

Water Resources Planning Department

**Projection Analysis Work Sheets
for
East Los Angeles District**

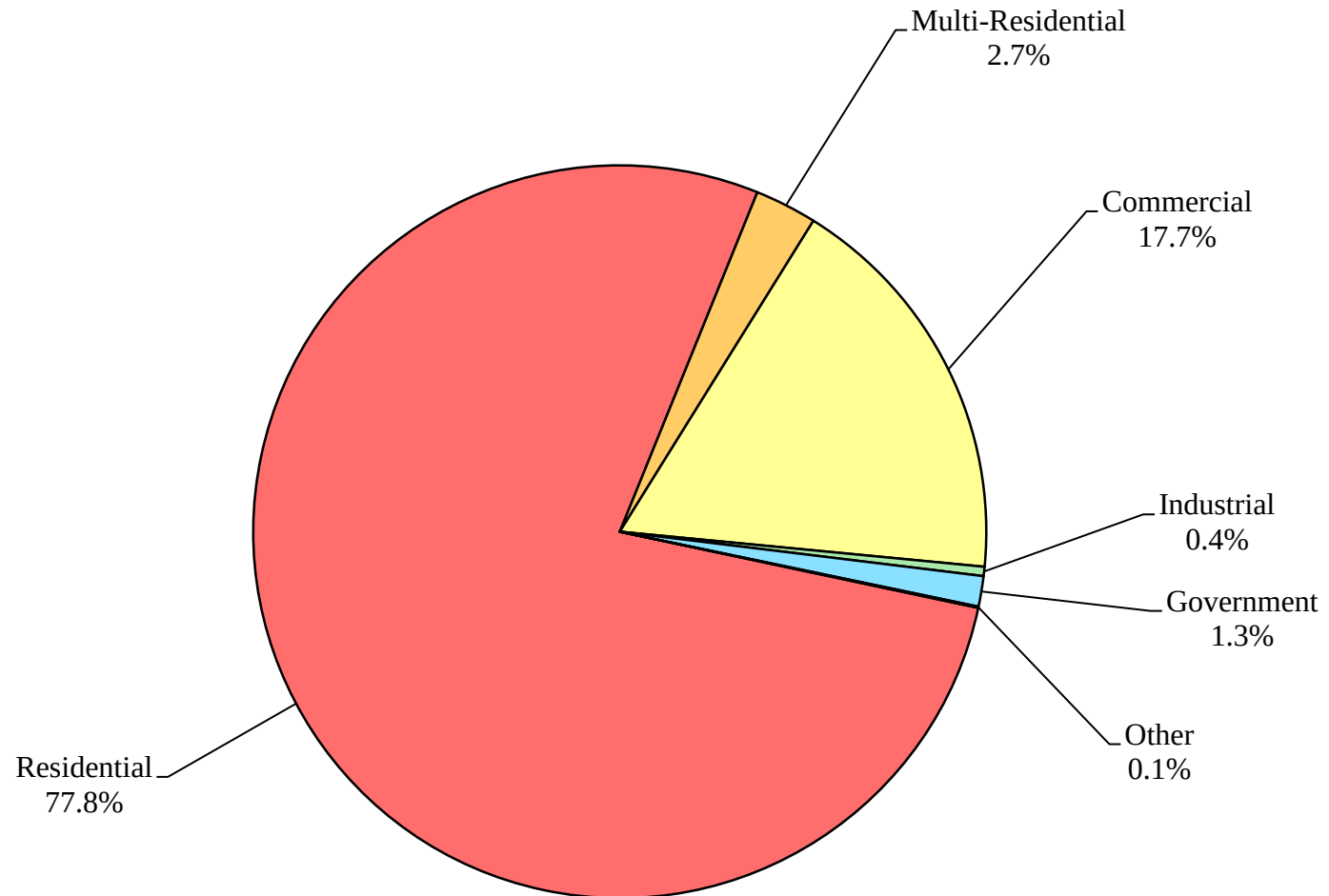
2015



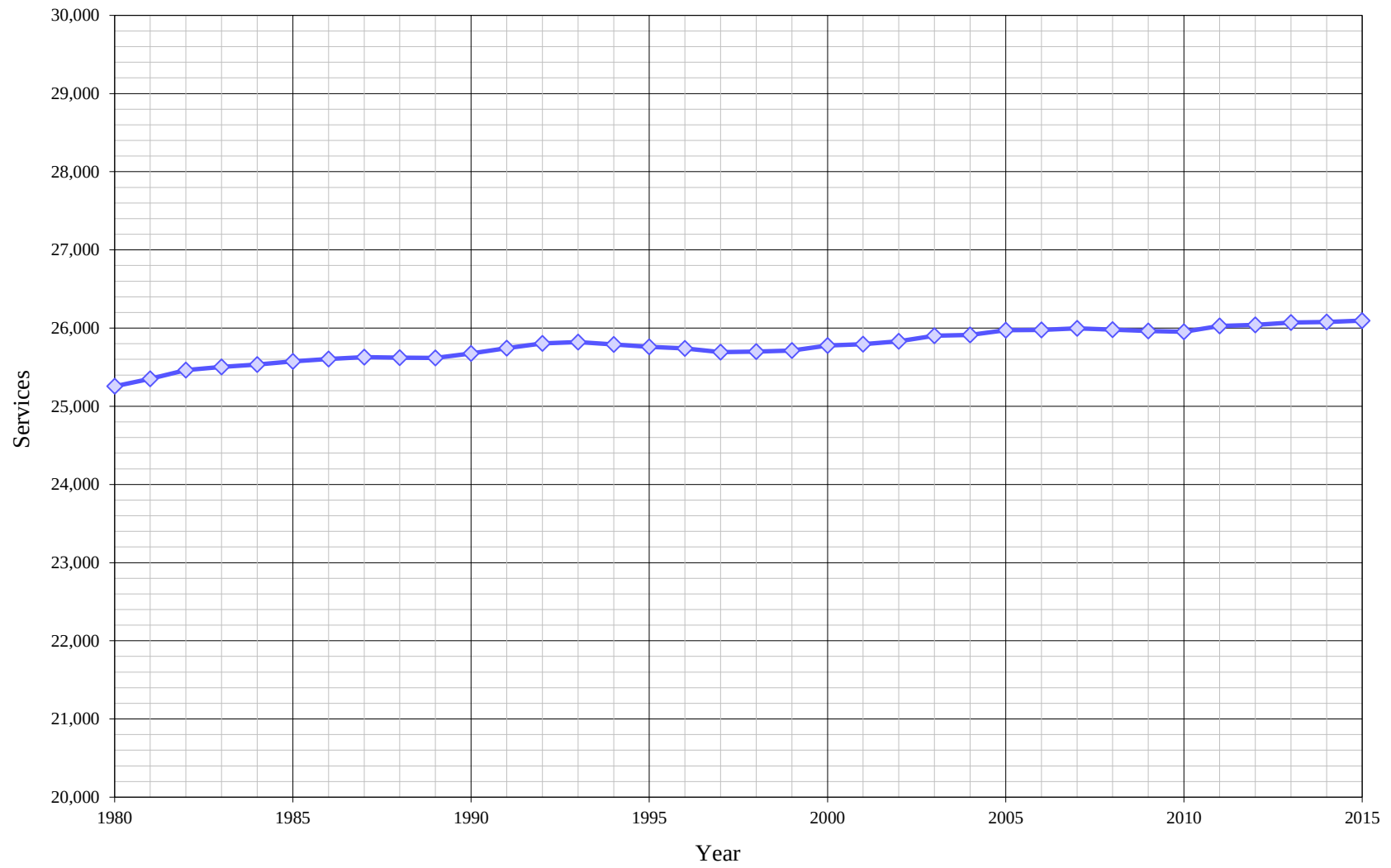
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Distribution of Services (2015)



Historical Services



California Water Service Company - East Los Angeles District
Water Supply and Demand Analysis and Projections
Average Annual Services

Worksheet 1

Year	Single Family (SFR)	Multi Family (MFR)	Commercial (COM)	Industrial (IND)	Government (GOV)	Other (OTH)	Total	Annual Change
1980	19,664	127	4,831	300	326	7	25,255	
1981	19,731	129	4,858	299	328	8	25,352	97
1982	19,820	131	4,886	295	327	5	25,463	111
1983	19,839	131	4,908	291	329	5	25,503	40
1984	19,862	132	4,919	291	325	5	25,534	31
1985	19,888	133	4,931	289	325	9	25,576	42
1986	19,906	134	4,937	285	333	10	25,604	29
1987	19,932	134	4,934	285	333	8	25,627	23
1988	19,928	134	4,930	287	338	4	25,622	-5
1989	19,935	134	4,919	282	343	7	25,619	-3
1990	19,965	133	4,933	281	349	13	25,675	55
1991	20,042	135	5,054	159	339	13	25,742	67
1992	20,121	136	5,060	133	341	14	25,805	63
1993	20,138	136	5,058	135	344	11	25,822	17
1994	20,129	136	5,031	134	347	15	25,792	-30
1995	20,140	136	5,013	133	329	8	25,759	-33
1996	20,141	136	4,996	134	323	11	25,740	-19
1997	20,109	136	4,983	130	324	10	25,692	-48
1998	20,114	136	4,978	133	325	13	25,699	7
1999	20,124	136	4,974	134	329	16	25,713	14
2000	20,197	136	4,972	134	324	14	25,778	65
2001	20,215	136	4,977	133	319	12	25,793	15
2002	20,263	136	4,972	130	320	12	25,832	40
2003	20,318	136	4,987	126	321	15	25,903	70
2004	20,322	136	4,984	126	328	17	25,913	25
2005	20,371	136	4,989	127	330	20	25,974	71
2006	20,383	136	4,981	125	333	18	25,976	63
2007	20,402	135	4,979	124	333	23	25,996	22
2008	20,324	136	5,028	118	348	25	25,980	4
2009	20,242	135	5,083	114	366	21	25,962	-34
2010	20,257	135	5,073	112	361	14	25,952	-28
2011	20,283	423	4,840	112	355	12	26,026	65
2012	20,280	521	4,765	110	352	12	26,040	88
2013	20,287	596	4,707	109	356	14	26,070	44
2014	20,293	654	4,656	108	354	12	26,078	38
2015	20,300	713	4,610	107	351	14	26,096	25
5 Yr Avg.	20,289	582	4,716	109	354	13	26,062	41
10 Yr Avg.	20,305	358	4,872	114	351	17	26,017	33
15 Yr Avg.	20,303	284	4,909	119	342	16	25,973	36
20 Yr Avg.	20,261	247	4,927	122	338	15	25,910	23

Note: Majority of reclassification occurred between Commercial and Multi-Family Residential categories from 2010 to 2013

California Water Service Company - East Los Angeles District
Water Supply and Demand Analysis and Projections
Service Growth Percentage

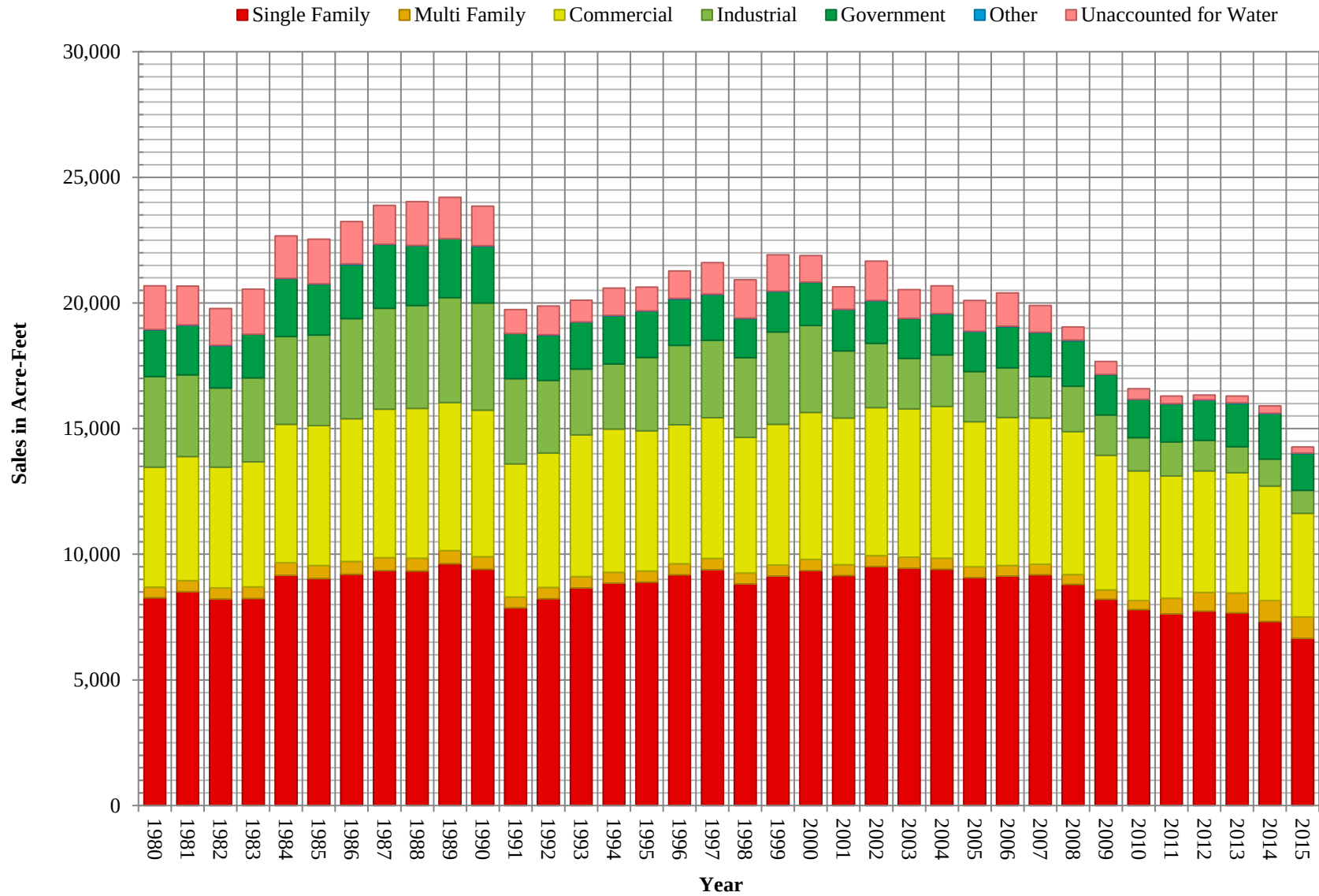
Worksheet 2

Year	Single Family (SFR)	Multi Family (MFR)	Commercial (COM)	Industrial (IND)	Government (GOV)	Other (OTH)	Total
1981	0.34%	1.57%	0.55%	-0.25%	0.77%	2.25%	0.38%
1982	0.45%	1.36%	0.57%	-1.34%	-0.53%	-30.77%	0.44%
1983	0.10%	0.19%	0.46%	-1.41%	0.77%	0.00%	0.16%
1984	0.12%	0.76%	0.23%	-0.03%	-1.37%	0.00%	0.12%
1985	0.13%	0.88%	0.25%	-0.57%	0.00%	77.78%	0.16%
1986	0.09%	0.63%	0.12%	-1.64%	2.49%	8.04%	0.11%
1987	0.13%	0.00%	-0.06%	0.32%	0.08%	-22.31%	0.09%
1988	-0.02%	0.00%	-0.08%	0.41%	1.65%	-44.68%	-0.02%
1989	0.03%	0.00%	-0.22%	-1.66%	1.33%	55.77%	-0.01%
1990	0.15%	-0.44%	0.29%	-0.21%	1.85%	87.65%	0.22%
1991	0.39%	1.12%	2.45%	-43.44%	-2.86%	0.66%	0.26%
1992	0.39%	1.05%	0.12%	-16.13%	0.59%	5.88%	0.25%
1993	0.08%	-0.12%	-0.04%	1.06%	0.93%	-20.99%	0.06%
1994	-0.04%	-0.12%	-0.54%	-0.49%	0.63%	41.41%	-0.12%
1995	0.06%	-0.12%	-0.37%	-0.81%	-5.19%	-44.75%	-0.13%
1996	0.00%	0.06%	-0.33%	0.50%	-1.78%	26.00%	-0.07%
1997	-0.16%	-0.31%	-0.26%	-2.74%	0.52%	-7.14%	-0.19%
1998	0.03%	0.37%	-0.10%	1.92%	0.23%	34.19%	0.03%
1999	0.05%	-0.12%	-0.08%	1.13%	1.08%	24.20%	0.05%
2000	0.37%	0.12%	-0.04%	-0.06%	-1.29%	-13.33%	0.25%
2001	0.09%	-0.06%	0.11%	-0.56%	-1.54%	-14.79%	0.06%
2002	0.24%	0.06%	-0.11%	-2.63%	0.26%	0.00%	0.15%
2003	0.27%	0.00%	0.32%	-3.15%	0.16%	28.47%	0.27%
2004	0.02%	-0.18%	-0.07%	0.60%	2.23%	9.73%	0.04%
2005	0.24%	0.18%	0.11%	0.59%	0.74%	19.21%	0.24%
2006	0.06%	-0.06%	-0.17%	-1.90%	0.86%	-11.57%	0.01%
2007	0.09%	-0.61%	-0.03%	-0.73%	-0.18%	30.37%	0.08%
2008	-0.38%	0.31%	0.98%	-4.37%	4.76%	8.96%	-0.06%
2009	-0.40%	-0.37%	1.10%	-3.52%	5.09%	-16.78%	-0.07%
2010	0.07%	-0.12%	-0.20%	-1.82%	-1.37%	-31.62%	-0.04%
2011	0.13%	214.03%	-4.58%	-0.30%	-1.66%	-15.03%	0.28%
2012	-0.02%	23.07%	-1.56%	-1.94%	-0.87%	0.68%	0.05%
2013	0.04%	14.44%	-1.21%	-0.84%	1.23%	14.86%	0.12%
2014	0.03%	9.66%	-1.09%	-0.84%	-0.77%	-12.35%	0.03%
2015	0.03%	9.10%	-1.00%	-0.77%	-0.82%	14.09%	0.07%
5 Yr. Avg.	0.04%	9.38%	-1.05%	-0.94%	-0.58%	0.45%	0.11%
10 Yr. Avg.	-0.04%	2.56%	-0.06%	-1.70%	0.63%	-1.84%	0.05%
15 Yr. Avg.	0.03%	1.49%	0.00%	-1.48%	0.54%	1.62%	0.08%
20 Yr. Avg.	0.04%	1.06%	-0.05%	-1.07%	0.34%	4.41%	0.07%

Note: Majority of reclassification occurred between categories from 2010 to 2013, values in red excluded from averages

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Historical Sales

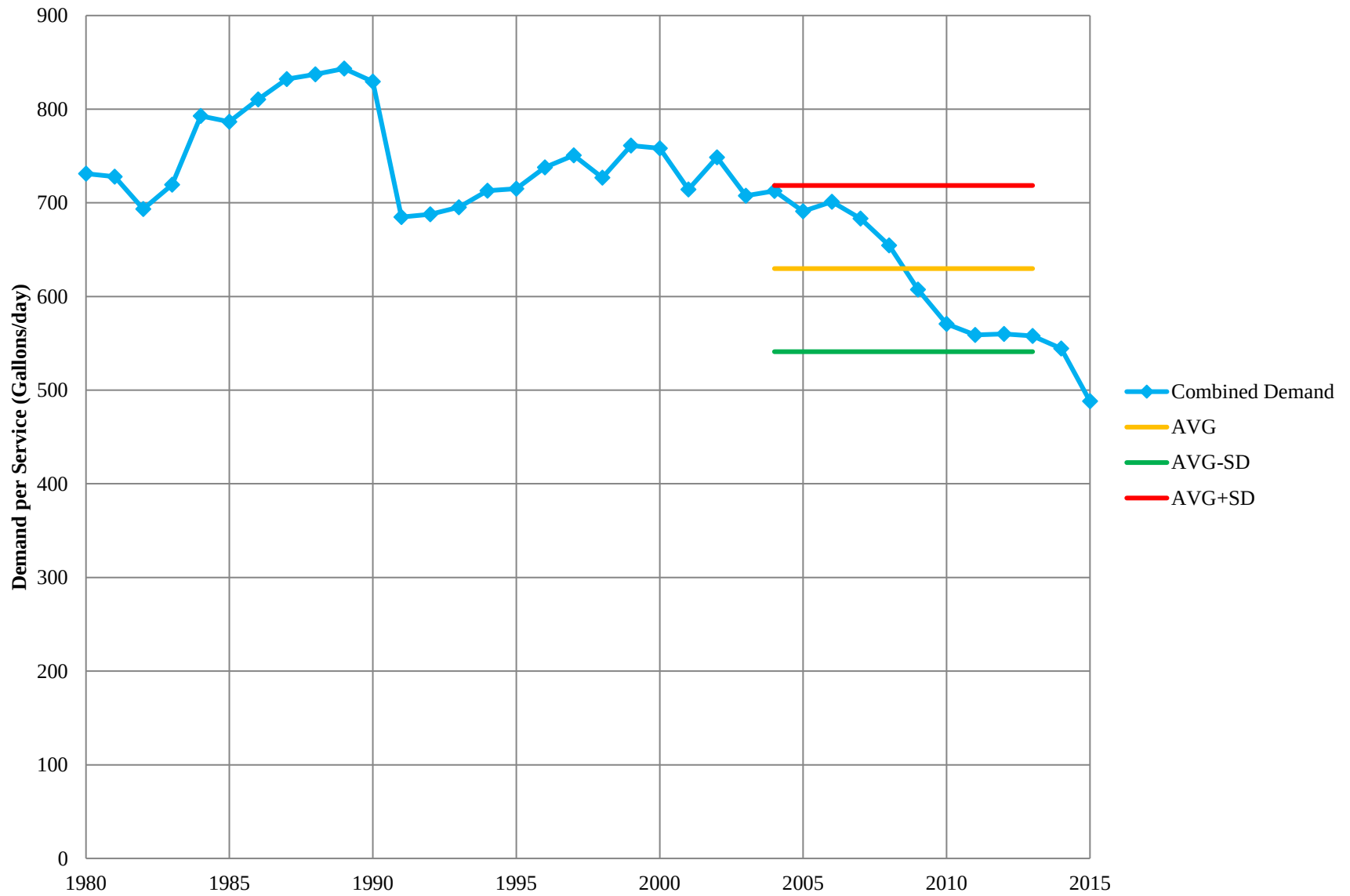


California Water Service Company - East Los Angeles District
Water Supply and Demand Analysis and Projections
Sales (AF)

Worksheet 3

Year	Single Family (SFR)	Multi Family (MFR)	Commercial (COM)	Industrial (IND)	Government (GOV)	Other (OTH)	Unaccounted for Water (UAFW)	Total Sales (AF)	Total Demand (AF)	Total Demand (MGal)
1980	8,268	423	4,779	3,604	1,852	23	1,736	18,949	20,684	6,740
1981	8,513	436	4,937	3,252	1,970	14	1,550	19,123	20,673	6,736
1982	8,219	445	4,804	3,150	1,680	14	1,468	18,313	19,781	6,446
1983	8,242	460	4,976	3,342	1,730	5	1,795	18,756	20,552	6,697
1984	9,160	503	5,505	3,498	2,307	6	1,695	20,980	22,674	7,388
1985	9,036	515	5,575	3,599	2,025	18	1,769	20,767	22,537	7,344
1986	9,201	515	5,681	3,978	2,147	35	1,688	21,558	23,247	7,575
1987	9,348	511	5,919	4,016	2,532	16	1,544	22,343	23,887	7,784
1988	9,328	512	5,966	4,093	2,384	7	1,741	22,290	24,031	7,831
1989	9,625	520	5,895	4,166	2,349	5	1,641	22,560	24,201	7,886
1990	9,401	502	5,831	4,264	2,246	30	1,580	22,275	23,855	7,773
1991	7,867	428	5,304	3,393	1,790	6	955	18,788	19,744	6,434
1992	8,230	446	5,351	2,896	1,794	22	1,144	18,739	19,883	6,479
1993	8,664	448	5,638	2,617	1,873	6	862	19,246	20,108	6,552
1994	8,852	427	5,699	2,589	1,924	13	1,091	19,504	20,595	6,711
1995	8,890	447	5,576	2,921	1,844	6	951	19,684	20,635	6,724
1996	9,185	443	5,521	3,164	1,841	25	1,095	20,179	21,274	6,932
1997	9,386	449	5,598	3,078	1,823	21	1,249	20,354	21,603	7,039
1998	8,817	434	5,403	3,172	1,550	19	1,530	19,395	20,925	6,818
1999	9,128	447	5,595	3,675	1,619	11	1,447	20,474	21,921	7,143
2000	9,352	442	5,846	3,467	1,713	10	1,062	20,830	21,892	7,133
2001	9,155	426	5,847	2,669	1,638	18	887	19,752	20,639	6,725
2002	9,514	426	5,900	2,556	1,682	23	1,562	20,101	21,664	7,059
2003	9,446	441	5,901	2,001	1,586	14	1,145	19,389	20,534	6,691
2004	9,406	443	6,041	2,045	1,620	23	1,109	19,577	20,686	6,740
2005	9,073	432	5,772	1,995	1,586	13	1,229	18,872	20,101	6,550
2006	9,131	426	5,892	1,971	1,639	20	1,326	19,078	20,405	6,649
2007	9,184	423	5,820	1,642	1,749	20	1,058	18,839	19,897	6,483
2008	8,798	397	5,687	1,802	1,814	30	524	18,528	19,051	6,208
2009	8,206	377	5,356	1,604	1,605	17	504	17,164	17,668	5,757
2010	7,794	368	5,153	1,326	1,517	9	424	16,169	16,592	5,407
2011	7,624	620	4,867	1,362	1,512	8	301	15,993	16,295	5,310
2012	7,740	742	4,836	1,208	1,610	8	193	16,144	16,337	5,323
2013	7,667	793	4,783	1,041	1,720	21	267	16,026	16,293	5,309
2014	7,323	839	4,553	1,077	1,800	19	292	15,610	15,903	5,182
2015	6,655	848	4,131	905.1	1,470	15	244	14,024	14,268	4,649

Combined Demand per Service

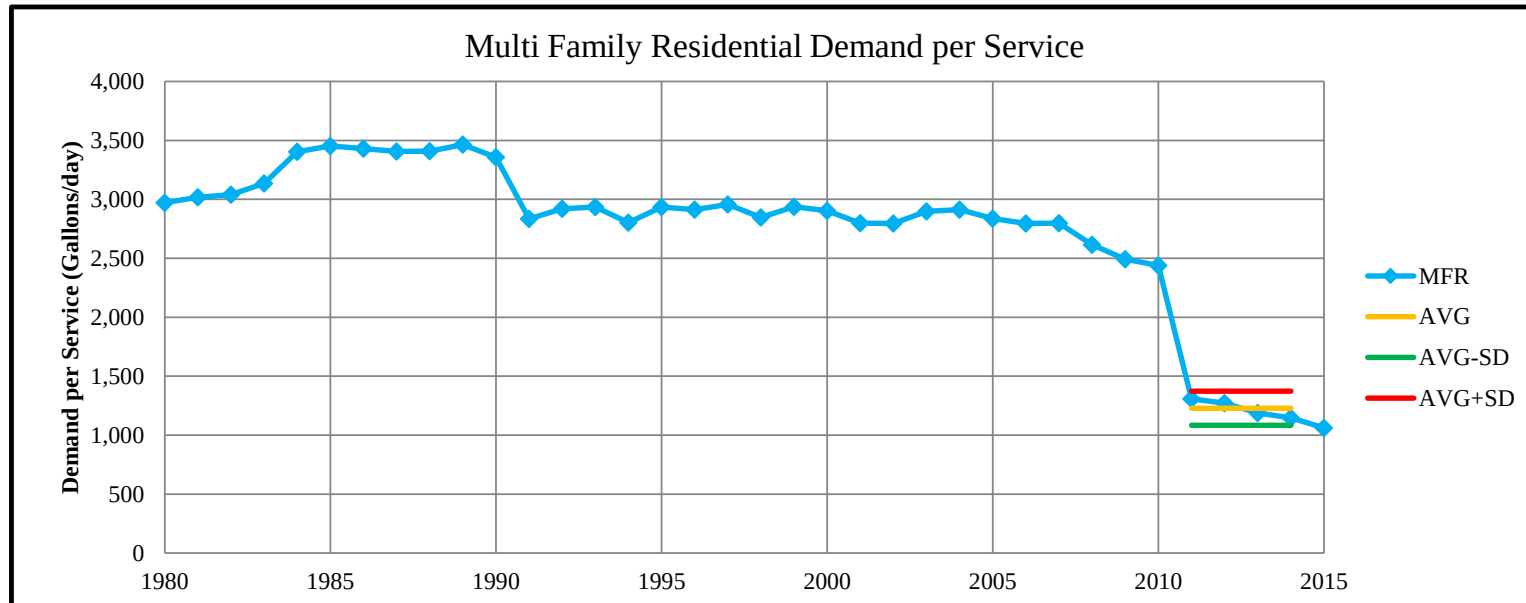
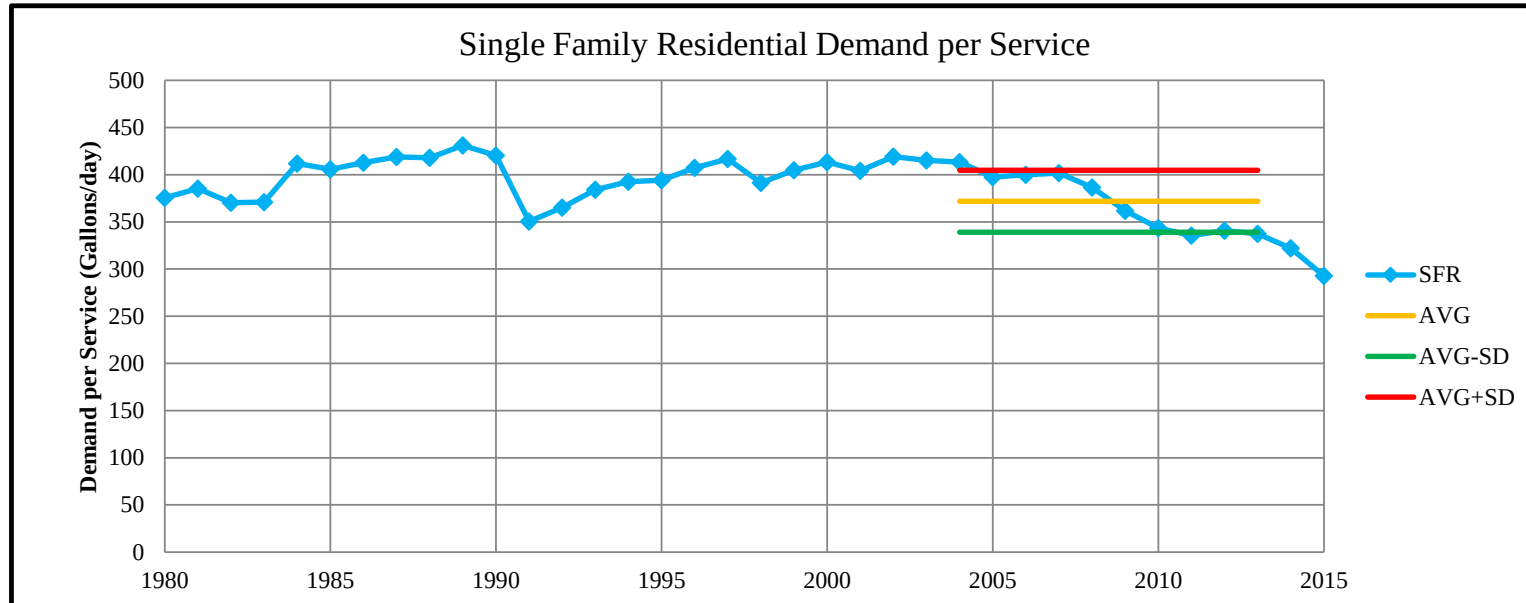


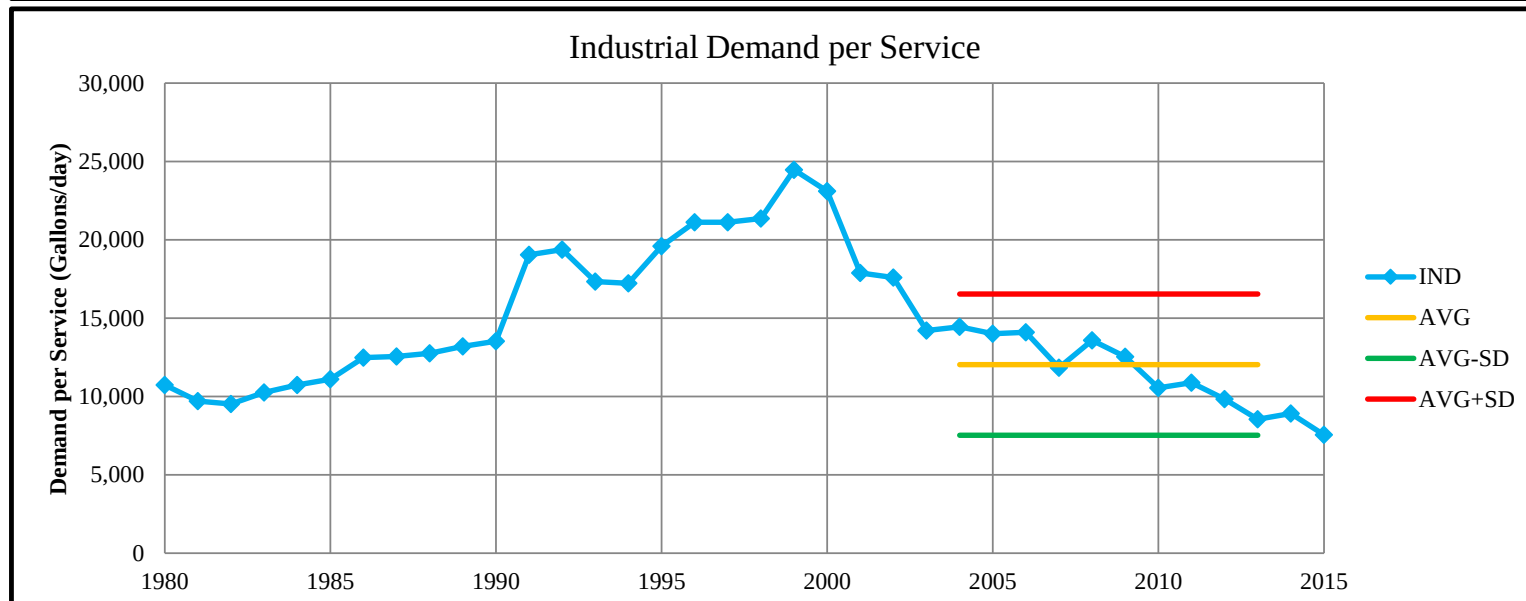
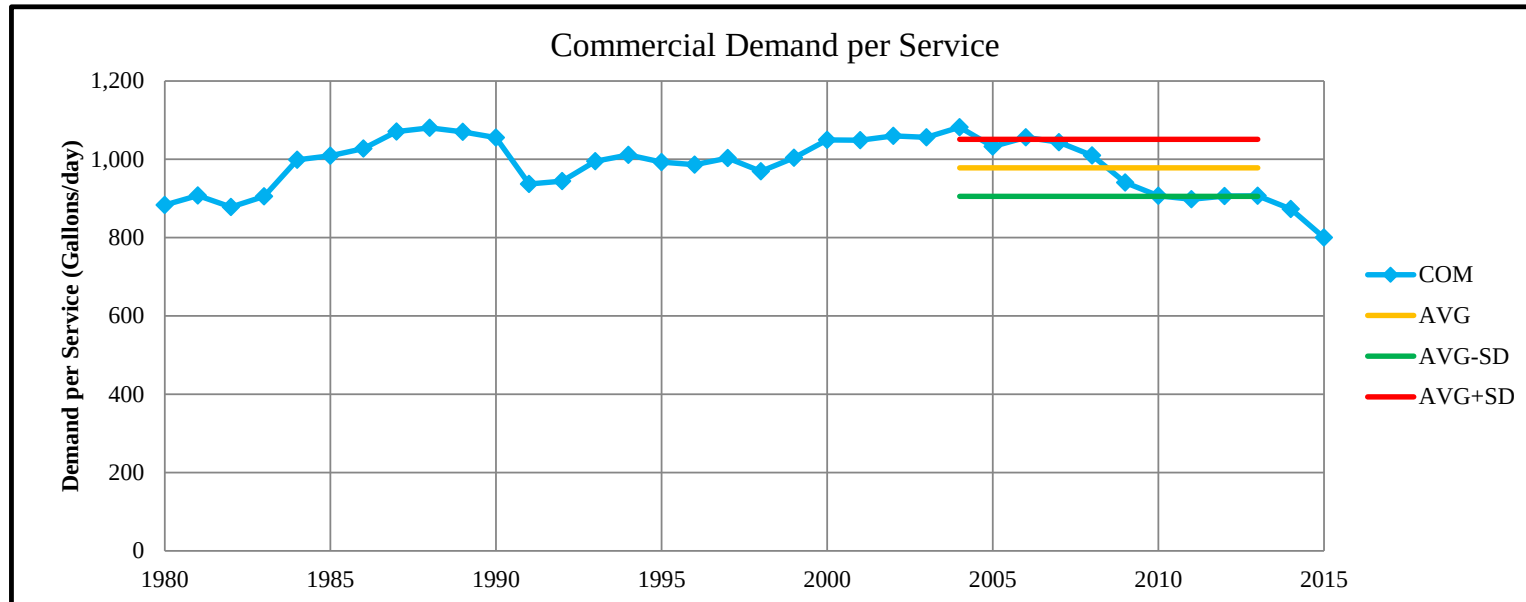
California Water Service Company - East Los Angeles District
Water Supply and Demand Analysis and Projections
Demand per Service (Gallons per Day)

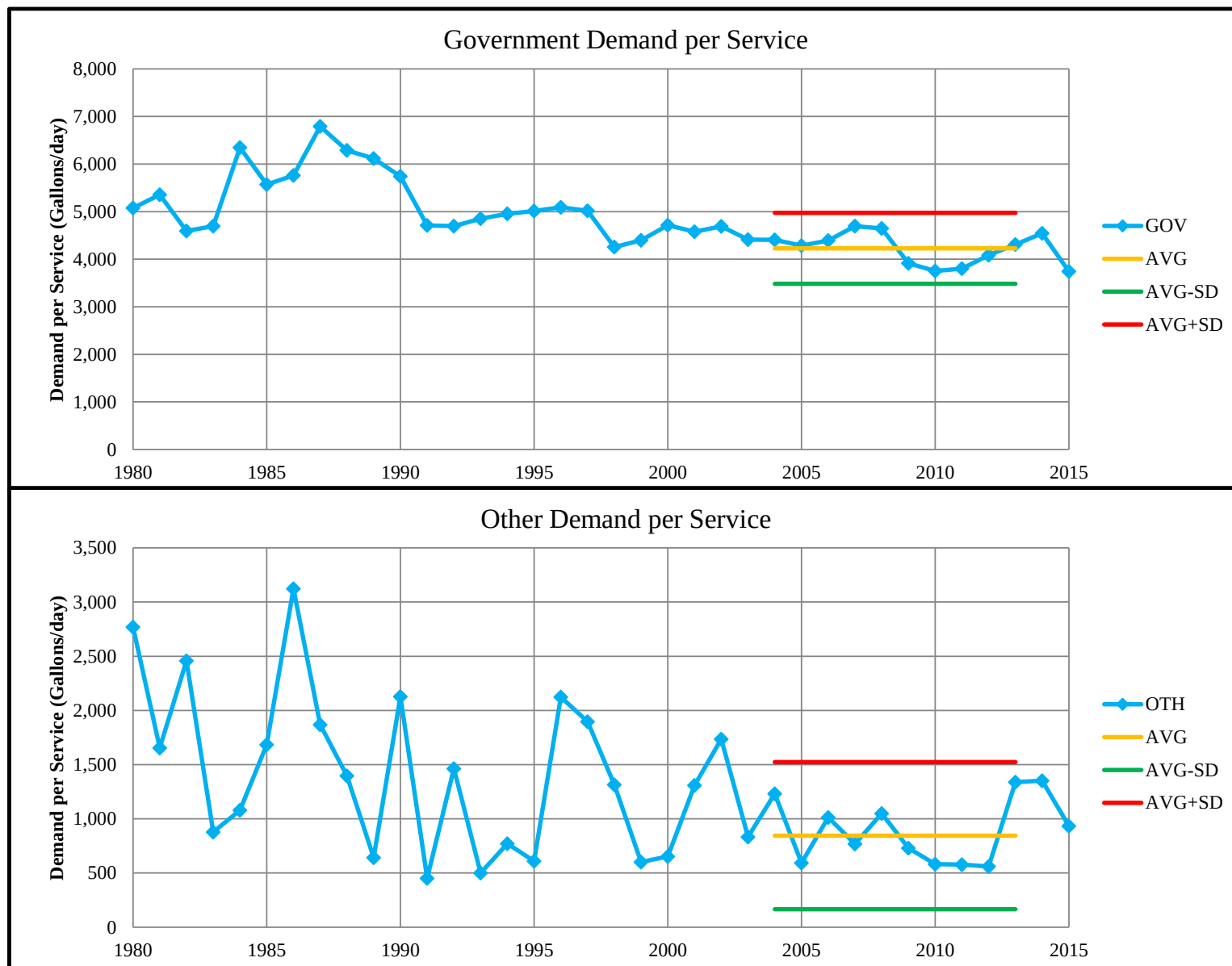
Worksheet 4

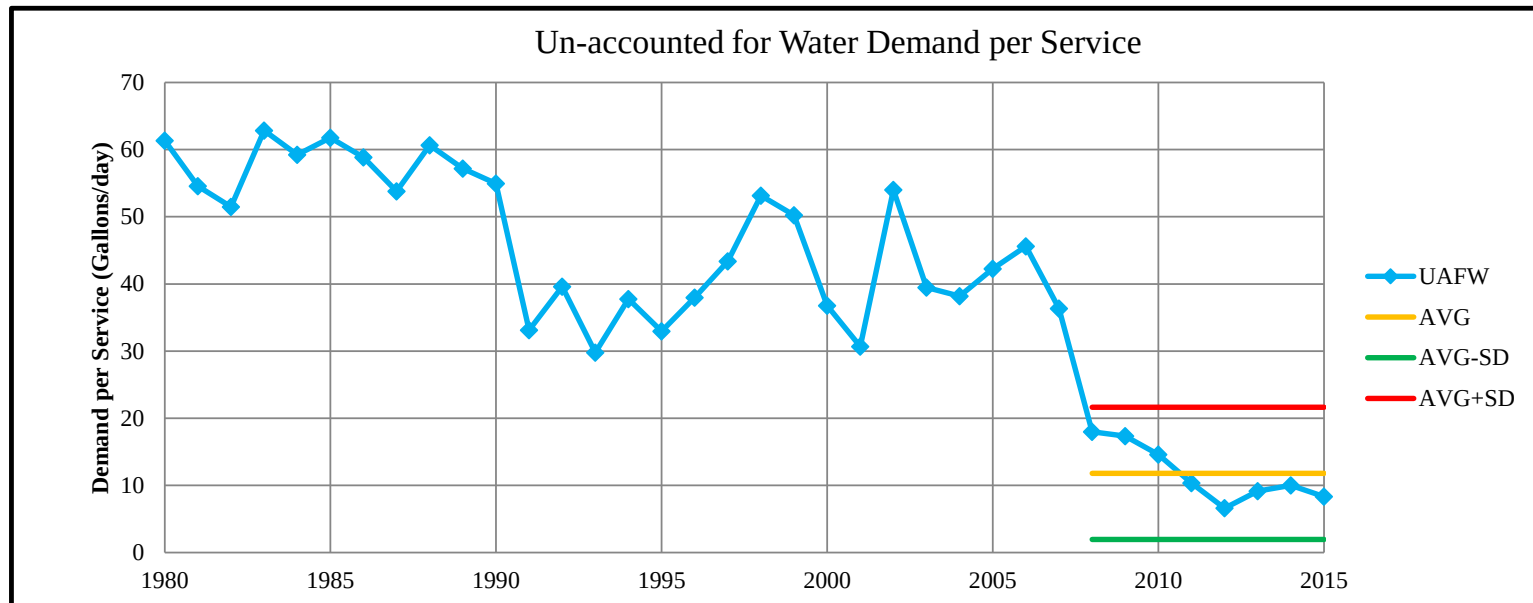
Year	SFR	MFR	COM	IND	GOV	OTH	UAFW	Combined Demand/Serv
1980	375	2,972	883	10,727	5,075	2,769	61	731
1981	385	3,018	907	9,705	5,356	1,655	55	728
1982	370	3,040	878	9,527	4,592	2,457	51	694
1983	371	3,136	905	10,252	4,694	877	63	719
1984	412	3,404	999	10,734	6,345	1,081	59	793
1985	406	3,453	1,009	11,108	5,570	1,685	62	787
1986	413	3,430	1,027	12,483	5,762	3,124	59	811
1987	419	3,406	1,071	12,561	6,791	1,869	54	832
1988	418	3,409	1,080	12,751	6,290	1,398	61	837
1989	431	3,464	1,070	13,197	6,116	643	57	843
1990	420	3,357	1,055	13,536	5,742	2,128	55	829
1991	350	2,834	937	19,040	4,711	452	33	685
1992	365	2,920	944	19,376	4,693	1,463	40	688
1993	384	2,934	995	17,330	4,854	500	30	695
1994	393	2,802	1,011	17,226	4,956	770	38	713
1995	394	2,935	993	19,597	5,011	611	33	715
1996	407	2,913	987	21,116	5,092	2,124	38	738
1997	417	2,956	1,003	21,124	5,016	1,896	43	751
1998	391	2,847	969	21,358	4,256	1,314	53	727
1999	405	2,937	1,004	24,466	4,397	602	50	761
2000	413	2,904	1,050	23,096	4,713	653	37	758
2001	404	2,798	1,049	17,881	4,578	1,309	31	714
2002	419	2,795	1,060	17,584	4,690	1,735	54	749
2003	415	2,897	1,056	14,212	4,414	833	39	708
2004	413	2,913	1,082	14,440	4,409	1,231	38	713
2005	398	2,838	1,033	14,008	4,286	594	42	691
2006	400	2,795	1,056	14,104	4,391	1,013	46	701
2007	402	2,799	1,044	11,839	4,695	768	36	683
2008	386	2,614	1,010	13,588	4,648	1,049	18	655
2009	362	2,493	941	12,532	3,912	730	17	608
2010	344	2,438	907	10,557	3,751	582	15	571
2011	336	1,307	898	10,876	3,800	578	10	559
2012	341	1,271	906	9,831	4,083	561	7	560
2013	337	1,188	907	8,549	4,309	1,340	9	558
2014	322	1,145	873	8,918	4,544	1,352	10	544
2015	293	1,061	800	7,552	3,742	934	8	488
10-yr AVG	372	1,228	978	12,032	4,228	845	12	630
SD	33	145	73	4,506	745	679	10	89
SD Range	1980-2015	1991-2010	1980-2015	1980-2015	1980-2015	1980-2015	1991-2010	1980-2015

Note: Impact of reclassification in 2011 prompted modified average and standard deviation periods for Multi-Family Residential.









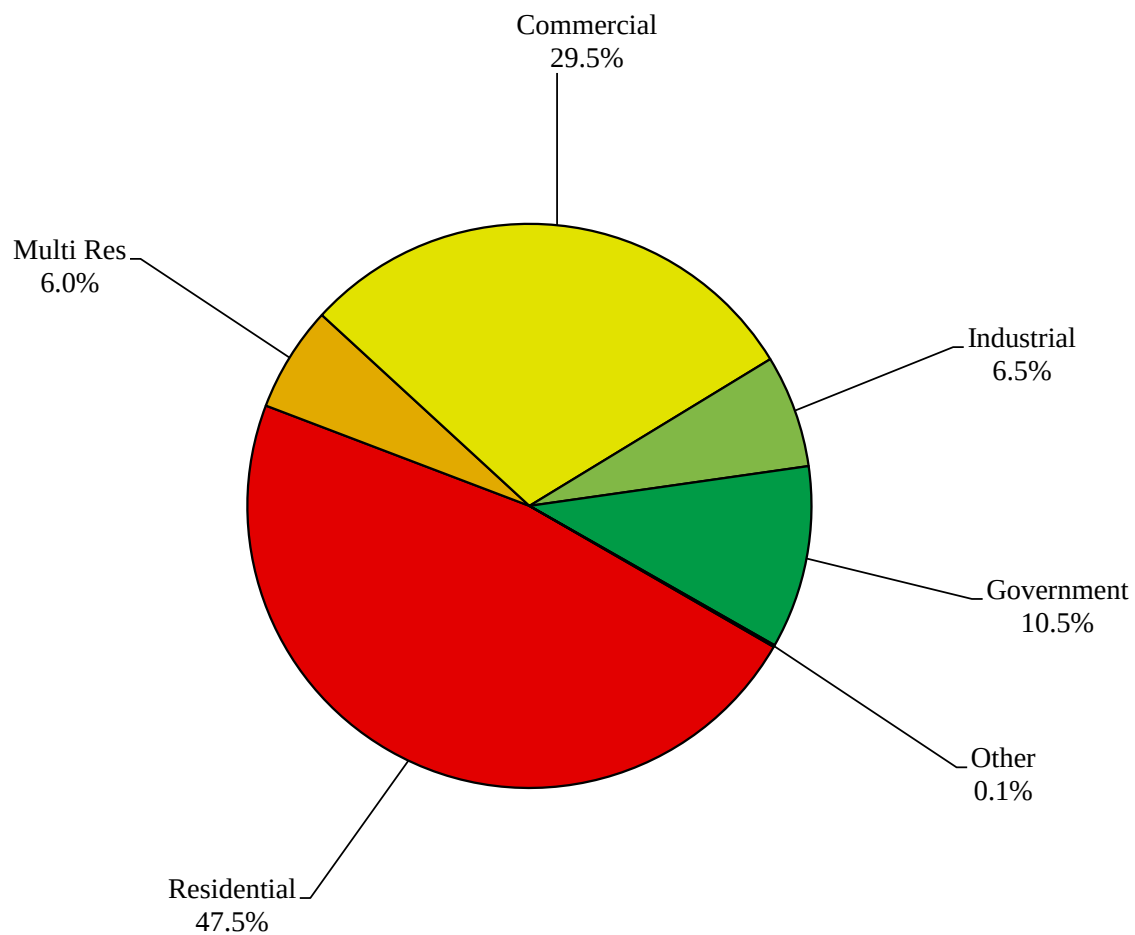
California Water Service Company - East Los Angeles District
Water Supply and Demand Analysis and Projections
Percentage Change in Annual Demand

Worksheet 5

Year	Residential	Multi Res	Commercial	Industrial	Government	Other	Unaccounted	Total
1981	2.97%	3.15%	3.31%	-9.76%	6.35%	-38.88%	-10.71%	0.92%
1982	-3.45%	2.09%	-2.71%	-3.14%	-14.72%	2.78%	-5.29%	-4.24%
1983	0.28%	3.35%	3.59%	6.09%	3.01%	-64.31%	22.31%	2.42%
1984	11.13%	9.38%	10.63%	4.68%	33.32%	23.19%	-5.61%	11.85%
1985	-1.36%	2.34%	1.27%	2.89%	-12.22%	177.28%	4.41%	-1.01%
1986	1.83%	-0.05%	1.91%	10.54%	6.03%	100.25%	-4.57%	3.81%
1987	1.59%	-0.68%	4.17%	0.94%	17.95%	-53.52%	-8.53%	3.64%
1988	-0.22%	0.08%	0.80%	1.93%	-5.85%	-58.63%	12.73%	-0.24%
1989	3.19%	1.61%	-1.19%	1.78%	-1.46%	-28.36%	-5.75%	1.21%
1990	-2.33%	-3.51%	-1.09%	2.36%	-4.39%	521.21%	-3.71%	-1.27%
1991	-16.32%	-14.63%	-9.04%	-20.44%	-20.30%	-78.63%	-39.53%	-15.65%
1992	4.61%	4.13%	0.89%	-14.65%	0.21%	242.87%	19.73%	-0.26%
1993	5.28%	0.36%	5.37%	-9.61%	4.38%	-72.98%	-24.68%	2.71%
1994	2.17%	-4.63%	1.07%	-1.09%	2.74%	117.63%	26.64%	1.34%
1995	0.43%	4.63%	-2.16%	12.85%	-4.14%	-56.17%	-12.85%	0.93%
1996	3.31%	-0.70%	-0.98%	8.29%	-0.17%	338.12%	15.16%	2.51%
1997	2.19%	1.17%	1.39%	-2.70%	-0.99%	-17.14%	14.03%	0.87%
1998	-6.06%	-3.33%	-3.48%	3.05%	-14.96%	-6.95%	22.51%	-4.71%
1999	3.52%	3.03%	3.55%	15.85%	4.42%	-43.11%	-5.41%	5.56%
2000	2.46%	-1.00%	4.49%	-5.66%	5.80%	-6.03%	-26.63%	1.74%
2001	-2.11%	-3.70%	0.01%	-23.01%	-4.36%	70.80%	-16.47%	-5.18%
2002	3.93%	-0.07%	0.91%	-4.24%	2.71%	32.62%	76.21%	1.77%
2003	-0.72%	3.67%	0.01%	-21.72%	-5.74%	-38.32%	-26.71%	-3.55%
2004	-0.42%	0.36%	2.36%	2.21%	2.13%	62.18%	-3.19%	0.97%
2005	-3.54%	-2.40%	-4.44%	-2.42%	-2.09%	-42.50%	10.87%	-3.60%
2006	0.65%	-1.56%	2.07%	-1.22%	3.33%	50.79%	7.91%	1.09%
2007	0.57%	-0.50%	-1.21%	-16.67%	6.75%	-1.13%	-20.27%	-1.25%
2008	-4.20%	-6.31%	-2.30%	9.75%	3.71%	48.79%	-50.49%	-1.65%
2009	-6.73%	-5.00%	-5.82%	-11.02%	-11.54%	-42.06%	-3.70%	-7.36%
2010	-5.01%	-2.29%	-3.79%	-17.29%	-5.45%	-45.45%	-15.96%	-5.80%
2011	-2.19%	68.31%	-5.54%	2.71%	-0.37%	-15.74%	-28.88%	-1.08%
2012	1.53%	19.73%	-0.64%	-11.36%	6.51%	-2.23%	-36.12%	0.94%
2013	-0.95%	6.91%	-1.11%	-13.76%	6.85%	174.43%	38.67%	-0.73%
2014	-4.49%	5.75%	-4.81%	3.43%	4.64%	-11.58%	9.50%	-2.59%
2015	-9.12%	1.07%	-9.26%	-15.97%	-18.33%	-21.19%	-16.56%	-10.16%

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Percent of Total Sales by Type of Use (2015)



California Water Service Company - East Los Angeles District

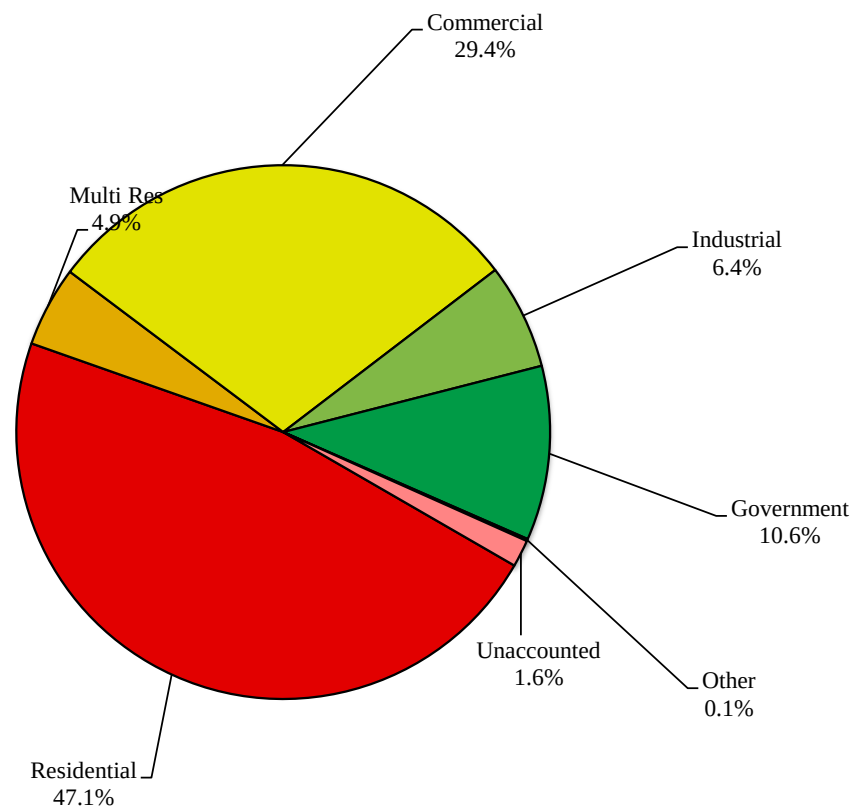
Worksheet 6

Water Supply and Demand Analysis and Projections

Percentage of Total Sales

Year	Residential	Multi Res	Commercial	Industrial	Government	Other	Percent Total
1980	43.63%	2.23%	25.22%	19.02%	9.77%	0.12%	100.00%
1981	44.52%	2.28%	25.82%	17.01%	10.30%	0.07%	100.00%
1982	44.88%	2.43%	26.23%	17.20%	9.17%	0.08%	100.00%
1983	43.95%	2.45%	26.53%	17.82%	9.23%	0.03%	100.00%
1984	43.66%	2.40%	26.24%	16.67%	11.00%	0.03%	100.00%
1985	43.51%	2.48%	26.85%	17.33%	9.75%	0.08%	100.00%
1986	42.68%	2.39%	26.35%	18.45%	9.96%	0.16%	100.00%
1987	41.84%	2.29%	26.49%	17.97%	11.33%	0.07%	100.00%
1988	41.85%	2.30%	26.77%	18.36%	10.70%	0.03%	100.00%
1989	42.66%	2.30%	26.13%	18.47%	10.41%	0.02%	100.00%
1990	42.21%	2.25%	26.18%	19.14%	10.08%	0.14%	100.00%
1991	41.87%	2.28%	28.23%	18.06%	9.53%	0.03%	100.00%
1992	43.92%	2.38%	28.56%	15.45%	9.57%	0.12%	100.00%
1993	45.02%	2.33%	29.30%	13.60%	9.73%	0.03%	100.00%
1994	45.39%	2.19%	29.22%	13.27%	9.86%	0.07%	100.00%
1995	45.17%	2.27%	28.33%	14.84%	9.37%	0.03%	100.00%
1996	45.52%	2.20%	27.36%	15.68%	9.12%	0.12%	100.00%
1997	46.11%	2.20%	27.50%	15.12%	8.96%	0.10%	100.00%
1998	45.46%	2.24%	27.86%	16.35%	7.99%	0.10%	100.00%
1999	44.58%	2.18%	27.33%	17.95%	7.91%	0.05%	100.00%
2000	44.90%	2.12%	28.07%	16.64%	8.22%	0.05%	100.00%
2001	46.35%	2.16%	29.60%	13.51%	8.29%	0.09%	100.00%
2002	47.33%	2.12%	29.35%	12.71%	8.37%	0.12%	100.00%
2003	48.72%	2.28%	30.44%	10.32%	8.18%	0.07%	100.00%
2004	48.05%	2.26%	30.86%	10.44%	8.27%	0.12%	100.00%
2005	48.08%	2.29%	30.59%	10.57%	8.40%	0.07%	100.00%
2006	47.86%	2.23%	30.88%	10.33%	8.59%	0.11%	100.00%
2007	48.75%	2.25%	30.89%	8.72%	9.28%	0.11%	100.00%
2008	47.49%	2.14%	30.69%	9.73%	9.79%	0.16%	100.00%
2009	47.81%	2.20%	31.20%	9.34%	9.35%	0.10%	100.00%
2010	48.21%	2.28%	31.87%	8.20%	9.38%	0.06%	100.00%
2011	47.67%	3.88%	30.43%	8.52%	9.45%	0.05%	100.00%
2012	47.94%	4.60%	29.96%	7.48%	9.97%	0.05%	100.00%
2013	47.84%	4.95%	29.84%	6.50%	10.73%	0.13%	100.00%
2014	46.91%	5.37%	29.16%	6.90%	11.53%	0.12%	100.00%
2015	47.45%	6.05%	29.46%	6.45%	10.48%	0.11%	100.00%

Percent of Total Demand by Type of Use (2015)

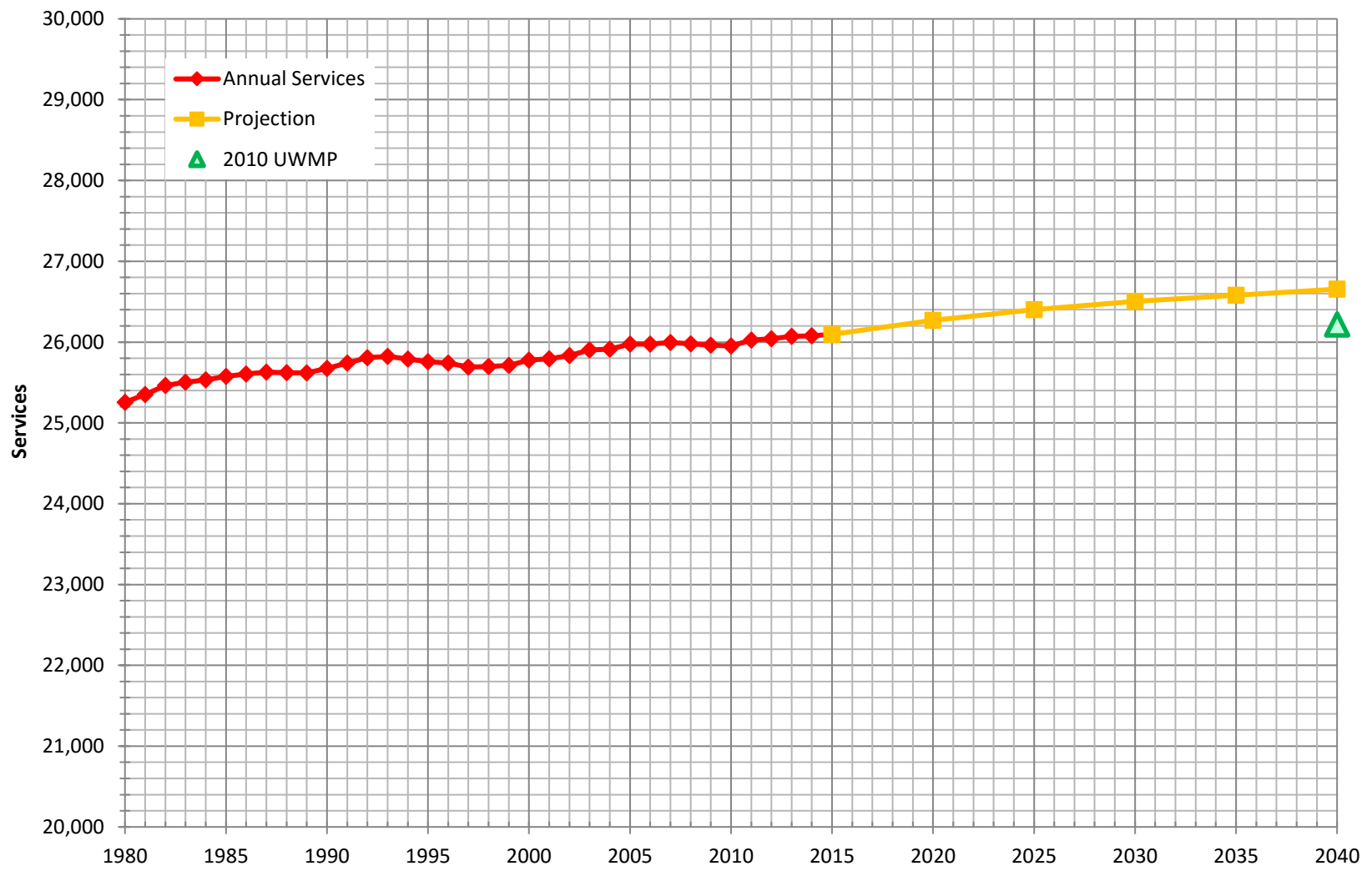


California Water Service Company - East Los Angeles District
Water Supply and Demand Analysis and Projections
Percentage of Total Demand

Worksheet 7

Year	Residential	Multi Res	Commercial	Industrial	Government	Other	Unaccounted	Percent Total
1980	39.97%	2.04%	23.10%	17.42%	8.95%	0.11%	8.39%	100.00%
1981	41.18%	2.11%	23.88%	15.73%	9.53%	0.07%	7.50%	100.00%
1982	41.55%	2.25%	24.29%	15.92%	8.49%	0.07%	7.42%	100.00%
1983	40.11%	2.24%	24.21%	16.26%	8.42%	0.03%	8.74%	100.00%
1984	40.40%	2.22%	24.28%	15.43%	10.17%	0.03%	7.47%	100.00%
1985	40.09%	2.29%	24.74%	15.97%	8.99%	0.08%	7.85%	100.00%
1986	39.58%	2.21%	24.44%	17.11%	9.24%	0.15%	7.26%	100.00%
1987	39.13%	2.14%	24.78%	16.81%	10.60%	0.07%	6.47%	100.00%
1988	38.82%	2.13%	24.83%	17.03%	9.92%	0.03%	7.24%	100.00%
1989	39.77%	2.15%	24.36%	17.21%	9.71%	0.02%	6.78%	100.00%
1990	39.41%	2.10%	24.44%	17.88%	9.42%	0.13%	6.62%	100.00%
1991	39.85%	2.17%	26.86%	17.18%	9.07%	0.03%	4.84%	100.00%
1992	41.39%	2.24%	26.91%	14.56%	9.02%	0.11%	5.75%	100.00%
1993	43.09%	2.23%	28.04%	13.02%	9.31%	0.03%	4.29%	100.00%
1994	42.98%	2.07%	27.67%	12.57%	9.34%	0.06%	5.30%	100.00%
1995	43.08%	2.16%	27.02%	14.16%	8.94%	0.03%	4.61%	100.00%
1996	43.17%	2.08%	25.95%	14.87%	8.65%	0.12%	5.15%	100.00%
1997	43.45%	2.08%	25.91%	14.25%	8.44%	0.10%	5.78%	100.00%
1998	42.14%	2.07%	25.82%	15.16%	7.41%	0.09%	7.31%	100.00%
1999	41.64%	2.04%	25.52%	16.76%	7.38%	0.05%	6.60%	100.00%
2000	42.72%	2.02%	26.70%	15.84%	7.82%	0.05%	4.85%	100.00%
2001	44.36%	2.06%	28.33%	12.93%	7.94%	0.09%	4.30%	100.00%
2002	43.92%	1.97%	27.24%	11.80%	7.77%	0.11%	7.21%	100.00%
2003	46.00%	2.15%	28.74%	9.74%	7.72%	0.07%	5.58%	100.00%
2004	45.47%	2.14%	29.20%	9.89%	7.83%	0.11%	5.36%	100.00%
2005	45.14%	2.15%	28.72%	9.93%	7.89%	0.07%	6.12%	100.00%
2006	44.75%	2.09%	28.87%	9.66%	8.03%	0.10%	6.50%	100.00%
2007	46.16%	2.13%	29.25%	8.25%	8.79%	0.10%	5.32%	100.00%
2008	46.18%	2.08%	29.85%	9.46%	9.52%	0.16%	2.75%	100.00%
2009	46.44%	2.13%	30.31%	9.08%	9.08%	0.10%	2.85%	100.00%
2010	46.98%	2.22%	31.05%	7.99%	9.14%	0.06%	2.55%	100.00%
2011	46.79%	3.80%	29.87%	8.36%	9.28%	0.05%	1.85%	100.00%
2012	47.38%	4.54%	29.60%	7.39%	9.86%	0.05%	1.18%	100.00%
2013	47.06%	4.87%	29.35%	6.39%	10.56%	0.13%	1.64%	100.00%
2014	46.05%	5.28%	28.63%	6.77%	11.32%	0.12%	1.84%	100.00%
2015	46.64%	5.94%	28.95%	6.34%	10.30%	0.10%	1.71%	100.00%

Historical & Projected Services



California Water Service Company - East Los Angeles District
Water Supply and Demand Analysis and Projections

Worksheet 8

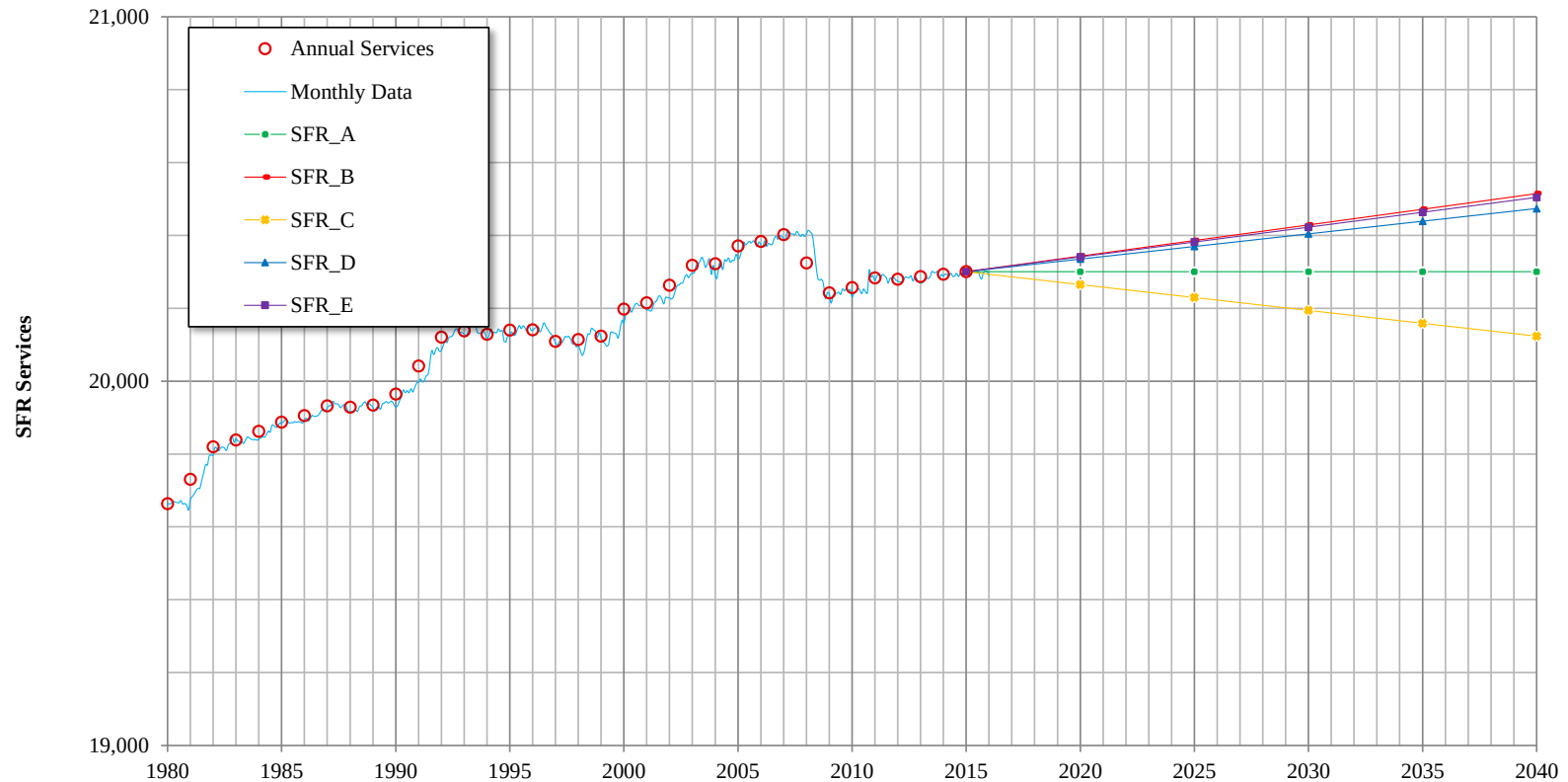
Customer Category		Selected Trend		Growth Rate	Actual Services			Base Year 2015	Projected Services					
					2000	2005	2010		2015	2020	2025	2030	2035	2040
SFR		SFR_B	5 Yr. Avg.	0.04%	20,197	20,371	20,257	20,300	20,300	20,343	20,386	20,429	20,472	20,515
MFR		MFR_F	User Trend	1.03%	136	136	135	713	713	818	879	910	915	920
COM		COM_F	User Trend	0.09%	4,972	4,989	5,073	4,610	4,610	4,631	4,652	4,673	4,694	4,715
IND		IND_A	Zero Growth Rate	0.00%	134	127	112	107	107	107	107	107	107	107
GOV		GOV_E	20 Yr. Avg.	0.34%	324	330	361	351	351	357	363	369	376	382
OTH		OTH_D	15 Yr. Avg.	0.54%	14	20	14	14	14	15	15	15	16	16
TOTAL		Average growth rate 2012-2040		0.08%	25,778	25,974	25,952	26,096	26,096	26,271	26,402	26,503	26,579	26,655

California Water Service Company - East Los Angeles District

Worksheet 8a

Water Supply and Demand Analysis and Projections

SFR Historical & Projected Services



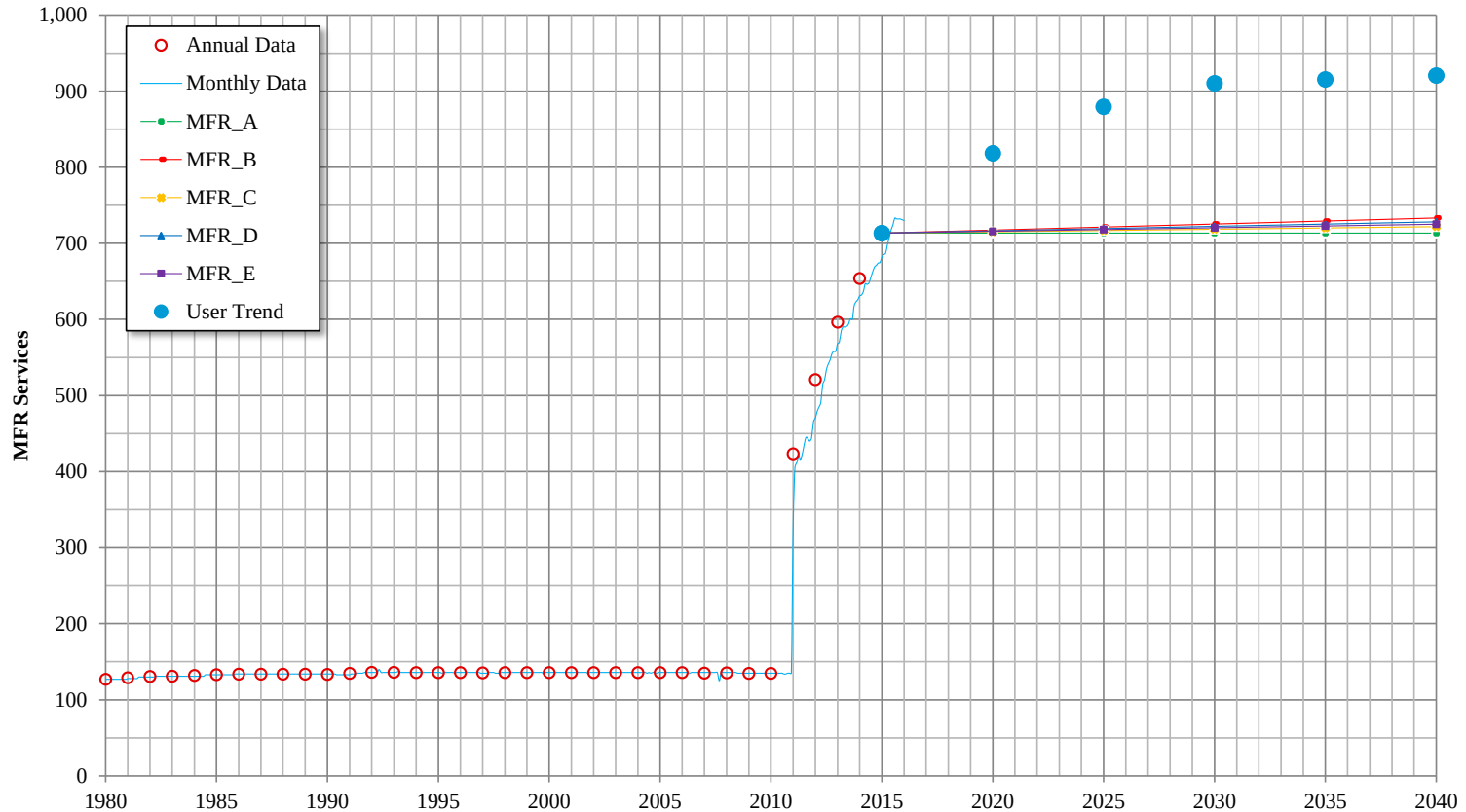
Customer Category	Trend			Growth Rate	Actual			Base Year 2015	Projected					
					2000	2005	2010		Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
SFR		SFR_A	Zero Growth Rate	0.00%	20,197	20,371	20,257	20,300	20,300	20,300	20,300	20,300	20,300	20,300
	>	SFR_B	5 Yr. Avg.	0.04%				20,300	20,300	20,343	20,386	20,429	20,472	20,515
		SFR_C	10 Yr. Avg.	-0.04%				20,300	20,300	20,265	20,229	20,194	20,159	20,124
		SFR_D	15 Yr. Avg.	0.03%				20,300	20,300	20,335	20,370	20,404	20,439	20,474
		SFR_E	20 Yr. Avg.	0.04%				20,300	20,300	20,341	20,382	20,423	20,463	20,504

California Water Service Company - East Los Angeles District

Worksheet 8b

Water Supply and Demand Analysis and Projections

MFR Historical & Projected Services



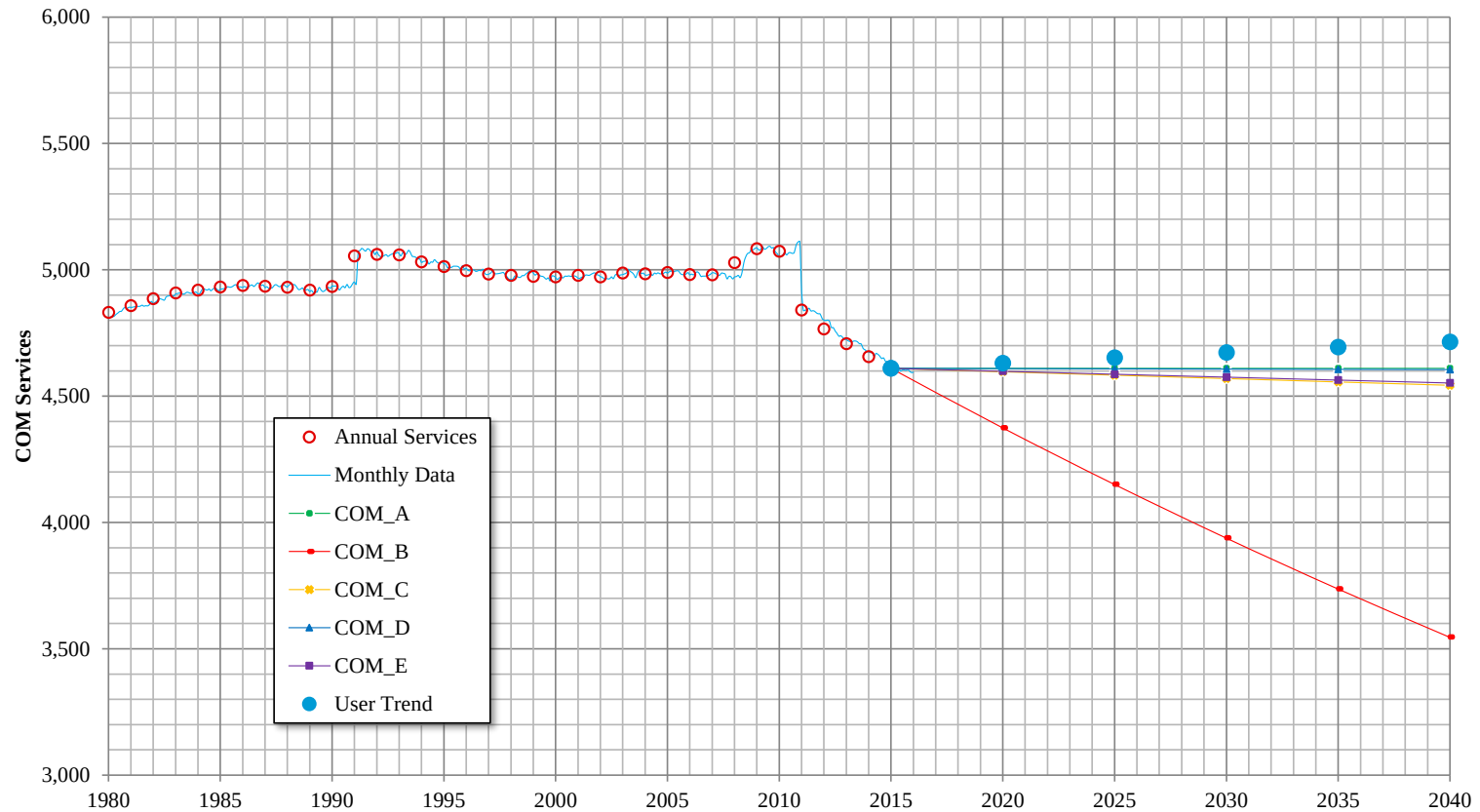
Customer Category	Trend			Growth Rate	Actual			Base Year 2015	Projected					
					2000	2005	2010		Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
MFR		MFR_A	Zero Growth Rate	0.00%	136	136	135	713	713	713	713	713	713	713
		MFR_B	5 Yr. Avg. Overall	0.11%				713	713	717	721	725	729	733
		MFR_C	10 Yr. Avg. Overall	0.05%				713	713	715	717	718	720	722
		MFR_D	15 Yr. Avg. Overall	0.08%				713	713	716	719	722	725	728
		MFR_E	20 Yr. Avg. Overall	0.07%				713	713	716	718	720	723	725
	>	MFR_F	User Trend	1.03%				713	713	818	879	910	915	920

California Water Service Company - East Los Angeles District

Worksheet 8c

Water Supply and Demand Analysis and Projections

COM Historical & Projected Services



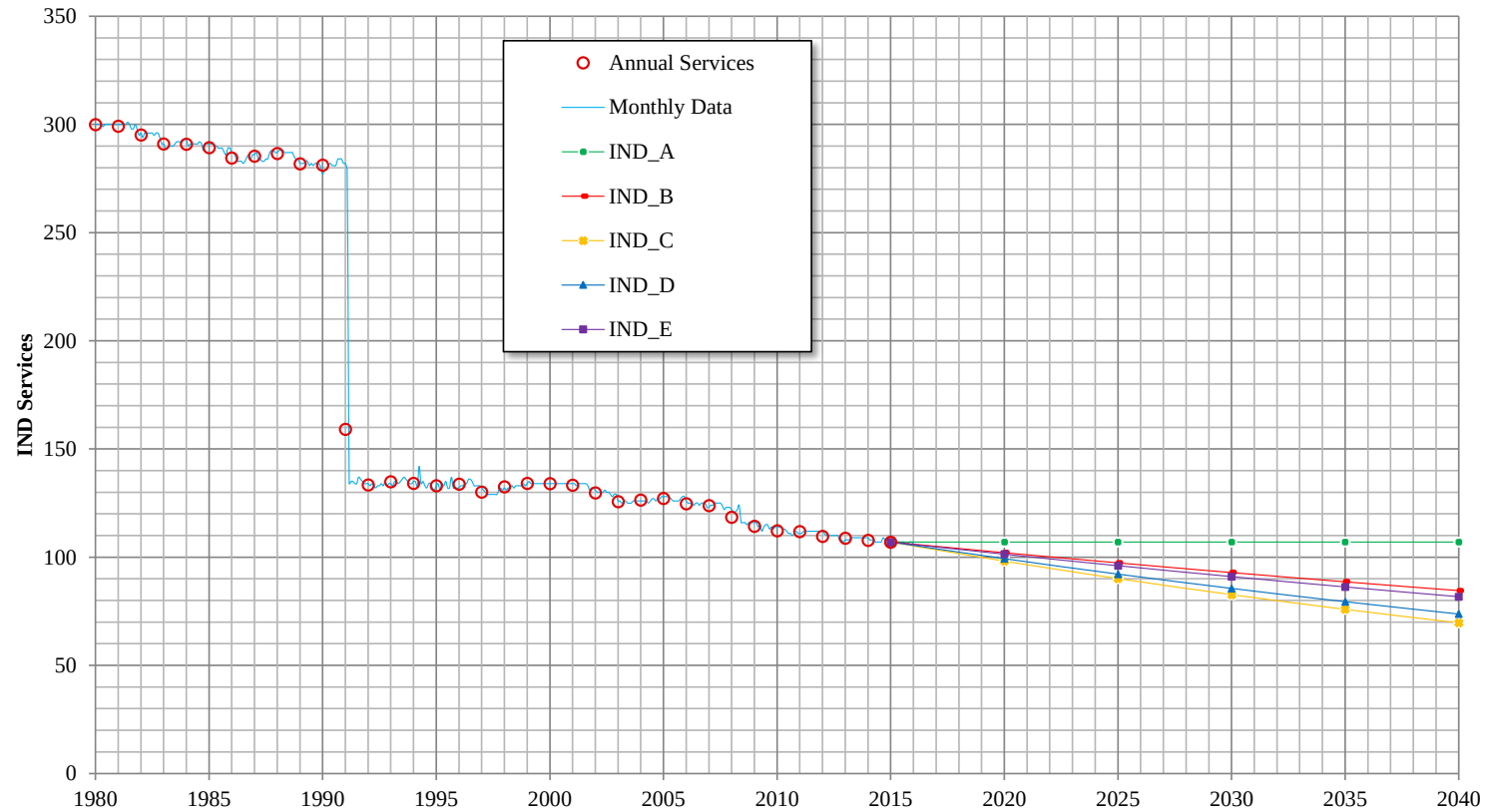
Customer Category	Trend			Growth Rate	Actual			Base Year	Projected					
					2000	2005	2010		Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
COM		COM_A	Zero Growth Rate	0.00%	4,972	4,989	5,073	4,610	4,610	4,610	4,610	4,610	4,610	4,610
		COM_B	5 Yr. Avg.	-1.05%				4,610	4,610	4,374	4,150	3,938	3,736	3,545
		COM_C	10 Yr. Avg.	-0.06%				4,610	4,610	4,596	4,583	4,570	4,556	4,543
		COM_D	15 Yr. Avg.	0.00%				4,610	4,610	4,609	4,608	4,607	4,606	4,605
		COM_E	20 Yr. Avg.	-0.05%				4,610	4,610	4,598	4,587	4,575	4,563	4,552
	>	COM_F	User Trend	0.09%				4,610	4,610	4,631	4,652	4,673	4,694	4,715

California Water Service Company - East Los Angeles District

Worksheet 8d

Water Supply and Demand Analysis and Projections

IND Historical & Projected Services



Customer Category	Trend			Growth Rate	Actual			Base Year 2015	Projected					
					2000	2005	2010		Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
IND	>	IND_A	Zero Growth Rate	0.00%	134	127	112	107	107	107	107	107	107	107
		IND_B	5 Yr. Avg.	-0.94%				107	107	102	97	93	89	85
		IND_C	10 Yr. Avg.	-1.70%				107	107	98	90	83	76	70
		IND_D	15 Yr. Avg.	-1.48%				107	107	99	92	86	79	74
		IND_E	20 Yr. Avg.	-1.07%				107	107	101	96	91	86	82

California Water Service Company - East Los Angeles District

Water Supply and Demand Analysis and Projections

GOV Historical & Projected Services

Worksheet 8e



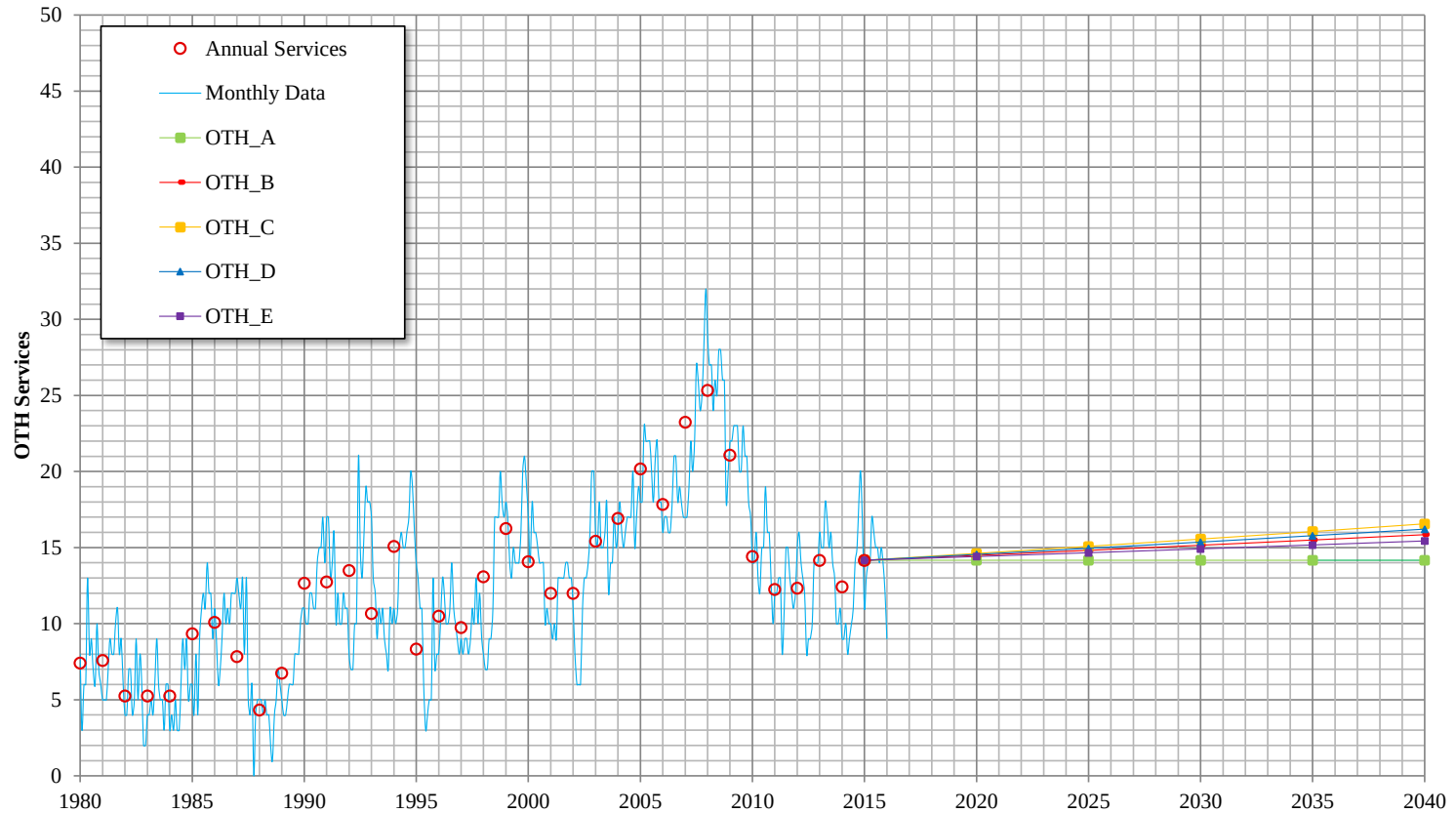
Customer Category	Trend		Growth Rate	Actual			Base Year	Projected					
				2000	2005	2010		Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
GOV		GOV_A	Zero Growth Rate					351					
		GOV_B	5 Yr. Avg.					351	351	351	351	351	351
		GOV_C	10 Yr. Avg.					351	351	341	331	322	312
		GOV_D	15 Yr. Avg.					351	351	362	373	385	397
		GOV_E	20 Yr. Avg.					351	351	360	370	380	391
	>							351	351	357	363	369	376

California Water Service Company - East Los Angeles District

Worksheet 8f

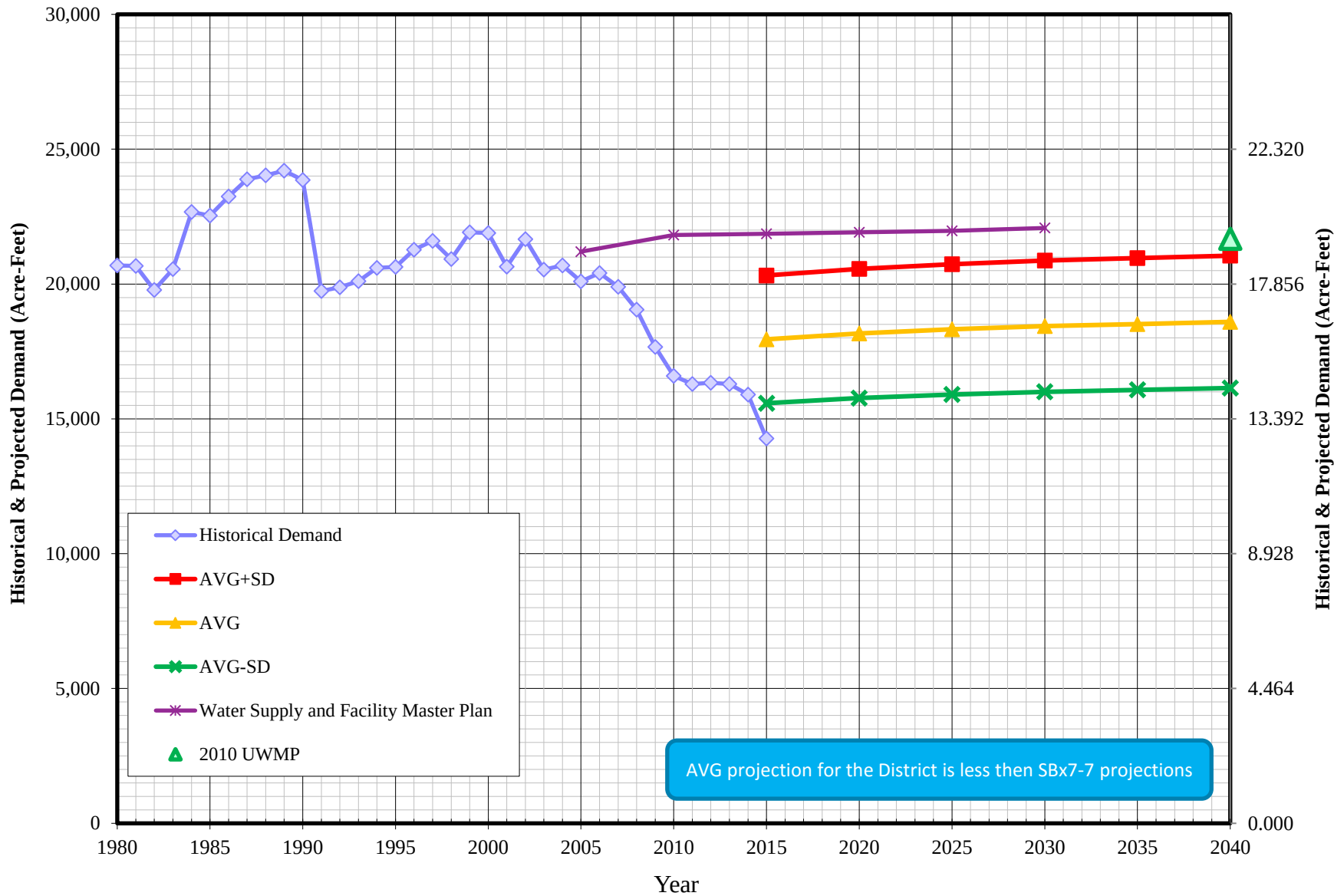
Water Supply and Demand Analysis and Projections

OTH Historical & Projected Services



Customer Category	Trend			Growth Rate	Actual			Base Year 2015	Projected					
					2000	2005	2010		Services 2015	Services 2020	Services 2025	Services 2030	Services 2035	Services 2040
OTH		OTH_A	Zero Growth Rate	0.00%	14	20	14	14	14	14	14	14	14	14
		OTH_B	5 Yr. Avg.	0.45%				14	14	14	15	15	15	16
		OTH_C	10 Yr. Avg.	0.63%				14	14	15	15	16	16	17
	>	OTH_D	15 Yr. Avg.	0.54%				14	14	15	15	15	16	16
		OTH_E	20 Yr. Avg.	0.34%				14	14	14	15	15	15	15

Historical & Projected Demand (DIX)

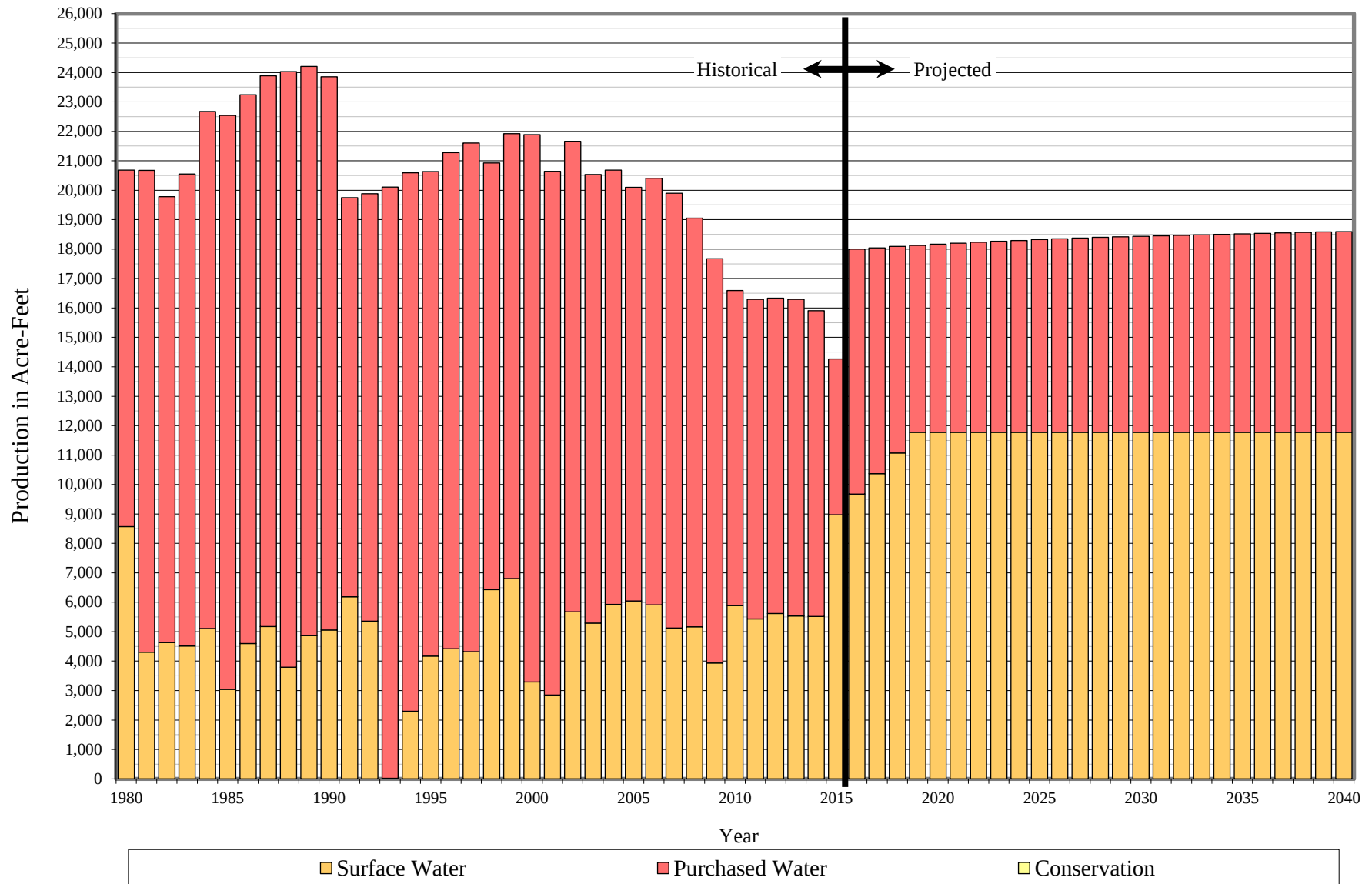


California Water Service Company - East Los Angeles District
Water Supply and Demand Analysis and Projections

Worksheet 9

Customer Category	Actual Demand (AFY)														
	1980	1985	1990	1995	2000	2005	2010	2015	2015	2020	2025	2030	2035	2040	
SFR	8,268	9,036	9,401	8,890	9,352	9,073	7,794	6,655	9,201	9,220	9,240	9,259	9,279	9,298	
									8,455	8,473	8,490	8,508	8,526	8,544	
									7,708	7,725	7,741	7,757	7,773	7,790	
MFR	423	515	502	447	442	432	368	848	1,097	1,258	1,352	1,400	1,407	1,415	
									981	1,126	1,210	1,252	1,259	1,266	
									866	993	1,067	1,105	1,111	1,117	
COM	4,779	5,575	5,831	5,576	5,846	5,772	5,153	4,131	5,427	5,452	5,476	5,501	5,526	5,551	
									5,051	5,074	5,097	5,120	5,143	5,166	
									4,675	4,696	4,718	4,739	4,760	4,782	
IND	3,604	3,599	4,264	2,921	3,467	1,995	1,326	905	1,982	1,982	1,982	1,982	1,982	1,982	
									1,442	1,442	1,442	1,442	1,442	1,442	
									902	902	902	902	902	902	
GOV	1,852	2,025	2,246	1,844	1,713	1,586	1,517	1,470	1,954	1,988	2,022	2,057	2,093	2,129	
									1,661	1,690	1,719	1,749	1,779	1,810	
									1,368	1,392	1,416	1,441	1,466	1,491	
OTH	23	18	30	6	10	13	9	15	24	25	26	26	27	28	
									13	14	14	15	15	15	
									3	3	3	3	3	3	
UAWF	1,736	1,769	1,580	951	1,062	1,229	424	244	632	637	640	642	644	646	
									345	347	349	350	351	352	
									57	57	58	58	58	58	
TOTAL (AFY)	20,684	22,537	23,855	20,635	21,892	20,101	16,592	14,268	20,318	20,562	20,738	20,868	20,958	21,049	
									17,949	18,165	18,321	18,436	18,516	18,596	
									15,580	15,769	15,904	16,004	16,073	16,143	
TOTAL (MGD)	18.466	20.119	21.296	18.422	19.544	17.945	14.813	12.738	18.139	18.357	18.514	18.630	18.711	18.792	
									16.024	16.217	16.356	16.459	16.530	16.602	
									13.909	14.077	14.199	14.288	14.349	14.412	

Historical and Projected Distribution of Demand by Source



California Water Service Company - East Los Angeles District
Water Supply and Demand Analysis and Projections
Historical and Projected Distribution of Demand by Source

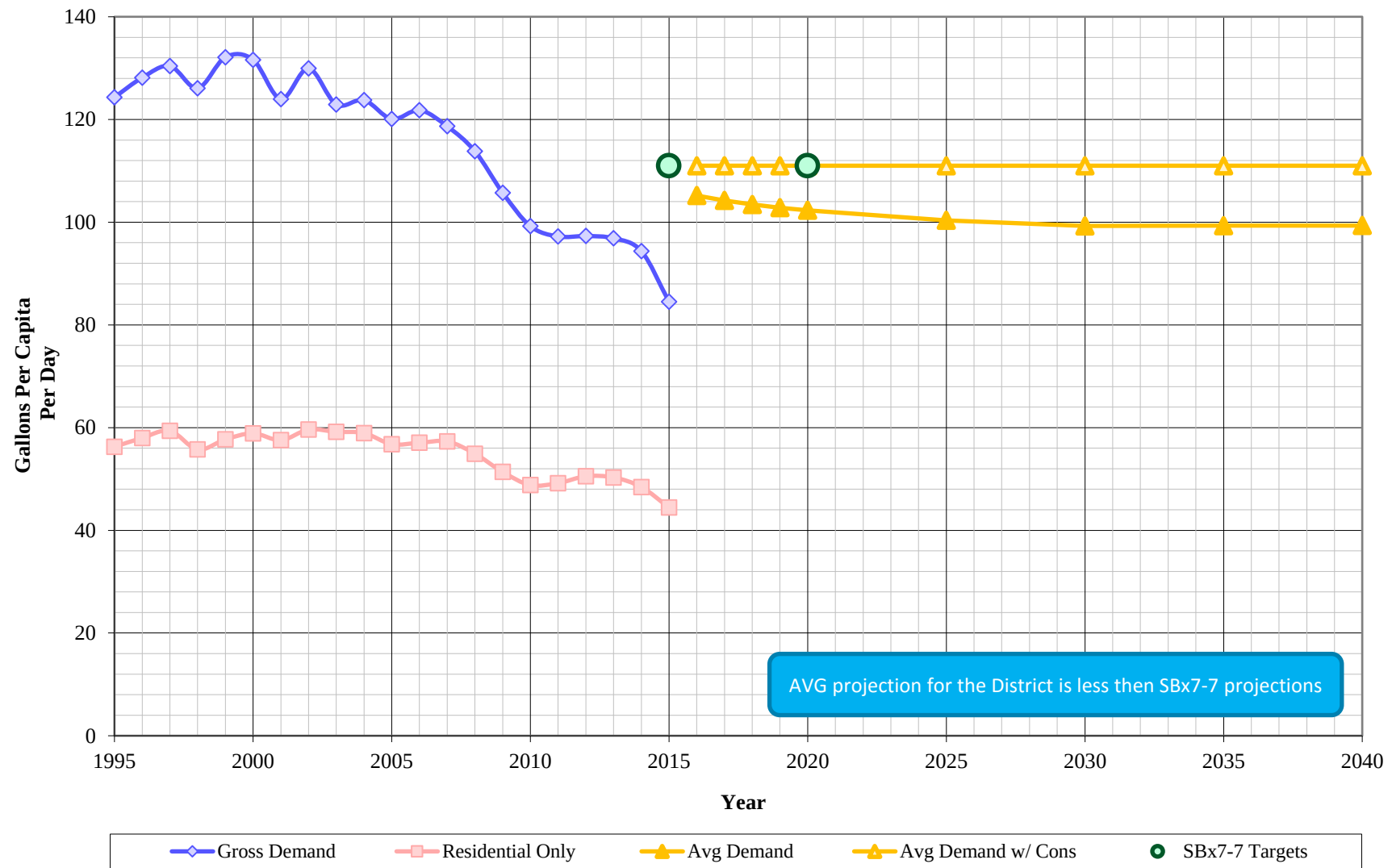
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Year	Purchased Water		Ground Water		Conservation		Total	
	MGD	AFY	MGD	AFY	MGD	AFY	MGD	AFY
1980	10.81	12,111	7.65	8,573			18.47	20,684
1981	14.61	16,369	3.84	4,304			18.46	20,673
1982	13.53	15,152	4.13	4,629			17.66	19,781
1983	14.32	16,035	4.03	4,517			18.35	20,552
1984	15.69	17,570	4.56	5,104			20.24	22,674
1985	17.41	19,497	2.71	3,039			20.12	22,537
1986	16.65	18,652	4.10	4,595			20.75	23,247
1987	16.71	18,713	4.62	5,174			21.32	23,887
1988	18.06	20,234	3.39	3,797			21.45	24,031
1989	17.26	19,337	4.34	4,865			21.61	24,201
1990	16.78	18,795	4.52	5,060			21.30	23,855
1991	12.10	13,555	5.52	6,188			17.63	19,744
1992	12.97	14,528	4.78	5,355			17.75	19,883
1993	17.93	20,082	0.02	26			17.95	20,108
1994	16.33	18,294	2.05	2,301			18.39	20,595
1995	14.69	16,460	3.73	4,175			18.42	20,635
1996	15.05	16,853	3.95	4,421			18.99	21,274
1997	15.43	17,279	3.86	4,323			19.29	21,603
1998	12.94	14,493	5.74	6,432			18.68	20,925
1999	13.50	15,119	6.07	6,802			19.57	21,921
2000	16.60	18,597	2.94	3,294			19.54	21,892
2001	15.88	17,789	2.54	2,850			18.43	20,639
2002	14.27	15,988	5.07	5,676			19.34	21,664
2003	13.61	15,240	4.73	5,294			18.33	20,534
2004	13.18	14,762	5.29	5,924			18.47	20,686
2005	12.55	14,053	5.40	6,048			17.95	20,101
2006	12.94	14,497	5.27	5,908			18.22	20,405
2007	13.19	14,771	4.58	5,126			17.76	19,897
2008	12.40	13,885	4.61	5,166			17.01	19,051
2009	12.26	13,734	3.51	3,934			15.77	17,668
2010	9.56	10,704	5.26	5,888			14.81	16,592

Year	Purchased Water		Ground Water		Conservation		Total	
	MGD	AFY	MGD	AFY	MGD	AFY	MGD	AFY
2011	9.70	10,862	4.85	5,433	0.00	0	14.55	16,295
2012	9.57	10,720	5.01	5,617	0.00	0	14.58	16,337
2013	9.61	10,759	4.94	5,533	0.00	0	14.55	16,293
2014	9.27	10,385	4.93	5,518	0.00	0	14.20	15,903
2015	4.73	5,296	8.01	8,972	0.00	0	12.74	14,268
2016	7.43	8,325	8.63	9,672	0.00	0	16.07	17,998
2017	6.85	7,671	9.26	10,373	0.00	0	16.11	18,044
2018	6.26	7,014	9.89	11,073	0.00	0	16.15	18,087
2019	5.67	6,354	10.51	11,774	0.00	0	16.18	18,128
2020	5.71	6,391	10.51	11,774	0.00	0	16.22	18,165
2021	5.74	6,426	10.51	11,774	0.00	0	16.25	18,200
2022	5.77	6,459	10.51	11,774	0.00	0	16.28	18,233
2023	5.79	6,490	10.51	11,774	0.00	0	16.30	18,264
2024	5.82	6,519	10.51	11,774	0.00	0	16.33	18,293
2025	5.85	6,547	10.51	11,774	0.00	0	16.36	18,321
2026	5.87	6,574	10.51	11,774	0.00	0	16.38	18,348
2027	5.89	6,600	10.51	11,774	0.00	0	16.40	18,374
2028	5.91	6,624	10.51	11,774	0.00	0	16.42	18,398
2029	5.93	6,647	10.51	11,774	0.00	0	16.44	18,421
2030	5.95	6,662	10.51	11,774	0.00	0	16.46	18,436
2031	5.96	6,678	10.51	11,774	0.00	0	16.47	18,452
2032	5.98	6,694	10.51	11,774	0.00	0	16.49	18,468
2033	5.99	6,710	10.51	11,774	0.00	0	16.50	18,484
2034	6.00	6,726	10.51	11,774	0.00	0	16.52	18,500
2035	6.02	6,742	10.51	11,774	0.00	0	16.53	18,516
2036	6.03	6,758	10.51	11,774	0.00	0	16.54	18,532
2037	6.05	6,774	10.51	11,774	0.00	0	16.56	18,548
2038	6.06	6,790	10.51	11,774	0.00	0	16.57	18,564
2039	6.08	6,806	10.51	11,774	0.00	0	16.59	18,580
2040	6.09	6,822	10.51	11,774	0.00	0	16.60	18,596

^
|
ACTUAL
PROJECTED
|
V

Gross Per Capita Consumption (DIX)



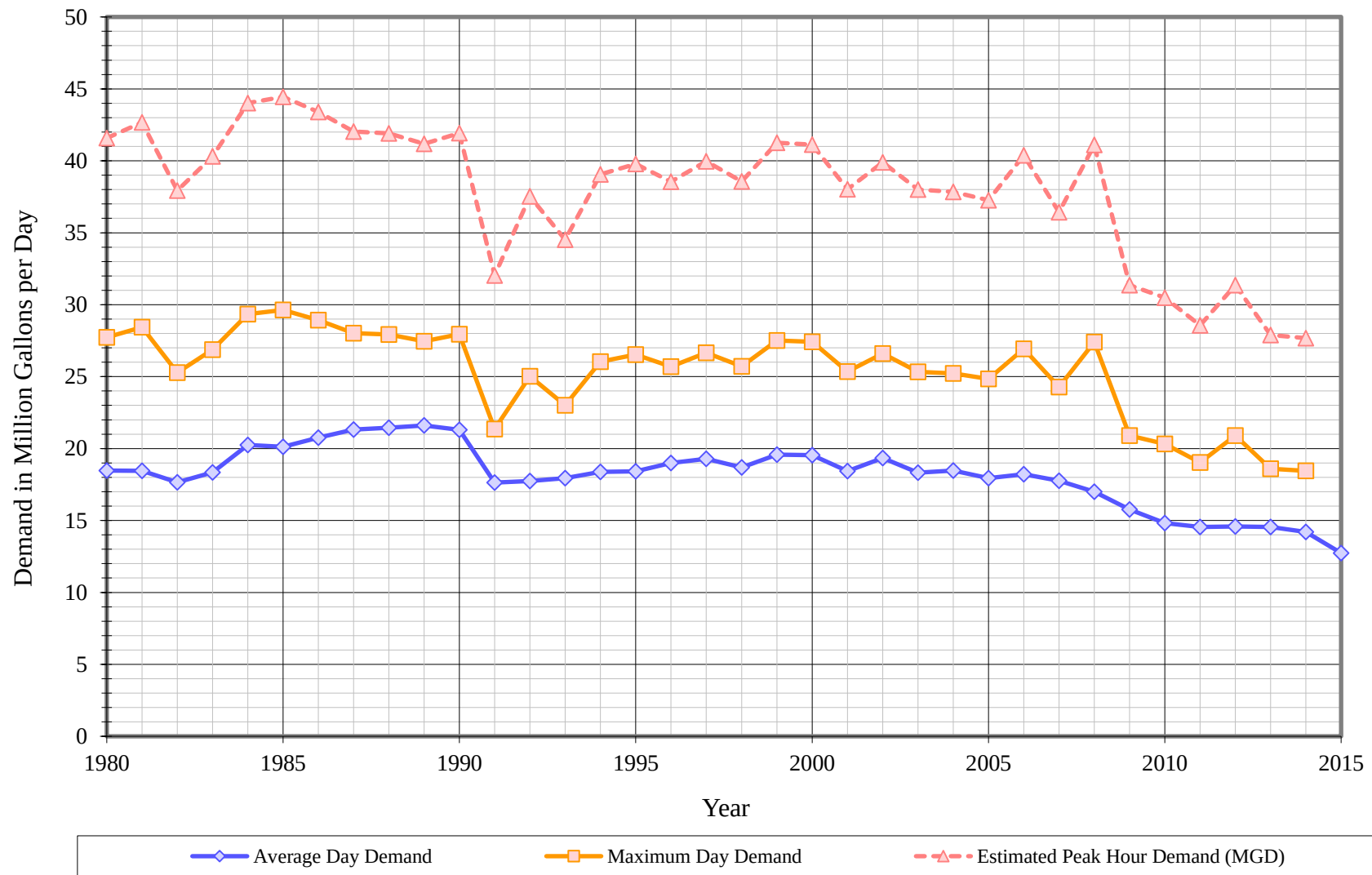
California Water Service Company - East Los Angeles District
Water Supply and Demand Analysis and Projections
Gross Per Capita Water Demand Calculation

Worksheet 15

Year	POP	Historical				Projected			
		Gross Demand		Residential Only		Avg Demand		Avg Demand w/ Cons	
		Usage (AFY)	Per Capita (GPCPD)	Usage (AFY)	Per Capita (GPCPD)	Demand (AFY)	Per Capita (GPCPD)	Demand (AFY)	Per Capita (GPCPD)
1995	148,173	20,635	124	9,337	56				
1996	148,218	21,274	128	9,628	58				
1997	147,879	21,603	130	9,834	59				
1998	148,157	20,925	126	9,251	56				
1999	148,108	21,921	132	9,575	58				
2000	148,480	21,892	132	9,794	59				
2001	148,608	20,639	124	9,581	58				
2002	148,854	21,664	130	9,940	60				
2003	149,125	20,534	123	9,887	59				
2004	149,200	20,686	124	9,849	59				
2005	149,446	20,101	120	9,505	57				
2006	149,549	20,405	122	9,557	57				
2007	149,677	19,897	119	9,607	57				
2008	149,433	19,051	114	9,195	55				
2009	149,173	17,668	106	8,583	51				
2010	149,283	16,592	99	8,163	49				
2011	149,640	16,295	97	8,244	49				
2012	149,882	16,337	97	8,482	51				
2013	150,167	16,293	97	8,460	50				
2014	150,446	15,903	94	8,162	48				
2015	150,729	14,268	85	7,503	44				
2016	152,753					17,998	105	18,993	111
2017	154,537					18,044	104	19,215	111
2018	156,086					18,087	103	19,407	111
2019	157,405					18,128	103	19,571	111
2020	158,497					18,165	102	19,707	111
2025	162,982					18,321	100	20,265	111
2030	165,790					18,436	99	20,614	111
2035	166,437					18,516	99	20,694	111
2040	167,087					18,596	99	20,775	111

SBx7-7 Targets	
2015	111
2020	111

Average Day, Maximum Day, Peak Demand

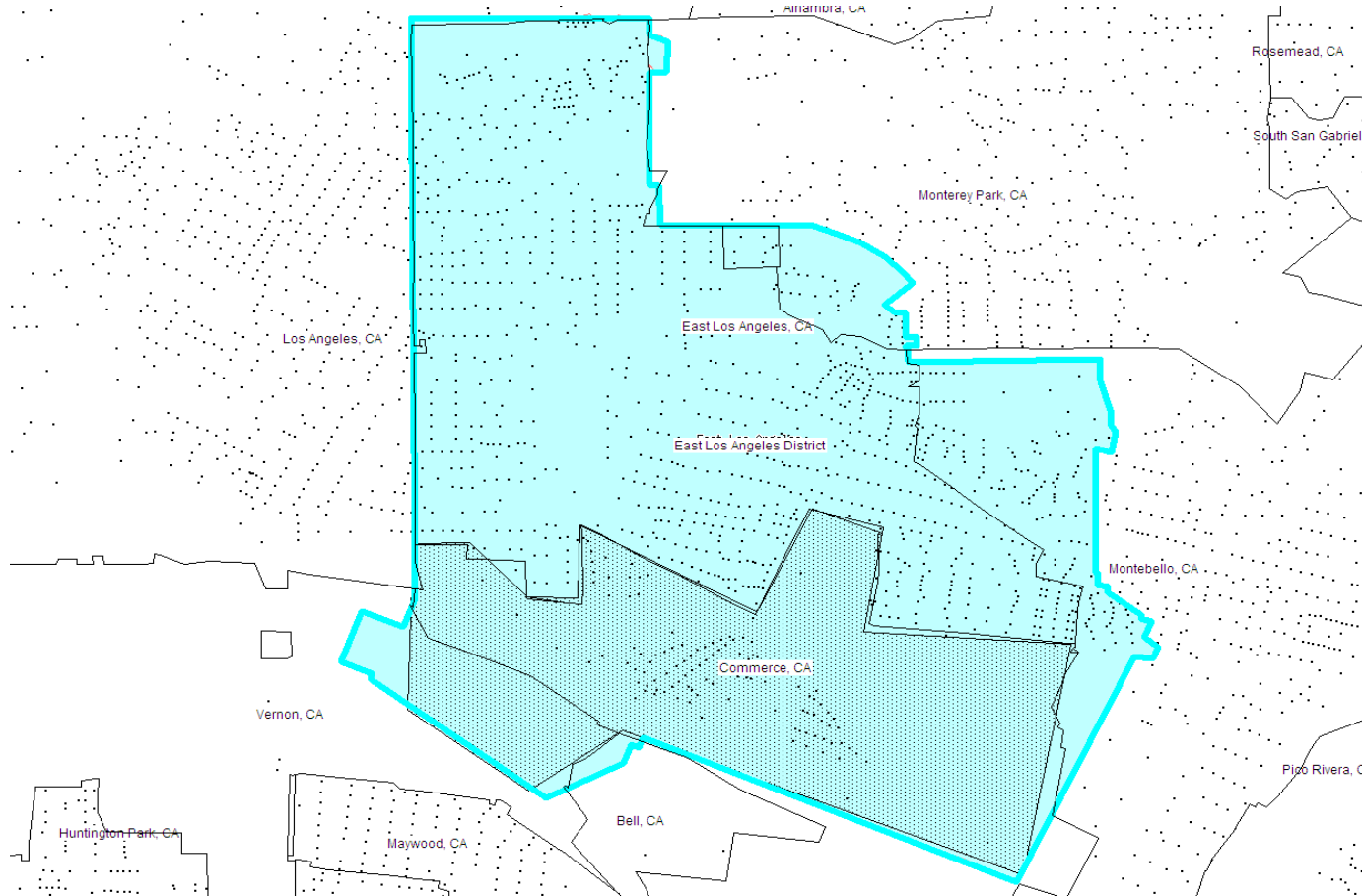


California Water Service Company - East Los Angeles District
Water Supply and Demand Analysis and Projections
Historical and Projected Average Day, Maximum Day, and Peak Demand

Worksheet 11

Year	Historical Annual Demand (AFY) Demand (MGY)		Average Day Demand Demand (MGD) Per Service (GPD)		Maximum Day Demand Demand (MGD) Per Service (GPD)		MDD ADD Ratio	Estimated Peak Hour Demand (MGD) (GPM)		PHD MDD Ratio	PHD ADD Ratio	Measured Peak Hour Demand (MGD) (GPM)		PHD MDD Ratio
1980	20,684	6,740	18.47	731	27.73	1,098	1.50	41.59	28,880	1.50	2.25			
1981	20,673	6,736	18.46	728	28.44	1,122	1.54	42.66	29,628	1.50	2.31			
1982	19,781	6,446	17.66	694	25.29	993	1.43	37.93	26,340	1.50	2.15			
1983	20,552	6,697	18.35	719	26.88	1,054	1.46	40.32	27,998	1.50	2.20			
1984	22,674	7,388	20.24	793	29.34	1,149	1.45	44.01	30,563	1.50	2.17			
1985	22,537	7,344	20.12	787	29.63	1,159	1.47	44.45	30,868	1.50	2.21			
1986	23,247	7,575	20.75	811	28.93	1,130	1.39	43.39	30,132	1.50	2.09			
1987	23,887	7,784	21.32	832	28.02	1,093	1.31	42.03	29,185	1.50	1.97			
1988	24,031	7,830	21.45	837	27.94	1,090	1.30	41.90	29,099	1.50	1.95			
1989	24,201	7,886	21.61	843	27.46	1,072	1.27	41.19	28,605	1.50	1.91			
1990	23,855	7,773	21.30	829	27.96	1,089	1.31	41.93	29,120	1.50	1.97			
1991	19,744	6,434	17.63	685	21.35	829	1.21	32.03	22,240	1.50	1.82			
1992	19,883	6,479	17.75	688	25.03	970	1.41	37.54	26,071	1.50	2.12			
1993	20,108	6,552	17.95	695	23.02	891	1.28	34.53	23,976	1.50	1.92			
1994	20,595	6,711	18.39	713	26.04	1,010	1.42	39.06	27,123	1.50	2.12			
1995	20,635	6,724	18.42	715	26.53	1,030	1.44	39.79	27,633	1.50	2.16			
1996	21,274	6,932	18.99	738	25.70	998	1.35	38.55	26,771	1.50	2.03			
1997	21,603	7,039	19.29	751	26.65	1,037	1.38	39.98	27,760	1.50	2.07			
1998	20,925	6,818	18.68	727	25.72	1,001	1.38	38.57	26,786	1.50	2.06			
1999	21,921	7,143	19.57	761	27.50	1,070	1.41	41.26	28,650	1.50	2.11			
2000	21,892	7,133	19.54	758	27.42	1,064	1.40	41.13	28,559	1.50	2.10			
2001	20,639	6,725	18.43	714	25.35	983	1.38	38.03	26,408	1.50	2.06			
2002	21,664	7,059	19.34	749	26.60	1,030	1.38	39.90	27,708	1.50	2.06			
2003	20,534	6,691	18.33	708	25.33	978	1.38	38.00	26,388	1.50	2.07			
2004	20,686	6,740	18.47	713	25.23	974	1.37	37.84	26,279	1.50	2.05			
2005	20,101	6,550	17.95	691	24.84	956	1.38	37.26	25,875	1.50	2.08			
2006	20,405	6,649	18.22	701	26.93	1,037	1.48	40.39	28,049	1.50	2.22			
2007	19,897	6,483	17.76	683	24.29	934	1.37	36.43	25,298	1.50	2.05			
2008	19,051	6,208	17.01	655	27.41	1,055	1.61	41.12	28,553	1.50	2.42			
2009	17,668	5,757	15.77	608	20.91	805	1.33	31.37	21,783	1.50	1.99			
2010	16,592	5,407	14.81	571	20.32	783	1.37	30.48	21,168	1.50	2.06			
2011	16,295	5,310	14.55	559	19.04	732	1.31	28.56	19,835	1.50	1.96			
2012	16,337	5,323	14.58	560	20.91	803	1.43	31.37	21,783	1.50	2.15			
2013	16,293	5,309	14.55	558	18.60	713	1.28	27.89	19,370	1.50	1.92			
2014	15,903	5,182	14.20	544	18.45	708	1.30	27.68	19,219	1.50	1.95			
2015	14,268	4,649	12.74	488										
10 year Average			15.42	593	22.17	853	1.39	33.25	23,093	1.50	2.08			
5 year Average			14.12	542	19.46	748	1.34	29.20	20,275	1.50	2.01			

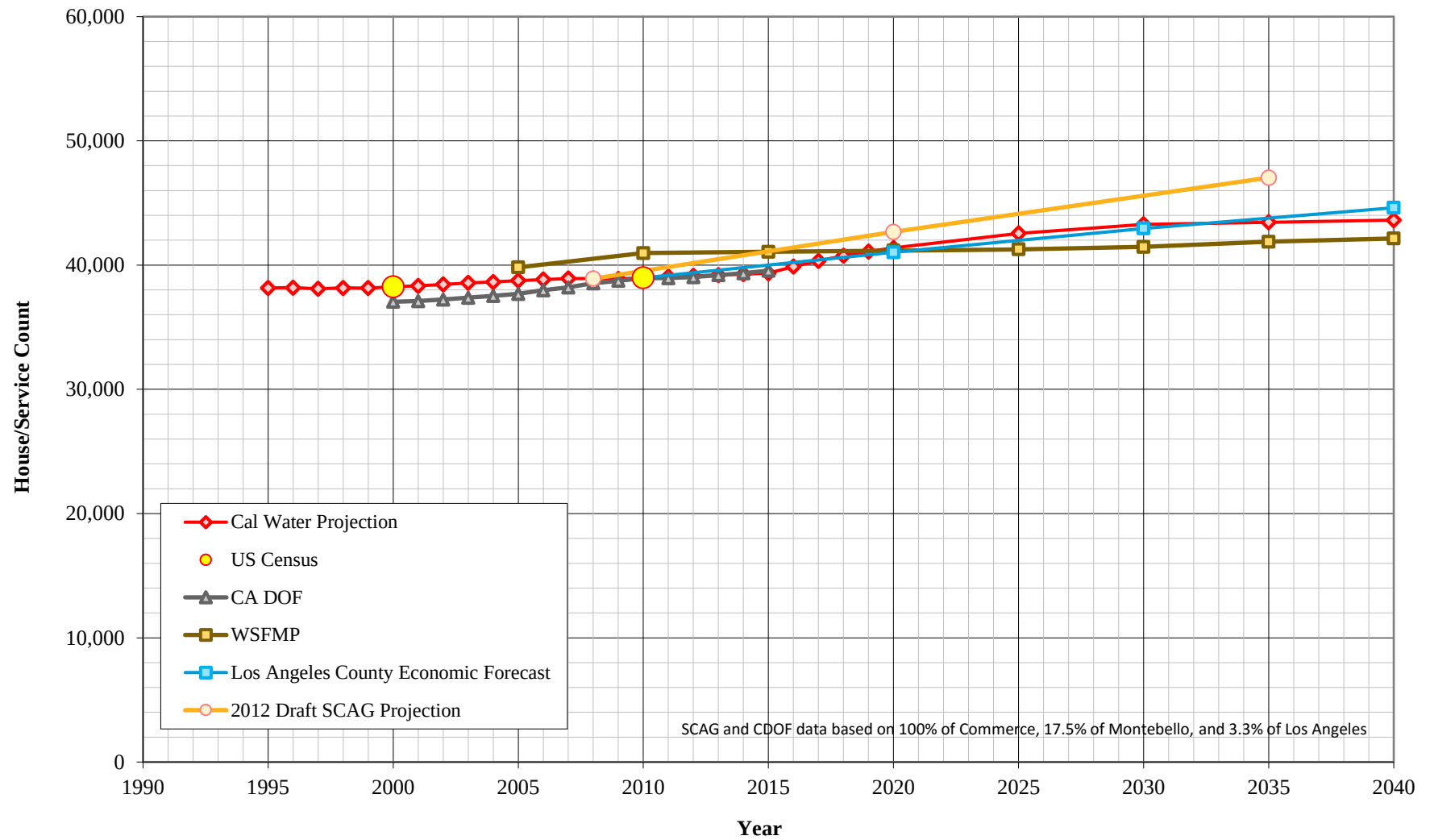
California Water Service Company - East Los Angeles District
Water Supply and Demand Analysis and Projections
MarPlot Summary



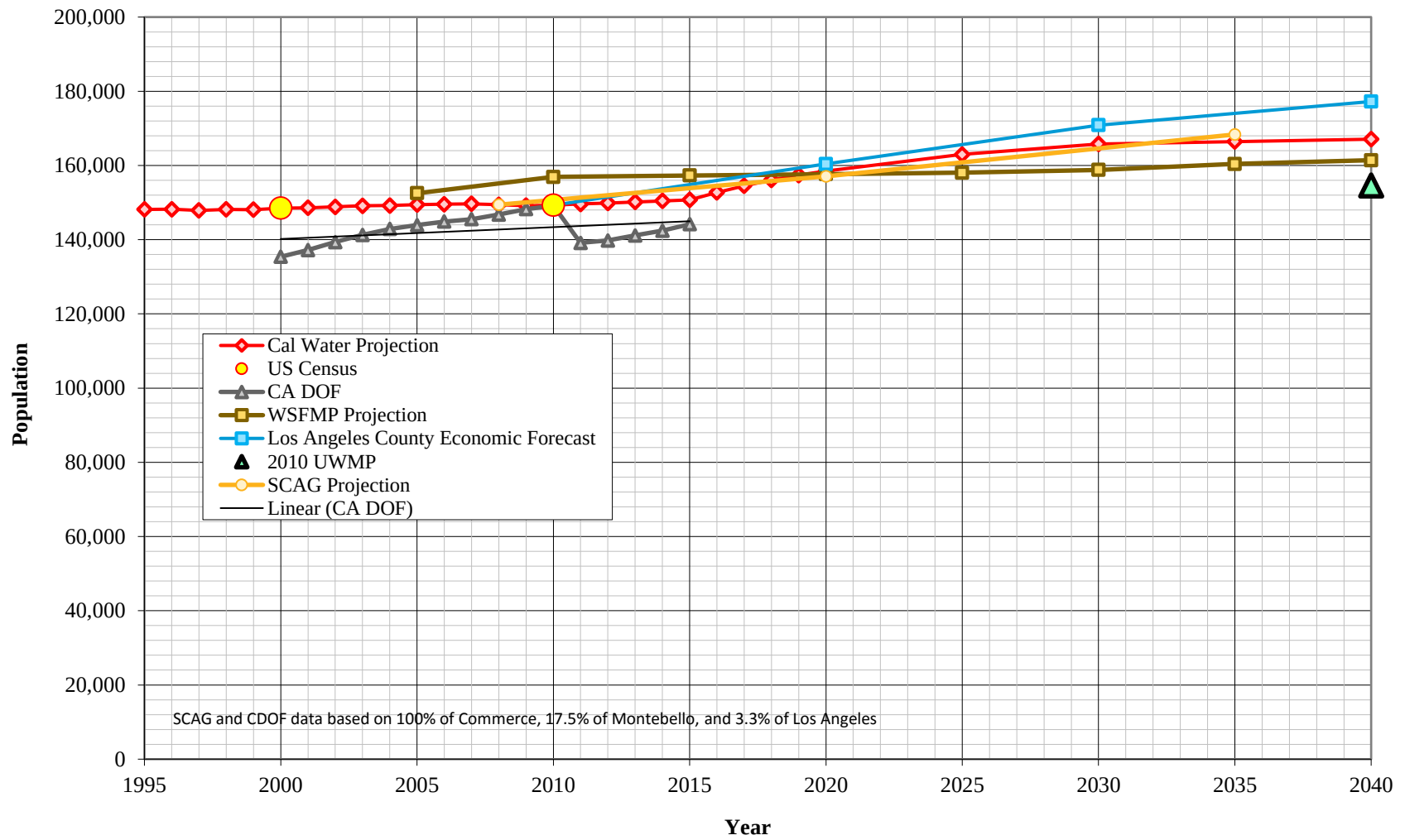
System	US Census 2000 Summary				US Census 2010 Summary				2000-2010 Change		
	Census Tract Blocks	Population	Housing Units (HU)	Density	Census Tract Blocks	Population	Housing Units (HU)	Density	Percentage Population Change	Percentage HU Change	Density Change
East Los Angeles	950	148,480	38,246	3.88	1,156	149,283	38,973	3.83	0.5%	1.9%	-1.3%
	950	148,480	38,246	3.88	1,156	149,283	38,973	3.83	0.5%	1.9%	-1.3%

MARPLOT disclaimer: The population and housing number given above are only rough estimates. They are based on the US Census Blocks. Although Census Blocks are polygons, MARPLOT uses the centroid, or center point, rather than the entire polygon. If a Census Block centroid is within any of the MARPLOT selected objects, the population and housing numbers for that block are tallied, even if only part of the block is within the selected object. It is possible for a block not be counted if its centroid is not within selected objects, even though part of the block is within the selected objects.

Housing Projections



Population Projections



California Water Service Company - East Los Angeles District
Water Supply and Demand Analysis and Projections
Population Estimate

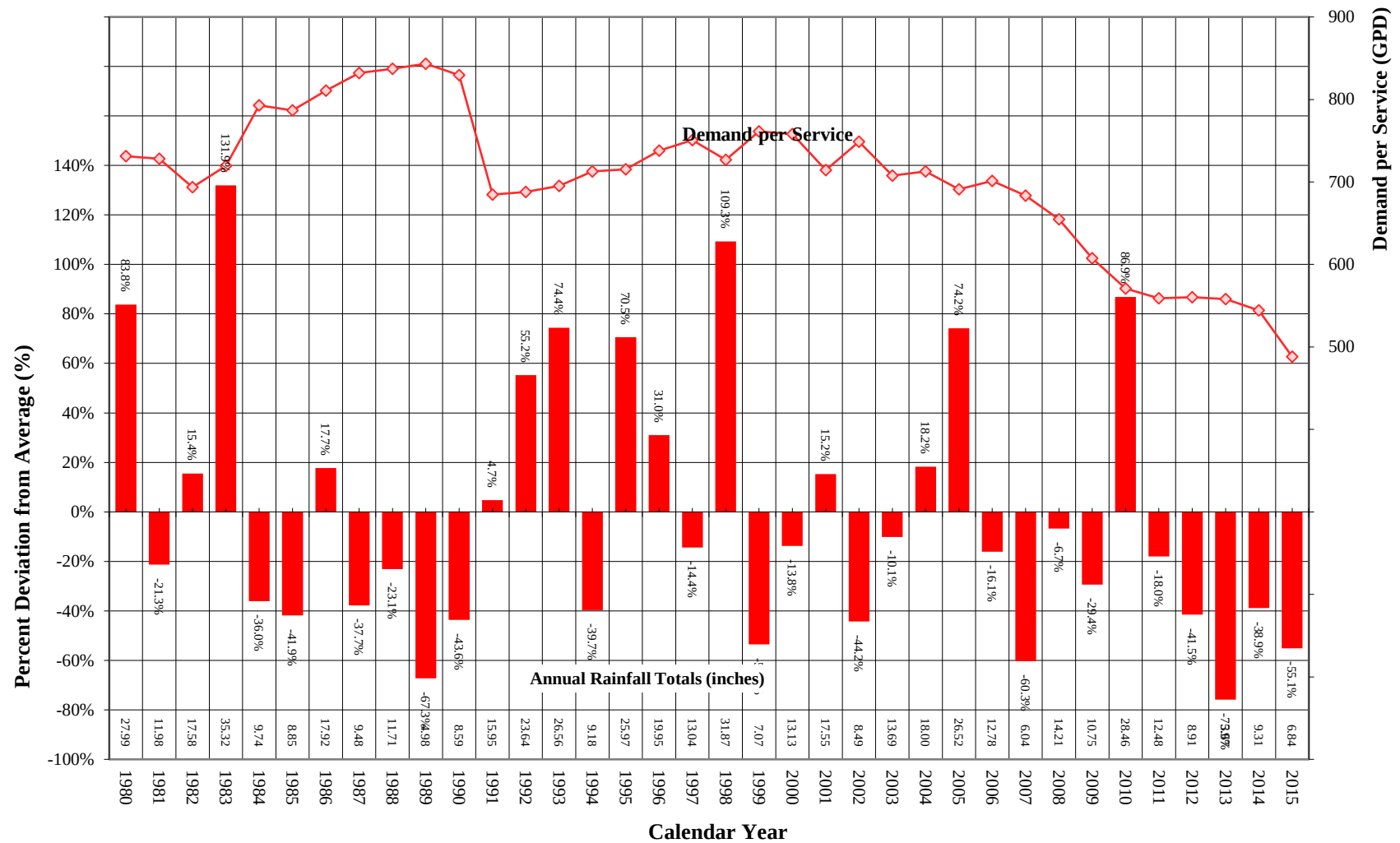
Worksheet 12

Year	US Census		Persons per Housing Unit	Single Family	Multi Family Residential			Flat Rate
	Population	Housing Units		Residential		Residential	Unit	Residential
				Services (DU)	Services	Units (DU)	Density	Services (DU)
2000	148,480	38,246	3.882	20,197	136	18,049	132.7	0
2010	149,283	38,973	3.830	20,257	135	18,716	138.8	0
	0.5%	1.9%	-1.3%	0.3%	-0.9%	3.7%	4.6%	0.0%

Year	Single Family Residential Services (DU)	Multi Family Residential			Flat Rate Residential Services (DU)	Total Residential Dwelling Units	Persons per Housing Unit	Estimated District Population
		Services	Residential Units (DU)	Unit Density				
1995	20,140	136	18,026	132.7	0	38,167	3.882	148,173
1996	20,141	136	18,038	132.7	0	38,178	3.882	148,218
1997	20,109	136	17,982	132.7	0	38,091	3.882	147,879
1998	20,114	136	18,049	132.7	0	38,163	3.882	148,157
1999	20,124	136	18,026	132.7	0	38,150	3.882	148,108
2000	20,197	136	18,049	132.7	0	38,246	3.882	148,480
2001	20,215	136	18,115	133.3	0	38,330	3.877	148,608
2002	20,263	136	18,182	133.7	0	38,445	3.872	148,854
2003	20,318	136	18,249	134.2	0	38,567	3.867	149,125
2004	20,322	136	18,316	134.9	0	38,638	3.862	149,200
2005	20,371	136	18,382	135.2	0	38,754	3.856	149,446
2006	20,383	136	18,449	135.7	0	38,832	3.851	149,549
2007	20,402	135	18,516	137.1	0	38,918	3.846	149,677
2008	20,324	136	18,583	137.1	0	38,907	3.841	149,433
2009	20,242	135	18,649	138.1	0	38,892	3.836	149,173
2010	20,257	135	18,716	138.8	0	38,973	3.830	149,283
2011	20,283	423	18,783	44.4	0	39,066	3.830	149,640
2012	20,280	521	18,850	36.2	0	39,129	3.830	149,882
2013	20,287	596	18,917	31.7	0	39,204	3.830	150,167
2014	20,293	654	18,983	29.0	0	39,277	3.830	150,446
2015	20,300	713	19,050	26.7	0	39,351	3.830	150,729
2016	20,309	738	19,570	26.5	0	39,879	3.830	152,753
2017	20,317	761	20,027	26.3	0	40,345	3.830	154,537
2018	20,326	782	20,423	26.1	0	40,749	3.830	156,086
2019	20,335	801	20,759	25.9	0	41,093	3.830	157,405
2020	20,343	818	21,035	25.7	0	41,379	3.830	158,497
2025	20,386	879	22,164	25.2	0	42,549	3.830	162,982
2030	20,429	910	22,854	25.1	0	43,283	3.830	165,790
2035	20,472	915	22,980	25.1	0	43,451	3.830	166,437
2040	20,515	920	23,106	25.1	0	43,621	3.830	167,087

Notes: Linear extrapolation used to estimated MFR-DU from 2000 until 2015 due to reclassification. Declining MFR Unit Density is used until 2025.

Comparison of Annual Rainfall to Historical Average



California Water Service Company - East Los Angeles District
Water Supply and Demand Analysis and Projections

Worksheet 13

Temperature & Rainfall History

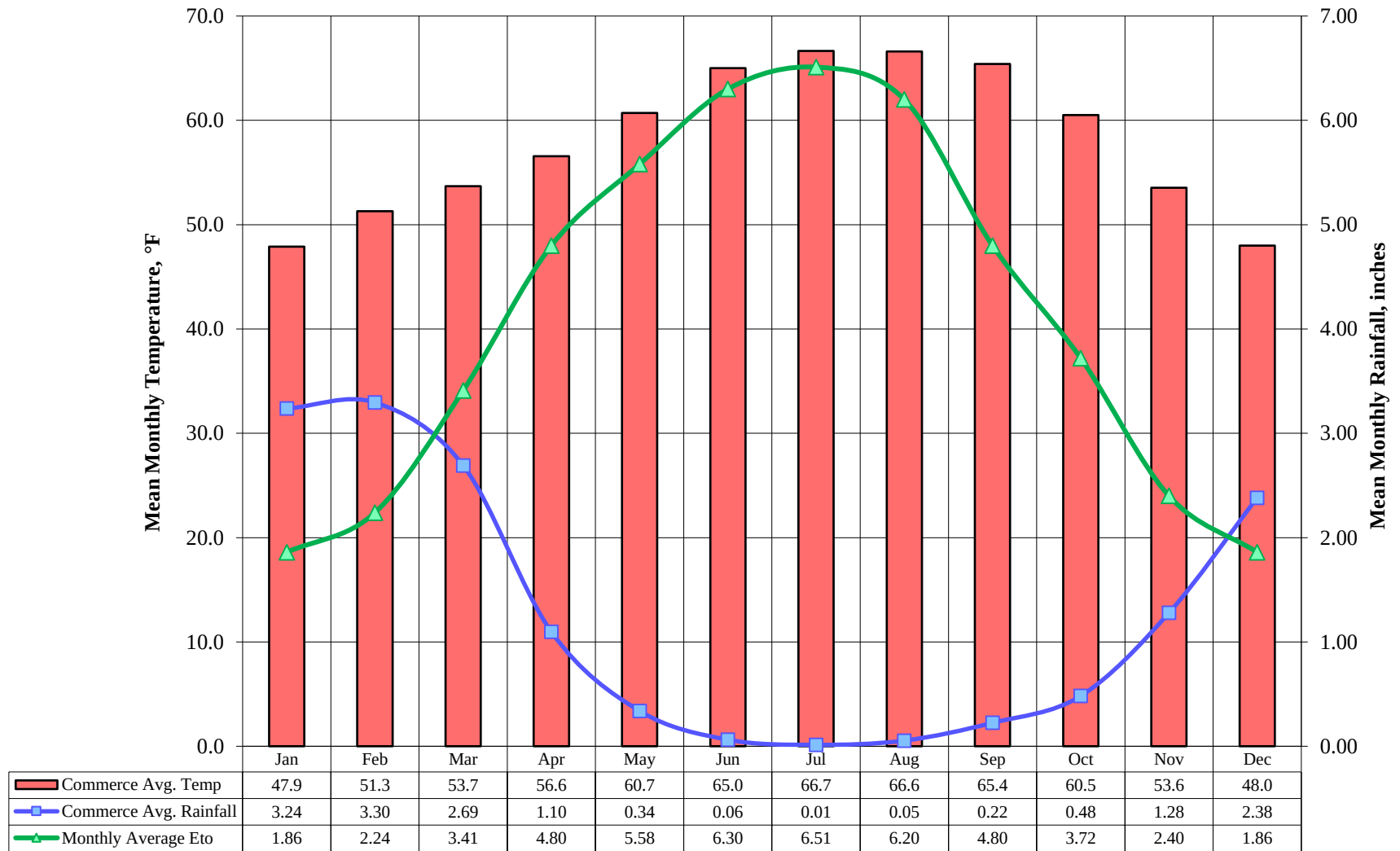
Year	Precipitation		Temperature			Demand per Service (gpd)	Percent of Average Demand
	Annual (in)	Percent Variation	Tmax (°F)	Tmin (°F)	Mean (°F)		
1980	27.99	83.8%	89.10	48.10	68.6	731	3.9%
1981	11.98	-21.3%	90.80	47.70	69.3	728	3.4%
1982	17.58	15.4%	87.90	44.80	66.4	694	-1.5%
1983	35.32	131.9%	90.90	48.40	69.7	719	2.2%
1984	9.74	-36.0%	92.60	46.10	69.4	793	12.6%
1985	8.85	-41.9%	90.80	45.00	67.9	787	11.8%
1986	17.92	17.7%	89.20	46.40	67.8	811	15.2%
1987	9.48	-37.7%	86.70	43.80	65.3	832	18.2%
1988	11.71	-23.1%	86.30	45.30	65.8	837	19.0%
1989	4.98	-67.3%	86.80	43.30	65.1	843	19.8%
1990	8.59	-43.6%	89.50	43.70	66.6	829	17.9%
1991	15.95	4.7%	85.40	46.70	66.1	685	-2.7%
1992	23.64	55.2%	91.10	44.60	67.9	688	-2.3%
1993	26.56	74.4%	85.60	46.60	66.1	695	-1.2%
1994	9.18	-39.7%	91.60	46.30	69.0	713	1.3%
1995	25.97	70.5%	89.60	48.60	69.1	715	1.6%
1996	19.95	31.0%	89.20	48.10	68.7	738	4.8%
1997	13.04	-14.4%	91.20	47.30	69.3	751	6.7%
1998	31.87	109.3%	91.20	46.00	68.6	727	3.3%
1999	7.07	-53.6%	88.10	45.70	66.9	761	8.1%
2000	13.13	-13.8%	87.70	47.10	67.4	758	7.7%
2001	17.55	15.2%	85.30	43.70	64.5	714	1.5%
2002	8.49	-44.2%	86.20	45.80	66.0	749	6.4%
2003	13.69	-10.1%	89.60	46.60	68.1	708	0.6%
2004	18.00	18.2%	87.30	46.70	67.0	713	1.3%
2005	26.52	74.2%	85.40	49.00	67.2	691	-1.8%
2006	12.78	-16.1%	92.00	45.90	69.0	701	-0.4%
2007	6.04	-60.3%	87.60	44.60	66.1	683	-2.9%
2008	14.21	-6.7%	87.00	45.90	66.5	655	-7.0%
2009	10.75	-29.4%	89.40	47.10	68.3	608	-13.7%
2010	28.46	86.9%	85.80	48.60	67.2	571	-18.9%
2011	12.48	-18.0%	86.10	44.10	65.1	559	-20.6%
2012	8.91	-41.5%	89.40	47.80	68.6	560	-20.4%
2013	3.67	-75.9%	87.30	44.50	65.9	558	-20.7%
2014	9.31	-38.9%	88.60	49.50	69.1	544	-22.6%
2015	6.84	-55.1%	90.40	45.30	67.9	488	-30.6%
2016							
2017							
2018							
2019							
2020							

Precipitation (1895 - present)						Monthly Average Eto
	Mean	High	Year	Low	Year	
	in.	in.	-	in.	-	
Jan	3.24	14.31	1969	0.00	1945	1.86
Feb	3.30	15.99	1998	0.00	1896	2.24
Mar	2.69	11.12	1938	0.00	1931	3.41
Apr	1.10	7.66	1926	0.00	1909	4.80
May	0.34	3.98	1921	0.00	1903	5.58
Jun	0.06	0.94	1993	0.00	1902	6.30
Jul	0.01	0.58	2015	0.00	1967	6.51
Aug	0.05	2.40	1977	0.00	1957	6.20
Sep	0.22	5.08	1939	0.00	1895	4.80
Oct	0.48	4.63	2004	0.00	1903	3.72
Nov	1.28	9.80	1965	0.00	1898	2.40
Dec	2.38	11.76	2010	0.00	1900	1.86
Annual	15.16	35.32	1983	3.67	2013	49.68

Temperature (1895 - present)			
	Tmax	Tmin	Mean
	°F	°F	°F
Jan	57.3	38.5	47.9
Feb	61.2	41.4	51.3
Mar	64.3	43.1	53.7
Apr	68.4	44.7	56.6
May	72.9	48.5	60.7
Jun	77.4	52.6	65.0
Jul	78.4	54.9	66.7
Aug	78.5	54.7	66.6
Sep	78.2	52.6	65.4
Oct	73.0	48.0	60.5
Nov	64.4	42.7	53.6
Dec	57.8	38.2	48.0
Annual	69.3	46.7	58.0

- 1) Eto values based on California Irrigation Management Information System (CIMIS), <http://www.cimis.water.ca.gov/cimis/welcome.jsp>, EvapoTranspiration (Eto) Zones Map, Zone 6
- 2) PPT, Tmax, Tmin obtained from PRISM where, PPT is total monthly rainfall, Tmax is average of maximum temperatures for given month, and Tmin is average of minimum temperatures for given month
- 3) Percent variation based on average of 1980 to present values

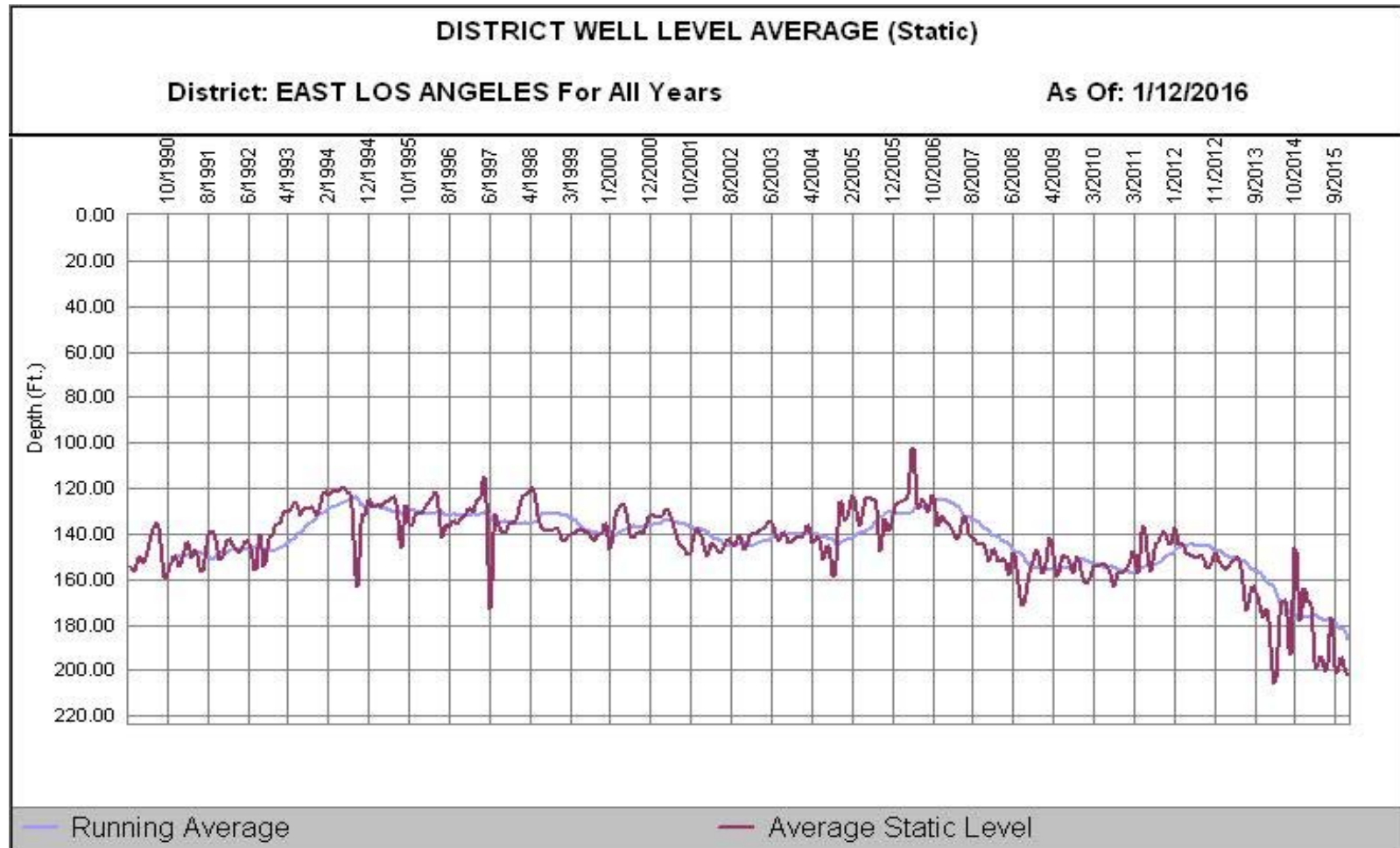
Average Monthly Temperature, Rainfall, and Monthly Eto

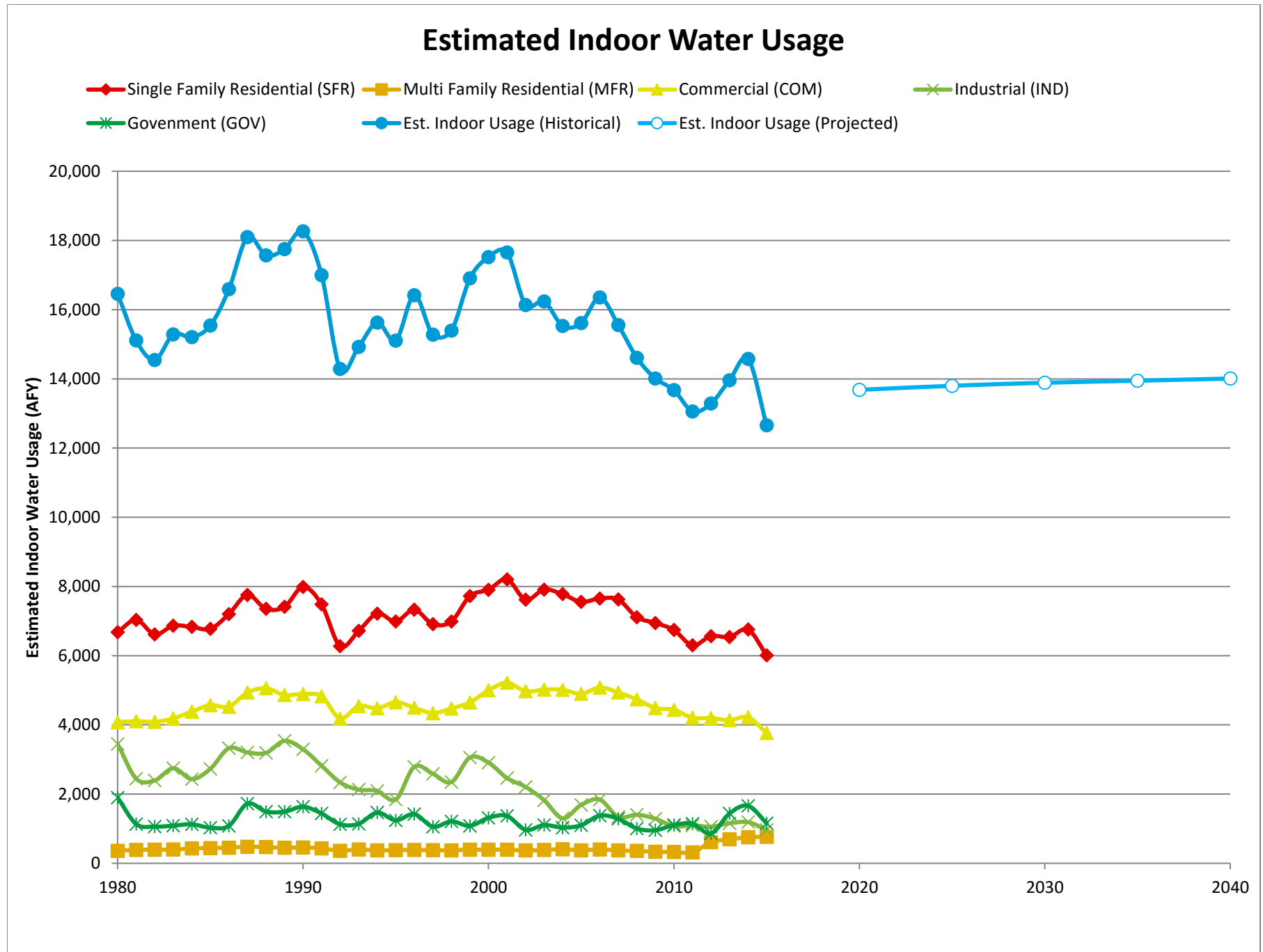


California Water Service Company - East Los Angeles District Water Supply and Demand Analysis and Projections

Worksheet 14

Groundwater Production Facilities





California Water Service Company - East Los Angeles District

Water Supply and Demand Analysis and Projections

Estimated Indoor/Outdoor Water Usage

Year	Single Family Residential (SFR)							Multi Family Residential (MFR)				Commercial (COM)			
	SFR Jan Usage	Metered SFR Indoor Use (Annualized 90% of January Total)		Indoor Flat Rate Usage (AFY)	Total SFR Indoor Usage			MFR Jan Usage	MFR Indoor Use (Annualized 90% of January Total)			COM Jan Usage	COM Indoor Use (Annualized 90% of January Total)		
	JAN (CCF)	AFY	GPD/Serv		AFY	GPD/Serv	%	(CCF)	AFY	GPD/Serv	%	(CCF)	AFY	GPD/Serv	%
1980	269,341	6,678	0.340	0	6,678	303	81%	14,445	358	2,518	85%	164,336	4,074	753	85%
1981	283,790	7,036	0.357	0	7,036	318	83%	15,613	387	2,679	89%	165,661	4,107	755	83%
1982	266,746	6,614	0.334	0	6,614	298	80%	15,829	392	2,680	88%	164,791	4,086	747	85%
1983	276,865	6,864	0.346	0	6,864	309	83%	15,945	395	2,694	86%	168,921	4,188	762	84%
1984	275,522	6,831	0.344	0	6,831	307	75%	17,312	429	2,903	85%	176,824	4,384	796	80%
1985	273,236	6,774	0.341	0	6,774	304	75%	17,750	440	2,950	85%	184,345	4,571	827	82%
1986	290,485	7,202	0.362	0	7,202	323	78%	18,259	453	3,016	88%	182,579	4,527	819	80%
1987	312,832	7,756	0.389	0	7,756	347	83%	19,254	477	3,180	93%	198,998	4,934	893	83%
1988	296,605	7,354	0.369	0	7,354	329	79%	18,946	470	3,130	92%	204,075	5,060	916	85%
1989	298,873	7,410	0.372	0	7,410	332	77%	18,067	448	2,984	86%	196,171	4,864	883	83%
1990	322,063	7,985	0.400	0	7,985	357	85%	18,494	459	3,068	91%	197,280	4,891	885	84%
1991	301,773	7,482	0.373	0	7,482	333	95%	17,402	431	2,855	101%	194,637	4,826	852	91%
1992	253,102	6,275	0.312	0	6,275	278	76%	14,521	360	2,358	81%	168,817	4,186	738	78%
1993	270,853	6,715	0.333	0	6,715	298	78%	16,069	398	2,612	89%	183,259	4,544	802	81%
1994	291,063	7,216	0.359	0	7,216	320	82%	15,056	373	2,450	87%	180,622	4,478	795	79%
1995	281,826	6,987	0.347	0	6,987	310	79%	15,327	380	2,498	85%	187,706	4,654	829	83%
1996	295,505	7,327	0.364	0	7,327	325	80%	15,535	385	2,530	87%	181,300	4,495	803	81%
1997	278,775	6,912	0.344	0	6,912	307	74%	15,292	379	2,498	85%	175,041	4,340	778	78%
1998	281,868	6,988	0.347	0	6,988	310	79%	15,138	375	2,464	87%	180,463	4,474	802	83%
1999	311,567	7,725	0.384	0	7,725	343	85%	15,824	392	2,579	88%	187,470	4,648	834	83%
2000	318,778	7,904	0.391	0	7,904	349	85%	15,742	390	2,562	88%	201,563	4,997	897	85%
2001	331,057	8,208	0.406	0	8,208	362	90%	15,827	392	2,577	92%	210,500	5,219	936	89%
2002	307,249	7,618	0.376	0	7,618	336	80%	14,939	370	2,431	87%	200,547	4,972	893	84%
2003	319,038	7,910	0.389	0	7,910	348	84%	15,506	384	2,524	87%	202,361	5,017	898	85%
2004	313,682	7,777	0.383	0	7,777	342	83%	16,452	408	2,683	92%	202,272	5,015	898	83%
2005	304,663	7,554	0.371	0	7,554	331	83%	15,127	375	2,462	87%	197,493	4,897	876	85%
2006	308,694	7,654	0.375	0	7,654	335	84%	16,186	401	2,636	94%	204,896	5,080	911	86%
2007	307,444	7,623	0.374	0	7,623	334	83%	14,944	371	2,449	87%	199,131	4,937	885	85%
2008	286,844	7,112	0.350	0	7,112	312	81%	14,396	357	2,352	90%	190,949	4,734	841	83%
2009	280,091	6,944	0.343	0	6,944	306	85%	13,550	336	2,222	89%	180,985	4,487	788	84%
2010	271,890	6,741	0.333	0	6,741	297	86%	13,093	325	2,149	88%	178,837	4,434	780	86%
2011	254,033	6,298	0.311	0	6,298	277	83%	12,808	318	670	51%	169,640	4,206	776	86%
2012	264,827	6,566	0.324	0	6,566	289	85%	24,542	608	1,042	82%	169,238	4,196	786	87%
2013	263,723	6,539	0.322	0	6,539	288	85%	27,914	692	1,036	87%	166,751	4,134	784	86%
2014	272,412	6,754	0.333	0	6,754	297	92%	30,384	753	1,028	90%	170,163	4,219	809	93%
2015	242,374	6,009	1.304	0	6,009	264	90%	30,812	764	956	90%	151,715	3,762	728	91%
2016					6,440	283			783	947			4,014	777	
2017					6,442	283			807	947			4,018	777	
2018					6,445	283			830	947			4,021	777	
2019					6,448	283			850	947			4,025	777	
2020					6,451	283			868	947			4,029	777	
2025					6,464	283			932	947			4,047	777	
2030					6,478	283			965	947			4,065	777	
2035					6,491	283			971	947			4,083	777	
2040					6,505	283			976	947			4,102	777	

Note: GPD/Service is estimated as the average of the last 5 years for given customer class.

California Water Service Company - East Los Angeles District

Water Supply and Demand Analysis and Projections

Estimated Indoor/Outdoor Water Usage

Year	Industrial (IND)				Government (GOV)			
	IND Jan Usage	IND Indoor Use (Annualized 90% of January Total)			GOV Jan Usage	GOV Indoor Use (Annualized 90% of January Total)		
	(CCF)	AFY	GPD/Serv	%	(CCF)	AFY	GPD/Serv	%
1980	139,108	3,449	10,266	96%	76,571	1,898	5,202	103%
1981	98,649	2,446	7,299	75%	45,737	1,134	3,083	58%
1982	96,565	2,394	7,241	76%	42,711	1,059	2,895	63%
1983	110,800	2,747	8,428	82%	43,826	1,087	2,948	63%
1984	98,184	2,434	7,470	70%	45,471	1,127	3,101	49%
1985	110,089	2,729	8,424	76%	41,443	1,028	2,826	51%
1986	134,171	3,327	10,439	84%	43,603	1,081	2,901	50%
1987	129,201	3,203	10,020	80%	69,553	1,724	4,624	68%
1988	128,635	3,189	9,935	78%	60,317	1,495	3,945	63%
1989	142,652	3,537	11,203	85%	60,107	1,490	3,880	63%
1990	132,902	3,295	10,459	77%	65,950	1,635	4,180	73%
1991	113,687	2,819	15,818	83%	58,046	1,439	3,787	80%
1992	94,304	2,338	15,645	81%	45,380	1,125	2,943	63%
1993	85,834	2,128	14,090	81%	46,007	1,141	2,957	61%
1994	84,458	2,094	13,933	81%	59,139	1,466	3,777	76%
1995	74,312	1,842	12,359	63%	50,069	1,241	3,373	67%
1996	112,486	2,789	18,615	88%	57,381	1,423	3,935	77%
1997	104,354	2,587	17,756	84%	42,625	1,057	2,908	58%
1998	94,673	2,347	15,805	74%	48,846	1,211	3,325	78%
1999	123,360	3,059	20,364	83%	43,642	1,082	2,939	67%
2000	117,358	2,910	19,385	84%	53,004	1,314	3,616	77%
2001	99,326	2,463	16,499	92%	55,196	1,368	3,825	84%
2002	89,020	2,207	15,186	86%	38,996	967	2,695	57%
2003	73,543	1,823	12,953	91%	44,554	1,105	3,075	70%
2004	52,357	1,298	9,167	63%	41,584	1,031	2,807	64%
2005	68,100	1,688	11,853	85%	44,307	1,099	2,969	69%
2006	74,242	1,841	13,173	93%	55,623	1,379	3,695	84%
2007	54,033	1,340	9,658	82%	51,779	1,284	3,446	73%
2008	56,608	1,404	10,581	0%	40,518	1,005	2,574	55%
2009	51,940	1,288	10,063	0%	38,531	955	2,329	60%
2010	43,215	1,071	8,528	0%	44,580	1,105	2,732	73%
2011	44,151	1,095	8,738	0%	46,144	1,144	2,876	76%
2012	42,710	1,059	8,620	0%	34,639	859	2,178	53%
2013	46,598	1,155	9,484	0%	58,132	1,441	3,610	84%
2014	47,932	1,188	9,839	0%	67,003	1,661	4,193	92%
2015	38,868	964	8,040	0%	46,705	1,158	2,947	79%
2016		1,072	8,944			1,246	3,161	
2017		1,072	8,944			1,250	3,161	
2018		1,072	8,944			1,255	3,161	
2019		1,072	8,944			1,259	3,161	
2020		1,072	8,944			1,263	3,161	
2025		1,072	8,944			1,285	3,161	
2030		1,072	8,944			1,308	3,161	
2035		1,072	8,944			1,330	3,161	
2040		1,072	8,944			1,353	3,161	

Estimated Indoor/Outdoor Usage			
Est. Indoor Usage	Est. Outdoor Usage	Est. Indoor Usage	Est. Outdoor Usage
AFY	AFY	%	%
16,458	4,226	80%	20%
15,110	5,562	73%	27%
14,545	5,236	74%	26%
15,282	5,270	74%	26%
15,206	7,468	67%	33%
15,542	6,995	69%	31%
16,589	6,657	71%	29%
18,095	5,792	76%	24%
17,568	6,463	73%	27%
17,749	6,452	73%	27%
18,265	5,590	77%	23%
16,997	2,747	86%	14%
14,284	5,599	72%	28%
14,926	5,182	74%	26%
15,628	4,967	76%	24%
15,105	5,530	73%	27%
16,418	4,856	77%	23%
15,275	6,328	71%	29%
15,396	5,529	74%	26%
16,906	5,015	77%	23%
17,515	4,376	80%	20%
17,651	2,988	86%	14%
16,134	5,530	74%	26%
16,240	4,294	79%	21%
15,529	5,157	75%	25%
15,612	4,489	78%	22%
16,355	4,050	80%	20%
15,554	4,343	78%	22%
14,611	4,440	77%	23%
14,011	3,658	79%	21%
13,676	2,916	82%	18%
13,061	3,234	80%	20%
13,288	3,049	81%	19%
13,962	2,331	86%	14%
14,576	1,327	92%	8%
12,656	1,612	89%	11%
13,555	4,443	75%	25%
13,590	4,454	75%	25%
13,623	4,465	75%	25%
13,653	4,474	75%	25%
13,682	4,483	75%	25%
13,800	4,521	75%	25%
13,887	4,549	75%	25%
13,947	4,569	75%	25%
14,008	4,589	75%	25%

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