



# 2040

LONG RANGE  
TRANSPORTATION  
PLAN

## EXECUTIVE SUMMARY

**MAY 2016**

# Transportation GOALS

## REGIONAL STEWARDSHIP

- Develop Regional Priorities

## VIBRANT COMMUNITIES

- Transportation Choices
- Transportation System Management
- Transportation and Land Use

## VIGOROUS ECONOMY

- Transportation Support

## SUSTAINABLE SOLUTIONS

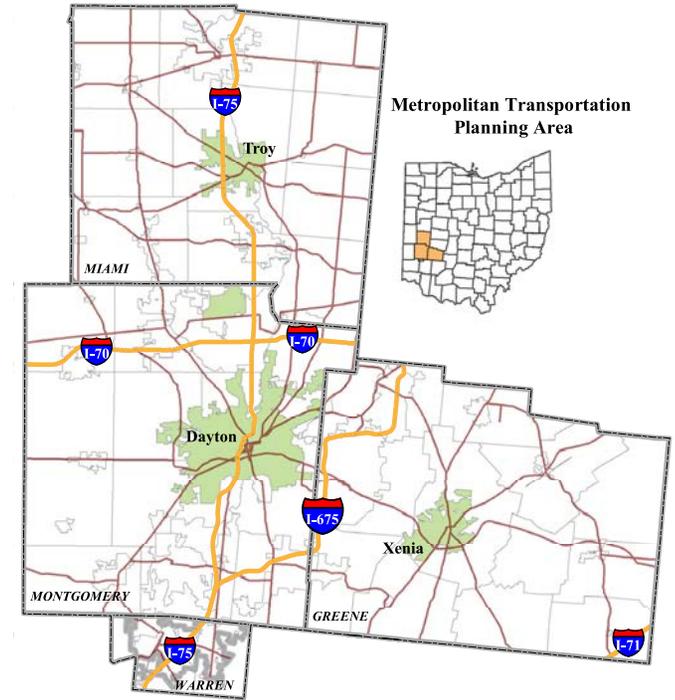
- Clean Air

# About MVRPC

The Miami Valley Regional Planning Commission (MVRPC) is a voluntary association of local governments and non-governmental organizations serving as the Regional Planning Commission for Darke, Greene, Miami, Montgomery, and Preble Counties, and northern Warren County in west-central Ohio.

MVRPC is also the Metropolitan Planning Organization (MPO) for Greene, Miami, and Montgomery Counties and the Cities of Carlisle, Franklin, and Springboro in Warren County. As such, MVRPC conducts various transportation planning activities that are designed to enhance the Region's competitive position, promote regional growth, improve personal mobility, and preserve the environment.

As the MPO, MVRPC develops the regional Long Range Transportation Plan (LRTP). The Plan then provides a framework for the Transportation Improvement Program (TIP). The TIP serves as the implementation device of the LRTP by funding projects and programs which address the short-range (4-year), capital and operating needs of the Region.



## The MPO at a glance



- Local Governments
- Transit Agencies
- Other Agencies
- Private Sector



# L RTP Update Process and Public Participation

MVRPC conducted an extensive public outreach effort to solicit input from the general public and special interest groups in order to increase public participation during the 2040 L RTP development process following the guidelines in its **Public Participation Policy** and the **FAST Act**.

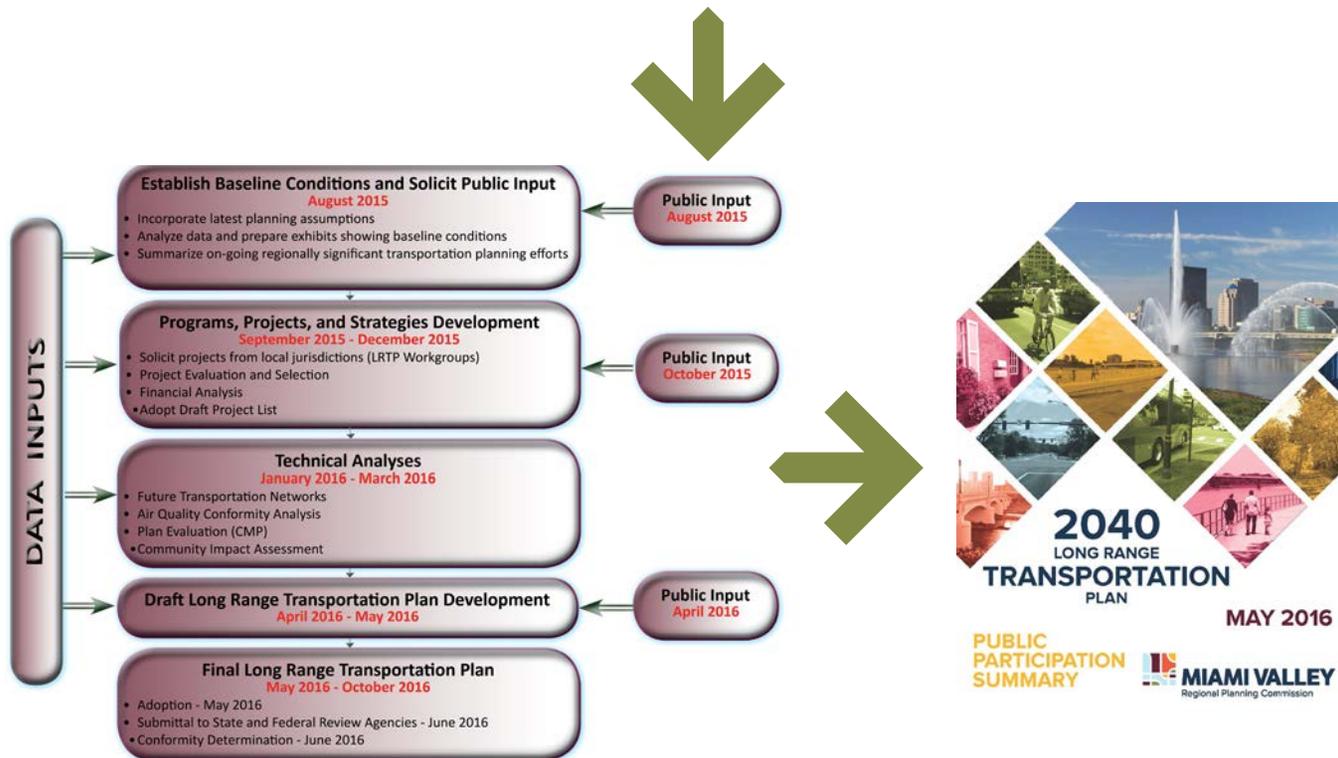


MVRPC's 2040 Long Range Transportation Plan, adopted on May 5, 2016, is a 25-year multimodal transportation plan with a planning horizon year of 2040.

The 2040 L RTP identifies long- and short-range investment strategies for all modes of transportation to support meeting the regional transportation goals. The Plan also reflects current and projected land uses, demographics, economic conditions, traffic conditions and Local, State, and Federal priorities and planning requirements.

The 2040 L RTP is based upon a year-long dialogue with various stakeholders including the general public, elected officials, engineers and planners, economic development interests, private businesses, and special interest groups.

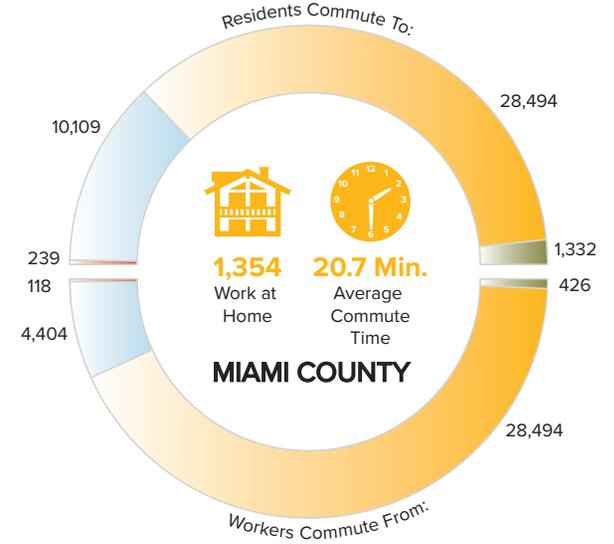
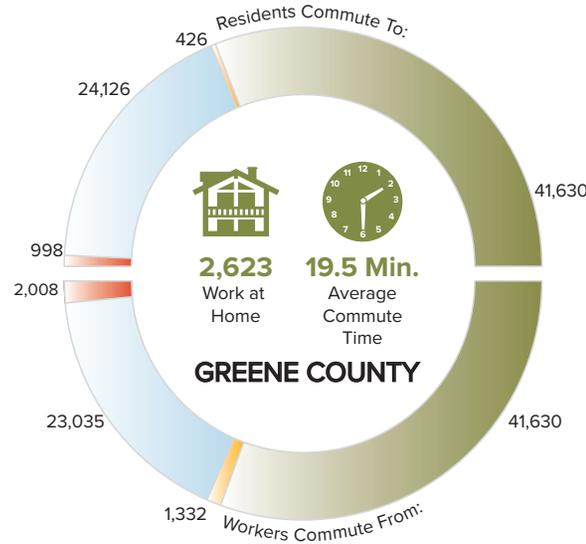
It is fiscally constrained, complies with all Local, State, and Federal planning requirements, and meets national air quality conformity requirements.



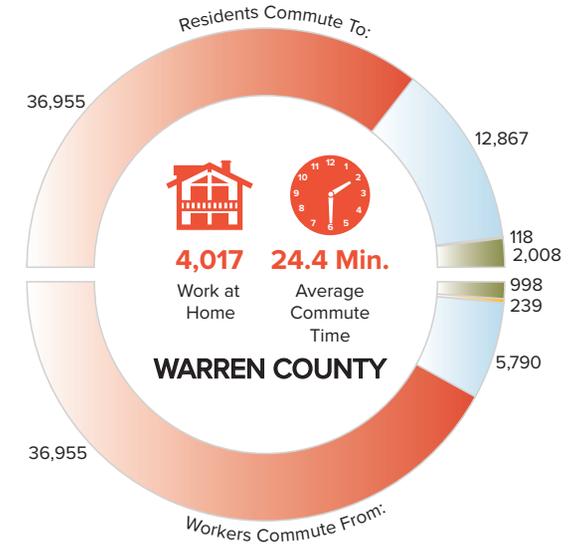
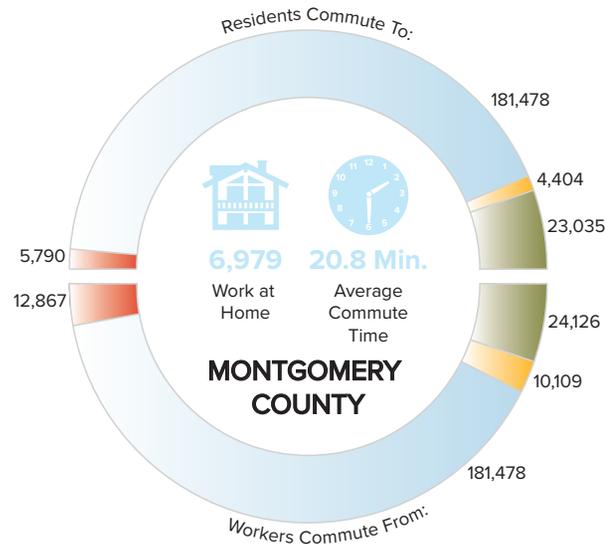
# The Miami Valley Region - Journey to Work

The Miami Valley Region is served by a variety of transportation modal choices. The Region's journey-to-work characteristics were examined for Greene, Miami, Montgomery, and Warren counties using 2006-2010 American Community Survey data.

Although the majority of county residents work in the same county in which they live, Montgomery County is a major "work destination" for commuters from surrounding counties. The average commute time in the Miami Valley is 21.3 minutes and approximately 84% of the Region's residents drove their automobile alone to work.



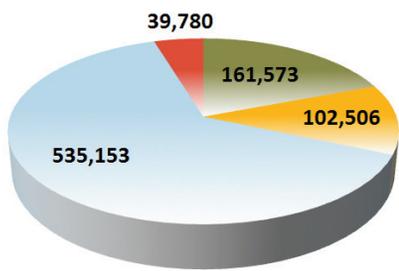
Greene County Miami County Montgomery County Warren County



Source: American Community Survey 2006-2010

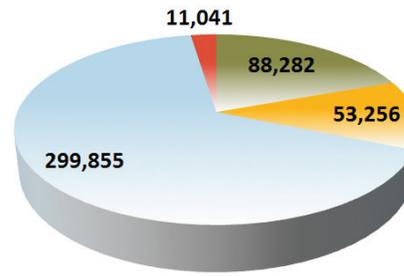


# The Miami Valley Region - Population and Employment

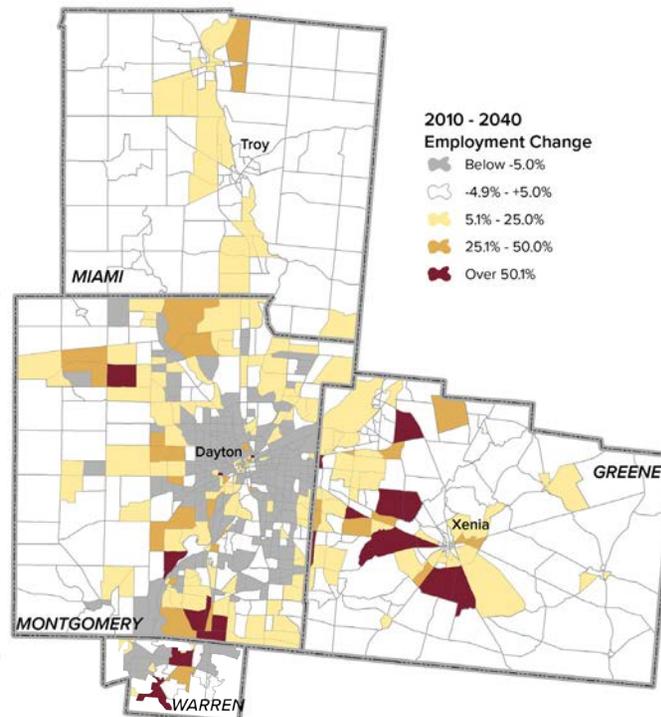
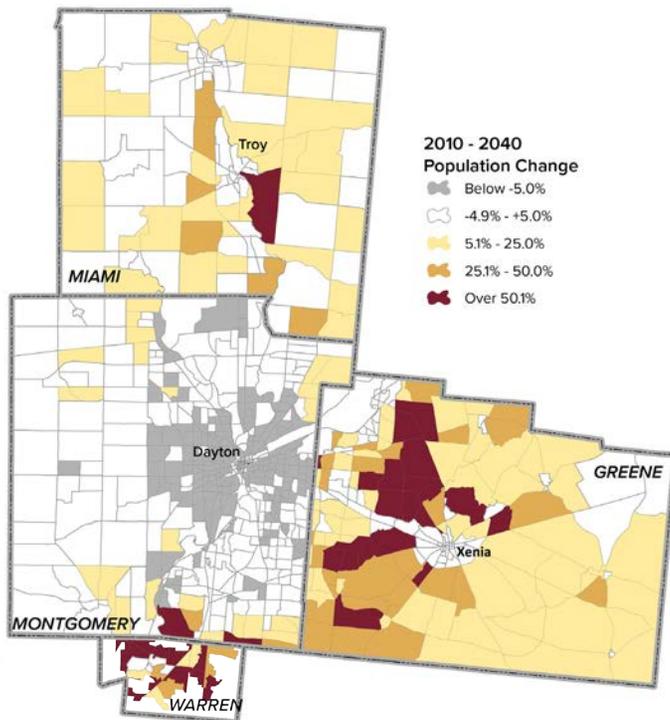


2010 Population

- Greene
- Miami
- Montgomery
- Franklin, Carlisle, Springboro



2010 Employment



As of 2010, the Region is home to approximately 839,000 people in 1,300 square miles. The Region is also home to nearly 442,000 jobs including the Wright Patterson Air Force Base (WPAFB), the largest single-site employer in Ohio. Montgomery County has the Region's highest population and employment share with 67% of the population and 67.9% of the employment. Overall, the population of the Region is expected to slightly increase 2.63% over the next 30 years while the employment is projected to grow by approximately 5%.



# The Congestion Management Process

## Performance MANAGEMENT

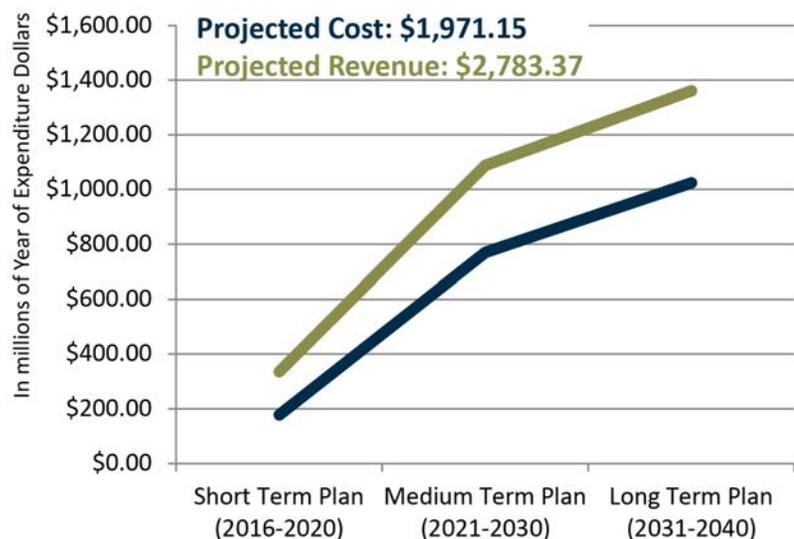
### Regional Report Card

	Measure	Description	Data		Goal	Actual	Trend
System Performance	Average Freeway Speed (mph)	Source: INRIX	NA	60.2 (2013)	▬	▬	■
	Congested System	Congested Lane-Miles Source: Texas Transportation Institute	29.0% (2007)	24.0% (2011)	↓	↓	-5%
	Annual Freeway Vehicle Hours of Delay	In hours; Source: INRIX	NA	696,167 (2013)	↓	▬	■
	Annual Cost of Vehicle Delay on Freeways	In millions; Source: INRIX	NA	\$24.33 (2013)	↓	▬	■
	Annual Cost of Truck Delay on Freeways	In millions; Source: INRIX	NA	\$12.82 (2013)	↓	▬	■
Safety	Incident Response	Average duration of major freeway incidents In minutes; Source: INRIX	NA	98 (2013)	↓	▬	■
	Mean Distance Between Calls	Miles between service calls. Source: GDRTA	NA	15,813 (2013)	↓	▬	■
	Rate of Fatalities	Total fatalities per 100 million Daily VMT Source: ODPS	0.82 (2008-10)	0.88 (2011-13)	↓	↑	9%
	Rate of Serious Injuries	Total incapacitating injuries per 100 MDVMT Source: ODPS	8.39 (2008-10)	7.88 (2011-13)	↓	↓	-65%
	Transit Incidents	Transit incidents per 100,000 trips Source: NTD	0.28 (2008-10)	0.27 (2011-13)	↓	▬	■
Accessibility	Miles of Regional Bikeway	Additions to Regional Bikeway System In miles; Source: MVRPC	165 (2010)	198 (2014)	↑	↑	20%
	Population Served by Bikeway	Population within ½ mile of a Regional Bikeway Source: U.S. Census, MVRPC	28.3% (2000)	28.8% (2010)	↑	▬	■
	Employment Served by Bikeway	Employment within ½ mile of a Regional Bikeway Source: QCEW, MVRPC	43.2% (2000)	43.8% (2010)	↑	▬	■
	Population Served by Transit	Population within ½ mile of a GDRTA Bus Route Source: U.S. Census, MVRPC	79.8% (2000)	79.5% (2010)	↑	▬	■
	Employment Served by Transit	Employment within ½ mile of a GDRTA Bus Route Source: QCEW, MVRPC	85.4% (2000)	89.3% (2010)	↑	↑	4.5%
	Work trips by bike and walking	Work trips in the Region by biking and walking Source: U.S. Census, ACS 2006-2010	2.55% (2000)	2.79% (2010)	↑	▬	■
	Population Living in Mixed Land Use Districts	Population living in districts integrated with residential and employment land uses Source: U.S. Census, QCEW, MVRPC	NA	36% (2010)	↑	▬	■

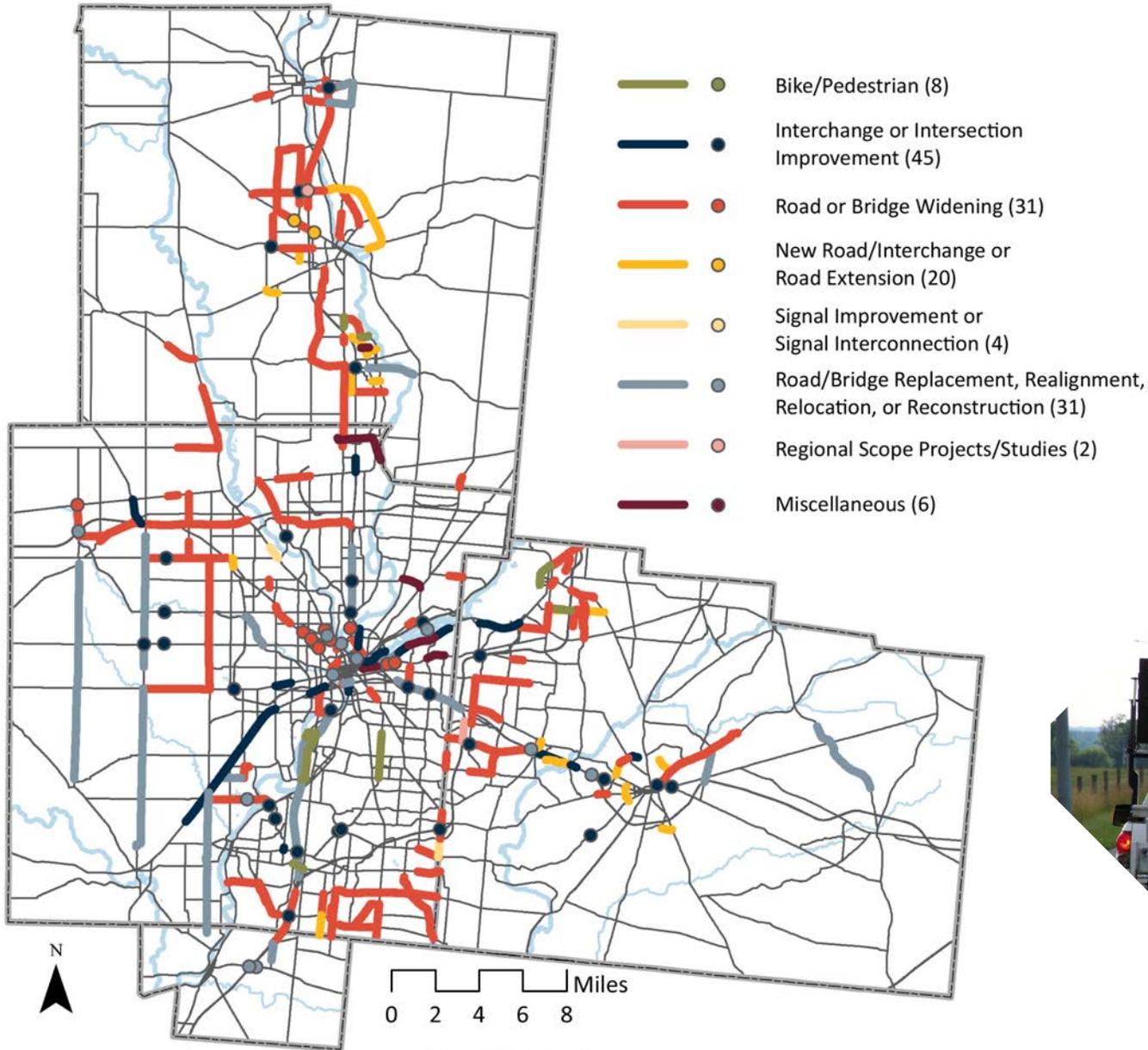
The FAST Act continues MAP-21's overall performance management approach, within which MPOs invest resources in projects that collectively will make progress toward national and state goals. The Regional Report Card documents various parameters including transportation system conditions, transportation system safety and incident response, as well as accessibility to alternative modes of transportation.

# Congestion Management Projects

The 2040 congestion management project list includes 235 projects with a total cost of \$1,971.15 million. The list is fiscally constrained with a projected revenue of \$2,783.37 million. Both costs and revenues are expressed in year of expenditure dollars, as required by federal regulations.

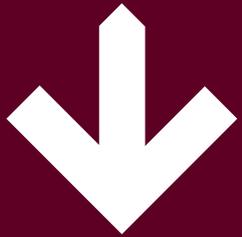


# Congestion Management Projects



# Economic Benefits of TRANSIT

A GDRTA study estimates that for every dollar (\$1) invested in transit services, there is a four dollar (\$4) return in economic investment.



# Transit Services



## MIAMI COUNTY PUBLIC TRANSIT

- 62,300 passenger trips/year
- Demand responsive transit services
- Fleet of 18
- Operates 6 days a week

### 2040 Financial Assumptions

Capital Projects: \$6.91 million  
Operations: \$34.13 million



## GREATER DAYTON REGIONAL TRANSIT AUTHORITY (GDRTA)

- 9,000,000 passenger trips/year
- Operates 31 fixed-routes connecting 23 communities in Montgomery County along with WSU and WPAFB
- Operates 5 Transit Centers and 33 Park-N-Ride locations

### 2040 Financial Assumptions

Capital Projects: \$521.17 million  
Operations: \$2,233.00 million



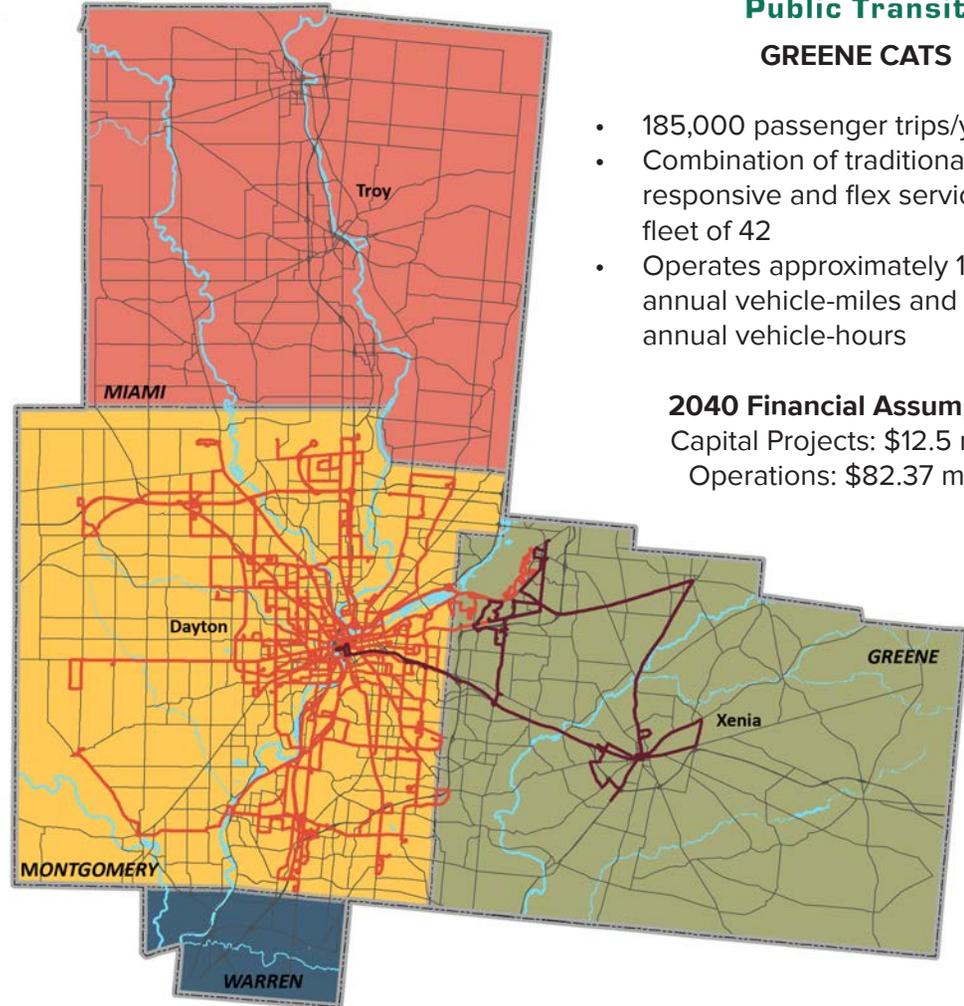
## Greene CATS Public Transit

### GREENE CATS

- 185,000 passenger trips/year
- Combination of traditional demand responsive and flex services with a fleet of 42
- Operates approximately 1,400,000 annual vehicle-miles and 75,000 annual vehicle-hours

### 2040 Financial Assumptions

Capital Projects: \$12.5 million  
Operations: \$82.37 million

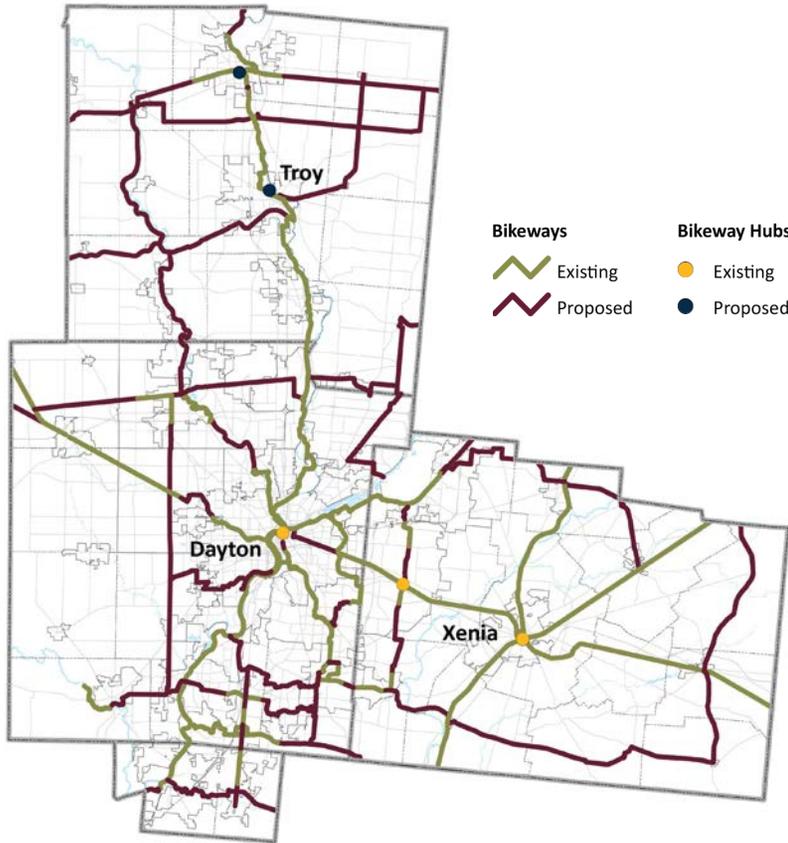


### Transit Routes

- GDRTA Fixed Transit Routes
- Greene CATS FlexRoutes

# Bike and Pedestrian Network

## Complete STREETS



It is essential to plan a transportation system that serves travelers using all modes of transportation, including bicycling and walking. The 2040 L RTP contains both projects with funds already committed for implementation, and future proposed projects. Approximately \$4.27 million have been committed, with an additional \$97.19 million for proposed projects. These projects will extend the regional bikeway and pedestrian network.



MVRPC adopted its Regional Complete Streets Policy in January 2011. The Policy encourages transportation improvements for users to safely and conveniently travel on streets or roads, regardless of their transportation mode.



in economic activity is generated through the trails.



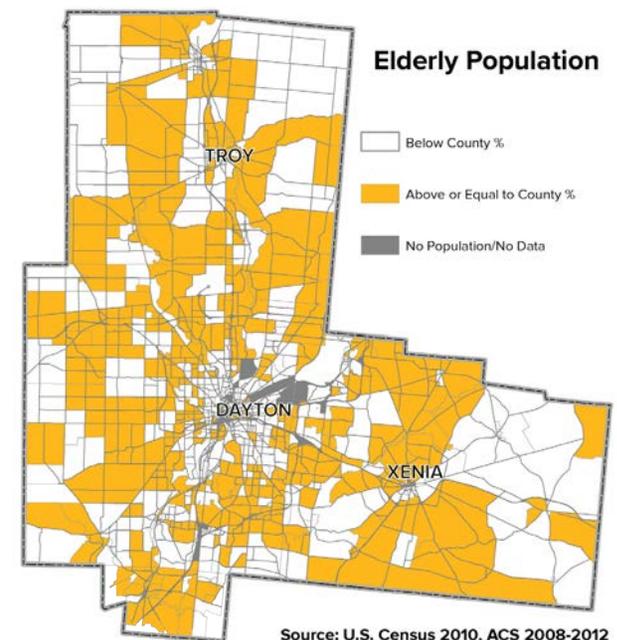
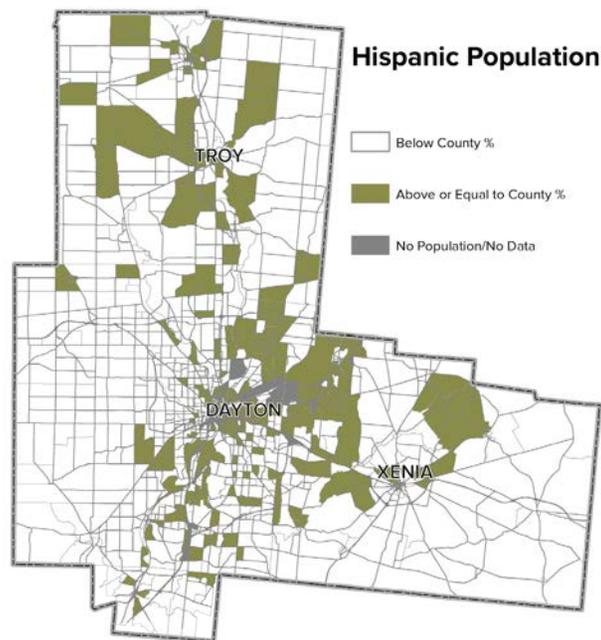
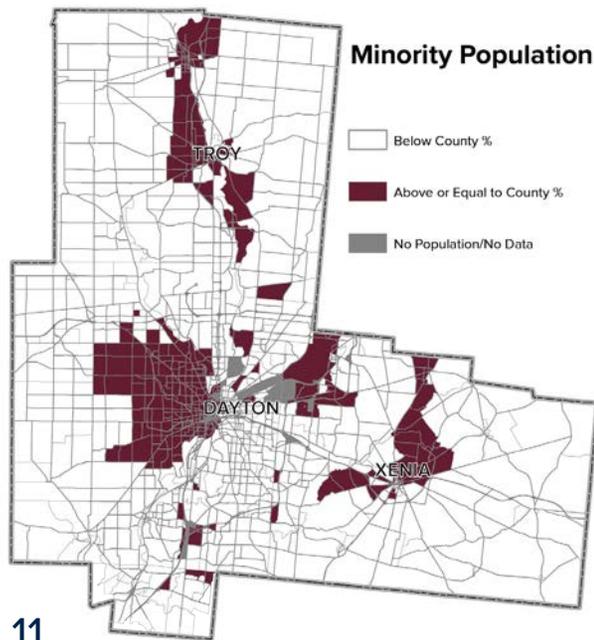
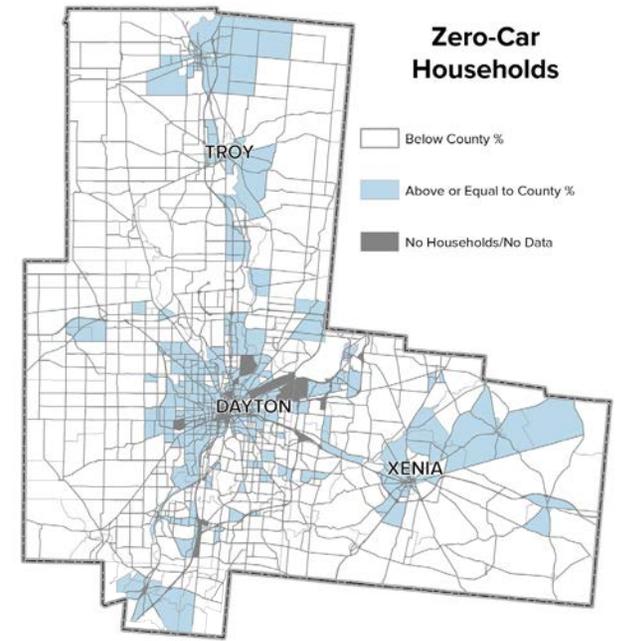
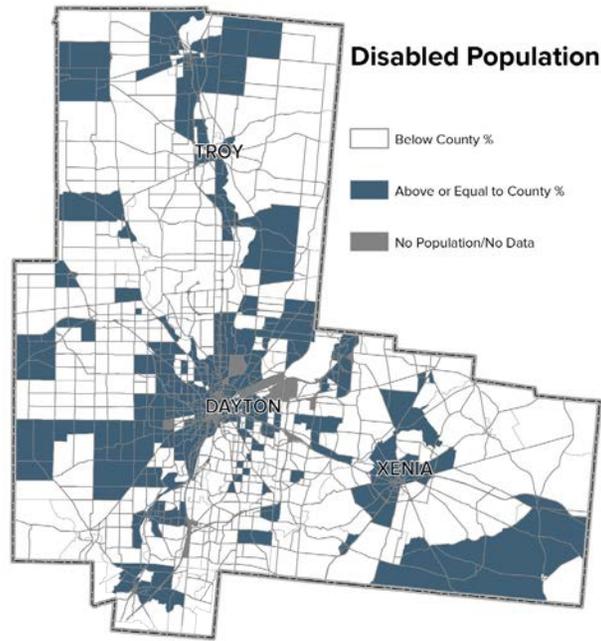
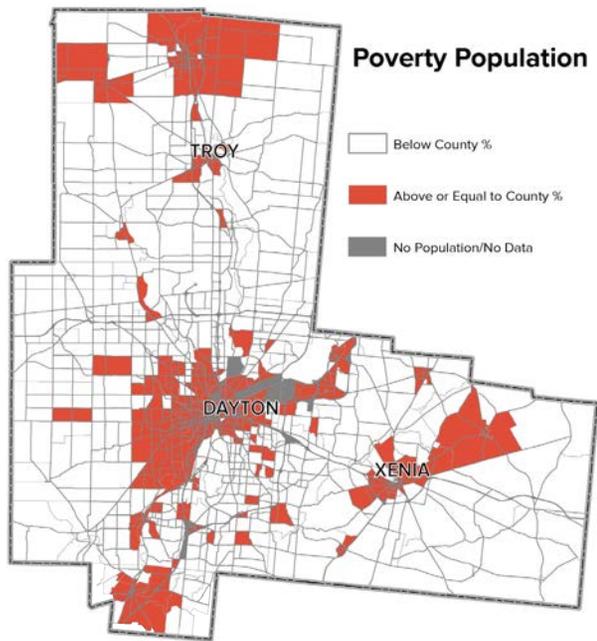
of trail users come from outside the Miami Valley!

The average trail visitor's stay is 2.4 nights...

Su M Tu W Th F Sa

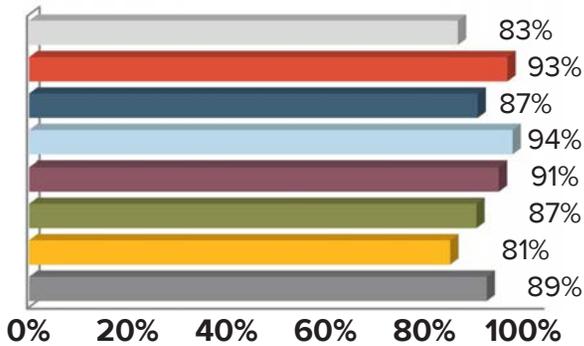
...spending \$77 per night!

# Community Impact Assessment

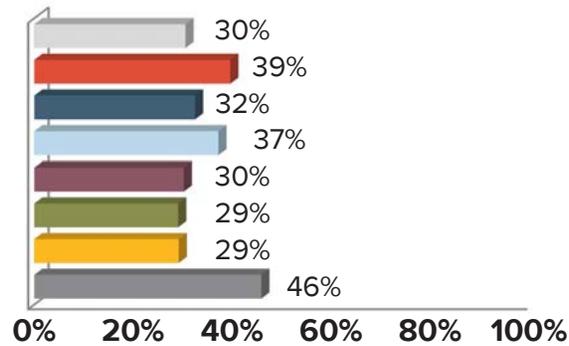


# Community Impact Assessment

Percentage of Population within 1/2 mile of GDRTA Transit Route



Percentage of Population within 1/2 mile of a Regional Bikeway



MVRPC conducted various technical analyses to address Environmental Justice issues, and determine whether disproportionate adverse impacts exist. Analyses include Accessibility to Major Facilities, Home-Based-Work Travel Times, and Transit and Regional Bikeway Accessibility. The purpose of these analyses was to determine if target areas (areas with above average proportions of target populations) are adversely affected by the Plan, compared to non-target areas.

The analyses determined there were no disparate impacts on target populations.

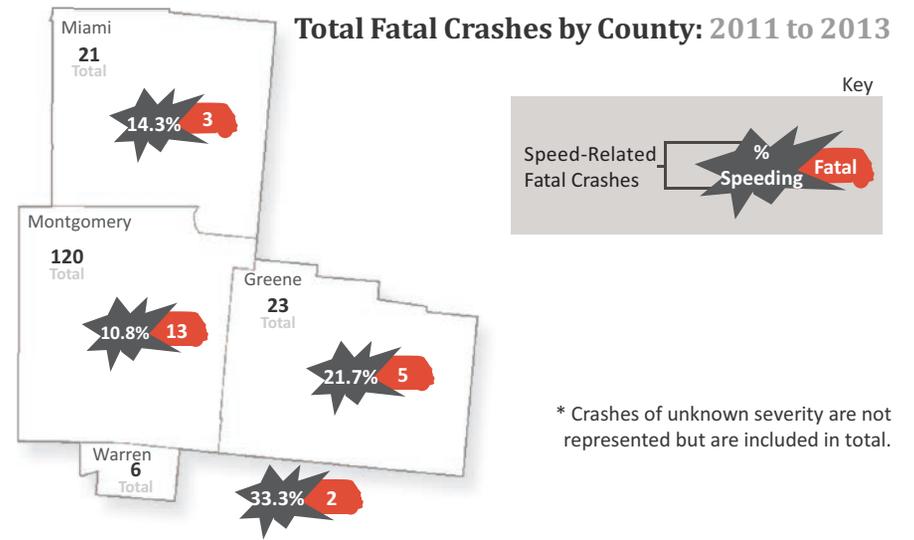
Travel Time in Minutes by Destination for Target Populations

	2010				2040 - Existing + Committed				2040 - Plan			
	University	Hospital	Shopping Center	Work	University	Hospital	Shopping Center	Work	University	Hospital	Shopping Center	Work
<b>Poverty</b>	<b>6.9</b>	<b>6.5</b>	<b>5.2</b>	<b>13.5</b>	<b>7.4</b>	<b>7.0</b>	<b>5.4</b>	<b>14.0</b>	<b>7.3</b>	<b>6.8</b>	<b>5.3</b>	<b>14.0</b>
Non-Poverty	13.0	10.6	7.1	17.2	14.2	11.7	7.8	18.0	13.9	11.4	7.7	17.8
<b>Disabled</b>	<b>8.8</b>	<b>7.6</b>	<b>5.6</b>	<b>14.4</b>	<b>9.5</b>	<b>8.1</b>	<b>5.9</b>	<b>14.9</b>	<b>9.3</b>	<b>8.0</b>	<b>5.8</b>	<b>14.9</b>
Non-Disabled	11.9	10.1	6.9	16.8	13.1	11.2	7.6	17.6	12.8	10.9	7.5	17.5
<b>Zero Car</b>	<b>7.1</b>	<b>6.6</b>	<b>5.1</b>	<b>13.6</b>	<b>7.7</b>	<b>7.0</b>	<b>5.4</b>	<b>14.2</b>	<b>7.5</b>	<b>6.9</b>	<b>5.3</b>	<b>14.1</b>
Non-Zero Car	12.9	10.7	7.2	17.2	14.2	11.7	7.8	17.9	13.8	11.5	7.7	17.8
<b>Minority</b>	<b>6.8</b>	<b>5.6</b>	<b>4.7</b>	<b>13.0</b>	<b>7.3</b>	<b>5.8</b>	<b>4.9</b>	<b>13.3</b>	<b>7.0</b>	<b>5.7</b>	<b>4.8</b>	<b>13.3</b>
Non-Minority	12.0	10.3	7.0	16.8	13.1	11.4	7.6	17.6	12.8	11.1	7.5	17.5
<b>Hispanic</b>	<b>8.1</b>	<b>7.3</b>	<b>4.9</b>	<b>13.4</b>	<b>8.9</b>	<b>7.8</b>	<b>5.1</b>	<b>13.8</b>	<b>8.6</b>	<b>7.6</b>	<b>5.0</b>	<b>13.8</b>
Non-Hispanic	11.3	9.5	6.9	16.6	12.3	10.4	7.5	17.4	12.0	10.2	7.4	17.2
<b>Elderly</b>	<b>11.6</b>	<b>9.7</b>	<b>6.5</b>	<b>16.5</b>	<b>12.6</b>	<b>10.5</b>	<b>7.0</b>	<b>17.3</b>	<b>12.3</b>	<b>10.3</b>	<b>6.9</b>	<b>17.1</b>
Non-Elderly	9.3	8.1	6.2	14.9	10.2	8.9	6.6	15.5	9.9	8.7	6.5	15.4

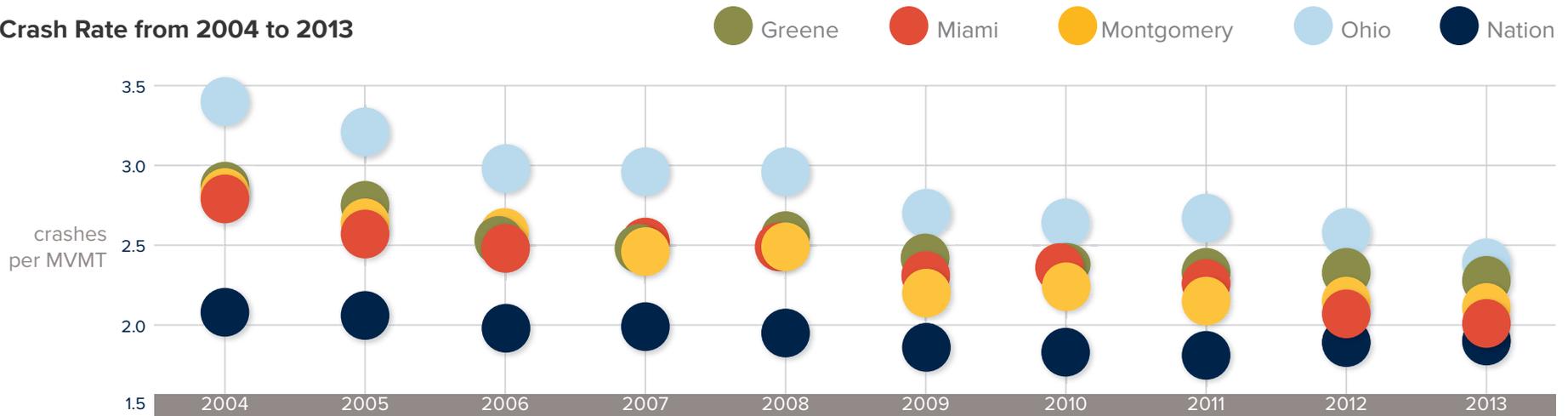
# Roadway Safety

As part of the Dayton Regional Safety Initiative, crash data is analyzed every three years to identify trends and locations with high frequency and severity of crashes. These analyses are the first step toward understanding roadway safety conditions in the Miami Valley Region. The latest analysis examines crashes occurring from 2011 through 2013. In those three years, approximately 52,000 crashes were reported, including 170 fatal and 14,054 injury-causing crashes.

In accordance with the goals and objectives of the 2040 LRTP, MVRPC will continue to work with regional partners to improve roadway safety by conducting safety studies and providing crash information to local jurisdictions. Findings from the Regional Crash Analysis will be used during the project evaluation process to rank and prioritize future transportation projects. Data analysis can reveal the success of the Region's initiatives to reduce crash frequency and/or severity. For example, from 2004 to 2013, total reported crashes decreased from 23,626 crashes to 16,506, a 30% decrease.



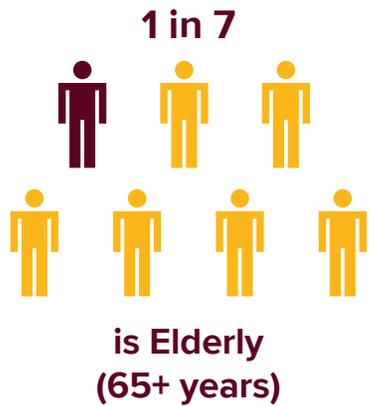
## Crash Rate from 2004 to 2013



Crash rate is calculated as the annual reported crashes per Million Vehicle Miles Traveled (MVMT), a measure of the amount of driving in a specific region.

# The Future - Changing Demographics and Transportation Technologies

## Characteristics of Miami Valley Residents...



For the Miami Valley Region to remain competitive, it will need to adapt to its changing demographics and their needs while embracing and planning for new and emerging technologies, including those in the transportation field.

Between 2000 and 2010, the Region's elderly population (older than 65 years) increased by 16 percent. At the same time, younger people are increasingly delaying the age at which they get their first driver's license. In 2013, approximately 62 percent of the population between the ages of 15 to 24 years had driver's licenses in the Miami Valley. It is also important for elderly residents to live in an environment in which they are not being pushed to drive beyond the ages at which it is safe to do so.

On the household front, 40 percent of the household population in the Region now lives in a 1 or 2 person household, a 9 percent increase since 2000. Younger generations are also choosing to postpone homeownership; as a result, the Region experienced a 10 percent increase in the population living in rental housing units between 2000 and 2010.

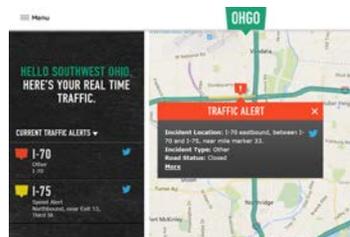
**New Technologies:** Car-sharing, bike-sharing, and ride-sharing services, such as Uber and Lyft, are providing reasonable alternatives/supplements to automobile ownership, and new models, such as GetAround (car-sharing of privately owned automobiles), are also emerging. On a longer horizon, emerging self-driving and autonomous vehicle technologies will also impact congestion, mobility, safety, and development patterns.



Dayton  
Bike Share  
System



Self-Driving  
Vehicles



Travel  
Information  
Systems



Car-  
Sharing  
Services

# MVRPC Board of Directors - MPO Members

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Village of West Milton  
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Washington Township

This document is the product of a study financed by the U.S. Department of Transportation (U.S. DOT), Ohio Department of Transportation (ODOT) and the Miami Valley Regional Planning Commission.

The contents of this document reflect the views of the Miami Valley Regional Planning Commission, which is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the views of the U.S. DOT or ODOT. This document does not constitute a standard, specification, or regulation.

To learn more about the 2040 Long Range Transportation Plan and to view the full report, visit MVRPC's website at:

[plan2040.mvrpc.org](http://plan2040.mvrpc.org)



MAY 2016