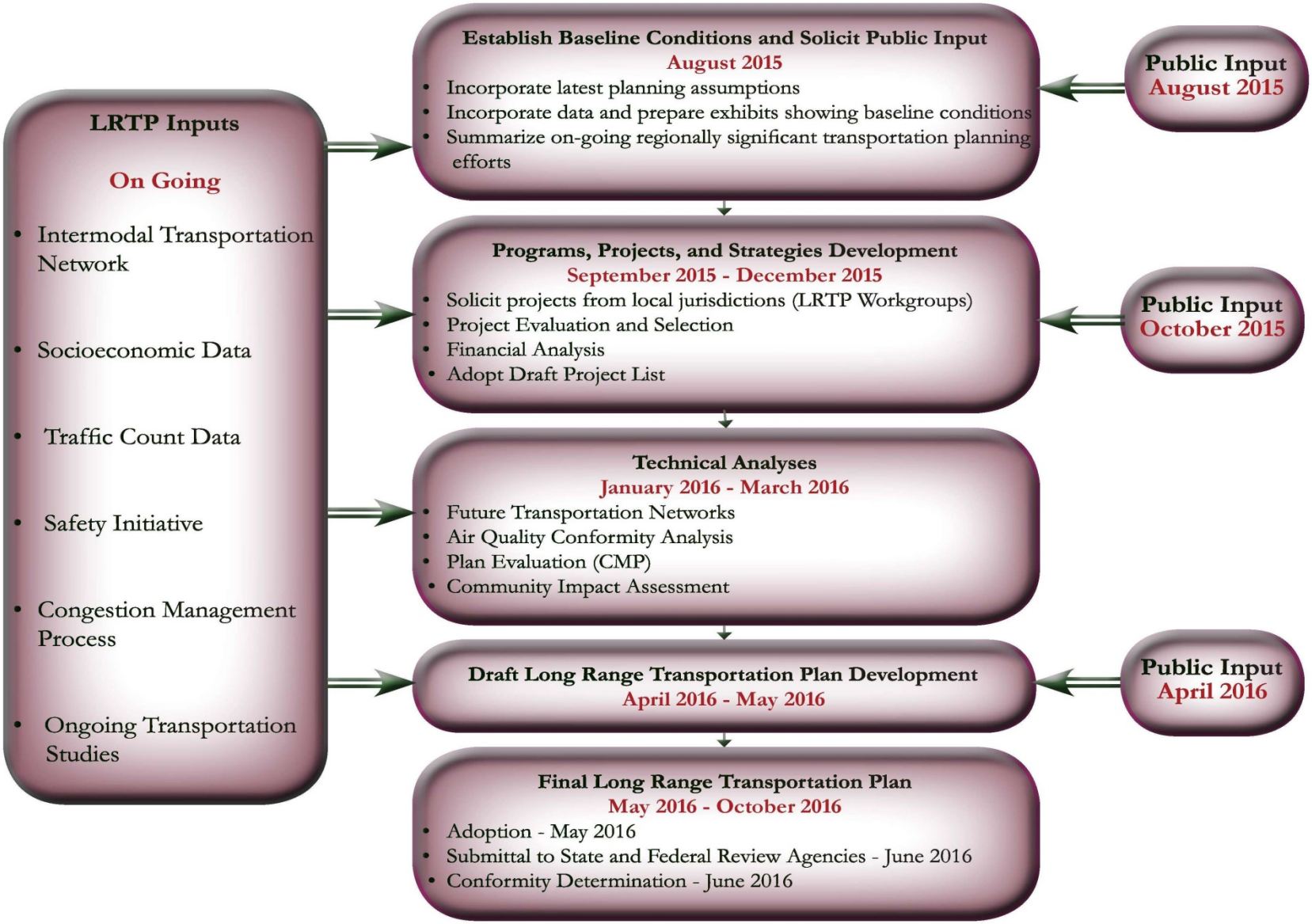
Transportation Plan Update

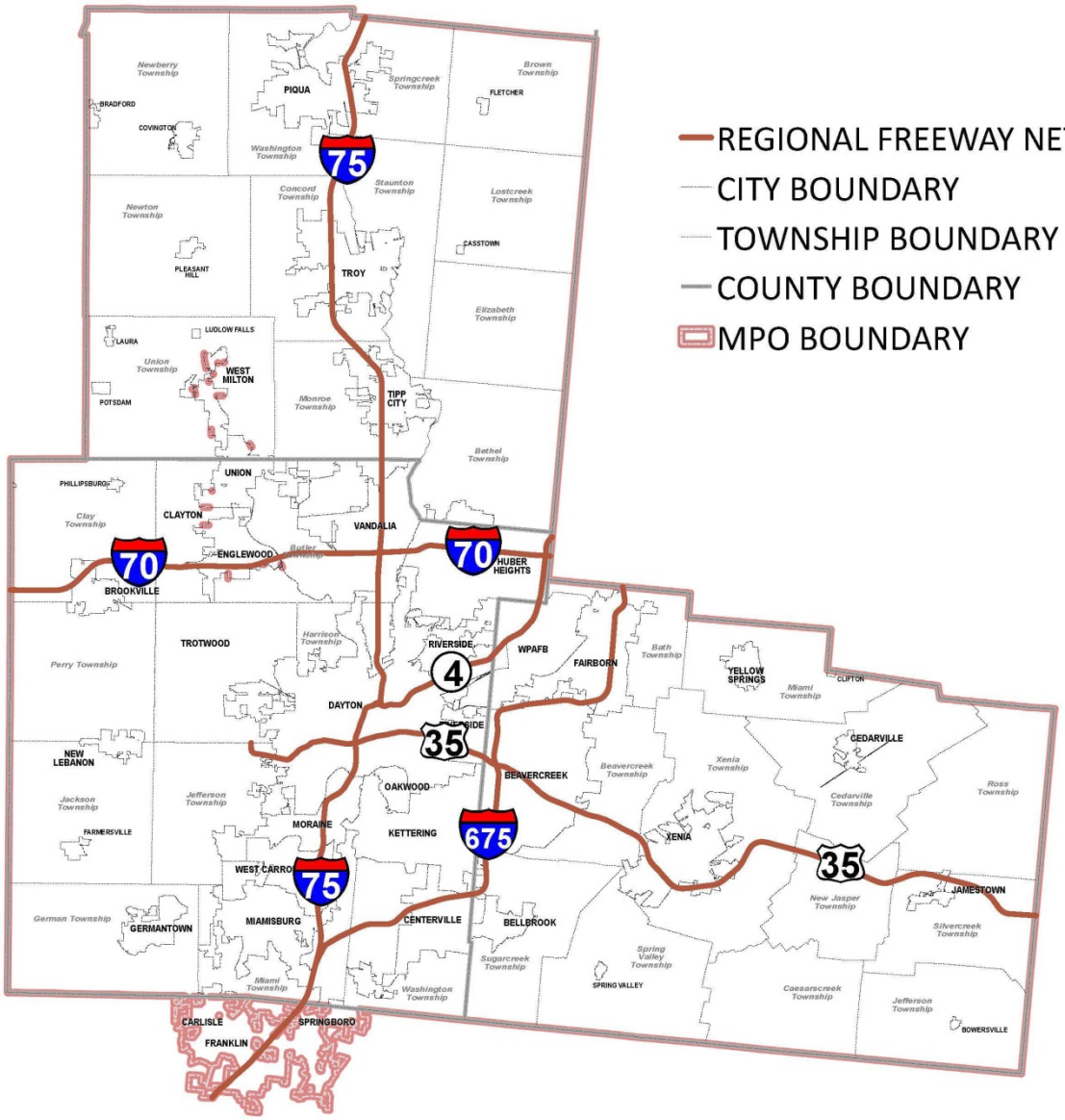
MVRPC is in the process of updating its 2040 Long Range Transportation Plan. The new Plan Update identifies multimodal transportation development strategies and programs for the next 20+ years that will guide effective investment of public funds in the Region.

2040 Long Range Transportation Planning Process

The update process for the 2040 Long Range Transportation Plan started in July 2015 and is expected to finish in May 2016.



MVRPC MPO Boundary



MVRPC Location Map

Transportation Goals

MVRPC revised the transportation goals to meet the new requirements under the new transportation law, Moving Ahead for Progress in the 21st Century (MAP-21).

Regional Stewardship

- Develop Regional Priorities — Continue to address regional transportation needs that further the shared social, economic, transportation, and environmental goals of the Region.

Vibrant Communities

- Transportation Choices — Encourage a stronger multi-modal network in the Region to ensure that people and goods reach their destination safely, efficiently, and conveniently.
- Transportation System Management — Continue to maintain and upgrade the regional transportation system by providing safety, security, aesthetic, and capacity improvements as needed.
- Transportation and Land Use — Incorporate regional land use strategies into the transportation policy and the investment decision making process.

Vigorous Economy

- Transportation — Continue to address regional transportation needs to enhance economic development in order to attract and retain businesses in the Region while improving the quality of life of its residents.

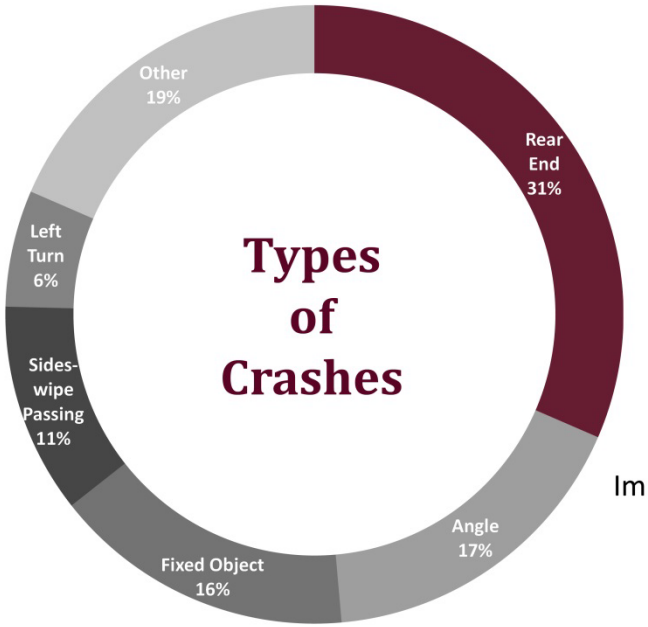
Sustainable Solutions

- Clean Air — Encourage the pursuit of alternative fuels and transportation to reduce emissions and our reliance on petroleum-based products.

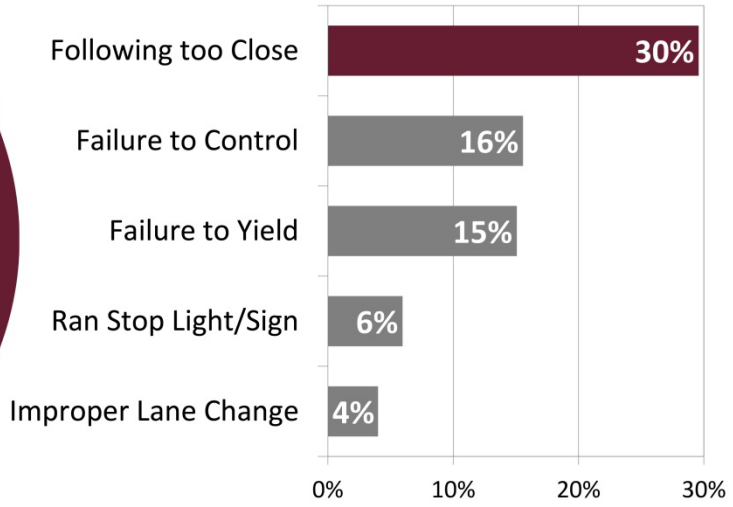
Safety and Congestion Conditions

Safety

There were **42,502** total crashes reported on the regional roadway network from 2011 to 2013.

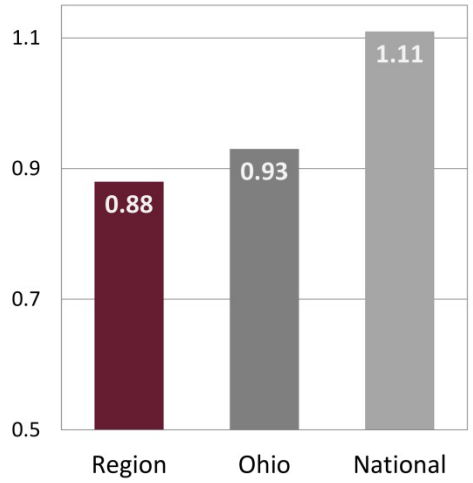


Top Contributing Factors

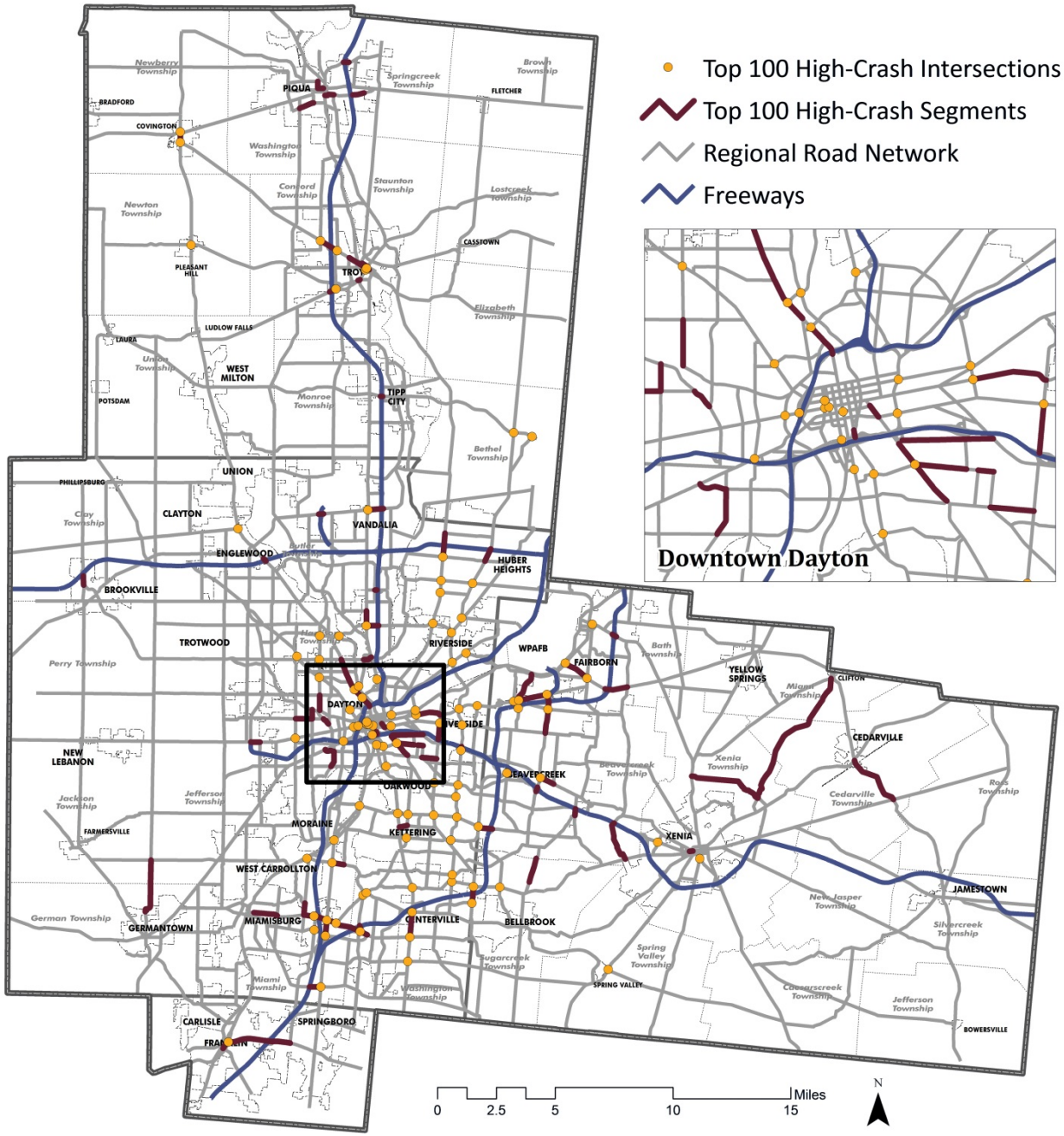


Average Fatality Rate

(per 100 million vehicle miles traveled)

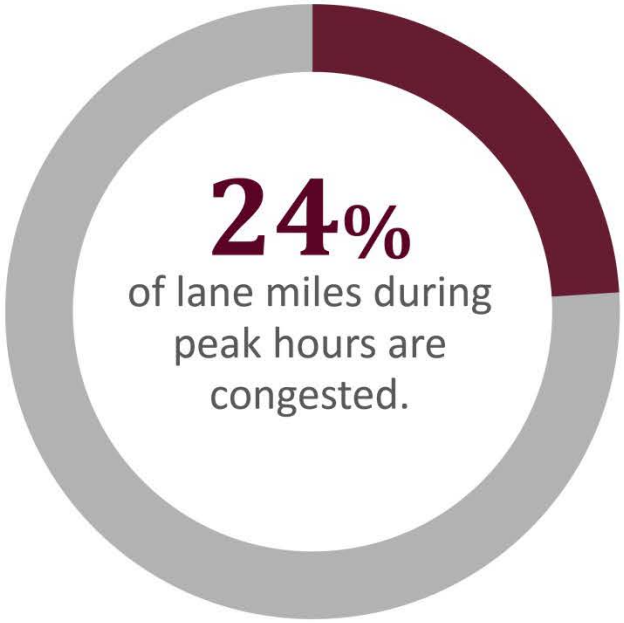


High Crash Locations



Congestion

MVRPC administers a Congestion Management Process (CMP) to evaluate current transportation system conditions and outline strategies to manage congestion.

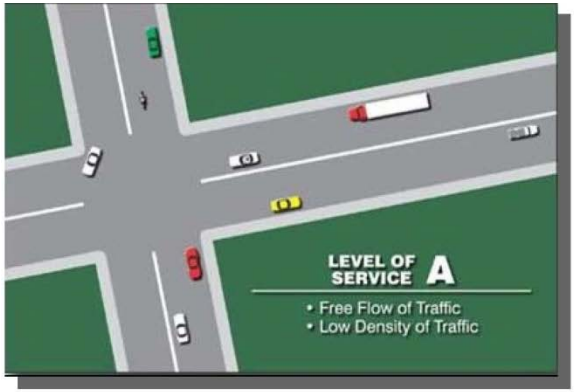


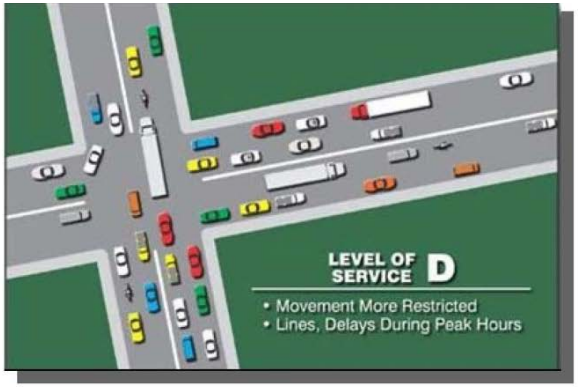
Regional Report Card

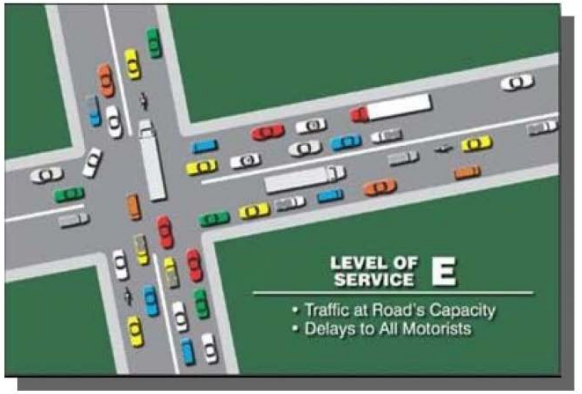
	MEASURE	DATA		GOAL	ACTUAL	TREND
System Performance	**Average Freeway Speed** (mph)	NA	60.2 (2013)	—	—	
	Congested System (percent of lanes miles congested)	29.0% (2007)	24.0% (2011)	↓	↓	-5%
	Annual Freeway Vehicle Hours of Delay	NA	696,167 (2013)	↓	—	
	Annual Cost of Vehicle Delay on Freeways (in millions)	NA	$24.33 (2013)	↓	—	
	Annual Cost of Truck Delay on Freeways (in millions)	NA	$12.82 (2013)	↓	—	
Safety	**Incident Response** (average duration in minutes of major freeway incidents)	NA	98 (2013)	↓	—	
	Mean Distance Between Calls (mean distance in miles between GDRTA service calls)	NA	15,813 (2013)	↓	—	
	Rate of Fatalities (total roadway fatalities per 100mil daily vehicle miles traveled)	0.82 (2008-10)	0.88 (2011-13)	↓	↑	9%
	Rate of Serious Injuries (total roadway injuries per 100mil daily vehicle miles traveled)	8.39 (2008-10)	7.88 (2011-13)	↓	↓	-65%
	Transit Incidents (total transit incidents per 100,000 trips)	0.28 (2008-10)	0.27 (2011-13)	↓	—	
Accessibility	**Miles of Regional Bikeway**	165 (2010)	198 (2014)	↑	↑	20%
	Population Served by Bikeway (percent population within 1/2 mile a Regional Bikeway)	28.3% (2000)	28.8% (2010)	↑	—	
	Employment Served by Bikeway (percent employment within 1/2 mile of a Regional Bikeway)	43.2% (2000)	43.8% (2010)	↑	—	
	Population Served by Transit (percent population within 1/2 mile of a GDRTA Bus Route)	79.8% (2000)	79.5% (2010)	↑	—	
	Employment Served by Transit (percent employment within 1/2 mile of a GDRTA Bus Route)	85.4% (2000)	89.3% (2010)	↑	↑	4.5%
	Work Trips by Biking or Walking	2.55% (2000)	2.79% (2010)	↑	—	
	Population Living in Mixed Land Use Districts	NA	36% (2010)	↑	—	

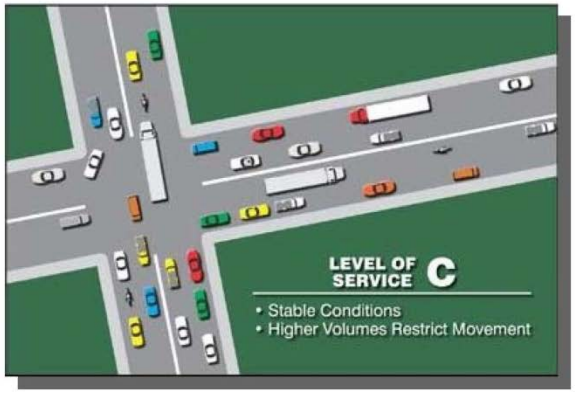
Transportation System and Congestion Analysis

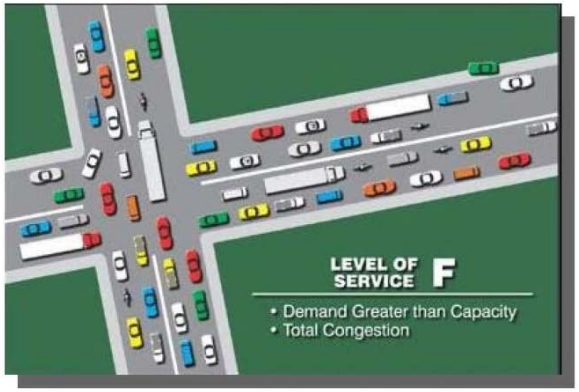
Level of Service Definition: A qualitative measure describing operational conditions within a traffic stream and their perception by motorists. **Level of Service A** represents free flow conditions while **Level of Service F** represents conditions where demand exceeds the capacity of a road. Roads where Level of Service is **D, E** or **F** are considered congested.



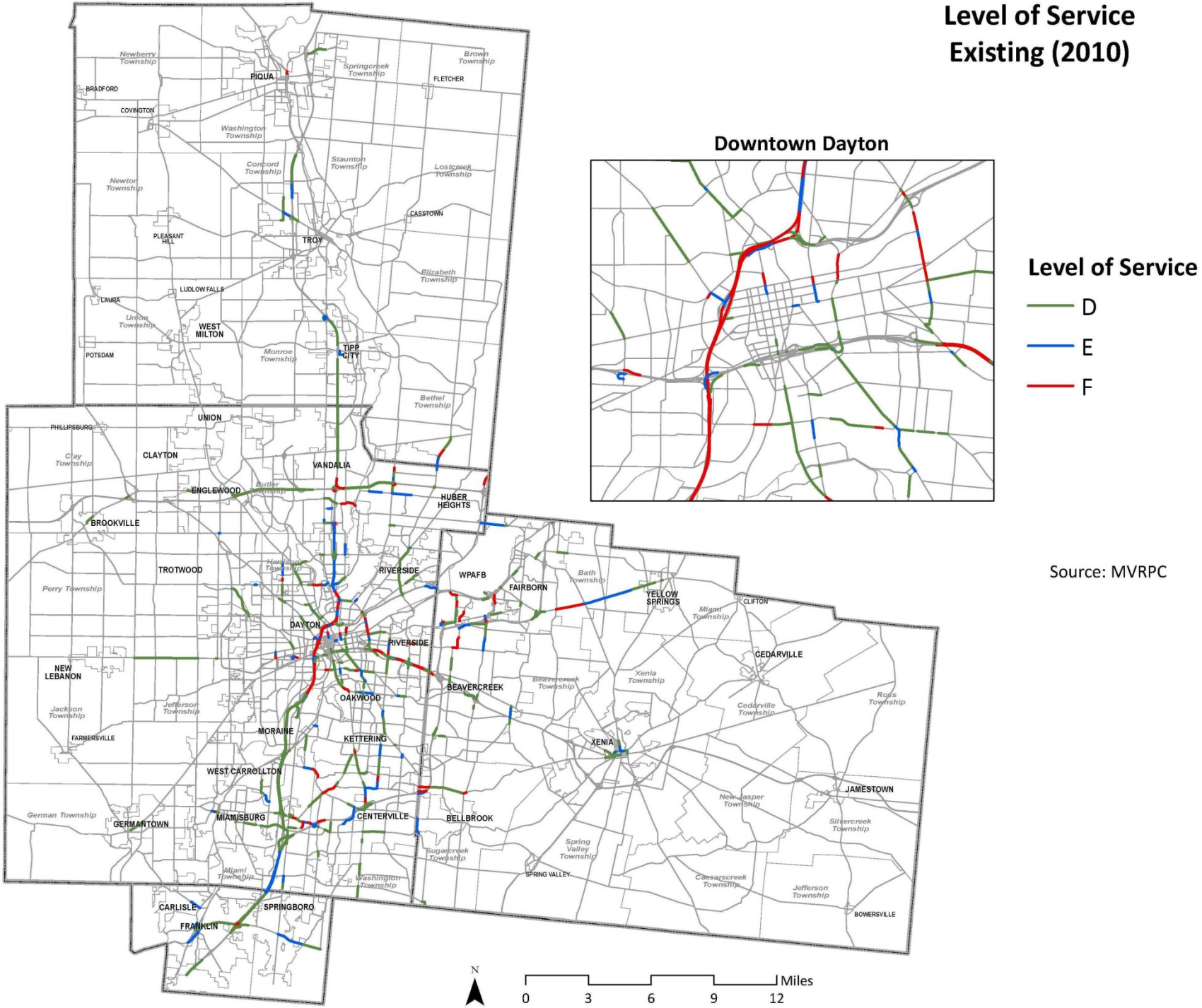








Level of Service
Existing (2010)

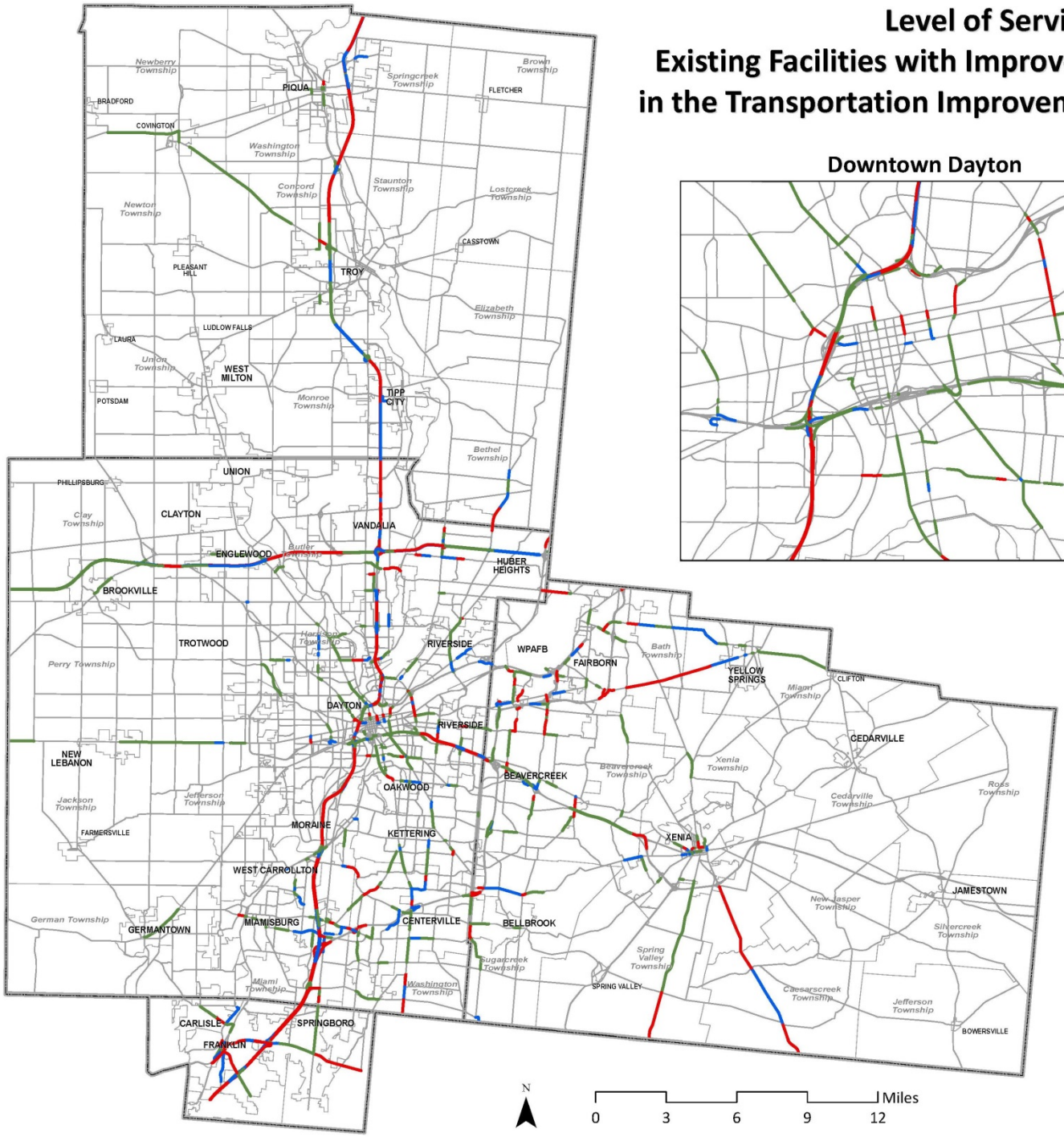


Level of Service
Existing Facilities with Improvements Committed in the Transportation Improvement Program (2040)

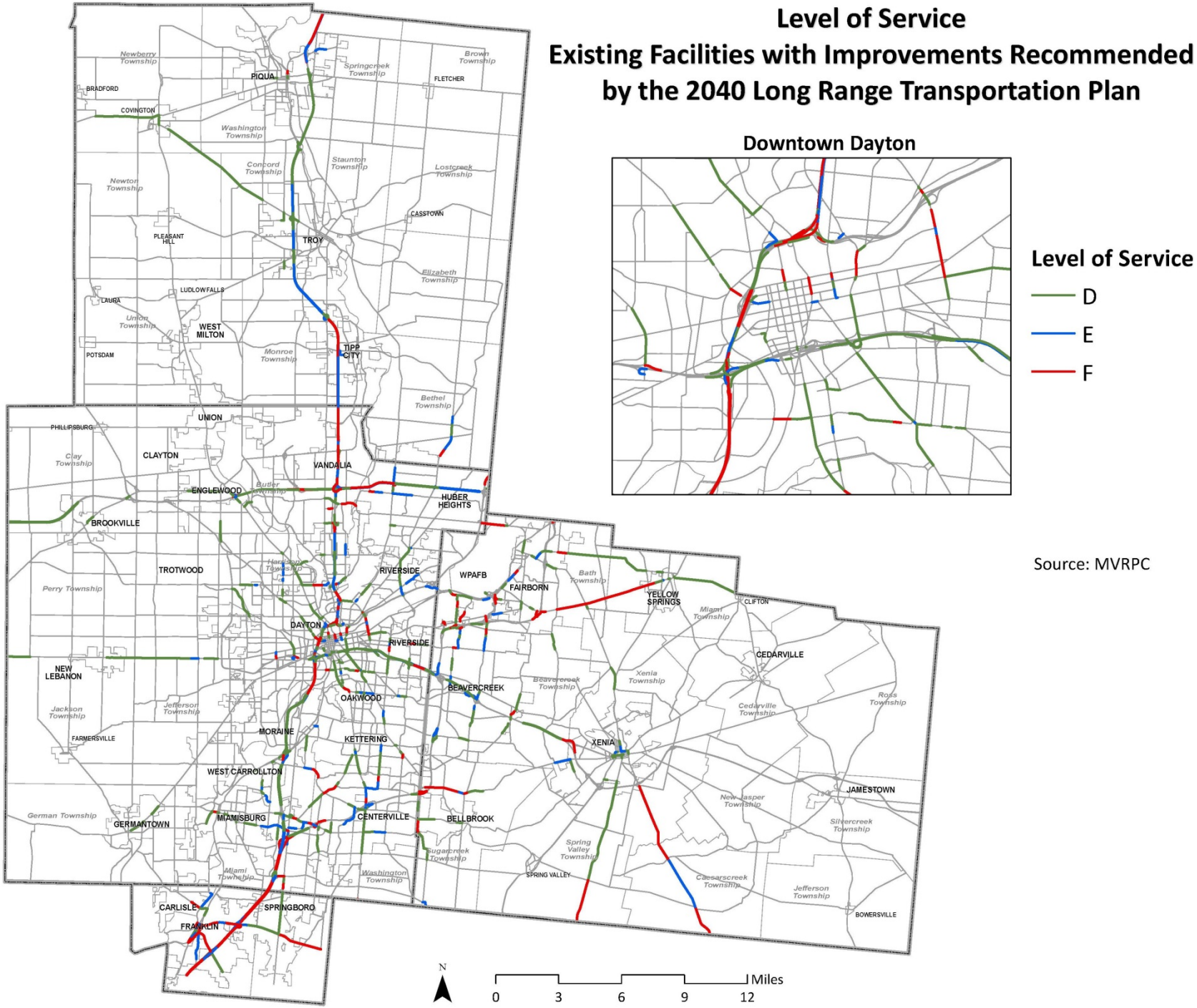
Level of Service

- D
- E
- F

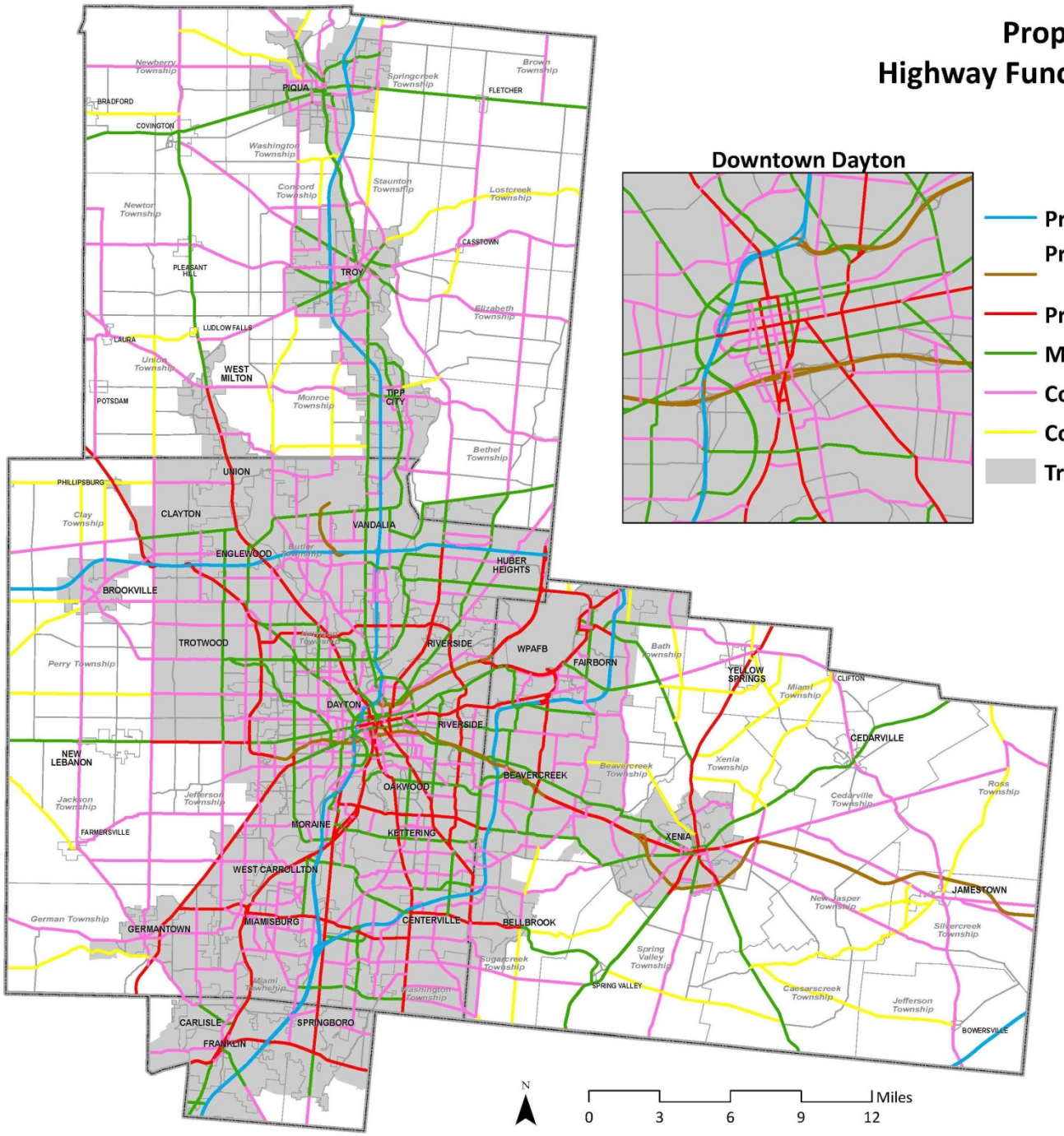
Source: MVRPC



Level of Service
Existing Facilities with Improvements Recommended by the 2040 Long Range Transportation Plan



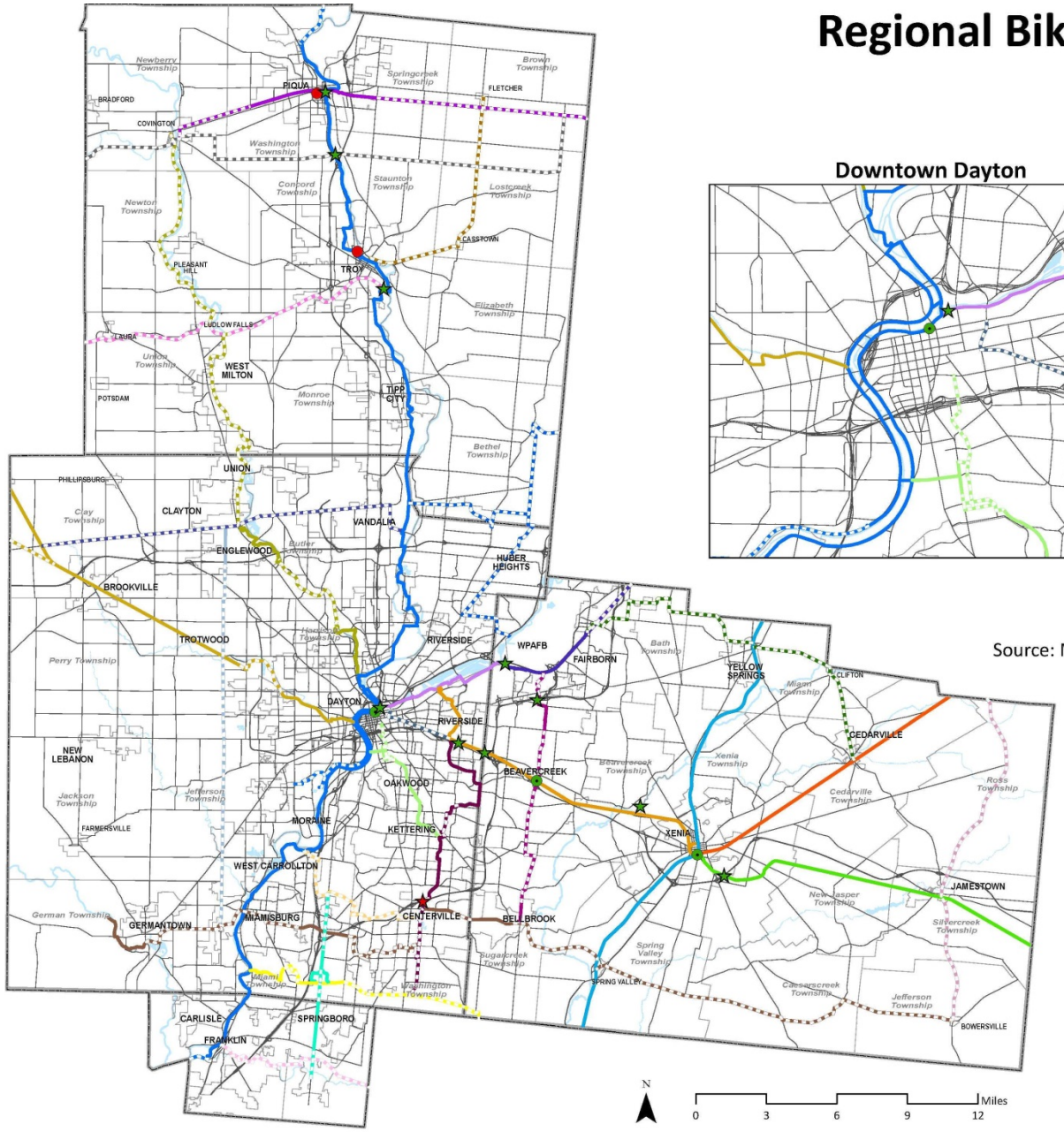
Proposed 2010
Highway Functional Classification



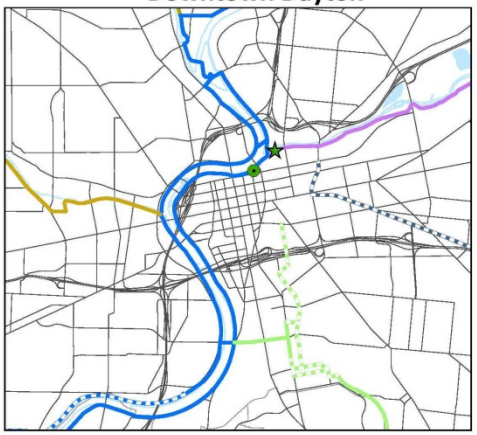
Source: Federal Highway Administration (FHWA), ODOT & MVRPC

Alternative Transportation Modes (Passenger and Freight)

Regional Bikeway and Pedestrian Projects



Downtown Dayton



Source: MVRPC

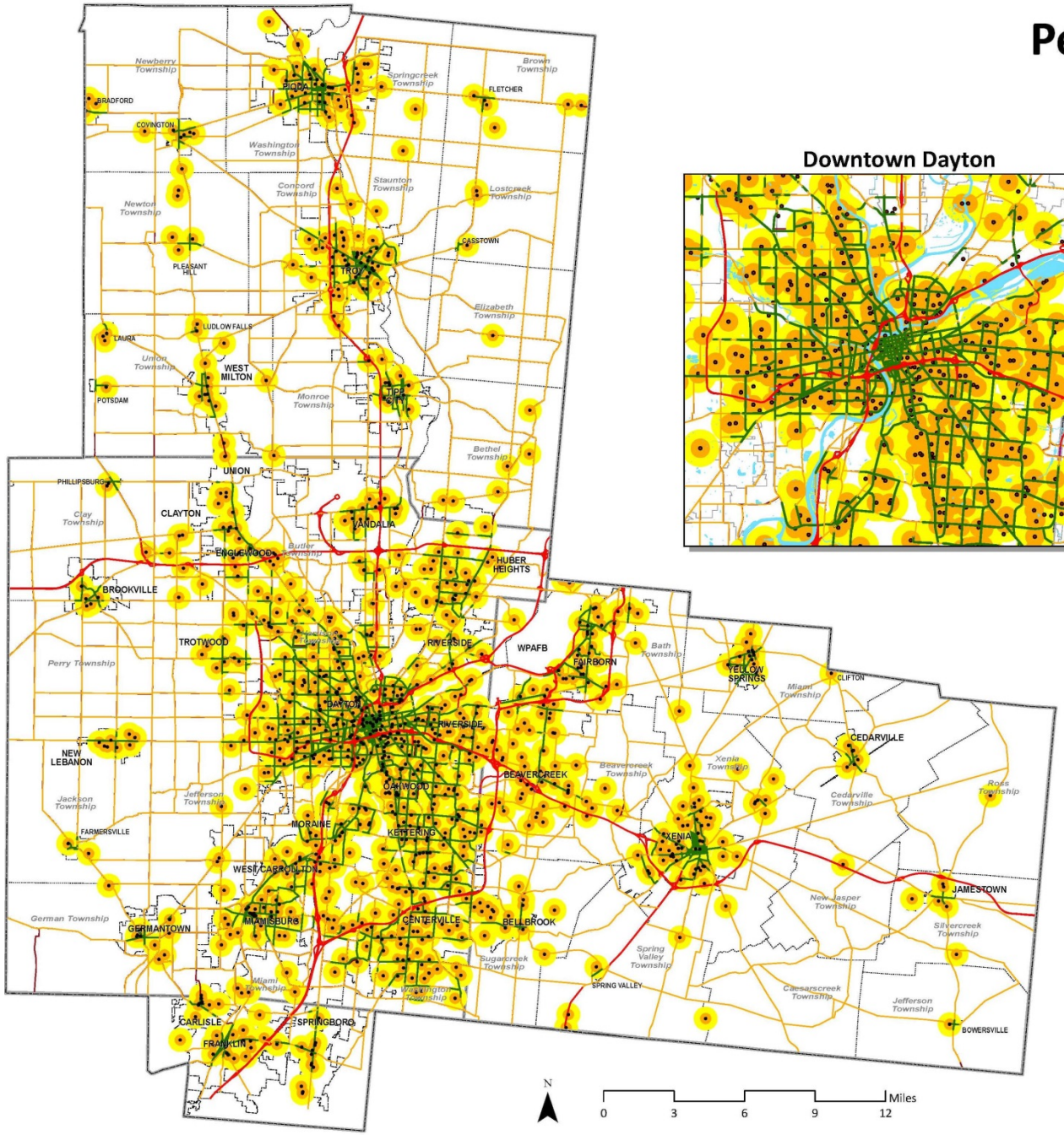
Regional Bikeway System

- Bellbrook-Fairborn Connector
- Bowersville-Jamestown-Clifton Connector
- Cardinal Trail
- Carriage Hills Connector
- Creekside Trail
- Dayton-Kettering Connector
- Fairborn-Yellow Springs-Cedarville Connector
- Germantown-Bowersville Connector
- Great Miami River Trail
- Great Miami River-Centerville Connector
- Great Miami River-Creekside Connector
- Great Miami-Little Miami Connector
- Great-Little Trail
- Iron Horse Trail
- Laura-Troy Connector
- Little Miami Scenic Trail
- Mad River Trail
- Ohio to Indiana Trail
- Ohio-to-Erie Trail
- Old National Road Trail
- SR 741 Corridor
- Simon Kenton Trail
- Stillwater River Trail
- Troy-Fletcher Connector
- Wolf Creek Connector
- Wolf Creek Trail
- Wright Brothers-Huffman Prairie Trail
- Xenia-Jamestown Connector

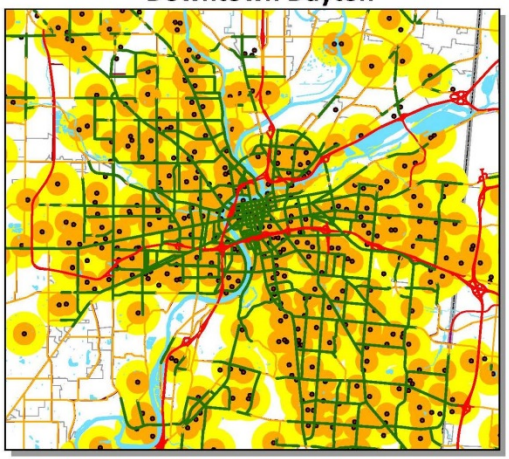
Completion Status

- Existing Bikeway Bridges / Tunnels
- Proposed Bikeway Bridges / Tunnels
- Existing Bikeway Hub
- Proposed Bikeway Hub
- Existing Trail
- Proposed Trail

Pedestrian Activity Centers By Sidewalk Availability



Downtown Dayton



Pedestrian Activity Centers: Sports Facilities, Schools, Hospitals, Libraries, Retail Centers, and Open Spaces

1/4 Mile Buffer

1/2 Mile Buffer

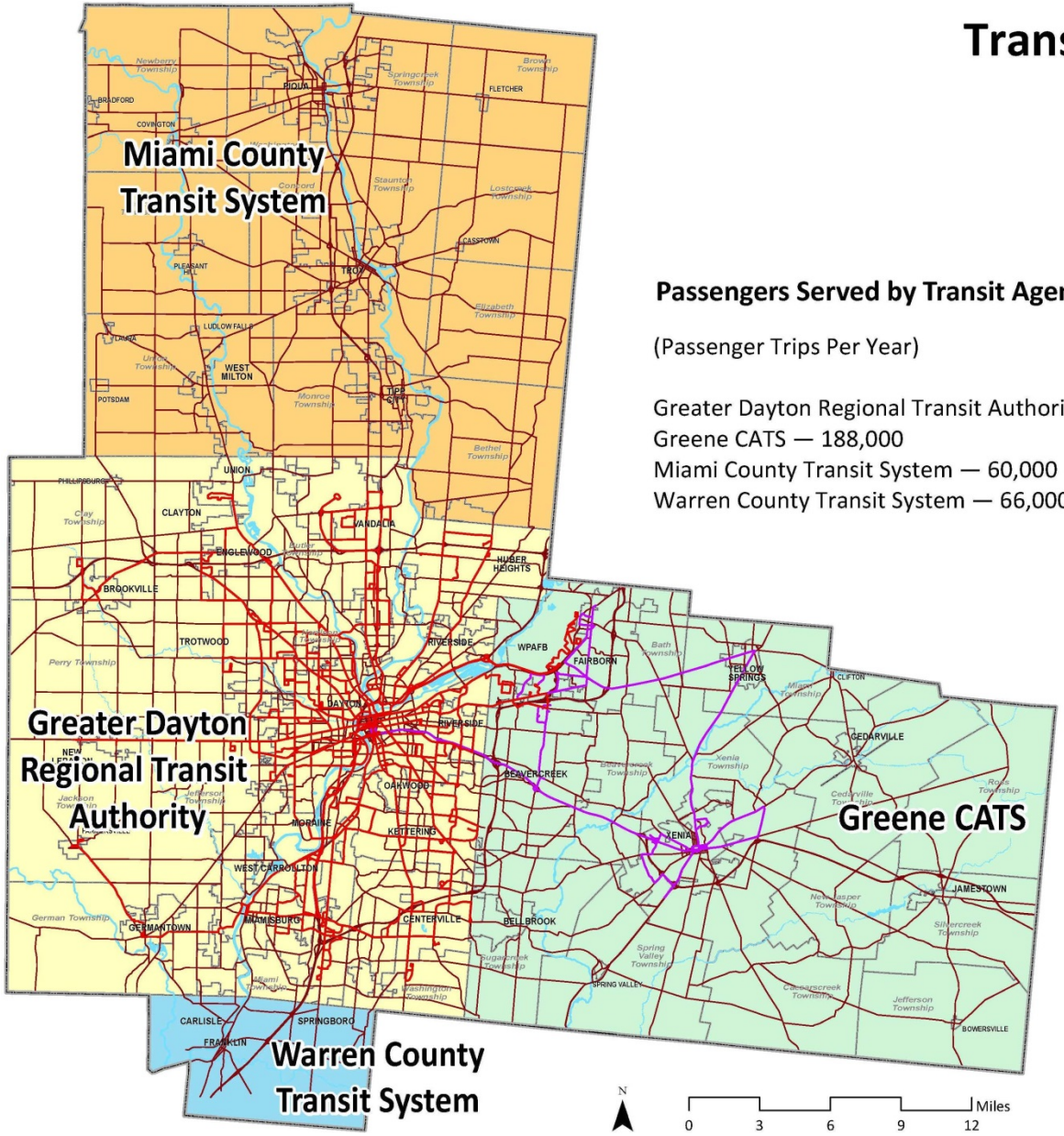
Limited access roadways

Roadways with sidewalk to pedestrian activity center

Roadways without sidewalk to pedestrian activity center

Source: ODOT and MVRPC

Transit Agency Service Areas



Passengers Served by Transit Agency

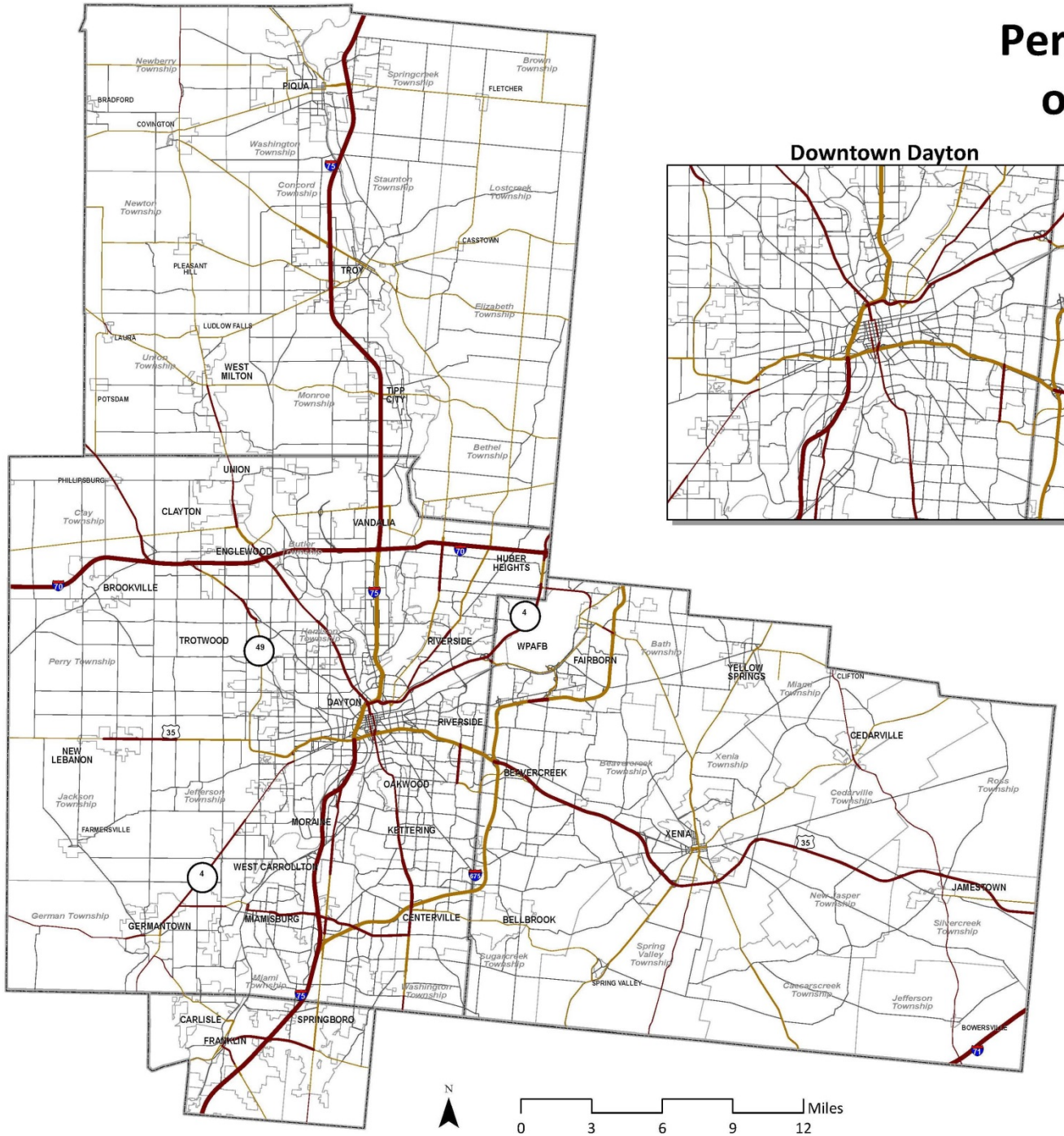
(Passenger Trips Per Year)

Greater Dayton Regional Transit Authority — 10,000,000
Greene CATS — 188,000
Miami County Transit System — 60,000
Warren County Transit System — 66,000

GDRTA Transit Routes
Greene CATS Flex Routes

Source: GDRTA, Greene CATS,
Miami County Transit System, and
Warren County Transit System

Percentage of Truck Traffic on Roadway Segments



Downtown Dayton

Roadway segments with above average state truck volume percentage, by road type

Roadway segments with below average state truck volume percentage, by road type

Truck Volume on Road Segments

- 0 - 500
- 500 - 1,000
- 1,000 - 2,500
- 2,500 - 7,500
- 7,500 - 21,000

State Averages - Percent Truck Volume

Interstates:	14.00%
US Routes:	9.17%
State Routes:	6.10%

Source: ODOT and MVRPC

Community Impact Assessment

Overview

The goal of MVRPC's Community Impact Assessment is to incorporate Environmental Justice (EJ) issues into the transportation planning process. This initiative entails various quantitative analyses using Geographic Information Systems (GIS). The Community Impact Assessment initiatives began in 2001, as part of the 2025 Long Range Transportation Plan, with data from the 1990 census. The most recent Community Impact Assessment incorporates the latest data from the 2010 Census and 2008-2012 American Community Survey.

Definition of Environmental Justice

"The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. Fair treatments means that no group of people, including racial, ethnic or socio-economic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution
of federal, state, local and tribal programs and policies." (U.S. EPA Office of Environmental Justice)

MVRPC's Approach

The methods adopted by the MVRPC team to fulfill EJ requirements follow guidelines in print from Ohio Dept. of Transportation (ODOT), and the recommendations of the Ohio EJ Task Force. The approach adopts a three step process to arrive at the findings describing the nature and extent of impact of development patterns on disadvantaged populations.

STEP 1: Define EJ Population

MVRPC's EJ Target Population includes minorities, persons in poverty, persons with disabilities, and the elderly. These categories were further expanded to include traditionally disadvantaged groups such as persons of Hispanic origin and households without automobiles.

↓

STEP 2: Identify EJ Target Areas

Population composition at the Traffic Analysis Zone (TAZ) level was examined to identify concentrations of EJ Target Populations. TAZs were examined for concentrations of each of the EJ Target Population categories. Finally, MVRPC used GIS to produce maps showing spatial distribution of EJ Target Areas.

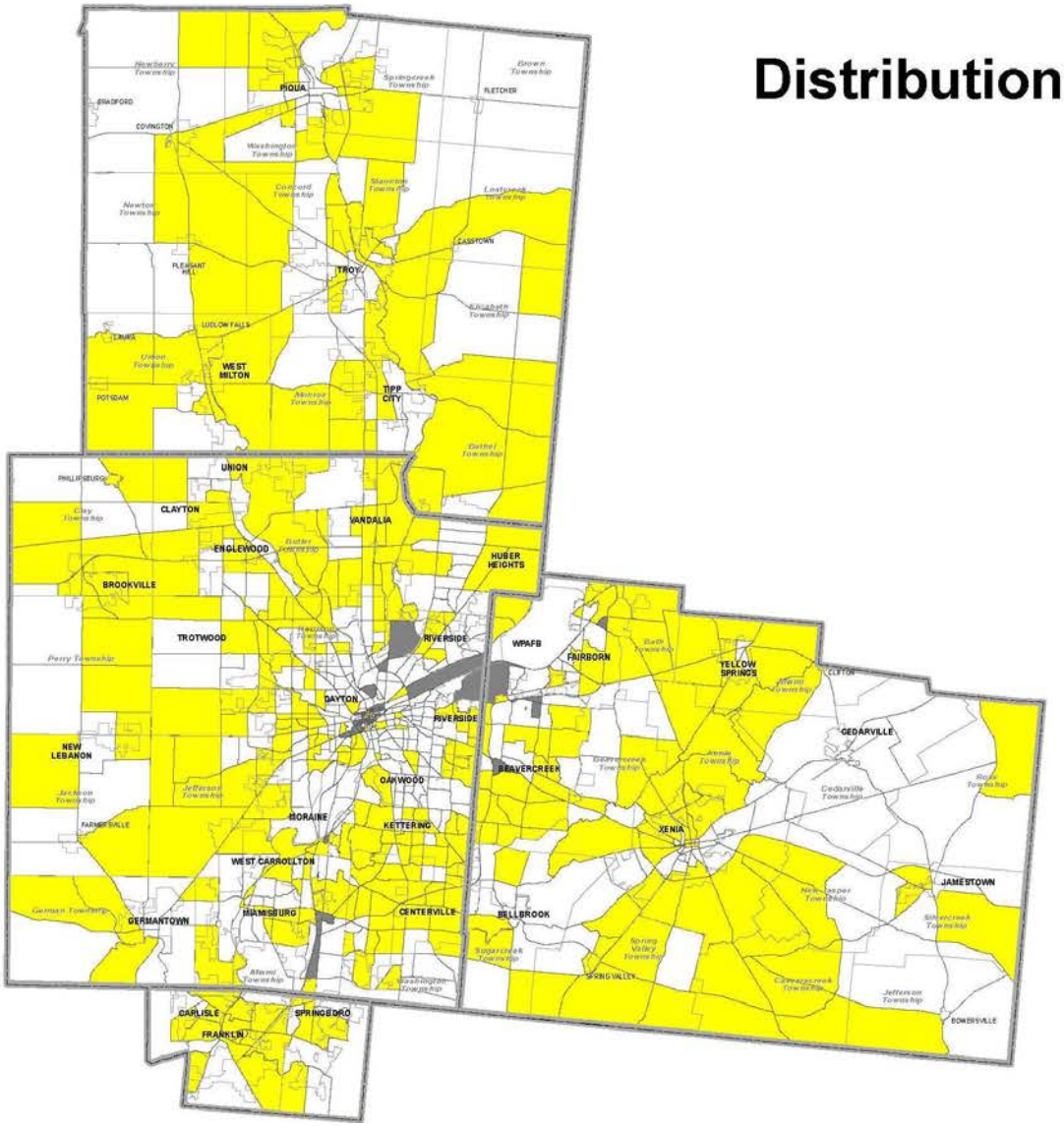
↓

STEP 3: Tests for Adverse Impact *

- Major Facility Accessibility Analysis – Travel times from EJ Target areas to the closest major facilities, such as hospitals, shopping centers and universities, are measured on the regional transportation network. These travel times are then compared to those from non-EJ Target Areas.
- Travel Time to Work Analysis – The average travel time to work for each TAZ is derived using MVRPC's travel demand forecasting model. And these travel times are then compared between EJ and non-EJ Target Areas.
- Transit Accessibility Analysis – Access to public transit was measured for each targeted EJ population group. These measurements were compared with the access enjoyed by populations in non-EJ Target Areas.

* To be completed as part of the LRTP update.

Distribution of Elderly Population



Elderly Population Percentage by County

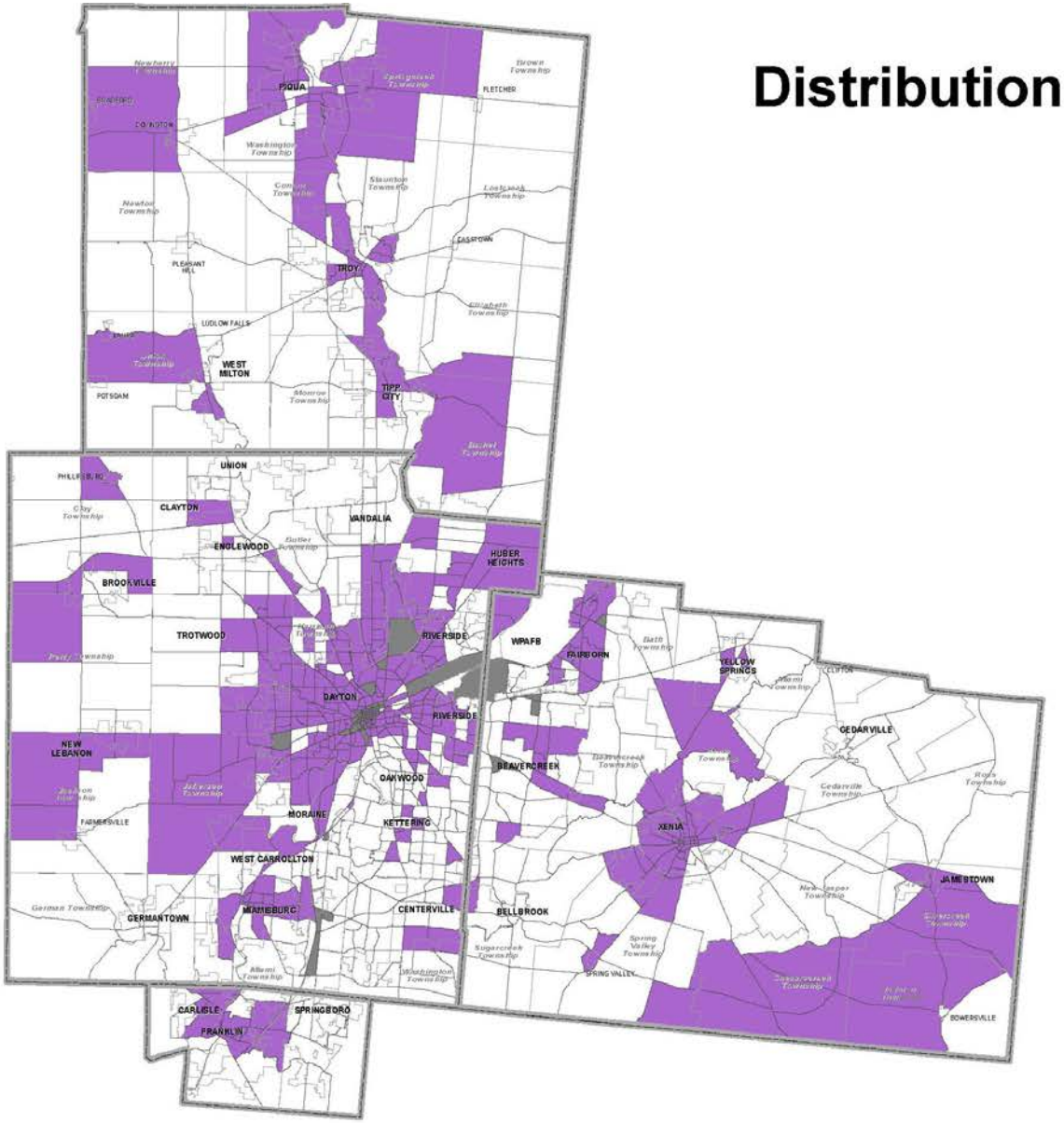
- Below County %
- Above or Equal to County %
- No Population/No Data

Elderly Population Percentage by County

Miami County	**13.20%**
Greene County	**11.80%**
Montgomery County	**13.70%**
Warren County	**9.40%**

N

0 2 4 6 8 Miles



Distribution of Disabled Population

Disabled Population By County

- Below County %
- Above or Equal to County %
- No Population/No Data

Disabled Population Percentage by County

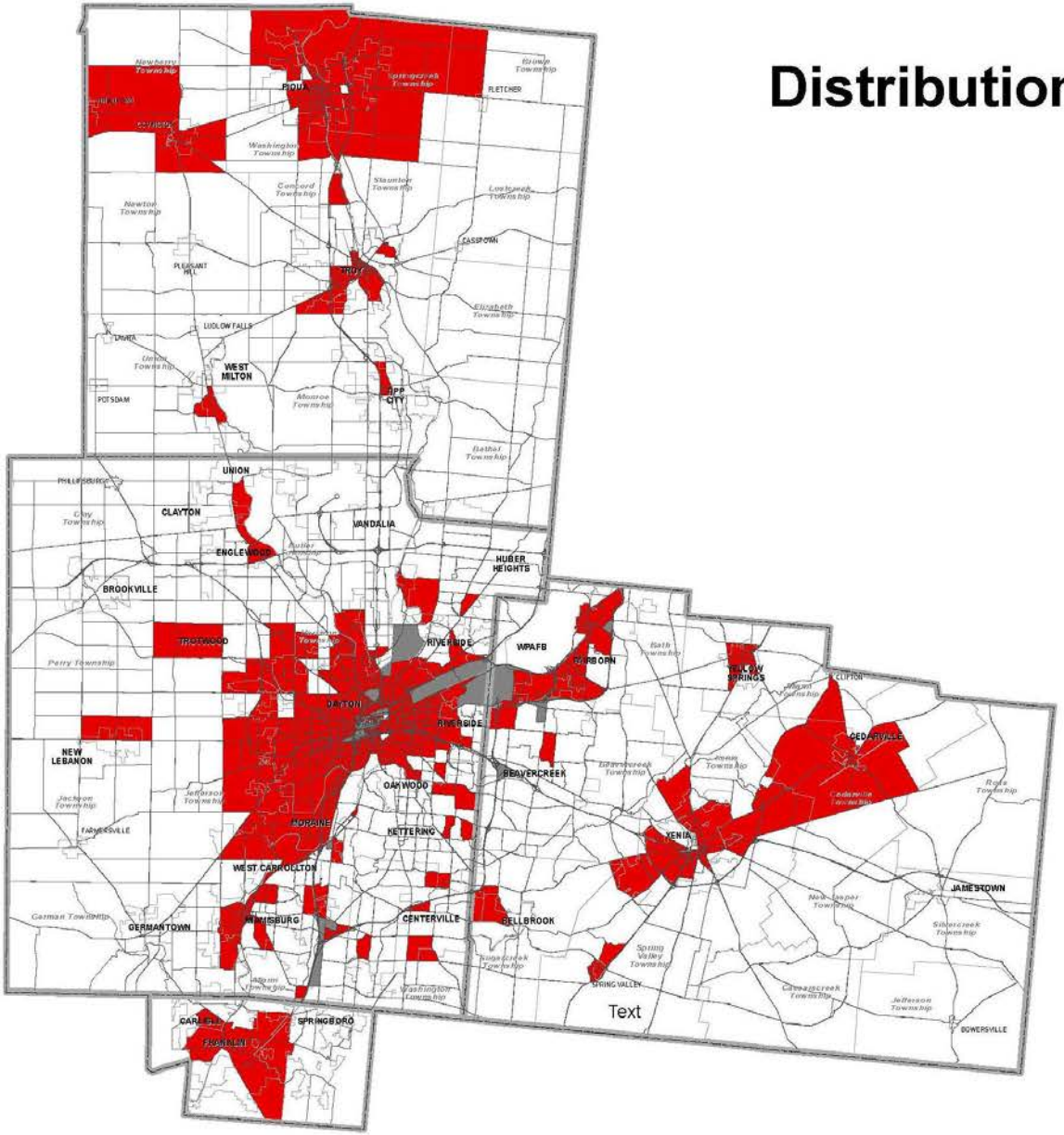
Miami County	**20.30% ***
Greene County	**17.90% ***
Montgomery County	**23.60% ***
Warren County	**18.40% ***

*** The Census Bureau collects disability data under the categories of Hearing difficulty, Vision difficulty, Cognitive difficulty, Ambulatory difficulty, Self-Care difficulty, and Independent Living difficulty.**

N

0 2 4 6 8 Miles

Distribution of People in Poverty



Population in Poverty by County

- Below County %
- Above or Equal to County %
- No Population/No Data

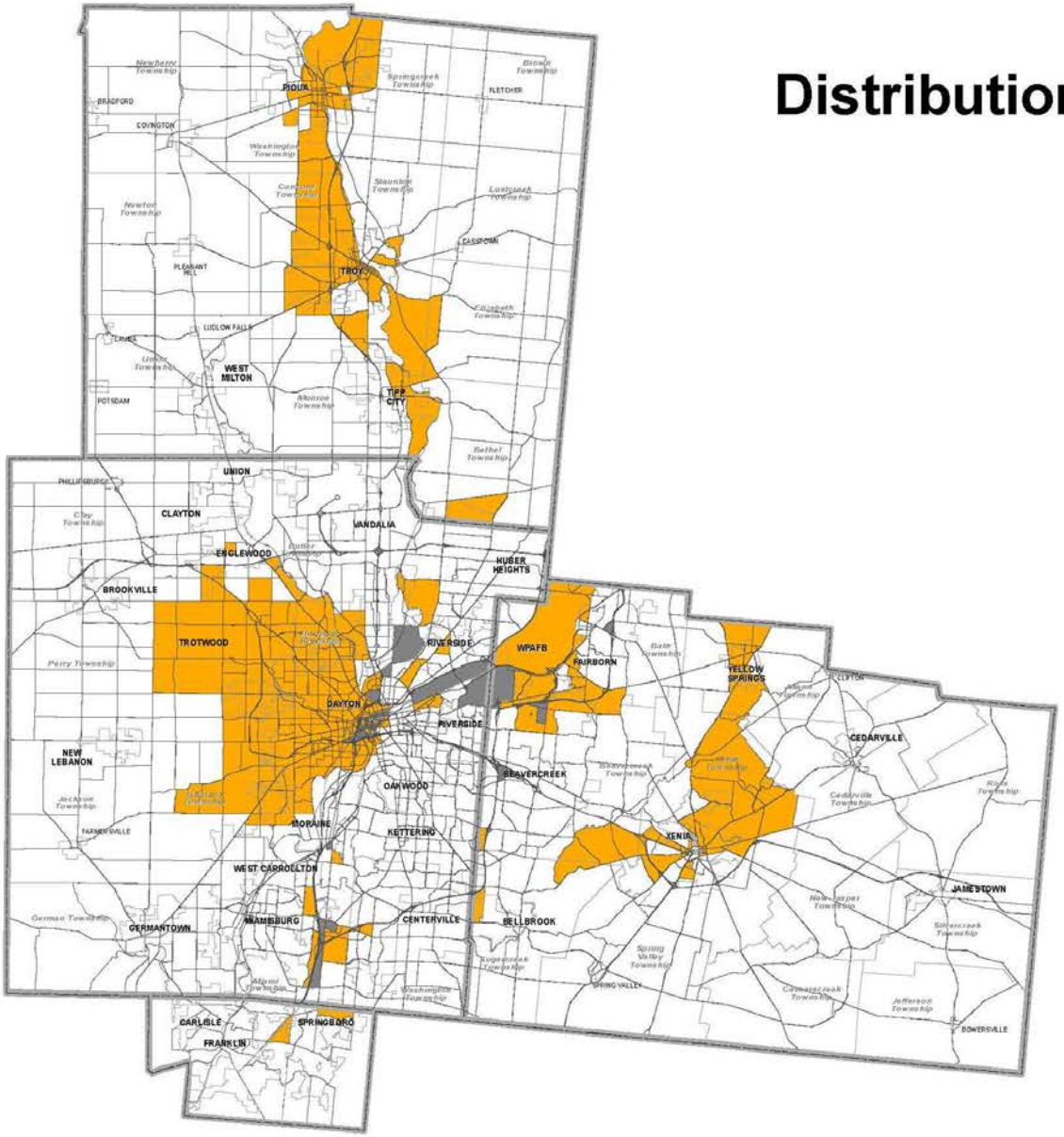
Poverty Percentage by County

Miami County	5.98%
Greene County	7.40%
Montgomery County	9.77%
Warren County	3.68%

N

0 2 4 6 8 Miles

Distribution of Minority Population



Minority Population by County

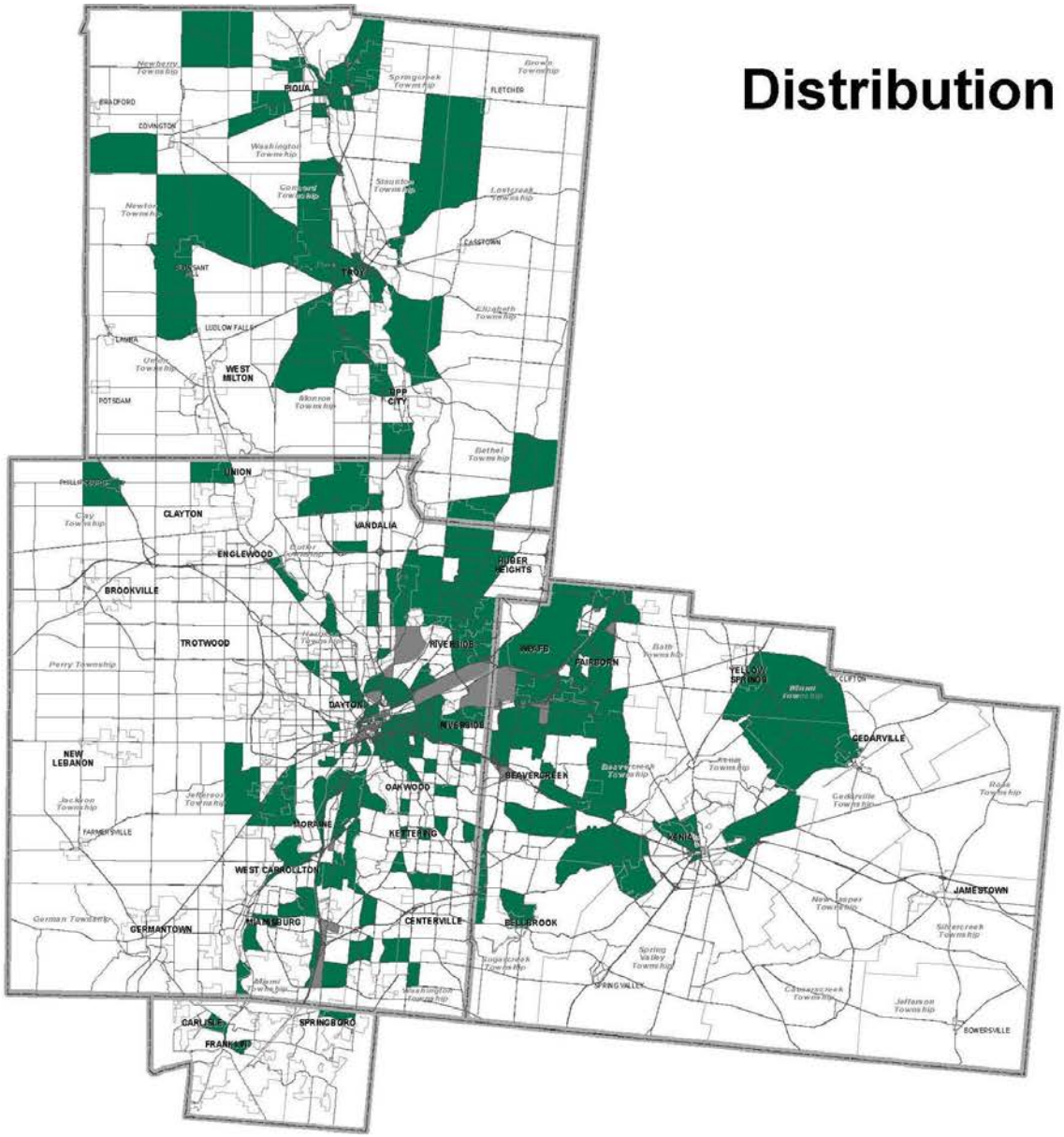
- Below County %
- Above or Equal to County %
- No Population/No Data

Minority Population Percentage by County

Miami County	4.20%
Greene County	10.80%
Montgomery County	23.40%
Warren County	5.30%

N

0 2 4 6 8 Miles



Distribution of Hispanic Population

Hispanic Population by County

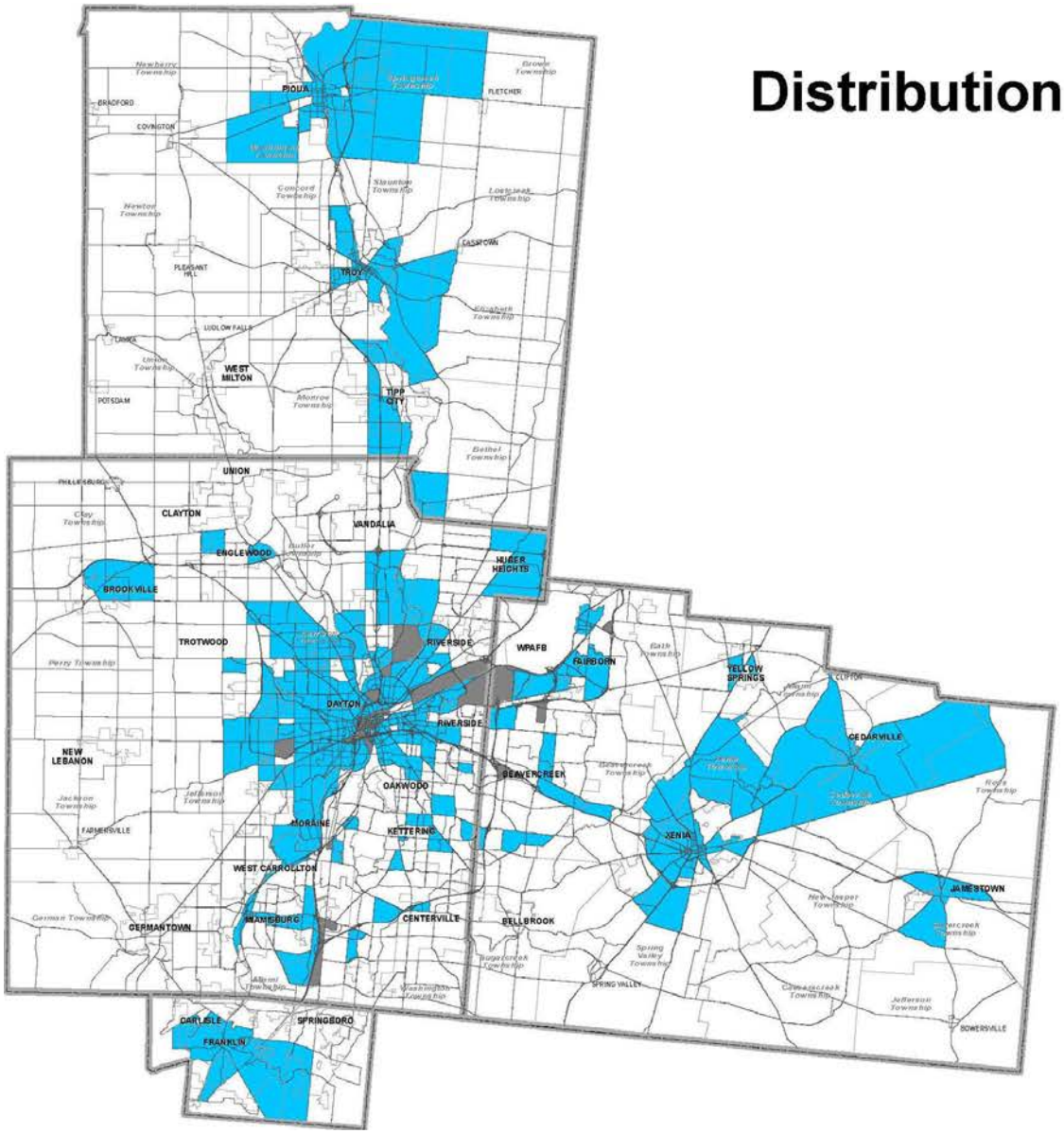
- Below County %
- Above or Equal to County %
- No Population/No Data

Hispanic Population Percentage by County

Miami County	0.70%
Greene County	1.20%
Montgomery County	1.30%
Warren County	1.00%

N

0 2 4 6 8 Miles



Distribution of Zero-Car Households

Zero-Car Households by County

- Below County %
- Above or Equal to County %
- No Households/No Data

Zero-Car Households Percentage by County

Miami County	4.91%
Greene County	5.13%
Montgomery County	9.71%
Warren County	3.44%

N

0 2 4 6 8 Miles

Land Use & Socioeconomic Projections

Land Use

Land development throughout the Region has been largely concentrated along major highways, namely I-75, I-70, and I-675. As of 2007, over 60% of the Region's land was classified as agricultural or open space. Residential land constituted the next largest percentage (24.2%), followed by institutional and commercial land (3.7% and 3.3%, respectively).

Residential development throughout the Region is spread fairly even throughout the urbanized area, with high concentrations in eastern Montgomery County and western part of Greene County and along I-75 in Miami County.

Commercial development is spread somewhat less evenly, with concentrations around three suburban malls and in the Dayton CBD. Additional commercial areas are found along the major transportation routes. As a result, most parts of the Region are well served by retail and service facilities.

Industrial development in the Region generally follows the I-75 corridor, which parallels the Great Miami River and provides access to factories and office clusters stretching from the City of Piqua in northern Miami County down to southern Montgomery County. The most important concentration of employment outside of the I-75 corridor is located along the Greene/ Montgomery County border near the intersection of I-70 with SR 4 and along I-675.

2010 Socioeconomic Data

As of 2010, the Region is home to a population of 839,012- a decrease of <1% since 2000. The majority of the population (63.8%) lives in Montgomery County Population in the Region is expected to grow through 2040 by 5.4%, with high growth areas spreading outward from the center into northern Warren County and western Greene County. Montgomery County is expected to continue to lose population but remain the population center of the Region.

There are approximately 404,054 households in the Region, with nearly 55.4% located in Montgomery County. The Region is also home to 518,096 jobs. Similar to population projections, growth in number of households and employment by 2040 is expected in high growth areas of western Greene County and northern Warren County. Montgomery County is expected to remain relatively stable in both areas with a -3.1% decrease in number of households and 0.6% increase in employment.

Socioeconomic Data for the 2016 Long Range Transportation Plan

POPULATION	Census		MVRPC
County	*2000*	*2010*	*2040*
Greene	147,886	161,573	191,945
Miami	98,868	102,506	109,494
Montgomery	559,062	535,135	518,788
Warren	158,383	212,693	406,133

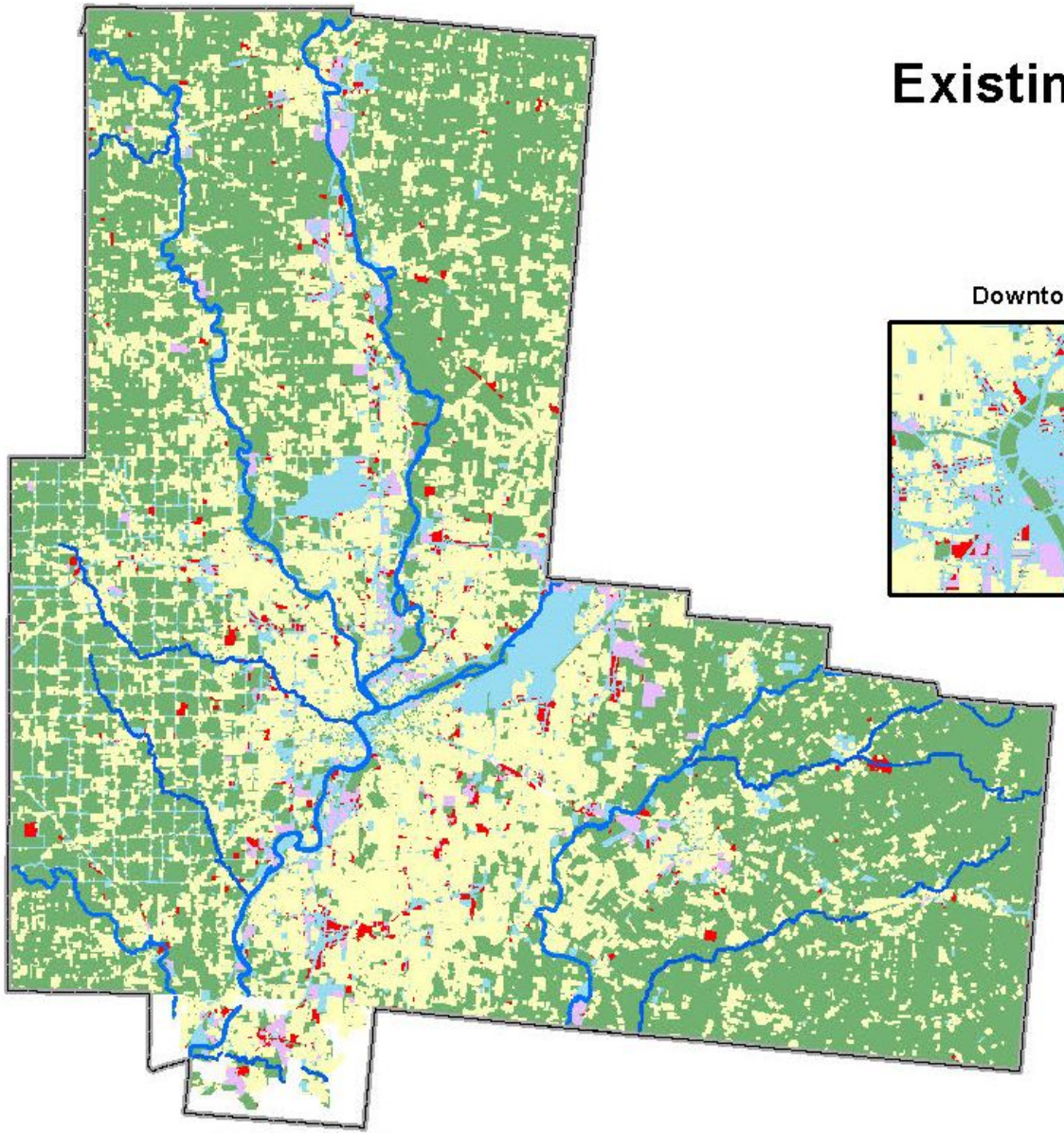
HOUSEHOLDS	Census		MVRPC
County	*2000*	*2010*	*2040*
Greene	55,312	62,770	75,247
Miami	38,437	40,917	43,735
Montgomery	229,229	223,943	216,909
Warren	55,966	76,424	152,723

EMPLOYMENT	MVRPC		
County	*2000*	*2010*	*2040*
Greene	77,175	88,282	104,877
Miami	51,317	53,256	57,066
Montgomery	308,437	299,855	301,690
Warren	66,469	76,703	112,528

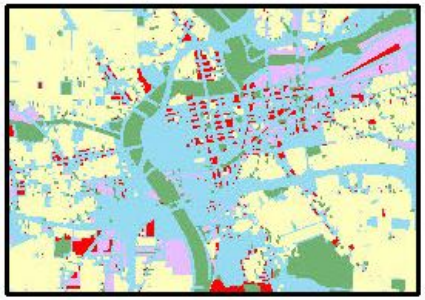
Source: US Census, MVRPC

MIAMI VALLEY
Regional Planning Commission

Existing Land Use Cover (2007)



Downtown Dayton



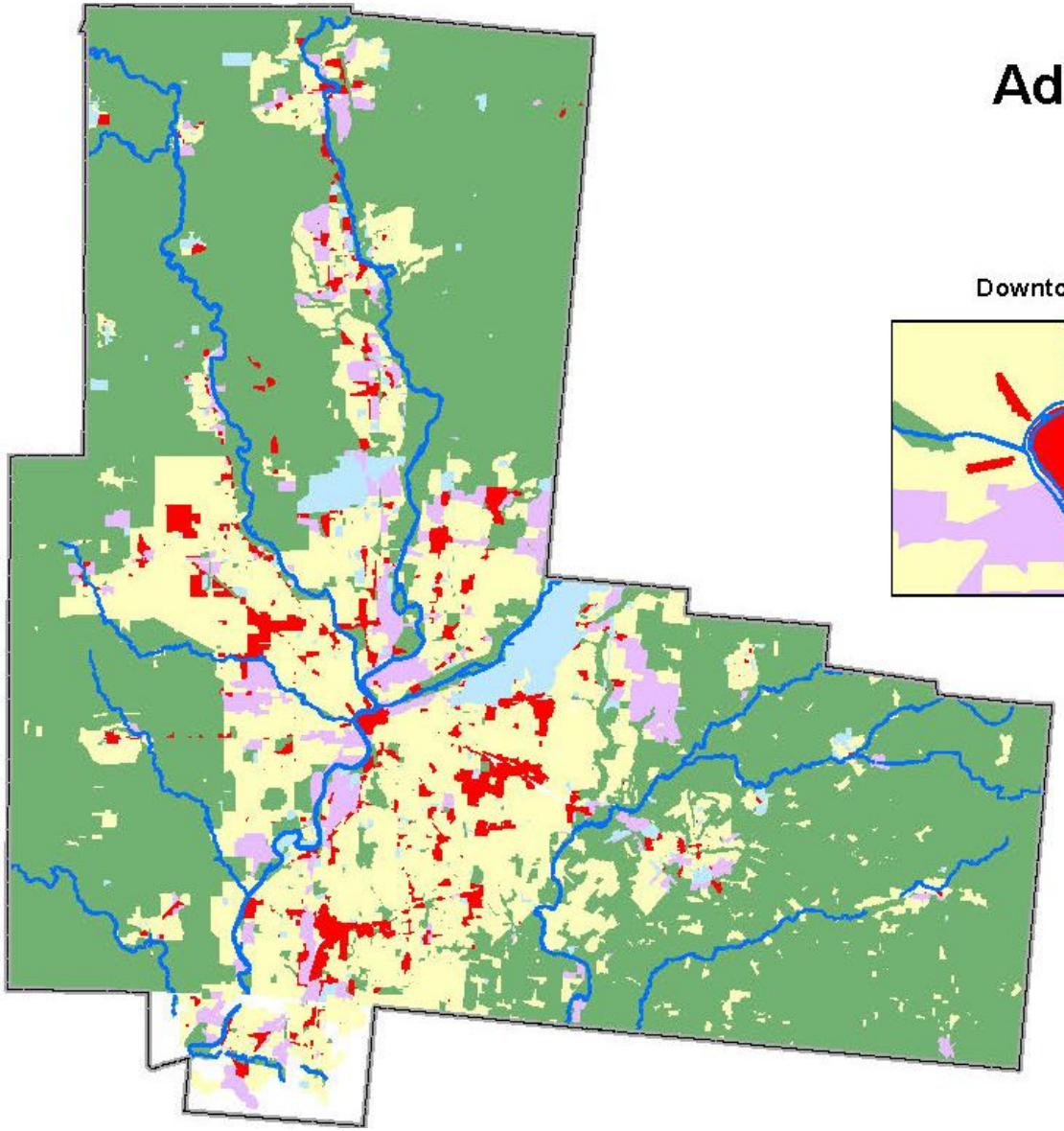
Existing Land Use

- Agricultural/ Open Space
- Commercial
- Industrial
- Public/ Institutional
- Residential

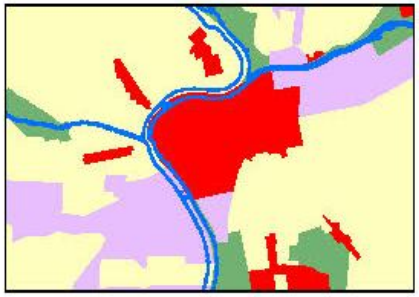
N

0 2 4 6 8 Miles

Adopted Future Land Use



Downtown Dayton



Future Land Use

- Agricultural/ Open Space
- Commercial/ Mixed Use
- Industrial
- Public/ Institutional
- Residential

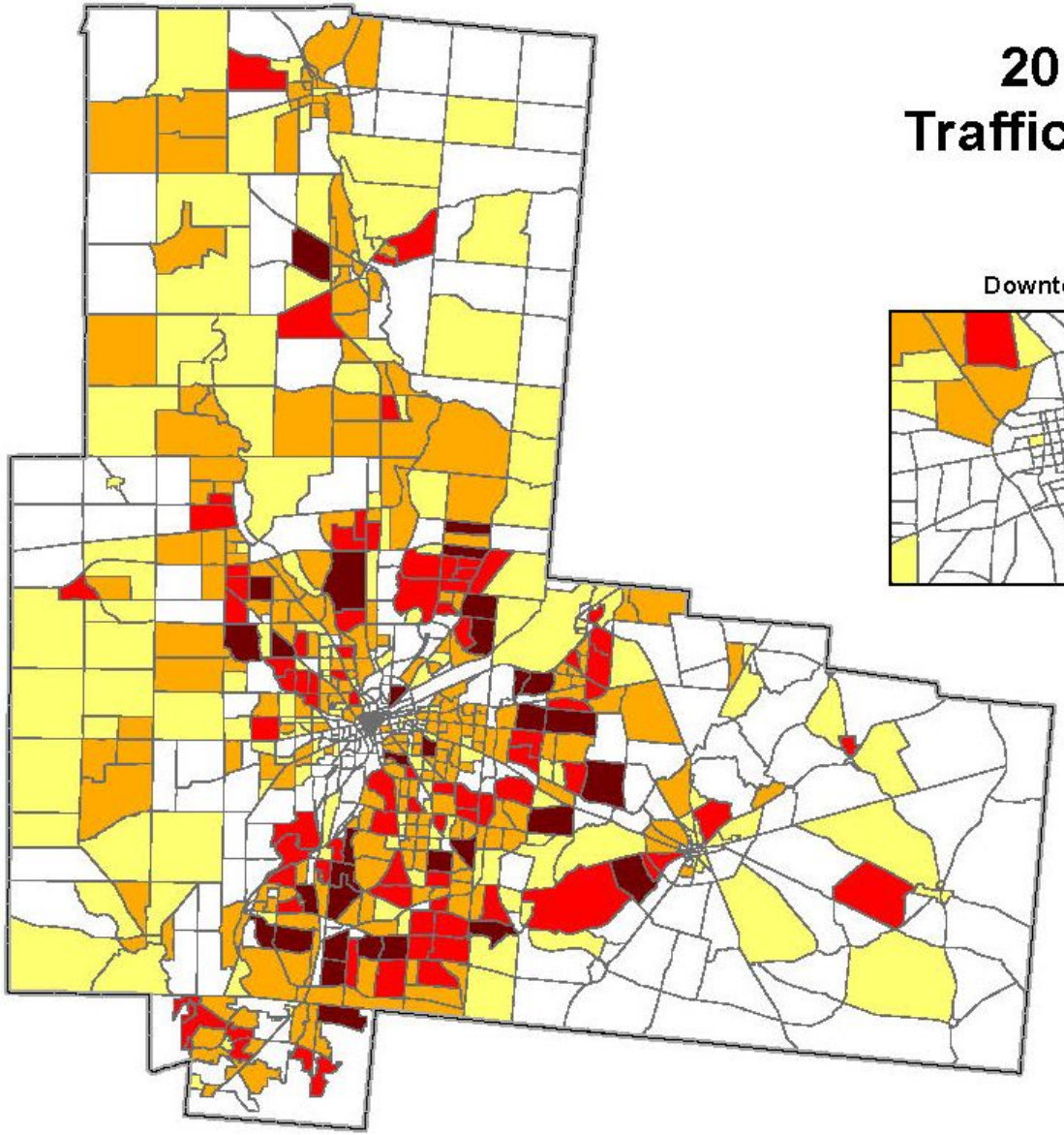
Adopted Land Use Plan Horizon Year as of 2007:

Greene Co. Jurisdictions:	1990, 2015, 2020
Miami Co. Jurisdictions:	2007, 2020, 2030
Montgomery Co. Jurisdictions:	1997, 1998, 2000, 2010, 2012, 2015, 2020, 2025

N

0 2 4 6 8 Miles

2010 Population by Traffic Analysis Zone (TAZ)



Downtown Dayton

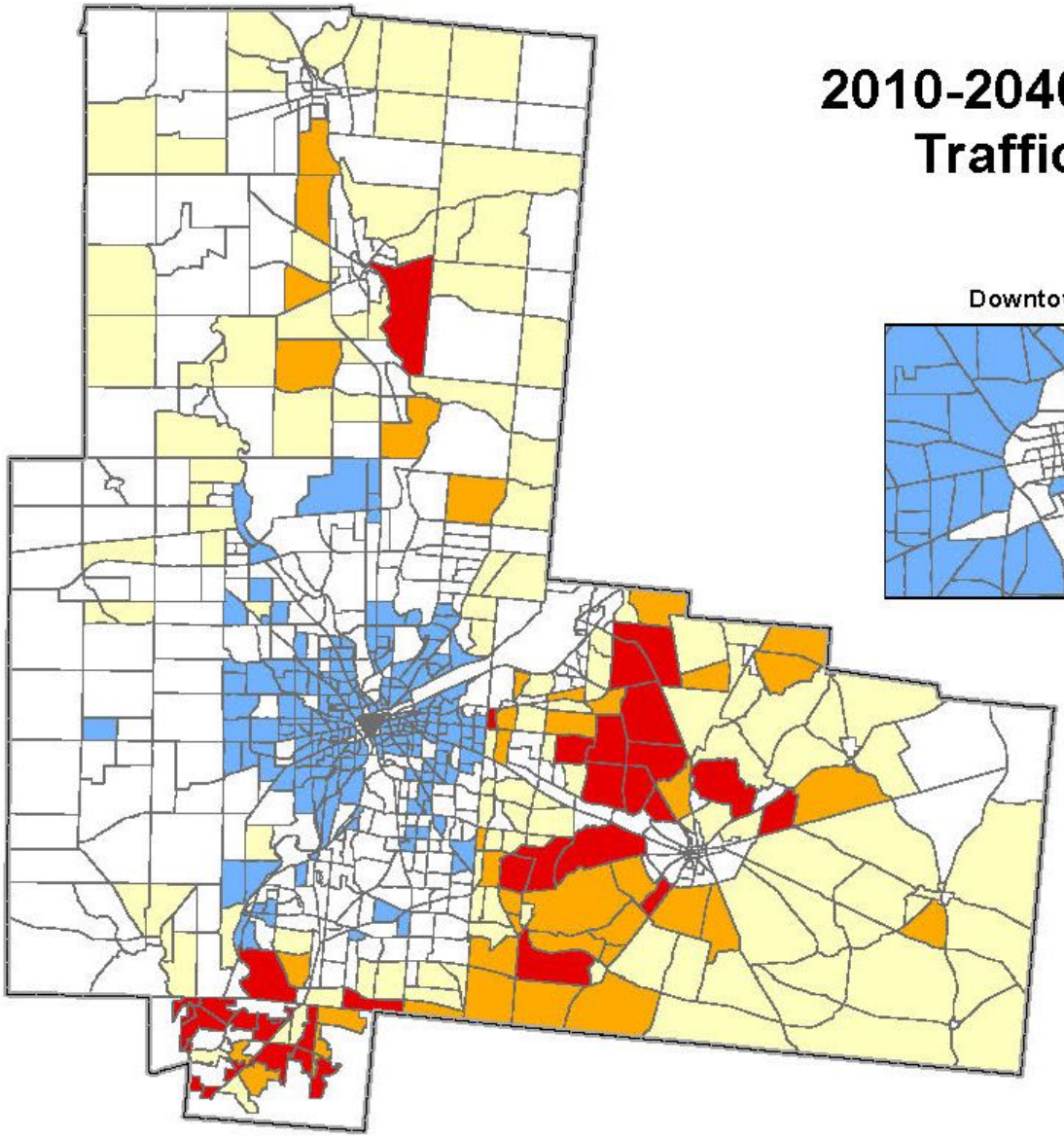
Total Population

- 0 - 500
- 501 - 1000
- 1001 - 2000
- 2001 - 3000
- 3001 - 5703

N

0 2 4 6 8 Miles

2010-2040 Population Change by Traffic Analysis Zone (TAZ)



Downtown Dayton

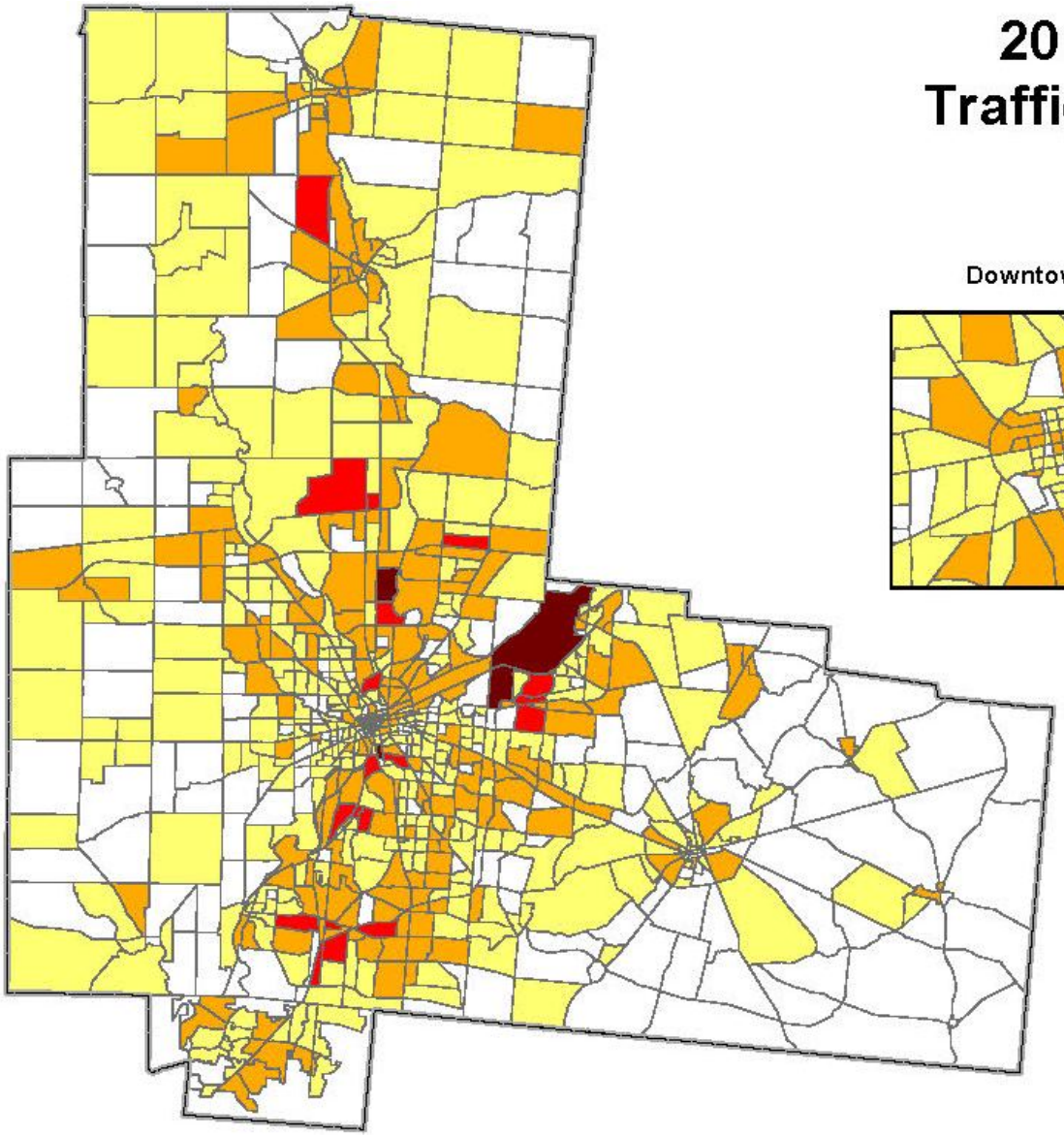
Population Change

- < -5.0%
- -4.9% - +5.0%
- 5.1% - 25.0%
- 25.1% - 50.0%
- > 50.1%

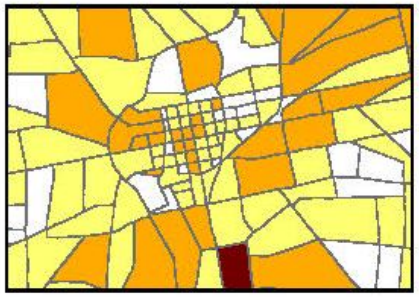
N

0 2 4 6 8 Miles

2010 Employment by Traffic Analysis Zone (TAZ)



Downtown Dayton



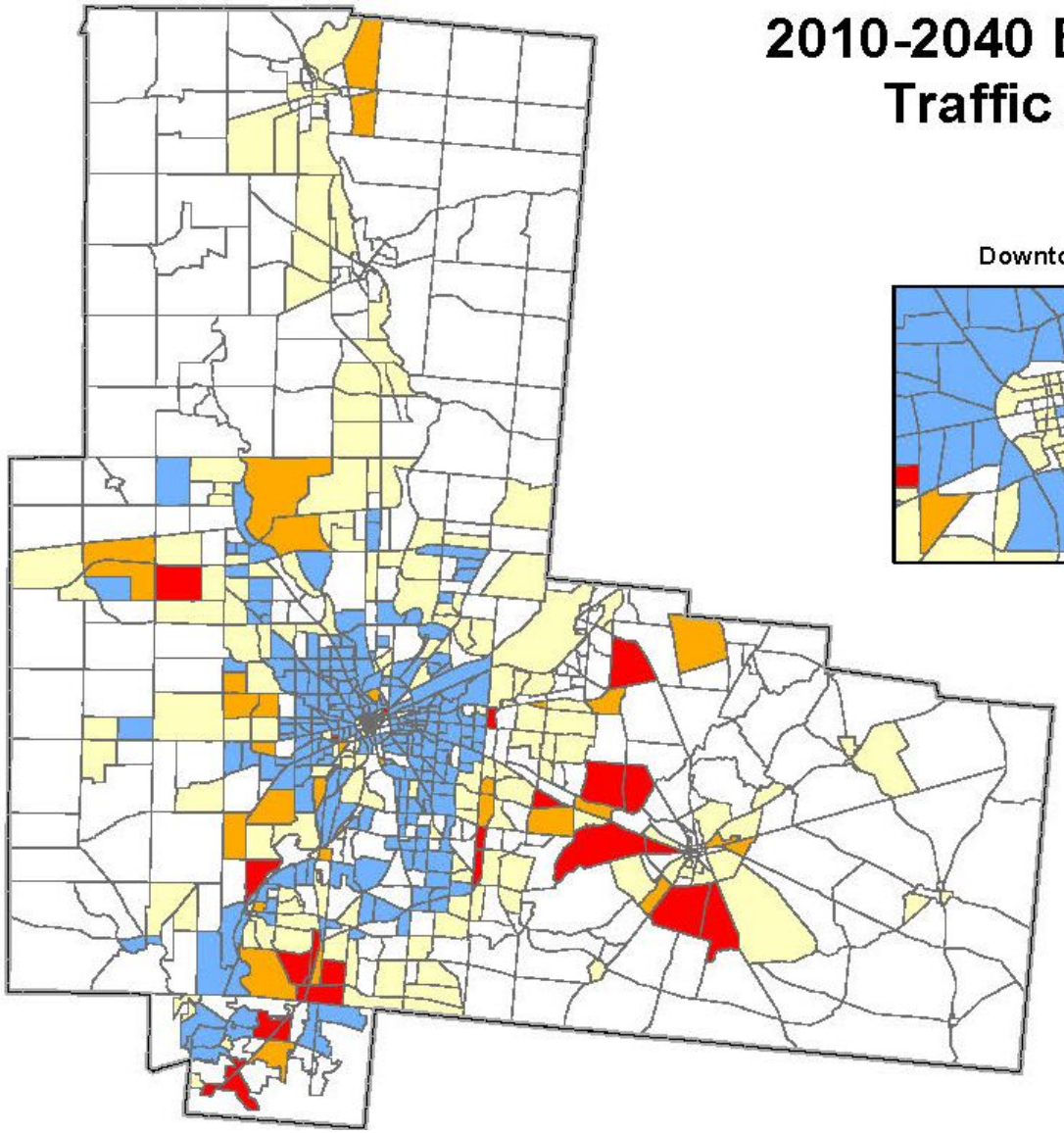
Total Employment

- 0 - 100
- 101 - 500
- 501 - 2,500
- 2,501 - 5,000
- > 5,001

N

0 2 4 6 8 Miles

2010-2040 Employment Change by Traffic Analysis Zone (TAZ)



Downtown Dayton

Employment Change

- < -5.0%
- -4.9 - 5.0%
- 5.1 - 25.0%
- 25.1 - 50.0%
- > 50.1%

N

0 2 4 6 8 Miles