



Water Utilities

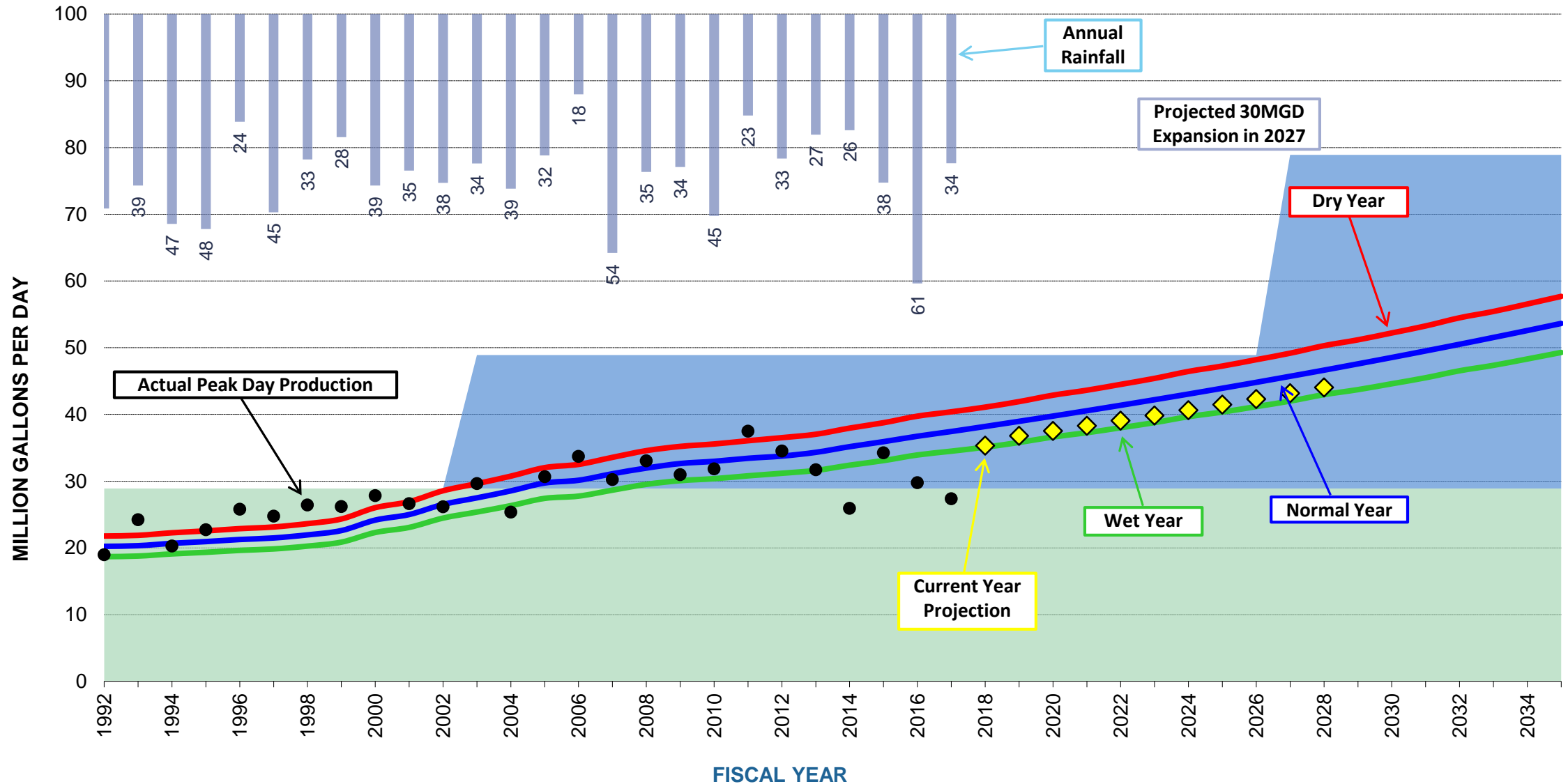
FY 2018-19 Budget Presentation

Water Volume Forecast

Water Customers by Class							
Fiscal Year	Residential		Commercial		Wholesale	Total	Growth
2013	27,486	1.0%	4,226	1.6%	2	31,714	1.1%
2014	27,915	1.6%	4,301	1.8%	2	32,218	1.6%
2015	28,722	2.9%	4,552	5.8%	2	33,276	3.3%
2016	29,411	2.4%	4,640	1.9%	2	34,053	2.3%
2017	29,880	1.6%	4,682	0.9%	2	34,564	1.5%
2018	30,518	2.1%	4,735	1.1%	2	35,255	2.0%
2019	31,171	2.1%	4,787	1.1%	2	35,960	2.0%
2020	31,839	2.1%	4,839	1.1%	2	36,680	2.0%
2021	32,520	2.1%	4,891	1.1%	2	37,413	2.0%
2022	33,216	2.1%	4,944	1.1%	2	38,161	2.0%
2023	33,927	2.1%	4,996	1.1%	2	38,925	2.0%

Water Volume Forecast

Historical and Projected Peak Day Finished Water Production



■ Lewisville Plant Capacity (MGD) ■ Ray Roberts Plant Capacity (MGD)

Water Assumptions

- All rates based on cost of service
- Maintain debt coverage ratio of 1.25 or higher
- Distribution system replacement funding target is 100% revenue funded
- Treatment plant infrastructure funding target is 25% revenue funded, 75% debt funded
- Reserves maintained within 120-180 day range(33%-50% of budgeted expenses)
- Use multi-year financial planning to minimize rate increases
- Rate revenue forecast based on 145 GPCD

Water

Cost Containment Strategies

- Improved debt service efficiency by balancing CIP projects and cash flow schedules.
- Budgeted salary savings of \$175,000 (vacancies)
- Reduced revenue funded capital in FY19 by \$2 million to level out the 5 year contributions
- Removed Customer Service from Water budget to better reflect actual operating days of reserves for fund

Water

Future Risks and Mitigation

- Raw Water Transmission Line costs
 - Assessment studies used to target repairs where needed – In FY20 CIP - \$750,000 & Construction in FY21 CIP \$10,600,000
- Lewisville Dam repair
 - Working with Army Corps of Engineers for cost sharing – Currently budgeted \$3,750,000 in FY20, FY21, FY22 & FY23
- Ray Roberts 30MGD Expansion
 - Design is budgeted in FY22CIP \$9,000,000 & Construction of the expansion is forecasted to start in 2024
- Other transmission lines replacement funding
 - Using studies, system planning, and assessments to target funding where needed – Budgeted \$3,000,000 in FY23 CIP
- Age and condition of Lake Lewisville pump station
 - Programming into future CIP
- Declining per capita water usage
 - adjusting forecasts downwards

Water Options

Option 1: 2% Rate Decrease

- \$5.6 million reduction in reserves from FY 2019 to FY 2023

Option 2: No rate changes FY 2019 to FY 2023 (reduces future debt issues)

- \$4.2 million reduction in reserves from FY 2019 to FY 2023
- Funds an additional \$2.95 million of capital projects with revenue funding
- Reduces debt payment by \$922,515 from FY 2019 to FY 2023

Water

5 Year Forecast – Option 1 – 2% Rate Decrease

	Actual FY 2017	Budget FY 2018	Estimate FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Revenues (x 1,000)								
Rate Revenue	\$34,514	\$37,120	\$36,880	\$36,779	\$37,931	\$38,599	\$39,384	\$40,185
Non Rate Revenue	\$2,784	\$2,253	\$2,101	\$2,511	\$2,569	\$2,595	\$2,602	\$2,668
Impact Fee From Reserves	\$4,000	\$3,755	\$3,755	\$5,700	\$5,700	\$5,900	\$5,500	\$5,500
Subtotal	\$41,299	\$43,128	\$42,736	\$44,989	\$46,200	\$47,095	\$47,486	\$48,353
Planned Use of Reserves	0	0	0	0	0	0	0	0
TOTAL REVENUE	\$41,299	\$43,128	\$42,736	\$44,989	\$46,200	\$47,095	\$47,486	\$48,353
Expenditures (x 1,000)								
O&M	\$14,247	\$16,640	\$15,663	\$17,151	\$17,807	\$18,188	\$18,625	\$19,111
Revenue Funded Capital	\$11,579	\$8,269	\$8,497	\$11,688	\$10,728	\$11,725	\$10,648	\$10,474
Transfers (Internal and External)	\$2,380	\$2,357	\$2,370	\$2,450	\$2,527	\$2,632	\$2,711	\$2,792
ROI/Franchise Fee	\$2,947	\$3,224	\$3,176	\$3,177	\$3,275	\$3,333	\$3,411	\$3,480
Debt Service	\$11,195	\$12,638	\$12,638	\$12,663	\$13,592	\$12,798	\$12,771	\$11,534
TOTAL EXPENSE	\$42,348	\$43,128	\$42,345	\$47,128	\$47,930	\$48,676	\$48,166	\$47,391
Net Income	-\$1,049	\$0	\$392	(\$2,138)	(\$1,730)	(\$1,582)	(\$680)	\$962
Rate Increases	5.0%	0.0%	0.0%	-2.0%	0.0%	0.0%	0.0%	0.0%
<i>FY 2017 Rate Increases</i>	5.0%	0.0%	0.0%	0.0%	2.0%	2.0%	2.0%	--
Impact Fee SFE's								
Zone 1A - \$3,100	139	419	139	473	395	197	195	156
Zone 1B - \$3,900	1,110	559	1,270	632	628	787	595	406
Zone 2 - \$4,500	82	54	82	61	115	172	383	629
Total	1,331	1,032	1,490	1,165	1,139	1,156	1,173	1,191
RESERVE BALANCES								
Working Capital	\$3,388	\$3,450	\$3,388	\$3,770	\$3,834	\$3,894	\$3,853	\$3,791
Operating Reserve	\$19,605	\$16,527	\$19,747	\$16,976	\$14,932	\$13,291	\$12,652	\$13,676
Wrking Cptl + Op Reserve	\$22,993	\$19,977	\$23,135	\$20,746	\$18,767	\$17,185	\$16,505	\$17,467
Number of Working Days	198	169	199	161	143	129	125	135
Development Plan Lines	\$250	\$500	\$500	\$750	\$1,000	\$1,000	\$1,000	\$1,000
Impact Fee Reserve	\$6,650	\$5,250	\$7,102	\$5,620	\$4,176	\$2,743	\$1,955	\$1,308
Debt Coverage Ratio - 1.25	1.99	2.48	1.99	2.05	1.94	2.09	2.08	2.33
Wrking Cptl/ Op Reserve Target - 120 Days (33%)	\$13,975	\$14,232	\$13,974	\$15,552	\$15,817	\$16,063	\$15,895	\$15,639
Wrking Cptl/ Op Reserve Target - 180 Days (50%)	\$21,174	\$21,564	\$21,172	\$23,564	\$23,965	\$24,338	\$24,083	\$23,696
Net Revenue w/Rate Increase		1%	\$322	\$326	\$336	\$342	\$349	\$356
Rate Adjustment				-2%	0%	0%	0%	0%

Water

5 Year Forecast – Option 2 – No Rate Changes (Reduce Future Debt)

	Actual FY 2017	Budget FY 2018	Estimate FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Revenues (x 1,000)								
Rate Revenue	\$34,514	\$37,120	\$36,880	\$37,506	\$38,681	\$39,363	\$40,163	\$40,980
Non Rate Revenue	\$2,784	\$2,253	\$2,101	\$2,511	\$2,530	\$2,572	\$2,593	\$2,677
Impact Fee From Reserves	\$4,000	\$3,755	\$3,755	\$5,700	\$5,700	\$5,900	\$5,500	\$5,500
Subtotal	\$41,299	\$43,128	\$42,736	\$45,716	\$46,911	\$47,835	\$48,256	\$49,157
Planned Use of Reserves	0	0	0	0	0	0	0	0
TOTAL REVENUE	\$41,299	\$43,128	\$42,736	\$45,716	\$46,911	\$47,835	\$48,256	\$49,157
Expenditures (x 1,000)								
O&M	\$14,247	\$16,640	\$15,663	\$17,153	\$17,809	\$18,190	\$18,627	\$19,114
Revenue Funded Capital	\$11,579	\$8,269	\$8,497	\$14,638	\$10,728	\$11,725	\$10,648	\$10,474
Transfers (Internal and External)	\$2,380	\$2,357	\$2,370	\$2,450	\$2,527	\$2,632	\$2,711	\$2,792
ROI/Franchise Fee	\$2,947	\$3,224	\$3,176	\$3,239	\$3,339	\$3,398	\$3,477	\$3,548
Debt Service	\$11,195	\$12,638	\$12,638	\$12,663	\$13,362	\$12,567	\$12,540	\$11,303
TOTAL EXPENSE	\$42,348	\$43,128	\$42,345	\$50,142	\$47,765	\$48,513	\$48,003	\$47,230
Net Income	-\$1,049	\$0	\$392	(\$4,425)	(\$854)	(\$678)	\$252	\$1,927
Rate Increases	5.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<i>FY 2017 Rate Increases</i>	5.0%	0.0%	0.0%	0.0%	2.0%	2.0%	2.0%	--
Impact Fee SFE's								
Zone 1A - \$3,100	139	419	139	473	395	197	195	156
Zone 1B - \$3,900	1,110	559	1,270	632	628	787	595	406
Zone 2 - \$4,500	82	54	82	61	115	172	383	629
Total	1,331	1,032	1,490	1,165	1,139	1,156	1,173	1,191
RESERVE BALANCES								
Working Capital	\$3,388	\$3,450	\$3,388	\$4,011	\$3,821	\$3,881	\$3,840	\$3,778
Operating Reserve	\$19,605	\$16,527	\$19,747	\$14,448	\$13,534	\$12,797	\$13,090	\$15,078
Wrking Cptl + Op Reserve	\$22,993	\$19,977	\$23,135	\$18,459	\$17,356	\$16,678	\$16,930	\$18,857
Number of Working Days	198	169	199	134	133	125	129	146
Development Plan Lines	\$250	\$500	\$500	\$750	\$1,000	\$1,000	\$1,000	\$1,000
Impact Fee Reserve	\$6,650	\$5,250	\$7,102	\$5,620	\$4,176	\$2,743	\$1,955	\$1,308
Debt Coverage Ratio - 1.25	1.99	2.48	1.99	2.10	2.02	2.18	2.18	2.45
Wrking Cptl/ Op Reserve Target - 120 Days (33%)	\$13,975	\$14,232	\$13,974	\$16,547	\$15,762	\$16,009	\$15,841	\$15,586
Wrking Cptl/ Op Reserve Target - 180 Days (50%)	\$21,174	\$21,564	\$21,172	\$25,071	\$23,882	\$24,256	\$24,002	\$23,615
Net Revenue w/Rate Increase	1%		\$322	\$332	\$343	\$349	\$356	\$364
Rate Adjustment				0%	0%	0%	0%	0%

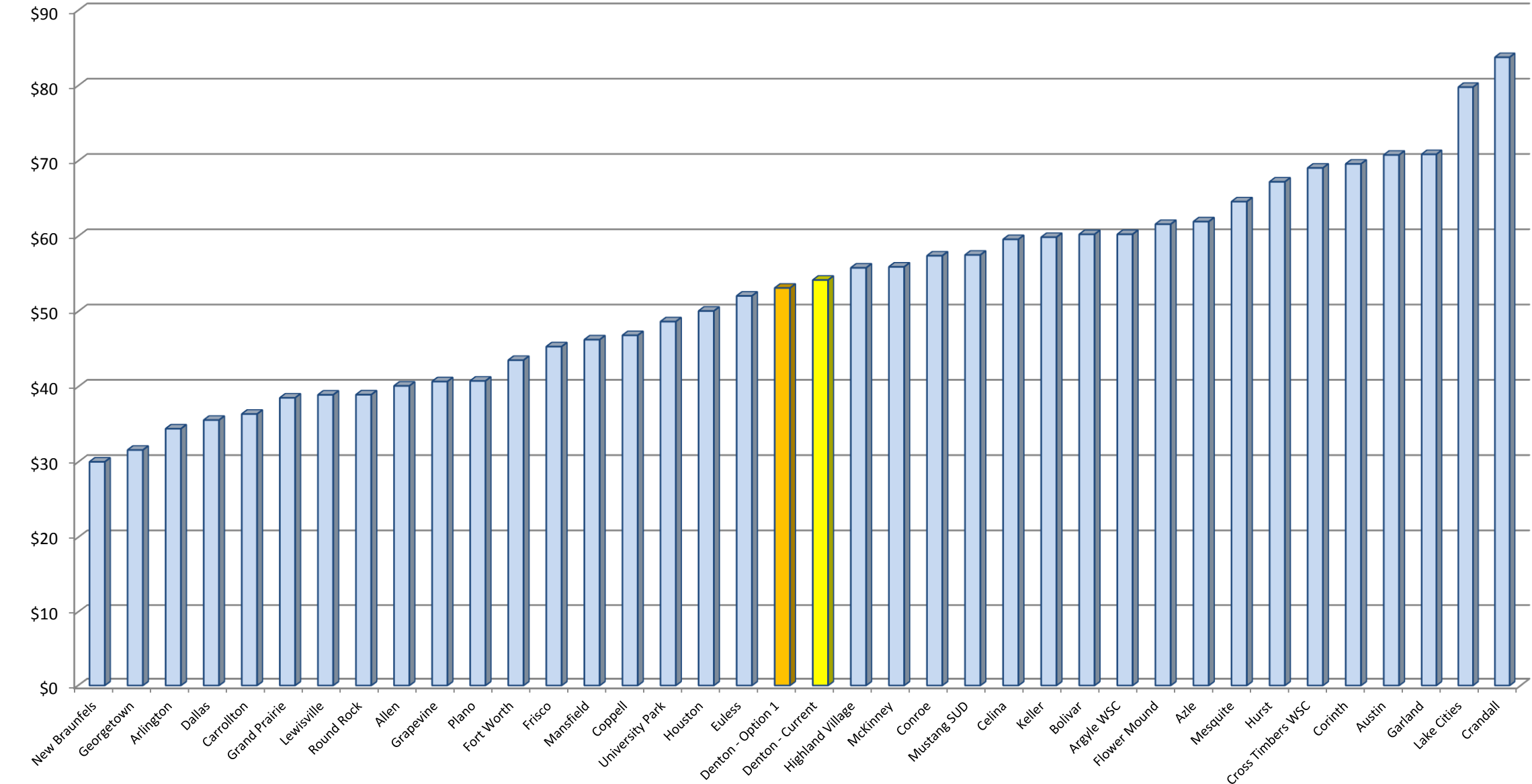
Water Budget Highlights

Revenues	FY 2014-15 Actuals	FY 2015-16 Actuals	FY 2016-17 Actuals	FY 2017-18 Budget	FY 2017-18 Estimate	FY 2018-19 Proposed
Interest Operating	75,016	99,325	223,638	175,000	174,000	247,000
Water Sales Residential	15,767,866	16,705,733	17,504,928	19,550,225	18,585,215	19,106,287
Water Sales Commercial	14,303,188	15,481,755	15,707,766	17,016,173	16,575,408	16,504,322
Water for Resale	1,042,231	616,588	1,301,603	553,406	1,719,330	1,168,296
Other Water	1,017,404	8,698,367	1,381,159	759,832	748,099	767,349
Cost of Service - General Fund	259,956	323,645	356,263	366,019	338,389	435,223
Cost of Service - Electric	394,748	384,988	398,550	480,674	374,204	474,500
Cost of Service - Wastewater	357,687	477,189	400,765	435,114	439,368	457,694
Cost of Service - Solid Waste	25,097	21,875	24,120	36,262	26,982	128,734
Impact Fee Revenue Utilization	3,600,000	4,000,000	4,000,000	3,755,404	3,755,404	5,700,000
TOTAL REVENUES	36,843,766	46,809,465	41,298,792	43,128,109	42,736,399	44,989,405
Use of Reserves	-	-	-	-	-	-
Total	36,843,766	46,809,465	41,298,792	43,128,109	42,736,399	44,989,405

Water Budget Highlights

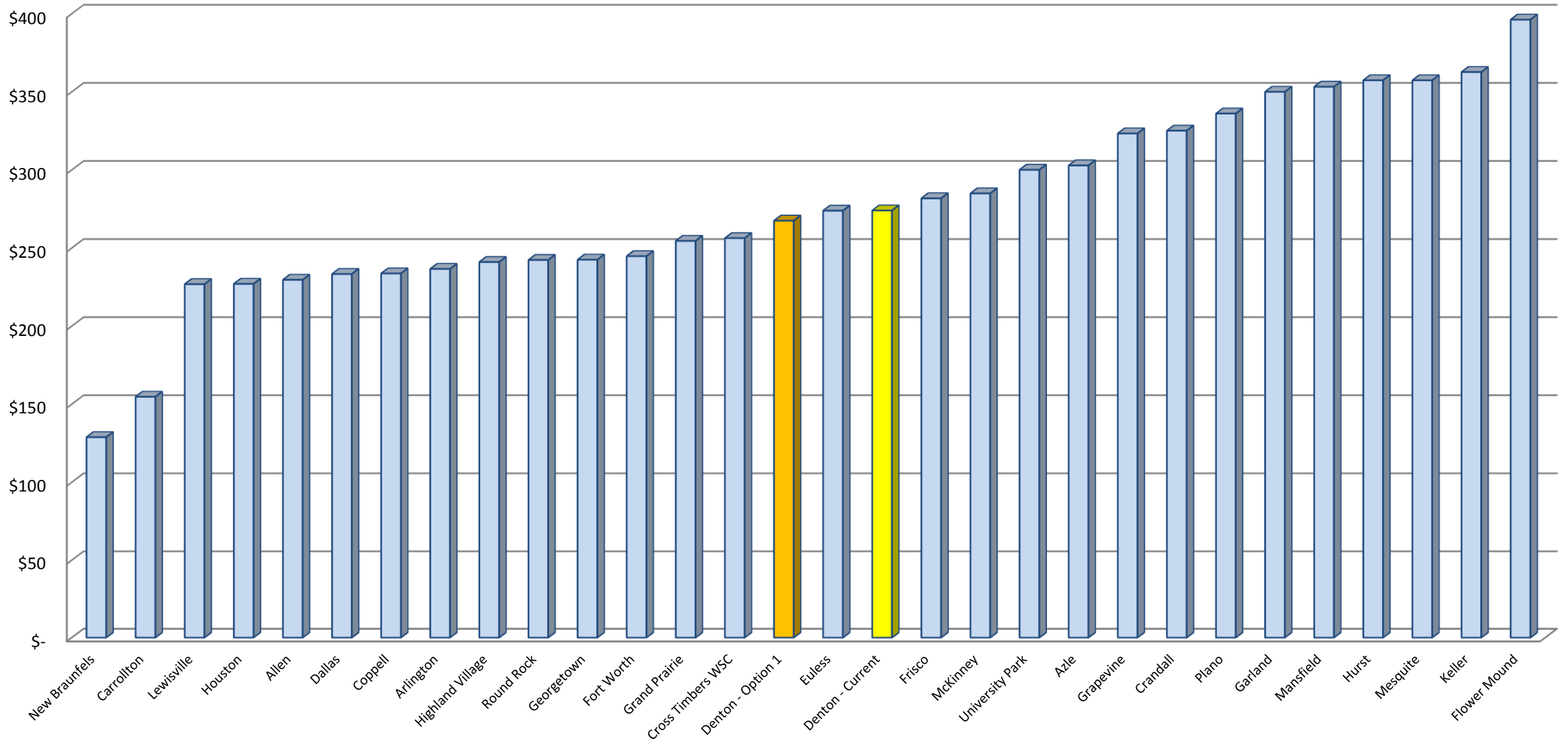
Expenses	FY 2014-15 Actuals	FY 2015-16 Actuals	FY 2016-17 Actuals	FY 2017-18 Budget	FY 2017-18 Estimate	FY 2018-19 Proposed
Purchased Power	1,398,275	1,295,189	1,221,663	1,600,000	1,561,851	1,431,895
Purchased Water	68,198	-	-	-	-	3,000
Personal Services	6,541,314	6,690,347	6,758,581	8,370,593	7,925,456	8,855,034
Materials & Supplies	1,037,444	1,101,030	1,169,137	1,325,614	1,290,976	1,408,230
Maintenance & Repairs	1,260,916	1,212,959	1,446,725	1,556,322	1,371,558	1,594,203
Insurance	177,917	189,432	67,537	182,800	179,420	223,433
Return on Investment	1,099,858	1,173,001	1,213,302	1,327,607	1,316,982	1,314,119
Franchise Fee	1,571,226	1,675,715	1,733,289	1,896,582	1,859,180	1,862,649
Miscellaneous	296,520	317,897	311,243	334,578	330,769	384,510
Operations	1,123,278	1,017,995	1,113,362	1,667,554	1,441,841	1,691,305
Debt Service	13,832,362	13,443,255	11,195,411	12,638,094	12,638,094	12,662,613
Cost of Service- General Fund	1,069,278	913,013	944,418	890,659	890,659	917,379
Cost of Service - Other	2,011,591	2,188,720	2,380,204	2,357,263	2,370,400	2,449,944
Transfer to Other Capital Projects	739,396	669,056	1,050,618	541,785	670,045	641,785
Transfer to Capital Projects	6,521,627	8,034,969	11,742,536	8,438,658	8,497,358	11,687,715
Total	38,749,200	39,922,578	42,348,026	43,128,109	42,344,589	47,127,813

Residential Water 9,200 Gallons

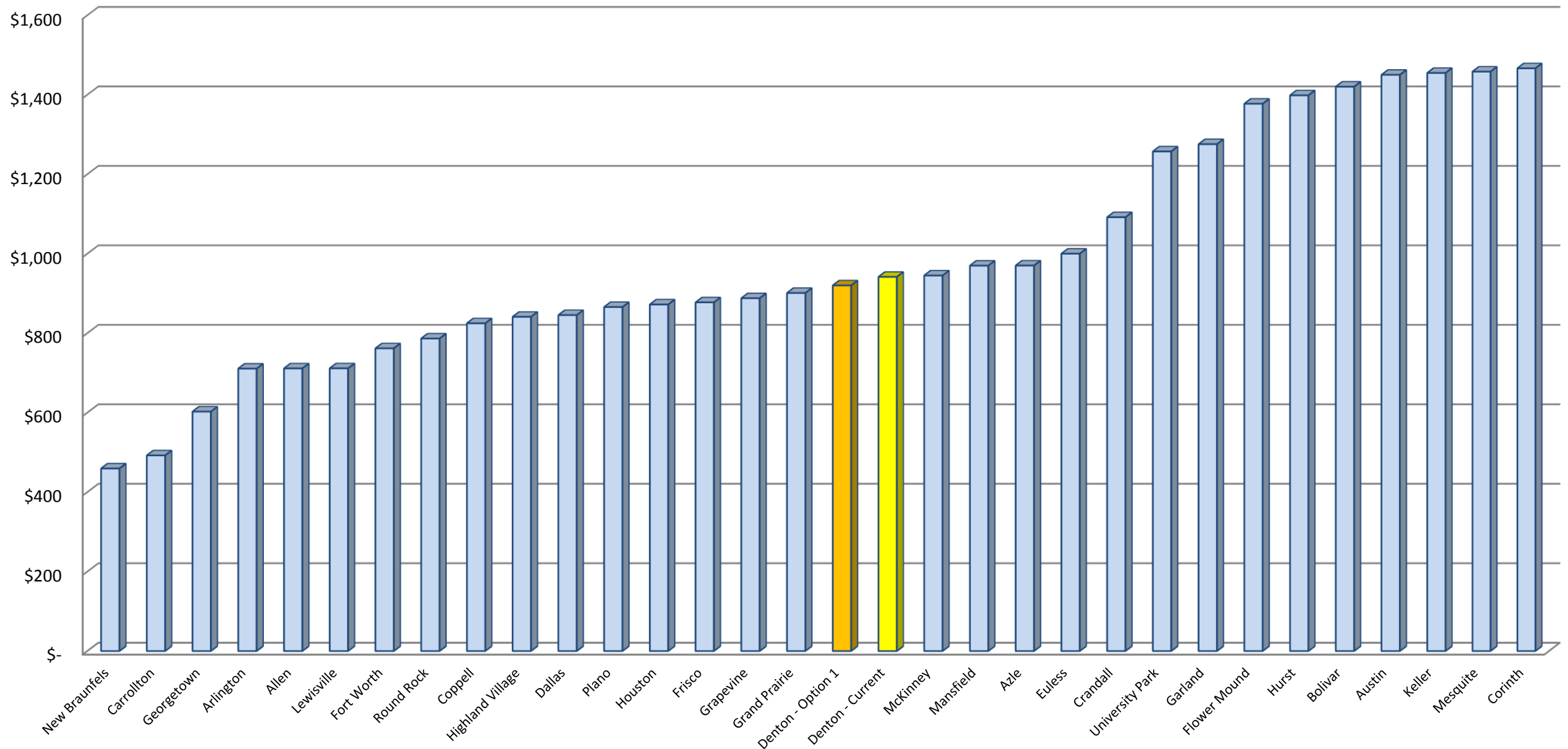


*Denton 10 year average – 8,460

Commercial Water 50,000 Gallons 2" Meters



Commercial Water 200,000 Gallons 2" Meters



Water Utilities

Departmental Presentation

Water Accomplishments

Accomplishments for 17-18

- Started 5-year update of the Water/Wastewater impact fees
- Started 25 year Water Distribution Master Plan
- Completed preliminary design for solids handling system for Lewisville WTP and moved into final design
- Completed Lake Lewisville Buoy Installation Project
- Completed a chloramination boosting facility at the southwest elevated tower to maintain water quality at Robson Ranch
- Completed water distribution replacement projects in advance of planned bond funded street reconstruction work

Water Goals

Goals for 18-19

- Complete 5-year update of Water/Wastewater impact fees
- Complete 25 year Water Distribution Master Plan
- Complete 10 year Utility Management Study (City Charter requirement)
- Begin construction of Lake Lewisville water treatment plant phase II rehabilitation and solids handling projects
- Complete Ray Roberts water treatment plant and equipment assessment and move into final design for plant rehabilitation
- Implement water Infomaster to assist decision-making for water line infrastructure replacements

Water Budget Emphasis

- Water system reliability and sustainability
- Plan and implement replacements for aging infrastructure
- Plan and implement capital improvements to support community growth

Water Process Improvements

Completed Process Improvement

- Converted from paper map books to portable laptops for water distribution
- More effectively used GIS and CMM software to plan and prioritize water distribution line replacements and coordinate with street department paving operations.

Future Process Improvement

- Improve efficiency and cost effectiveness on water main line replacement installations
- Develop a permanent system for handling and disposing of solids produced from the Lewisville Water Treatment Plant to replace the proposed temporary system
- Improve work order system in water metering using CityWorks software
- Continue to improve asset management program

Water Position Summary

Personnel (FTE)	FY 2014-15 Actuals	FY 2015-16 Actuals	FY 2016-17 Actuals	FY 2017-18 Budget	FY 2017-18 Estimate	FY 2018-19 Proposed
Regular	94.00	95.00	102.00	102.00	103.50	103.5
Temporary/Seasonal	4.00	4.00	4.00	3.00	3.00	2.00
Total	98.00	98.00	106.00	105.00	106.50	105.5

Additional FTE's

Department	Position	FTE	Position Description
630100 – Production	Electronic Tech I	1	Need additional Electronic Tech I to provide proper maintenance for all of the new equipment related to the ozone system at Lake Lewisville water treatment plant, chemical control equipment, turbidity analyzers, chlorine analyzers, communication radios and security cameras for all of the facilities.

Transferred to Wastewater FTE's

Old Department	Position	FTE	Position Description
Water Admin	Engineering Tech IV	1	Moving positions to a new business unit in wastewater but water will make a transfer to wastewater for the positions salary
Water Admin	Engineering Tech Intern	1	

Water

5 Year Capital Plan

2019-2023 Capital Improvements Plan Cash Requirements - Water

Group	Assignment Categories	2019	2020	2021	2022	2023	Total
002	002-BOOSTER STATION		300,000	4,150,000	700,000		5,150,000
003	003-BUILDING CONSTRUCTION	1,300,000					1,300,000
020	020-FIELD SERVICES REPLCE	1,888,168	1,514,325	1,521,988	1,424,919	1,990,540	8,339,940
024	024-MISC		3,750,000	3,750,000	3,750,000	3,750,000	15,000,000
027	027-OFFICE FURN/COMPUTER/EQUIP		50,000				50,000
029	029-OVERSIZE LINES	200,000	200,000	200,000	200,000	200,000	1,000,000
036	036-REPLACE LINES	4,205,000	1,020,000				5,225,000
042	042-TAPS,FIRE HYDS, METERS	1,334,547	1,393,832	1,453,398	1,513,250	1,573,397	7,268,424
043	043-TOOLS & EQUIPMENT	270,000	10,000	10,000	10,000	10,000	310,000
045	045-TRANSMISSION LINES	8,450,000	2,050,000	14,940,000		3,000,000	28,440,000
048	048-PLANT IMPROVEMENTS	10,950,000	14,000,000	1,150,000	16,750,000	150,000	43,000,000
050	050-VEHICLES	611,000	751,000	331,000	199,000	554,000	2,446,000
Grand Totals		\$29,208,715	\$25,039,157	\$27,506,386	\$24,547,169	\$11,227,937	\$117,529,364
Aid in Construction		\$258,047	\$265,788	\$273,762	\$281,975	\$290,434	\$1,370,006
Revenue		\$16,050,668	\$11,223,369	\$11,792,624	\$10,565,194	\$10,737,503	\$60,369,358
Utility Bonds		\$12,900,000	\$13,550,000	\$15,440,000	\$13,700,000	\$200,000	\$55,790,000
Grand Totals		\$29,208,715	\$25,039,157	\$27,506,386	\$24,547,169	\$11,227,937	\$117,529,364
Water Required Bond Sale		12,250,000	13,300,000	15,000,000	13,500,000	0	54,050,000

Major CIP projects

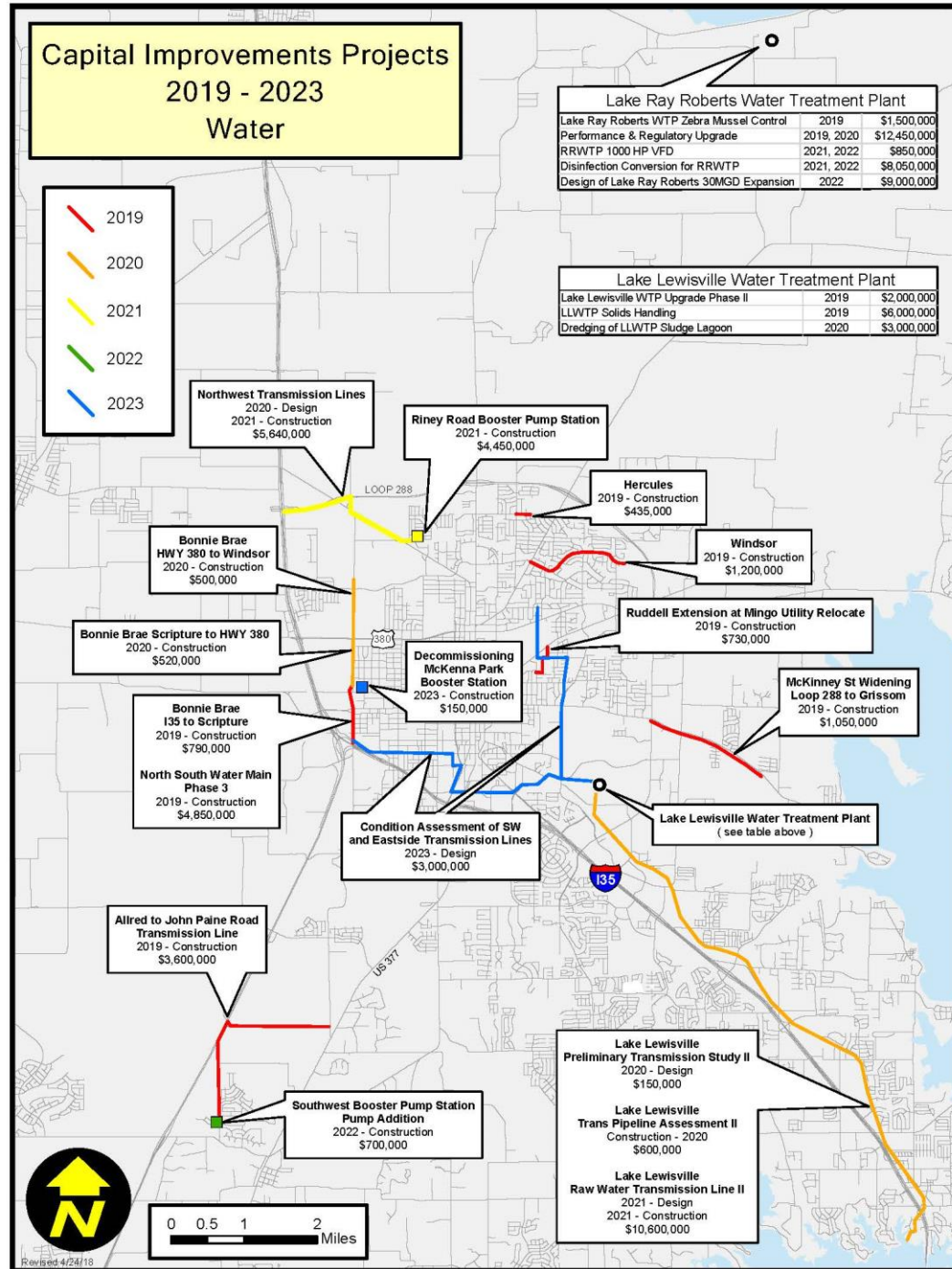
G-045 North South Water Main Phase 3 – FY19	\$4,850,000
G-045 Allred to John Paine Road Transmission Line – FY19	\$3,600,000
G-048 LLWTP Solids Handling – FY19	\$6,000,000
G-048 Performance & Regulatory Upgrade of RRWTP – FY19 & FY20	\$12,450,000
G-002 Riney Road Booster Pump Station – FY20 & FY21	\$4,450,000
G-045 Lewisville Raw Water Transmission Line II – FY20 & FY21	\$11,350,000
G-045 Northwest Transmission Lines – FY20 & FY21	\$5,640,000
G-048 Disinfection Conversion for RRWTP – FY21 & FY22	\$8,050,000
G-048 Design of Lake Ray Roberts 30MGD Expansion – FY22	\$9,000,000
G-045 Condition Assessment of SW & Eastside Tran Line – FY23	\$3,000,000
G-024 Lewisville Dam Safety Modifications – FY20, FY21, FY22 & FY23	\$15,000,000

Capital Improvements Projects 2019 - 2023 Water



Lake Ray Roberts Water Treatment Plant		
Lake Ray Roberts WTP Zebra Mussel Control	2019	\$1,500,000
Performance & Regulatory Upgrade	2019, 2020	\$12,450,000
RRWTP 1000 HP VFD	2021, 2022	\$850,000
Disinfection Conversion for RRWTP	2021, 2022	\$8,050,000
Design of Lake Ray Roberts 30MGD Expansion	2022	\$9,000,000

Lake Lewisville Water Treatment Plant		
Lake Lewisville WTP Upgrade Phase II	2019	\$2,000,000
LLWTP Solids Handling	2019	\$6,000,000
Dredging of LLWTP Sludge Lagoon	2020	\$3,000,000





Water

Questions / Comments