



# Resiliency and Cash Balance Study

Independence Water Pollution Control Department

March 29, 2021

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# Agenda

- I. Purpose**
- II. Observations and Trends**
- III. Risk Analysis Updates**
- IV. Next Steps**
- V. Supporting Data**



## I. Purpose of the Resiliency and Cash Balance Policy



## Background of a Resiliency and Cash Reserves Policy

- **Utilities require a stable level of cash reserves to:**
  - Address risk that may materialize over the course of the year
  - Provide rate stability to customers
  - Allow for solid credit ratings from the rating agencies
- **Determining appropriate level of cash involves risk analysis:**
  - Revenues that may not materialize
  - Expenses that may be more than forecast
  - Working capital must be appropriate to address the delays in the billing cycle
  - Capital reserves need to be sufficiently flexible to address construction projects
- **Several Tools also provide stability along with a Cash Reserve Policy:**
  - *Budgeting*                      *Assumptions with cash reserve targets as a critical metric*
  - *Insurance*                      *Manages unexpected/exceedingly expensive risk*
  - *Hedging*                      *Manages expected and unexpected risks*
  - *Borrowing*                      *Provides liquidity for uncertainty or large risks*



## Background of the WPC Department's Cash Balances

Account	30-Jun-20	30-Jun-19
<b>Total Cash</b>	<b>30,742,538</b>	<b>26,544,868</b>
<b>Less: Legally Restricted Funds</b>		
Debt Service Reserve	7,510,274	6,948,208
<b>Available after Legally Restricted Funds</b>	<b>23,232,264</b>	<b>19,596,659</b>
<b>Less: Unrestricted BUT Unavailable funds</b>		
Bond Construction and CIP Projects Approved but Not Completed	13,084,105	13,128,834
Customer Advance Payments	593,478	592,317
<b>Restricted Cash &amp; Inv - Current</b>	<b>13,677,583</b>	<b>13,721,151</b>
<b>Amount Unrestricted AND Available</b>	<b>9,554,681</b>	<b>5,875,509</b>

- 1 Total Cash (year end)
- 2 Less: Legally required Debt Service Reserve for existing bonds
- 3 Less: Funds available but designate for other purposes
- 4 Equals: Funds available for the cash reserve target  
\$9.6 million on June 30, 2020

**~69%** of WPC Department's cash balances are "Unavailable" or designated for specific purposes when including CIP projects not completed



## Background of the Financial Reserves Policy

- Examines many facets of the Department’s strategy, operations and finance through:

- Revenue Risk
- Expense Risk
- Working Capital
- Capital

“Bottom Up” Review of Risk and providing  
(1) Dollar value to address that risk  
(2) Based on three categories (Less Conservative, Moderate, More Conservative Levels)

- Develops a target\* for Financial Reserves (and bandwidth of +/- 10%)

– Current Cash on Hand =	\$9.6 million
– Recommended level =	<del>\$16.5 million</del> <b>\$10.0 million (PUAB Recommendation)</b> <del>\$6.9 million</del> <b>\$0.4 million of cash below target</b>

- Approved by City Council
- Briefed and discussed with Rating Agencies (with positive feedback)
- Incorporated in the budget cycle for the WPC and the City



## **II. Observations and Trends**



## Observations and Trends

- Uncertainty of COVID-19 permeates the analysis:
  - Federal programs have helped
  - Lack of renewed stimulus could be problematic
  - Unclear about the strength, depth and breadth of the economic recovery
  - This trend leads to a higher cash balance
- Independence can be characterized by:
  - Stable employment rates
  - Consistent, but slow, economic growth
  - Strong customer base, large percentage of residential/commercial (+90%)
  - This trend leads to a lower cash balance
- Some challenges remain in the service territory:
  - Low median income compared to state and U.S.
  - Elevated unemployment rate (8.8% in August)
  - Historically, variability in sales during periods of economic downturns (-8%) has been significant
  - This trend leads to a higher cash balance





## Observations and Trends

- WPC in general faces a unique environment:
  - Providing an essential service to customers
  - One of the most highly regulated industries (and moving to more regulation)
- Promote customers not using your product through
  - Conservation measures
  - Efficient appliances such as low flow toilets
- Overall demand for the product driven by
  - Customer's behavior
  - Weather
    - Wet weather means water intrusion into the System with greater flows to the treatment plant
    - Greater flows means greater cost
  - Local area economic and population growth
- Limited ability to expand (permitting issues with expansion and new facilities)

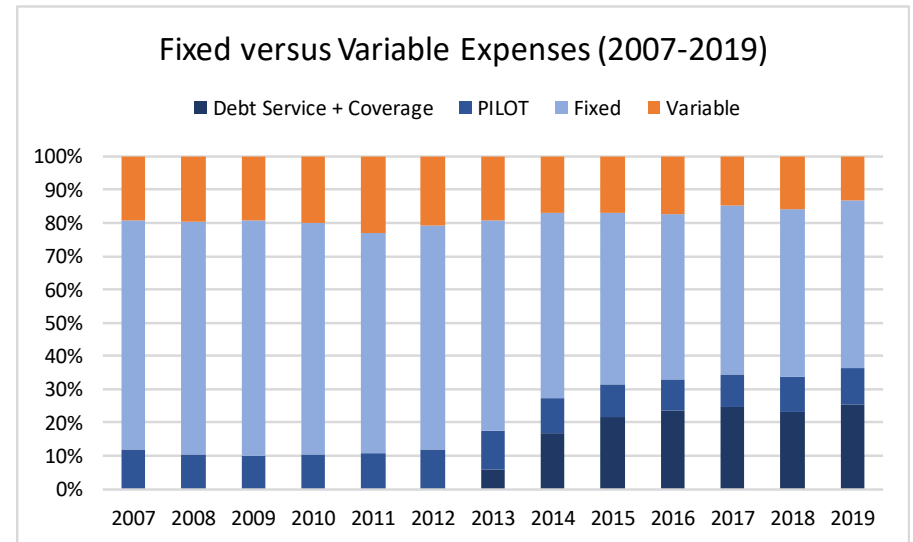


## **III. Risk Analysis**



# Allocation of Fixed and Variable Costs

- Purpose: Identify those fixed costs that will need to be addressed
- Assumes variable costs have a >1 variance year-to-year



		2015	2016	2017	2018	2019
Total Operating Expense	Fixed	11,968,866	12,579,085	12,991,646	13,533,471	13,723,329
	Variable	3,927,283	4,317,109	3,753,393	4,215,049	3,611,732
	Total	15,896,149	16,896,194	16,745,039	17,748,520	17,335,061

- Adding to operating expense are: PILOT, debt service as well as debt service coverage totaling ~\$9.2 million
  - Just these three areas equate to 166 days of cash for the Department
- Fixed costs impact the next 2 categories of revenue risks:
  - ~\$22.2 million (average) in fixed costs is then adjusted for inflation (3%)
  - Fixed cost base equates to **~\$24.3 million**

**~85% of the WPC Department's expenses are fixed**



# Revenue Risk

## General Sales Decrease Economic Recession

(\$ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Assumed fixed base (annual)	\$24.3 million	\$24.3 million	\$24.3 million
Assumed variance	0.0%	3.0%	7.0%
Variance explanation	Based on Volume Treated	Based on Volume Treated	Based on Volume Treated
Period of Coverage	12 months	12 months	12 months
Cash to Address	\$0 million	\$0.7 million	\$1.7 million

**Purpose:** Cover fixed costs due to large scale economic shock similar to the Great Recession of 2008-2012 and other demand shocks

### Discussion

- COVID-19 recession uncertainty (“K Shaped recovery”)
- Longer period of coverage spans 2 budget cycles to address into rates
- Unclear of depth or duration of expected economic difficulty or recovery
- The most conservative case, -7%, represents a large reduction in volume treated.
- The moderate and conservative levels represent a less severe decrease in volume treated.

**Recommendation:** More Conservative level given the COVID environment and economic uncertainty



# Revenue Risk

## Loss of Top Customer

(\$ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Assumed fixed base (annual)	\$24.3 million	\$24.3 million	\$24.3 million
Assumed variance	1.1%	2.1%	3.1%
Variance explanation	Loss of the small customer	Loss of the average customer	Loss of Large Customer (Lipton)
Months of Coverage	12 months	12 months	12 months
Cash to Address	\$0.3 million	\$0.5 million	\$0.8 million

**Purpose:** Cover fixed costs due to loss of one of the top Customers. Can also represent loss of sales due to conservation efforts

### Discussion

- Economic uncertainty due to COVID-19 and impacts on community businesses
- Unclear about the strength of the recovery despite programs and initiatives
- Unclear if consumer behavior and spending will return to “normal”
- Can also reflect conservation efforts.

**Recommendation:** More Conservative level given COVID environment, economic uncertainty and conservation efforts



# Revenue Risk

## Interest Income

(\$ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
<b>Interest and Investment Income</b>			
Assumed unhedged short-term investments	\$30.0 million	\$30.0 million	\$30.0 million
Assumed interest rate movement (basis points)	25 basis points	50 basis points	100 basis points
Period of Coverage	12 months	12 months	12 months
<b>Cash to Address</b>	<b>\$.1 million</b>	<b>\$.2 million</b>	<b>\$.3 million</b>

**Purpose:** Address risk of loss of interest income on invested cash

### Discussion

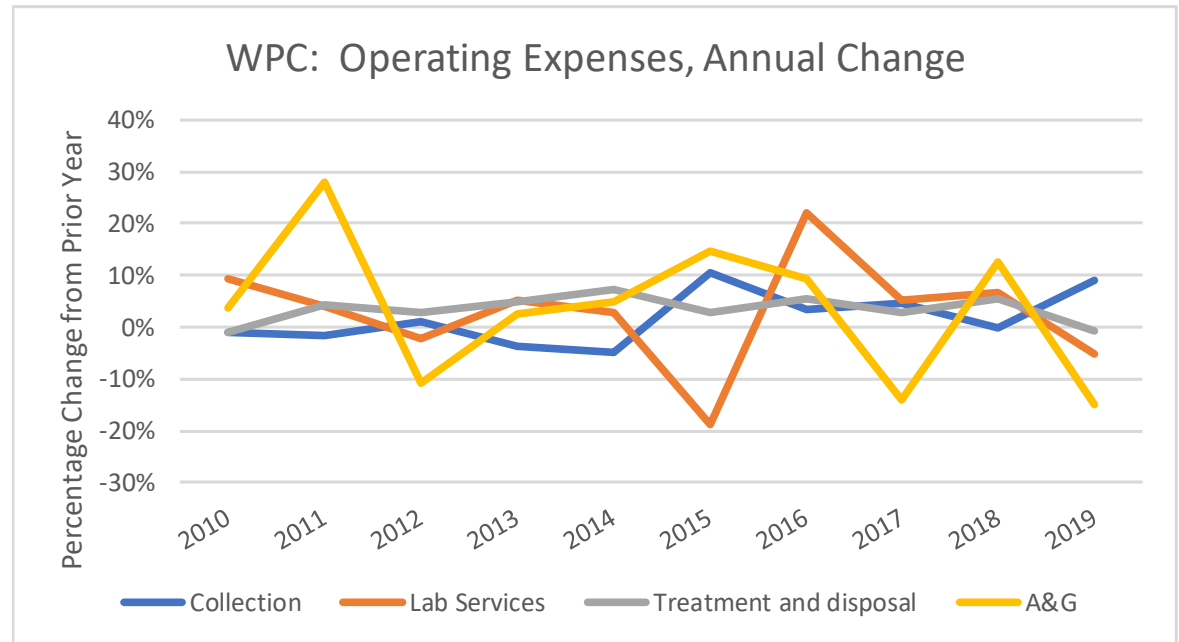
- WPC has enjoyed strong returns on invested cash balances of ~\$30 million
  - Pooled Cash and Investments + Debt Service Reserves
- Provides a cushion for the Department during the execution of the budget
- Recent Federal Reserve action has moved rates significantly lower in 2020 with expectation that rates will remain lower through 2022

**Recommendation:** More Conservative level given the COVID environment and economic uncertainty



# Expense Risk

- The expense risk addresses the risk that WPC encounters with an increase in their average operating expenses. Out of the four main operating expenses PFM identifies treatment and disposal as having the greatest impact on regular WPC Activities



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Operating expenses	13,004,081	14,032,854	13,921,273	14,293,949	14,942,635	15,896,149	16,896,194	16,745,039	17,748,520	17,335,061
Collection	21%	19%	19%	18%	16%	17%	17%	18%	17%	18%
Lab Services	2%	2%	2%	2%	2%	1%	1%	2%	2%	1%
Treatment and disposal	57%	55%	57%	59%	60%	58%	58%	60%	60%	61%
A&G	20%	24%	22%	22%	22%	23%	24%	21%	22%	19%
Collection (Year-to-Year Change)		-2%	1%	-4%	-5%	10%	3%	4%	0%	8%
Lab Services (Year-to-Year Change)		4%	-2%	5%	3%	-23%	18%	5%	6%	-5%
Treatment and disposal (Year-to-Year Change)		4%	3%	5%	7%	3%	5%	3%	5%	-1%
A&G (Year-to-Year Change)		22%	-12%	2%	5%	13%	8%	-16%	11%	-18%



## Expense Risk Treatment and Disposal

(\$ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Average Treatment and Disposal	\$10.0 million	\$10.0 million	\$10.0 million
Assumed variance	1.0%	3.0%	5.0%
Variance explanation	Small increase in T&D	Moderate increase in T&D	Large increase in T&D
Months of Coverage	12 months	12 months	12 months
Cash to Address	\$1.1 million	\$0.3 million	\$0.5 million

**Purpose:** Address risk of an increase in the cost of treatment and disposal

### Discussion

- WPC can typically expect 55% to 60% of their annual operating expenditures to be derived from treatment and disposal costs
- The typical cash to address this cost falls around \$10 million based on the average between 2015-2019
- We show the approximate additional cash needed on top of the \$10 million base to address an increase in the expense

**Recommendation:** Moderate level given the relative consistency of T&D costs





# Expense Risk

## Other Expense Risk

(\$ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
Other Operating Expenses	\$6.8 million	\$6.8 million	\$6.8 million
Assumed variance	1.0%	3.0%	5.0%
Variance explanation	Small increase in OpEx	Small increase in OpEx	Small increase in OpEx
Months of Coverage	12 months	12 months	12 months
Cash to Address	\$0.07 million	\$0.20 million	\$0.34 million

**Purpose:** Address risk of other operating expenses

### Discussion

- WPC has 3 other major operating expenses:
  - Collection: Average of \$2.9 Million from 2015-2019
  - Lab Services: Average of \$.25 Million from 2015-2019
  - A&G: Average of \$3.7 Million from 2015-2019
- These expenses make up ~40% of the remaining WPC operating expenses
- We show the approximate additional cash needed to support an increase in these expenses.

**Recommendation:** Less Conservative level given it is unlikely that there will be a sudden, rapid increase in price levels in both areas (T&D)



## Expense Risk Working Capital

(\$ in Millions)	Less Conservative Level	Moderate Level	More Conservative Level
One Days Cash <sup>1</sup>	82,000	82,000	82,000
Days Working Capital	30 days	60 days	90 days
Capital Reserve	\$2.5 million	\$4.9 million	\$7.4 million

**Purpose:** Represents a level of cash on hand to address the billing cycle (up to 60 days to convert WPC treatment and delivery costs to an account receivable to cash)

### Discussion

- Takes ~\$82,000 a day to run the utility (including debt service and PILOT)
- Billing cycle can take over 60 days from the customers and the delay could be longer
- 30 days likely “too short”
- COVID-19 could see late payments especially if no further stimulus

**Recommendation:** More Conservative level given the delayed timing of the billing cycle and the uncertainty of the COVID-environment and strength of the recovery



# Expense risk

## Capital / Renewal and Replacement

### Capital Reserve

- Many utilities establish a Capital Reserve to allow for the flexible execution of both routine and unexpected capital projects
- Capital Reserve level can be determined by examining
  - Executed annual CIP (2014-2019)
  - Projected CIP and other approved initiatives

	Less Conservative	Moderate	More Conservative
(\$ in Millions)	Level	Level	Level
Capital Reserve	\$5.1	\$6.0	\$7.5
Explanation	Min CIP (2022-2027)	Avg. CIP (2022-2027)	Max CIP (2022-2027)
Capital Reserve	\$5.1 million	\$6.0 million	\$7.5 million

- **Recommendation:** Moderate Level as it represents what the department will, on average, execute over the forecast period. The Department would likely need to replenish this account each year based on actual CIP executed



# Cash Balance

## PFM's Summary of Revenue and Expense Risks

Table II.XX - Summary of Reserve Levels  
Independence Power & Light

(\$ in Millions)	Less Conservative	Moderate	More Conservative
Area	Levels	Levels	Levels
<b>Revenue Risk</b>			
General Sales Decrease	\$0.00	\$0.73	\$1.70
Loss of Top Customer	\$0.27	\$0.51	\$0.75
Other Revenue: Interest	\$0.1	\$0.2	\$0.3
<b>Expense Risk</b>			
Treatment and disposal	\$0.1	\$0.3	\$0.5
Other Expenses	\$0.1	\$0.2	\$0.3
<b>Operational Risks / Working Capital</b>			
Working Capital	\$2.5	\$4.9	\$7.4
<b>Capital Reserve / Renewal and Replacement</b>			
Capital Reserve	\$5.1	\$6.0	\$7.5

Recommended Cash Level  
(and bandwidth)

\$8.1 million	\$12.8 million	\$18.5 million
<b>\$16.5 million</b>	<b>Recommended</b>	
<b>\$14.9 million</b>	<b>Lower Bandwidth</b>	
<b>\$16.5 million</b>	<b>Target</b>	
<b>\$18.2 million</b>	<b>Upper Bandwidth</b>	

\* PUAB recommendation from March 18, 2021 was for a level reserve target of \$10.0 million. This is \$6.5 million below PFM's recommendation for WPC. PFM notes the table has been adjusted compared to the PUAB presentation to accurately calculate the sum of the "Less Conservative. Moderate and More Conservative" columns.



# Cash Balance

## PUAB Recommendation

Table II.XX - Summary of Reserve Levels (PUAB Recommendation, \$10.0 million)

### Independence Power & Light

(\$ in Millions)	Less Conservative	Moderate	More Conservative
Area	Levels	Levels	Levels
<b>Revenue Risk</b>			
General Sales Decrease	\$0.00	\$0.73	\$1.70
Loss of Top Customer	\$0.27	\$0.51	\$0.75
Other Revenue: Interest	\$0.1	\$0.2	\$0.3
<b>Expense Risk</b>			
Treatment and disposal	\$0.1	\$0.3	\$0.5
Other Expenses	\$0.1	\$0.2	\$0.3
<b>Operational Risks / Working Capital</b>			
Working Capital	\$2.5	\$4.9	\$7.4
<b>Capital Reserve / Renewal and Replacement</b>			
Capital Reserve	\$5.1	\$6.0	\$7.5

- PUAB recommended level is \$10.0 million
- Places the target level at the ~midpoint between the “Less Conservative” and “Moderate” level
- Does not reflect a specific “binning” of risk faced by WPC..although it could be “binned” to get to an approximate \$10 million level as indicated by the blue boxes (\$10.6 million)
- Represents some inconsistency between the findings of Water and Electric system recommendation and policy.
- However, could be explained/justified to ratings analysts that might have questions about the differences between systems
- Selection of a target level should represent a “policy” decision of the PUAB and City Council

\$8.1 million	\$12.8 million	\$18.5 million
<b>\$10.0 million</b>	<b>PUAB Recommended</b>	

PUAB Recommended Cash Level (and bandwidth)	\$9.0 million	Lower Bandwidth
	<b>\$10.0 million</b>	<b>Target</b>
	\$11.0 million	Upper Bandwidth

\* PUAB recommendation from March 18, 2021 was for a level reserve target of \$10.0 million. This is \$6.5 million below PFM’s recommendation for WPC. PFM notes the table has been adjusted compared to the PUAB presentation to accurately calculate the sum of the “Less Conservative, Moderate and More Conservative” columns. PFM has also indicated how the risks could be selected to approximate the \$10.0 million level by summing the blue highlighted boxes.



# PUAB Cash Balance Recommendation, \$10.0 million

Cash Available	30-Jun-20	30-Jun-19
<b>Total Cash</b>	30,742,538	26,544,868
<b>Less: Legally Restricted Funds</b>		
Debt Service Reserve	7,510,274	6,948,208
<b>Available after Legally Restricted Funds</b>	23,232,264	19,596,660
<b>Less: Unrestricted BUT Unavailable funds</b>		
Bond Construction and CIP Projects Approved but Not Completed	13,084,105	13,128,834
Customer Advance Payments	593,478	592,317
<b>Restricted Cash &amp; Inv - Current</b>	13,677,583	13,721,151
<b>Amount Unrestricted AND Available</b>	9,554,681	5,875,509
<b>PUAB Cash Balance Target</b>	10,000,000	(445,319)
<b>Upper Bound of Target</b>	11,000,000	(1,445,319)
<b>Lower Bound of Target</b>	9,000,000	554,681
	<b>Target</b>	<b>Available</b>

- 1 Funds available for the cash reserve target = \$9.6 Million
- 2 Less: Cash Reserve Targets (Target of \$10.0 million and upper/lower bound)
- 3 Equals: Cash amount above or below target
  - Lower Bound = \$9.0 million  
Cash balance is above target
  - Upper Bound = \$11.0 million  
Cash balance is below target by \$1.4 million



# Cash Balance

## Comparable Regional Wastewater/Sewer Utilities

City / Water Utility	State	City Pop (000)	Operating Rev (\$000)	IOU vs Municipal	Type	Ratings		Days cash
						Moody's	S&P	
Independence WPC (PFM)	MO	117	\$30.8 million	Municipal	Water Pollution Control		A	300 days
Independence WPC (PUAB)							A	181 days
Kansas City	MO	486	\$170.9 million	Municipal	Water	Aa2	AA+	710 days
Kansas City	MO	486	\$251.9 million	Municipal	Wastewater & Sewer	Aa2	AA	876 days
Cedar Rapids	IA	132	\$33.4 million	Municipal	WPC	Aa2		828 days
Cedar Rapids	IA	132	\$12.5 million	Municipal	Sanitary Sewer	Aa2		981 days
Topeka	KS	126	\$76.6 million	Municipal	Water, WPC, Storm	Aa3		788 days
Norman	OK	122	\$39.8 million	Municipal	Water, Water Reclaim	Aa2		425 days
Columbia	MO	121	\$23.6 million	Municipal	Sanitary Sewer		A+	904 days
Broken Arrow	OK	108	\$46.1 million	Municipal	Water, WPC, Storm	Aa3	AA-	475 days
Davenport	IA	102	\$2.9 million	Municipal	Sewer & Stormwater	Aa3	AA	411 days
Lee's Summit	MO	97	\$40.7 million	Municipal	Water & Sewer	Aa1		814 days
Lawton	OK	94	\$45.1 million	Municipal	Water, Waste, Sanitation		AA-	200 days

- Generally, water and sewer enterprises:
  - have higher days cash compared to electric utilities
  - are rated higher than the electric utilities (there are no “AAA” rated municipal electric utilities)
- The comparable utilities listed above have an average of +400 days cash
  - Moving to target would actually be over 100 days below the average of comparable utilities

\* PUAB recommendation from March 18, 2021 was for a level reserve target of \$10.0 million. This is \$6.5 million below PFM's recommendation for WPC. PFM recommendation equated to ~300 days cash. PUAB recommendation reflected in blue row in the table



## Observations and Trends

- Recommended Level = ~~\$16.5 million~~ **\$10.0 million**
- WPC should operate withing a +/- 10% bandwidth for flexibility
  - Upper Level = ~~\$18.2 million~~ **\$11.0 million**
  - Lower Level = ~~\$14.9 million~~ **\$ 9.0 million**
- The Department has \$9.6 million of unrestricted cash available (as of June 2020)
- Unrestricted cash level falls below the recommended target by ~~~\$6.9~~ **~\$0.4** million
- Several options exist to move WPC into the bandwidth:
  - Retain cash from the planned November 2021 refunding of the 2012B Bonds
  - Make a deliberate decision to adjust/revise the recommended levels of cash in the risk areas to a lower level of cash (post-COVID)
  - Revise CIP/PILOT plans and projects
  - Implement staggered, annual rate increases.
    - Generally, policy should provide a period of time to move into the bandwidth (3 years recommended)
- Rating Agencies would view the adoption of the policy ~~favorably~~ **generally favorable**






# Cash Balance

## Other Options to Move to Bandwidth

- WPC has several series of outstanding bonds:

WPC Fund Debt						
	<u>Series</u>	<u>Original Par Amount</u>	<u>Outstanding Par Amount</u>	<u>Interest Rates</u>	<u>Maturities</u>	<u>Call Date</u>
	2012B	\$37,035,000	\$30,430,000	3.00% - 5.00%	November 1, 2021-2041	November 1, 2021
	2013C	43,800,000	38,665,000	3.00% - 5.25%	November 1, 2021-2042	November 1, 2023
	2014C	21,170,000	19,275,000	2.00% - 5.00%	November 1, 2021-2043	November 1, 2024
	Total WPC Debt		\$88,370,000			

- Refunding transaction in the fall of 2021 for the 2012B Bonds
- Savings from a refunding of the 2012B Bonds can be retained at the utility (as opposed to adjusting rates)
- Would augment the cash balance and reduce the need for a rate increase



## Refunding Options for the 2012B Sewer System Revenue Bonds

- ◆ PFM reviewed the refunding opportunities for outstanding 2012B Sewer System Revenue Bonds
- ◆ Based on current rates
  - The current refunding produces approximately \$6.8 million in NPV savings
  - The current refunding with an additional 50 basis points produces \$5.7 million in NPV savings

Annual Appropriation Sewer System Revenue Bonds, Series 2012B		
	Tax Exempt Current Refunding	Tax Exempt Current Refunding (+50 bps)
Dated/Delivery Date	08/03/2021	08/03/2021
Par of Refunded Bonds	\$29,490,000	\$29,490,000
Par of Refunding Bonds	\$23,255,000	\$24,155,000
Total Proceeds	\$29,633,329	\$29,679,850
Gross Savings	\$9,185,219	\$7,728,969
NPV Saving	\$6,819,535	\$5,707,224
NPV Savings as % of Refunded Par	23.12%	19.35%



## IV. Next Steps



## Next Steps

- **Schedule**

- 2021 Update to PUAB March 18
  - Updated recommended level
  - Presentation updated
- Approve final version of Policy with new targets by City Council April



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