Appendix B:
Population Characteristics

B1: Wayne County Rouge Valley Sewage Disposal System
Service Agreement Renewals
District Characteristics

B2: Southeast Michigan
2040 Forecast Summary

B1: Wayne County Rouge Valley Sewage Disposal System
Service Agreement Renewals
District Characteristics

Wayne County Rouge Valley Sewage Disposal System

Service Agreement Renewals

District Characteristics

Revision: April 26, 2012

Prepared By:

Applied Science, Inc.
300 River Place, Suite 5400
Detroit, MI 48207

and

Wayne County Department of Public Services
Water Quality Management Division

Table of Contents

Section No.		Page No.
1)	Executive Summary	1
2)	District Boundary	5
3)	Service Area Characteristics	6
	a) Population	8
	b) Employment	10
	c) Housing Units	11
	d) On-Site Sewage Disposal Systems	14
	e) Land Use	16
	f) Significant Industrial User (SIU)	19
	g) Inch – Miles of Sewer	20
	h) Walled Lake – Novi Diversion Area	22
4)	Analysis of Flow Meter Data	23
	a) Peak Average Daily Flow Rates	23
	b) Peak Hourly Flow Rates	25
	c) Average Daily Flow Rates	26
	d) Dry Weather Flow Rates	27
	e) WTUA Flow Rates	28
5)	Sanitary Wastewater Generation Rate	29
6)	Dry Weather Groundwater Infiltration Rate	34
7)	References/Data Sources	37

List of Tables

Table 1	Communities in the District 2011
Table 2	Summary Data for District
Table 3	Census 2000 Data Availability
Table 4	Existing and Projected Residential Population in District
Table 5	Data for Communities Partially Within District
Table 6	Employment and Projected Employment
Table 7	Year 2000 Age of Housing Units in District
Table 8	Year 2009 Age of Housing Units in District
Table 9	Year 2035 Age of Housing Units in District
Table 10	On-Site Sewage Disposal Systems
Table 11	Year 2000 Land Use (Acres)
Table 12	Permitted Average Daily SIU Flow Rate by Community
Table 13	Inch – Miles of Sewer by Community for Year 2010
Table 14	Estimated Inch – Miles for Remaining Communities
Table 15	Walled Lake – Novi Diversion Area Year 2000 Census & Land Use Data
Table 16	Peak Average Daily Flow Rate for Outlet Meters for 2008
Table 17	Peak Hourly Wet Weather Flow Rates for 2008
Table 18	Outlet Meter Daily Flow Rate Statistics for 2008
Table 19	Annual WTUA Flow Split
Table 20	Sanitary Wastewater Generation Rate
Table 21	Water Consumption: Dearborn Heights & Novi
Table 22	Dry Weather Groundwater Infiltration Rate

List of Figures

Figure 1	District and Community Boundaries
Figure 2	Year 2000 Land Use Map
Figure 3	Inch – Mile of Sewer System vs. Developed and Sewered Area
Figure 4	Interceptor Map and Meter Location
Figure 5	Daily Flow Rate Exceedence Curve
Figure 6	Dry Weather Flow Chart
Figure 7	WTUA Flow Volume Chart
Figure 8	Sanitary Wastewater Generation Rate vs. Median Housing Year Built
Figure 9	Dry Weather Ground Water Infiltration Rate

List of Appendices

Appendix A	Historical District Boundary Maps, Rouge Valley Sewage Disposal System
Appendix B	Significant Industrial Users, Rouge Valley Sewage Disposal System

Foreword

In 2008, Wayne County began making preparations to negotiate two related service agreements for the Rouge Valley Sewage Disposal System (RVSDS): a new service agreement between Wayne County and the City of Detroit for disposal of wastewater from the RVSDS, and a new service agreement between Wayne County and RVSDS customers for wastewater transport and disposal.

In March of 2009, Wayne County met with RVSDS customers to propose an action plan for negotiating a new service agreement for the RVSDS. The action plan was to include completion of technical analyses in support of the new service agreement and legal negotiations for the terms and conditions of the new service agreement, concurrently.

The technical analyses were to be such that:

- Consistent and high quality data sources would be used to characterize customer communities; and
- A technically sound and equitable method for allocating capacity would be developed and used to determine new contractual capacities.

During the period March 2009 through November 2011, Wayne County completed the technical analyses to support a new service agreement. These analyses are summarized in three related reports:

1. District Characteristics;
2. Allocation of Wastewater Capacity; and
3. District Wastewater Transport Capacity.

Wayne County and RVSDS customers met numerous times during this period to review data, assumptions, and methodologies used in the technical analyses. RVSDS customers were also provided multiple drafts of each document for review and comment.

The capacity allocations that were developed in this set of reports are technically sound and represent fair allocations, based on the then-best available data to Wayne County. Currently, Wayne County and some RVSDS customers have Amended Consent Orders (ACOs) with the Michigan Department of Environmental Quality (MDEQ) that require the study, design and implementation of improvements to reduce sanitary sewer overflow (SSO) discharges. The

capacity allocations that were developed in this set of reports are not intended to solely resolve an ACO or the future occurrence of SSOs by Wayne County or its customers.

Concurrently during the technical review period, Wayne County undertook negotiations with legal representatives of RVSDS customers and the City of Detroit, for a new service agreement for wastewater transport and disposal, respectively. Legal negotiations remain ongoing at this time.

Also, a Short-Term Corrective Action Plan (STCAP) that included pipe lining, pipe grouting, manhole repairs, comfort station work, and a new siphon downstream of Lift Station 1A (LS1A) was being implemented to reduce interceptor system inflow and infiltration (I/I) and improve the transport capacity of the interceptor system.

Monitoring of the STCAP improvements is to be done from July 1, 2012 to June 30, 2013. After the STCAP improvements are evaluated, a Long-Term Corrective Action Plan (LTCAP) is understood to be needed under the ACOs. These LTCAP improvements may include community sewer and interceptor system improvements which may result in recommendations for contractual modifications of flow rates and peak wet weather flow rates.

Currently, further work on developing the technical basis for allocating capacity amongst RVSDS customers has been held in abeyance. It is anticipated that technical analysis will resume when the STCAP improvements are completed and evaluated, the LTCAP analysis is underway, and as agreed to by Wayne County and the RVSDS customers.

This document, titled “District Characteristics,” reflects technical comments from RVSDS customers through November 2011. This document will be finalized, and amended as necessary, as available data is updated and improvements to the RVSDS are completed.

1. EXECUTIVE SUMMARY

In this report, the characteristics of the RVSDS communities were determined for current conditions and estimated for future conditions. These characteristics were used in developing wastewater capacity needs and to fairly allocate the available wastewater capacity among customer communities for a new service agreement.

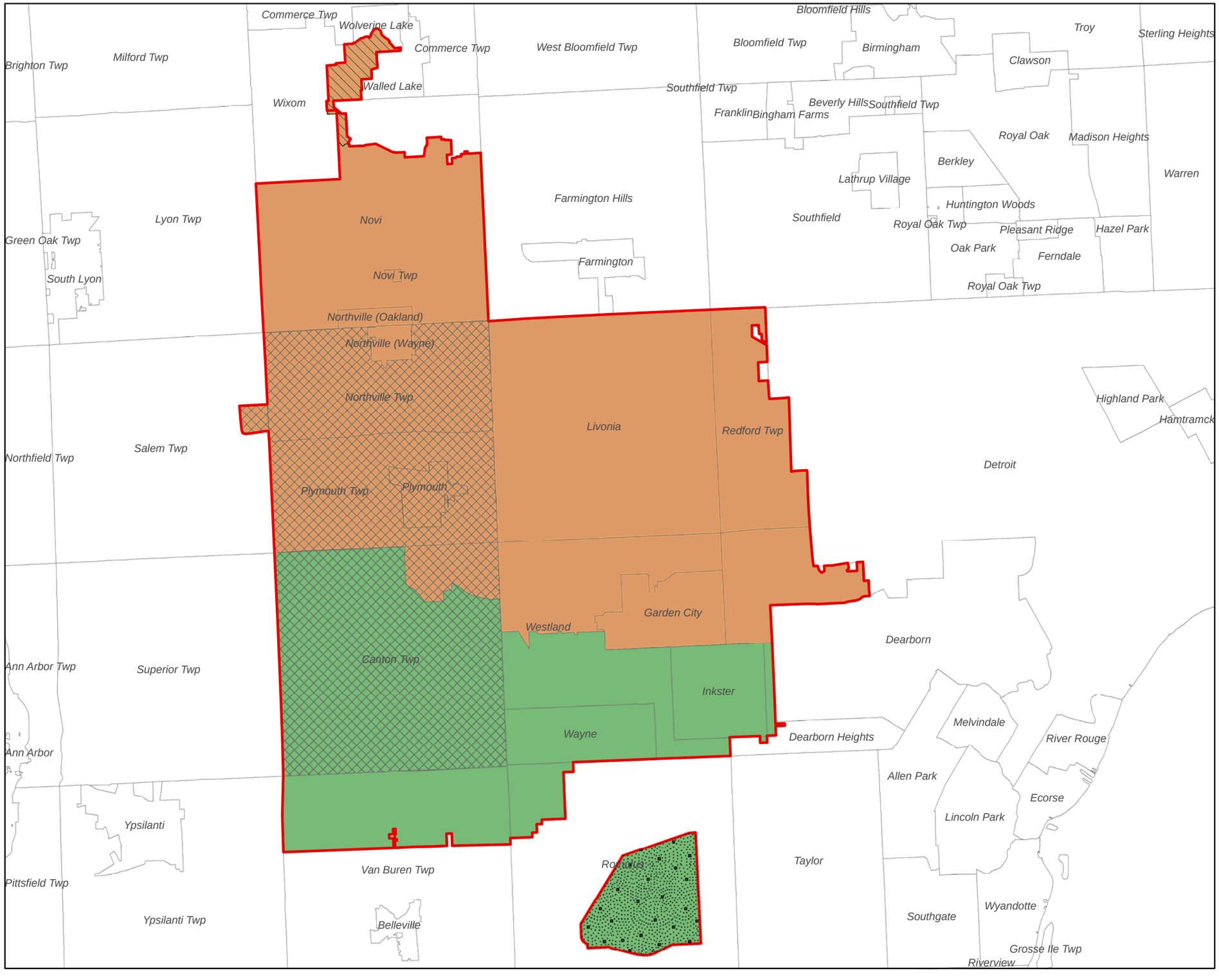
The RVSDS transports wastewater from 14 communities in Wayne County, in 3 communities in Oakland County and 1 community in Washtenaw County (the "District") to the City of Detroit's Wastewater Treatment Plant for treatment and disposal. The purpose of this report is to describe the characteristics of the District and its individual customers. The characteristics tabulated in this report include the District boundary, residential population, employment, housing age, land use, and Significant Industrial Users (SIUs). These data, which were obtained from consistent and high quality sources such as the U.S. Census Bureau, the Detroit Water and Sewerage Department (DWSD) and the Southeast Michigan Council of Governments (SEMCOG), are being used to develop an equitable and technically sound methodology for allocating capacity in the RVSDS among its customers.

The District boundary is shown on Figure 1 and represents the area currently being served by the RVSDS. Table 1 presents a listing of the communities served all or partly by the RVSDS. The City of Novi is located in Oakland County. The Washtenaw County community is Salem Township and is limited to leachate from a landfill.

Table 1

Communities in the District 2011

Community	All or Part
Canton Township	All (flows split)
Commerce Township	Part
Dearborn Heights	Part
Garden City	All
Inkster	All
Livonia	All
Northville	All
Northville Township	All (flows split)
Novi	Part
Plymouth	All
Plymouth Township	All (flows split)
Redford Township	Part
Romulus	Part
Salem Township (landfill)	Part
Van Buren Township	Part (flows split)
Wayne	All
Westland	All
Wolverine Lake	Part



Rouge Valley Sewage Disposal System

N
W E
S

Legend

- District Boundary
- Community Boundaries
- Lower Rouge Service Area
- Middle Rouge Service Area

Areas Splitting Flow
- WTUA Service Area
- Metro Airport Service Area
- Walled Lake - Novi Diversion Area

Figure 1
District and Community Boundaries

0 0.5 1 2 3 4 Miles

Applied Science, Inc.

The District was formed in August 1961 through an agreement between the City of Detroit and Wayne County for transport and treatment of wastewater from the District. An agreement between Wayne County and the customer communities at the time was also made in August 1961 for transport of wastewater from the customer communities to the Detroit wastewater collection system. The agreements between Wayne County and the customer communities were amended in 1983, 1984 and 1988 to adjust contractual capacities, the District boundary, communities served, and to assign cost allocations for interceptor system improvements. All of the service agreements for the RVSDS will expire in August 2011. Wayne County and the City of Detroit currently are negotiating a new agreement for transport and treatment of wastewater from the District. Wayne County has initiated the process of negotiating a new service agreement with customer communities.

In 1988, three communities (Canton, Northville and Plymouth Townships) formed the Western Townships Utility Authority (WTUA). WTUA operates an interceptor system and two equalization basins and also has an agreement for sewage disposal with the Ypsilanti Community Sewer Authority (YCUA). The WTUA communities split their wastewater discharges between the District and the YCUA connections. In the past 4 years, from 29.0% to 47.8% of the wastewater from the WTUA communities has been discharged to the RVSDS.

In 2007, a gated diversion chamber and connection to the RVSDS from the interceptor that delivers wastewater to the Walled Lake Wastewater Treatment Plant was constructed. This diversion is being used to send peak flow rates on an emergency basis to the RVSDS from parts of Novi and Commerce Township and all of Wolverine Lake. The diversion is being intermittently used during high wet weather conditions. However, the Novi flow rate at Meter BG1 has remained below the current contract capacity during recent storm events. Wayne County has requested that Oakland County close this connection. Therefore, the diversion area is not included in the community characteristics.

Table 2 presents a summary of the characteristics of the communities which contribute wastewater flows to the RVSDS. Information is given for the entire WTUA communities. Information is given for the parts of Dearborn Heights, Romulus and Van Buren Township that are within the District boundary. The data for Novi includes Novi Township.

Additional data obtained for each community (e.g., community sewer system data and flow meter data) are presented in the documents “Capacity Allocation Alternatives” and “District Wastewater Transport Capacity” prepared by Wayne County. All of these data are being used to develop an equitable allocation of contractual capacity using a consistent and sound technical basis.

Table 2

Rouge Valley Sewage Disposal System

Summary Data for District

Community	Population			Employment			Housing Units									Year 2000 Land Use Data (acres)						Year 2035	SIU Daily Flow Rate	
							Year 2000			Year 2009			Year 2035												
	Year 2000	Year 2009	Year 2035	Year 2000	Year 2010	Year 2035	Pre-1970	Total	Median Year Built	Pre-1970	Total	Median Year Built	Pre-1970	Total	Median Year Built	Residential	Commercial	Industrial	Institutional	Total Developed	Total in District	Total Developed Land (acres)	1999	2009
Canton Township (2)	76,366	84,672	98,793	26,841	22,319	26,591	3,067	28,418	1983	2,893	34,522	1986	2,893	39,777	1991	8,606	874	883	445	10,809	23,102	12,808	0.15	0.08
Dearborn Heights (1)	37,603	35,933	34,109	9,726	7,291	7,589	13,299	15,577	1959	13,245	15,744	1960	13,245	15,744	1960	3,465	333	43	276	4,117	5,293	4,117	0.04	0.00
Garden City	30,047	27,664	25,546	11,437	8,405	8,114	10,299	11,719	1956	10,266	11,843	1957	10,266	11,843	1957	2,967	254	89	337	3,647	3,751	3,647	0.01	0.01
Inkster	30,115	29,237	25,633	5,788	5,322	6,181	9,656	12,364	1960	9,483	12,396	1961	9,483	12,396	1961	2,448	209	146	312	3,116	4,001	3,116	0.20	0.17
Livonia	100,545	95,269	95,779	105,019	98,090	97,807	26,434	38,655	1965	26,301	39,763	1966	26,301	39,959	1966	12,435	1,980	2,613	1,571	18,599	22,929	18,693	2.21	2.36
Northville	6,459	6,232	6,470	5,909	4,242	4,316	1,440	2,786	1963	1,400	2,843	1964	1,400	2,946	1966	852	76	57	26	1,011	1,318	1,048	0.00	0.01
Northville Township (2)	21,036	26,853	34,192	6,908	7,105	7,479	1,747	8,479	1981	1,700	11,805	1987	1,700	14,763	1994	3,536	266	78	510	4,390	10,596	5,922	0.01	0.11
Novi (1)	38,457	43,963	56,415	28,025	31,840	41,710	1,697	14,694	1984	1,618	18,446	1988	1,618	23,251	1995	5,958	938	1,186	0	8,083	16,616	10,727	0.32	0.08
Plymouth	9,022	8,676	9,181	8,237	9,329	9,353	3,547	4,556	1955	3,524	4,862	1958	3,524	5,117	1962	796	208	114	93	1,211	1,417	1,211	0.05	0.05
Plymouth Township (2)	27,798	26,800	29,915	24,569	23,505	22,501	4,183	10,984	1975	4,121	11,646	1977	4,121	12,877	1981	4,475	411	1,115	304	6,305	10,242	7,012	0.41	0.31
Redford Township (1)	50,340	47,380	44,553	18,468	15,088	16,015	18,812	19,971	1954	18,747	20,142	1954	18,747	20,142	1954	4,547	537	520	473	6,078	7,054	6,078	0.15	0.09
Romulus (1)	2,331	2,460	2,740	2,364	2,462	2,676	142	833	1995	124	946	1996	124	1,072	1999	311	14	428	0	753	1,712	868	0.52	0.70
Van Buren Township (1)	5,004	5,895	8,216	5,738	7,559	7,592	607	1,991	1978	598	2,628	1984	598	3,727	1995	1,010	54	538	65	1,667	8,001	2,587	0.02	0.04
Wayne	19,051	18,054	17,214	19,051	16,070	15,739	5,753	7,655	1959	5,721	7,822	1960	5,721	7,822	1960	1,483	247	773	329	2,832	3,852	2,832	2.01	3.19
Westland	86,602	82,281	87,088	27,069	26,383	28,002	21,844	37,723	1968	21,748	39,093	1969	21,748	41,187	1972	7,190	1,082	542	842	9,656	13,085	10,192	0.15	0.13
Totals	540,776	541,369	575,843	305,149	285,010	301,665	122,527	216,403	1968	121,489	234,500	1971	121,489	252,623	1974	60,081	7,484	9,125	5,583	82,273	132,968	90,856	6.26	7.33
WTUA Totals	125,200	138,325	162,900	58,318	52,929	56,571	8,997	47,881	1981	8,714	57,973	1985	8,714	67,417	1990	16,617	1,551	2,077	1,260	21,504	43,940	25,746	0.57	0.50

Sources:

A) Year 2000 Population was obtained from the U.S. Bureau of the Census, Census 2000, Block Group Data.
B) SEMCOG, Community Profiles for Southeast Michigan, July 2009.
C) SEMCOG, 2035 Regional Forecast.
D) U.S. Bureau of the Census, Profile of Selected Housing Characteristics: Census 2000.
E) SEMCOG 2000 Regional Land Use Coverage.
F) DWSD Wastewater Master Plan Vol. 1: Planning Criteria, prepared by CDM, October 2003.
G) DWSD SIU list with permitted daily flow rate data, December 2009.

Notes:

1) Information is given for the part of the community within the District excluding the Walled Lake-Novi Diversion area.
2) Canton Township, Plymouth Township and Northville Township are the WTUA communities.
3) District boundary verified by participating communities.
4) Walled Lake-Novi Diversion area is an intermitten relief connection to RVSDS therefore these areas have been excluded from the totals for community characteristics.
5) The Land Use Summary by Line Connection table in the District Wastewater Transport Capacity Memo has slightly different community totals than what are shown here. The differences are due to the removal of open space areas. The totals given above are the most accurate for the full community.

2. DISTRICT BOUNDARY

The District is served by two Wayne County interceptor systems. The Middle Rouge Interceptor system runs along the Middle Branch of the Rouge River from Northville to Dearborn and serves parts of Canton Township, Dearborn Heights, Novi, Commerce Township, Wolverine Lake, Redford Township, Salem Township and Westland and all of Garden City, Livonia, Plymouth, Plymouth Township, Northville, and Northville Township. The Lower Rouge Interceptor system runs along Michigan Avenue and the Lower Branch of the Rouge River from Canton Township to Dearborn. It serves parts of Canton Township, Dearborn Heights, Romulus, Westland and Van Buren Township and all of Inkster and Wayne. The sewer service areas of Canton Township, Dearborn Heights and Westland are split between the two interceptor systems.

Figure 1 depicts the District boundary, along with the Lower and Middle Rouge Interceptor system service areas. The District includes 132,968 acres of land in the communities, 4819 acres of land at the Wayne County-Detroit Metropolitan Airport and 651 acres of land in the Walled Lake–Novi diversion area. Therefore, the total acreage of land tributary all or in part to the RVSDS is 138,438 acres of land.

The District boundary shown in Figure 1 was developed by refining the District boundary presented in the Detroit Water and Sewerage Department (DWSD) 2003 Wastewater Master Plan map given in Appendix A. Additional historic District boundary maps are also included as references in Appendix A. Refinements to the boundary shown in the DWSD Master Plan were made based on information from the 2003 Greater Detroit Regional Sewer System (GDRSS) Storm Water Management Model (SWMM) tributary area map. Additionally, the District boundary was updated for Dearborn Heights, Novi, Redford Township, Romulus, Salem Township, and Van Buren Township, based on community provided current service areas and master planned service areas.

Novi Township is not currently a customer of the RVSDS. The City of Novi's sewer system, however, was designed to transport flows from the sixty-six homes in the Township currently served on onsite sewage disposal (septic) systems, if needed. The City of Novi community characteristics presented in this document therefore includes Novi Township.

Salem Township in Washtenaw County historically has not been served by the RVSDS. The Veolia Environmental Services-Arbor Hills West Landfill, which is in Salem Township along the border with Northville Township, currently discharges its leachate through Northville Township to the RVSDS. This area is shown within the District boundary. However, data for Salem Township is not included in the analysis of District characteristics as the discharge is treated as an industrial contribution to the RVSDS.

There are three areas in the District where wastewater is discharged to both the RVSDS and to other wastewater systems. They are:

- the three WTUA communities;
- the Walled Lake-Novi Diversion area; and
- Wayne County-Detroit Metropolitan Airport.

For the WTUA communities, wastewater is equalized at two basins and discharged to both the RVSDS and to YCUA. The amounts discharged to each system vary depending on weather conditions and operational factors. Therefore, the WTUA communities are included in their entirety within the District boundary for the RVSDS.

Wastewater from the Walled Lake-Novi Diversion area which includes portions of Novi, Commerce Township and Wolverine Lake normally flows to the Walled Lake Wastewater Treatment Plant. There is a connection to the RVSDS through a relief outlet that includes a gate valve operated by the Oakland County Water Resources Commissioner. The connection is used during high flow conditions on an emergency basis. The gate valve was opened during storm events in March 2009, April 2009 and June 2010. The flow rate for Novi measured at Meter BG1 did not exceed the current contract capacity during these events. Wayne County has requested that Oakland County close this connection.

Wastewater from the Wayne County-Detroit Metropolitan Airport, which is operated by the Wayne County Airport Authority (WCAA), is currently discharged to the Wayne County Downriver Sewage Disposal System. In 2009, Wayne County and the WCAA executed an agreement so that WCAA can discharge up to 1 MGD (1.55 cfs) of spent aircraft deicing fluid mixed with storm water to the RVSDS as an alternative outlet for proper disposal when conditions do not allow the WCAA to discharge into the Downriver Sewage Disposal System. The agreement provides for discharge into the RVSDS only during dry weather conditions. WCAA's new outlet to the RVSDS is currently under construction. The Airport covers about 4819 acres. This area is not included in the District characteristics since the only wastewater contribution will be the deicing fluid. The discharge is considered an institutional contribution to the RVSDS.

3. SERVICE AREA CHARACTERISTICS

This section describes the sources of the data and the characteristics of the District excluding Walled Lake-Novi Diversion area and the Wayne County-Detroit Metropolitan Airport. District population and housing information were obtained from the U.S. Bureau of Census (American Fact Finder website, http://factfinder.census.gov/home/saff/main.html). The most recent data available are from the year 2000 Census, and both "100%" data sets and "sample" data sets were obtained and analyzed. Table 3 summarizes the Census 2000 data availability for the RVSDS.

Table 3 Census 2000 Data Availability							
Parameter Name	Census ID	Data Availability					
		Tract		Block Group		Block	
		100 % Data	Sample Data	100 % Data	Sample Data	100 % Data	Sample Data
Population	P1	√	NA	√	NA	√	NA
Housing Units	H1	√	NA	√	NA	√	NA
Housing Units per structure	H30	NA	√	NA	√	NA	NA
Year Structure Built	H34	NA	√	NA	√	NA	NA
Median Year Structure Built	H35	NA	√	NA	√	NA	NA

The 100% data sets are derived from the surveys given to every household. The more detailed sample data sets contain information from surveys given to about 1/6th of the households. The Census data are also available for different geographical subdivisions: Nation, State, County, Minor Civil Division (City or Township), Tract, Block Group and Block.

Electronic geographic ("shape") files for tracts, block groups and blocks were downloaded from the Topologically Integrated Geographic Encoding and Referencing system (TIGER) from the following website: http://www.census.gov/geo/www/tiger/. These files were used as a basis to calculate population and housing information. The Table DP-4 Profile of Selected Housing Characteristics: 2000, was downloaded for each community.

The Southeast Michigan Council of Governments (SEMCOG) website provided several useful reports including: Population and Household Estimates for Southeast Michigan, July 2009; Historical Population and Employment by Minor Civil Division, Southeast Michigan, June 2002; and Community Profiles for Southeast Michigan, July 2009. In addition to these reports, the year 2000 Regional Land Use shape and data files and the U.S. Bureau of Census, Census 2000, MCD/County–to–MCD/County Worker Flow data files were obtained.

As previously discussed, wastewater from the WTUA communities is equalized and discharged to both the YCUA system and the RVSDS. The split of the wastewater between the systems varies daily depending on weather conditions and other factors. The WTUA communities do not have areas that are dedicated to either system. Therefore, the characteristics for the entire WTUA communities are given in this memorandum.

a) Population

Table 4 details the year 2000 residential population in the District for each of the communities. Arc Map 9.3 software was used to overlay the District boundary, community boundaries and year 2000 census block group boundaries. For block groups that were divided by community boundaries, population density for the block group was used to split the population for each community. As previously noted the population of Novi Township is included in the population of the part of the City of Novi in the District.

Table 4

Existing and Projected Residential Population in District

Community	Year 2000 Census Population	Year 2009 SEMCOG Estimated Population	Year 2015 SEMCOG Projected Population	Year 2025 SEMCOG Projected Population	Year 2035 SEMCOG Projected Population
Canton Township	76,366	84,672	86,548	90,200	98,793
Dearborn Heights (1)	37,603	35,933	34,060	34,155	34,109
Garden City	30,047	27,664	26,388	26,255	25,546
Inkster	30,115	29,237	26,970	25,805	25,633
Livonia	100,545	95,269	94,819	94,588	95,779
Northville	6,459	6,232	6,348	6,398	6,470
Northville Township	21,036	26,853	27,109	30,071	34,192
Novi (1)	38,457	43,963	45,461	50,182	56,415
Plymouth	9,022	8,676	8,815	9,150	9,181
Plymouth Township	27,798	26,800	27,667	28,584	29,915
Redford Township (1)	50,340	47,380	45,095	44,248	44,553
Romulus (1)	2,331	2,460	2,306	2,434	2,740
Van Buren Township (1)	5,004	5,895	6,025	6,634	8,216
Wayne	19,051	18,054	17,620	17,303	17,214
Westland	86,602	82,281	84,929	85,909	87,088
Totals	540,776	541,369	540,160	551,916	575,843
WTUA Totals	125,200	138,325	141,324	148,855	162,900

(1) Information is given for the part of the community within the District

The population estimates for year 2009 and projections through year 2035 are also given in Table 4 for each District community. These population estimates were taken from the SEMCOG, Population and Household Estimates for Southeast Michigan, July 2009.

Dearborn Heights, Novi, Redford, Romulus and Van Buren Township are only partially in the District. For these communities, population estimates for the District for year 2009 and projections for future years were calculated using the percentage of the year 2000 population within the District. The population breakdown to the block group level was used. The percentage factors are shown in Table 5 for communities that are partly within the District.

Table 5

Data for Communities Partially Within District

Community	Dearborn Heights	Novi & Novi Township	Redford	Romulus	Van Buren Township
Year 2000 Residential Population	58,264	47,579	51,622	22,979	23,559
Year 2000 Estimated Residential Population in District	37,603	38,457	50,340	2,331	5,004
Population within District	64.5%	80.8%	97.5%	10.1%	21.2%
Year 2000 Residential Area (acres)	5,154	7,128	4,654	3,435	4,368
Year 2000 Residential Area in District (acres)	3,465	5,958	4,547	311	1,010
Residential Area within District	67.2%	83.6%	97.7%	9.1%	23.1%
Year 2000 Commercial, Industrial and Institutional Area (acres)	1,061	2,652	1,548	8,108*	1,214
Year 2000 Commercial, Industrial and Institutional Area in District (acres)	652	2,124	1,531	491*	656
Commercial, Industrial and Institutional Area within District	61.5%	80.1%	98.9%	6.1%	54.1%
Total Community Area (acres)	7,529	20,081	7,196	23,009	23,080
Area within District (acres)	5,293	16,616	7,054	1,712	8,001
Land Area within District	70.3%	82.7%	98.0%	7.4%	34.7%
Total Community Housing Units	23,913	19,657	20,605	8,943	10,422
Housing Units in District	15,577	14,694	19,971	833	1,991
% of Housing in District	65.1%	74.8%	96.9%	9.3%	19.1%

*Transportation Area was included for Romulus.

b) Employment

The employment numbers for the District are provided in Table 6. Employment information was taken from SEMCOG, Community Profiles for Southeast Michigan, July 2009, and the SEMCOG 2035 Regional Forecast. The employment in the District in Dearborn Heights, Novi, Redford, Romulus and Van Buren Township were estimated by using the percentage of commercial, industrial and institutional land area in the District to the total commercial, industrial and institutional land area in the community. The commercial, industrial and institutional land area is the portion of the developed area that is non-residential. The percentage of non-residential land area in the District for these communities is presented in Table 5.

SEMCOG estimated the employment in each community for the years 2000 and 2005 using the U. S. Bureau of Economic Analysis (BEA) data that is based on the number of people for whom unemployment tax is paid. The forecasted employment numbers for 2010 through 2035 are derived by SEMCOG from data provided to them by the University of Michigan. These data exclude farming, construction, military and the self-employed.

Table 6

Employment and Projected Employment

Community	Year 2000	Year 2005	Year 2010	Year 2015	Year 2020	Year 2025	Year 2030	Year 2035
Canton Township	26,841	21,733	22,319	23,573	24,467	25,041	25,701	26,591
Dearborn Heights (1)	9,726	7,129	7,291	7,489	7,610	7,591	7,559	7,589
Garden City	11,437	8,342	8,405	8,407	8,376	8,273	8,149	8,114
Inkster	5,788	5,052	5,322	5,660	5,886	6,023	6,074	6,181
Livonia	105,019	100,537	98,090	94,346	94,994	95,857	96,681	97,807
Northville	5,909	4,246	4,242	4,348	4,412	4,351	4,314	4,316
Northville Township	6,908	6,874	7,105	7,328	7,438	7,426	7,419	7,479
Novi (1)	28,025	29,209	31,840	33,688	35,971	38,070	39,769	41,710
Plymouth	8,237	9,518	9,329	9,360	9,382	9,299	9,273	9,353
Plymouth Township	24,569	25,261	23,505	22,918	22,930	22,578	22,406	22,501
Redford Township (1)	18,468	15,390	15,088	15,367	15,634	15,715	15,836	16,015
Romulus (1)	2,364	2,513	2,462	2,491	2,558	2,587	2,617	2,676
Van Buren Township (1)	5,738	8,000	7,559	7,498	7,578	7,543	7,544	7,592
Wayne	19,051	16,992	16,070	15,843	15,976	15,904	15,763	15,739
Westland	27,069	25,881	26,383	27,185	27,776	27,763	27,802	28,002
Total	305,149	286,676	285,010	285,501	290,988	294,021	296,907	301,665
Total WTUA	58,318	53,868	52,929	53,819	54,835	55,045	55,526	56,571

(1) Information is given for the part of the community within the district.

c) Housing Units

The age of housing unit data for the District is shown in Table 7 for year 2000. The number and age of housing units in each community were derived from the U.S. Bureau of the Census, Profile of Selected Housing Characteristics: Census 2000 Report. Percentages of population in the District, from Table 5 were used to estimate number of housing units in the District for Dearborn Heights, Novi, Romulus and Van Buren Township. Novi Township is included in the part of the City of Novi within the District. Homes built before 1970 likely have footing drains connected to the sanitary sewer system.

Table 7

Year 2000 Age of Housing Units in District

Community	1939 & Earlier	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-After	Total Pre-1970	Total	% Built Before 1970	Median Year Built
Canton Township	311	315	770	1,672	11,688	4,426	9,236	3,067	28,418	10.8%	1983
Dearborn Heights (1)	629	1,440	7,204	4,026	1,220	672	386	13,299	15,577	85.4%	1959
Garden City	637	1,349	6,589	1,724	1,032	181	207	10,299	11,719	87.9%	1956
Inkster	945	1,466	4,368	2,877	2,058	340	310	9,656	12,364	78.1%	1960
Livonia	1,542	2,203	12,187	10,503	5,563	3,747	2,910	26,434	38,655	68.4%	1965
Northville	630	95	310	405	499	597	250	1,440	2,786	51.7%	1963
Northville Township	227	211	405	904	2,367	2,196	2,169	1,747	8,479	20.6%	1981
Novi (1)	179	91	675	752	4,446	4,075	4,476	1,697	14,694	11.5%	1984
Plymouth	1,226	455	957	909	444	379	186	3,547	4,556	77.9%	1955
Plymouth Township	383	402	1,118	2,280	2,754	1,731	2,316	4,183	10,984	38.1%	1975
Redford Township	1,310	3,471	12,154	1,876	712	176	271	18,812	19,971	94.2%	1954
Romulus (1)	44	31	35	32	25	18	648	142	833	17.1%	1995
Van Buren Township (1)	155	146	152	155	500	444	439	607	1,991	30.5%	1978
Wayne	851	1,459	2,167	1,277	1,156	336	410	5,753	7,655	75.2%	1959
Westland	1,147	2,519	9,386	8,793	7,056	4,061	4,762	21,844	37,723	57.9%	1968
Total	10,215	15,653	58,476	38,183	41,520	23,379	28,815	122,496	216,201	56.7%	1968
WTUA Total	921	928	2,293	4,856	16,809	8,353	13,722	8,997	47,881	18.8%	1981
District - WTUA - Novi	9,115	14,634	55,509	32,576	20,265	10,951	10,617	111,802	153,627	72.8%	1962

(1) Information is given for the part of the community within the District.

Table 8 presents an update of the housing unit data for year 2009. The SEMCOG, Residential Building Permits, 2000-2009 report summarizes the building and demolition permits issued by communities. These data were used to estimate the housing unit data for the District for year 2009. The housing units that were demolished were assumed to be built in the median year for year 2000 in the update.

Table 8

Year 2009 Age of Housing Units in District

Community	2000				2009					
	Pre-1970 Housing Units	Total Housing Units	% Pre-1970	Median Year Built	Building Permits 2000-2009	Demo-litions 2000-2009	Pre-1970 Housing Units	Total Housing Units	% Pre-1970	Median Year Built
Canton Township	3,067	28,418	10.8%	1983	6,278	174	2,893	34,522	8.4%	1986
Dearborn Heights (1)	13,299	15,577	85.4%	1959	222	54	13,245	15,744	84.1%	1960
Garden City	10,299	11,719	87.9%	1956	157	33	10,266	11,843	86.7%	1957
Inkster	9,656	12,364	78.1%	1960	205	173	9,483	12,396	76.5%	1961
Livonia	26,434	38,655	68.4%	1965	1,241	133	26,301	39,763	66.1%	1966
Northville	1,440	2,786	51.7%	1963	97	40	1,400	2,843	49.2%	1964
Northville Township	1,747	8,479	20.6%	1981	3,373	47	1,700	11,805	14.4%	1987
Novi (1)	1,697	14,694	11.5%	1984	3,831	79	1,618	18,446	8.8%	1988
Plymouth	3,547	4,556	77.9%	1955	329	23	3,524	4,862	72.5%	1958
Plymouth Township	4,183	10,984	38.1%	1975	724	62	4,121	11,646	35.4%	1977
Redford Township	18,812	19,971	94.2%	1954	236	65	18,747	20,142	93.1%	1954
Romulus (1)	142	833	17.1%	1995	130	18	124	946	13.1%	1996
Van Buren Township (1)	607	1,991	30.5%	1978	646	9	598	2,628	22.8%	1984
Wayne	5,753	7,655	75.2%	1959	199	32	5,721	7,822	73.1%	1960
Westland	21,844	37,723	57.9%	1968	1,466	96	21,748	39,093	55.6%	1969
District Total	122,527	216,403	56.6%	1968	19,135	1,038	121,489	234,500	51.8%	1971
WTUA Total	8,997	47,881	18.8%	1981	10,375	283	8,714	57,973	15.0%	1985
District -WTUA - Novi	111,834	153,829	72.7%	1962	4,929	676	111,158	158,082	70.3%	1963

(1) Information is given for the part of the community within the District.

Table 9 presents an update of the housing unit data for year 2035. The population estimates as shown in Table 4 were taken from SEMCOG, Population and Household Estimates for Southeast Michigan, July 2009. The 2035 population estimates were used to estimate the number of new housing units assuming a District-wide average of 2.3 persons per housing unit. Housing density for each community was then used to project the new developed area for year 2035. The housing units that were added were assumed to be built in the year 2022 in the update for year 2035. Communities with a negative population change were assumed to have zero growth.

Table 9

Year 2035 Age of Housing Units in District

Community	New Housing Units Since 2009	Total Housing Units	Median Year Built	Developed Area (acres)
Canton Township	5,255	39,777	1991	12,808
Dearborn Heights (1)	0	15,744	1960	4,117
Garden City	0	11,843	1957	3,647
Inkster	0	12,396	1961	3,116
Livonia	196	39,959	1966	18,693
Northville	103	2,946	1966	1,048
Northville Township	2,958	14,763	1994	5,922
Novi (1)	4,806	23,251	1995	10,727
Plymouth	255	5,117	1962	1,211
Plymouth Township	1,231	12,877	1981	7,012
Redford Township	0	20,142	1954	6,078
Romulus (1)	127	1,072	1999	868
Van Buren Township (1)	1,099	3,727	1995	2,587
Wayne	0	7,822	1960	2,832
Westland	2,094	41,187	1972	10,192
District Total	18,123	252,623	1974	90,856
WTUA Total	9,444	67,417	1990	25,746
District -WTUA - Novi	3,873	161,955	1965	54,384

(1) Information is given for the part of the community within the District.

d) On-Site Sewage Disposal Systems

Table 10 shows the percentage of housing units on public sewer as reported in the 1990 Census. The remainder of the housing units are assumed to be served by on-site sewage disposal systems. Note that the percentage of housing units on public sewer were not included in the 2000 Census. Canton Township, Northville, Northville Township, Novi, Plymouth Township, Van Buren Township and Romulus have a significant percentage of housing units not served by public sewer. Van Buren Township and Romulus are only partially in the District and have a relatively small number of housing units tributary to the RVSDS.

Dearborn Heights provided an actual count of 12 housing units served by septic systems and that number was used. Novi estimated that about 95% of the housing units in the District were within 100 feet of a public sewer. However, this was not considered a complete survey of housing units on public sewer.

For each community, the number of housing units served by on-site sewage disposal systems was calculated using 1990 Census data and these numbers were assumed to remain constant with time. All housing units built after 1990 were assumed to be served by public sewer. Updated percentages of housing units on public sewer were then calculated for years 2009 and 2035.

Table 10

On-Site Sewage Disposal Systems

Community	1990			2009				2035	
	Housing Units in Community	Census Percentage on Public Sewer	Estimated Homes Served by On-Site Sewage Disposal Systems in Community	Year 2000 Census Percentage of Housing Units in District to Total for Community	Estimated Homes Served by On-Site Sewage Disposal Systems in District	Year 2009 Housing Units in District	Year 2009 Estimated Percentage of Housing Units on Public Sewer	2035 Housing Units in District	Year 2035 % on Public Sewer
Canton Township	20,309	94.1%	1198	100.0%	1,198	34,522	96.5%	39,777	97.0%
Dearborn Heights (1)	23,939	99.8%	48	65.1%	12	15,744	99.9%	15,744	99.9%
Garden City	11,374	99.7%	34	100.0%	34	11,843	99.7%	11,843	99.7%
Inkster	12,045	99.3%	84	100.0%	84	12,396	99.3%	12,396	99.3%
Livonia	36,641	99.2%	293	100.0%	293	39,763	99.3%	39,959	99.3%
Northville	2,583	95.9%	106	100.0%	106	2,843	96.3%	2,946	96.4%
Northville Township	6,518	85.7%	932	100.0%	932	11,805	92.1%	14,763	93.7%
Novi	13,557	87.4%	1708	74.8%	1,277	18,446	93.1%	23,251	94.5%
Plymouth	4,528	99.9%	5	100.0%	-	4,862	100.0%	5,117	100.0%
Plymouth Township	9,219	94.8%	479	100.0%	479	11,646	95.9%	12,877	96.3%
Redford Township	20,451	99.4%	123	96.9%	119	20,142	99.4%	20,142	99.4%
Romulus	8,212	94.3%	468	9.3%	33	946	96.5%	1,072	96.9%
Van Buren Township	8,430	86.1%	1172	19.1%	224	2,628	91.5%	3,727	94.0%
Wayne	7,325	99.7%	22	100.0%	22	7,822	99.7%	7,822	99.7%
Westland	34,514	99.2%	276	100.0%	276	39,093	99.3%	41,187	99.3%
Total	219,645	96.8%	6948	94.4%	6,559	234,500	97.2%	252,623	97.4%
WTUA Total	36,046	92.8%	2,610	100.0%	2,610	57,973	95.5%	67,417	96.1%
District - WTUA - Novi	170,042	98.5%	2,631	92.8%	2,441	158,082	98.5%	161,955	98.5%

1) Dearborn Heights, Romulus and City of Plymouth provided data for housing units on septic within the District.

e) Land Use

A map of the year 2000 land use is provided on Figure 2 and the land use breakdown is given in Table 11 for the area of each community in the District excluding the landfill in Salem Township and the Walled Lake-Novi diversion area. The SEMCOG 2000 Regional Land Use shape and data files were overlaid with the District and community boundaries to determine the land use breakdown for year 2000. The land use for Dearborn Heights, Novi, Romulus and Van Buren Township is shown for the portions of these communities within the District. The District contains 132,968 acres, with about 82,273 acres of developed land and 50,695 acres of undeveloped land. There are 60,081 acres of residential property in the District which is 73% of the total developed land area.

Table 11
Rouge Valley Sewage Disposal System
Year 2000 Land Use (acres)

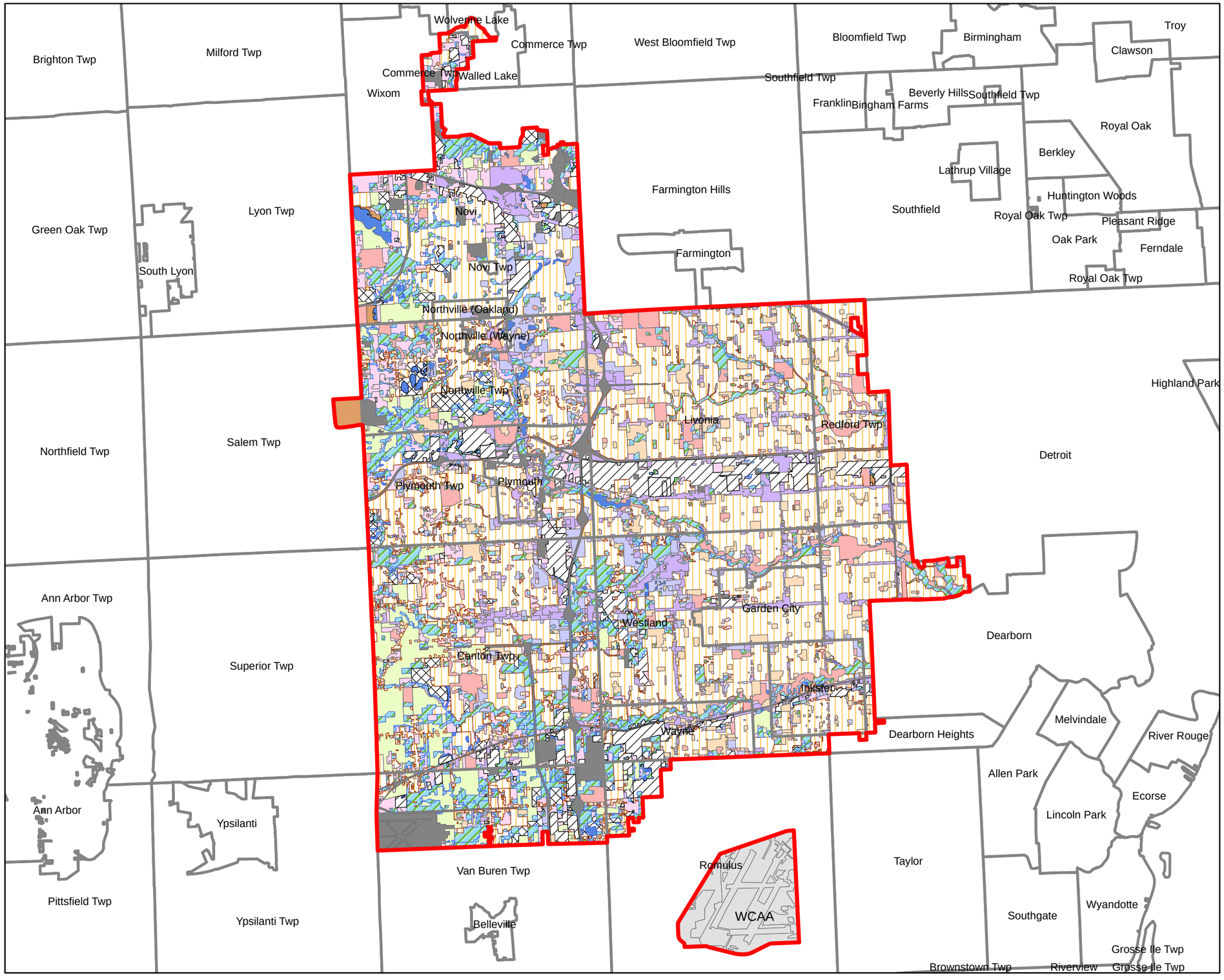
Community	Residential			Non-Residential					Under Development	Active Agriculture	Grassland and Shrub	Woodland and Wetland	Mining	Water	Developed Land	Acres in District
	Single Family	Multiple Family	Total Residential	Commercial and Office	Industrial	Institutional	Transportation and Utility	Parks and Cemetery								
Canton Township	7,802	804	8,606	874	883	445	1,182	769	650	3,310	2,786	3,502	0	95	10,809	23,102
Dearborn Heights (1)	3,335	129	3,465	333	43	276	92	613	12	0	82	377	0	0	4,117	5,293
Garden City	2,926	41	2,967	254	89	337	17	20	0	0	67	0	0	0	3,647	3,751
Inkster	2,289	159	2,448	209	146	312	57	274	4	2	205	341	0	2	3,116	4,001
Livonia	12,035	400	12,435	1,980	2,613	1,571	588	1,257	134	28	538	1,684	0	101	18,599	22,929
Northville	758	94	852	76	57	26	74	113	0	1	21	86	0	12	1,011	1,318
Northville Township	3,005	531	3,536	266	78	510	245	683	841	634	1,494	2,006	0	304	4,390	10,596
Novi (1)(2)	5,331	627	5,958	938	1,186	0	1,252	581	510	1,057	2,250	2,396	130	357	8,083	16,616
Plymouth	725	72	796	208	114	93	46	50	0	0	24	77	0	9	1,211	1,417
Plymouth Township	4,196	278	4,475	411	1,115	304	609	365	228	224	1,173	1,269	0	68	6,305	10,242
Redford Township (1)	4,505	42	4,547	537	520	473	210	511	0	0	57	181	17	0	6,078	7,054
Romulus (1)	311	0	311	14	428	0	49	0	113	208	205	369	0	15	753	1,712
Van Buren Township (1)	982	28	1,010	54	538	65	1,711	149	362	1,424	790	1,851	0	48	1,667	8,001
Wayne	1,349	134	1,483	247	773	329	96	140	32	0	130	623	0	0	2,832	3,852
Westland	6,224	966	7,190	1,082	542	842	84	614	28	287	472	1,902	0	42	9,656	13,085
Total	55,774	4,307	60,081	7,484	9,125	5,583	6,311	6,139	2,916	7,174	10,293	16,663	147	1,051	82,273	132,968
WTUA Total	15,003	1,614	16,617	1,551	2,077	1,260	2,037	1,816	1,719	4,167	5,453	6,777	0	467	21,504	43,940

Source: SEMCOG 2000 Regional Land Use Coverage.

Notes:

1) Data for the portions of these communities within the District were derived from the SEMCOG 2000 Regional Land Use Map and the Rouge Valley District boundary.
2) Novi Township is included in the part of the City of Novi within the District.
3) Canton Township, Plymouth Township and Northville Township are the WTUA Communities

Rouge Valley Sewage Disposal System



N
W E
S

Legend

- District Boundary
- Community Boundary
- Active Agriculture
- Commercial and Office
- Cultural, Outdoor Recreation
- Extractive
- Grassland and Shrub
- Industrial
- Institutional
- Mixed Use
- Multiple-Family Residential
- Residential with 25% or more vacant land
- Single Family Residential
- Transportation
- Under Development
- Water
- Woodland and Wetland

Figure 2
2000 Land Use Map

0 0.5 1 2 3 4 Miles

Prepared By:

Applied Science, Inc.

f) Significant Industrial User (SIU)

The permitted average daily flow rates for SIUs in the District for years 1999 and 2009 are shown in Table 12. The 1999 SIU information for the District was taken from Table 5.13 in the DWSD Wastewater Master Plan (2003). For 2009, a listing of all SIU permit holders and the permitted average daily flow rates was provided by the DWSD Industrial Waste Control Division. These data were first sorted by address, then geographically located to determine in which community they reside. A summary of each SIU permit holder within each community is given in Appendix B. It is important to note that some institutions, such as hospitals, are permitted SIUs.

Table 12

Permitted Average Daily SIU Flow Rate by Community

Community	1999 Average Daily SIU Flow Rate (cfs)	2009 Average Daily SIU Flow Rate (cfs)
Canton Township	0.15	0.08
Dearborn Heights	0.04	0.00
Garden City	0.01	0.01
Inkster	0.20	0.17
Livonia	2.21	2.36
Northville	0.00	0.01
Northville Township	0.01	0.11
Novi	0.32	0.08
Plymouth	0.05	0.05
Plymouth Township	0.41	0.31
Redford Township	0.15	0.09
Romulus	0.52	0.70
Van Buren Township	0.02	0.04
Wayne	2.01	3.19
Westland	0.15	0.13
Total	6.26	7.33

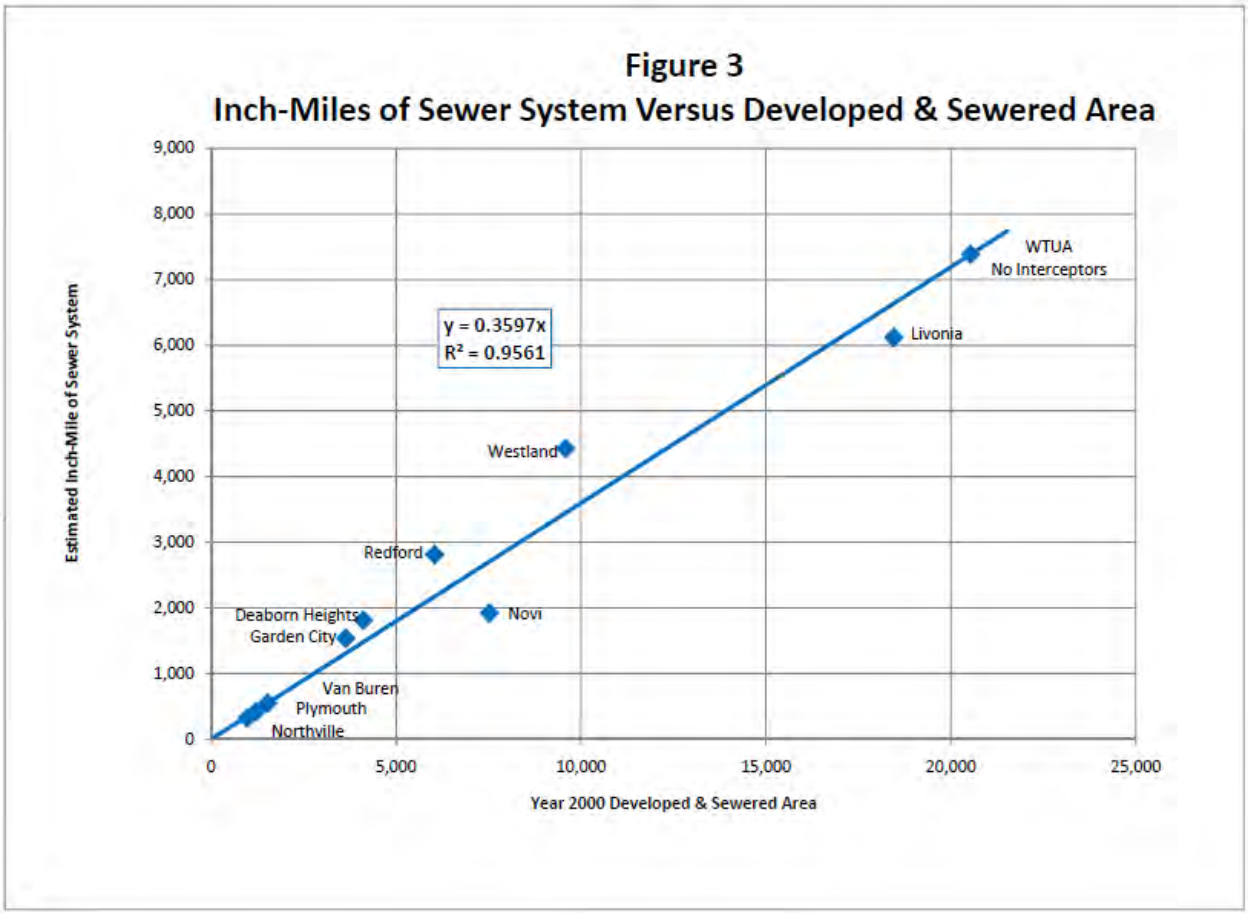
g) Inch – Miles of Sewer

The inch – miles of the community sewers and WTUA interceptors tributary to the Rouge Valley Sewage Disposal System, and of the Wayne County interceptor system itself are estimated on Table 13. Most of the communities provided these data or a GIS coverage that was used to develop the data. The inch-miles versus developed area for each community are plotted on Figure 3.

Table 13

Inch – Miles of Sewer by Community for Year 2010

Customer	Estimated % Served by Public Sewer	Year 2000 Developed Area in District (acres)	Year 2000 Developed and Sewered Area in District (acres)	Total Area in District (acres)	# Manholes	Length of Sewers (miles)	Inch-Miles of Sewer
Dearborn Heights	99.9%	4,117	4,114	5,293	3,500	139	1,811
Garden City	99.7%	3,647	3,637	3,751	1,928	99	1,536
Livonia	99.3%	18,599	18,462	22,929	9,855	442	6,122
Northville	96.3%	1,011	973	1,318	700	31	323
Novi	93.1%	8,083	7,523	16,616	4,860	183	1,922
Plymouth	100.0%	1,211	1,211	1,417	767	35	417
Redford Township	99.4%	6,078	6,042	7,054	3,348	153	2,813
Van Buren Township	91.5%	1,667	1,525	8,001	-	40	549
Westland	99.3%	9,656	9,588	13,085	6,797	288	4,427
WTUA (No Interceptors)	95.5%	21,504	20,536	43,940	15,761	611	7,389
WTUA Interceptors	--	--	--	--	--	27	811
Wayne County Interceptors	--	--	--	--	1,126	93	5,281



The inch-miles of sewer system are estimated on Table 14 for the remaining 3 communities using the best fit relationship given on Figure 3.

Table 14

Estimated Inch – Miles for Remaining Communities

Community	Developed and Sewered Area (Acres)	Inch-Miles
Inkster	3,095	1113
Romulus	691	261
Wayne	2,824	1016

h) Walled Lake – Novi Diversion Area

Table 15 is the Characteristics for the portions of the communities in the Walled Lake-Novi Diversion area. No projections for future conditions were made as this area will be disconnected in the near future.

Table 15

Walled Lake – Novi Diversion Area Year 2000 Census & Land Use Data

Community	Year 2000 Census Data				Year 2000 SEMCOG Land Use (acres)				
	Population	Housing Units	Pre-1970 Housing Units	Median Housing Age	Residential	Commerical	Industrial	Institutional	Total Developed
Commerce Twp.	949	335	94	1991	255	21	156	0	431
Novi	992	678	42	1992	32	5	0	0	38
Wolverine Lake	933	357	233	1963	180	2	0	0	182
Total	2,873	1,370	369	1984	467	28	156	0	651

4. ANALYSIS OF FLOW METER DATA

Available flow meter data for the RVSDS were obtained and analyzed to characterize system flow rates. Figure 4 presents a map of meters operated by Wayne County and the Detroit Water & Sewerage Department (DWSD). Meters WCS1, WCS2 and WCS3 are located just upstream of the three points of discharge from the RVSDS into the DWSD interceptor system, and data from these meters are used by DWSD to determine the wastewater disposal costs billed to the RVSDS. The accuracy of these high quality wastewater billing meters has been verified through dye-dilution testing. The meters receive regular maintenance and the data are QA/QC reviewed.

The daily and hourly flow meter data for Meters WCS1, WCS2 and WCS3 were obtained and evaluated for the years 2006 through 2009. The data from 2006 and 2007 was found to have some gaps with filled in data. Years 2008 and 2009 had generally complete data sets. Year 2008 was slightly wetter than normal in Metropolitan Detroit but had temperatures close to average. The total precipitation for 2008 was 33.98 inches at Metro Airport in Romulus, which is about 1.09 inches above the long-term average of 32.89 inches.

There was a long dry spell in the summer of 2008 that had the lowest sewage flow rates throughout the District in the 4 year period. Year 2009 was also slightly wetter than normal in Metropolitan Detroit but cooler than normal. The total precipitation for the year was 34.12 inches at the Detroit Wayne County Metropolitan Airport in Romulus, which is about 1.23 inches above the long-term average. Year 2008 was selected for further analysis of dry and wet weather flow rates.

a) Peak Average Daily Flow Rates

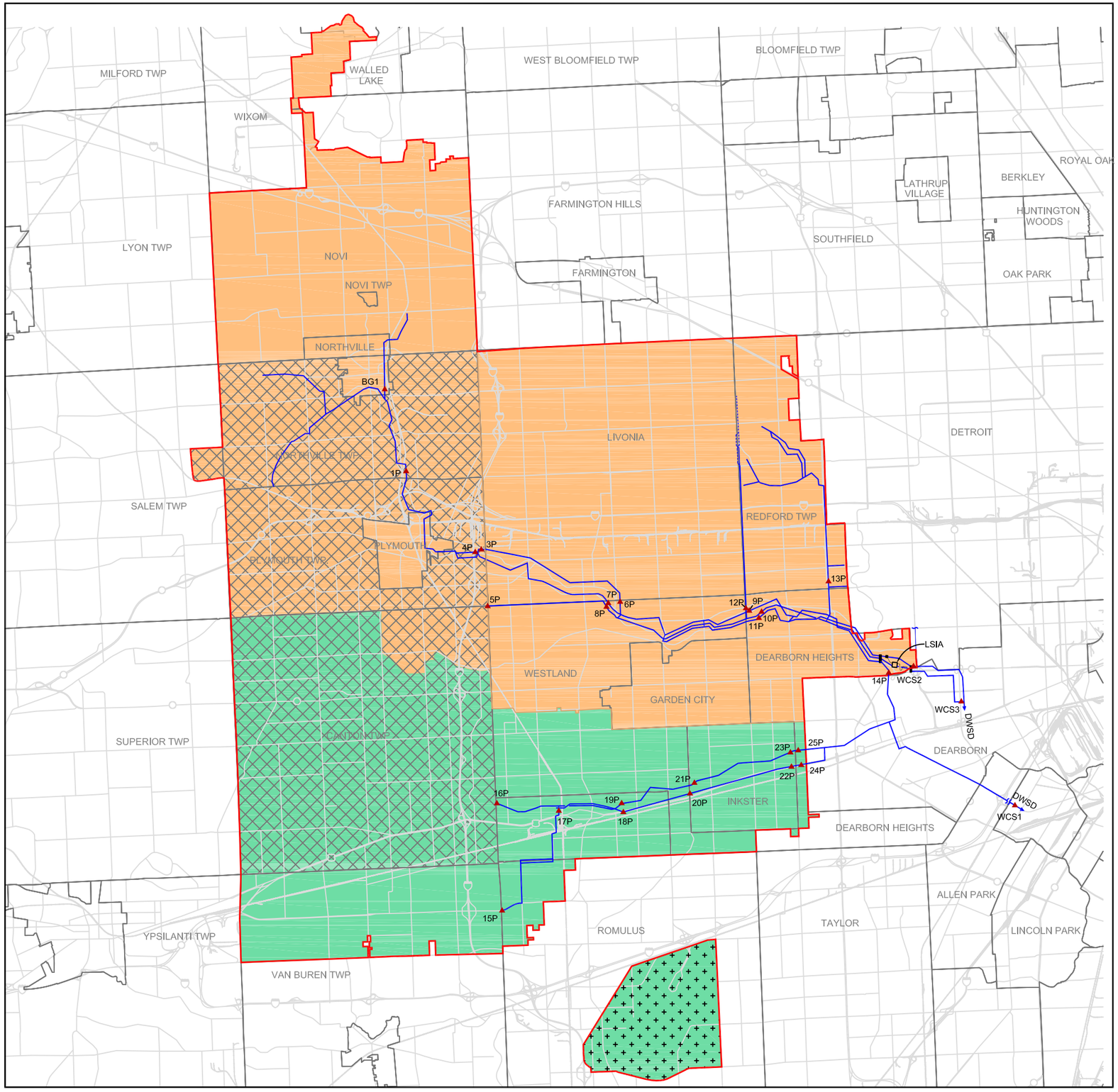
The highest average daily flow rate in the RVSDS at the District outlet for 2008 was recorded on July 3rd. The peak average daily flow meter data are summarized on Table 16.

Table 16

Peak Average Daily Flow Rate for Outlet Meters for 2008

Flow Meter	Average Daily Flow Rate on 7/3/2008 (cfs)
WCS1	195
WCS2	88
WCS3	87
Total =	370

ROUGE VALLEY
SEWAGE DISPOSAL SYSTEM



N
W E
S

LEGEND

- FLOW METER
- WAYNE COUNTY INTERCEPTOR
- DISTRICT BOUNDARY
- COMMUNITY BOUNDARY
- MIDDLE ROUGE SERVICE AREA
- LOWER ROUGE SERVICE AREA
- WTUA SERVICE AREA
- METRO AIRPORT

FIGURE 4
INTERCEPTOR MAP
AND METER LOCATION

PREPARED BY:

Applied Science, Inc.

Dec 22, 2010 - 4:33pm
K:\DWGFiles\2009\0943\Monitoring Facilities Map.dwg

b) Peak Hourly Flow Rates

As summarized in Table 17, there were five wet weather events in 2008 for which the total peak hourly flow rate in the RVSDS exceeded 300 cfs. The peak hourly flow rates for Meter WCS1 ranged from 170 to 206 cfs for these events. The peak hourly flow rate ranged from 68 to 90 cfs and from 72 to 89 cfs for Meters WCS2 and WCS3, respectively.

Table 17

Peak Hourly Wet Weather Flow Rates for 2008

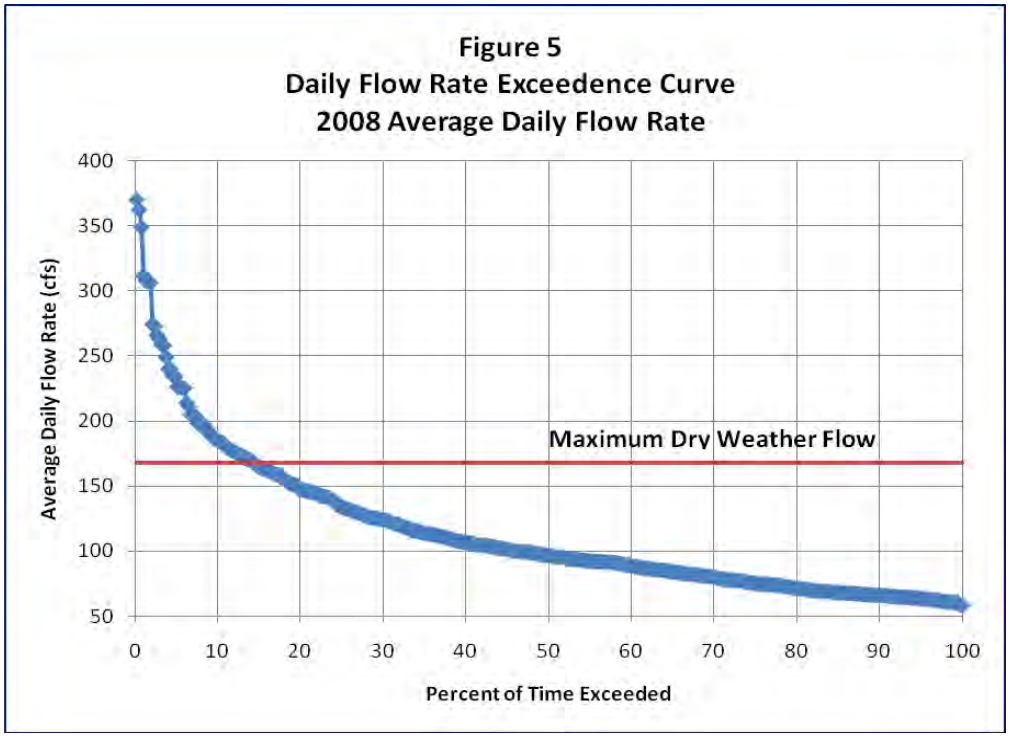
Date	Flow Meter			Total (cfs)
	WCS1 (cfs)	WCS2 (cfs)	WCS3 (cfs)	
February 6, 2008	195	87	72	355
February 18, 2008	170	75	77	322
July 3, 2008	202	90	88	380
September 14, 2008	178	68	89	334
December 28, 2008	206	89	80	375

c) Average Daily Flow Rates

The 2008 total daily flow data for the RVSDS were statistically evaluated as presented in Table 18 and shown on Figure 5. The median average daily flow rate for the District in 2008 was about 96 cfs. The minimum average daily flow rate was 58 cfs and occurred on August 31, 2008. The entire preceding week had flow rates equal to about 58 cfs. The maximum average daily flow rate was 370 cfs and occurred on July 3, 2008.

Table 18
Outlet Meter Daily Flow Rate Statistics for 2008

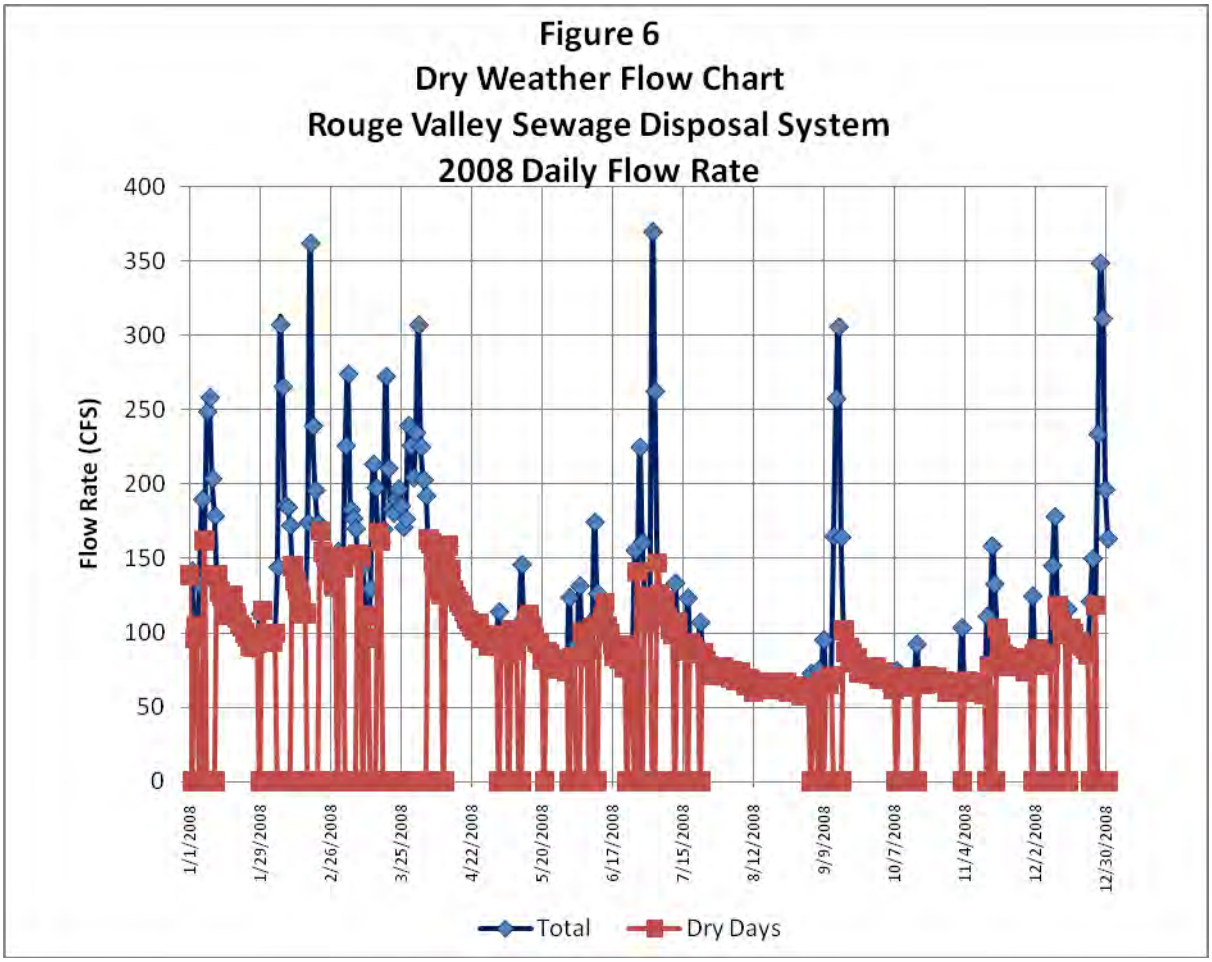
Percent of Time Exceeded	Average Daily Flow Rate (cfs)
Minimum for the Year =	58
90	66
80	71
70	80
60	88
50	96
40	106
30	124
20	147
10	185
Maximum for the Year =	370



d) Dry Weather Flow Rates

The RVSDS average daily flow rate data were also evaluated for dry versus wet weather conditions. Figure 6 shows the plot of total average daily flow rate and dry weather days for 2008. Wet weather days were statistically determined using the following criteria: average daily flow rates were greater than the mean plus one standard deviation; average daily flow rates were 10% higher than on the previous day; or average daily flow rates were 33% higher than on the following day.

As shown on Figure 6, a typical range of dry weather flow rates in the RVSDS for 2008 was from 58 cfs to about 168 cfs. The average dry weather flow rate was about 92 cfs. The maximum dry weather flow rate occurred on March 16th during the early spring months when high groundwater table conditions on days following snowmelt and rainfall. The minimum dry weather flow rate occurred on August 31st during the late summer with groundwater table levels were at a minimum.



Flow meter data were obtained from some of the communities and reviewed. Dry weather flow rates were taken for the March 16 and August 31, 2008 and other dry weather periods. These data were used to estimate sanitary wastewater generation and dry weather ground water infiltration rates.

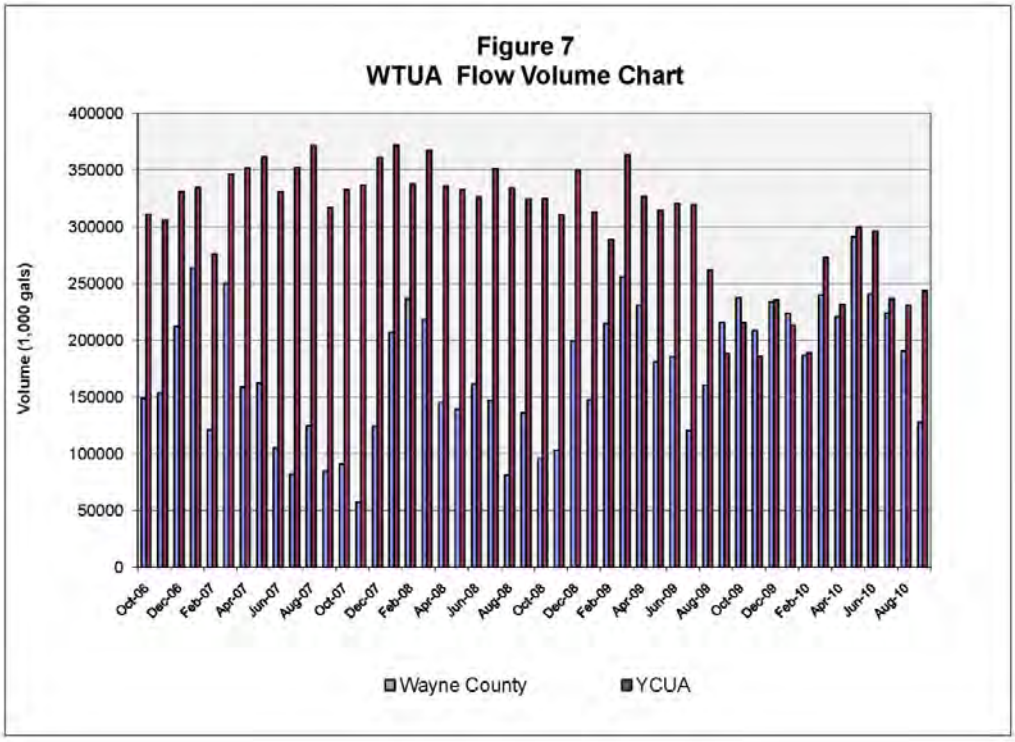
e) WTUA Flow Rates

The WTUA wastewater flow rate to the RVSDS varies and does not include all of the sanitary wastewater. A portion of the wastewater has been historically discharged to the YCUA system. The split to the RVSDS for the past 4 years is given on Table 19. Figure 7 depicts the split of the WTUA monthly wastewater volume between the RVSDS and YCUA system for a four year period from October 2006 through September 2010. A change in operational procedures occurred in about September of 2009. At that time, the wastewater split appears to be fairly even on a monthly basis.

Table 19

Annual WTUA Flow Split

Time Period		% to RVSDS
Oct-06	Sep-07	31.1%
Oct-07	Sep-08	29.0%
Oct-08	Sep-09	36.1%
Oct-09	Sep-10	47.8%



The flow rates discharged by the WTUA connections to the RVSDS are measured by Wayne County Meters 5P and 16P. Part of the flow rate measured by Meter 5P includes wastewater from about 32% of the City of Plymouth that passes through the WTUA interceptor system. The sum of the daily flow rates for Meters 5P and 16P were 3.04 and 12.34 cfs on August 31, 2008 and March 16, 2008, respectively. The daily flow rates sent to YCUA were 15.95 and 17.67 cfs on August 31, 2008 and March 16, 2008, respectively.

5. SANITARY WASTEWATER GENERATION RATE

A sanitary wastewater generation rate relationship for the District was determined using the dry weather flow rate and median housing year built data. On August 31, 2008, the ground water infiltration was nearly zero and the recorded flow rates were assumed to be sanitary wastewater. The WTUA contributions measured by Meters 5P and 16P and the Novi contributions measured by Meter BG1 were subtracted from the District outlet flow meter data in order to estimate the sanitary wastewater generation rate for most of the District.

The residential population, employment, housing units, housing age, and SIU flow rates were determined for: the District, the District excluding the WTUA communities, the portion of Plymouth tributary to Meter 5P, and Novi; for WTUA; and for the community flow meters.

The equivalent residential population was determined to be equal to the residential population plus 15% of the employment. The 15% factor indicates that each employee would generate about 15% of the wastewater flow volume of a full-time resident. This factor agrees with textbook values and values determined for the Evergreen-Farmington Sewage Disposal System.

An average sanitary wastewater generation rate was then determined for the District (excluding Novi and the WTUA communities), for WTUA, for Novi, and for the community meter districts as given on Table 20. The SIU flow rates were subtracted from the minimum dry weather flow rates, and the differences were divided by the equivalent populations.

The populations were multiplied by factors to account for housing units on public sewers. The median year that the housing units were built also is given in Table 2. A summary of the Dearborn Heights water consumption data for fiscal year 2008 to 2009 is shown in Table 21. The non-growing season per capita water consumption was calculated using two methods, with both yielding a value of 69.0 gpcd.

There is a relationship between the sanitary wastewater generation rate and median housing year built. Figure 8 shows a relationship developed between the median year that the housing units were built and the per capita flow rates for the District minus WTUA and Novi, for WTUA and for Novi**.** The relationship is based on the three highest quality meter data points with the largest equivalent populations served. The marker sizes on Figure 8 are proportional to the equivalent populations served. The non-growing season water consumption data point for Dearborn Heights falls close to the relationship. The Livonia Meter LV11+4 data point also falls close to the relationship. The remaining data points are all high outliers. This may be due to the community flow meters systematically overestimating the minimum flow rates or the ground water infiltration not being zero for some of the community flow meter districts.

Table 20									
Sanitary Wastewater Generation Rate									
	2008 Dry Weather Flow Average Daily Flow Rates (cfs)		**2009 SIU (cfs)**	**2009 Estimated Percentage Served by Public Sewer**	**2009 Residential Population on Public Sewer**	**2010 Employment**	**Equivalent Population**	**Sanitary Wastewater Flow Rate (gpcd)**	**2009 Median Housing Year Built**
	Minimum 8/31/08	**Maximum 3/16/08**							
Total District	58	168	7.33	97.2%	526,227	285,010	568,978	NA	NA
District Excluding: Novi, WTUA & 32% City of Plymouth	49	147	6.77	98.5%	350,802	192,720	379,710	72.3	1963
WTUA	18.99	30.01	0.55	95.5%	132,098	52,929	140,038	85.1	1985
Novi	5.71	8.43	0.08	93.1%	40,920	31,840	45,696	79.6	1988
Livonia Meter LV11+LV4	4.99	12.51	0.82	99.3%	29,037	37,992	34,736	77.6	1968
Garden City & part of Westland (M1 + M2)	3.80	12.16	0.01	99.7%	28,114	8,523	29,393	83.4	1957
Westland 12 +20	11/16/07 4.81	4/12/07 7.00	0.13	99.3%	22,877	12310	24,723	122.3	1975
Northville Township and part of Plymouth Township (Meters FE 08 + B)	2.95	4.79	0.19	94.0%	16,161	4,643	16,857	105.8	1987
Westland 39	2.27	-	0.00	99.3%	14,540	5104	15,306	95.8	1971
Livonia Meter LV15	1.29	3.32	0.00	99.3%	10,132	2147	10,454	79.7	1955
Livonia Meter LV14	1.29	3.22	0.10	99.3%	6,151	6784	7,169	107.2	1956

Table 21		
Water Consumption		
July 2008 through June 2009	**Dearborn Heights**	**Novi**
Total Purchases from DWSD Growing Season (April-September) Non-Growing Season (October – March)	243,780 MCF 134,550 MCF 109,231 MCF	291 746 MCF 184 885 MCF 106 861 MCF
Dearborn Heights Sales to Customers	216,045 MCF	
Estimated Water Loss	27,736 MCF 11.38% of Purchased Volume	0% assumed
Estimated Outdoor Water Use	25318 x 88.62% = 22,437 MCF	78,023 MCF
2009 Estimated Residential Population in City	55,677	54,391 x 87% on public water
2010 Estimated Employment	11,857	39,746
2009/2010 Equivalent Population (Population + 15% of Employment)	57,455	53,282
2009 Median Housing Year	1960	1988
Per Capita Per Day	69 gpcd	82.2 gpcd

Per Capita Per Day Calculation

Method 1: Non-Growing Season Purchases Adjusted by Water Loss

$$\frac{Non-Growing\ Season\ MCF\ x\ 1000\ x\ 7.48\ x\ \%\ Water\ Loss}{182.5\ days\ x\ \ Equivalent\ Population} = gpcd$$

Method 2: Annual Sales Adjusted by Outdoor Water Use

$$\frac{(Total\ Purchases\ MCF - Outdoor\ Water\ Use MCF\ x\ \%\ Water\ Loss) x 1000\ x\ 7.48}{365\ days\ x\ \ Equivalent\ Population} = gpcd$$

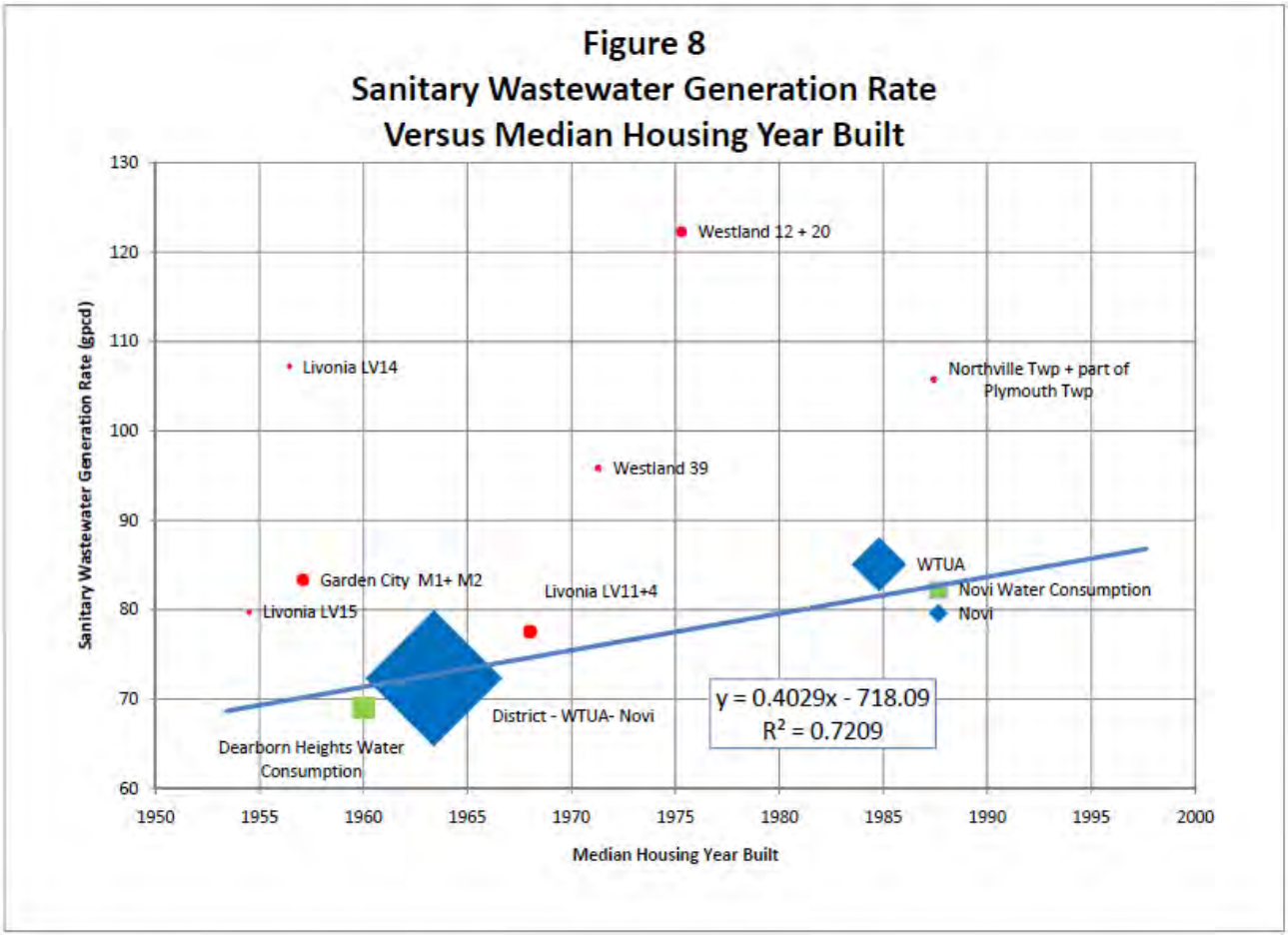


Figure 8
Sanitary Wastewater Generation Rate
Versus Median Housing Year Built
Sanitary Wastewater Generation Rate (gpcd)
Median Housing Year Built
130
120
110
100
90
80
70
60
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
Westland 12 + 20
Livonia LV14
Northville Twp + part of Plymouth Twp
Westland 39
WTUA
Novi Water Consumption
Novi
Garden City M1+ M2
Livonia LV11+4
Livonia LV15
District - WTUA- Novi
Dearborn Heights Water Consumption
y = 0.4029x - 718.09
R² = 0.7209

6. DRY WEATHER GROUNDWATER INFILTRATION RATE

The rate of groundwater infiltration (GWI) into the RVSDS that occurs during peak dry weather conditions was estimated by subtracting the minimum dry weather flow rate recorded for the RVSDS in the summer from the maximum dry weather flow rate in the spring. GWI was assumed to be zero on August 31, 2008 and at a maximum dry weather value on March 16, 2008. Consequently, the District-wide average GWI rate in the spring of 2008 was about 110 cfs (168 – 58 = 110 cfs).

The GWI rates are not expected to be uniform across the District and are expected to be significantly higher for communities with older sewer systems and housing units. GWI was correlated to the number of housing units and the percentage of pre-1970 housing units.

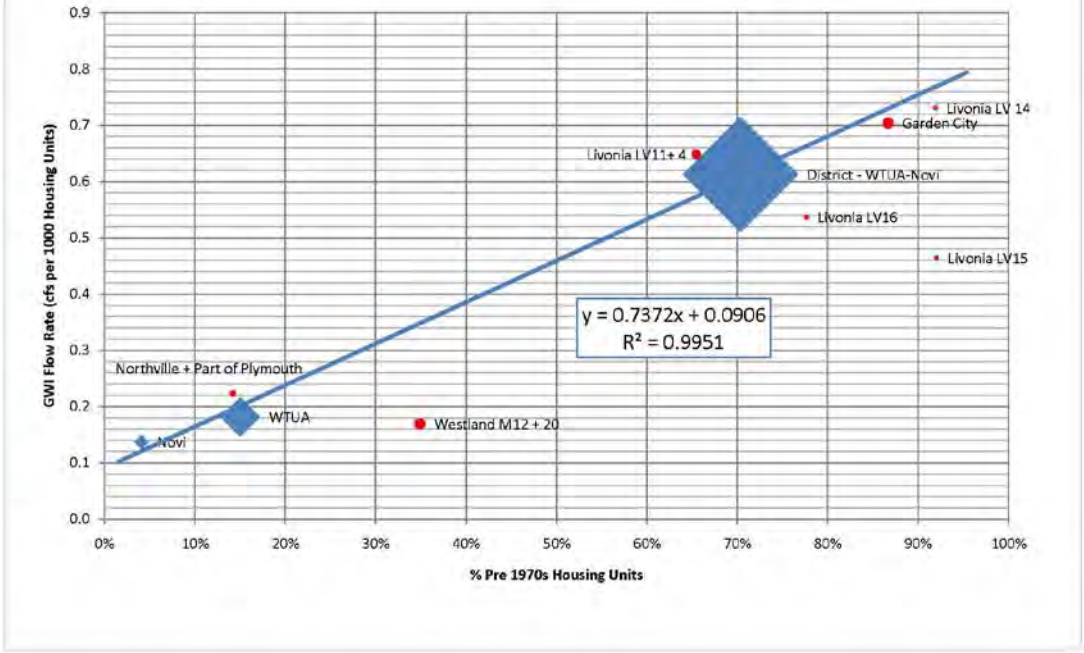
Data for the ages of the community sewer systems was not available. Therefore, the percentage of pre-1970's housing units was used as a surrogate for the age of the sewer system, and was related to the GWI rate. Prior to about 1970, homes were commonly built with footing drains connected to the sanitary or combined sewer system. Also the older sanitary or combined sewers may have open or ungasketed pipe joints.

Table 22 presents calculations of the peak GWI rate per 1,000 housing units for the District excluding Novi and the WTUA communities, for Novi, for WTUA, and for the community meter districts. The GWI rate was calculated as the difference between maximum spring and minimum summer dry weather flow rates. The resulting GWI flow rate was divided by the total housing units.

Figure 9 plots the GWI rate per 1,000 housing units versus the percentage of pre-1970 housing units. A trendline was fit to the three highest quality data points. The marker sizes on Figure 9 are proportional to the total housing units served. All but three of the community data points fall close to the trendline. The trendline plotted on Figure 9 can be used to estimate the GWI rate for each community in the District using the percentage of pre-1970 housing units in the community.

Table 22 Dry Weather Groundwater Infiltration Rate								
	2008 Dry Weather Flow Average Daily Flow Rates (cfs)			2009 % of Housing Units served by Public Sewer	Year 2009 Pre-1970 Housing Units	Year 2009 Total Housing Units	Year 2009 % of Pre-1970 Housing Units	GWI Rate (cfs/per 1000 Housing Units)
	Minimum 8/31/08	Maximum 3/16/08	GWI					
District	58	168	110	97.2%	2,893	234,292	1.2%	NA
District Excluding WTUA Communities & Plymouth (part) & Novi	49	147	97	98.5%	109,999	156,318	70.4%	0.61
WTUA	18.99	30.01	11.02	95.5%	8,714	57,973	15.0%	0.18
Novi	5.71	8.43	2.72	93.1%	752	18,446	4.1%	0.14
Westland M12 + 20 (Flow Data from 2007)	4.81	7.00	2.19	99.3%	4,476	12,825	34.9%	0.17
Garden City & part of Westland (M1 + M2)	3.80	12.16	8.36	99.7%	10,266	11,843	86.7%	0.70
Livonia Meter LV11+LV4	4.99	12.51	7.52	99.3%	7,539	11,517	65.5%	0.65
Northville Township and part of Plymouth Township (Meters FE 08 + B)	2.95	4.79	1.84	94.0%	1,103	7,754	14.2%	0.22
Livonia Meter LV15	1.29	3.32	2.03	99.3%	3,997	4,342	92.1%	0.46
Livonia Meter LV14	1.29	3.22	1.93	99.3%	2,407	2,618	91.9%	0.73
Livonia Meter LV16	1.13	2.38	1.25	99.3%	1,795	2,311	77.7%	0.54

Figure 9
Dry Weather Ground Water Infiltration Rate



7. REFERENCES/DATA SOURCES

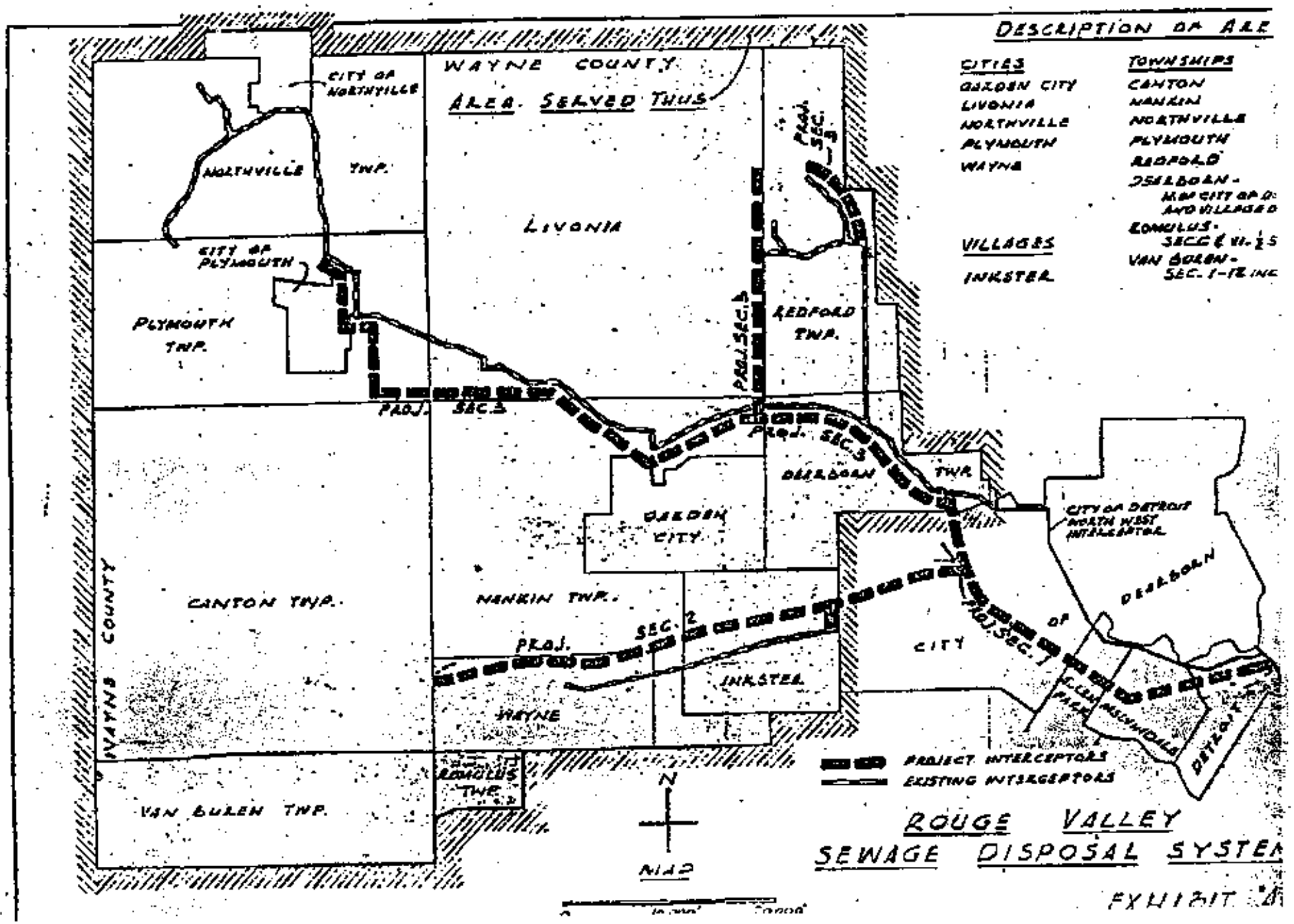
The following references/data sources were used to develop the District characteristics provided in the report:

- U.S. Bureau of Census, Census 2000
- U.S. Bureau of Census, Census 1990
- SEMCOG, Population and Household Estimates for Southeast Michigan, July 2009
- SEMCOG, GIS, 2000 Land Use/Land Cover, Southeast Michigan
- SEMCOG, Community Profiles for Southeast Michigan, July 2009
- SEMCOG, 2035 Regional Forecast, 2009
- SEMCOG, Community Residential Building Permits, 2000-2009
- DWSD Wastewater Master Plan Volume 1 : Planning Criteria, prepared by CDM, October 2003
- Exhibit B-2 NHV/RV Service Area, Detroit – Wayne Agreement for use of certain Detroit Sewers Rouge Valley Sewage Disposal District Amendment #2, March 1, 1988
- Greater Detroit Regional Sewer System SWMM Model
- Wayne County – Oakland County Construction, Finance and Service Agreement, 1988
- Wayne County 1961 Rouge Valley Exhibits, Cost and Sewage Flow Breakdowns
- Wayne County 1983 North Huron Valley – Rouge Valley Exhibits, Cost and Sewage Flow Breakdowns
- Sewage Disposal Agreement, City of Detroit – Wayne County, Rouge Valley Sewage Disposal District, Amendment #2, 1984
- Community Sewer Maps, GIS Files and Sewer System Data from Dearborn Heights, Garden City, Inkster, Northville, Wayne, Westland, Novi, Oakland County Water Resources Commissioner, Redford Township, Romulus, WTUA and Van Buren Township.
- Dearborn Heights Water Purchases

Appendix A

Historical District Boundary Maps, Rouge Valley Sewage Disposal System

1961


DESCRIPTION OF ARE
CITIES
GARDEN CITY
LIVONIA
NORTHVILLE
PLYMOUTH
WAYNE
TOWNSHIPS
CANTON
NANKIN
NORTHVILLE
PLYMOUTH
REDFORD
DEARBORN -
ROMULUS -
VAN BUREN -
VILLAGES
INKSTER
WAYNE COUNTY
AREA SERVED THUS
CITY OF NORTHVILLE
NORTHVILLE TWP.
LIVONIA
CITY OF PLYMOUTH
PLYMOUTH TWP.
REDFORD TWP.
PROJ. SEC. 3
DEARBORN TWP.
GARDEN CITY
CITY OF DETROIT NORTH WEST INTERCEPTOR
CANTON TWP.
NANKIN TWP.
WAYNE COUNTY
PROJ. SEC. 2
INKSTER
WAYNE
CITY OF DEARBORN
PROJ. SEC. 1
DETROIT
ROMULUS TWP.
VAN BUREN TWP.
N
MAP
PROJECT INTERCEPTORS
EXISTING INTERCEPTORS
ROUGE VALLEY
SEWAGE DISPOSAL SYSTEM
EXHIBIT "A"

1983

NORTH HURON VALLEY - ROUGE VALLEY
WASTEWATER CONTROL SYSTEM
SERVICE AREA

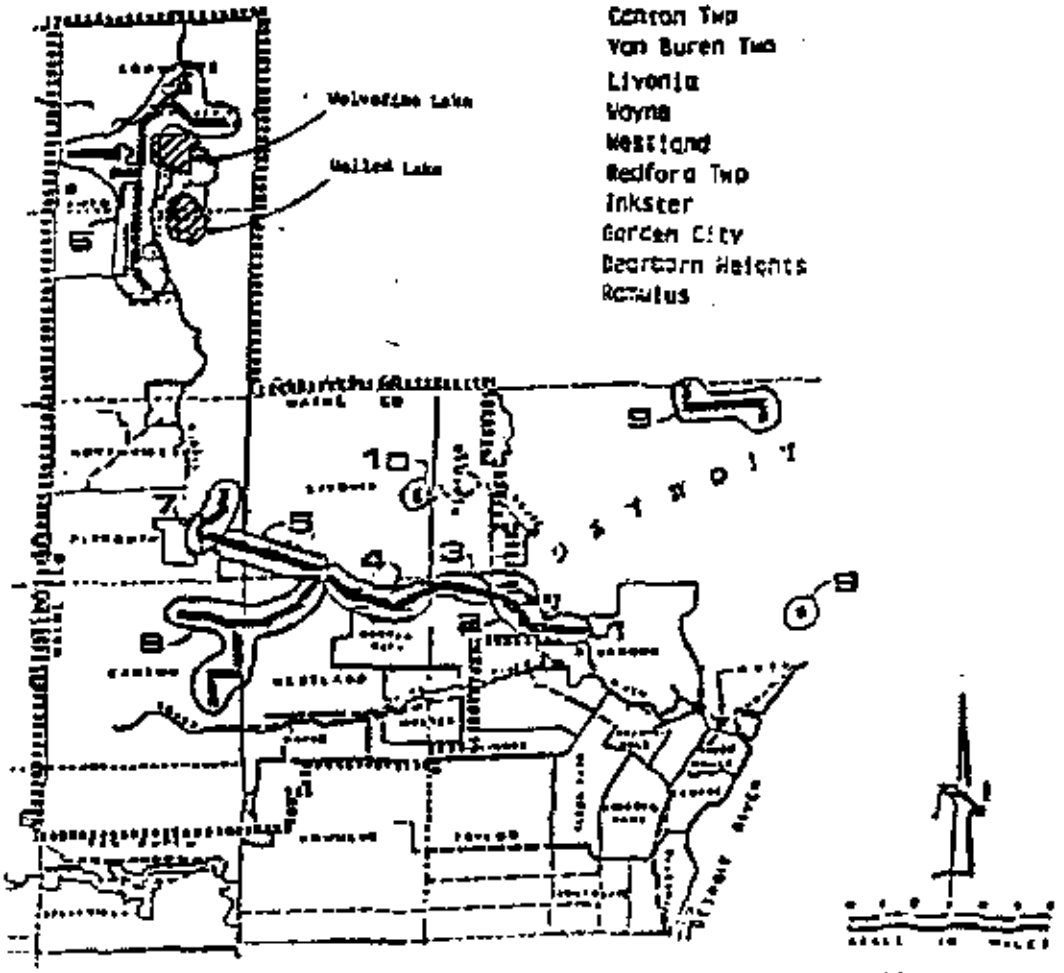
Not in Service Area

Wolverine Lake
Walled Lake

Service Area Includes:

Commerce Twp
Wixom
Novi
Northville Twp
Northville
Plymouth Twp
Plymouth
Canton Twp
Van Buren Twp
Livonia
Wayne
Westland
Redford Twp
Inkster
Garden City
Dearborn Heights
Romulus

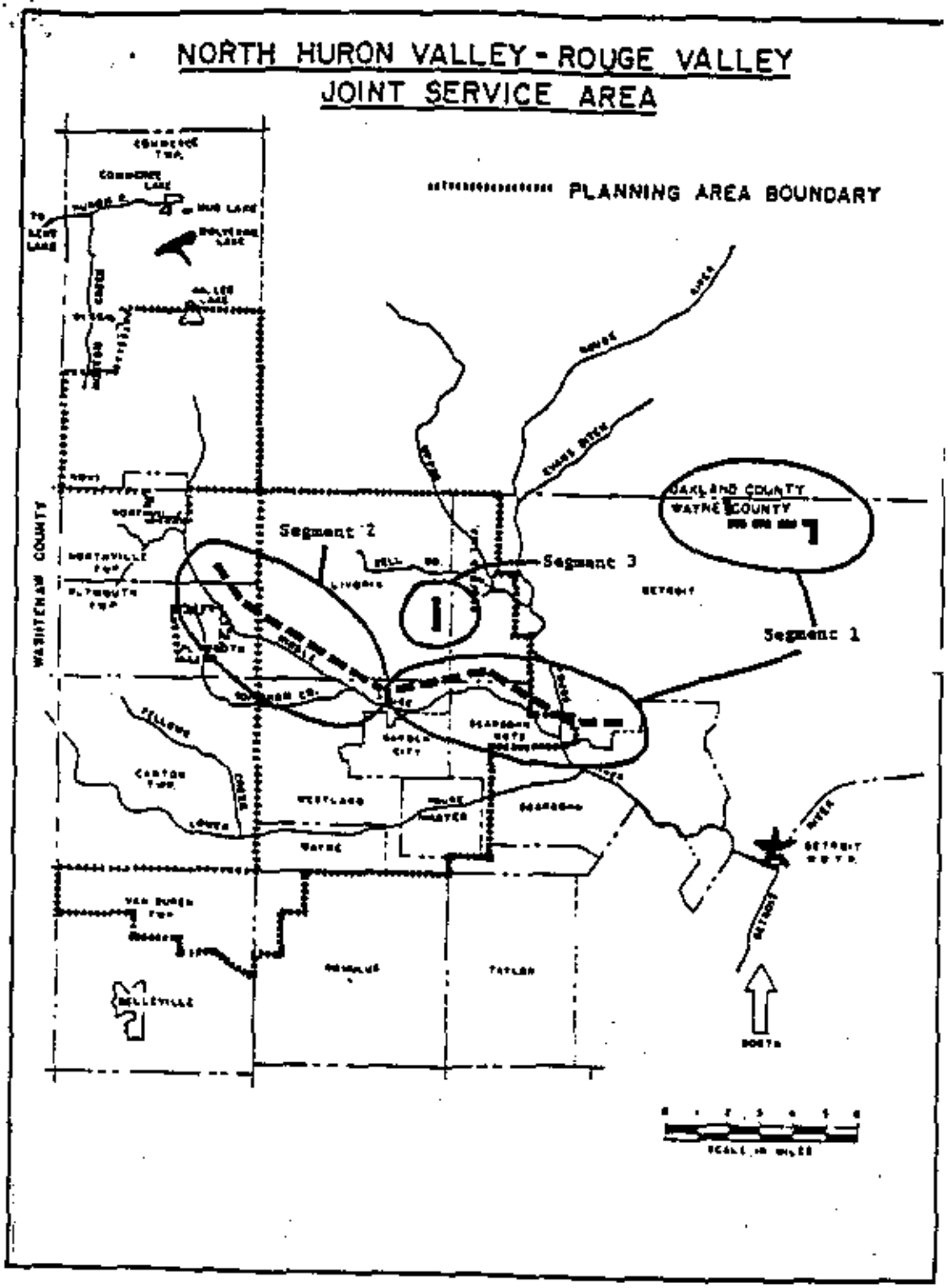
EXHIBIT "A"



11/30/83

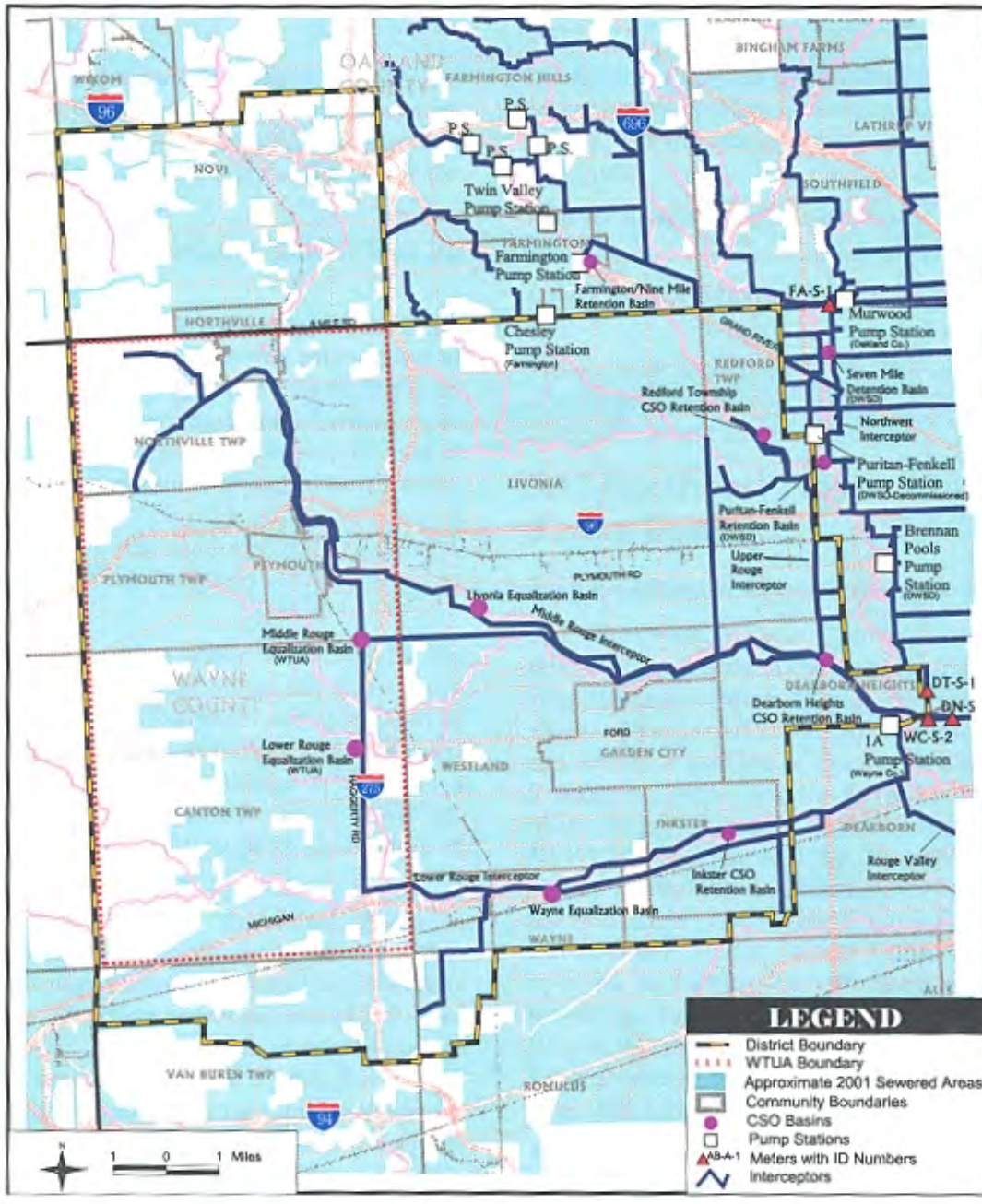
Current Service Agreement

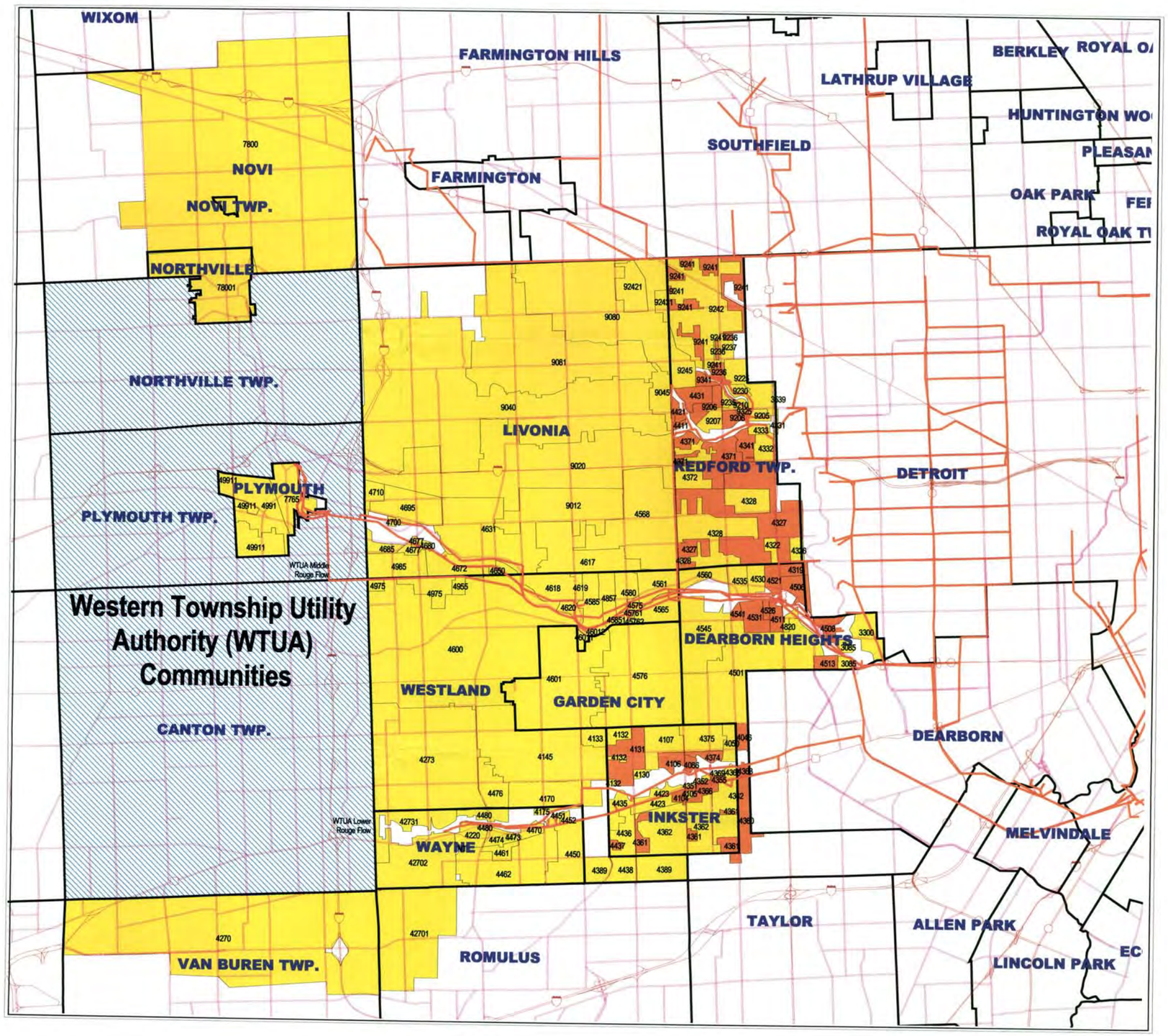
NORTH HURON VALLEY - ROUGE VALLEY JOINT SERVICE AREA



11/20/87

North Huron Valley-Rouge Valley Sewer District





N

Legend

- Major Roads
- Highways
- EXTRAN Model Schematic
- Community Boundary
- Western Township Utility Authority (WTUA) Communities

Subarea Sewer District Classification:

- Combined Sewer Area
- Separated Sewer Area
- Not connected to NHV/RV System

4568 RUNOFF Subarea ID Number

4-29-03
WAW2008-86Tgis/GIS-DATA/NHVRVGDRSS.APR

Wayne County
Department of Environment

Wade-Trim
P.O. Box 10
25251 Northline Road, Taylor, MI 48180
734-947-9700 / 800-482-2864
FAX No. 734-947-9726

FIGURE 2.
NHV/RV RUNOFF
Model Subareas

Appendix B

Significant Industrial Users, Rouge Valley Sewage Disposal System

Significant Industrial Users

Company Name	Address		Average Daily Flow Rate (gpd)	Total for Community (gpd)	Total for Community (cfs)
Canton					
Final Touch Co. Inc.	8537 Ronda Drive	Canton, MI 48188	240	50,240	0.08
Sauk Trail Hills Development, Inc.	5011 South Lilley Road	Canton, MI 48188	50,000		
Garden City					
Extrusion Painting, Inc.	5800 Venoy / 32800 Industrial Rd	Garden City, MI 48135	4,865	4,865	0.01
Inkster					
Advanced Resource Recovery L.L.C.	27140 Princeton Avenue	Inkster, MI 48141	111,589	111,589	0.17

Livonia					
Company Name	**Address**	**Average Daily Flow Rate (gpd)**	**Total for Community (gpd)**	**Total for Community (cfs)**	**Company Name**
Alpha Stamping Company	33375 Glendale Avenue	Livonia, MI 48150	4,200	1,527,560	2.36
A & R Packing L.L.C.	34165 Autry	Livonia, MI 48150	4,200		
Awrey Bakeries, LLC	12301 Farmington Road	Livonia, MI 48150	117,000		
Black Ox Corporation	36865 Schoolcraft Road	Livonia, MI 48150	100		
City of Livonia - Type III Landfill	32500 Glendale Road	Livonia, MI 48150	16,000		
Classic Container Corporation dba Pratt Industries,	32432 Capitol Street	Livonia, MI 48150	1,000		
Country Fresh LLC	31770 Enterprise Drive	Livonia, MI 48150	106,000		
Daniels Sharpsmart Inc.	13111 Newburgh Road	Livonia, MI 48150	3,300		
EPI Marketing Services	13305 Wayne Road	Livonia, MI 48150	4,061		
Ford Motor Company - Livonia Transmission Plant	36200 Plymouth Road	Livonia, MI 48150	787,640		
General Motors Company - Livonia Engine Plant	12200 Middlebelt Road	Livonia, MI 48150	64,299		
GST AutoLeather, Inc.	31601 Industrial Road	Livonia, MI 48150	7,500		
Hughes Electronics Products Corp.	34467 Industrial Road	Livonia, MI 48150	2,700		
Laboratory Corporation of America	32355 Capitol	Livonia, MI 48150	4,250		
McGean-Rohco, Incorporated	38521 Schoolcraft Road	Livonia, MI 48150	6,000		
Michigan Dairy	29601 Industrial Road	Livonia, MI 48150	242,000		
North American Photo, Inc.	27451 Schoolcraft Road	Livonia, MI 48150	7,141		
Producto Chemicals	31003 Industrial Road	Livonia, MI 48150	810		
The Crown Group - Livonia Plant	31774 Enterprise Drive	Livonia, MI 48150	25,575		
Williams Diversified, Inc.	13170 Merriman Road	Livonia, MI 48150	58,000		
McLaren Performance Technologies	32233 W. Eight Mile Road	Livonia, MI 48152	5,784		
St. Mary Mercy Hospital	36475 W. Five Mile Road	Livonia, MI 48154	60,000		

City of Northville					
Company Name	**Address**		**Average Daily Flow Rate (gpd)**	**Total for Community (gpd)**	**Total for Community (cfs)**
Belanger Inc. - Plant #2	1001 Doheny Ct.	Northville, MI 48167	4,796	4,796	0.01
Northville Township					
Gas Recovery Systems, Inc.	10611 W. 5 Mile Road	Northville Twp, MI 48167	19,700	73,700	0.11
Veolia Environmental Services-Arbor Hills West Landfill	10690 W. Six Mile Road	Northville Twp, MI 48167	54,000		
Novi					
Providence Park Hospital	47601 Grand River Avenue	Novi, MI 48374	45,000	51,570	0.08
Caparo Vehicle Components,/ Formerly Voestalpine Polynorm	44550 W. Grand River Avenue	Novi, MI 48376	1,800		
General Filters, Inc.	43800 Grand River	Novi, MI 48376	4,000		
Power Vac of Michigan, Inc.	44300 Grand River	Novi, MI 48376	770		
City of Plymouth					
Packaging Corporation of America	936 Sheldon Road	Canton, MI 48187	34,000	34,000	0.05
Plymouth Township					
Automotive Components Holdings, LLC - Sheldon Road Plant	14425 Sheldon Road	Plymouth Twp MI 48170	57,500	199,800	0.31
Plymouth Plating Works, Inc.	42200 Joy Road	Plymouth Twp MI 48170	18,000		
Cygnet Automated Cleaning Inc.	45889 Mast Street	Plymouth Twp MI 48170	9,000		
Metokote Corporation	43963 Plymouth Oaks Blvd	Plymouth Twp MI 48170	104,000		
Protech Coatings', LLC	16580 Northville Road	Plymouth Twp MI 48170	2,500		
R & D Enterprises	46900 Port Street	Plymouth Twp MI 48170	2,000		
Sun Plastic Coating Company	42105 Postiff Drive	Plymouth Twp MI 48170	6,800		

Redford Township					
Company Name	**Address**		**Average Daily Flow Rate (gpd)**	**Total for Community (gpd)**	**Total for Community (cfs)**
Advance Engineering Company	12025 Dixie Avenue	Redford Twp, MI 48239	2,905	60,170	0.09
General Oil Company, Inc.	12680 Beech Daly Road	Redford Twp, MI 48239	46,665		
George W. Trapp Co.	26015 Glendale	Redford Twp, MI 48239	5,500		
McNichols Polishing & Anodizing, Inc	12139 Woodbine	Redford Twp, MI 48239	2,100		
Z Technologies Corporation	26500 Capitol Avenue	Redford Twp, MI 48239	3,000		
Romulus					
EQ Resource Recovery Inc.	36345 Van Born Road	Romulus, MI 48174	181,969	449,648	0.70
General Motors Company - Romulus Engine Operations	36880 Ecorse Road	Romulus, MI 48174	265,179		
Woolf Aircraft Products, Inc.	6401 Cogswell	Romulus, MI 48174	2,500		
Van Buren Township					
Bayloff Stamped Products	5910 Belleville Road	Van Buren Twp, MI 48111	2,500	25,000	0.04
American Waste Technologies, Inc.	44141 Yost Road	Van Buren Twp, MI 48111	13,500		
L & W Engineering Co., Plant #2	6201 Haggerty Road	Van Buren Twp, MI 48111	9,000		
City of Wayne					
Ford Motor Company - Wayne Assembly Plant	37625 Michigan Avenue	Wayne, MI 48184	1,830,000	2,064,618	3.19
Hajjar Plating Services, Inc.	38300 Van Born Road	Wayne, MI 48184	5,480		
Oakwood Healthcare System Laundry Services	4800 Venoy	Wayne, MI 48184	76,138		
Oakwood Hospital - Annapolis Center	33155 Annapolis Road	Wayne, MI 48184	64,000		
Ringmasters Manufacturing, L.L.C	36502 Van Born Road	Wayne, MI 48184	20,000		
Unistrut International Corporation	4205 Elizabeth Street	Wayne, MI 48184	40,000		
Waste Management of MI, Inc.- Woodland Meadows RDF-N Landfill	4620 Hannan Road	Wayne, MI 48184	10,000		
Waste Management of MI, Inc.- Woodland Meadows RDF-Van Buren	5900 Hannan Road	Wayne, MI 48184	19,000		

Westland					
Company Name	**Address**		**Average Daily Flow Rate (gpd)**	**Total for Community (gpd)**	**Total for Community (cfs)**
Cintas Corporation - Cleanroom Resources	39120 Webb Drive	Westland, MI 48185	58,100	82,100	0.13
Cintas Corporation - Westland	39145 Webb Drive	Westland, MI 48185	17,000		
Westside Flame Hardening, Inc.	38200 Executive Drive	Westland, MI 48185	7,000		
			District Total =	**4,739,656**	**7.33**

B2: Southeast Michigan
2040 Forecast Summary

Southeast Michigan 2040 Forecast Summary

Revised, April 2012

SEMCOG . . . Creating Success in Southeast Michigan
Southeast Michigan Council of Governments

SEMCOG *. . . Creating Success in Southeast Michigan*

Mission

SEMCOG, the Southeast Michigan Council of Governments, is the only organization in Southeast Michigan that brings together all of the region's governments to solve regional challenges.

SEMCOG is creating success in Southeast Michigan by:

- Promoting informed decision making to improve Southeast Michigan and its local governments by providing insightful data analysis;
- Promoting the efficient use of tax dollars for both long-term infrastructure investment and shorter-term governmental efficiency;
- Solving regional issues that go beyond the boundaries of individual local governments
- Delivering direct assistance to member governments in the areas of transportation, environment, and community and economic development; and
- Advocating on behalf of Southeast Michigan in Lansing and Washington.

Executive Summary

SEMCOG has completed a new long-range forecast of population, households, and jobs for the Southeast Michigan region and its counties and communities. Its overarching goal is to provide an understanding of the region's future economic and demographic outlook.

The 2040 Forecast provides the base data for SEMCOG's long-range planning and is also used extensively in local government and private sector planning efforts. The 30-year outlook for future demographic and socioeconomic changes in communities across the region provides the best base for the transportation, water, sewer, and other infrastructure planning vital to our region's future success.

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 multi-year 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.

Population dynamics will continue to change. The region will become much older by 2040, driven by the aging of the large baby boom generation. Though total households in the region will slowly increase throughout the entire forecast period (6.0% over 30 years), the aging population means a continued decline in household size, dropping from 2.51 persons per household in 2010 to 2.39 persons per household in 2040. Currently 13% of the population is age 65 or older; this total will increase to 24% of the population in 2040. While the prime working age population will drop more than 10% by 2040, the senior population will grow by 86%, posing a challenge to local governments in providing services to seniors. Southeast Michigan will also become more diverse, as foreign immigration becomes the main driver of population in the region. The Hispanic and Asian populations will nearly double, from 4 and 6 percent of total population in 2010 to 8 and 11 percent in 2040 respectively. Black population will remain largely unchanged at 21 percent of total population in 2040, while Whites will drop from 68 to 60 percent.

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.

Introduction

SEMCOG produces a new long-range forecast of the region's demographic and socioeconomic future every four years. Included in SEMCOG's 2040 Forecast are total population, households, and jobs for the Southeast Michigan region, its seven counties, and 234 communities. Forecast data is provided in five-year increments, for the 30-year period 2010 through 2040, and is 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 2040 Forecast is especially useful to SEMCOG's member communities because of the view it provides of future change following an extended period of decline in population and jobs due to the recent economic recession.

Methods

Any forecast of future demographic and socioeconomic change for small areas, including communities, requires a detailed understanding of the growth trends for the larger Southeast Michigan region. The first step in the process of producing the 2040 Forecast began with work on a new regional forecast for the years 2010 to 2040. This regional forecast relies 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. REMI is a computer model that considers all counties in the United States as economic units competing for labor, income, and future population growth with all other parts of the country. SEMCOG then convened a Forecast Technical Advisory Committee composed of regional experts to review and improve the regional forecast produced by the University of Michigan. The Southeast Michigan trends developed by REMI are further detailed in the SEMCOG document *Retrenchment and Renewal: The Economic Outlook for Southeast Michigan Through 2040*.

The second step in producing SEMCOG's 2040 Forecast is to understand how individual households and employers in the region will interact based on the regional and county population and employment trends from the REMI model. In order to produce the small-area forecasts, SEMCOG is again using the UrbanSim computer model, a computer simulation model for planning and analysis of urban development that replicates the interaction between land use, transportation, and public policy such as community master plans and sewer service districts. The UrbanSim model simulates the decision making processes of different types of households and businesses in relation to a variety of potential location choices, by clearly representing the location preferences of the different types of households and employers available to locate there. This allows SEMCOG to predict both changes in land use, and household and employment location, all by land parcel. Future households and jobs are placed into the most desirable land parcel for their characteristics, and new residential and non-residential developments created, based on the demand to locate and the land available to develop in a particular geographic location.

The final step is to sum the land parcel forecast to provide forecast numbers for each city, village, and township in the region. These aggregated forecast numbers were also further reviewed by SEMCOG staff, the Forecast Technical Advisory Committee, and communities in the region.

Local Input and Review

Data developed by the region's 234 local governments was instrumental in producing the 2040 Forecast. SEMCOG collected from each of the region's communities their most current master plan, which provided the future planned land use and development density of each land parcel. In addition, recent data on both residential and non-residential development projects was also obtained from each community.

SEMCOG relied heavily on land parcel files and tax assessment data for these parcels as the base for SEMCOG's small area forecasting. This data, in particular, provides the parcel-level information (presence and age of buildings, improvement and land values, and non-residential square footage) that a real estate driven model such as UrbanSim needs to correctly model future development.

Additional community input was collected in a series of community review meetings held during November and December, 2011. SEMCOG presented a draft of the community forecast at these meetings, held in different counties throughout the region and hosted by local elected officials. The draft community forecast to the year 2020 was shared, along with a detailed presentation on the regional and county level demographic and socioeconomic changes that guided production of the community forecast. Officials present at the meetings discussed the implications of the draft forecast and how they could best respond to the changes in their communities. SEMCOG asked local officials to review the draft forecast numbers provided at the meetings and forward comments by the end of January 2012. SEMCOG received more than 20 written comments from local governments as well as additional information on recent housing and non-residential developments in their communities, leading to adjustments to the draft forecast numbers where appropriate.

SEMCOG's committees reviewed and commented on the forecast as follows:

- June 6, 2011 — Forecast Technical Advisory Committee (reviewed draft regional forecast totals)
- September 15, 2011 — Forecast Technical Advisory Committee (reviewed adjusted regional forecast totals)
- February 15, 2012 — Forecast Technical Advisory Committee (resolution recommending Executive Committee adoption)
- February 24, 2012 — Executive Committee (resolution recommending General Assembly adoption)

SEMCOG will continue to refine the community forecast to produce a more detailed forecast for each community, including population by age cohort, group quarters population, households by presence of children and by age of householder, and jobs by employment sector. These detailed 2040 Forecast tables will be made available on SEMCOG's Web site, www.semcog.org, as the forecast is finalized in the near future.

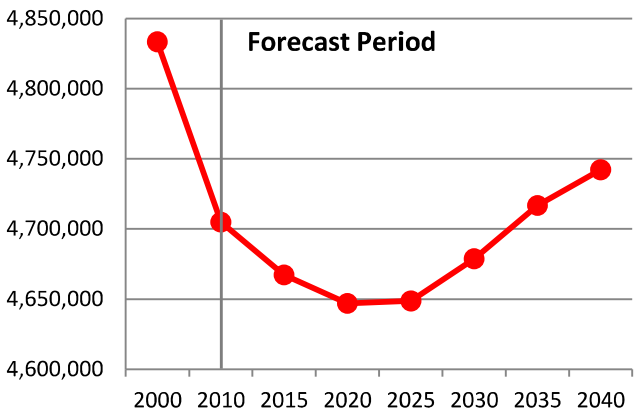
Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

Southeast Michigan 2040 Forecast Summary

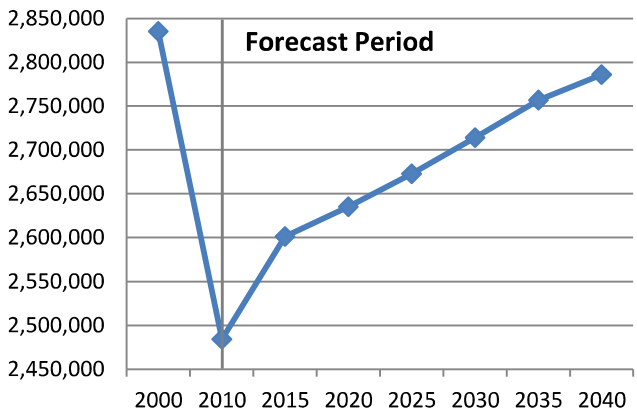
Population and Households

	2000	2010	2020	2030	2040	Change 2010-40 (Forecast Period) Number	Percent
Population	4,833,368	4,704,743	4,646,938	4,678,718	4,742,083	37,340	0.8%
Households	1,845,218	1,844,758	1,885,802	1,931,495	1,954,953	110,195	6.0%
Household Size	2.58	2.51	2.43	2.39	2.39	-0.12	-4.9%

Population by Year



Employment by Year



Employment by Sector

Sector	2000	2010	2040	Change 2010-40 (Forecast Period) Number	Percent
Natural Resources, Mining, & Construction	151,247	103,132	121,512	18,380	17.8%
Manufacturing	443,191	209,698	178,823	-30,875	-14.7%
Wholesale Trade, Trans, Warehousing, & Utilities	195,461	171,672	181,837	10,165	5.9%
Retail Trade	304,321	244,842	215,939	-28,903	-11.8%
Knowledge-Based Services	557,135	549,460	636,475	87,015	15.8%
Services to Households & Firms	339,573	319,810	381,527	61,717	19.3%
Private Education and Health Care	305,373	370,416	519,939	149,523	40.4%
Leisure & Hospitality	217,896	223,852	243,472	19,620	8.8%
Government	320,973	291,369	306,558	15,189	5.2%
Total Employment	**2,835,170**	**2,484,251**	**2,786,082**	**301,831**	**12.1%**

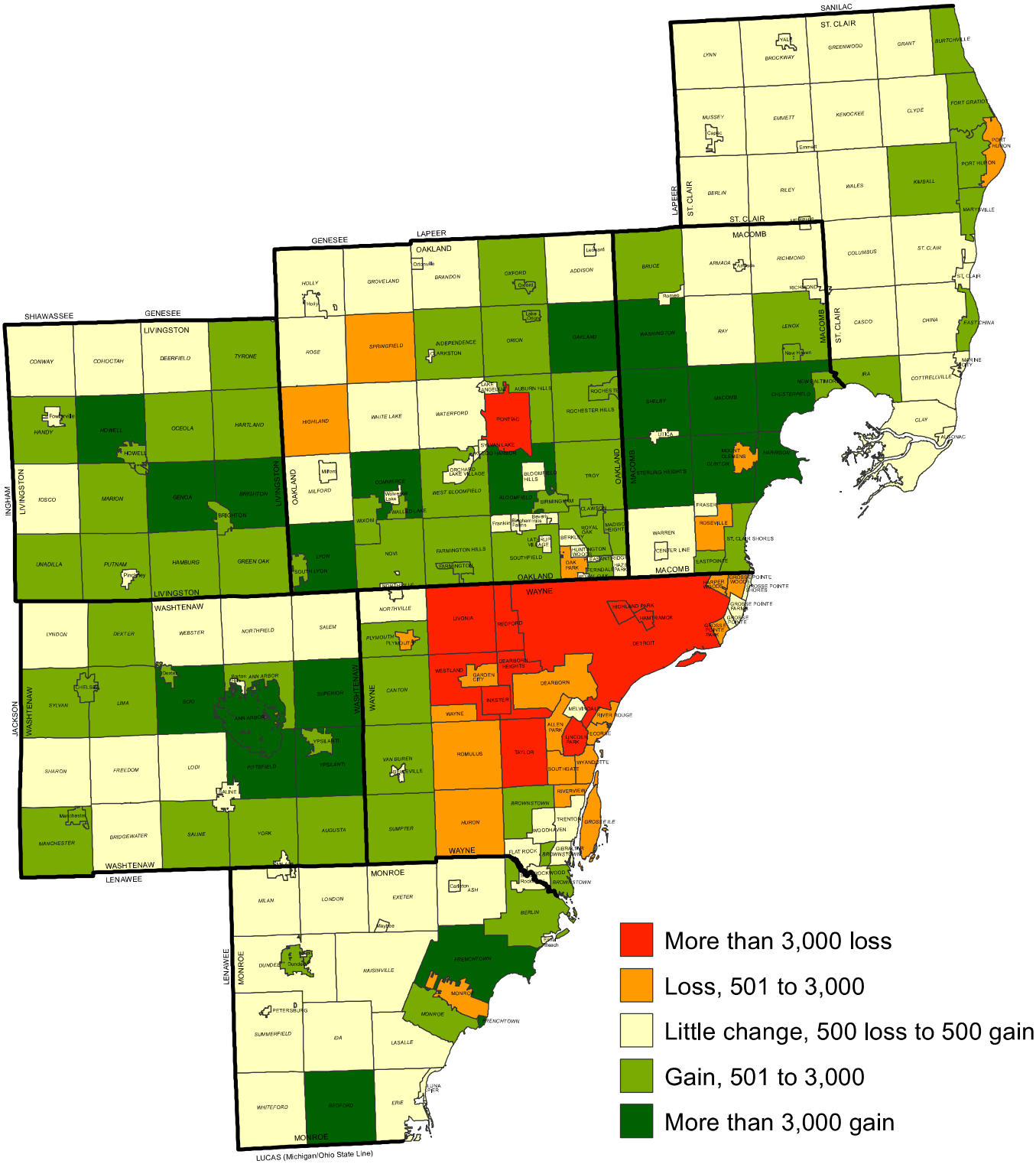
Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by County for Southeast Michigan

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Southeast Michigan									
Population	4,704,743	4,667,111	4,646,938	4,648,713	4,678,718	4,708,371	4,742,083	37,340	0.8%
Households	1,844,758	1,863,648	1,885,802	1,905,850	1,931,495	1,948,137	1,954,953	110,195	6.0%
Employment	2,484,251	2,601,122	2,635,153	2,672,708	2,713,955	2,756,878	2,786,082	301,831	12.1%
Livingston County									
Population	180,967	186,015	192,116	198,021	204,704	210,664	214,323	33,356	18.4%
Households	67,380	70,558	73,620	75,959	78,514	80,706	82,223	14,843	22.0%
Employment	69,057	74,482	77,468	80,337	83,506	86,820	89,727	20,670	29.9%
Macomb County									
Population	840,978	855,374	863,378	872,740	884,865	896,423	905,390	64,412	7.7%
Households	331,668	341,557	349,242	356,597	363,519	368,169	370,604	38,936	11.7%
Employment	362,517	377,116	379,981	387,217	395,239	403,398	409,886	47,369	13.1%
Monroe County									
Population	152,021	155,690	156,592	158,332	160,841	163,180	164,720	12,699	8.4%
Households	58,230	60,815	62,539	64,305	66,071	67,189	67,823	9,593	16.5%
Employment	53,761	56,262	56,928	57,637	58,669	60,081	61,382	7,621	14.2%
Oakland County									
Population	1,202,362	1,215,321	1,218,449	1,221,349	1,230,755	1,232,672	1,246,863	44,501	3.7%
Households	483,698	496,555	504,731	506,549	509,286	511,137	510,257	26,559	5.5%
Employment	842,222	901,219	921,533	936,923	951,622	964,459	970,797	128,575	15.3%
St. Clair County									
Population	163,040	161,671	161,508	162,553	164,656	166,659	167,621	4,581	2.8%
Households	63,841	64,680	65,492	66,586	67,887	68,634	68,960	5,119	8.0%
Employment	62,614	65,243	66,061	67,045	68,350	70,038	71,480	8,866	14.2%
Washtenaw County									
Population	344,791	350,781	354,116	360,371	368,262	377,183	386,235	41,444	12.0%
Households	137,193	141,483	146,870	151,822	156,324	160,691	164,447	27,254	19.9%
Employment	236,676	246,721	252,598	260,024	268,528	277,576	285,655	48,979	20.7%
Wayne County									
Population	1,820,584	1,742,259	1,700,779	1,675,347	1,664,635	1,661,590	1,656,931	-163,653	-9.0%
Households	702,749	688,000	683,308	684,032	689,894	691,611	690,639	-12,110	-1.7%
Employment	857,404	880,079	880,584	883,525	888,041	894,506	897,155	39,751	4.6%

Population Change, 2010-2040

Southeast Michigan



N

1:820,000

0 6 12 Miles

0 10 20 Kilometers

State Plane NAD83 HARN

February 2012

\\semcogdom\static\Apps\GIS\

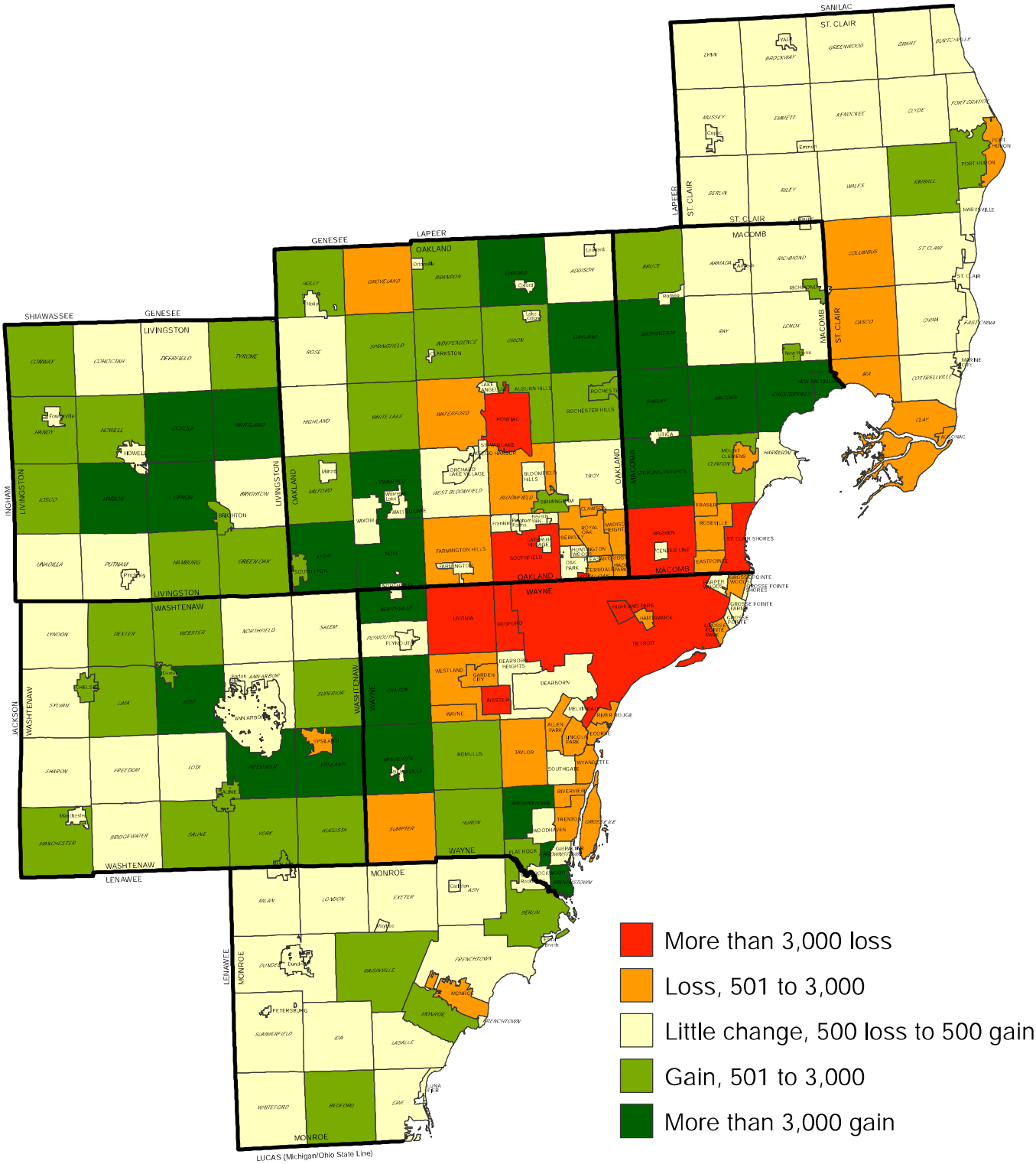
SEMCOG

Southeast Michigan Council of Governments
535 Griswold Street, Suite 300, Detroit, Michigan 48226-3602
Phone (313) 961-4266, Fax (313) 961-4869
www.semcog.org

Copyright: SEMCOG, 2012

Population Change, 2000-2010

Southeast Michigan



N

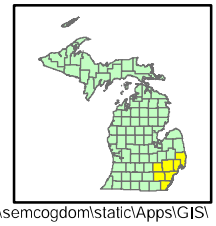
1:820,000

0 6 12 Miles

0 10 20 Kilometers

State Plane NAD83 HARN

February 2012



\\semcogdom\static\Apps\GIS\

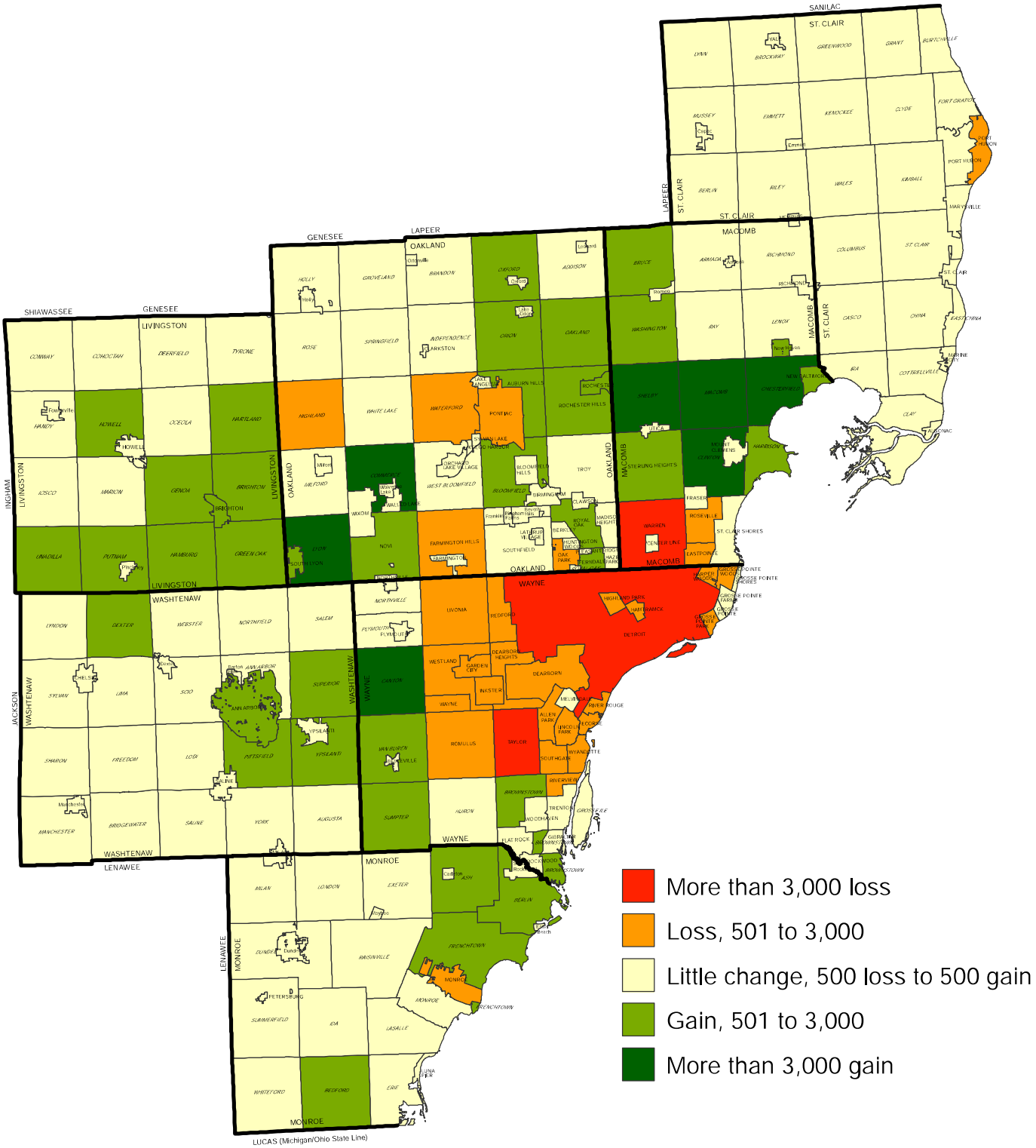
SEMCOG

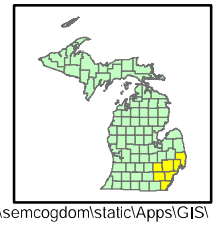
Southeast Michigan Council of Governments
535 Griswold Street, Suite 300, Detroit, Michigan 48226-3602
Phone (313) 961-4266, Fax (313) 961-4869
www.semcog.org

Copyright: SEMCOG, 2012

Population Change, 2010-2020

Southeast Michigan





\\semcogdom\static\Apps\GIS\

N

1:820,000

0 6 12 Miles

0 10 20 Kilometers

State Plane NAD83 HARN

February 2012

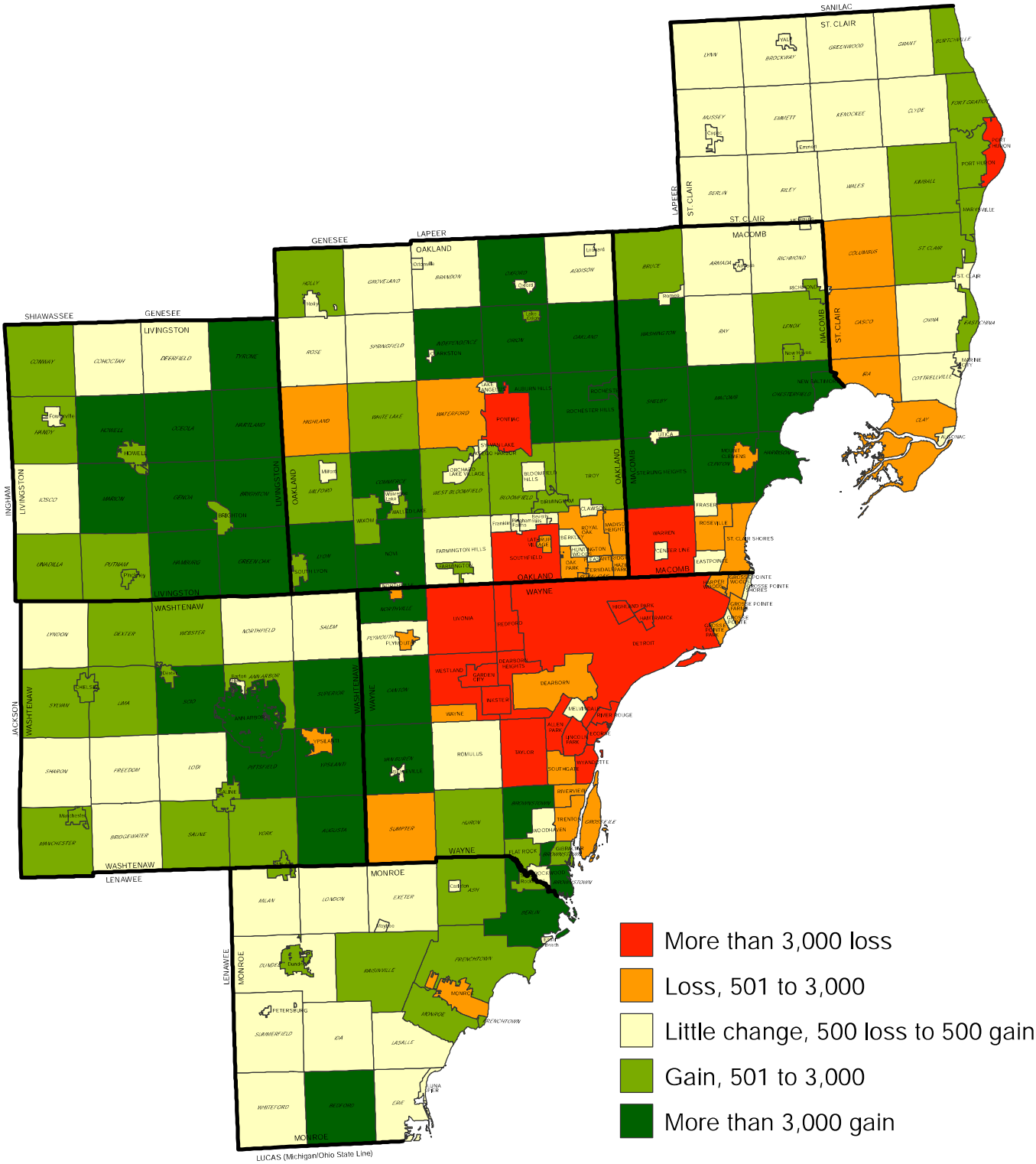
SEMCOG

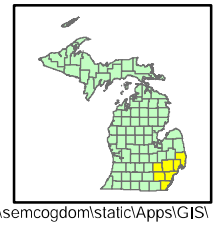
Southeast Michigan Council of Governments
535 Griswold Street, Suite 300, Detroit, Michigan 48226-3602
Phone (313) 961-4266, Fax (313) 961-4869
www.semcog.org

Copyright: SEMCOG, 2012

Population Change, 2000-2040

Southeast Michigan





\\semcogdom\static\Apps\GIS\

N

1:820,000

0 6 12 Miles

0 10 20 Kilometers

State Plane NAD83 HARN

February 2012

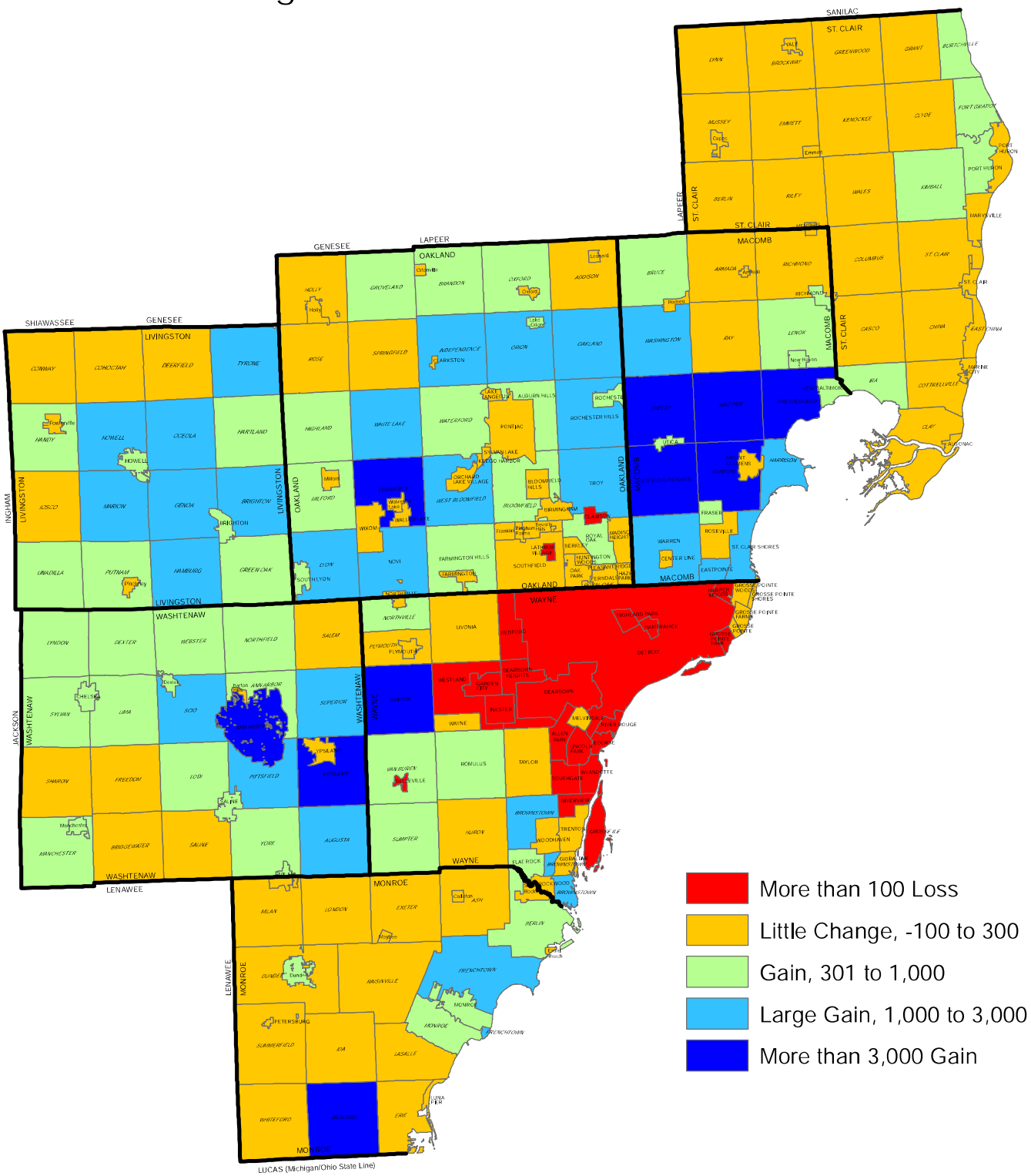
SEMCOG

Southeast Michigan Council of Governments
535 Griswold Street, Suite 300, Detroit, Michigan 48226-3602
Phone (313) 961-4266, Fax (313) 961-4869
www.semcog.org

Copyright: SEMCOG, 2012

Household Change, 2010-2040

Southeast Michigan



SEMCOG
Southeast Michigan Council of Governments
535 Griswold Street, Suite 300, Detroit, Michigan 48226-3602
Phone (313) 961-4266, Fax (313) 961-4869
www.semcog.org

Copyright: SEMCOG, 2012

N

1:820,000

0 6 12 Miles

0 10 20 Kilometers

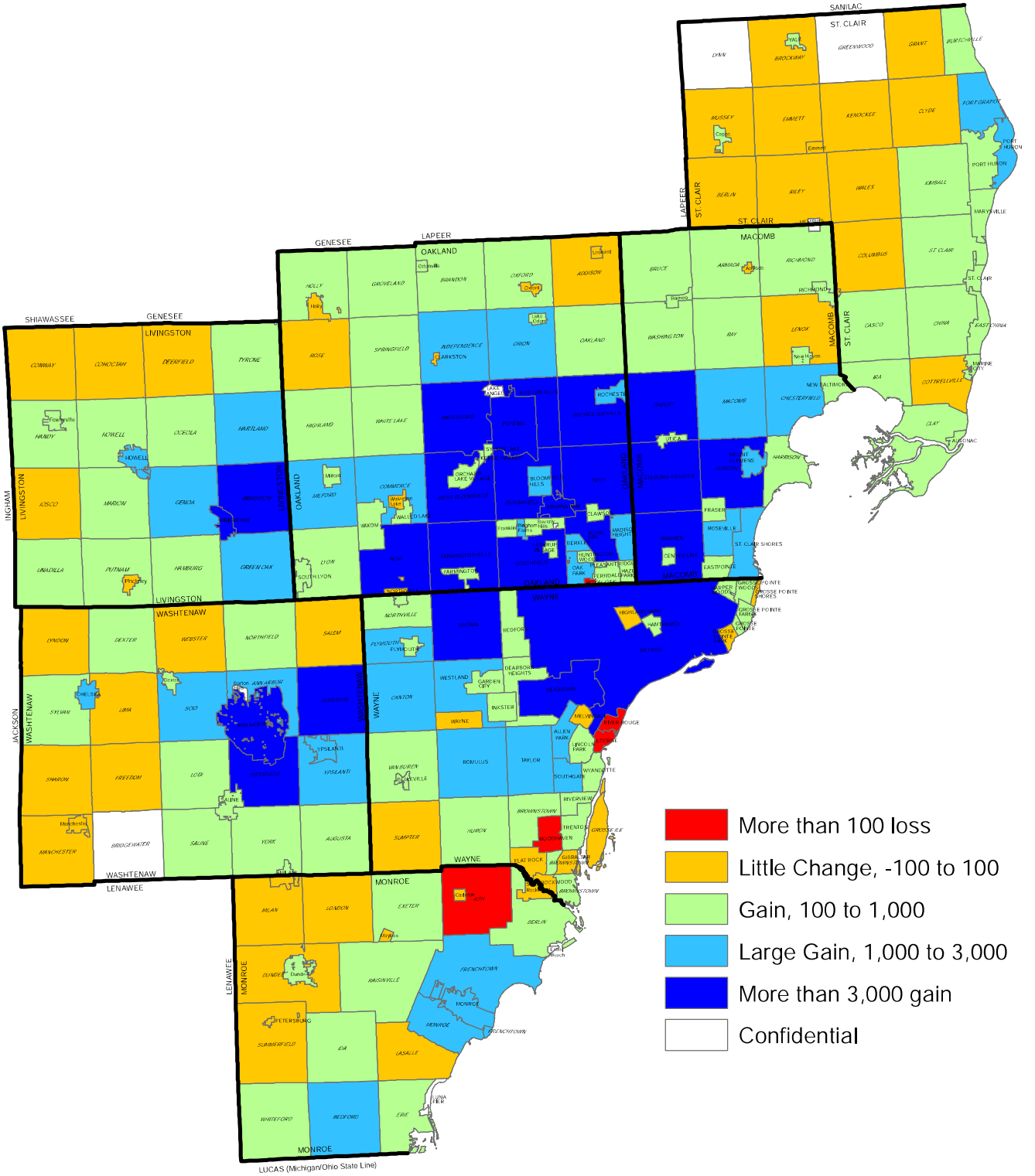
State Plane NAD83 HARN

February 2012

\RDF2040\Outreach\Exec_GA\Household_Change.mxd

Employment Change, 2010-2040

Southeast Michigan





N

1:820,000

0 6 12 Miles

0 10 20 Kilometers

State Plane NAD83 HARN

February 2012

SEMCOG

Southeast Michigan Council of Governments
535 Griswold Street, Suite 300, Detroit, Michigan 48226-3602
Phone (313) 961-4266, Fax (313) 961-4869
www.semcog.org

Copyright: SEMCOG, 2012

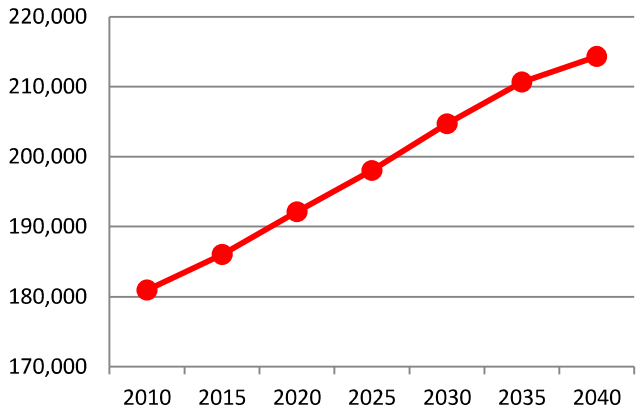
\RDF2040\Outreach\Exec_GA\Employment_Change.mxd

Livingston County 2040 Forecast Summary

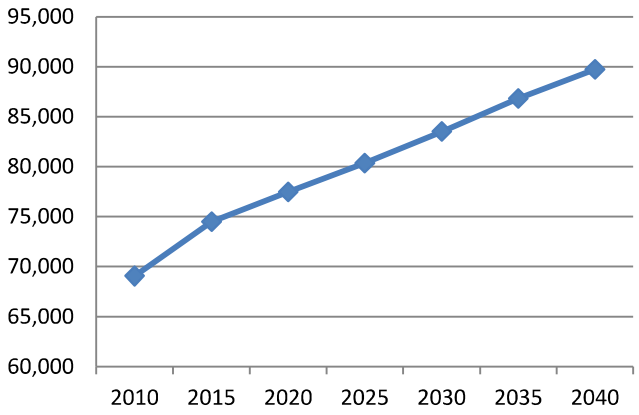
Population and Households

	2010	2020	2030	2040	Change 2010-40 Number	Change 2010-40 Percent
Population	180,967	192,116	204,704	214,323	33,356	18.4%
Households	67,380	73,620	78,514	82,223	14,843	22.0%
Household Size	2.67	2.59	2.59	2.59	-0.08	-2.9%

Population by Year



Employment by Year



Employment by Sector

Sector	2010	2040	Change 2010-40 Number	Change 2010-40 Percent
Natural Resources, Mining, & Construction	5,502	8,494	2,992	54.4%
Manufacturing	6,698	5,862	-836	-12.5%
Wholesale Trade, Transportation, Warehousing, & Utilities	3,889	4,663	774	19.9%
Retail Trade	9,160	9,865	705	7.7%
Knowledge-Based Services	15,213	21,154	5,941	39.1%
Services to Households & Firms	9,279	12,837	3,558	38.3%
Private Education and Health Care	6,503	11,039	4,536	69.8%
Leisure & Hospitality	6,595	8,389	1,794	27.2%
Government	6,218	7,424	1,206	19.4%
Total Employment	**69,057**	**89,727**	**20,670**	**29.9%**

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Livingston County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Brighton									
Population	7,444	7,910	8,136	8,528	8,794	9,133	9,628	2,184	29.3%
Households	3,603	3,665	3,726	3,795	3,892	3,982	4,098	495	13.7%
Employment	10,812	11,750	12,362	13,008	13,399	14,090	14,927	4,115	38.1%
Brighton Twp.									
Population	17,791	18,807	19,298	20,274	21,306	21,490	21,498	3,707	20.8%
Households	6,415	6,862	7,138	7,510	7,817	7,891	7,937	1,522	23.7%
Employment	9,597	10,858	11,910	12,424	13,015	13,678	14,368	4,771	49.7%
Cohoctah Twp.									
Population	3,317	3,508	3,544	3,445	3,486	3,417	3,394	77	2.3%
Households	1,176	1,285	1,292	1,290	1,290	1,292	1,295	119	10.1%
Employment	104	119	132	147	137	150	174	70	67.3%
Conway Twp.									
Population	3,546	3,542	3,390	3,361	3,320	3,296	3,356	-190	-5.4%
Households	1,199	1,248	1,275	1,275	1,282	1,285	1,293	94	7.8%
Employment	16	15	15	14	13	13	17	1	6.2%
Deerfield Twp.									
Population	4,170	4,549	4,558	4,481	4,441	4,440	4,485	315	7.6%
Households	1,481	1,651	1,666	1,686	1,689	1,692	1,694	213	14.4%
Employment	305	292	286	316	317	363	353	48	15.7%
Fenton (Livingston)									
Population	10	10	10	10	10	10	10	0	0.0%
Households	2	2	2	2	2	2	2	0	0.0%
Employment	0	0	0	0	0	0	0	0	0.0%
Fowlerville									
Population	2,886	2,911	3,086	3,088	3,146	3,256	3,236	350	12.1%
Households	1,198	1,239	1,308	1,322	1,365	1,389	1,408	210	17.5%
Employment	1,578	1,648	1,656	1,767	1,815	1,884	1,904	326	20.7%
Genoa Twp.									
Population	19,821	20,171	20,969	21,486	22,293	22,797	23,061	3,240	16.3%
Households	7,807	8,019	8,333	8,567	8,788	8,988	9,133	1,326	17.0%
Employment	11,430	12,269	12,590	13,045	13,528	13,921	14,029	2,599	22.7%

2040 Forecast by Community for Livingston County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Green Oak Twp.									
Population	17,476	18,090	18,354	18,388	18,586	18,736	18,873	1,397	8.0%
Households	6,450	6,809	6,954	7,026	7,110	7,199	7,278	828	12.8%
Employment	8,343	8,732	8,848	9,167	9,516	9,816	9,962	1,619	19.4%
Hamburg Twp.									
Population	21,165	22,213	23,069	23,554	23,595	23,835	23,987	2,822	13.3%
Households	7,860	8,437	8,837	8,985	9,055	9,141	9,196	1,336	17.0%
Employment	2,656	2,834	2,867	2,931	3,016	3,237	3,364	708	26.7%
Handy Twp.									
Population	5,120	5,028	5,122	5,376	5,673	5,939	6,052	932	18.2%
Households	1,793	1,877	1,964	2,074	2,216	2,308	2,375	582	32.5%
Employment	818	904	938	992	1,078	1,053	1,050	232	28.4%
Hartland Twp.									
Population	14,663	15,017	15,238	15,431	15,654	16,128	16,040	1,377	9.4%
Households	5,154	5,408	5,544	5,659	5,795	5,955	5,966	812	15.8%
Employment	4,784	5,264	5,542	5,818	5,920	6,026	6,206	1,422	29.7%
Howell									
Population	9,489	9,408	9,816	10,196	10,376	10,825	11,448	1,959	20.6%
Households	4,028	4,000	4,148	4,298	4,378	4,523	4,741	713	17.7%
Employment	11,330	11,957	12,331	12,533	13,126	13,530	14,040	2,710	23.9%
Howell Twp.									
Population	6,702	7,286	8,200	9,239	9,725	11,079	11,866	5,164	77.1%
Households	2,531	2,765	3,147	3,439	3,643	4,073	4,380	1,849	73.1%
Employment	4,136	4,375	4,402	4,408	4,521	4,781	4,953	817	19.8%
Iosco Twp.									
Population	3,801	3,826	3,718	3,605	3,545	3,507	3,455	-346	-9.1%
Households	1,278	1,353	1,351	1,355	1,358	1,358	1,358	80	6.3%
Employment	119	120	121	124	124	130	132	13	10.9%
Marion Twp.									
Population	9,996	9,461	10,083	10,453	11,359	11,921	12,339	2,343	23.4%
Households	3,499	3,439	3,722	3,857	4,155	4,394	4,570	1,071	30.6%
Employment	790	869	877	925	1,059	1,120	1,109	319	40.4%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Livingston County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Oceola Twp.									
Population	11,936	12,007	12,125	12,714	13,717	14,254	14,154	2,218	18.6%
Households	4,057	4,245	4,414	4,643	5,046	5,206	5,235	1,178	29.0%
Employment	564	612	642	654	748	786	804	240	42.6%
Pinckney									
Population	2,427	2,236	2,343	2,408	2,544	2,624	2,768	341	14.1%
Households	869	853	904	938	985	1,027	1,062	193	22.2%
Employment	559	545	559	565	580	550	558	-1	-0.2%
Putnam Twp.									
Population	5,821	6,297	6,704	6,938	7,178	7,347	7,516	1,695	29.1%
Households	2,166	2,343	2,498	2,564	2,639	2,729	2,780	614	28.3%
Employment	577	716	747	799	839	881	909	332	57.6%
Tyrone Twp.									
Population	10,020	9,888	10,423	10,994	11,821	12,218	12,522	2,502	25.0%
Households	3,528	3,577	3,849	4,096	4,398	4,587	4,696	1,168	33.1%
Employment	355	398	431	475	496	531	579	224	63.1%
Unadilla Twp.									
Population	3,366	3,850	3,930	4,052	4,135	4,412	4,635	1,269	37.7%
Households	1,286	1,481	1,548	1,578	1,611	1,685	1,726	440	34.2%
Employment	184	205	212	225	259	280	289	105	57.1%

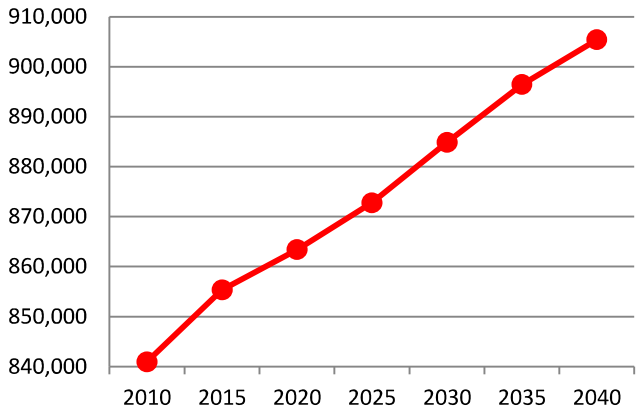
Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

Macomb County 2040 Forecast Summary

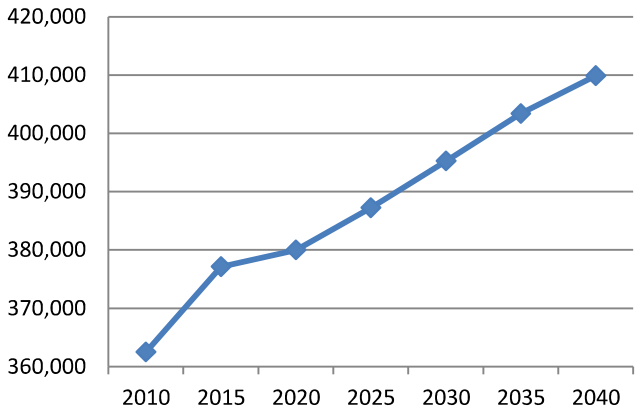
Population and Households

	2010	2020	2030	2040	Change 2010-40 Number	Change 2010-40 Percent
Population	840,978	863,378	884,865	905,390	64,412	7.7%
Households	331,667	349,242	363,519	370,604	38,937	11.7%
Household Size	2.51	2.45	2.41	2.42	-0.09	-3.7%

Population by Year



Employment by Year



Employment by Sector

Sector	2010	2040	Change 2010-40 Number	Change 2010-40 Percent
Natural Resources, Mining, & Construction	19,121	24,726	5,605	29.3%
Manufacturing	49,440	43,603	-5,837	-11.8%
Wholesale Trade, Transportation, Warehousing, & Utilities	19,679	22,155	2,476	12.6%
Retail Trade	42,709	38,987	-3,722	-8.7%
Knowledge-Based Services	65,060	75,493	10,433	16.0%
Services to Households & Firms	51,051	63,043	11,992	23.5%
Private Education and Health Care	45,595	67,111	21,516	47.2%
Leisure & Hospitality	32,679	35,855	3,176	9.7%
Government	37,183	38,913	1,730	4.7%
Total Employment	**362,517**	**409,886**	**47,369**	**13.1%**

2040 Forecast by Community for Macomb County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Armada									
Population	1,730	1,794	1,779	1,771	1,758	1,733	1,731	1	0.1%
Households	607	657	671	674	678	677	677	70	11.5%
Employment	770	770	749	747	733	750	830	60	7.8%
Armada Twp.									
Population	3,649	3,586	3,654	3,666	3,645	3,541	3,575	-74	-2.0%
Households	1,287	1,310	1,383	1,392	1,389	1,392	1,393	106	8.2%
Employment	897	886	895	927	973	1,016	1,046	149	16.6%
Bruce Twp.									
Population	6,947	7,515	7,813	7,779	7,872	7,996	7,985	1,038	14.9%
Households	2,346	2,619	2,787	2,822	2,899	2,985	3,023	677	28.9%
Employment	1,405	1,507	1,513	1,532	1,597	1,569	1,620	215	15.3%
Center Line									
Population	8,257	8,150	8,178	8,255	8,333	8,406	8,579	322	3.9%
Households	3,632	3,620	3,633	3,661	3,691	3,681	3,706	74	2.0%
Employment	6,947	7,043	7,144	7,230	7,317	7,434	7,544	597	8.6%
Chesterfield Twp.									
Population	43,381	44,896	47,276	49,984	51,417	53,314	54,074	10,693	24.6%
Households	16,243	17,521	19,023	20,173	20,861	21,220	21,289	5,046	31.1%
Employment	12,602	13,205	13,207	13,337	13,569	13,870	14,125	1,523	12.1%
Clinton Twp.									
Population	96,796	101,055	102,826	102,486	102,049	103,094	103,823	7,027	7.3%
Households	42,036	43,800	44,418	44,793	44,941	45,096	45,232	3,196	7.6%
Employment	43,322	44,721	44,920	45,752	47,220	48,369	49,476	6,154	14.2%
Eastpointe									
Population	32,442	30,948	31,556	32,779	33,650	34,213	34,467	2,025	6.2%
Households	12,557	12,170	12,631	13,073	13,444	13,660	13,687	1,130	9.0%
Employment	7,803	7,844	7,856	7,861	8,080	8,067	8,274	471	6.0%
Fraser									
Population	14,480	14,865	14,710	14,741	14,623	14,971	14,896	416	2.9%
Households	6,105	6,261	6,300	6,354	6,425	6,520	6,560	455	7.5%
Employment	7,654	7,834	7,897	8,061	8,212	8,284	8,233	579	7.6%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Macomb County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Grosse Pointe Shores (Macomb)									
Population	79	81	85	79	81	82	81	2	2.5%
Households	39	42	45	42	44	45	45	6	15.4%
Employment	C	C	C	C	C	C	C	C	C
Harrison Twp.									
Population	24,587	25,703	26,623	26,286	26,907	27,758	28,111	3,524	14.3%
Households	11,128	11,533	11,798	12,080	12,395	12,577	12,683	1,555	14.0%
Employment	5,476	5,565	5,699	5,890	6,009	6,071	6,143	667	12.2%
Lenox Twp.									
Population	5,828	6,136	6,312	6,668	6,870	6,991	6,948	1,120	19.2%
Households	1,676	1,824	1,973	2,057	2,136	2,187	2,189	513	30.6%
Employment	874	884	889	870	872	903	904	30	3.4%
Macomb Twp.									
Population	79,580	84,991	87,234	90,066	91,008	92,402	95,067	15,487	19.5%
Households	26,591	28,880	30,158	30,745	31,137	32,076	33,015	6,424	24.2%
Employment	10,111	10,594	10,824	11,132	11,202	11,655	11,922	1,811	17.9%
Memphis (Macomb)									
Population	823	669	636	642	704	800	770	-53	-6.4%
Households	328	278	252	261	286	325	332	4	1.2%
Employment	C	C	C	C	C	C	C	C	C
Mount Clemens									
Population	16,314	16,395	16,126	15,817	15,587	15,629	15,461	-853	-5.2%
Households	6,714	6,777	6,773	6,772	6,763	6,780	6,775	61	0.9%
Employment	16,601	17,162	17,272	17,823	18,123	18,566	18,752	2,151	13.0%
New Baltimore									
Population	12,084	12,581	13,340	13,681	13,913	13,977	13,848	1,764	14.6%
Households	4,434	4,650	4,977	5,159	5,260	5,311	5,324	890	20.1%
Employment	2,415	2,475	2,477	2,576	2,702	2,810	2,896	481	19.9%
New Haven									
Population	4,642	4,855	5,292	5,424	5,467	5,483	5,535	893	19.2%
Households	1,552	1,667	1,814	1,845	1,857	1,855	1,854	302	19.5%
Employment	631	685	715	750	758	751	754	123	19.5%

2040 Forecast by Community for Macomb County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Ray Twp.									
Population	3,739	3,732	3,663	3,678	3,627	3,588	3,644	-95	-2.5%
Households	1,404	1,421	1,426	1,451	1,463	1,464	1,493	89	6.3%
Employment	367	410	441	446	476	497	530	163	44.4%
Richmond									
Population	5,733	6,027	6,206	6,181	6,166	6,182	6,181	448	7.8%
Households	2,239	2,369	2,487	2,521	2,546	2,548	2,549	310	13.8%
Employment	1,997	2,078	2,154	2,242	2,286	2,397	2,436	439	22.0%
Richmond Twp.									
Population	3,665	3,734	3,642	3,587	3,540	3,497	3,405	-260	-7.1%
Households	1,209	1,259	1,270	1,291	1,300	1,309	1,309	100	8.3%
Employment	696	780	812	860	859	872	861	165	23.7%
Romeo									
Population	3,596	3,698	3,798	3,799	3,738	3,705	3,664	68	1.9%
Households	1,501	1,542	1,616	1,629	1,656	1,671	1,676	175	11.7%
Employment	4,962	5,183	5,113	5,108	5,239	5,311	5,364	402	8.1%
Roseville									
Population	47,299	46,542	46,293	45,613	45,149	44,995	45,263	-2,036	-4.3%
Households	19,553	19,470	19,712	19,798	19,708	19,730	19,780	227	1.2%
Employment	22,241	22,572	22,034	22,378	22,813	23,243	23,634	1,393	6.3%
Shelby Twp.									
Population	73,804	78,507	78,833	77,989	79,254	80,495	82,358	8,554	11.6%
Households	28,299	30,821	31,234	31,350	31,918	32,411	32,814	4,515	16.0%
Employment	25,748	26,807	27,256	27,800	28,236	28,762	29,041	3,293	12.8%
St. Clair Shores									
Population	59,715	59,791	59,727	59,583	60,986	61,478	61,416	1,701	2.8%
Households	26,585	27,095	27,408	27,656	28,685	29,177	29,245	2,660	10.0%
Employment	17,516	18,643	19,030	19,669	20,067	20,308	20,512	2,996	17.1%
Sterling Heights									
Population	129,699	129,535	131,058	131,907	134,666	135,944	136,527	6,828	5.3%
Households	49,451	49,886	50,654	51,647	52,826	53,745	54,116	4,665	9.4%
Employment	58,338	61,546	61,635	62,662	64,045	65,364	65,872	7,534	12.9%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Macomb County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Utica									
Population	4,757	4,862	5,006	5,020	4,995	5,024	5,070	313	6.6%
Households	2,218	2,298	2,433	2,503	2,537	2,577	2,596	378	17.0%
Employment	5398	5,478	5,519	5,596	5,694	5,795	5,861	463	8.6%
Warren									
Population	134,056	129,860	126,344	128,357	130,987	132,615	134,268	212	0.2%
Households	53,442	52,448	52,557	54,265	55,771	56,088	56,139	2,697	5.0%
Employment	101,825	106,165	107,600	109,559	111,638	114,056	116,451	14,626	14.4%
Washington Twp.									
Population	23,296	24,866	25,368	26,902	27,873	28,510	28,643	5,347	23.0%
Households	8,492	9,339	9,809	10,583	10,903	11,062	11,103	2,611	30.7%
Employment	5,520	5,846	5,902	5,977	6,105	6,268	6,389	869	15.7%

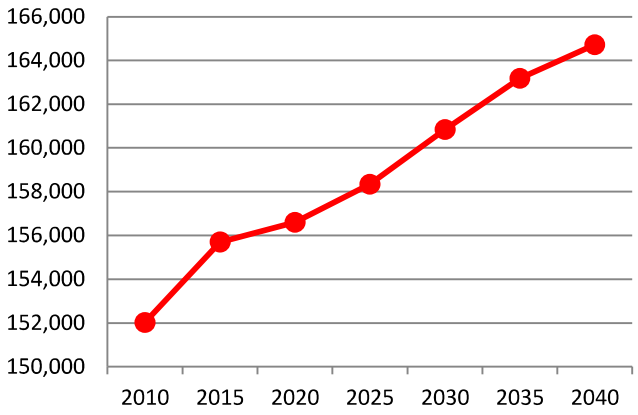
Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

Monroe County 2040 Forecast Summary

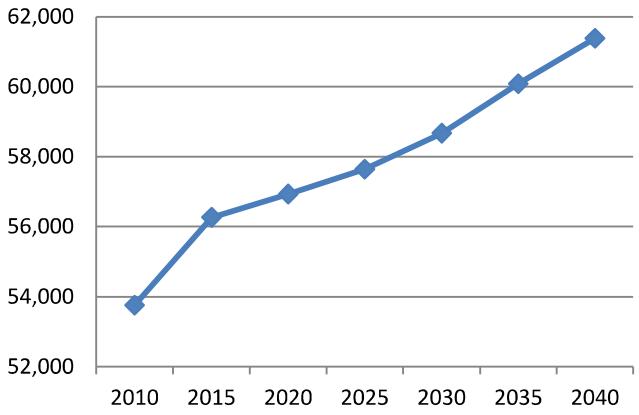
Population and Households

	2010	2020	2030	2040	Change 2010-40 Number	Change 2010-40 Percent
Population	152,021	156,592	160,841	164,720	12,699	8.4%
Households	58,230	62,539	66,071	67,823	9,593	16.5%
Household Size	2.59	2.48	2.41	2.40	-0.18	-7.0%

Population by Year



Employment by Year



Employment by Sector

Sector	2010	2040	Change 2010-40 Number	Change 2010-40 Percent
Natural Resources, Mining, & Construction	5,515	5,865	350	6.3%
Manufacturing	5,171	3,738	-1,433	-27.7%
Wholesale Trade, Transportation, Warehousing, & Utilities	4,853	5,204	351	7.2%
Retail Trade	6,548	6,289	-259	-4.0%
Knowledge-Based Services	8,679	11,315	2,636	30.4%
Services to Households & Firms	5,253	6,683	1,430	27.2%
Private Education and Health Care	6,182	9,544	3,362	54.4%
Leisure & Hospitality	5,643	6,537	894	15.8%
Government	5,917	6,207	290	4.9%
Total Employment	**53,761**	**61,382**	**7,621**	**14.2%**

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Monroe County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Ash Twp.									
Population	5,438	5,905	5,975	5,838	5,956	6,033	5,902	464	8.5%
Households	2,050	2,218	2,287	2,323	2,349	2,340	2,337	287	14.0%
Employment	2,137	2,133	2,026	2,035	2,022	2,037	2,000	-137	-6.4%
Bedford Twp.									
Population	31,085	32,383	33,078	33,961	34,800	35,752	36,181	5,096	16.4%
Households	11,885	12,685	13,246	13,885	14,463	14,874	14,997	3,112	26.2%
Employment	6,387	6,668	6,839	6,954	7,150	7,259	7,543	1,156	18.1%
Berlin Twp.									
Population	7,206	7,408	7,740	8,227	8,388	8,495	8,624	1,418	19.7%
Households	2,575	2,744	2,809	2,991	3,075	3,134	3,193	618	24.0%
Employment	1,235	1,188	1,262	1,334	1,371	1,366	1,339	104	8.4%
Carleton									
Population	2,345	2,432	2,545	2,670	2,713	2,600	2,580	235	10.0%
Households	953	987	1,037	1,102	1,127	1,112	1,108	155	16.3%
Employment	588	593	575	578	598	635	598	10	1.7%
Dundee									
Population	3,957	4,337	4,304	4,295	4,470	4,576	4,696	739	18.7%
Households	1,539	1,714	1,746	1,784	1,885	1,951	2,021	482	31.3%
Employment	2,488	2,590	2,602	2,576	2,615	2,655	2,725	237	9.5%
Dundee Twp.									
Population	2,802	3,003	2,924	2,930	2,997	3,108	3,093	291	10.4%
Households	1,026	1,121	1,118	1,140	1,166	1,207	1,221	195	19.0%
Employment	397	450	412	415	404	408	415	18	4.5%
Erie Twp.									
Population	4,517	4,929	4,765	4,652	4,645	4,644	4,635	118	2.6%
Households	1,781	1,961	1,964	1,966	1,966	1,965	1,961	180	10.1%
Employment	804	802	865	898	915	930	959	155	19.3%
Estral Beach									
Population	418	520	495	484	456	444	446	28	6.7%
Households	183	230	224	224	222	222	221	38	20.8%
Employment	C	C	C	C	C	C	C	C	C

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Monroe County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Exeter Twp.									
Population	3,406	3,426	3,323	3,249	3,172	3,153	3,159	-247	-7.3%
Households	1,222	1,249	1,253	1,255	1,254	1,257	1,251	29	2.4%
Employment	300	359	371	392	417	417	414	114	38.0%
Frenchtown Twp.									
Population	20,428	21,121	21,319	21,832	22,266	22,803	23,633	3,205	15.7%
Households	7,958	8,343	8,679	8,986	9,293	9,506	9,729	1,771	22.3%
Employment	12,616	13,380	13,469	13,518	13,668	13,969	14,176	1,560	12.4%
Ida Twp.									
Population	4,964	5,024	4,763	4,751	4,808	4,834	4,857	-107	-2.2%
Households	1,751	1,813	1,827	1,860	1,899	1,913	1,925	174	9.9%
Employment	585	641	653	685	662	666	730	145	24.8%
LaSalle Twp.									
Population	4,894	5,130	5,115	4,943	4,873	4,888	4,851	-43	-0.9%
Households	1,832	1,941	1,956	1,960	1,962	1,967	1,953	121	6.6%
Employment	286	303	289	288	297	329	372	86	30.1%
London Twp.									
Population	3,048	3,171	3,080	3,130	3,099	3,012	3,049	1	0.0%
Households	1,102	1,174	1,184	1,185	1,184	1,185	1,185	83	7.5%
Employment	88	104	109	94	98	123	122	34	38.6%
Luna Pier									
Population	1,436	1,586	1,603	1,590	1,600	1,599	1,594	158	11.0%
Households	608	657	684	693	698	695	707	99	16.3%
Employment	C	C	C	C	C	C	C	C	C
Maybee									
Population	562	556	562	633	671	737	734	172	30.6%
Households	205	210	214	249	268	274	279	74	36.1%
Employment	66	67	65	65	63	66	68	2	3.0%
Milan (Monroe)									
Population	2,066	2,183	2,199	2,253	2,295	2,402	2,400	334	16.2%
Households	808	869	896	919	942	992	994	186	23.0%
Employment	629	644	651	641	631	644	673	44	7.0%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Monroe County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Milan Twp.									
Population	1,601	1,727	1,668	1,630	1,681	1,692	1,669	68	4.2%
Households	613	646	650	648	651	657	659	46	7.5%
Employment	244	257	249	240	244	252	250	6	2.5%
Monroe									
Population	20,733	19,818	19,899	19,800	19,995	20,352	20,164	-569	-2.7%
Households	8,238	8,051	8,246	8,311	8,509	8,638	8,595	357	4.3%
Employment	15,192	15,740	15,950	16,116	16,460	16,956	17,381	2,189	14.4%
Monroe Twp.									
Population	14,568	14,241	14,513	14,893	15,233	15,280	15,515	947	6.5%
Households	5,719	5,764	5,973	6,194	6,416	6,512	6,624	905	15.8%
Employment	7,017	7,482	7,720	7,952	8,171	8,421	8,695	1,678	23.9%
Petersburg									
Population	1,146	1,088	1,146	1,158	1,202	1,305	1,426	280	24.4%
Households	449	446	486	500	520	544	571	122	27.2%
Employment	271	294	285	278	277	288	264	-7	-2.6%
Raisinville Twp.									
Population	5,816	6,077	5,922	5,855	5,882	5,830	5,790	-26	-0.4%
Households	2,094	2,236	2,240	2,251	2,281	2,285	2,303	209	10.0%
Employment	507	571	576	641	622	653	658	151	29.8%
South Rockwood									
Population	1,675	1,734	1,741	1,783	1,836	1,911	1,953	278	16.6%
Households	687	714	724	756	790	797	814	127	18.5%
Employment	124	135	143	156	182	171	170	46	37.1%
Summerfield Twp.									
Population	3,308	3,215	3,274	3,228	3,247	3,160	3,115	-193	-5.8%
Households	1,195	1,202	1,255	1,258	1,266	1,269	1,269	74	6.2%
Employment	696	673	651	639	696	698	702	6	0.9%
Whiteford Twp.									
Population	4,602	4,676	4,639	4,547	4,556	4,570	4,654	52	1.1%
Households	1,757	1,840	1,841	1,865	1,885	1,893	1,906	149	8.5%
Employment	810	887	899	895	887	927	926	116	14.3%

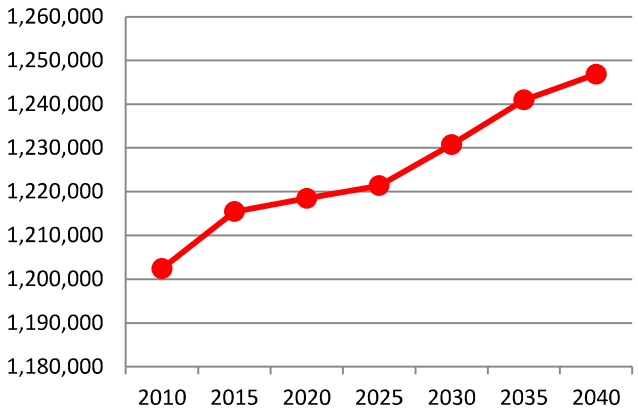
Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

Oakland County 2040 Forecast Summary

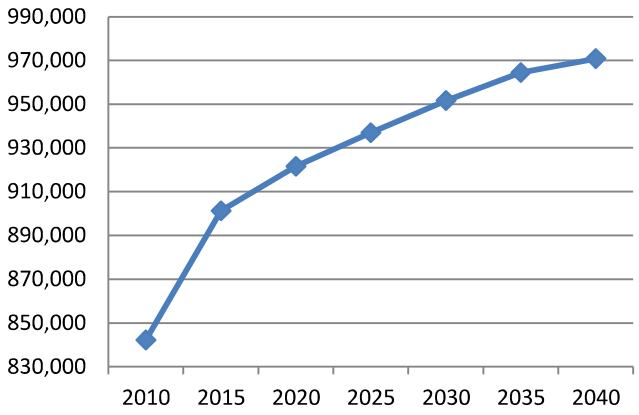
Population and Households

	2010	2020	2030	2040	Change 2010-40 Number	Change 2010-40 Percent
Population	1,202,362	1,218,449	1,230,755	1,246,863	44,501	3.7%
Households	483,698	504,731	509,286	510,257	26,559	5.5%
Household Size	2.46	2.39	2.39	2.42	-0.04	-1.7%

Population by Year



Employment by Year



Employment by Sector

Sector	2010	2040	Change 2010-40 Number	Change 2010-40 Percent
Natural Resources, Mining, & Construction	33,768	40,333	6,565	19.4%
Manufacturing	57,437	51,983	-5,454	-9.5%
Wholesale Trade, Transportation, Warehousing, & Utilities	50,447	50,348	-99	-0.2%
Retail Trade	83,349	73,446	-9,903	-11.9%
Knowledge-Based Services	252,852	302,885	50,033	19.8%
Services to Households & Firms	116,432	142,597	26,165	22.5%
Private Education and Health Care	122,712	173,549	50,837	41.4%
Leisure & Hospitality	69,717	75,622	5,905	8.5%
Government	55,508	60,034	4,526	8.2%
Total Employment	**842,222**	**970,797**	**128,575**	**15.3%**

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Oakland County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Addison Twp.									
Population	5,948	6,108	6,011	5,871	5,848	5,784	5,770	-178	-3.0%
Households	2,161	2,288	2,285	2,289	2,289	2,289	2,290	129	6.0%
Employment	252	292	311	309	316	327	325	73	29.0%
Auburn Hills									
Population	21,412	22,503	22,578	22,827	22,993	23,514	24,248	2,836	13.2%
Households	8,844	9,362	9,486	9,596	9,653	9,725	9,772	928	10.5%
Employment	69,674	76,471	77,807	78,959	80,971	82,330	82,749	13,075	18.8%
Berkley									
Population	14,970	14,925	14,887	14,994	15,176	15,322	15,345	375	2.5%
Households	6,594	6,639	6,663	6,664	6,683	6,622	6,606	12	0.2%
Employment	4,713	5,157	5,425	5,562	5,701	5,932	6,004	1,291	27.4%
Beverly Hills									
Population	10,267	10,214	10,231	10,272	10,288	10,309	10,338	71	0.7%
Households	4,038	4,011	4,087	4,078	4,090	4,094	4,081	43	1.1%
Employment	3,414	3,702	3,808	3,785	3,795	3,809	3,866	452	13.2%
Bingham Farms									
Population	1,111	1,170	1,165	1,137	1,130	1,123	1,136	25	2.3%
Households	527	549	553	544	546	548	551	24	4.6%
Employment	8,782	9,428	9,681	10,140	10,095	10,327	10,138	1,356	15.4%
Birmingham									
Population	20,103	20,398	20,539	21,022	21,285	21,540	21,800	1,697	8.4%
Households	9,039	9,203	9,303	9,280	9,292	9,323	9,309	270	3.0%
Employment	16,094	17,417	17,808	18,179	18,694	18,651	19,121	3,027	18.8%
Bloomfield Hills									
Population	3,869	4,005	4,076	4,124	4,180	4,134	4,179	310	8.0%
Households	1,489	1,548	1,568	1,568	1,572	1,566	1,545	56	3.8%
Employment	8,183	8,772	9,005	9,322	9,613	10,047	10,144	1,961	24.0%
Bloomfield Twp.									
Population	41,070	42,448	42,468	42,926	43,183	43,649	44,338	3,268	8.0%
Households	16,466	17,051	17,152	17,176	17,246	17,321	17,233	767	4.7%
Employment	23,822	25,707	26,402	26,860	27,350	27,804	28,476	4,654	19.5%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Oakland County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Brandon Twp.									
Population	13,733	13,885	13,828	13,776	13,799	13,608	13,548	-185	-1.3%
Households	4,799	4,946	5,047	5,062	5,125	5,129	5,129	330	6.9%
Employment	1,212	1,291	1,348	1,367	1,385	1,394	1,388	176	14.5%
Clarkston									
Population	882	909	902	926	957	964	980	98	11.1%
Households	402	413	413	422	430	428	424	22	5.5%
Employment	592	621	648	649	684	678	681	89	15.0%
Clawson									
Population	11,825	11,552	11,878	12,041	12,111	12,212	12,373	548	4.6%
Households	5,460	5,274	5,340	5,289	5,264	5,272	5,276	-184	-3.4%
Employment	4,154	4,489	4,467	4,595	4,735	4,757	4,853	699	16.8%
Commerce Twp.									
Population	35,874	39,818	39,770	40,006	40,989	40,933	41,628	5,754	16.0%
Households	13,220	14,793	15,283	15,516	15,916	16,110	16,306	3,086	23.3%
Employment	15,403	16,604	16,714	16,917	17,329	17,414	17,375	1,972	12.8%
Farmington									
Population	10,372	10,546	10,640	10,806	10,719	10,803	10,979	607	5.9%
Households	4,624	4,700	4,713	4,678	4,650	4,656	4,633	9	0.2%
Employment	4,676	4,996	5,081	5,094	5,156	5,233	5,306	630	13.5%
Farmington Hills									
Population	79,740	77,482	78,546	79,817	81,034	81,697	81,897	2,157	2.7%
Households	33,559	34,163	34,744	34,657	34,661	34,565	34,383	824	2.5%
Employment	82,650	87,070	89,276	91,027	91,824	92,945	94,405	11,755	14.2%
Ferndale									
Population	19,900	19,919	20,442	20,697	20,702	20,849	20,982	1,082	5.4%
Households	9,559	9,463	9,466	9,543	9,627	9,707	9,689	130	1.4%
Employment	9,243	9,810	9,923	9,980	10,088	10,087	10,075	832	9.0%
Franklin									
Population	3,150	3,244	3,209	3,207	3,255	3,316	3,406	256	8.1%
Households	1,118	1,159	1,161	1,161	1,175	1,175	1,171	53	4.7%
Employment	545	610	650	642	636	696	690	145	26.6%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Oakland County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Groveland Twp.									
Population	5,476	5,619	5,598	5,665	5,715	5,737	5,815	339	6.2%
Households	1,943	2,038	2,088	2,138	2,188	2,238	2,288	345	17.8%
Employment	891	983	993	1,001	1,029	1,028	1,045	154	17.3%
Hazel Park									
Population	16,422	15,908	15,929	16,153	16,222	16,308	16,359	-63	-0.4%
Households	6,641	6,415	6,511	6,560	6,540	6,548	6,591	-50	-0.8%
Employment	3,029	3,109	3,124	3,205	3,200	3,220	3,132	103	3.4%
Highland Twp.									
Population	19,202	19,217	18,674	18,427	18,382	18,172	18,427	-775	-4.0%
Households	7,125	7,391	7,487	7,543	7,594	7,629	7,623	498	7.0%
Employment	3,476	3,617	3,621	3,680	3,735	3,760	3,715	239	6.9%
Holly									
Population	6,086	5,993	5,801	5,865	5,997	5,919	6,132	46	0.8%
Households	2,453	2,509	2,519	2,596	2,649	2,608	2,644	191	7.8%
Employment	1,438	1,508	1,512	1,489	1,548	1,542	1,536	98	6.8%
Holly Twp.									
Population	5,276	5,546	5,418	5,403	5,267	5,340	5,440	164	3.1%
Households	1,977	2,169	2,177	2,181	2,179	2,185	2,187	210	10.6%
Employment	469	475	525	568	579	594	594	125	26.7%
Huntington Woods									
Population	6,238	6,290	6,273	6,417	6,383	6,345	6,439	201	3.2%
Households	2,354	2,393	2,424	2,444	2,426	2,413	2,409	55	2.3%
Employment	1,442	1,588	1,573	1,661	1,635	1,650	1,587	145	10.1%
Independence Twp.									
Population	34,681	34,816	35,094	33,671	35,358	33,914	36,329	1,648	4.8%
Households	12,825	13,496	13,644	13,722	13,821	13,880	13,905	1,080	8.4%
Employment	7,798	8,346	8,636	8,961	9,347	9,419	9,652	1,854	23.8%
Keego Harbor									
Population	2,970	3,028	3,060	3,154	3,127	3,153	3,169	199	6.7%
Households	1,292	1,336	1,371	1,398	1,387	1,404	1,394	102	7.9%
Employment	955	1,026	1,079	1,139	1,120	1,078	1,103	148	15.5%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Oakland County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Lake Angelus									
Population	290	291	291	307	336	336	354	64	22.1%
Households	130	132	131	135	142	138	139	9	6.9%
Employment	C	C	C	C	C	C	C	C	C
Lake Orion									
Population	2,973	3,025	3,223	3,390	3,633	3,822	3,881	908	30.5%
Households	1,304	1,306	1,392	1,449	1,505	1,589	1,611	307	23.5%
Employment	1,350	1,389	1,454	1,480	1,460	1,465	1,550	200	14.8%
Lathrup Village									
Population	4,075	3,703	3,824	3,727	3,675	3,661	3,588	-487	-12.0%
Households	1,610	1,504	1,536	1,497	1,493	1,511	1,471	-139	-8.6%
Employment	2,963	3,176	3,275	3,349	3,367	3,430	3,434	471	15.9%
Leonard									
Population	403	423	456	426	401	396	381	-22	-5.5%
Households	153	169	186	175	168	170	165	12	7.8%
Employment	74	90	91	97	96	101	100	26	35.1%
Lyon Twp.									
Population	14,545	17,070	17,898	18,714	19,221	19,378	19,621	5,076	34.9%
Households	5,226	6,149	6,547	6,832	7,010	7,090	7,142	1,916	36.7%
Employment	5,681	6,163	6,281	6,346	6,401	6,467	6,472	791	13.9%
Madison Heights									
Population	29,694	29,065	29,338	29,108	29,513	30,068	30,542	848	2.9%
Households	12,712	12,428	12,620	12,639	12,677	12,709	12,695	-17	-0.1%
Employment	28,444	30,176	30,462	30,387	30,628	30,451	30,240	1,796	6.3%
Milford									
Population	6,175	6,508	6,546	6,580	6,446	6,402	6,550	375	6.1%
Households	2,589	2,780	2,832	2,833	2,831	2,854	2,833	244	9.4%
Employment	2,654	2,799	2,804	2,826	2,919	3,120	3,139	485	18.3%
Milford Twp.									
Population	9,561	9,752	9,747	9,711	9,728	9,581	9,807	246	2.6%
Households	3,422	3,531	3,641	3,678	3,732	3,740	3,748	326	9.5%
Employment	5,986	6,598	7,047	7,409	7,473	7,758	7,775	1,789	29.9%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Oakland County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Northville (Oakland)									
Population	3,231	3,312	3,164	3,224	3,199	3,282	3,259	28	0.9%
Households	1,321	1,340	1,303	1,311	1,299	1,317	1,304	-17	-1.3%
Employment	560	560	581	580	612	649	651	91	16.2%
Novi									
Population	55,224	58,164	57,805	57,932	57,761	57,344	57,897	2,673	4.8%
Households	22,258	23,759	24,042	24,112	24,158	24,195	24,234	1,976	8.9%
Employment	37,928	40,902	41,419	41,949	42,482	43,381	44,227	6,299	16.6%
Novi Twp.									
Population	150	152	140	146	144	139	139	-11	-7.3%
Households	59	63	59	61	61	59	58	-1	-1.7%
Employment	0	0	0	0	0	0	0	0	0.0%
Oak Park									
Population	29,319	28,222	27,569	27,128	26,996	26,811	26,981	-2,338	-8.0%
Households	11,719	11,733	11,812	11,696	11,694	11,680	11,623	-96	-0.8%
Employment	10,175	10,781	11,015	11,172	11,242	11,267	11,182	1,007	9.9%
Oakland Twp.									
Population	16,779	18,614	18,425	19,864	19,625	20,237	20,400	3,621	21.6%
Households	5,777	6,441	6,871	7,057	7,142	7,278	7,345	1,568	27.1%
Employment	1,844	1,918	1,955	1,955	2,032	2,053	2,031	187	10.1%
Orchard Lake									
Population	2,375	2,597	2,557	2,556	2,534	2,501	2,499	124	5.2%
Households	802	879	889	901	902	899	893	91	11.3%
Employment	674	705	714	742	752	790	802	128	19.0%
Orion Twp.									
Population	32,421	33,462	33,966	34,527	34,630	34,633	35,040	2,619	8.1%
Households	11,673	12,218	12,538	12,662	12,703	12,753	12,789	1,116	9.6%
Employment	9,467	11,176	11,216	11,189	11,204	11,018	10,905	1,438	15.2%
Ortonville									
Population	1,442	1,548	1,533	1,562	1,560	1,573	1,620	178	12.3%
Households	511	559	565	583	585	594	599	88	17.2%
Employment	496	561	590	636	653	630	647	151	30.4%

2040 Forecast by Community for Oakland County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Oxford									
Population	3,436	3,676	3,797	3,846	3,928	3,937	3,988	552	16.1%
Households	1,335	1,435	1,500	1,508	1,536	1,543	1,550	215	16.1%
Employment	1,682	1,701	1,738	1,746	1,774	1,770	1,737	55	3.3%
Oxford Twp.									
Population	17,090	17,843	18,256	18,673	18,846	18,865	19,167	2,077	12.2%
Households	6,063	6,399	6,641	6,769	6,842	6,884	6,952	889	14.7%
Employment	4,293	4,404	4,379	4,381	4,517	4,642	4,661	368	8.6%
Pleasant Ridge									
Population	2,526	2,448	2,399	2,429	2,378	2,415	2,370	-156	-6.2%
Households	1,115	1,090	1,074	1,077	1,070	1,085	1,066	-49	-4.4%
Employment	485	546	596	645	635	612	615	130	26.8%
Pontiac									
Population	59,515	56,081	57,180	55,626	56,063	56,430	55,870	-3,645	-6.1%
Households	22,220	21,463	22,578	22,174	22,621	23,118	22,418	198	0.9%
Employment	36,836	39,003	39,792	40,135	40,816	41,221	41,631	4,795	13.0%
Rochester									
Population	12,711	13,650	13,586	13,752	13,715	13,734	13,760	1,049	8.3%
Households	5,514	5,678	5,734	5,810	5,803	5,844	5,815	301	5.5%
Employment	7,028	7,523	7,772	8,077	8,131	8,330	8,566	1,538	21.9%
Rochester Hills									
Population	70,995	72,638	72,067	71,930	72,072	72,036	73,528	2,533	3.6%
Households	27,578	28,753	29,036	29,180	29,316	29,392	29,420	1,842	6.7%
Employment	35,756	38,298	38,818	39,347	40,127	40,828	41,179	5,423	15.2%
Rose Twp									
Population	6,250	6,301	6,154	6,032	6,016	6,076	6,039	-211	-3.4%
Households	2,272	2,351	2,372	2,371	2,373	2,366	2,358	86	3.8%
Employment	365	367	388	439	425	398	411	46	12.6%
Royal Oak									
Population	57,236	56,700	57,794	57,743	58,000	58,348	59,105	1,869	3.3%
Households	28,063	28,268	28,604	28,498	28,566	28,642	28,480	417	1.5%
Employment	35,755	38,413	39,163	39,541	40,122	40,270	40,523	4,768	13.3%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Oakland County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Royal Oak Twp.									
Population	2,419	2,546	2,581	2,661	2,734	2,802	2,908	489	20.2%
Households	1,024	1,102	1,124	1,120	1,136	1,135	1,137	113	11.0%
Employment	1,363	1,400	1,405	1,367	1,288	1,258	1,203	-160	-11.7%
South Lyon									
Population	11,327	11,902	11,905	12,174	12,216	12,269	12,433	1,106	9.8%
Households	4,646	4,936	5,008	5,038	5,044	5,069	5,046	400	8.6%
Employment	2,064	2,193	2,188	2,233	2,287	2,324	2,338	274	13.3%
Southfield									
Population	71,739	72,115	71,420	70,958	71,892	72,238	72,418	679	0.9%
Households	31,778	31,928	32,166	32,031	32,031	31,972	31,796	18	0.1%
Employment	138,475	145,053	150,068	153,052	155,850	157,841	158,408	19,933	14.4%
Southfield Twp.									
Population	19	25	23	22	19	19	22	3	15.8%
Households	8	10	10	10	9	9	10	2	25.0%
Employment	C	C	C	C	C	C	C	C	C
Springfield Twp.									
Population	13,940	13,688	13,461	13,450	13,306	13,058	12,963	-977	-7.0%
Households	5,005	5,044	5,097	5,142	5,166	5,165	5,166	161	3.2%
Employment	3,093	3,342	3,414	3,407	3,507	3,636	3,706	613	19.8%
Sylvan Lake									
Population	1,720	1,814	1,845	1,863	1,869	1,876	1,835	115	6.7%
Households	809	839	854	862	864	870	842	33	4.1%
Employment	1,303	1,350	1,391	1,390	1,421	1,446	1,534	231	17.7%
Troy									
Population	80,980	81,261	81,362	81,590	81,577	81,837	82,062	1,082	1.3%
Households	30,703	31,261	31,907	32,395	32,558	32,621	32,721	2,018	6.6%
Employment	129,361	140,638	143,940	146,406	148,900	151,723	152,129	22,768	17.6%
Walled Lake									
Population	6,999	7,363	7,331	7,306	7,531	7,561	7,678	679	9.7%
Households	3,347	3,546	3,576	3,559	3,595	3,566	3,542	195	5.8%
Employment	2,353	2,433	2,467	2,520	2,548	2,566	2,596	243	10.3%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Oakland County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Waterford Twp.									
Population	71,707	71,060	70,928	70,210	71,148	71,113	71,462	-245	-0.3%
Households	29,612	29,988	30,248	30,356	30,492	30,597	30,584	972	3.3%
Employment	26,118	27,747	28,162	28,588	28,884	29,267	29,224	3,106	11.9%
West Bloomfield Twp.									
Population	64,690	64,988	65,023	65,136	65,730	64,897	66,056	1,366	2.1%
Households	24,111	25,116	25,302	25,229	25,258	25,244	25,122	1,011	4.2%
Employment	18,344	19,726	20,445	21,201	21,344	21,849	22,189	3,845	21.0%
White Lake Twp.									
Population	30,019	30,509	30,441	29,962	29,941	29,681	30,329	310	1.0%
Households	11,262	11,864	12,142	12,253	12,375	12,453	12,516	1,254	11.1%
Employment	4,841	4,943	4,962	5,056	5,072	5,086	5,062	221	4.6%
Wixom									
Population	13,498	12,871	13,117	13,640	14,045	14,381	14,942	1,444	10.7%
Households	5,725	5,370	5,504	5,630	5,713	5,753	5,824	99	1.7%
Employment	11,198	11,730	11,769	11,794	11,698	11,701	11,620	422	3.8%
Wolverine Lake									
Population	4,312	4,391	4,280	4,240	4,227	4,290	4,312	0	0.0%
Households	1,733	1,814	1,805	1,811	1,813	1,798	1,804	71	4.1%
Employment	265	290	329	358	362	369	326	61	23.0%

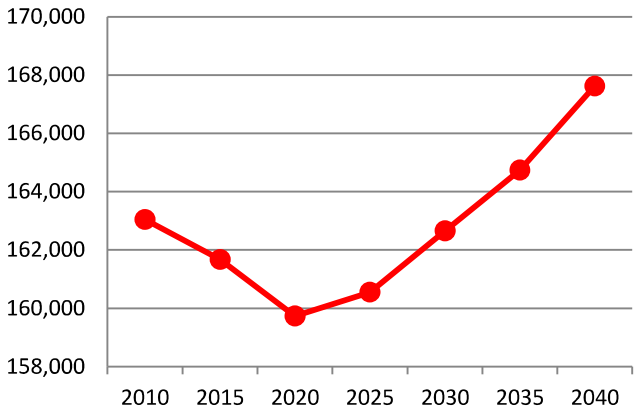
Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

St. Clair County 2040 Forecast Summary

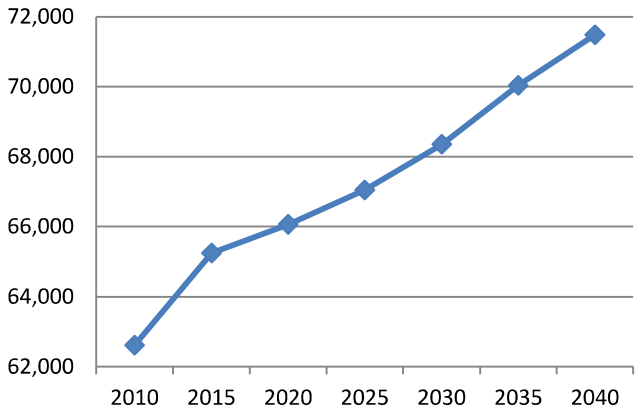
Population and Households

	2010	2020	2030	2040	Change 2010-40 Number	Change 2010-40 Percent
Population	163,040	161,506	164,655	167,624	4,584	2.8%
Households	63,841	65,492	67,887	68,960	5,119	8.0%
Household Size	2.52	2.44	2.39	2.40	-0.12	-4.8%

Population by Year



Employment by Year



Employment by Sector

Sector	2010	2040	Change 2010-40 Number	Change 2010-40 Percent
Natural Resources, Mining, & Construction	4,181	4,754	573	13.7%
Manufacturing	7,043	6,629	-414	-5.9%
Wholesale Trade, Transportation, Warehousing, & Utilities	4,312	4,419	107	2.5%
Retail Trade	8,245	7,623	-622	-7.5%
Knowledge-Based Services	8,288	10,005	1,717	20.7%
Services to Households & Firms	7,787	9,707	1,920	24.7%
Private Education and Health Care	9,667	14,404	4,737	49.0%
Leisure & Hospitality	5,745	6,334	589	10.3%
Government	7,346	7,605	259	3.5%
Total Employment	**62,614**	**71,480**	**8,866**	**14.2%**

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for St. Clair County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Algonac									
Population	4,110	4,474	4,315	4,297	4,528	4,534	4,497	387	9.4%
Households	1,756	1,891	1,877	1,899	2,007	2,020	2,016	260	14.8%
Employment	634	654	637	641	694	711	775	141	22.2%
Berlin Twp.									
Population	3,285	3,185	3,173	3,137	3,145	3,101	3,074	-211	-6.4%
Households	1,152	1,169	1,169	1,190	1,194	1,184	1,184	32	2.8%
Employment	106	97	104	110	110	119	135	29	27.4%
Brockway Twp.									
Population	2,022	1,975	1,987	1,989	1,941	1,877	1,837	-185	-9.1%
Households	705	717	737	750	745	733	732	27	3.8%
Employment	235	278	283	309	313	344	317	82	34.9%
Burtchville Twp.									
Population	4,008	4,145	4,181	4,492	4,627	4,768	4,773	765	19.1%
Households	1,646	1,705	1,745	1,885	1,971	2,025	2,055	409	24.8%
Employment	657	781	823	834	868	903	906	249	37.9%
Capac									
Population	1,890	1,839	1,801	1,808	1,817	1,786	1,834	-56	-3.0%
Households	704	709	726	734	758	769	771	67	9.5%
Employment	1,020	1,049	1,077	1,099	1,160	1,191	1,241	221	21.7%
Casco Twp.									
Population	4,105	3,993	4,009	3,940	3,915	3,925	3,950	-155	-3.8%
Households	1,502	1,532	1,552	1,552	1,574	1,579	1,578	76	5.1%
Employment	693	859	920	955	966	940	972	279	40.3%
China Twp.									
Population	3,551	3,308	3,329	3,327	3,583	3,720	3,798	247	7.0%
Households	1,271	1,271	1,305	1,307	1,422	1,494	1,506	235	18.5%
Employment	1,012	1,104	1,114	1,093	1,085	1,131	1,159	147	14.5%
Clay Twp.									
Population	9,066	8,856	8,747	8,663	8,883	8,828	8,885	-181	-2.0%
Households	3,947	3,885	3,903	3,952	4,074	4,097	4,123	176	4.5%
Employment	1,337	1,443	1,454	1,464	1,504	1,580	1,585	248	18.5%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for St. Clair County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Clyde Twp.									
Population	5,579	5,482	5,433	5,478	5,367	5,401	5,359	-220	-3.9%
Households	2,060	2,101	2,116	2,122	2,128	2,131	2,120	60	2.9%
Employment	638	618	639	635	574	603	627	-11	-1.7%
Columbus Twp.									
Population	4,070	3,984	3,957	3,884	3,813	3,816	3,794	-276	-6.8%
Households	1,459	1,477	1,505	1,518	1,509	1,517	1,504	45	3.1%
Employment	268	252	243	265	244	283	301	33	12.3%
Cottrellville Twp.									
Population	3,559	3,494	3,529	3,692	3,723	3,733	3,618	59	1.7%
Households	1,389	1,404	1,432	1,495	1,507	1,511	1,493	104	7.5%
Employment	184	170	161	166	174	166	159	-25	-13.6%
East China Twp.									
Population	3,788	3,908	3,954	4,048	4,289	4,441	4,515	727	19.2%
Households	1,603	1,674	1,687	1,743	1,828	1,871	1,891	288	18.0%
Employment	2,061	2,229	2,236	2,272	2,284	2,318	2,341	280	13.6%
Emmett									
Population	269	276	235	281	382	442	498	229	85.1%
Households	91	93	83	99	135	157	177	86	94.5%
Employment	146	142	154	180	180	188	177	31	21.2%
Emmett Twp.									
Population	2,385	2,263	2,240	2,162	2,199	2,188	2,200	-185	-7.8%
Households	837	836	849	857	863	858	867	30	3.6%
Employment	88	108	124	116	134	147	124	36	40.9%
Fort Gratiot Twp.									
Population	11,108	11,524	11,556	11,830	12,110	12,448	12,807	1,699	15.3%
Households	4,563	4,685	4,747	4,879	4,972	5,049	5,106	543	11.9%
Employment	8,366	8,599	8,683	9,052	9,451	9,780	9,998	1,632	19.5%
Grant Twp.									
Population	1,891	1,866	1,781	1,783	1,796	1,784	1,744	-147	-7.8%
Households	675	693	689	700	707	705	692	17	2.5%
Employment	74	78	92	94	88	87	87	13	17.6%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for St. Clair County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Greenwood Twp.									
Population	1,538	1,521	1,487	1,506	1,479	1,457	1,469	-69	-4.5%
Households	535	561	567	579	578	571	574	39	7.3%
Employment	C	C	C	C	C	C	C	C	C
Ira Twp.									
Population	5,178	5,383	5,508	5,716	5,760	6,159	6,217	1,039	20.1%
Households	2,068	2,172	2,217	2,300	2,352	2,487	2,501	433	20.9%
Employment	1,725	1,850	1,908	1,875	1,917	1,955	1,965	240	13.9%
Kenockee Twp.									
Population	2,470	2,422	2,473	2,509	2,417	2,446	2,444	-26	-1.1%
Households	903	917	957	968	953	954	962	59	6.5%
Employment	96	104	105	104	111	104	109	13	13.5%
Kimball Twp.									
Population	9,358	9,321	9,437	9,468	9,620	9,873	9,961	603	6.4%
Households	3,559	3,600	3,704	3,780	3,895	3,963	3,990	431	12.1%
Employment	2,353	2,473	2,556	2,676	2,750	2,816	2,900	547	23.2%
Lynn Twp.									
Population	1,229	1,202	1,190	1,148	1,136	1,116	1,059	-170	-13.8%
Households	426	425	436	433	436	437	428	2	0.5%
Employment	C	C	C	C	C	C	C	C	C
Marine City									
Population	4,248	4,383	4,299	4,521	4,530	4,619	4,600	352	8.3%
Households	1,765	1,834	1,858	2,006	2,031	2,033	2,037	272	15.4%
Employment	1,895	2,060	2,081	2,086	2,071	2,139	2,125	230	12.1%
Marysville									
Population	9,959	9,834	9,912	9,942	10,214	10,424	10,635	676	6.8%
Households	4,160	4,135	4,149	4,201	4,295	4,345	4,391	231	5.6%
Employment	5,633	5,893	5,752	5,852	5,726	5,829	5,875	242	4.3%
Memphis (St. Clair)									
Population	360	329	317	336	330	350	323	-37	-10.3%
Households	146	133	129	136	137	146	132	-14	-9.6%
Employment	C	C	C	C	C	C	C	C	C

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for St. Clair County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Mussey Twp.									
Population	2,316	2,138	2,093	2,071	2,047	2,058	2,108	-208	-9.0%
Households	808	821	836	821	834	835	834	26	3.2%
Employment	149	175	156	153	135	133	138	-11	-7.4%
Port Huron									
Population	30,184	29,429	29,161	29,141	29,332	29,228	29,219	-965	-3.2%
Households	12,177	12,181	12,143	12,149	12,242	12,220	12,277	100	0.8%
Employment	22,946	23,305	23,728	23,965	24,617	25,204	25,819	2,873	12.5%
Port Huron Twp.									
Population	10,654	10,678	10,685	10,799	10,985	11,433	11,601	947	8.9%
Households	4,044	4,088	4,207	4,299	4,390	4,570	4,663	619	15.3%
Employment	4,968	5,044	5,179	5,186	5,241	5,227	5,395	427	8.6%
Richmond (St. Clair)									
Population	2	2	2	2	2	2	2	0	0.0%
Households	1	1	1	1	1	1	1	0	0.0%
Employment	0	0	0	0	0	0	0	0	0.0%
Riley Twp.									
Population	3,353	3,171	3,147	3,139	3,147	3,127	3,148	-205	-6.1%
Households	1,184	1,158	1,161	1,177	1,191	1,184	1,185	1	0.1%
Employment	182	185	179	178	174	164	175	-7	-3.8%
St. Clair									
Population	5,485	5,552	5,626	5,647	5,640	5,739	5,776	291	5.3%
Households	2,306	2,338	2,380	2,402	2,439	2,436	2,437	131	5.7%
Employment	2,937	3,356	3,316	3,310	3,354	3,445	3,431	494	16.8%
St. Clair Twp.									
Population	6,817	6,705	6,899	6,845	6,951	6,988	7,035	218	3.2%
Households	2,533	2,572	2,677	2,690	2,731	2,772	2,755	222	8.8%
Employment	833	922	887	878	872	891	950	117	14.0%
Wales Twp.									
Population	3,248	3,102	3,009	2,959	2,945	2,927	2,922	-326	-10.0%
Households	1,144	1,146	1,145	1,154	1,168	1,155	1,159	15	1.3%
Employment	250	255	273	258	279	299	319	69	27.6%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for St. Clair County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Yale									
Population	1,955	1,927	2,036	1,993	2,003	1,921	1,919	-36	-1.8%
Households	722	756	803	808	820	825	819	97	13.4%
Employment	875	900	927	962	1,030	1,113	1,131	256	29.3%

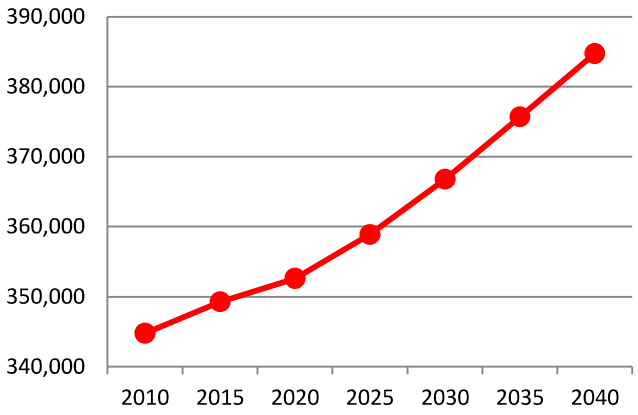
Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

Washtenaw County 2040 Forecast Summary

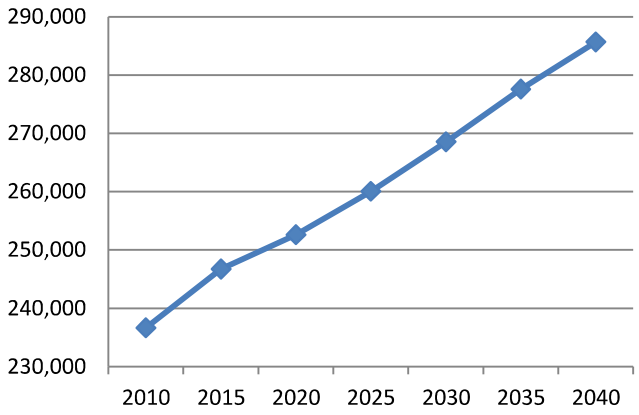
Population and Households

	2010	2020	2030	2040	Change 2010-40 Number	Change 2010-40 Percent
Population	344,791	354,116	368,262	386,235	41,444	12.0%
Households	137,193	146,870	156,324	164,447	27,254	19.9%
Household Size	2.38	2.27	2.22	2.22	-0.16	-6.8%

Population by Year



Employment by Year



Employment by Sector

Sector	2010	2040	Change 2010-40 Number	Change 2010-40 Percent
Natural Resources, Mining, & Construction	7,904	8,484	580	7.3%
Manufacturing	13,441	11,065	-2,376	-17.7%
Wholesale Trade, Transportation, Warehousing, & Utilities	10,082	11,117	1,035	10.3%
Retail Trade	19,466	19,504	38	0.2%
Knowledge-Based Services	42,729	51,428	8,699	20.4%
Services to Households & Firms	23,665	31,868	8,203	34.7%
Private Education and Health Care	31,961	51,006	19,045	59.6%
Leisure & Hospitality	18,505	22,342	3,837	20.7%
Government	68,923	78,841	9,918	14.4%
Total Employment	**236,676**	**285,655**	**48,979**	**20.7%**

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Washtenaw County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Ann Arbor									
Population	113,934	116,731	116,827	118,813	119,113	119,855	123,786	9,852	8.6%
Households	47,060	48,006	49,108	49,988	50,622	51,364	52,277	5,217	11.1%
Employment	120,588	123,753	127,098	131,230	135,870	140,442	144,899	24,311	20.2%
Ann Arbor Twp.									
Population	4,067	4,131	4,313	4,492	4,966	5,224	5,414	1,347	33.1%
Households	1,721	1,773	1,918	2,033	2,159	2,368	2,442	721	41.9%
Employment	10,454	11,074	11,386	11,789	12,176	12,639	12,865	2,411	23.1%
Augusta Twp.									
Population	6,745	6,838	7,016	7,258	7,593	7,851	7,961	1,216	18.0%
Households	2,433	2,597	2,792	2,962	3,175	3,334	3,437	1,004	41.3%
Employment	1,121	1,146	1,100	1,132	1,154	1,187	1,247	126	11.2%
Barton Hills									
Population	294	288	278	288	286	290	296	2	0.7%
Households	123	123	123	130	131	132	134	11	8.9%
Employment	C	C	C	C	C	C	C	C	C
Bridgewater Twp.									
Population	1,674	1,700	1,666	1,638	1,631	1,660	1,609	-65	-3.9%
Households	627	664	681	690	695	711	711	84	13.4%
Employment	C	C	C	C	C	C	C	C	C
Chelsea									
Population	4,944	5,266	5,380	5,445	5,505	5,814	6,271	1,327	26.8%
Households	2,224	2,377	2,532	2,624	2,712	2,848	3,074	850	38.2%
Employment	6,041	6,270	6,308	6,645	6,903	7,170	7,375	1,334	22.1%
Dexter									
Population	4,067	4,211	4,245	4,320	4,390	4,719	4,885	818	20.1%
Households	1,590	1,685	1,756	1,814	1,846	1,968	2,027	437	27.5%
Employment	3,082	3,336	3,317	3,351	3,334	3,347	3,447	365	11.8%
Dexter Twp.									
Population	6,042	6,451	6,741	6,669	6,787	6,702	6,855	813	13.5%
Households	2,225	2,337	2,449	2,551	2,670	2,736	2,787	562	25.3%
Employment	450	476	463	522	555	618	628	178	39.6%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Washtenaw County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Freedom Twp.									
Population	1,428	1,519	1,482	1,419	1,412	1,482	1,482	54	3.8%
Households	583	622	626	622	631	641	642	59	10.1%
Employment	195	221	231	226	221	227	220	25	12.8%
Lima Twp.									
Population	3,307	3,457	3,582	3,856	3,975	4,191	4,304	997	30.1%
Households	1,197	1,273	1,389	1,564	1,652	1,764	1,836	639	53.4%
Employment	518	529	531	512	500	495	519	1	0.2%
Lodi Twp.									
Population	6,058	6,030	5,887	5,760	5,791	6,054	6,174	116	1.9%
Households	2,152	2,208	2,274	2,296	2,357	2,496	2,601	449	20.9%
Employment	897	917	908	957	959	1,003	1,021	124	13.8%
Lyndon Twp.									
Population	2,720	2,821	2,847	2,904	2,842	3,024	3,120	400	14.7%
Households	962	1,017	1,088	1,137	1,146	1,225	1,276	314	32.6%
Employment	236	243	255	250	286	316	312	76	32.2%
Manchester									
Population	2,091	2,153	2,231	2,365	2,544	2,705	2,981	890	42.6%
Households	938	994	1,041	1,115	1,187	1,278	1,404	466	49.7%
Employment	671	666	676	699	710	728	733	62	9.2%
Manchester Twp.									
Population	2,478	2,579	2,542	2,896	3,149	3,244	3,247	769	31.0%
Households	926	1,008	1,070	1,240	1,369	1,429	1,431	505	54.5%
Employment	239	236	242	250	239	236	276	37	15.5%
Milan (Washtenaw)									
Population	3,770	3,724	3,651	3,670	3,933	4,056	4,111	341	9.0%
Households	1,500	1,529	1,568	1,599	1,737	1,799	1,834	334	22.3%
Employment	1,281	1,373	1,408	1,494	1,564	1,625	1,667	386	30.1%
Northfield Twp.									
Population	8,245	8,091	7,960	7,832	8,085	8,241	8,368	123	1.5%
Households	3,303	3,345	3,447	3,491	3,575	3,622	3,684	381	11.5%
Employment	2,026	2,096	2,147	2,275	2,351	2,543	2,660	634	31.3%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Washtenaw County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Pittsfield Twp.									
Population	34,663	36,064	36,076	36,356	37,077	38,686	39,376	4,713	13.6%
Households	14,021	14,589	15,021	15,255	15,483	15,952	16,215	2,194	15.6%
Employment	26,554	28,101	28,501	29,041	29,839	30,840	31,493	4,939	18.6%
Salem Twp.									
Population	5,627	5,535	5,206	5,170	5,135	5,216	5,309	-318	-5.7%
Households	2,079	2,154	2,180	2,224	2,252	2,281	2,334	255	12.3%
Employment	951	1,007	1,033	995	1,009	963	998	47	4.9%
Saline									
Population	8,810	8,830	8,645	8,595	8,564	8,582	9,066	256	2.9%
Households	3,699	3,793	3,838	3,884	3,933	3,994	4,294	595	16.1%
Employment	7,144	7,409	7,473	7,518	7,710	7,885	8,141	997	14.0%
Saline Twp.									
Population	1,896	1,995	2,392	2,458	2,457	2,541	2,676	780	41.1%
Households	732	759	759	770	772	822	872	140	19.1%
Employment	166	186	209	230	249	271	309	143	86.1%
Scio Twp.									
Population	16,470	16,800	16,880	18,328	19,581	19,950	20,442	3,972	24.1%
Households	6,405	6,689	7,029	7,810	8,488	8,659	8,885	2,480	38.7%
Employment	17,200	18,146	18,360	18,674	18,979	19,287	19,772	2,572	15.0%
Sharon Twp.									
Population	1,737	1,719	1,599	1,589	1,520	1,594	1,568	-169	-9.7%
Households	659	678	678	678	690	703	702	43	6.5%
Employment	214	248	291	277	294	307	299	85	39.7%
Superior Twp.									
Population	13,058	14,200	14,971	16,308	16,317	16,730	17,021	3,963	30.3%
Households	4,924	5,486	6,396	6,926	7,044	7,261	7,490	2,566	52.1%
Employment	10,563	11,548	12,214	12,610	13,180	13,647	14,163	3,600	34.1%
Sylvan Twp.									
Population	2,833	2,841	3,075	3,012	3,240	3,646	3,922	1,089	38.4%
Households	1,094	1,123	1,273	1,294	1,434	1,593	1,661	567	51.8%
Employment	1,002	1,098	1,117	1,122	1,156	1,181	1,215	213	21.3%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Washtenaw County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Webster Twp.									
Population	6,328	6,235	5,992	5,837	5,882	5,941	5,918	-410	-6.5%
Households	2,215	2,283	2,351	2,395	2,493	2,528	2,531	316	14.3%
Employment	527	572	580	591	563	590	607	80	15.2%
York Twp.									
Population	8,708	8,911	9,032	9,177	9,584	10,177	10,105	1,397	16.0%
Households	2,343	2,386	2,450	2,563	2,678	2,820	2,830	487	20.8%
Employment	1,799	2,149	2,227	2,298	2,369	2,475	2,553	754	41.9%
Ypsilanti									
Population	19,435	19,235	19,071	19,265	20,003	20,095	19,937	502	2.6%
Households	8,026	8,098	8,219	8,265	8,215	8,226	8,298	272	3.4%
Employment	9,631	10,117	10,415	10,827	11,316	11,850	12,061	2,430	25.2%
Ypsilanti Twp.									
Population	53,362	52,426	54,529	54,651	56,900	58,913	60,031	6,669	12.5%
Households	21,432	21,887	22,814	23,902	25,178	26,137	26,738	5,306	24.8%
Employment	12,775	13,437	13,734	14,128	14,666	15,303	15,764	2,989	23.4%

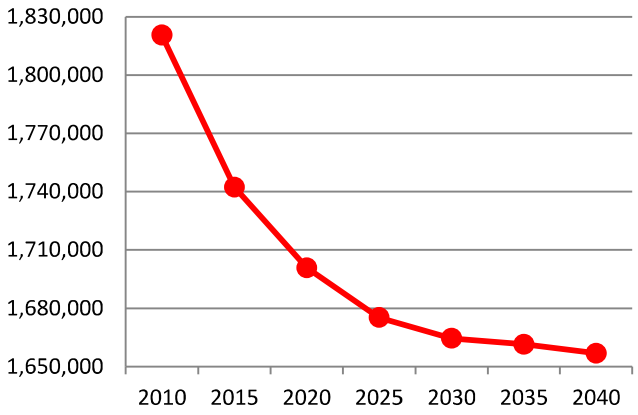
Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

Wayne County 2040 Forecast Summary

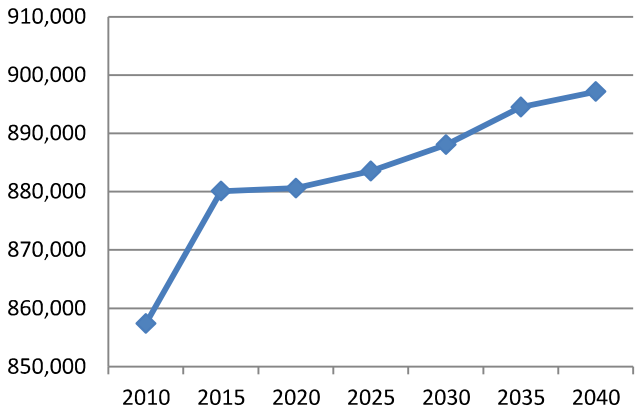
Population and Households

	2010	2020	2030	2040	Change 2010-40 Number	Change 2010-40 Percent
Population	1,820,584	1,700,779	1,664,635	1,656,931	-163,653	-9.0%
Households	702,749	683,308	689,894	690,639	-12,110	-1.7%
Household Size	2.56	2.46	2.38	2.37	-0.19	-7.4%

Population by Year



Employment by Year



Employment by Sector

Sector	2010	2040	Change 2010-40 Number	Change 2010-40 Percent
Natural Resources, Mining, & Construction	27,141	28,856	1,715	6.3%
Manufacturing	70,468	55,943	-14,525	-20.6%
Wholesale Trade, Transportation, Warehousing, & Utilities	78,410	83,931	5,521	7.0%
Retail Trade	75,365	60,225	-15,140	-20.1%
Knowledge-Based Services	156,639	164,195	7,556	4.8%
Services to Households & Firms	106,343	114,792	8,449	7.9%
Private Education and Health Care	147,796	193,286	45,490	30.8%
Leisure & Hospitality	84,968	88,393	3,425	4.0%
Government	110,274	107,534	-2,740	-2.5%
Total Employment	**857,410**	**897,152**	**39,751**	**4.6%**

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Wayne County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Allen Park									
Population	28,210	28,086	27,642	27,660	27,308	26,844	26,246	-1,964	-7.0%
Households	11,580	11,598	11,649	11,670	11,616	11,442	11,288	-292	-2.5%
Employment	13,749	14,274	14,542	14,697	14,818	14,991	15,232	1,483	10.8%
Belleville									
Population	3,991	3,976	3,841	3,815	3,813	3,760	3,743	-248	-6.2%
Households	1,755	1,737	1,712	1,709	1,717	1,683	1,644	-111	-6.3%
Employment	1,404	1,417	1,437	1,416	1,436	1,465	1,507	103	7.3%
Brownstown Twp.									
Population	30,627	30,960	31,274	31,304	31,945	32,092	32,124	1,497	4.9%
Households	11,342	12,042	12,643	13,028	13,368	13,475	13,544	2,202	19.4%
Employment	6,913	7,227	7,249	7,529	7,641	7,794	7,906	993	14.4%
Canton Twp.									
Population	90,173	94,784	93,577	92,720	91,916	91,713	91,820	1,647	1.8%
Households	32,771	35,325	35,645	35,710	35,954	36,027	36,099	3,328	10.2%
Employment	20,721	21,434	21,476	21,937	22,187	22,543	22,737	2,016	9.7%
Dearborn									
Population	98,153	97,860	96,861	96,190	96,713	96,147	95,436	-2,717	-2.8%
Households	34,342	34,269	34,214	34,176	33,966	33,672	33,165	-1,177	-3.4%
Employment	102,327	105,326	106,703	106,916	107,898	108,607	108,456	6,129	6.0%
Dearborn Heights									
Population	57,774	55,787	55,879	55,796	55,758	55,314	54,661	-3,113	-5.4%
Households	22,266	22,324	22,521	22,333	22,298	22,045	21,622	-644	-2.9%
Employment	10,733	10,751	11,074	11,165	11,312	11,543	11,522	789	7.4%
Detroit									
Population	713,777	648,300	624,673	612,345	609,647	613,623	614,969	-98,808	-13.8%
Households	269,445	248,173	241,036	241,165	247,542	252,962	255,638	-13,807	-5.1%
Employment	347,545	357,247	353,242	352,394	352,670	354,075	354,792	7,247	2.1%
Ecorse									
Population	9,512	8,420	8,256	8,042	7,829	7,657	7,543	-1,969	-20.7%
Households	3,646	3,339	3,364	3,291	3,180	3,117	3,075	-571	-15.7%
Employment	4,064	4,164	4,136	4,139	4,096	3,955	3,797	-267	-6.6%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Wayne County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Flat Rock									
Population	9,878	9,997	10,012	10,029	10,048	9,901	9,702	-176	-1.8%
Households	3,754	3,928	4,069	4,130	4,143	4,116	4,076	322	8.6%
Employment	3,087	3,186	3,136	3,090	3,076	3,062	3,035	-52	-1.7%
Garden City									
Population	27,692	25,709	25,138	24,854	24,669	25,014	25,010	-2,682	-9.7%
Households	10,894	10,828	10,831	10,887	10,857	10,781	10,717	-177	-1.6%
Employment	6,850	6,893	7,010	7,150	7,172	7,358	7,516	666	9.7%
Gibraltar									
Population	4,656	4,977	4,853	5,030	5,008	4,950	4,831	175	3.8%
Households	1,946	2,131	2,134	2,184	2,188	2,125	2,120	174	8.9%
Employment	576	600	608	628	620	643	628	52	9.0%
Grosse Ile Twp.									
Population	10,371	10,284	10,163	10,012	9,850	9,668	9,483	-888	-8.6%
Households	4,143	4,196	4,199	4,173	4,173	4,099	4,035	-108	-2.6%
Employment	1,420	1,431	1,419	1,443	1,428	1,525	1,503	83	5.8%
Grosse Pointe									
Population	5,421	5,505	5,443	5,464	5,480	5,451	5,456	35	0.6%
Households	2,236	2,319	2,309	2,311	2,349	2,320	2,266	30	1.3%
Employment	3,948	3,937	3,986	4,052	4,055	4,128	4,196	248	6.3%
Grosse Pointe Farms									
Population	9,479	9,521	9,381	9,441	9,408	9,246	9,194	-285	-3.0%
Households	3,718	3,784	3,789	3,830	3,819	3,753	3,709	-9	-0.2%
Employment	3,256	3,325	3,456	3,381	3,350	3,441	3,435	179	5.5%
Grosse Pointe Park									
Population	11,555	10,998	10,870	10,845	10,819	10,878	10,954	-601	-5.2%
Households	4,516	4,506	4,568	4,573	4,544	4,454	4,392	-124	-2.7%
Employment	1,772	1,806	1,803	1,817	1,860	1,822	1,819	47	2.7%
Grosse Pointe Shores (Wayne)									
Population	2,929	3,049	2,896	2,798	2,741	2,640	2,537	-392	-13.4%
Households	1,162	1,267	1,261	1,263	1,275	1,262	1,254	92	7.9%
Employment	445	453	451	418	417	423	439	-6	-1.3%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Wayne County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Grosse Pointe Woods									
Population	16,135	15,965	15,357	14,889	14,780	14,336	14,127	-2,008	-12.4%
Households	6,416	6,592	6,592	6,536	6,559	6,460	6,487	71	1.1%
Employment	5,337	5,415	5,417	5,486	5,709	5,802	5,961	624	11.7%
Hamtramck									
Population	22,423	22,254	21,665	21,243	20,432	19,750	18,443	-3,980	-17.7%
Households	7,063	7,133	7,115	7,092	7,047	6,909	6,821	-242	-3.4%
Employment	3,083	3,083	3,107	3,153	3,149	3,198	3,306	223	7.2%
Harper Woods									
Population	14,236	13,868	13,513	13,045	13,038	13,026	13,044	-1,192	-8.4%
Households	5,814	5,746	5,681	5,628	5,628	5,574	5,512	-302	-5.2%
Employment	3,842	3,881	3,929	3,993	4,040	4,155	4,086	244	6.4%
Highland Park									
Population	11,776	9,698	9,105	8,816	8,650	8,503	7,998	-3,778	-32.1%
Households	4,645	4,317	4,013	4,041	3,933	3,771	3,602	-1,043	-22.5%
Employment	5,696	5,711	5,792	5,946	5,899	5,855	5,742	46	0.8%
Huron Twp.									
Population	15,879	15,936	15,381	14,886	14,758	14,878	14,884	-995	-6.3%
Households	5,781	6,030	6,072	6,081	6,121	6,090	6,042	261	4.5%
Employment	2,571	2,584	2,593	2,650	2,679	2,695	2,775	204	7.9%
Inkster									
Population	25,369	23,806	22,673	22,018	21,596	21,450	20,612	-4,757	-18.8%
Households	9,821	9,644	9,599	9,589	9,536	9,397	9,139	-682	-6.9%
Employment	3,596	3,621	3,623	3,695	3,728	3,752	3,765	169	4.7%
Lincoln Park									
Population	38,144	36,422	35,367	34,813	34,408	34,180	34,020	-4,124	-10.8%
Households	14,924	14,861	14,832	14,836	14,743	14,573	14,463	-461	-3.1%
Employment	6,438	6,568	6,536	6,532	6,564	6,647	6,645	207	3.2%
Livonia									
Population	96,942	96,589	95,234	94,006	92,816	92,643	92,353	-4,589	-4.7%
Households	38,714	39,088	39,252	39,446	39,223	38,952	38,703	-11	0.0%
Employment	91,102	93,958	94,817	95,606	96,041	96,669	96,571	5,469	6.0%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Wayne County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Melvindale									
Population	10,715	10,579	10,445	10,548	10,575	10,412	10,317	-398	-3.7%
Households	4,420	4,470	4,494	4,531	4,488	4,396	4,349	-71	-1.6%
Employment	2,584	2,618	2,596	2,622	2,657	2,618	2,612	28	1.1%
Northville (Wayne)									
Population	2,739	2,570	2,518	2,446	2,357	2,332	2,360	-379	-13.8%
Households	1,275	1,238	1,245	1,233	1,205	1,193	1,179	-96	-7.5%
Employment	2,464	2,485	2,483	2,503	2,552	2,638	2,691	227	9.2%
Northville Twp.									
Population	28,497	28,874	28,606	28,653	28,596	28,368	28,204	-293	-1.0%
Households	11,520	12,233	12,268	12,273	12,280	12,212	12,102	582	5.1%
Employment	5,529	5,651	5,732	5,789	5,876	6,009	6,191	662	12.0%
Plymouth									
Population	9,132	8,940	8,837	8,718	8,594	8,520	8,369	-763	-8.4%
Households	4,314	4,432	4,438	4,469	4,465	4,412	4,345	31	0.7%
Employment	8,396	8,661	8,790	9,011	9,042	9,062	9,142	746	8.9%
Plymouth Twp.									
Population	27,524	27,684	27,744	28,075	28,186	28,081	28,170	646	2.3%
Households	11,203	11,432	11,578	11,585	11,548	11,438	11,400	197	1.8%
Employment	20,980	21,713	22,155	22,028	21,826	22,001	22,086	1,106	5.3%
Redford Twp.									
Population	48,362	46,800	45,639	44,386	43,779	43,418	42,583	-5,779	-11.9%
Households	19,148	19,179	19,187	19,131	18,956	18,849	18,647	-501	-2.6%
Employment	11,053	11,098	11,314	11,437	11,602	11,652	11,526	473	4.3%
River Rouge									
Population	7,903	6,830	6,443	6,283	6,189	5,990	5,807	-2,096	-26.5%
Households	2,897	2,657	2,588	2,577	2,523	2,444	2,364	-533	-18.4%
Employment	826	791	771	739	723	713	697	-129	-15.6%
Riverview									
Population	12,486	12,155	11,836	11,335	11,380	11,190	11,019	-1,467	-11.7%
Households	5,163	5,049	5,011	4,990	4,931	4,878	4,794	-369	-7.1%
Employment	4,534	4,551	4,534	4,631	4,746	4,935	4,927	393	8.7%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Wayne County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Rockwood									
Population	3,289	3,375	3,338	3,272	3,208	3,179	3,246	-43	-1.3%
Households	1,295	1,371	1,397	1,406	1,416	1,403	1,404	109	8.4%
Employment	744	758	766	739	780	746	736	-8	-1.1%
Romulus									
Population	23,989	22,465	22,408	22,236	22,280	22,455	22,685	-1,304	-5.4%
Households	8,975	8,910	9,261	9,391	9,511	9,583	9,738	763	8.5%
Employment	36,326	37,396	37,380	37,783	38,016	38,616	39,268	2,942	8.1%
Southgate									
Population	30,047	29,642	29,125	28,522	28,571	28,581	28,768	-1,279	-4.3%
Households	13,062	13,188	13,165	13,121	13,172	12,988	12,932	-130	-1.0%
Employment	12,155	12,182	12,327	12,491	12,733	13,070	13,237	1,082	8.9%
Sumpter Twp.									
Population	9,549	10,360	10,796	10,697	10,794	10,749	10,723	1,174	12.3%
Households	3,513	3,951	4,296	4,335	4,424	4,426	4,441	928	26.4%
Employment	605	626	649	654	676	667	638	33	5.5%
Taylor									
Population	63,131	59,985	57,980	56,678	56,312	56,015	55,703	-7,428	-11.8%
Households	24,370	24,449	24,776	24,872	24,823	24,581	24,434	64	0.3%
Employment	29,316	29,767	29,682	30,113	30,614	30,809	30,908	1,592	5.4%
Trenton									
Population	18,853	18,922	18,685	18,645	18,713	18,740	18,647	-206	-1.1%
Households	7,988	8,204	8,205	8,165	8,189	8,135	8,069	81	1.0%
Employment	7,408	7,485	7,585	7,579	7,804	7,831	7,918	510	6.9%
Van Buren Twp.									
Population	28,821	31,202	31,195	31,046	30,789	30,722	30,265	1,444	5.0%
Households	11,821	12,571	12,803	12,970	13,057	12,913	12,743	922	7.8%
Employment	11,789	12,791	12,592	12,508	12,633	12,670	12,753	964	8.2%
Wayne									
Population	17,593	17,213	16,948	16,688	16,578	16,525	16,250	-1,343	-7.6%
Households	7,055	7,104	7,129	7,172	7,171	7,107	7,025	-30	-0.4%
Employment	13,329	13,769	13,955	13,655	13,611	13,509	13,384	55	0.4%

Southeast Michigan Council of Governments • 535 Griswold Street • Suite 300 • Detroit, Michigan 48226 • (313) 961-4266 • Fax (313) 961-4869
www.semcog.org

2040 Forecast by Community for Wayne County

	2010	2015	2020	2025	2030	2035	2040	Change 2010-40 Number	Change 2010-40 Percent
Westland									
Population	84,094	84,058	81,967	80,928	79,024	77,313	78,602	-5,492	-6.5%
Households	35,886	36,188	36,271	36,087	35,856	35,630	35,482	-404	-1.1%
Employment	22,083	22,450	22,625	22,889	23,243	23,715	24,075	1,992	9.0%
Woodhaven									
Population	12,875	13,003	13,026	12,839	12,400	12,549	12,476	-399	-3.1%
Households	5,159	5,326	5,288	5,299	5,291	5,307	5,217	58	1.1%
Employment	6,508	6,398	6,391	6,419	6,309	6,251	6,191	-317	-4.9%
Wyandotte									
Population	25,883	24,851	24,189	23,291	22,880	22,787	23,547	-2,336	-9.0%
Households	10,991	10,871	10,808	10,743	10,809	10,657	10,561	-430	-3.9%
Employment	10,300	10,597	10,715	10,702	10,753	10,846	10,804	504	4.9%

Notes and Definitions

1) All data is source SEMCOG 2040 Forecast, with the exception of 2010 Population and Household numbers, which are from the 2010 Census.

2) Job numbers are by place-of-work. They include wage and salary jobs as well as self-employed, Farm and Military jobs.

3) At the sub-regional level, SEMCOG blocked the employment numbers, denoted by the letter C, for communities that did not meet minimal publishing conditions in order to keep local establishments confidential. These conditions follow the rule, set up by Michigan law and the U.S. Bureau of Labor Statistics, that no numbers may be published if a cell contains: 1) fewer than three firms, or 2) a firm with 80 percent or more of that cell's employment.

Employment Sector Definitions

SEMCOG created nine industrial sectors for which employment can be classified. The industrial sectors are built from the North American Industrial Classification System (NAICS) and are grouped by similar economic and land use activities. The first eight sectors consist of jobs that fall under private ownership, while the last sector (Government) includes all jobs that fall under governmental ownership. Each sector is described in more detail:

1) Natural Resources, Mining, & Construction – This sector comprises activities such as agricultural production and support activities; mining natural resources; and construction of buildings and infrastructure. This sector is built upon NAICS Sectors: 11, 21, and 23.

2) Manufacturing – Covers all manufacturing activities including the production of durable and nondurable goods. This sector is built upon NAICS Sectors 31-33.

3) Wholesale Trade, Transportation, Warehousing, & Utilities – This sector includes the wholesaling of merchandise; the transportation of people and goods; storage; and the provision of utility services. This sector is built upon NAICS sectors: 22, 42, 48, and 49.

4) Retail Trade – Covers all retail activity, where goods are sold to the general public. This sector is built upon NAICS Sectors 44 and 45.

5) Knowledge-based Services – Built upon the following NAICS sectors: Information; Finance and Insurance; Real Estate, Rental, and Leasing; Professional, Scientific, and Technical Services; and Management of Companies and Enterprises. Most of these jobs

are for employers engaged in export-oriented services and require a college degree at minimum. The codes for the NAICS Sectors are: 51, 52, 53, 54, and 55.

6) Services to Households & Firms – This sector comprises employers who provide support services to firms and general services to households. It is built upon two NAICS sectors: Administrative, Support, and Waste Management and Remediation Services; and Other Services (except Public Administration). The codes for the NAICS sectors are 56 and 81.

7) Private Education & Healthcare – Comprises employers who provide private education for all age groups (K-12 and post secondary), as well as, private healthcare, including hospitals, medical centers, and nursing homes. This sector is built upon NAICS codes 61 and 62.

8) Leisure & Hospitality – Includes all employers who provide arts, entertainment and recreational services. Also includes employers who provide lodging and eating and drinking services. This sector is built upon NAICS codes 71 and 72.

9) Government – Consists of all government-provided services at all levels (federal, state, and local). This sector includes services like: public administration, public education (K-12 and post secondary), and public health. There are no NAICS codes associated with this sector.

SEMCOG Officers
2011-2012

John A. Scott
Chairperson
Commissioner,
Oakland County

Gretchen Driskell
Vice Chairperson
Mayor,
City of Saline

Joan Gebhardt
Vice Chairperson
Trustee,
Schoolcraft College

Charles Pugh
Vice Chairperson
Council President,
City of Detroit

Michael Sedlak
Vice Chairperson
Clerk,
Green Oak Township

Kathy D. Vosburg
Vice Chairperson
Board of Commissioners Chair,
Macomb County

Robert J. Cannon
Immediate Past Chair
Supervisor,
Clinton Township

Paul E. Tait
Executive Director