

# TM-2: Regional Population Projections

Population, household, and employment estimates are an integral part of the water master planning process. As population and employment increase or decrease, water usage will increase or decrease. Water demands are not only influenced by the total population, households, and employment numbers but the activities of residents and the water usage typical of various types of employment sectors.

This technical memorandum (TM) summarizes the sources of data and methodologies used by the Water Master Plan Update project team to develop population, household and employment totals for use in future planning scenarios. The planning projections for this project cover the years from 2015 through 2035. The Southeast Michigan Council of Governments (SEMCOG) provided the majority of the data and projections reported on in this TM. Information provided by SEMCOG was used to develop a “most probable” or median population projection as well as projections to higher, “best case”, and lower, “worst case”, population scenarios.

Most current and potential future DWSD customer communities fall within the seven-county area served by SEMCOG, except for the communities within Lapeer and Genesee Counties. Current populations and future growth projections for Genesee and Lapeer Counties was obtained from the Complete Economic Demographic Data (CEDDs) by Woods and Poole Economics, Inc.

## 1.0 SEMCOG Projected Population and Employment Projections

SEMCOG is a regional planning partnership in Southeast Michigan, with voluntary membership open to all counties, cities, villages, townships, intermediate school districts, community colleges, and public universities in Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne Counties. The principal planning activities of SEMCOG include adoption of region-wide plans and policies in the area of transportation, community and economic development, water and air quality and other environmental concerns as well as public safety and land use. SEMCOG also maintains the region’s most extensive planning database for demographic, transportation, infrastructure and development, and it is a designated Metropolitan Planning Organization (MPO) under Section 134 of the Federal Aid Highway Act.

### 1.1 Methodology

SEMCOG produces a new long-range forecast of the region’s demographic and socioeconomic future every four years. The latest forecast was published in April 2012 and provides forecast of total population, households, and jobs in five-year increments, for the 30-year period 2010 through 2040. The forecast is generated for the seven counties and 234 communities within Southeast Michigan encompassed by SEMCOG’s regional coordination. SEMCOG obtains their forecasts using well-established computer modeling based on the best available local data, as well as data from the 2010 Census, American Community Survey, and the Michigan Bureau of Labor Market Information.

The forecast development process is documented by SEMCOG in their “Southeast Michigan 2040 Forecast Summary” report (April 2012). The first step in SEMCOG’s Regional Development Forecast (RDF) is development of regional forecast totals based upon future population and employment trends developed by the Institute of Labor and Industrial Relations at the University of Michigan using the REMI (Regional Economic Models, Inc.) model. SEMCOG also convened a Forecast Technical Committee of regional experts to review and improve the forecast.

The next step is to produce smaller area forecasts using another well-established computer model. The small-area forecasts are then summed to provide projections based on Traffic Analysis Zones (TAZ) and for each city, village, and township in the region.

SEMCOG provided the project team with the 2010 through 2040 forecast data for population, households, and employment by TAZ, along with the TAZ geographic boundaries. Municipal boundary geography was used to assign each TAZ to a specific community. For the purposes of the Water Master Plan the forecast projections have been totaled based on DWSD customer and may include several communities if service is provided through other communities or a water authority arrangement.

## 1.2 Regional Forecast Summary

The following is the regional forecast summary provided by SEMCOG in its “Southeast Michigan 2040 Forecast Summary” report (April 2012):

*The overall forecast from 2010 to 2040 shows the region emerging from the recent recession with moderate growth in households and jobs, but little population growth. Overall population growth will be just 0.8%, while households will grow by 6.0% and jobs by 12.1% over the next 30 years. Southeast Michigan experienced a significant decline in both population and jobs during the recent multiyear recession. After reaching a peak of 4.83 million persons in 2000, the region lost 128,625 persons during the last decade, a decline of 2.7%, to 4.7 million persons in 2010. The region will continue to lose population through 2022, dropping to 4.64 million during that time, and then begin to grow on an annual basis. Over the next 30 years total, the 2040 Forecast is projecting a total gain over 2010 of just 37,430 persons, to 4.74 million in 2040.*

*... Southeast Michigan will gain back most of the jobs lost during the last decade, adding 300,000 jobs to reach 2.78 million in 2040. Nearly half of the job growth will occur in the next five years, as we climb out of the recession on small gains in manufacturing jobs, the result of a restructured auto industry responding to increased consumer demand for automobiles. Job growth beyond 2015 will be slower, as losses in manufacturing and retail jobs due to increased productivity are more than compensated by gains in knowledge-based jobs and in ambulatory health care jobs that serve the growing senior population. The muted growth rate in jobs is also due to labor force constraints in the later years of the forecast, as the population ages and we struggle to attract young workers to the region.*

The trends discussed above are for the full seven-county SEMCOG region and extend to 2040. The planning period for the Water Master Plan Update is through 2035. The forecasted population, household, and employment totals for DWSD customers and non-customers within each of the SEMCOG counties with communities currently receiving water from DWSD are summarized in **Tables 1-1, 1-2, and 1-3**. These projection values are referred to below as SEMCOG’s baseline or published projections and are utilized in the Water Master Plan Update as the “most-probable” or median population projection. Estimates of the DWSD customer and total populations in Genesee and Lapeer Counties are based on the forecasts published by Woods and Poole, Inc. as described in Section 1.2 of this Tech Memo. The customer populations presented in the tables below represent the entire customer community population and do not account for differences based on communities that are less than 100% served by DWSD water or have less than 100% of residents or households connecting to the water system when service is available. Detailed tables of DWSD wholesale customer population and households served by DWSD water are provided in TM-15. The forecast for current customer population shows a decrease of 9.3% from 2010 to 2035, a decrease of 4.4% for households,

and an increase of 2.8% for employment, when account for Genesee County leaving the DWSD system. The changes in forecasts for the remaining customers from 2010 to 2035 (excluding Genesee Co in the 2010 totals) are a population decrease of 1.5%, an increase of 3.9% for households, and an increase of 9.8% for employment.

**Table 1-1: Planning Period Customer and Non-Customer Populations by County**

County	2010	2015	2020	2025	2030	2035
Genesee Co. Total	425,100	421,531	421,711	422,231	422,645	422,895
Genesee Co. Non-customers	113,100	211,531	421,711	422,231	422,645	422,895
Genesee Co. DWSD Customers <sup>1</sup>	312,000	210,000	0	0	0	0
Lapeer Co. Total	88,189	91,275	95,474	99,784	104,107	108,423
Lapeer Co. Non-customers	67,189	69,575	72,774	75,984	79,307	82,623
Lapeer Co. DWSD Customers <sup>2</sup>	21,000	21,700	22,700	23,800	24,800	25,800
Macomb Co. Total	840,978	855,378	863,380	872,733	884,846	896,401
Macomb Co. Non-customers	51,333	52,218	52,835	52,819	52,675	52,661
Macomb Co. DWSD Customers	789,645	803,160	810,545	819,914	832,171	843,740
Monroe Co. Total	152,021	155,696	156,602	158,347	160,865	163,246
Monroe Co. Non-customers	135,357	138,218	138,602	139,830	141,971	144,175
Monroe Co. DWSD Customers	16,664	17,478	18,000	18,517	18,894	19,071
Oakland Co. Total	1,202,362	1,215,322	1,218,432	1,221,340	1,230,734	1,232,649
Oakland Co. Non-customers	311,271	319,325	319,031	319,111	321,989	320,377
Oakland Co. DWSD Customers	891,091	895,997	899,401	902,229	908,745	912,272
St. Clair Co. Total	163,040	161,667	161,497	162,541	164,643	166,652
St. Clair Co. Non-customers	157,494	156,001	155,829	156,543	158,537	160,427
St. Clair Co. DWSD Customers	5,546	5,666	5,668	5,998	6,106	6,225
Washtenaw Co. Total	344,791	350,784	354,116	360,366	368,297	377,220
Washtenaw Co. Non-customers	208,858	213,237	213,772	217,751	221,219	225,103
Washtenaw Co. DWSD Customers	135,933	137,547	140,344	142,615	147,078	152,117
Wayne Co. Total (outside Detroit)	1,106,807	1,093,946	1,076,145	1,063,050	1,054,944	1,047,933
Wayne Co. Non-customers	52,559	49,622	48,183	47,072	46,394	45,966
Wayne Co. DWSD Customers (outside Detroit)	1,054,248	1,044,324	1,027,962	1,015,978	1,008,550	1,001,967
City of Detroit	713,777	648,350	624,705	612,442	609,745	613,709
<b>Regional Total</b>	<b>5,037,065</b>	<b>4,993,949</b>	<b>4,972,062</b>	<b>4,972,834</b>	<b>5,000,826</b>	<b>5,029,128</b>
<b>Regional Non-customers</b>	<b>1,097,161</b>	<b>1,209,727</b>	<b>1,422,737</b>	<b>1,431,341</b>	<b>1,444,737</b>	<b>1,454,227</b>
<b>Regional DWSD Customers</b>	<b>3,939,904</b>	<b>3,784,222</b>	<b>3,549,325</b>	<b>3,541,493</b>	<b>3,556,089</b>	<b>3,574,901</b>
<b>Regional DWSD Customers excluding Genesee County</b>	<b>3,627,904</b>	<b>3,574,222</b>	<b>3,549,325</b>	<b>3,541,493</b>	<b>3,556,089</b>	<b>3,574,901</b>

<sup>1</sup>Genesee Co. DWSD Customers includes 2010 Census Population for the City of Flint and surrounding Genesee County customers. 2015 DWSD customers include only the estimate of residents in areas served through Genesee County Drain Commission (see TM-15 for population connected to water service). After 2015 Genesee Co. has indicated they will no longer be a DWSD customer - entire Woods & Poole population projection for Genesee Co. shown as Non-Customer 2020-2035.

<sup>2</sup>Lapeer Co. DWSD Customer population estimated based on 2010 Census data (locations with >1 person/acre) and Woods & Poole County-wide population projection trends.

**Table 1-2: Planning Period Customer and Non-Customer Households by County**

County	2010	2015	2020	2025	2030	2035
Genesee Co. Total	168,940	171,626	173,772	173,682	172,556	171,024
Genesee Co. Non-customers	45,130	86,260	173,772	173,682	172,556	171,024
Genesee Co. DWSD Customers	123,810	85,366	0	0	0	0
Lapeer Co. Total	32,730	34,787	36,924	38,628	40,114	41,503
Lapeer Co. Non-customers	23,730	25,187	26,724	28,028	29,114	30,103
Lapeer Co. DWSD Customers	9,000	9,600	10,200	10,600	11,000	11,400
Macomb Co. Total	331,667	341,555	349,239	356,594	363,516	368,166
Macomb Co. Non-customers	19,722	20,264	20,853	21,150	21,341	21,477
Macomb Co. DWSD Customers	311,945	321,291	328,386	335,444	342,175	346,689
Monroe Co. Total	58,230	60,815	62,539	64,305	66,071	67,189
Monroe Co. Non-customers	51,965	54,153	55,683	57,134	58,731	59,807
Monroe Co. DWSD Customers	6,265	6,662	6,856	7,171	7,340	7,382
Oakland Co. Total	483,698	496,595	504,733	506,551	509,288	511,180
Oakland Co. Non-customers	118,935	124,562	126,984	128,308	129,333	129,973
Oakland Co. DWSD Customers	364,763	372,033	377,749	378,243	379,955	381,207
St. Clair Co. Total	63,841	64,680	65,492	66,586	67,887	68,634
St. Clair Co. Non-customers	61,660	62,414	63,180	64,122	65,338	66,038
St. Clair Co. DWSD Customers	2,181	2,266	2,312	2,464	2,549	2,596
Washtenaw Co. Total	137,193	141,482	146,869	151,821	156,323	160,690
Washtenaw Co. Non-customers	84,028	86,485	89,327	92,098	94,698	97,101
Washtenaw Co. DWSD Customers	53,165	54,997	57,542	59,723	61,625	63,589
Wayne Co. Total (outside Detroit)	433,304	439,802	442,250	442,850	442,328	438,627
Wayne Co. Non-customers	21,590	21,282	20,910	20,918	20,900	20,492
Wayne Co. DWSD Customers (outside Detroit)	411,714	418,520	421,340	421,932	421,428	418,135
City of Detroit	269,445	248,199	241,059	241,194	247,567	252,989
<b>Regional Total</b>	<b>1,979,048</b>	<b>1,999,541</b>	<b>2,022,877</b>	<b>2,042,211</b>	<b>2,065,650</b>	<b>2,080,002</b>
<b>Regional Non-customers</b>	<b>426,760</b>	<b>480,607</b>	<b>577,433</b>	<b>585,440</b>	<b>592,011</b>	<b>596,015</b>
<b>Regional DWSD Customers</b>	<b>1,552,288</b>	<b>1,518,934</b>	<b>1,445,444</b>	<b>1,456,771</b>	<b>1,473,639</b>	<b>1,483,987</b>
<b>Regional DWSD Customers excluding Genesee County</b>	<b>1,428,478</b>	<b>1,433,568</b>	<b>1,445,444</b>	<b>1,456,771</b>	<b>1,473,639</b>	<b>1,483,987</b>

**Table 1-3: Planning Period Customer and Non-Customer Employment by County<sup>1</sup>**

County	2010	2015	2020	2025	2030	2035
Genesee Co. Total	184,015	194,140	202,408	211,192	220,474	230,236
Genesee Co. Non-customers	48,915	97,440	202,408	211,192	220,474	230,236
Genesee Co. DWSD Customers	135,100	96,700	0	0	0	0
Lapeer Co. Total	31,197	32,869	34,256	35,647	37,047	38,449
Lapeer Co. Non-customers	23,797	25,069	26,156	27,147	28,247	29,349
Lapeer Co. DWSD Customers	7,400	7,800	8,100	8,500	8,800	9,100
Macomb Co. Total	362,517	377,116	379,981	387,217	395,239	403,398
Macomb Co. Non-customers	29,646	30,745	31,271	31,953	32,688	33,478
Macomb Co. DWSD Customers	332,871	346,371	348,710	355,264	362,551	369,920
Monroe Co. Total	53,761	56,262	56,928	57,637	58,669	60,081
Monroe Co. Non-customers	49,003	51,267	51,850	52,491	53,422	54,722
Monroe Co. DWSD Customers	4,758	4,995	5,078	5,146	5,247	5,359
Oakland Co. Total	842,222	901,219	921,533	936,923	951,622	964,459
Oakland Co. Non-customers	86,581	92,693	94,357	96,118	97,682	99,092
Oakland Co. DWSD Customers	755,641	808,526	827,176	840,805	853,940	865,367
St. Clair Co. Total	62,614	65,243	66,061	67,045	68,350	70,038
St. Clair Co. Non-customers	61,823	64,432	65,231	66,200	67,498	69,165
St. Clair Co. DWSD Customers	791	811	830	845	852	873
Washtenaw Co. Total	236,676	246,721	252,598	260,024	268,528	277,576
Washtenaw Co. Non-customers	177,029	184,613	188,972	194,649	201,208	208,060
Washtenaw Co. DWSD Customers	59,647	62,108	63,626	65,375	67,320	69,516
Wayne Co. Total (outside Detroit)	509,859	522,832	527,342	531,131	535,371	540,431
Wayne Co. Non-customers	25,123	25,450	25,735	26,004	26,341	26,635
Wayne Co. DWSD Customers (outside Detroit)	484,736	497,382	501,607	505,127	509,030	513,796
City of Detroit	347,545	357,247	353,242	352,394	352,670	354,075
<b>Regional Total</b>	<b>2,630,406</b>	<b>2,753,649</b>	<b>2,794,349</b>	<b>2,839,210</b>	<b>2,887,970</b>	<b>2,938,743</b>
Regional Non-customers	501,917	571,709	685,980	705,754	727,560	750,737
Regional DWSD Customers	2,128,489	2,181,940	2,108,369	2,133,456	2,160,410	2,188,006
Regional DWSD Customers excluding Genesee County	1,993,389	2,085,240	2,108,369	2,133,456	2,160,410	2,188,006

<sup>1</sup> Genesee County & Lapeer County Employment split between customer and non-customer is a rough estimate. Based on Woods & Pool data for county employment/population \* estimated customer population.

### 1.3 Regional High and Low Population Forecast

When developing the 2012 population projections for 2010 thru 2040, SEMCOG also evaluated two alternate population growth scenarios on a regional basis. Each scenario was intended to provide a reasonable, alternative projection of what the population and employment growth could be for a more positive, high-growth situation and for a more conservative, low-growth situation. SEMCOG developed the high projection for its planning area based on an economic scenario modeled on performance of Pittsburgh’s economy in the early 1980s. SEMCOG developed the low projection for its planning area based on an economic scenario where the percentage of employment in automotive industry equals the national average.

These scenarios only provide population and employment projections at the county level and for the City of Detroit. The alternative scenario population and employment totals for Macomb County, Oakland County, Wayne County (excluding Detroit), and the City of Detroit are shown in **Tables 1-4 through 1-7**. The totals from these 4 areas compared to the same four areas in the baseline projections shows that the high-growth scenario projects a 2035 population that is 4.0% higher than the 2035 baseline population and has 5.1% higher employment. The low- growth scenario projects a 2035 population that is 3.5% lower than the 2035 baseline population and has 4.7% lower employment.

The Water Master Plan Update project team utilized the results of these alternative high and low-growth scenarios as a “best-case” and “worst-case” for planning purposes. Where the high or low alternative population and employment projections are needed on a community level, they will be increased or decreased from the baseline (SEMCOG published) projections by the same percent change from the baseline as predicted for the entire county.

**Table 1-4: Regional High Population Projections by County**

County	2010	2015	2020	2025	2030	2035	% change 2010 to 2035
Macomb County	840,978	857,021	870,069	886,791	907,894	929,352	10.5%
Oakland County	1,202,362	1,218,045	1,229,787	1,245,445	1,270,396	1,289,423	7.2%
Wayne County Outside Detroit	1,106,807	1,095,847	1,083,624	1,078,405	1,079,594	1,083,961	-2.1%
City of Detroit	713,777	649,589	629,851	623,224	627,252	638,482	-10.5%
<b>Total</b>	<b>3,863,924</b>	<b>3,820,501</b>	<b>3,813,331</b>	<b>3,833,865</b>	<b>3,885,135</b>	<b>3,941,218</b>	<b>2.0%</b>
<b>Baseline Projections</b>	<b>3,863,924</b>	<b>3,812,996</b>	<b>3,782,662</b>	<b>3,769,565</b>	<b>3,780,269</b>	<b>3,790,692</b>	<b>-1.9%</b>

**Table 1-5: Regional High Employment Projections by County**

County	2010	2015	2020	2025	2030	2035	% change 2010 to 2035
Macomb County	362,517	379,211	385,868	397,554	410,405	423,293	16.8%
Oakland County	842,222	907,098	938,215	965,997	993,794	1,018,943	21.0%
Wayne County Outside Detroit	509,859	525,751	535,601	545,403	555,885	567,244	11.3%
City of Detroit	347,545	358,928	357,845	360,292	364,003	368,644	6.1%
<b>Total</b>	<b>2,062,143</b>	<b>2,170,988</b>	<b>2,217,529</b>	<b>2,269,247</b>	<b>2,324,087</b>	<b>2,378,124</b>	<b>15.3%</b>
<b>Baseline Projections</b>	<b>2,062,143</b>	<b>2,158,414</b>	<b>2,182,098</b>	<b>2,207,665</b>	<b>2,234,902</b>	<b>2,262,363</b>	<b>9.7%</b>

**Table 1-6: Regional Low Population Projections by County**

County	2010	2015	2020	2025	2030	2035	% change 2010 to 2035
Macomb County	840,978	855,378	863,380	863,252	857,050	856,191	1.8%
Oakland County	1,202,362	1,215,322	1,218,432	1,211,707	1,203,164	1,193,756	-0.7%
Wayne County Outside Detroit	1,106,807	1,093,946	1,076,145	1,054,632	1,031,518	1,015,719	-8.2%
City of Detroit	713,777	648,350	624,705	606,883	593,764	591,203	-17.2%
<b>Total</b>	<b>3,863,924</b>	<b>3,812,996</b>	<b>3,782,662</b>	<b>3,736,474</b>	<b>3,685,496</b>	<b>3,656,868</b>	<b>-5.4%</b>
<b>Baseline Projections</b>	<b>3,863,924</b>	<b>3,812,996</b>	<b>3,782,662</b>	<b>3,769,565</b>	<b>3,780,269</b>	<b>3,790,692</b>	<b>-1.9%</b>

**Table 1-7: Regional Low Employment Projections by County**

County	2010	2015	2020	2025	2030	2035	% change 2010 to 2035
Macomb County	362,517	377,116	379,981	371,849	364,938	375,394	3.6%
Oakland County	842,222	901,219	921,533	915,631	911,017	928,498	10.2%
Wayne County Outside Detroit	509,859	522,832	527,342	514,911	504,633	513,100	0.6%
City of Detroit	347,545	357,247	353,242	343,605	335,591	338,377	-2.6%
<b>Total</b>	<b>2,062,143</b>	<b>2,158,414</b>	<b>2,182,098</b>	<b>2,145,996</b>	<b>2,116,180</b>	<b>2,155,369</b>	<b>4.5%</b>
<b>Baseline Projections</b>	<b>2,062,143</b>	<b>2,158,414</b>	<b>2,182,098</b>	<b>2,207,665</b>	<b>2,234,902</b>	<b>2,262,363</b>	<b>9.7%</b>

## 2.0 Genesee and Lapeer County Forecasts

DWSD currently provides water to customers in Genesee County via the City of Flint connection and to several townships in Lapeer County via the Greater Lapeer Community Utilities Authority (GLCUA). Since the first publication of this Tech Memo with the Phase 1 Report, the City of Flint disconnected from the DWSD water system and began serving city residents water from its own water treatment

plant. Also the cities of Imlay City and Almont have left the GLCUA and are pursuing direct wholesale customer contracts with DWSD.

These areas are not covered by the SEMCOG regional authority; therefore other sources of population data were investigated. Data available from the Genesee County Metropolitan Planning Commission (GCMPC) and from the Woods & Poole Economics, Inc. were reviewed. The project team could not identify current population projections from GCMPC, so the data from Woods & Poole is the primary source of projections in Genesee and Lapeer Counties for this project. The data from Woods & Poole Economic, Inc. contain economic and demographic variables for every county in the United States for every year from 1970 to 2040, and have a highly documented forecast methodology, so these forecasts were used for Genesee and Lapeer counties.

## 2.1 Genesee and Lapeer County Methodology

The Woods & Poole database provides yearly data on population; employment and earnings by major industry; personal income by source of income; retail sales by type of business; and the number of households, as well as household size and income. The water master plan team reviewed only the total population, employment and households for the project planning period discussed previously. The key difference between the Woods & Poole projection model and regional projection models is that the Woods & Poole projection is based on a predetermined, fixed total population for the United States and the county populations are linked throughout the United States to capture regional changes.

The methods used by Woods & Poole to generate the county projections proceed in four stages, as documented in their "Technical Description of the Woods & Poole Economics, Inc. 2013 Regional Projections and Database". An excerpt of this documentation follows:

*First, forecasts to 2040 of total United States personal income, earnings by industry, employment by industry, population, inflation, and other variables are made. In the 2013 Woods & Poole model the U.S. forecast included an estimate of the lingering impact of the 2008-09 recession using preliminary employment data for 2011 and 2012 from the Bureau of Labor Statistics. Second, the country is divided into 179 Economic Areas (EAs) as defined by the U.S. Department of Commerce, Bureau of Economic Analysis (BEA). The EAs are aggregates of contiguous counties that attempt to measure cohesive economic regions in the United States. The employment projection for each EA is used to estimate earnings in each EA. The employment and earnings projections then become the principal explanatory variables used to estimate population and number of households in each EA.*

*The third stage is to project population for each EA on the basis of net migration rates projected from employment opportunities. For stages two and three, the U.S. projection is the control total for the EA projections. The fourth stage replicates stages two and three except that it is performed at the county level, using the EAs as the control total for the county projections.*

**Table 2-1** summarizes the population, employment and household projection trends for Genesee and Lapeer Counties acquired from the 2013 Woods & Poole Economics, Inc. database. While the areas served by DWSD water distribution are a subset of the entire county, the project team is considering the Woods & Poole county-level projection forecasts as indicative for the area. The forecasted changes from 2010 to 2035 for Genesee County show a population decrease of 0.5%, an employment increase of 25.1%, and an increase of 1.2% in the number of households. The forecasted changes for Lapeer County are a population increase of 22.9%, employment increase of 23.2%, and an increase of 26.8%



in the number of households. Employment projections compared to year 2000 represent only a 12% increase.

Where customer and non-customer projections are separated out for Lapeer and Genesee County in **Tables 1-1 through 1-3**, the estimates are based on the total populations within the customer communities, without considering if the total population is connected and receiving DWSD water. This is consistent with how the SEMCOG population data was summarized for this regional population projection. Consideration of the percent of households and population being served by DWSD water is presented in TM-15. The 2010 census data was used to obtain the population for each community within the Genesee and Lapeer County wholesale customers and then the percent change indicated by the Woods & Poole projections for the county every 5 years was applied to the customer and non-customer populations consistently.

**Table 2-1: Planning Period Total Population, Households, and Employment for Genesee and Lapeer Counties**

	2010	2015	2020	2025	2030	2035	% change 2010 to 2035
<b>Genesee Co. Total</b>							
Population	425,100	421,531	421,711	422,231	422,645	422,895	-0.5%
Households	168,940	171,626	173,772	173,682	172,556	171,024	1.2%
Employment	184,015	194,140	202,408	211,192	220,474	230,236	25.1%
<b>Lapeer Co. Total</b>							
Population	88,189	91,275	95,474	99,784	104,107	108,423	22.9%
Households	32,730	34,787	36,924	38,628	40,114	41,503	26.8%
Employment	31,197	32,869	34,256	35,647	37,047	38,449	23.2%

### 3.0 Comparison of Population Forecasts to Year 2000 Population

**Table 3-1** shows total populations for all eight counties with at least a portion of the county population served by DWSD. This table provides the total populations from year 2000 census data in addition to the 2010 census data and 2013 forecast data for 2020 to 2035. The 2035 forecast is similar to the 2000 census population for the region. However several individual counties, Lapeer, Macomb, Monroe, Washtenaw have projections that show steady growth and populations at least 11% higher than 2000 in the 2035 projections.

**Table 3-1: Regional Population 2000 to 2035**

County	2000	2010	2020	2030	2035	% change 2000 to 2035
Genesee	436,141	425,100	421,711	422,645	422,895	-3.0%
Lapeer	87,904	88,189	95,474	104,107	108,423	23.3%
Macomb	788,149	840,978	863,380	884,846	896,401	13.7%
Monroe	145,945	152,021	156,602	160,865	163,246	11.9%
Oakland	1,194,156	1,202,362	1,218,432	1,230,734	1,232,649	3.2%
St. Clair	164,235	163,040	161,497	164,643	166,652	1.5%
Washtenaw	322,895	344,791	354,116	368,297	377,220	16.8%
Wayne	2,061,162	1,820,584	1,700,850	1,664,689	1,661,642	-19.4%
<b>Total</b>	<b>5,200,587</b>	<b>5,037,065</b>	<b>4,972,062</b>	<b>5,000,826</b>	<b>5,029,128</b>	<b>-3.3%</b>

## 4.0 Comparison of SEMCOG Projections to Woods & Poole Projections

The population and employment projections made at a county level by the two data sources for this project in 2013 were compared. **Table 4-1** shows the 2030 and 2035 projected population and employment numbers by county. The SEMCOG projected population total for the region is about the same as the Woods & Poole population projection for the sum of the six counties shown. Individual county differences vary from SEMCOG’s projection being about 13% lower than Woods & Poole to SEMCOG being about 8% higher.

The SEMCOG employment projections are consistently lower than Woods and Poole by 4-22% by county and by 11% and 14% for 2030 and 2035 totals. The employment comparisons are shown in **Table 4-2**.

**Table 4-1: SEMCOG 2013 Regional Development Forecast Comparison to Woods and Poole, Inc. 2013 Database – Population**

County	Woods & Poole 2030 population	SEMCOG 2030 population	% difference (SEMCOG-W&P)	Woods & Poole 2035 population	SEMCOG 2035 population	% difference (SEMCOG-W&P)
Macomb	868,323	884,846	1.9%	874,221	896,401	2.5%
Monroe	172,739	160,865	-6.9%	178,452	163,246	-8.5%
Oakland	1,257,346	1,230,734	-2.1%	1,270,284	1,232,649	-3.0%
St. Clair	181,678	164,643	-9.4%	187,087	166,652	-10.9%
Washtenaw	415,410	368,297	-11.3%	433,574	377,220	-13.0%
Wayne	1,592,357	1,664,689	4.5%	1,536,550	1,661,642	8.1%
<b>TOTAL</b>	<b>4,487,853</b>	<b>4,474,074</b>	<b>-0.3%</b>	<b>4,480,168</b>	<b>4,497,810</b>	<b>0.4%</b>
Mac+Oak+Way	3,718,026	3,780,269	<b>1.7%</b>	3,681,055	3,790,692	<b>3.0%</b>

**Table 4-2: SEMCOG 2013 Regional Development Forecast Comparison to Woods and Poole, Inc. 2013 Database – Employment**

County	Woods & Poole 2030 Employment	SEMCOG 2030 Employment	% difference (SEMCOG-W&P)	Woods & Poole 2035 Employment	SEMCOG 2035 Employment	% difference (SEMCOG-W&P)
Macomb	434,910	395,239	-9.1%	452,581	403,398	-10.9%
Monroe	60,977	58,669	-3.8%	63,102	60,081	-4.8%
Oakland	1,062,994	951,622	-10.5%	1,126,224	964,459	-14.4%
St. Clair	72,280	68,350	-5.4%	75,308	70,038	-7.0%
Washtenaw	327,844	268,528	-18.1%	354,431	277,576	-21.7%
Wayne	992,010	888,041	-10.5%	1,033,111	894,506	-13.4%
<b>TOTAL</b>	<b>2,951,015</b>	<b>2,630,449</b>	<b>-10.9%</b>	<b>3,104,757</b>	<b>2,670,058</b>	<b>-14.0%</b>
Mac+Oak+Way	2,489,914	2,234,902	-10.2%	2,611,916	2,262,363	-13.4%

## 5.0 Projections Based on Wholesale Customer Information

During the period December 2013 to March 2014, the master planning team sent customized data packages to all wholesale customers. These data packages included recent trends in building permits, population and employment past trends and projections, identification of major industrial water users, and maps of major water facilities and service area. The objective of these data packages is to allow each wholesale customer the opportunity to review and amend projections for this master plan update.

The wholesale customer projections are presented in TM-15. Based on results received, the wholesale customer projections are generally consistent with the regional population and employment projections. The wholesale customer projections also identify the current and projected residential population and the geographic areas to be served by DWSD water, which adds precision to the estimates of future water demand which will be presented in the September 2014 Market Plan Interim Report.

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