

City of South Lyon Utility Rate Model - REVISED

FY2021 to FY2030



Utility Rate Model - Objectives

- Although City has raised utility rates over the years, the City has not reevaluated the fixed meter charge or the minimum usage requirement in a very long time.
- Based on recommendations from the City's engineers, the City is planning significant capital outlay in the near future to both the Water and Sewer systems. The existing cash on hand and rates are not sufficient to pay for all of the necessary system improvements.
- The model will calculate the necessary rate increases over 10 years in order to pay for the capital outlay and maintain existing cash reserves. This will be accomplished without new long-term debt (bonds), thereby saving hundreds of thousands of dollars in interest expense.

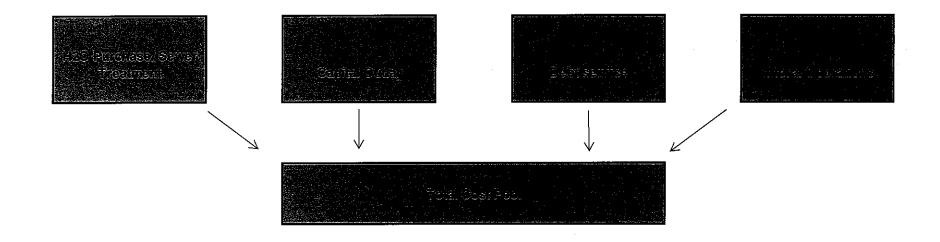


Utility Rate Model

- "Cash-needs Basis" The model sets rates based on anticipated cash needs. Depreciation and accrual accounting is excluded from the model. This method requires the City to maintain lower cash reserves (and lower utility rates) than it would if rates were set to fund depreciation expense.
- > 10 years (2021-2030) By utilizing a 10 year projection, the City is paying for capital improvements over a long enough period of time that the cost of these improvements will be bourne by the customers of the system who will benefit from the improvements in future years (and may not even live in the city yet).
- Change in fee methodology (philosophy) There is no single "right" way to set rates; however, there are inherent risks in setting rates that include minimum usage requirements. The model suggests a change to the overall methodology the City utilizes - A higher fixed fee (called a "Readiness to Serve" charge or RTS) and a variable rate for every unit used.

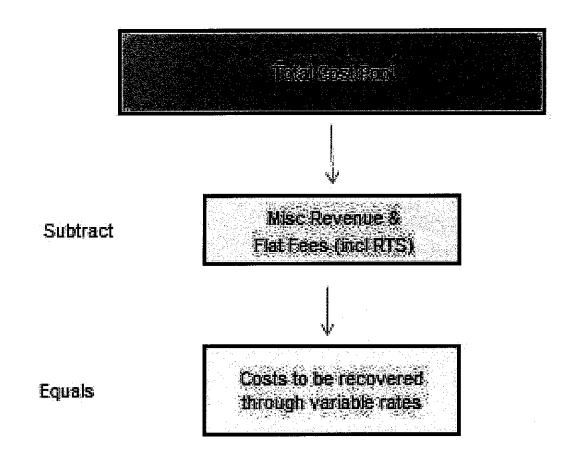


Rate Model – Step 1 Calculate the Total Cost Pool



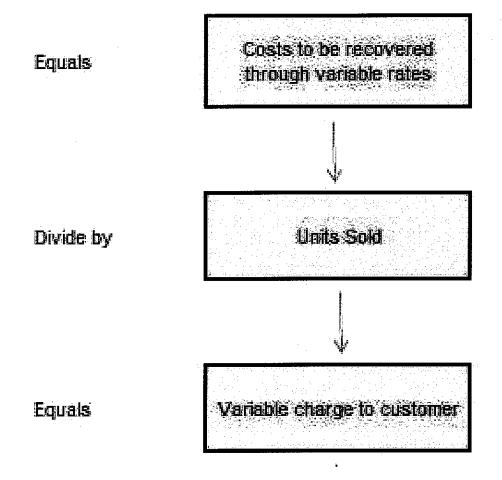


Rate Model – Step 2 Calculate the "Readiness To Serve" charge



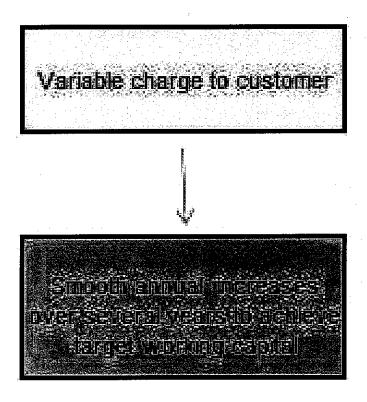


Rate Model – Step 3 Calculate the Variable Rate





Rate Model - Step 4 (Multi-Year Models)



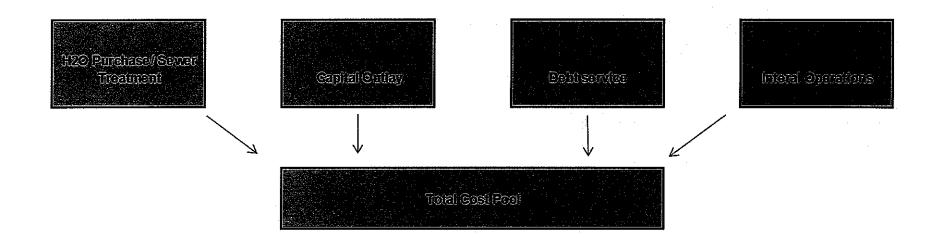


What is "Target Working Capital"?

- ➤ Maintain some amount of cash and current assets (net of liabilities) in the bank at the end of the model.
- 4 "buckets" of working capital
 - 1. Operating reserve 120 days
 - 2. One year of debt service payments
 - 3. Emergency capital replacement
 - 4. Planned capital replacement
- > After everything is said and done after 10 years, the City will maintain its current amount of working capital



Rate Model – Step 1 Calculate the Total Cost Pool





Rate Model - Step 1 Calculate the Total Cost Pool

- Internal Operations No substantial change to internal operations or costs. Inflationary cost increases.
- Debt service No new debt issued in next 10 years.
 - > 2003 wastewater loan paid off in 2026
 - > 2013 water loan paid off in 2034
- ➤ The City's existing cash reserves make self-financing possible. After 10 years, City will be in a financial position to self-finance again for the next wave of capital improvements.



Rate Model - Step 1 Calculate the Total Cost Pool

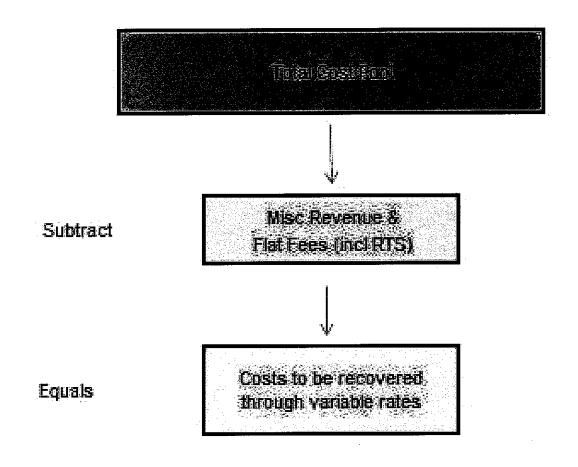
- Planned Capital Outlay is substantial
 - Water \$7.6M
 - Wastewater \$3.6M

List of capital projects found on pg 2 and 3 of written deliverable report (currently in DRAFT form).

Capital projects are the primary cause of the calculated rate increases.



Rate Model – Step 2 Calculate the "Readiness To Serve" charge



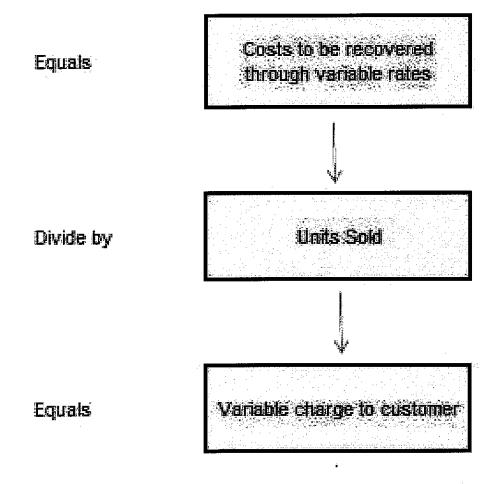


Readiness to Serve Charge

- ➤ A "fixed" or "flat" charge to every customer. This pays for some or all of the City's internal operational costs (costs that the City has to pay for regardless of how much water or treatment it sells).
- This will replace South Lyon's \$6/quarter meter charge and some of the effect of the minimum usage requirement.
- The model calculates the RTS on a graduated scale driven by the size of the customer's meter, based on recommendations from the American Water and Wastewater Association. A bigger meter pays a higher RTS.
- ➤ The City has to decide how much of its internal operational costs will be recouped through the RTS (0-100%).
- > We have completed the model under 2 scenarios: RTS will cover either 10% or 25% of internal operational costs.



Rate Model – Step 3 Calculate the Variable Rate





Rate Model – Step 3 Calculate the Variable Rate

Estimate the volume of water to be sold, sewer to be sold

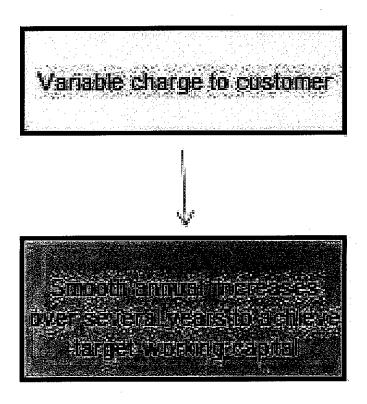
graphy and the second s	g et al. 1. 1. de l'approprie de la constant de la
Year	The second second second is
그 기계가 그	4
Ended	
<u>June 30</u>	Units Sold
2015	344,218
2016	374.278
2017	385,037
2018	389,307
2019	384,431

Year	
Ended	
June 30	<u>Units Sold</u>
2015	292,298
2016	292,709
2017	286,113
2018	290,117
2019	294,520

- Model assumes City will keep its summer sewer billing methodology
- Model assumes future sales will be consistent with 2 year average (FY18 and FY19). Impact of additional future customers is negligible.



Rate Model - Step 4 (Multi-Year Models)



Working Capital

- Beginning of Model:
 - > Water \$2.6M
 - > Sewer \$6.2M
- > Water's planned capital outlay is substantially higher than Sewer's, but Sewer has more working capital to start with.
- Although Water and Sewer are separate activities and the model treats them independently, the City maintains both activities in the same Fund (this is OK).
- Water will "borrow" from Sewer to pay for capital, but will repay it over the 10 years of the model.
- At the end of 10 years, Water has fully repaid Sewer and both have maintained their original \$2.6M and \$6.2M of working capital.



Water Working Capital

Water Rate Calculation	•		9		÷		į			
	Forecast	Forecast	Forecast	Forecast i						
Fiscal Year Ended	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Beginning of Year Working Capital	2,578,789	(1,316,230)	(3,357,502)	(3,114,718)	(2,612,616)	(2,468,183)	(1,717,731)	(856,958)	149,359	1,292,307
Units used by customers	387,000	387,000	387,000	387,000	387,000	387,000	387,000	387,000	387,000	387,000
Rate Charged	2.67	2.89	3.13	3.39	3.67	3.98	4.31	4.67	5.06	5.48
Sale of Water Total	1,031,450	1,117,507	1,210,744	1,311,761	1,421,205	1,539,781	1,668,250	1,807,437	1,958,237	2,121,619
Ready to Serve Charge	192,829	197,751	202,844	208,116	213,573	219,225	225,080	231,148	237,438	243,962
Miscellaneous Other revenue	57,267	58,224	59,198	60,188	61,196	62,220	63,263	64,323	65,401	66,497
Total addition to cash	1,281,545	1,373,483	1,472,787	1,580,065	1,695,974	1,821,226	1,956,592	2,102,907	2,261,076	2,432,078
Internal Operational Costs	771,314	791,005	811,378	832,462	854,291	876,899	900,319	924,591	949,753	975,846
Capital improvements	4,235,500	2,452,000	250,000	75,000	525,000	25,000	25,000		naine d'arbeil	
Annual debt service	169,750	171,750	168,625	170,500	172,250	168,875	170,500	172,000	168,375	169,750
Total use of cash	5,176,564	3,414,755	1,230,003	1,077,962	1,551,541	1,070,774	1,095,819	1,096,591	1,118,128	1,145,596
Net addition (use) of cash	(3,895,019)	(2,041,272)	242,784	502,102	144,432	750,452	860,773	1,006,317	1,142,948	1,286,482
End of Year Working Capital	(1,316,230)	(3,357,502)	(3,114,718)	(2,612,616)	(2,468,183)	(1,717,731)	(856,958)	149,359	1,292,307 (2,578,789



Sewer Working Capital

Sewer Rate Calculation)			2 3 5	i		ý ,			
	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
Fiscal Year Ended	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Beginning of Year Working Capital	6,214,015	6,249,220	6,013,272	5,636,934	5,058,945	4,989,014	5,106,824	5,337,028	5,604,244	5,896,058
Units used by customers	292,000	292,000	292,000	292,000	292,000	= -292,000	292,000	292,000	292,000	292,000
Rate Charged	4.62	4.72	4.83	4.93	5.04	5.16	5.27	5.39	5.51	5.63
Sale of Sewer Total	1,349,098	1,379,004	1,409,574	1,440,821	1,472,761	1,505,408	1,538,780	1,572,891	1,607,759	1,643,399
Ready to Serve Charge	353,720	362,725	372,036	381,666	391,629	401,939	412,613	423,666	435,115	446,979
Miscellaneous Other revenue	1,146,595	1,149,090	1,150,382	1,151,060	1,151,130	1,148,004	63,263	64,323	65,401	66,497
Total addition to cash	2,849,412	2,890,820	2,931,992	2,973,548	3,015,519	3,055,352	2,014,655	2,060,879	2,108,274	2,156,875
Internal Operational Costs	1,414,879	1,450,902	1,488,146	1,526,665	1,566,516	1,607,758	1,650,452	1,694,663	1,740,461	1,787,917
Capital improvements	310.000	585,000	729,000	934,000	429,000	244,000	134,000	99,000	76,000	51,000
Annual debt service	1,089,328	1,090,866	1,091,184	1,090,872	1,089,934	1,085,784			and the second s	Balyana ing S
Total use of cash	2,814,207	3,126,768	3,308,330	3,551,537	3,085,450	2,937,542	1,784,452	1,793,663	1,816,461	1,838,917
Net addition (use) of cash	35,205	(235,948)	(376,338)	(577,990)	(69,931)	117,811	230,204	267,216	291,813	317,958
End of Year Working Capital	6,249,220	6,013,272	5,636,934	5,058,945	4,989,014	5,106,824	5,337,028	5,604,244	5,896,058	6,214,015

Combined Water/Sewer Working Capital

	Estimated	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Water - End of Year Working Capital	 2,578,789	(1,315,230)	(3,357,592)	(3,114,718)	(2,612,516)	(2,468,183)	(1,717,731)	(856,958)	149,359	1,292,307	2,578,789
Sewer - End of Year Working Capital	6,214,015	6,249,220	6,013,272	5,636,934	5,058,945	4,989,014	5,106,824	5,337,028	5,604,244	5,896,058	6,214,015
Total Working Capital	8.792.804	4,932,990	2.655.770	2.522.216	2.446.329	2,520,831	3,389,094	4.480.070	5.753.603	7 199 260	8,792,804

The model begins and ends with \$8.8M of working capital. During the course of the decade, the Water operations borrow from Sewer to pay for the initial capital outlay and then pays Sewer back in full.

This internal financing prevents the City from issuing bonds and paying hundreds of thousands in interest expense to external lenders.



Rate Changes

- ➤ Year 1 changes are more severe because of the implementation of the RTS and elimination of minimum usage. Some customers could see a rate DECREASE while others see a rate INCREASE.
- ➤Year 2 and forward, rates change the same for everyone. Everyone sees a rate increase.



Rate Changes - Revised

and the second s	The state of the s	A STATE OF THE PROPERTY OF THE	Option 1	Option 2	Option 3
and the second s	Manual Antonia Manual M	Common temperatura de la common della common de la common del common de la common del la common del la common de la common del la common del la common de la common del l	10% of Internal	25% of Internal	18% of Internal
	* * * * * * * * * * * * * * * * * * *		Operational	Operational	Operational
		Current	Expenses to be	Expenses to be	Expenses to be
		Minimum Bill	recouped through	recouped through	recouped through
	Current	(3/4" line)	RTS Charge	RTS Charge	RTS Charge
Water		A CONTRACTOR OF	manche State Automotiva, commistre d'acces, automotive d'accessor à l'organisation de partie de la manche de d grand de la commissión de		
Usage Charge	\$2.46/unit	\$17.71	\$2.70/unit	\$2.67/unit	\$2.68/unit
radhad ferada 1.41 r. oz mi 1.11 m. ozfirada z ² l lama irkanada (Member Artika) litedaka titili iri		CONTINUES TO STANDAR SANDARAN AND AND AND AND AND AND AND AND AND A	10%	9%	9%
Sewer	A consideration of the purpose to the constraint of the constraint	C Proceedings of the Commission of the Commissio	All Control of the Co		
Usage Charge	\$4.52/unit	\$32.54	\$4.74/unit	\$4.62/unit	\$4.68/unit
and a second second at the second at the second at the second second second second second second second second	The state of the s	Pentagon and Catalogue Carbonal Mills (1997) Parking P. 1997 for Philips	5%	2%	3.5%
Water - Ready to Serve	\$6.00/quarter	\$6.00	2000 a. C. Carlos Barris, Carlos Carl	NE AND MICHEN CONTROL AND MICHEN PROBLEM CONTROL CONTROL AND CONTROL OF CONTROL CONTRO	n de verke van de gewood van de stander de stander de verkeerste de verkeerste verkeerste van de stander van d De verkeerste verkeerste van de stander de verkeerste de verkeerste verkeerste verkeerste van de verkeerste ve
3/4"	The state of the s	namanana sadir amin'ny romana ao amin'ny faritr'i Nordan-de-drona ao ao amin'ny faritr'i Nordan-de-de-de-de-de- N	\$4.67/quarter	\$11.67/quarter	\$8.40/quarter
1"	Statement and Addition to the state of the s	, AND GCQ-2, THE PROFILE EXPONENT ANNUAL TO SECURITY AND	\$4.67/quarter	\$11.67/quarter	\$8.40/quarter
1.5"	Secretaria de la constante de la composición de la composición de la composición de la composición de la compo	TO THE PERSON OF	\$9.34/quarter	\$23.34/quarter	\$16.80/quarter
2"	Construction of the Constr	THE EXPLICATION AND LABOUR FROM A USE OF PRODUCT INVOICED MARIES (SHAPE AND A SHAPE).	\$14.94/quarter	\$37.34/quarter	\$26.89/quarter
3"	The second secon	in the state of the second control of the second of the se	\$29.87/quarter	\$74.69/quarter	\$53.77/quarter
4 ¹¹	Section (Control of Control of Co		\$46.68/quarter	\$116.70/quarter	\$84.02/quarter
The accommodate and accommodate the control of the	i da		A THE RESIDENCE AND A STREET OF THE PROPERTY O	a company of company and company of the company of	ORIGINA NOTO-PROTESSE I PROGNIKASIONE-NORGA LINI PROGNIKANIO PRAKTI ANDROMI ANDROMI PROGNIKASIONE
Sewer - Ready to Serve		Saltagar et 2 - e e e en entreme consenio e anno anno anno anno anno anno anno a	LONG, LEFT AF LEFT AND AN AND AND AND AND AND AND AND AND	THE COLOR OF THE PROPERTY OF T	MANUAL E JARRAM MANUAL MANUAL SI SENIE E MANUAL MANUAL MANUAL MANUAL SI MANUAL
3/4"	Distriction of the second		\$8.56/quarter	\$21.41/quarter	\$15.41/quarter
1")	\$8.56/quarter	\$21.41/quarter	\$15.41/quarter
1.5"			\$17.13/quarter	\$42.81/quarter	\$30.83/quarter
2"	The Control of the Co)	\$27.40/quarter	\$68.50/quarter	\$49.32/quarter
3"			\$54.80/quarter	\$137.00/quarter	\$98.64/quarter
4"	The traction of the Management of Alleman and Alleman (1)	The second secon	\$85.63/quarter	\$214.06/quarter	\$154.13/quarter

Example Customer #1-Revised

Residential, low volume

The second se		ada a da aban da sa da sa da da aban da da a	A CHARLEST SAL	ander transfer skal den stekkenske en men er men ken skal akte en 'e en e ^{n k} en e	: ::::::::::::::::::::::::::::::::::::	and a second section of the second section is a second section of the second section section section section s	2000 Y. S.	1997 - Vermondon Andreas (1994) (1994	% Increase(Decrease)
	RTS	S/Meter	4 5 6	Water		Sewer		Total	Current/Future Years
Current	\$	6.00	\$	17.71	\$	32.54	\$	56.25	
Option 1	\$	13.23	\$	11.95	\$	20.97	\$	46.15	(18%)/+6%
Option 2	\$	33.08	\$	11.81	\$	20.44	\$	65.33	+16%/+4%
Option 3	\$	23.81	\$	11.86	\$	20.71	\$	56.38	0%/5%

Under all 3 Options, the customer pays more in RTS than it did in meter charge, but the variable charge for both Water and Sewer is now lower because of the elimination of minimum usage requirement.

In Option 1, this customer pays less than they did under the City's existing rate structure. This is our only example of a customer paying less with the new rate structure.

In Option 3, the customer pays 13 cents more per year than under existing rates.

Example Customer #2-Revised Residential, high volume

The second secon	-	adaca ee ah in ah in Ah in ah in ah Ah in ah in	Telefa tre securio sa s	os anutu sada situalizaritzekin adantituskan ili situati eta eta esite eta eta eta eta eta eta eta eta eta e	and the first section of the section	THE ROOK NEW CONTRACTION TO THE PROPERTY OF TH	- Cultural Million P. C. Charleson and De	level i i isalest kommun i i imate u modele i modele i modele i modele i modele i modele i jeda modele	% Increase
	RTS	S/Meter		Water		Sewer	: - - - - - -	Total	Current/Future Years
Current	\$	6.00	\$	56.75	\$	109.25	\$	172.00	
Option 1	\$	13.23	\$	69.39	\$	121.82	\$	204.44	+19%/+6%
Option 2	\$	33.08	\$	68.62	\$	118.73	\$	220.43	+28%/+4%
Option 3	\$	23.81	\$	68.88	\$	120.28	\$	212.97	+24%/6%

Example Customer #3 - Revised Commercial (2 inch), high volume

 Spanisk de state en de state en av de state en av de state den en av de state en av	e government en	o en comunica de sea demandativa (Tabala) — de esta	the control of the second	gradi, para Labara (18 din 1970) di 196 yang kecasah dan dalam dalam dalam dalam dalam dalam dalam dalam dalam T	manatana. Maka dina sa sa manatanina min'nya mininina mininin'i Andre amin'i Vina 1921 i Vina 1921 i Vina 1921 I	% Increase
•	RTS	S/Meter	Water	Sewer	Total	Current/Future Years
Current	\$	6.00	\$2,853.42	\$5,242.86	\$8,102.28	ta a maanin aa a dha comhann an abaan chlama la aa a an madh mann an madh mhalan an an an an allmadh a la ann) can an ann an
Option 1	\$	42.34	\$3,131.80	\$5,498.04	\$8,672.18	+7%/+7%
Option 2	\$:	105.84	\$3,097.00	\$5,358.85	\$8,561.69	+6%/+5%
Option 3	\$	76.21	\$3,108.60	\$5,428.45	\$8,613.26	+6%/+6%



Example Customer #4 - Revised

Commercial (2 inch), low volume

	arta an il ancione dell'este.	e anne e Alama e a caleman e e e e e e e e e e e e e e e e e e e	**************************************	Auditudus du dispersa (1900) (1900) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904) (1904)	i Turkananana	n meneral meneral services (in particular and a service mode) and services model and a service model and a	n mis orien si Lamus si en emissis promotes in management, et a fulla desirale. E	% Increase
	RT	S/Meter		Water		Sewer	Total	Current/Future Years
Current	\$	6.00	\$	517.28	\$	950.44	\$1,473.72	(COMPLAN DESCRIPTION AND AND AND AND AND AND AND AND AND AN
Option 1	\$	42.34	\$	567.74	\$	996.70	\$1,606.78	+9%/+7%
Option 2	\$	105.84	\$	561.43	\$	971.47	\$1,638.74	+11%/+4%
Option 3	\$	76.21	\$	563.54	\$	984.09	\$1,623.84	+10%/+6%



Next Steps - Revised

- 1. Model needs to be finalized -
 - 1. City makes decision on RTS (10%, 25%, or 18%)
 - 2. PM finalizes model and written report
 - 3. PM Standards Department performs quality control review
 - 4. PM publishes written report; delivers written report and model to City
- 2. City Council approves rate increase and implementation date
- 3. City updates BS&A software for rate changes



Thank you for the opportunity to serve the City of South Lyon

For more information, please contact:

Brian Camiller, CPA 248.223.3840 Brian.Camiller@plantemoran.com