



Adding Quality to Life

Utility Trunk Fund Analysis

For Year Ending December 31, 2018

Prepared By:

Finance Division

Introduction

This analysis was done to update the financial projections for the trunk expansion fund and ensure the following:

1. Rates are sufficient to support the expansion of the water and sewer utilities to undeveloped areas.
2. Revenue sources are restricted to new users going forward.
3. An adequate cash balance is maintained to cover fluctuations in revenue and expenses.

Background

The Utility Trunk Expansion fund was created to track the cost of adding water and sewer mains to new developments and assist in evaluating whether the incoming revenue from those developments is adequate to cover the related expenses. The utility trunk fund was intended to separate projects related to growth from those related to maintenance and repair of systems used to serve existing residents.

Assumptions

The following are the significant assumptions made in this analysis:

- 1) Growth is estimated at 100-250 units per year from 2019-2029.
- 2) Area charges
 - a) 46% collected in the year charged
 - b) 54% assessed and collected over 5 years (15% collected as payoffs each year)
- 3) Expenses
 - a) Capital – 2020 through 2029 obtained from the proposed CIP document.
 - b) Capital beyond 2020 and all other expenses projected to increase 2% annually (based on *The American City and County Magazine's published Construction Cost Index*).
- 4) Rates – 2% increase

Overview and Recommendations

The Trunk Expansion fund generates revenue from water and sewer area and connection (REC) charges from new construction. These charges are intended to provide funding for the expansion of utility services to new developments and allocate the cost of the system to those who benefit, instead of existing users. The area charges are based on the land area associated with the development, and are charged out at a per-acre rate. It is normal practice to assess the area charges to the properties and collect the fee over a five year period, with interest. Water connection fees are based on the number of residential equivalency units (REU) assigned to their usage. An REU is defined as the use of 225 gallons per day, the equivalent of a typical single-family dwelling.

In order to keep up with the expenses of new development, we recommend annual rate increases of 2% to the Area and REC charges for both water and sewer for a minimum of five years, at which time new development will have leveled off and the financial demands on the Expansion Fund are reduced.

Proposed Increases	2%					
	2019	2020	2021	2022	2023	2024
Sewer Area	\$1,277	\$1,303	\$1,329	\$1,355	\$1,382	\$1,410
Water Area	4,743	4,838	4,935	5,033	5,134	5,237
Sewer REC	538	549	560	571	582	594
Water REC	1,379	1,407	1,435	1,463	1,493	1,523

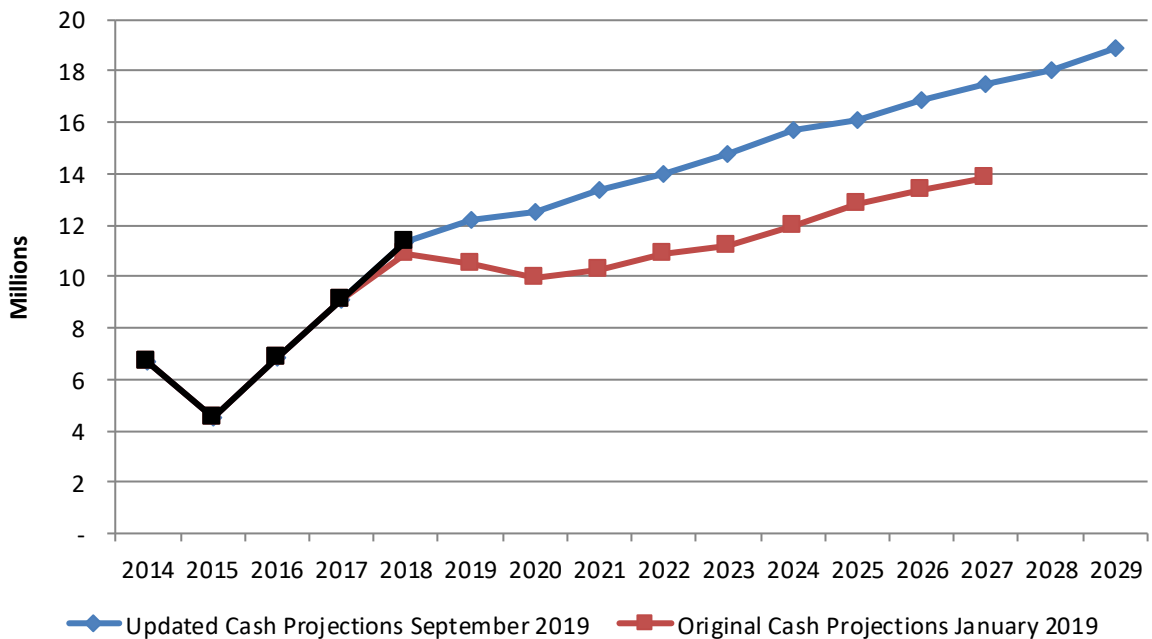
Note: Area charges are per acre and connection (REC) charges are per REU.

Cash Balances

The Utility Trunk Expansion fund had an estimated cash balance of \$11,183,150 as of 12/31/18. The actual cash balance is \$11,307,923.

Cash variances are the result of higher than anticipated REC charges, additional street assessments and interest. The increase in REC charges was due to the timing of development. The increase in street assessment was due to changes in the capital improvement projects. The remaining variance is due to the fluctuation of special assessments collected as this fund holds the receivables for street project special assessments. Special assessments are collected over a 5, 10 or 15 year term or up front. For projection purposes, 46% of assessments are estimated to be collected up front and 54% are estimated to be collected over the term with 15% collected as payoffs each year.

Utility Trunk Expansion Fund Cash Balances



*This study was adjusted to align with the 10 year CIP, therefore two years were added to this graph.

Growth expectations were adjusted in this study based on updated data from Community Development and the 2040 Comprehensive Plan. Proposed area and REC charges remain consistent with the previous study.

Summary

The Council had elected to fund expansion projects from new development (the users that derive the benefit). A 2% annual increase is recommended to ensure funds are available for future capital needs.

If growth continues as estimated, there will be very little development beyond 2025. The demand for expansion will dissipate as the City nears complete development, leaving the fund with a sizeable reserve. Upon full development of the city, a new water treatment plant will be evaluated for need. The cost is estimated at approximately \$9 million.

Staff recommends this cash balance be maintained until there is not a need for expansion projects. At that time, any excess can be transferred to the water and sewer utility funds for support of ongoing operations and maintenance of the system.

Appendix A Cash flow Projections

Appendix B Capital Expenditure Projections

City of Plymouth

Utility Trunk Expansion Cashflow

	Actual					Projections									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Revenue Rate Assumption	3.8%	0.0%	0.0%	3.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Interest Rate						1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%
Revenue															
Area Charges	11,512	124,441	31,939	75,335	118,916	-	-	-	-	-	-	-	-	-	-
Area Chares Assessments	797,453	638,859	826,159	589,159	675,492	151,492	154,522	174,190	177,674	181,227	184,852	188,549	192,320	196,166	200,089
REC Charges	832,755	1,236,530	805,340	1,181,893	1,364,105	479,208	488,792	398,854	305,123	311,226	211,634	215,866	220,184	224,587	229,079
Interest	224,807	137,099	347,291	301,459	306,627	141,349	152,211	155,907	166,804	174,773	184,862	196,484	201,097	210,292	218,195
Transfers															
Improvement Project Construction***	-	747,752	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Revenue	1,866,527	2,884,681	2,010,729	2,147,846	2,465,140	772,049	795,525	728,951	649,601	667,226	581,347	600,899	613,600	631,045	647,363
Expense															
Sewer Projects						100,000	100,000	100,000	100,000	100,000	100,000	-	-	-	-
Water Projects						220,000	220,000	220,000	220,000	220,000	100,000	100,000	100,000	-	-
Transfers															
Water Sewer Construction**	-	-	218,401	134,694	118,787	-	-	-	-	-	-	-	-	-	-
Improvement Project Construction***	1,355,224	-	-	793,646	1,834,095	-	-	-	-	-	-	-	-	-	-
Other	28	1,751	12,536	2,117	4,230	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Total Expense	1,355,252	1,751	230,937	930,457	1,957,112	325,000	325,000	325,000	325,000	325,000	205,000	105,000	105,000	5,000	5,000
Net Income (Loss)	511,275	2,882,930	1,779,792	1,217,389	508,028	447,049	470,525	403,951	324,601	342,226	376,347	495,899	508,600	626,045	642,363

- * Transfer due to adjusted project funding.
- ** Trunk water main/sewer main oversizing.
- *** Dunkirk Lane Street and Utility Project and Peony Lane Project.

Beginning Cash	5,938,381	6,646,482	4,485,520	6,827,634	9,087,645	11,307,923	12,176,893	12,472,560	13,344,301	13,981,847	14,788,942	15,718,758	16,087,735	16,823,353	17,455,599
Add: Net Income (Loss)						447,049	470,525	403,951	324,601	342,226	376,347	495,899	508,600	626,045	642,363
Less: Area Assessments						(151,492)	(154,522)	(174,190)	(177,674)	(181,227)	(184,852)	(188,549)	(192,320)	(196,166)	(200,089)
Less: Cash Advance for Street Assessments						(1,747,400)	(2,615,000)	(1,520,000)	(1,620,000)	(1,470,000)	(1,370,000)	(2,470,000)	(1,770,000)	(2,200,000)	(2,400,000)
Add: Current Year Assessment Collections						2,320,813	2,594,664	2,161,980	2,110,619	2,116,096	2,108,320	2,531,627	2,189,337	2,402,367	2,560,872
Ending Cash Balances	6,646,482	4,485,520	6,827,634	9,087,645	11,307,923	12,176,893	12,472,560	13,344,301	13,981,847	14,788,942	15,718,758	16,087,735	16,823,353	17,455,599	18,058,744
Previous 2018 Projection	6,646,482	4,485,520	6,827,634	9,087,645	10,844,116	10,503,357	9,923,813	10,274,483	10,886,725	11,197,223	11,997,071	12,845,427	13,372,027	13,835,098	
Variance from Previous Projection	-	-	-	-	463,807	1,673,536	2,548,747	3,069,818	3,095,122	3,591,719	3,721,687	3,242,308	3,451,326	3,620,501	
2017 Projection	6,646,482	4,485,520	6,827,634	9,087,645	9,363,874	7,923,913	7,788,858	8,106,707	8,388,508	9,113,620	9,086,245	9,039,715	10,724,410		
Variance from 2017 Projection	-	-	-	-	1,944,049	4,252,980	4,683,702	5,237,594	5,593,339	5,675,322	6,632,513	7,048,020	6,098,943		
Year End Assessment Receivable	6,143,692	5,371,120	4,943,715	4,168,510	4,004,527	3,582,606	3,757,463	3,289,673	2,976,728	2,511,859	1,958,390	2,085,312	1,858,295	1,852,094	1,891,312

Area charges in 2019-2029 are shown as assessments since only a small portion are paid in the year charged. It is assumed that 46% of assessments are collected in the year charged and 54% are collected over 5 years.

The Utility Trunk fund advances cash to the Construction Improvement - Streets fund. As a result, the Utility Trunk fund holds the receivables for street assessments. Street assessments are also assumed to have 46% collected in the year charged and 54% collected over 5 years.

Cash Advance Comparison																
Current Projection						1,747,400	2,615,000	1,520,000	1,620,000	1,470,000	1,370,000	2,470,000	1,770,000	2,200,000	2,400,000	
Previous 2018 Projection						2,847,400	3,430,000	2,542,000	2,030,000	2,819,000	2,430,000	2,430,000	2,430,000	2,430,000		
Variance from Previous 2018 Projection						(1,100,000)	(815,000)	(1,022,000)	(410,000)	(1,349,000)	(1,060,000)	40,000	(660,000)	(230,000)		
2017 Projection						3,061,438	2,078,757	2,001,574	2,024,000	1,880,000	2,600,000	2,880,000	880,000			
Variance from 2017 Projection						(1,314,038)	536,243	(481,574)	(404,000)	(410,000)	(1,230,000)	(410,000)	890,000			

2029

0.0%
1.25%

-
204,091
233,661
225,734

663,486

-
-
-
-

5,000
5,000

658,486

18,058,744
658,486
(204,091)
(2,200,000)
2,558,510
18,871,649

1,736,893

2,200,000

City of Plymouth

Utility Trunk Fund

Capital Expenditure Projections

Inflation	2.00%
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% New

	<u>Development</u>	<u>Year</u>	<u>CIP Cost</u>
<u>Sewer</u>			
Trunk sewer oversizing	100.00%	2019	100,000
Trunk sewer oversizing	100.00%	2020	100,000
Trunk sewer oversizing	100.00%	2021	100,000
Trunk sewer oversizing	100.00%	2022	100,000
Trunk sewer oversizing	100.00%	2023	100,000
Trunk sewer oversizing	100.00%	2024	100,000

Total 600,000

<u>Water</u>			
Trunk water main oversizing	100.00%	2019	220,000
Trunk water main oversizing	100.00%	2020	220,000
Trunk water main oversizing	100.00%	2021	220,000
Trunk water main oversizing	100.00%	2022	220,000
Trunk water main oversizing	100.00%	2023	220,000
Trunk water main oversizing	100.00%	2024	100,000
Trunk water main oversizing	100.00%	2025	100,000
Trunk water main oversizing	100.00%	2026	100,000

Total 1,400,000

*The CIP document has \$9,000,000 budgeted for a new Water Treatment Plant, however, it is uncertain when this plant will be needed, therefore it has been omitted from this study.