Appendix R   2010-2040 Population Projections for Facility Planning Areas

Miami Valley FPA Population Projections

Methodology Description

The purpose of this project is to provide for the participating Designated Management Agencies under the MVRPC Areawide Water Quality Management Plan a set of year 2040 population projections that are:

1. Tailored to the needs of wastewater treatment planning performed by the Management Agencies;
2. Consistent with Facility Planning Policy F, which requires use of the population projections published by the Ohio Department of Development (now known as the Development Services Agency);
3. Developed in a consistent manner across the Miami Valley.

MVRPC staff reviewed the projections published by the Development Services Agency (DSA) on March 30, 2013 and generally MVRPC disagrees with the most recent projections in the MPO area, particularly those for Greene and Miami Counties. A summary of the DSA projections for the five MVRPC water quality planning counties and the MVRPC endorsed MPO area projections are as follows:

Location	2010-2040	2010	2015	2020	2025	2030	2040 State	2040 MVRPC
Table 1: Summary of Development Services Agency and MVRPC Population Projections for 2040 (Excerpt)								
	% Change	Census	Projection	Projection	Projection	Projection	Projection	Projection
State of Ohio	1.2%	11,536,504	11,549,120	11,574,870	11,598,670	11,615,100	11,679,010	
Darke	-12.6%	52,959	52,190	51,270	49,670	48,280	46,280	
Greene	1.1%	161,573	163,500	164,940	165,950	165,780	163,300	194,079
Miami	1.4%	102,506	102,700	102,590	103,160	103,500	103,990	109,789
Montgomery	-8.6%	535,153	524,370	513,830	504,770	496,650	489,390	519,246
Preble	-4.8%	42,270	42,260	42,060	41,860	41,460	40,260	
TOTAL	**-5.7%**	**894,461**	**885,020**	**874,690**	**865,410**	**855,670**	**843,220**	

The task of sub allocating these 2010 Census figures and the DSA projections into the current waste-water facility planning areas was assisted by sub allocations performed by ODOT for transportation planning studies in Preble and Darke Counties.

Transportation Analysis Zones (TAZ) were developed for Preble and Darke Counties using ODOT's statewide transportation planning model and are generally larger than those used in an urban area. TAZs for Greene, Miami and Montgomery Counties were developed by MVRPC as part of the Long Range Transportation Planning process, and use a 2040 population projection different from that of the most current Development Services Agency. The TAZs projections are developed using a similar methodology and staff reviews land and current zoning to determine

the potential for future development in each TAZ. From there, countywide population projections are suballocated to each TAZ for the projected future year. The most recent data was developed for the 2012 Long Range Transportation Plan incorporating the results of the recent 2010 Census population release and using data developed by ODOD (DSA) in June 2011 that extended the Long Term Population Projections for the State to 2040.

The projections were used for all counties with the exception of Greene, as the original 2040 projection for Greene County was lower than the 2010 population count. MVRPC worked with ODOT and ODOD (DSA) to develop a new population forecast for the county.

It is important to note here that the population projections are a factor, but not the sole determinant of flows to wastewater treatment plants. These residential population projections are different from employment projections, which may have some relationship on industrial wastewater flows in the region, but are not addressed in this analysis.

The TAZ data provided by ODOT was developed prior to the final release of 2010 Census figures and the DSA 2040 Population projections. To normalize the population data the following steps were taken to perform the FPA-level review:

1. The 2010 population figures and the 2040 TAZ population projections were factored to ensure that the total 2040 populations for Darke and Preble equal the 2010 census counts and the DSA-provided population projections for those counties, respectively. This was also a spreadsheet operation that decreased the Darke and Preble 2040 population projections by factors necessary to make county totals for 2040 match the DSA projections. The factors are: Darke .8739; Preble .87124. The resulting county totals equal the 2040 DSA projections, while preserving the relative populations within the ODOT-set TAZ.

2. MVRPC GIS staff performed an analysis of 2010 Census block data in conjunction with the TAZ information and the current Facility Planning Area (FPA) boundaries. The goal of the operation was to look at Census blocks within each TAZ and determine what percentage of the TAZ population (2010) was also within any FPA within the TAZ. For Preble and Darke Counties *most* FPA are smaller, geographically, than the ODOT TAZ. In the other three counties, the TAZ are generally smaller than the FPA.

3. The final step for the 2040 FPA population projections was to apply the percentages found in Step 2 to the adjusted 2040 DSA population projections developed in Step 1. The resulting figures are projections of FPA-based populations in 2040, based on the 2011 FPA boundaries.

The following tables and map depict the findings from this methodology.

Table 2: Darke County Facility Planning Areas				
FPA Name	2010 Population	2040 Projection	Numeric Change	Percent Change
Ansonia/Rossburg	1,636	1,365	-271	-16.6%
Arcanum	3,013	2,690	-323	-10.7%
Bradford*	1,818	1,780	-38	-2.1%
Burkettsville/New Weston	252	216	-36	-14.3%
Gettysburg	635	564	-71	-11.2%
Greenville	14,539	13,138	-1,401	-9.6%
New Madison	1,015	830	-185	-18.2%
Osgood/Yorkshire	407	297	-110	-27.0%
Pitsburg	633	522	-111	-17.5%
Union City	1,942	1,721	-221	-11.4%
Versailles	2,976	2,458	-518	-17.4%

Table 3: Greene County Facility Planning Areas				
FPA Name	2010 Population	2040 Projection	Numeric Change	Percent Change
Beavercreek	41,936	53,033	11,097	26.4%
Bowersville	436	474	38	8.7%
Cedarville	4,351	4,570	219	5.0%
Clifton	109	109	0	0.0%
Fairborn	37,659	42,981	5,322	14.1%
Jamestown	4,463	5,000	537	12.0%
Sugar Creek*	50,386	57,092	6,706	13.3%
Xenia	30,686	34,571	3,885	12.7%
Yellow Springs	4,224	4,843	619	14.7%

Table 4: Miami County Facility Planning Areas				
FPA Name	2010 Population	2040 Projection	Numeric Change	Percent Change
Bethel	3,873	4,231	358	9.2%
Covington	3,521	3,655	134	3.8%
Fletcher	644	659	15	2.3%
Laura/Potsdam/Ludlow Falls	2,327	2,406	79	3.4%
Piqua	22,719	23,696	977	1.0%
Pleasant Hill	1,223	1,279	56	4.6%
Troy	33,942	36,855	2,319	8.6%
West Milton	5,377	5,840	463	8.6%

Table 5: Montgomery County Facility Planning Areas				
FPA Name	2010 Population	2040 Projection	Numeric Change	Percent Change
Brookville	6,488	6,732	244	3.8%
Dayton*	243,537	226,061	-17,476	-7.2%
Eastern Regional*	44,664	43,505	-1,159	-2.6%
Englewood	11,075	11,320	245	2.2%
Farmersville	1,289	1,293	4	0.3%
Germantown	8,696	9,016	320	3.7%
Miamisburg	22,143	22,530	387	1.7%
New Lebanon	4,694	4,674	-20	-0.4%
Opossum Creek	6,882	6,144	-738	-10.7%
Tri-Cities*	68,088	69,083	995	1.5%
Union*	7,864	8,389	525	6.7
West Carrollton	10,012	9,720	-292	-2.9%
Western Regional	81,412	82,535	1,123	1.4%

Table 6: Preble County Facility Planning Areas				
FPA Name	2010 Population	2040 Projection	Numeric Change	Percent Change
Camden	2,077	2,036	-41	-2.0%
College Corner	266	303	37	13.9%
Eaton	8,930	8,026	-904	-10.1%
Eldorado	606	606	0	0.0%
Gratis	962	885	-77	-8.0%
Lakengren	3,400	2,574	-826	-24.3%
Lewisburg	2,003	1,962	-41	-2.0%
New Paris	2,697	2,529	-168	-6.2%
Verona*	730	807	77	10.5%
West Alexandria	1,789	1,693	-96	-5.4%
West Manchester	592	593	1	0.2%

* These Facility Planning Areas cross county lines and have population in two counties.

At a future date MVRPC and/or Ohio Department of Transportation might make updated TAZ-based population projections incorporating the DSA's latest projections for county population. At that time, MVRPC will further update these FPA population projections.
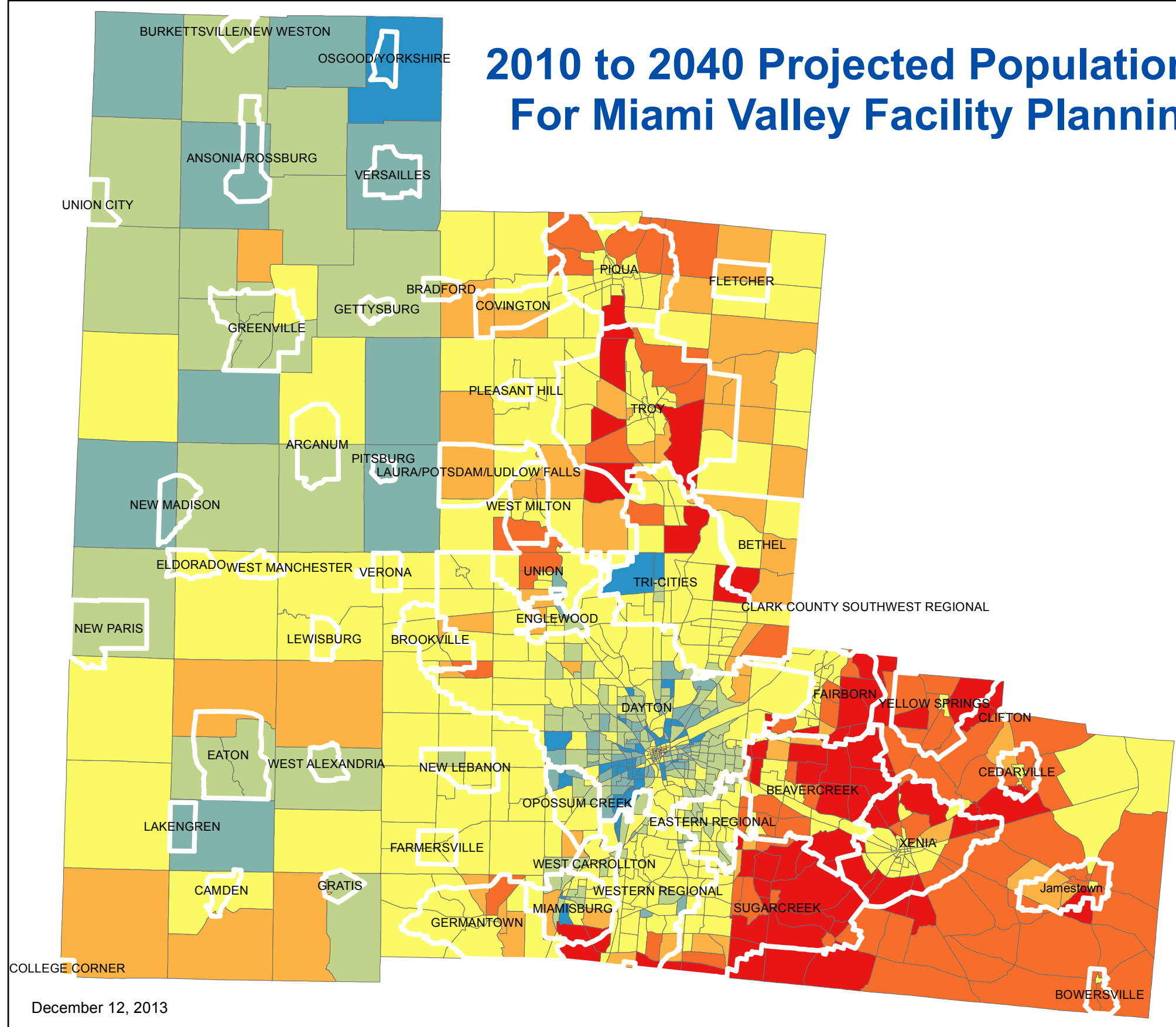
General Conclusions

- Using different sources for the TAZ data has some visible effects upon this analysis. The ODOT-developed TAZ in Preble and Darke Counties are much larger than those developed by MVRPC in the more urbanized counties (Greene, Miami, and

Montgomery). The rural/urban split was joined in the different conclusions about 2040 population. ODOT uses the Development Services Agency's projections for county population, which indicate slower growth and some significant decreases for the region over the next decades. MVRPC's projections for the MPO counties foresees modest population gains in Greene and Miami Counties balanced by less severe population losses in Montgomery County.

- There are discrete areas outside of any Facility Planning Areas that are predicted to see high population growth, particularly in southern and eastern Greene County. These areas may need to be considered for inclusion in future FPA expansion areas.
- Several established communities (e.g. Piqua, Troy, Centerville, Union, Fairborn, Xenia, and Jamestown) show a development pattern with future growth areas near the edges of the current FPA boundaries. Extensions of sewer infrastructure are expensive and represent additional, permanent commitment to maintenance. Efforts to direct development and redevelopment to the existing sewer service areas may represent a more sustainable path.

2010 to 2040 Projected Population Change
For Miami Valley Facility Planning Areas

This map breaks down the projected population change for Miami Valley Facility Planning Areas (FPA) into Traffic Analysis Zones developed by the Ohio Department of Transportation (Preble and Darke Counties) and the Miami Valley Regional Planning Commission (Greene, Miami and Montgomery Counties). Warmer colors (red and orange) indicate positive population change. Cooler colors (blue and green) indicate population reductions between 2010 and 2040. Aggregate population change for each FPA can be found in the tables.

Legend

Traffic Analysis Zones (TAZ)

Projected Percent Population Change

- 25% Decrease or more
- - 25% to -15%
- -15% to -5%
- -5% to +5%
- 5% to 15%
- 15% to 25%
- 25% Increase or more
- FPA Areas

Map area labels:

BURKETTSVILLE/NEW WESTON
OSGOOD/YORKSHIRE
ANSONIA/ROSSBURG
VERSAILLES
UNION CITY
BRADFORD
GETTYSBURG
COVINGTON
PIQUA
FLETCHER
GREENVILLE
PLEASANT HILL
TROY
ARCANUM
PITSBURG
LAURA/POTSDAM/LUDLOW FALLS
WEST MILTON
NEW MADISON
BETHEL
ELDORADO WEST MANCHESTER VERONA
UNION
TRI-CITIES
CLARK COUNTY SOUTHWEST REGIONAL
NEW PARIS
LEWISBURG
BROOKVILLE
ENGLEWOOD
DAYTON
FAIRBORN
YELLOW SPRINGS
CLIFTON
EATON
WEST ALEXANDRIA
NEW LEBANON
CEDARVILLE
BEAVERCREEK
LAKENGREN
OPOSSUM CREEK
EASTERN REGIONAL
XENIA
CAMDEN
GRATIS
FARMERSVILLE
WEST CARROLLTON
WESTERN REGIONAL
SUGARCREEK
Jamestown
GERMANTOWN
MIAMISBURG
COLLEGE CORNER
BOWERSVILLE

December 12, 2013

Miles
0   2.5   5   10   15   20

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