



Adding Quality to Life

Utility Trunk Fund Analysis

For Year Ending December 31, 2017

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 2018-2025.
- 2) Area charges
 - a) 25% collected in the year charged
 - b) 75% assessed and collected over 5 years
- 3) Expenses
 - a) Capital – 2018 through 2022 obtained from approved CIP document.
 - b) Capital – 2023 and beyond is based on anticipated expansion of the system due to development growth.
 - c) Capital beyond 2020 and all other expenses projected to increase 3% annually (based on *The American City and County Magazine's published Construction Cost Index*).
- 4) Rates – 3% 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 3% 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	2017	3%	3%	3%	3%	3%
	2018	2019	2020	2021	2022	
Sewer Area	\$1,204	\$1,240	\$1,277	\$1,316	\$1,355	\$1,396
Water Area	4,471	4,605	4,743	4,886	5,032	5,183
Sewer REC	507	522	538	554	571	588
Water REC	1,300	1,339	1,379	1,421	1,463	1,507

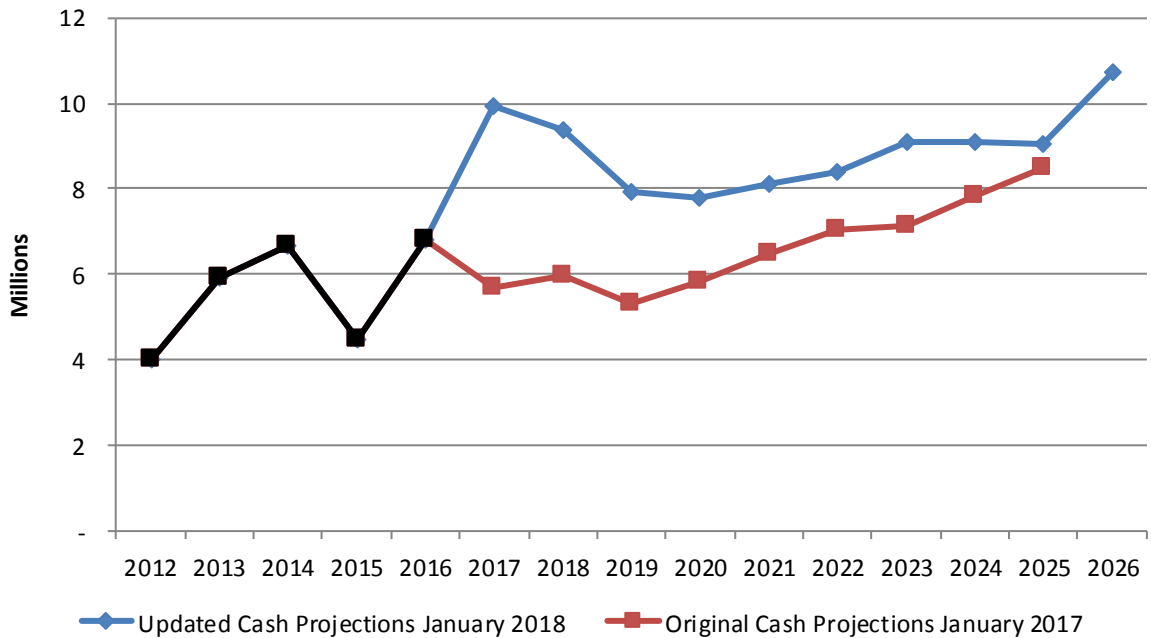
Note: Area charges are per acre and connection (REC) charges are per REU.

Cash Balances

The Utility Trunk Expansion fund had a cash balance of \$9,914,008 as of 12/31/17.

Cash variances are the result of higher than anticipated REC charges and interest. The increase in REC charges was due to the timing of development. 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, 25% of assessments are estimated to be collected up front and 75% are estimated to be collected over the term.

Utility Trunk Expansion Fund Cash Balances



Growth expectations were adjusted in this study based on updated data from Community Development and the Draft 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 3% 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										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	
Revenue Rate Assumption	3.8%	3.8%	3.8%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	
Interest Rate						1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	1.25%	
Beginning Cash	3,023,016	4,028,523	5,938,381	6,646,482	4,485,520	6,827,634	9,914,008	9,363,874	7,923,913	7,788,858	8,106,707	8,388,508	9,113,620	9,086,245	9,039,715	
Revenue																
Area Charges and Assessments	531,687	776,446	808,965	763,300	858,098	733,437	211,543	214,117	216,559	278,578	226,715	208,755	249,443	291,522	306,292	
REC Charges	713,527	1,068,471	832,755	1,236,530	805,340	1,408,491	428,000	440,840	363,252	374,150	192,687	198,468	204,422	210,554	-	
Street Assessments					1,494,699	1,056,176	1,003,998	1,188,959	1,614,516	1,929,496	2,156,033	2,475,130	2,398,400	2,623,182	2,562,934	
Interest	68,442	(74,754)	224,807	137,099	347,291	130,198	123,925	117,048	99,049	97,361	101,334	104,856	113,920	113,578	112,996	
Transfers																
Sewer*	-	309,576	-	-	-	-	-	-	-	-	-	-	-	-	-	
Improvement Project Construct	-	-	-	747,752	-	-	-	-	-	-	-	-	-	-	-	
Total Revenue	1,313,656	2,079,739	1,866,527	2,884,681	3,505,428	3,328,302	1,767,466	1,960,965	2,293,376	2,679,585	2,676,769	2,987,209	2,966,185	3,238,836	2,982,222	
Expense																
Street Assessments	-	-	-	-	1,494,698	1,056,176	1,988,000	3,061,438	2,078,757	2,001,574	2,024,000	1,880,000	2,600,000	2,880,000	880,000	
Sewer	-	13,260	-	-	-	-	103,000	106,090	109,273	112,551	115,927	119,405	122,987	126,677	130,477	
Water	-	-	-	-	-	-	226,600	233,398	240,400	247,612	255,040	262,692	270,572	278,689	287,050	
Transfers																
Water Sewer Construction**	100,502	-	-	-	218,401	134,695	-	-	-	-	-	-	-	-	-	
Improvement Project Construct	-	-	1,355,224	-	-	-	-	-	-	-	-	-	-	-	-	
Other	12,884	26	28	1,751	12,536	1,738	-	-	-	-	-	-	-	-	-	
Total Expense	113,386	13,286	1,355,252	1,751	1,725,635	1,192,609	2,317,600	3,400,926	2,428,430	2,361,737	2,394,968	2,262,097	2,993,560	3,285,366	1,297,527	
Net Income (Loss)	1,200,270	2,066,453	511,275	2,882,930	1,779,793	2,135,693	(550,134)	(1,439,961)	(135,054)	317,848	281,801	725,112	(27,375)	(46,530)	1,684,695	
Ending Cash Balances	4,028,523	5,938,381	6,646,482	4,485,520	6,827,634	9,914,008	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	
Previous Projection	4,028,523	5,938,381	6,646,482	4,485,520	6,827,634	5,700,557	5,964,599	5,312,660	5,818,866	6,480,996	7,018,238	7,111,742	7,831,384	8,500,249	-	
Variance from Previous Projection	-	-	-	-	-	4,213,451	3,399,275	2,611,253	1,969,992	1,625,711	1,370,270	2,001,878	1,254,861	539,466	10,724,410	

* Transfer due to adjusted project funding.

** Trunk water main/sewer main oversizing.

*** Dunkirk Lane Street and Utility Project and Peony Lane Project.

City of Plymouth

Utility Trunk Fund

Capital Expenditure Projections

	Inflation 3.00%				
	% New			Inflated	% New Dev
	Development	Year	2018 Cost	Cost At Const ¹	x Cost
Sewer					
Trunk sewer oversizing	100.00%	2018	100,000	103,000	103,000
Trunk sewer oversizing	100.00%	2019	100,000	106,090	106,090
Trunk sewer oversizing	100.00%	2020	100,000	109,273	109,273
Trunk sewer oversizing	100.00%	2021	100,000	112,551	112,551
Trunk sewer oversizing	100.00%	2022	100,000	115,927	115,927
Trunk sewer oversizing	100.00%	2023	100,000	119,405	119,405
Trunk sewer oversizing	100.00%	2024	100,000	122,987	122,987
Trunk sewer oversizing	100.00%	2025	100,000	126,677	126,677
Trunk sewer oversizing	100.00%	2026	100,000	130,477	130,477
		Total	900,000	1,046,388	1,046,388
Water					
Trunk water main oversizing	100.00%	2018	220,000	226,600	226,600
Trunk water main oversizing	100.00%	2019	220,000	233,398	233,398
Trunk water main oversizing	100.00%	2020	220,000	240,400	240,400
Trunk water main oversizing	100.00%	2021	220,000	247,612	247,612
Trunk water main oversizing	100.00%	2022	220,000	255,040	255,040
Trunk water main oversizing	100.00%	2023	220,000	262,692	262,692
Trunk water main oversizing	100.00%	2024	220,000	270,572	270,572
Trunk water main oversizing	100.00%	2025	220,000	278,689	278,689
Trunk water main oversizing	100.00%	2026	220,000	287,050	287,050
		Total	1,980,000	2,302,053	2,302,053

¹Inflation factored in for project costs beyond 2018. Inflation is not a factor in the CIP for routine projects.

*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.