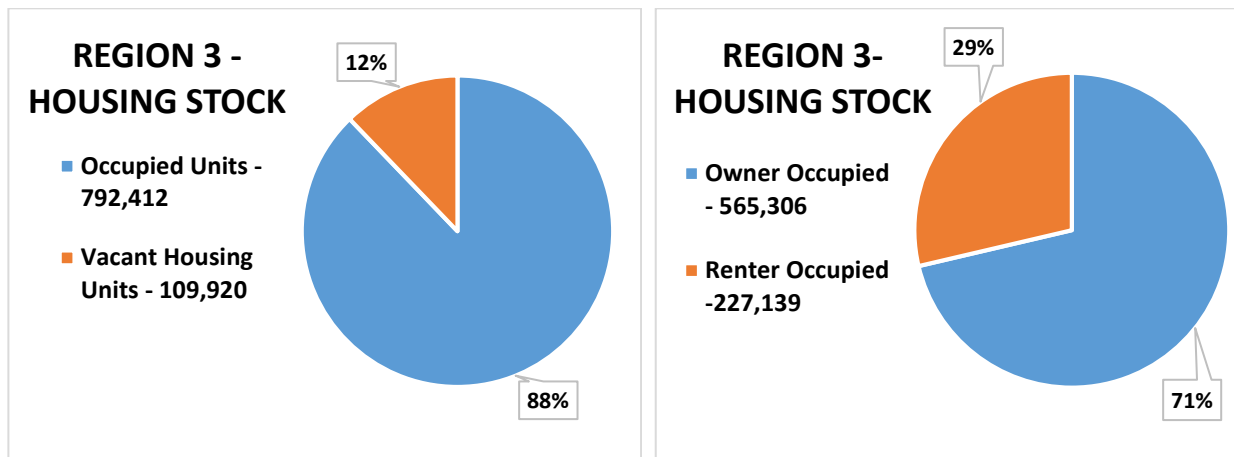


Chart 1.1.ii

TRANSPORTATION

Table 1.1.mm provides a general overview of Region 3 transportation systems, which include interstate highways, U.S. highways, rail lines, airports, and river ports. There is one Class A airport in the Region located in Trumbull County. Nine of thirty-two counties are served by the interstate system, but most counties have at least one U.S. highway. A major rail line serves all counties except Noble and Morgan counties. Seven counties have ports along the Ohio River and one county (Ashtabula) has Lake Erie Ports.

REGION 3 TRANSPORTATION SYSTEMS

Counties	Interstate Highways	U.S. Highways	Rail Lines	Class A Airports	Total Airports	Lake ports/ River ports
Adams		X	1		1	
Ashtabula	X	X	4		2	2
Athens		X	2		1	
Belmont	X	X	2		3	1
Brown		X	1		1	
Carroll			3		2	
Clermont	X	X	2		1	
Columbiana		X	3		2	4
Coshocton		X	1		2	
Gallia		X	2		1	1
Guernsey	X	X	1		2	
Harrison		X	3		1	
Highland		X	1		1	
Hocking		X	3			
Holmes		X	2		1	
Jackson		X	1		1	
Jefferson		X	4		2	1
Lawrence		X	1		1	2
Mahoning	X	X	4		5	
Meigs		X	2			
Monroe			1		1	
Morgan					1	
Muskingum	X	X	4		2	
Noble	X				1	
Perry		X	3		1	
Pike		X	3		1	
Ross		X	4		1	
Scioto		X	2		1	3
Trumbull	X	X	4	1	3	
Tuscarawas	X	X	4		1	
Vinton		X	1		1	
Washington	X	X	1			2

Table 1.1.mm

1.2 PLANNING PROCESS

According to 44CFR 201.4(c)(1) Ohio’s hazard mitigation plan must provide a “Description of the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how other agencies participated.”

The SOHMP was initially developed in 2005 and was subsequently updated in 2008, 2011, 2012, and 2014. The process used for the initial plan development and subsequent updates are summarized in the 2014 version of the SOHMP.

The first Ohio EMA Mitigation Branch meeting regarding the 2019 plan update occurred prior to applying for a PDM grant to update the document in February 2017. Bi-weekly Mitigation Branch meetings to monitor plan update status started in July 2018 and continued until the draft mitigation plan document was completed in late April 2019. The 2019 SOHMP update process is summarized below.

The Ohio EMA Mitigation Branch is the primary author of the plan. The team that authored the 2019 plan update is:

2019 State of Ohio Hazard Mitigation Plan Primary Authors	
Name	Title
Steve Ferryman, CFM	Mitigation Branch Chief, State Hazard Mitigation Officer
Jacob Hoover, AICP, CFM	Mitigation Branch Supervisor
Luan Nguyen	State Hazard Mitigation Planner
Gary Penn	GIS Database Administrator
Maeve Hogel	Mitigation Branch Intern
Alex Strawser	Mitigation Branch Intern

Although this team was primarily responsible for authoring the plan text, many different people, organizations and agencies contributed to the plan direction, content, and review. These contributors and their role in the plan update process is outlined below.

STATE HAZARD MITIGATION TEAM (SHMT)

Prior to DMA 2000, Ohio had created a mitigation team, the SHMT, which serves two primary functions: To provide input / score applications for FEMA mitigation programs and to provide general input on the State of Ohio’s hazard mitigation policies. Today the SHMT continues to meet and is the lead advisory group involving mitigation project scoring and mitigation policy – which includes mitigation planning issues. The SHMT members provided general direction in some areas of the plan, reviewed and edited the plan text, and contributed mitigation action items.

Currently, the SHMT includes the following entities:

State Hazard Mitigation Team (2019)	
Agency	Name
Ohio EMA - Recovery Branch	Brigitte Bouska
Ohio DNR - Division of Water Resources	Dena Barnhouse
Ohio DNR - Division of Water Resources	Alicia Silverio
Ohio Development Services Agency	Timothy Allen
Ohio Public Works Commission	Linda Bailiff
Ohio Department of Administrative Services	Traci Heyer
Muskingum Watershed Conservancy District	Boris Slogar
US Army Corps of Engineers-Buffalo	Laura Ortiz
US Army Corps of Engineers-Huntington	Ashley Stephens
US Army Corps of Engineers-Huntington	JoAnn Combs
US Army Corps of Engineers-Louisville	Brandon Brummett
FEMA Region V	Pam Broviak
Emergency Management Association of Ohio	Sean Miller, Delaware Co. EMA
US Geological Survey	Dave Straub
Ohio EMA - Mitigation Branch (non-voting)	Steve Ferryman
Ohio EMA - Mitigation Branch (non-voting)	Jacob Hoover
Ohio EMA - Mitigation Branch (non-voting)	Keven Clouse
Ohio EMA - Mitigation Branch (non-voting)	Dan Clevidence
Ohio EMA - Mitigation Branch (non-voting)	Sharon Rolf
Ohio EMA - Mitigation Branch (non-voting)	Luan Nguyen
Ohio Voluntary Organizations Active in Disaster	Erin Cordle

EMERGENCY SUPPORT FUNCTION (ESF) PARTNERS

The Emergency Support Function Partners meet quarterly at Ohio EMA. These partners facilitate state agency support and input into the SOHMP. Current ESF Partner Leads are:

Emergency Support Function Leads (2017)		
Emergency Support Function	Agency	Name
#1 - Transportation	Ohio Dept. of Transportation	Leslie Bricker
#2 – Communications & I.T.	Ohio EMA	Dave Ford
#3 – Engineering & Public Works	Ohio DNR	Doug Johnson
#4 – Firefighting	Commerce/State Fire Marshall	Jeff Hussey
#5 – Information & Planning	Ohio EMA	Tyler Kempf
#6 – Mass Care	Ohio EMA	Rhonda Meggitt
#7 – Resources & Logistics	Ohio Dept. of Admin. Services	Jennifer Shaefer
#8 – Public Health & Medical	Ohio Dept. of Health	Tamara McBride
#9 – Search & Rescue	Ohio DNR	Doug Johnson
#10 – Hazardous Materials	Ohio EPA	Jim Mehl
#11 – Agriculture	Ohio Dept. of Agriculture	Terri Gerhardt
#12 – Energy	Public Utilities Comm. of Ohio	Lowell Miller
#13 – Law Enforcement	Dept. of Public Safety	Ken Kocab

#14 – Recovery & Mitigation	Ohio EMA	Laura Adcock-Elder
#15 – External Affairs	Ohio EMA	Jay Carey

The agencies that are part of ESF #14 have authority, programs, funding and expertise to supplement local mitigation and recovery actions after an event. The SOHMP update was coordinated with ESF #14 Partners. These agencies provided data that was incorporated into the state mitigation capability assessment. ESF#14 support agencies also contributed mitigation action items to the plan and provided review and comment on the document.

Current ESF #14 Partners are:

ESF #14 – Mitigation and Recovery Partners (2017)	
Adjutant General	Ohio Facilities Construction Commission
American Red Cross	Ohio Homeland Security
Board of Regents/Dept. of Education	Ohio Hospital Association
Corporation for National and Community Service	Ohio Housing Finance Agency
Department of Administrative Services	Ohio Public Works Commission
Ohio Attorney General’s Office	Ohio Rail Development Commission
Department of Aging	Ohio Rural Electric Cooperatives
Department of Agriculture	Ohio Statewide Independent Living Council
Department of Commerce	Ohio Treasurer of State
Department of Developmental Disabilities	Secretary of State
Department of Health	Ohio VOAD
Department of Insurance	Ohio Water Development Authority
Department of Job and Family Services	Public Utilities Commission of Ohio
Department of Medicaid	Salvation Army
Department of Mental Health & Addiction	U.S. Small Business Administration
Ohio Department of Natural Resources	State Historic Preservation Office
Ohio Department of Public Safety	U.S. Army Corps of Engineers
Ohio Department of Rehabilitation and	U.S. EPA
Ohio Department of Transportation	National Oceanic and Atmospheric Adm.
Department of Veteran’s Services	U.S. Department of Interior
Development Services Agency	U.S. Coast Guard
Ohio Emergency Management Agency	U.S. Fish and Wildlife
Emergency Management Association of Ohio	U.S. Geological Survey
Ohio Environmental Protection Agency	U.S. Housing and Urban Development
FEMA	U.S.D.A. Nat. Res. Conservation Service
Ohio Arts Council	U.S.D.A. Farm Services Agency
Office of Budget and Management	U.S.D.A. Rural Development
Ohio Commission on Service and Volunteerism	

THE OHIO SILVER JACKETS TEAM

The Ohio Silver Jackets Team is an interagency team dedicated to creating a collaborative environment to bring together all levels of government and other stakeholders to mitigate natural hazards by effectively combining available agency resources, programs, and technical expertise. The Ohio Silver Jackets team has funded multiple projects that were prioritized in the 2014 SOHMP. Some examples include: loss avoidance studies, HAZUS runs, and floodplain mapping projects. The Ohio Silver Jackets Team meets

quarterly and for the 2019 SOHMP update provided hazard specific technical expertise, mitigation action items, and overall plan review.

2019 PLAN UPDATE AND ADOPTION PROCESS

Agencies from all levels of government and multiple non-profits participated in the 2019 SOHMP. The public was given multiple opportunities to review and comment on the draft plan. Efforts were also made to solicit input and comments from businesses and the private sector through the Ohio Public Private Partnership. Following is a brief outline of the process followed to update and adopt the 2019 SOHMP.

STEP 1: REVIEW THE EXISTING STATE MITIGATION PLAN, OTHER PLANS, AGENCY GOALS AND OBJECTIVES, TRENDS, ETC.

The 2014 Enhanced SOHMP was reviewed to determine areas of focus for the 2019 SOHMP update. It was determined that the entire document would be updated with a focus on:

- Reducing the size of the plan by eliminating outdated and extraneous information, and
- Creating an interactive digital summary of the SOHMP to increase public awareness of the document.

STEP 2: APPLY FOR PRE-DISASTER MITIGATION GRANT

The Ohio EMA Mitigation Branch applied for and received a Pre-Disaster Mitigation (PDM) grant from FEMA to help pay for the cost to update the plan and create the digital plan summary.

STEP 3: RESEARCH AND GATHER DATA

Significant time and effort was invested by the Ohio EMA Mitigation Branch to research data needed for the comprehensive plan update. In addition, subject matter experts in specific hazards were consulted and provided data and/or wrote portions of the plans risk analysis. Extensive research of current state mitigation laws, policies, and programs was also conducted to update the state capability portion of the plan document.

STEP 4: CREATE DRAFT PLAN AND OBTAIN STAKEHOLDER INPUT

Ohio EMA Mitigation Branch staff updated plan text based on information and data gathered from research and subject matter experts. Meetings to gather input on the draft document were held with the Ohio EMA Executive Office, the SHMT, ESF partners, and the Ohio Public Private Partnership. A draft version of the plan was also posted on the Ohio EMA website, in conjunction with a press release requesting public review and comment of the draft plan on February 28, 2019. As of April 16, 2019, six comments were received on the draft plan. Public input was evaluated and incorporated into the plan document.

STEP 5: SUBMIT DRAFT SOHMP TO FEMA FOR REVIEW

The draft SOHMP was submitted to FEMA for review and approval as meeting enhanced state mitigation plan requirements. Comments provided by FEMA on their review of the draft plan were incorporated into the final plan document.

STEP 6: SOHMP ADOPTION AND FINAL APPROVAL

The final SOHMP document was adopted according to state law and sent to FEMA for final review and approval. The SOHMP document was approved as meeting FEMA enhanced plan requirements in 44 CFR 201.5. The FEMA approval of the SOHMP as an enhanced plan enables the state to access additional mitigation funds after a major disaster declaration.

1.3 PLAN INTEGRATION WITH OTHER INITIATIVES

Effective state mitigation programs coordinate with various programs and agencies at all levels of government and the private sector to help achieve risk reduction. The Code of Federal Regulations 44 Part 201.4(b)(1) and Part 201.5(b)(1) recommends that state mitigation plans be integrated to the extent possible with 1) ongoing state and/or regional planning efforts, 2) FEMA mitigation programs, and 3) other initiatives that provide guidance to state and regional agencies. The list below identifies some of the many ways the SOHMP and programs are integrated.

LOCAL HAZARD MITIGATION PLANNING

Local entities are encouraged to review the State of Ohio Hazard Mitigation Plan (SOHMP); the state mitigation planner reviews all local plans for consistency with state plan and federal planning requirements. Local plan data will be reviewed and integrated into state plan.

OHIO HOMELAND SECURITY STRATEGIC PLAN

Ohio EMA Mitigation Branch continues to participate in the development of the Ohio Homeland Security strategic plan by ensuring that the plan was consistent with the SOHMP. The Mitigation Branch currently participates on the OHS Strategic Plan Infrastructure and Structural Recovery Advisory Committees.

OHIO EMA STRATEGIC PLAN

The Ohio EMA updates its strategic plan on an annual basis. Different branches, including the Mitigation Branch, formulate branch strategic goals, objectives, and actions. The Ohio EMA Mitigation Branch strategic plan is partially based on actions in SOHMP.

STATE EMERGENCY OPERATIONS PLAN

The Ohio EOP is structured on 15 Emergency Support Functions (ESF) that correspond to the format of the National Response Framework. ESF-14 is titled, Recovery and Mitigation and is updated and maintained by the respective branches.

STATE RECOVERY STRATEGIES

From 2014-2016, state agencies, along with our federal, local and non-governmental organization partners developed five state recovery strategies covering the following areas: 1) economy, 2) infrastructure, 3) housing, 4) health and social services, and 5) natural and cultural resources. All disasters, whether natural or human-caused, require some level of recovery for the impacted survivors, businesses and local governments. These strategies are intended to document the roles and capabilities of local, state, federal and non-governmental agencies in support of recovery efforts. Roles and capabilities can include financial assistance and/or technical assistance. The Mitigation Branch participated in the development of these strategies.

OHIO THREAT HAZARD IDENTIFICATION AND RISK ASSESSMENT

The Ohio EMA Plans Branch is responsible for the development and maintenance of the Ohio Threat Hazard Identification and Risk Assessment (THIRA) and the State Preparedness Report. The Ohio EMA Mitigation Branch participates in the annual update of both documents.

OHIO HAZARD IDENTIFICATION AND RISK ASSESSMENT

The Ohio EMA Plans Branch is responsible for the development and maintenance of the Ohio Hazard

Identification and Risk Assessment (HIRA). The Mitigation Branch participates in the review and update of the HIRA. Data from the Risk Analysis in Section 2 of the SOHMP is used to inform the HIRA.

INTEGRATION WITH OTHER MITIGATION PROGRAMS

CDBG AND HUD SUPPLEMENTAL FUNDS/ OHIO DEVELOPMENT SERVICES AGENCY

The Ohio Development Services Agency (ODSA) works both independently and with Ohio's mitigation programs to provide funding for non-structural mitigation projects in communities with populations of low to moderate income individuals. Such funds may match FEMA mitigation programs or may be used for projects independently. ODSA program staff are members of the SHMT.

OHIO SILVER JACKETS TEAM

Silver Jackets is a U.S. Army Corps of Engineers program that began in Ohio in 2006 and the program is now active in majority states around the country. Silver Jackets is a strategic and collaborative initiative of Federal and state agencies to advance natural hazard risk reduction activities that align with state priorities. The initiative seeks to leverage resources available through all levels of government, the private sector, and Non-Governmental Organizations (NGO's) to identify and implement local solutions to risk vulnerability. The USACE participates on the SHMT and has recently funded multiple action items identified as priorities in the SOHMP with the annual Silver Jackets Program funding. The following link to the Ohio Silver Jackets website contains additional details: <https://silverjackets.nfrmp.us/State-Teams/Ohio>.

NATIONAL FLOOD INSURANCE PROGRAM/ ODNR DIVISION OF WATER RESOURCES, FLOODPLAIN MANAGEMENT PROGRAM

The ODNR Division of Water Resources is the state coordinating entity for the National Flood Insurance Program as well as state floodplain management office. ODNR Coordinates closely with the Ohio EMA Mitigation Branch, and participates on the SHMT. The Floodplain Management Program participates extensively on SOHMP updates. They are responsible for working with Ohio EMA during events and post-flood issues, and coordinating education and outreach for community floodplain administrators.

Staff from ODNR and OHIO EMA collaborate on facilitating Risk MAP in the state. Risk Mapping, Assessment, and Planning (Risk MAP) is the Federal Emergency Management Agency (FEMA) Program that provides communities with flood information and tools they can use to enhance their mitigation plans and take action to better protect their citizens. Through more precise flood mapping products, risk assessment tools, planning and outreach support, Risk MAP strengthens local ability to make informed decisions about reducing risk.

OHIO DAM SAFETY PROGRAM/ ODNR DIVISION OF WATER RESOURCES

The Dam Safety Program has statutory authority for permitting/monitoring dams and levees in Ohio. The DSP provides data for the state plan HIRA and action items into the state mitigation strategy. The DSP coordinates closely with the National Dam Safety Program (NDSP) and has used NDSP grant funds to train state personnel and conduct dam safety awareness workshops.

OHIO BUILDING CODE/ OHIO DEPARTMENT OF COMMERCE

The Ohio Department of Commerce – Board of Building Standards and the Ohio Building Officials Association work on state building codes and issues related to hazards in Ohio. The Ohio Residential Code of Ohio includes provisions for flood hazards and the ODNR – Floodplain Management Program

coordinates closely with them to ensure the Ohio RCO meets federal requirements. The state has utilized information provided in the “Flood Resistant Construction” section of the OBBC to outline expectations of the local jurisdictions, post-disaster, to help them achieve the flood reduction goals.

In 2013, the Ohio Board of Building Standards adopted reference standards in the Residential Building Code of Ohio specific to the construction and/or installation of tornado safe rooms. In 2015, the Ohio EMA Mitigation Branch hired experts from the National Storm Shelter Association to provide training to local and state building code officials on implementation of the ICC 500 standards and FEMA safe room design and construction requirements. Local and state building code officials review plans and inspect construction/installation of residential and community safe rooms. In 2017, the Board of Building Standards adopted the 2017 Ohio Building Code, which included Section 423, which now requires the construction of storm shelters in critical emergency operations structures and Group E occupancies.

OHIO MINE SUBSIDENCE INSURANCE/ OHIO MINE SUBSIDENCE INSURANCE UNDERWRITING ASSOCIATION

Underground mines, some of which have been abandoned for years, can be found in many parts of the state, particularly eastern Ohio. When buildings are constructed above mines, major damage to walls and foundations can occur if the mine collapses. The Ohio Legislature authorized the establishment of the Ohio Mine Subsidence Insurance Underwriting Association (OMSIUA), the Mine Subsidence Governing Board and the Mine Subsidence Insurance Fund in 1985. Ohio Mine Subsidence Insurance is a regional mitigation tool.

FIREWISE/ODNR DIVISION OF FORESTRY

The ODNR – Division of Forestry administers the Firewise program, which is a multi-organizational initiative designed to include not only fire safety professionals, but also homeowners, community leaders, planners, developers, and others in localized efforts to lessen the risk of interface with wildfires. The ultimate goal of this program is to reduce the susceptibility of homes, communities, and structures to wildfire through cooperative education and mitigation techniques. The Division of Forestry contributed to the wildfire portion of the HIRA.

HAZARD MITIGATION ASSISTANCE/ FEMA

FEMA’s hazard mitigation programs are closely coordinated with and consistent with state hazard mitigation efforts. The Ohio EMA Mitigation Branch coordinates the HMA programs at the state level. The HMA programs provide a significant portion of the mitigation funding resources to implement mitigation activities. PDM and HMGP funds are used to partially pay for state and local mitigation plan updates. FEMA Hazard Mitigation Assistance Branch staff are invited to all SHMT meetings.

FLOOD GAUGING AND WARNING/ U.S. GEOLOGICAL SURVEY

The USGS’s Ohio-Kentucky-Indiana Water Science Center assists local entities by entering into cooperative agreements for stream gauging and warning system development. These mitigation activities are identified in numerous local mitigation plans and factor into the state mitigation strategy. The USGS also attends the SHMT meetings and assist the Ohio EMA Mitigation Branch with data development for benefit cost analyses. Finally the USGS also produces reports on significant flood events in cooperation with Ohio DNR and Ohio EMA.

EMERGENCY MANAGEMENT ACCREDITATION PROGRAM

Emergency Management Accreditation Program (EMAP) is a standard-based voluntary assessment and

accreditation process for state and local government. In June 2008, Ohio EMA received EMAP Accreditation for requirements pertaining to a state mitigation program. Ohio EMA received EMAP Re-Accreditation in 2014, and is preparing for the next Re-Accreditation in 2019.

RURAL ELECTRIC COOPERATIVES

Rural electric cooperatives (RECs) are customer owned organizations whose purpose is to deliver electricity to its members. Twenty-five different electric cooperatives serve more than 380,000 homes and businesses in 77 of Ohio's 88 counties. In the 2014 plan update, the Ohio EMA Mitigation Branch worked with the Ohio Rural Electric Cooperative, Inc. to develop an appendix to the SOHMP that includes a risk assessment and identification of projects that will reduce risk to electric infrastructure and expedite recovery efforts.

THE OHIO STATE UNIVERSITY

The Ohio EMA Mitigation Branch has partnered with the Ohio State University, Austin E. Knowlton School of Architecture City and Regional Planning program on several successful initiatives. Every two years, a graduate level planning studio is offered at the university that provides students with an opportunity to work directly with a county emergency management agency to update their countywide hazard mitigation plan. The students gain real world planning experience, and the county gets needed help to update their plan. Fayette County, Perry County, and Guernsey County developed FEMA-approved mitigation plans as a result of this collaboration.

EMERGENCY MANAGEMENT GRANT PROGRAM (EMPG)

Ohio EMA Mitigation Branch staff participate in EMPG exercise requirements and as such can be paid for certain mitigation related activities through the grant. Mitigation Branch staff have helped review applications for EMPG funding in the past and coordinates closely with the Ohio EMA Grants Branch to ensure that there is no duplication of programs and/or benefits.

COMMUNITY RATING SYSTEM (CRS)

The Ohio EMA Mitigation Branch staff recognize the value of the National Flood Insurance Programs CRS as mitigation tool to reward communities that take steps to exceed NFIP minimum standards. The CRS is promoted by Mitigation Branch staff as part of the Introduction to Emergency Management in Ohio Course, Local Mitigation Planning Course, and multiple other trainings throughout the year. Mitigation Branch staff also coordinate closely with the state coordinator for the CRS program at ODNR.

PUBLIC ASSISTANCE CATEGORIES C-G

At the onset of a disaster, the State Recovery Officer and the State Hazard Mitigation Officer coordinate with FEMA staff on how integration of mitigation through the 406 program will occur for that disaster. If it appears that there will be mitigation opportunities as part of the recovery process, the state requests that 406 Specialists are sent to the joint field office to ensure that 406 mitigation opportunities are considered in all Public Assistance worksheets. The need for assistance is outlined in the hazard mitigation strategy for that specific event.

1.4 PLAN MAINTENANCE AND MITIGATION PROJECT MONITORING

44 CFR 201.4(c)(5) requires that state mitigation plans have a maintenance process that includes an established method and schedule for monitoring, evaluating, and updating the plan. The Ohio EMA Mitigation Branch Chief is responsible for the maintenance of the SOHMP. The plan is a living document that is reviewed and updated constantly. The plan is revised if conditions under which the plan was developed change, such as new or revised state policy or a major disaster. At a minimum, the plan is revised and resubmitted for approval to the FEMA Region V Administrator every five years in accordance with 44 CFR 201.4(d).

Since the first SOHMP was developed in 2005, the document has been updated and approved by FEMA four times. The 2019 SOHMP update was authored by multiple staff members of the Ohio EMA Mitigation Branch, with input from the State Hazard Mitigation Team (SHMT), the Ohio Silver Jackets Team, and Emergency Operations Center Emergency Support Function (ESF) partners. The SHMT meets 2-4 times per year depending on the number of major disasters. The Ohio Silver Jackets Team and the ESF partners meet quarterly and on an as-needed basis. These meetings provide Ohio EMA Mitigation Branch staff the opportunity to solicit and incorporate updated information from partners into the SOHMP.

MONITORING PROJECT IMPLEMENTATION

44 CFR 201.4 (c) (5) (ii) requires that a state mitigation plan maintenance process include a description of the system used for monitoring implementation of mitigation measures and project closeouts. The Ohio EMA Mitigation Branch is responsible for monitoring implementation of mitigation projects under HMGP, PDM, and FMA. Review of implementation progress occurs quarterly with the submission of quarterly reports. These reports are verified by monitoring visits conducted by Ohio EMA Mitigation Branch staff. Details of the extensive monitoring and project closeout process program can be found in the Administrative Plan attached in Appendix H.

FEMA has determined that the SOHMP meets enhanced plan criteria in 44 CFR 201.5. Since the enhanced plan designation results in additional mitigation funds being made available to the state after a disaster, the enhanced plan criteria includes an evaluation of the state's grant management performance. The last FEMA Region V evaluation of Ohio's HMA grant management performance determined that Ohio EMA:

- Effectively use existing mitigation programs to achieve mitigation goals,
- Meets grant application deadlines,
- Maintains the capability to prepare and submit accurate environmental reviews and benefit-cost analyses,
- Submits complete and accurate quarterly progress and financial reports, and
- Completes projects within established performance periods, including financial reconciliation.

SHARPP contains an inventory of mitigation projects completed in the State of Ohio with HMA grant funding: <https://sharpp.dps.ohio.gov/OhioSHARPP/MitigationProjects.aspx>.

The Ohio EMA Mitigation Branch also monitors the implementation of mitigation actions identified in Section 3 of this plan. The status of mitigation actions identified in the plan is constantly tracked by the Mitigation Branch. Updates from state agencies with mitigation action items listed in this plan are discussed during meetings of the SHMT, Ohio Silver Jackets, and ESF partner meetings. The final status of mitigation action items identified in the previous version of the SOHMP can be found in Appendix E.

1.5 COMPLIANCE WITH FEDERAL LAWS AND REGULATIONS

44 CFR 201.4(c)(7) indicates that the SHMP must include assurances that the state will comply with all applicable Federal statutes and regulations in effect with respect to the periods for which it receives grant funding, in compliance with 2 CFR Parts 200 and 3002. Through the development and enforcement of this plan, the State of Ohio will comply with all provisions in 44 Code of Federal Regulations, Part 200 and 3002. Additionally, the assurances listed below are provided as documentation that the state or any subsequent sub-recipients that receive federal grant funds will comply with all applicable Federal statutes and regulations. The state will amend the plan whenever necessary to reflect changes in federal statutes and regulations or material changes in state law, organization, policy or state agency operations.

To the extent the following provisions apply to the award of assistance:

- a) Recipient possesses legal authority to enter into agreements and to execute the proposed programs;
- b) Recipient's governing body has duly adopted or passed as an official act a resolution, motion or similar action authorizing the execution of hazard mitigation agreements, including all understandings and assurances contained therein, and directing and authorizing the Recipient's chief administrative officer or designee to act in connection with any application and to provide such additional information as may be required;
- c) No member of or delegate to the Congress of the United States, and no Resident Commissioner, shall be admitted to any share or part of any agreement or to any benefit to arise from the same. No member, officer, or employee of the Recipient or its designees or agents, no member of the governing body of the locality in which the program is situated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the program during his tenure or for one year thereafter, shall have any interest direct or indirect, in any contract or subcontract, or the proceeds thereof, for work to be performed in connection with the program assisted under this plan. The Recipient shall incorporate or cause to be incorporated, in all such contracts or subcontracts, a provision prohibiting such interest pursuant to the purpose state above;
- d) All Recipient contracts for which the State Legislature is in any part a funding source, shall contain language to provide for termination with reasonable costs to be paid by the Recipient for eligible contract work completed prior to the date the notice of suspension of funding was received by the Recipient. Any cost incurred after the Recipient receives a notice of suspension or termination may not be funded with funds provided under a grant agreement unless previously approved in writing by the Department. All Recipient contracts shall contain provisions for termination for cause or convenience and shall provide for the method of payment in such event;
- e) Recipient will comply with:
 - a. Contract Work Hours and Safety Standards Act of 1962, 40 U.S.C. 327 et seq., requiring that mechanics and laborers (including watchmen and guards) employed on federally assisted contracts be paid wages of not less than one and one-half times their basic wage rates for all hours worked in excess of forty hours in a work week; and
 - b. Federal Fair Labor Standards Act, 29 U.S.C. Section 201 et seq., requiring that covered employees be paid at least the minimum prescribed wage, and also that they be paid one and one-half times their basic wage rates for all hours worked in excess of the prescribed work-week.

- f) Recipient will comply with:
 - a. Title VI of the Civil Rights Act of 1964 (P.L. 88-352), and the regulations issued pursuant thereto, which provides that no person in the United States shall on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Recipient receives Federal financial assistance and will immediately take any measures necessary to effectuate this assurance. If any real property or structure thereon is provided or improved with the aid of Federal financial assistance extended to the Recipient, this assurance shall obligate the Recipient, or in the case of any transfer of such property, any transferee, for the period during which the real property or structure is used for a purpose for which the Federal financial assistance is extended, or for another purpose involving the provision of similar services or benefits;
 - b. Any prohibition against discrimination on the basis of age under the Age Discrimination Act of 1975, as amended (42 U.S.C.: 6101-6107), which prohibits discrimination on the basis of age or with respect to otherwise qualified handicapped individuals as provided in Section 504 of the Rehabilitation Act of 1973;
 - c. Executive Order 11246 as amended by Executive Orders 11375 and 12086, and the regulations issued pursuant thereto, which provide that no person shall be discriminated against on the basis of race, color, religion, sex or national origin in all phases of employment during the performance of federal or federally assisted construction contracts; affirmative action to insure fair treatment in employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff/termination, rates of pay or other forms of compensation; and election for training and apprenticeship;
- g) The Recipient agrees to comply with the Americans With Disabilities Act (Public Law 101-336, 42 U.S.C. Section 12101 et seq.), where applicable, which prohibits discrimination by public and private entities on the basis of disability in the areas of employment, public accommodations, transportation, state and local government services, and in telecommunications;
- h) Recipient will comply with Title IX of the Education Amendments of 1972, as amended (20 U.S.C.: 1681-1683 and 1685 - 1686), which prohibits discrimination on the basis of sex;
- i) Recipient will comply with the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970, (42 U.S.C. 4521-45-94) relating to nondiscrimination on the basis of alcohol abuse or alcoholism;
- j) Recipient will comply with 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. 290 dd-3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records;
- k) Recipient will comply with Title VIII of the Civil Rights Act of 1968, 42 U.S.C. 2000c and 42 3601-3619, as amended, relating to non- discrimination in the sale, rental, or financing of housing, and Title VI of the Civil Rights Act of 1964 (P.L. 88-352), which prohibits discrimination on the basis of race, color or nation origin;
- l) Recipient will comply with the Intergovernmental Personnel Act of 1970, 42 U.S.C. 4728-4763;
- m) Recipient will comply with the Rehabilitation Act of 1973, Section 504, 29 U.S.C. 794, regarding non-discrimination;
- n) Recipient will establish safeguards to prohibit employees from using positions for a purpose that is, or gives the appearance of, being motivated by a desire for private gain for themselves or others, particularly those with whom they have family, business, or other ties pursuant to Section 112.313 and Section 112.3135, FS;
- o) Recipient will comply with the Anti-Kickback Act of 1986, 41 U.S.C. Section 51 which outlaws and prescribes penalties for "kickbacks" of wages in federally financed or assisted construction activities;

- p) Recipient will comply with the Hatch Act (18 USC 594, 598, 600-605), which limits the political activities of employees;
- q) Recipient will comply with the flood insurance purchase and other requirements of the Flood Disaster Protection Act of 1973 as amended, 42 USC 4002-4107, including requirements regarding the purchase of flood insurance in communities where such insurance is available as a condition for the receipt of any Federal financial assistance for construction or acquisition purposes for use in any area having special flood hazards. The phrase "Federal financial assistance" includes any form of loan, grant, guaranty, insurance payment, rebate, subsidy, disaster assistance loan or grant, or any other form of direct or indirect Federal assistance;
- r) Recipient will require every building or facility (other than a privately owned residential structure) designed, constructed, or altered with funds provided under a grant agreement to comply with the "Uniform Federal Accessibility Standards," (AS) which is Appendix A to 41 CFR Section 101-19.6 for general type buildings and Appendix A to 24 CFR Part 40 for residential structures. The Recipient will be responsible for conducting inspections to ensure compliance with these specifications by the contractor;
- s) Recipient will, in connection with its performance of environmental assessments under the National Environmental Policy Act of 1969, comply with Section 106 of the National Historic Preservation Act of 1966 (U.S.C. 470), Executive Order 11593, 24 CFR Part 800, and the Preservation of Archaeological and Historical Data Act of 1966 (16 U.S.C. 469a-1, et seq.) by:
 - a. Consulting with SHPO to identify properties listed in or eligible for inclusion in the National Register of Historic Places that are subject to adverse effects (see 36 CFR Section 800.8) by the proposed activity; and
 - b. Complying with all requirements established by the State to avoid or mitigate adverse effects upon such properties.
 - c. Notifying FEMA and the state if any project may affect a historic property. When any of Recipient's projects funded under a grant agreement may affect a historic property, as defined in 36 CFR 800. (2)(e), FEMA may require Recipient to review the eligible scope of work in consultation with SHPO and suggest methods of repair or construction that will conform with the recommended approaches set out in the Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings 1992 (Standards), the Secretary of the Interior's Guidelines for Archeological Documentation (Guidelines) (48 Federal Register 44734-37), or any other applicable Secretary of Interior standards. If FEMA determines that the eligible scope of work will not conform with the Standards, Recipient agrees to participate in consultations to develop, and, after execution by all parties, to abide by, a written agreement that establishes mitigation and recondition measures, including but not limited to, impacts to archeological sites, and the salvage, storage, and reuse of any significant architectural features that may otherwise be demolished.
 - d. Notifying FEMA and the state if any project funded under a grant agreement will involve ground disturbing activities, including, but not limited to: subsurface disturbance; removal of trees; excavation for footings and foundations; and installation of utilities (such as water, sewer, storm drains, electrical, gas, leach lines and septic tanks) except where these activities are restricted solely to areas previously disturbed by the installation, replacement or maintenance of such utilities. FEMA will request the SHPO's opinion on the potential that archeological properties may be present and be affected by such activities. The SHPO will advise Recipient on any feasible steps to be accomplished to avoid any National Register eligible archeological property or will make recommendations for the development of a treatment plan for the recovery of

- archeological data from the property.
- e. If Recipient is unable to avoid the archeological property, it will develop, in consultation with the SHPO, a treatment plan consistent with the Guidelines and take into account the Advisory Council on Historic Preservation (Council) publication "Treatment of Archeological Properties". Recipient shall forward information regarding the treatment plan to FEMA, the SHPO and the Council for review. If the SHPO and the Council do not object within 15 calendar days of receipt of the treatment plan, FEMA may direct Recipient to implement the treatment plan. If either the Council or the SHPO object, Recipient shall not proceed with the project until the objection is resolved.
 - f. Notifying the state and FEMA as soon as practicable: (a) of any changes in the approved scope of work for a National Register eligible or listed property; (b) of all changes to a project that may result in a supplemental DSR or modify an HMGP project for a National Register eligible or listed property; (c) if it appears that a project funded under a grant agreement will affect a previously unidentified property that may be eligible for inclusion in the National Register or affect a known historic property in an unanticipated manner. Recipient acknowledges that FEMA may require Recipient to stop construction in the vicinity of the discovery of a previously unidentified property that may be eligible for inclusion in the National Register or upon learning that construction may affect a known historic property in an unanticipated manner. Recipient further acknowledges that FEMA may require Recipient to take all reasonable measures to avoid or minimize harm to such property until FEMA concludes consultation with the SHPO. Recipient also acknowledges that FEMA will require, and Recipient shall comply with, modifications to the project scope of work necessary to implement recommendations to address the project and the property.
 - g. Acknowledging that, unless FEMA specifically stipulates otherwise, it shall not receive funding for projects when, with intent to avoid the requirements of the PA or the NHPA, Recipient intentionally and significantly adversely affects a historic property, or having the legal power to prevent it, allowed such significant adverse effect to occur.
- t) Recipient will assist the awarding agency in assuring compliance with the National Historic Preservation Act of 1966, as amended, 16 U.S.C. 270;
 - u) Recipient will assist the awarding agency in assuring compliance with the Preservation of Archeological and Historical Preservation Act of 1966, 16 U.S.C. 469a, et seq;
 - v) Recipient will comply with the requirements of Titles II and III of the Uniform Relocation Assistance and Property Acquisition Policies Act of 1970, 42 U.S.C. 4621-4638, which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally assisted programs;
 - w) Recipient will assure project consistency with the approved State program developed under the Coastal Zone Management Act of 1972, 16 U.S.C. 1451-1464; and
 - x) With respect to demolition activities, recipient will:
 - a. Create and make available documentation sufficient to demonstrate that the Recipient and its demolition contractor have sufficient manpower and equipment to comply with the obligations as outlined in a grant agreement.
 - b. Return the property to its natural state as though no improvements had ever been contained thereon.
 - c. Furnish documentation of all qualified personnel, licenses and all equipment necessary to inspect buildings located in Recipient's jurisdiction to detect the presence of asbestos and lead in accordance with requirements of the U.S. E.P.A., the Ohio E.P.A. and the County Health Department.

- d. Provide documentation of the inspection results for each structure to indicate:
 - i. Safety Hazards Present
 - ii. Health Hazards Present
 - iii. Hazardous Materials Present
- e. Provide supervision over contractors or employees employed by Recipient to remove asbestos and lead from demolished or otherwise applicable structures.
- f. Leave the demolished site clean, level and free of debris.
- g. Notify the department promptly of any unusual existing condition which hampers the contractors work.
- h. Obtain all required permits.
- i. Provide addresses and marked maps for each site where water wells and septic tanks are to be closed, along with the number of wells and septic tanks located on each site. Provide documentation of closures.
- j. Comply with mandatory standards and policies relating to energy efficiency that are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Public Law 94-163).
- k. Comply with all applicable standards, orders, or requirements issued under Section 112 and 306 of the Clean Air Act (42 U.S.C. 1857 (h), Section 508 of the Clean Water Act (33 U.S. 1368), Executive Order 11738, and the U.S. Environmental Protection Agency regulations (40 CFR Part 15 and 61). This clause shall be added to any subcontracts.
- l. Provide documentation of public notices for demolition activities.
- y) Recipient will comply with Lead-Based Paint Poison Prevention Act (42 U.S.C.: 4821 et seq.), which prohibits the use of lead based paint in construction of rehabilitation or residential structures;
- z) Recipient will comply with the Energy Policy and Conservation Act (P.L. 94-163; 42 U.S.C. 6201-6422), and the provisions of the state Energy Conservation Plan adopted pursuant thereto;
- aa) Recipient will comply with the Laboratory Animal Welfare Act of 1966, 7 U.S.C. 2131 2159, pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by an award of assistance under this agreement;
- bb) Recipient will comply with the Clean Air Act of 1955, as amended, 42 U.S.C. 7401-7642;
- cc) Recipient will comply with the Clean Water Act of 1977, as amended, 42 U.S.C. 7419-7626;
- dd) Recipient will comply with the Endangered Species Act of 1973, 16 U.S.C. 1531-1544;
- ee) Recipient will comply with environmental standards which may be prescribed pursuant to the National Environmental Policy Act of 1969, 42 U.S.C. 4321-4347;
- ff) Recipient will comply with the environmental standards that may be prescribed pursuant to the Safe Drinking Water Act of 1974, 42 U.S.C. 300f-300j, regarding the protection of underground water sources;
- gg) Recipient will comply with the Wild and Scenic Rivers Act of 1968, 16 U.S.C.1271-1287, related to protecting components or potential components of the national wild and scenic rivers system;
- hh) Recipient will comply with the following Executive Orders: EO 11514 (NEPA); EO 11738 (violating facilities); EO 11988 (FM); EO 11990 (Wetlands); and EO 12898 (Environmental Justice);
- ii) Recipient will comply with the Coastal Barrier Resources Act of 1977, 16 U.S.C. 3510; Recipient will comply with the Fish and Wildlife Coordination Act of 1958; 16 U.S.C. 661-666.

1.6 ASSURANCES / PROMULGATION

The State of Ohio Hazard Mitigation Plan meets the standard requirements of Section 409 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988, 42 United States Code Sections 5121 and following (commonly referred to as the Stafford Act - Public Law 93-288). Additionally, this plan meets the SRL planning requirements of 44 Code of Federal Regulations, Part 79.4.

It is intended that this plan also meet the requirements of the Section 322 of the Stafford Act which requires that States, as a condition of receiving federal disaster mitigation funds, have a mitigation plan in place that describes the planning process for identifying hazards, risk and vulnerabilities, identifies and prioritizes mitigation actions, encourages the development of local mitigation plans and projects, and provides technical support for these efforts. In addition, the Act requires local and tribal governments to also have mitigation plans as a condition of receiving disaster mitigation funds.

The development and implementation of this strategy is authorized and/or required by the following state statutes:

- Ohio Revised Code Section 5502.22, which establishes the Ohio Emergency Management Agency and requires plan development), and
- Ohio Revised Code Sections 5502.26, 5502.27, and 5502.271, which require the establishment of county emergency management agencies and plan development.

The adoption and promulgation of the 2008, 2011 and 2014 and 2019 update is being done by the Executive Director of the Ohio EMA in her capacity as the Governor's Authorized Representative (GAR). The original SHMP was promulgated by Governor Taft in 2005.

**State of Ohio Hazard Mitigation Plan
STATEMENT OF ADOPTION**

The State of Ohio Hazard Mitigation Plan (SOHMP) is a comprehensive description of the State's commitment to reduce or eliminate the impacts of natural and human-caused hazards. The Disaster Mitigation Act of 2000 requires that states have a natural hazard mitigation plan to maintain eligibility for federal disaster assistance and mitigation funds. The SOHMP is coordinated and maintained by the Ohio Emergency Management Agency, however, the plan is the culmination of input and recommendations from numerous stakeholders from local, state and federal government agencies, private sector organizations, and residents of Ohio.

The SOHMP was initially approved by FEMA on January 17, 2005 and has been updated in 2008, 2011, 2012, and 2014. The 2019 plan update meets "enhanced" plan criteria, which is a testament to the state's commitment to mitigation and enables Ohio to qualify for additional funds following future disaster declarations.

In adopting the 2019 update of the SOHMP, the State of Ohio agrees to comply with all applicable state and federal statutes and regulations, as stipulated in previously documented assurances, and will update the plan at least every five years as required. The SOHMP has been amended to reflect emerging hazard conditions and risks as well as new or revised state and federal statutes and regulations. Future amendments will also reflect changes to State organization or policy as appropriate.

As the Governor's Authorized Representative, I the undersigned do hereby formally adopt the State of Ohio Hazard Mitigation Plan 2019 update.

Signature:



Sima S. Merick, Executive Director
Ohio Emergency Management Agency

Date: MAY 7, 2019