



DENVER
THE MILE HIGH CITY

Wastewater Enterprise Fund Financial Plan



City Council Briefing

Department of Public Works
Budget and Management Office

FOR CITY SERVICES VISIT DenverGov.org | CALL 311

- Overview of Wastewater Enterprise Fund
- Rate Increase Drivers
- Storm and Sanitary Sewer Programs
- Storm and Sanitary Combined
- Customer Billing Improvement Options
- Affordability Options
- Recommendations



- Denver's Wastewater Management Division plans, constructs, operates and maintains Denver's sanitary sewer and storm drainage system.

Storm - \$41M

- Collects and transports natural events such as rain and snowfall using above ground and underground conveyance
- 750 miles of storm drainage facilities
- Annual billing

Sanitary -\$86M

- Collects and transports waste from homes and businesses
- Treated through Metro Reclamation District
- 1,475 miles of sanitary sewers
- Monthly billing through Denver Water

Cash Reserve Ratio

25% of annual operation & maintenance (O&M) expense.

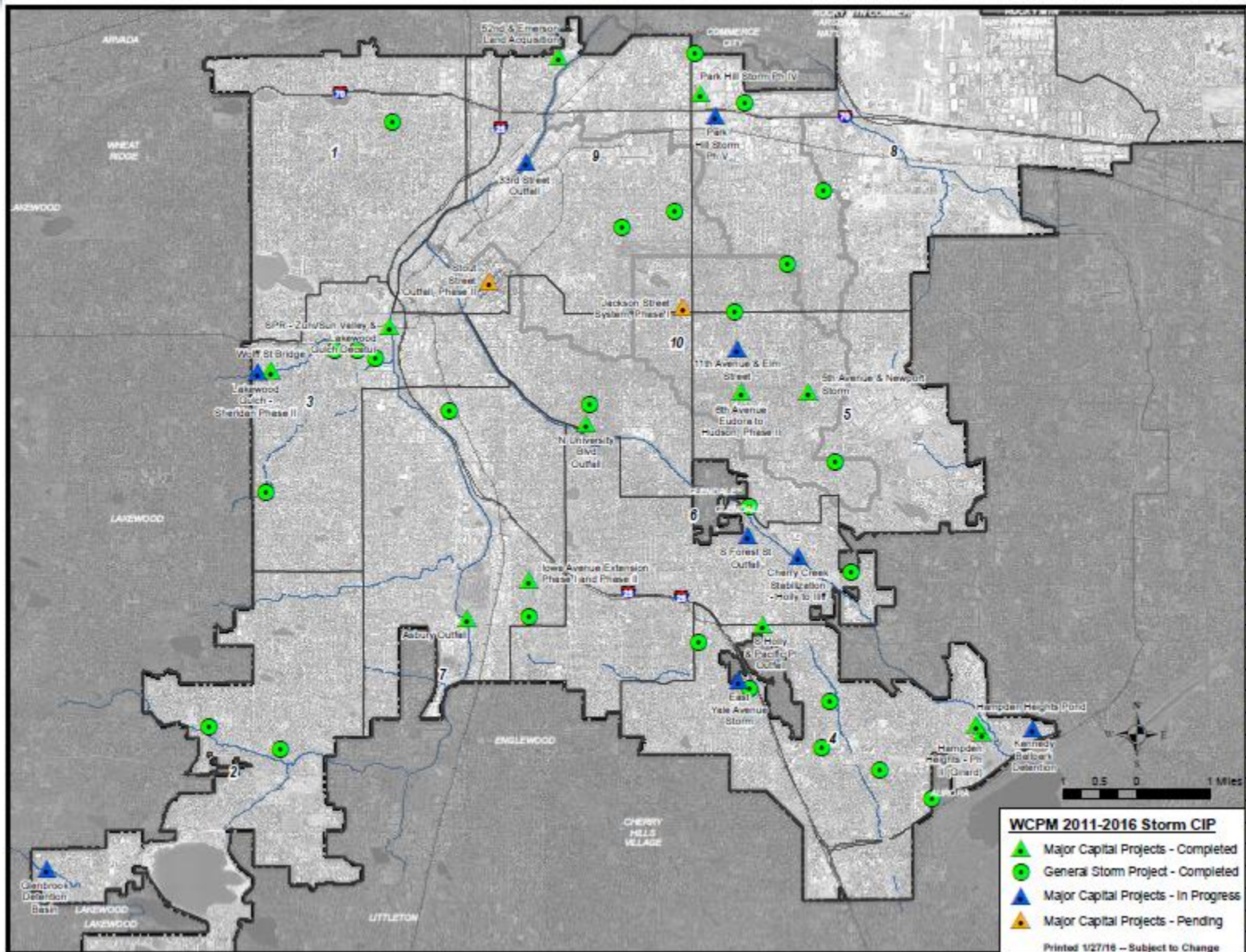
Debt Service Coverage

Net revenues (revenues less O&M expenses) must be at least 125% of Annual Debt Service

Measured on total Wastewater Enterprise Fund basis

Financially constrained Six-Year Capital Plan

Storm and Sanitary Capital Program Completed Projects (2011-2016)



Storm

- Proactively protect against serious flooding and drainage problems
- Update aging infrastructure
- Improve city's water quality
- Provide for robust annual capital program
- Ensure financial health and cash reserves

Sanitary

- Keep pace with annually increasing costs of processing dirty water in sanitation facility
- Update aging infrastructure
- Expand flexibility and flow to accommodate growth
- Ensure financial health and cash reserves

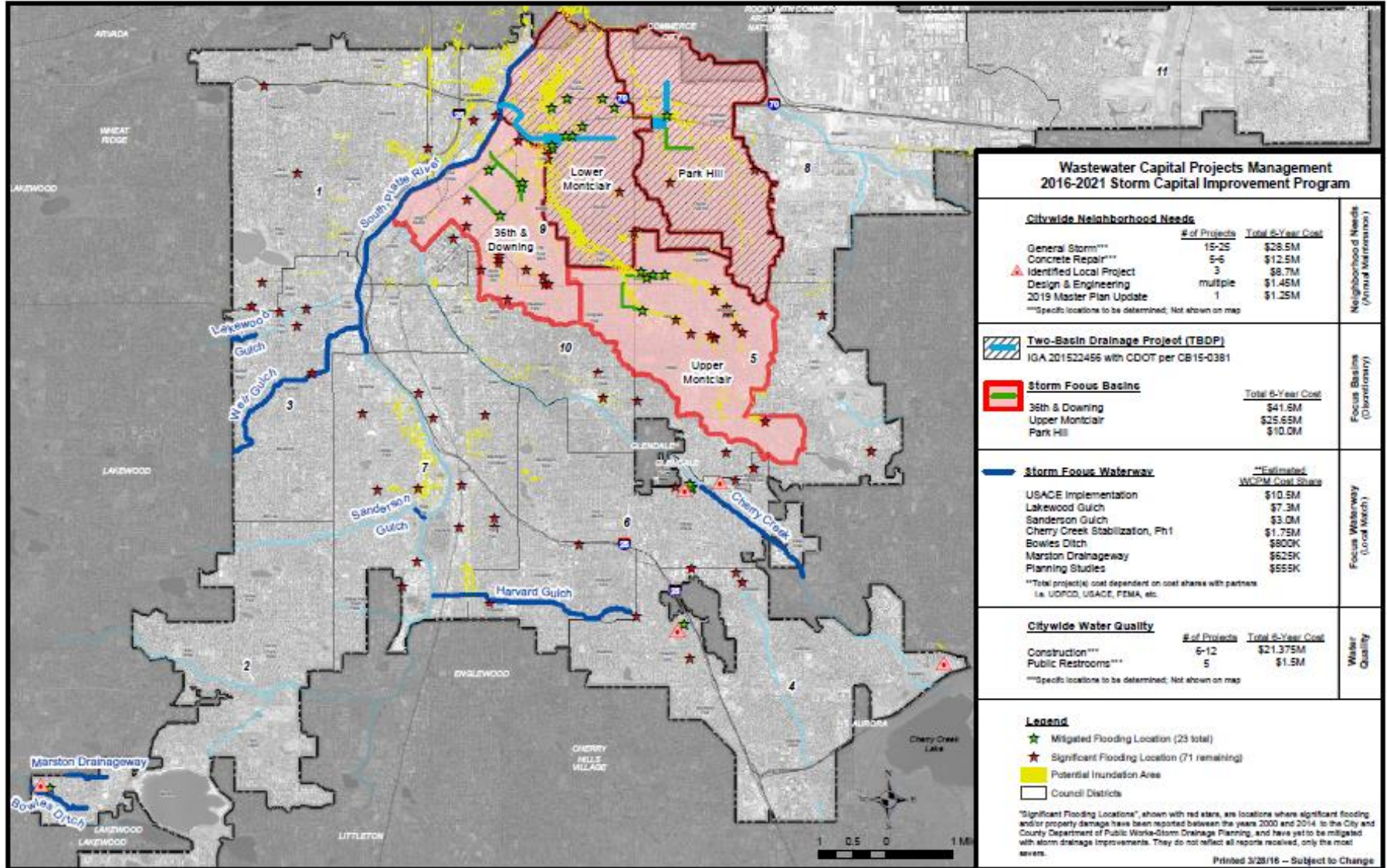
STORM

- Maintenance and personnel are the main operational cost drivers in storm drainage.
 - O&M expenditures is approximately \$18M annually
 - Sanitary revenue currently subsidizes storm program
- Current storm bond payments are approximately \$4.3M annually.
 - *“Standard & Poor's Ratings Services has affirmed its 'AAA' rating on Denver City & County, Colorado's wastewater enterprise revenue bonds. The outlook is stable.” (December 2014)*
 - *“Fitch affirms City and County of Denver, Colorado's Wastewater Revs at 'AAA', outlook stable.” (December 2015)*
- Capital improvement project expenditures are currently \$20M annually.



- **Six-Year Storm Drainage Capital Improvement Plan (\$383m)**
 - 2016 through 2021 includes \$177M (approximately \$30M per year) in storm drainage capital improvements and water quality.
 - Studies, planning or design is currently underway on over 60% of projects in plan.
 - **Neighborhood Needs** – Citywide annual maintenance programs for storm drainage facilities (\$53M of program)
 - *Examples: E. Iowa Avenue Extension, Holly & Pacific Place Outfall, Citywide General Storm Program*
 - **Focus Basins** – Major critical storm drainage system capital projects to reduce flood risk to life and property (\$78M of program for citywide projects)
 - *Examples: High Street Outfall Phase I, 33rd Street Outfall (currently underway), N. University Outfall*
 - *Platte to Park Hill is included in the focus basins and will account for \$206M*
 - **Focus Waterways** – Restoration and flood mitigation in partnership with UDFCD, USACE, FEMA, etc. (\$25M of program)
 - *Examples: Lakewood Gulch –Decatur, S. Platte River Projects (Zuni/Sun Valley)*
 - **Water Quality** (\$21M of program)

- Funding is needed for capital projects that improve water quality and the health of Denver's waterways.
- E. coli levels in the South Platte River often exceed safe standards for recreation.
- Water quality projects reduce pollution while also providing other environmental and recreational benefits (air quality, open space, connectivity, etc.)
- Current plan addresses five priority basins over 12 years
 - Increased treatment of 3,800 acres (3x the surface area of Chatfield Reservoir)
 - Removes priority pollutants by an average of 30% in the five basins



**Wastewater Capital Projects Management
2016-2021 Storm Capital Improvement Program**

Citywide Neighborhood Needs

	# of Projects	Total 6-Year Cost	Neighborhood Needs (Annual Maintenance)
General Storm***	15-25	\$28.5M	
Concrete Repair***	5-6	\$12.5M	
▲ Identified Local Project	3	\$8.7M	
Design & Engineering	multiple	\$1.45M	
2019 Master Plan Update	1	\$1.25M	

***Specific locations to be determined; Not shown on map

Two-Basin Drainage Project (TBDP)
IGA 201522456 with CDOT per CB15-0381

Storm Focus Basins	Total 6-Year Cost	Focus Basins (Discretionary)
36th & Downing	\$41.6M	
Upper Montclair	\$25.65M	
Park Hill	\$10.0M	

Storm Focus Waterway	**Estimated WOFM Cost Share	Focus Waterway (Local Match)
USACE Implementation	\$10.5M	
Lakewood Gulch	\$7.3M	
Sanderson Gulch	\$3.0M	
Cherry Creek Stabilization, Ph I	\$1.75M	
Bowles Ditch	\$800K	
Marston Drainageway	\$625K	
Planning Studies	\$555K	

**Total project(s) cost dependent on cost shares with partners
i.e. USACE, USACE, FEMA, etc.

Citywide Water Quality	# of Projects	Total 6-Year Cost	Water Quality
Construction***	6-12	\$21.375M	
Public Restrooms***	5	\$1.5M	

***Specific locations to be determined; Not shown on map

- Legend**
- ★ Mitigated Flooding Location (23 total)
 - ★ Significant Flooding Location (71 remaining)
 - Potential Inundation Area
 - Council Districts

"Significant Flooding Locations", shown with red stars, are locations where significant flooding and/or property damage have been reported between the years 2000 and 2014 to the City and County Department of Public Works-Storm Drainage Planning, and have yet to be mitigated with storm drainage improvements. They do not reflect all reports received, only the most severe.

Storm Drainage Rate Increase Structure (Annual Billing)

Year	Rate Change	Total Average Annual Charge	Annual Increase
2011	20%	\$85.25	\$13.20
2012	2%	\$86.90	\$1.64
2013	2%	\$88.55	\$1.65
2014	CPI (2.8%)	\$91.03	\$2.48
2015	CPI (2.7%)	\$93.50	\$2.47

- Storm Drainage bill is based on a formula using the lot size, the total impervious (or impermeable) surface area, and billing rates.
- In 2016, storm drainage service revenue is estimated to be \$41M.

Storm Drainage System Recommended Rate Structure

Storm Drainage Estimated Rate Structure (Annual Billing)

\$115M revenue bond – Platte to Park Hill (2016)

\$121M revenue bond - \$91M Platte to Park Hill; \$30M Storm (2018)

Year	Total Avg. Residential Annual Bill	Total Rate Change % (Rate w/o CPI)	Residential Rate Change \$ (YoY)	Monthly rate*
2015	\$93.48	2.7%		\$7.89
2016	\$103.77	11% (8%)	\$10.28	\$8.64
2017	\$115.19	11% (8%)	\$11.42	\$9.59
2018	\$127.86	11% (8%)	\$12.67	\$10.65
2019	\$140.64	10% (7%)	\$12.78	\$11.72
2020	\$154.71	10% (7%)	\$14.07	\$12.89

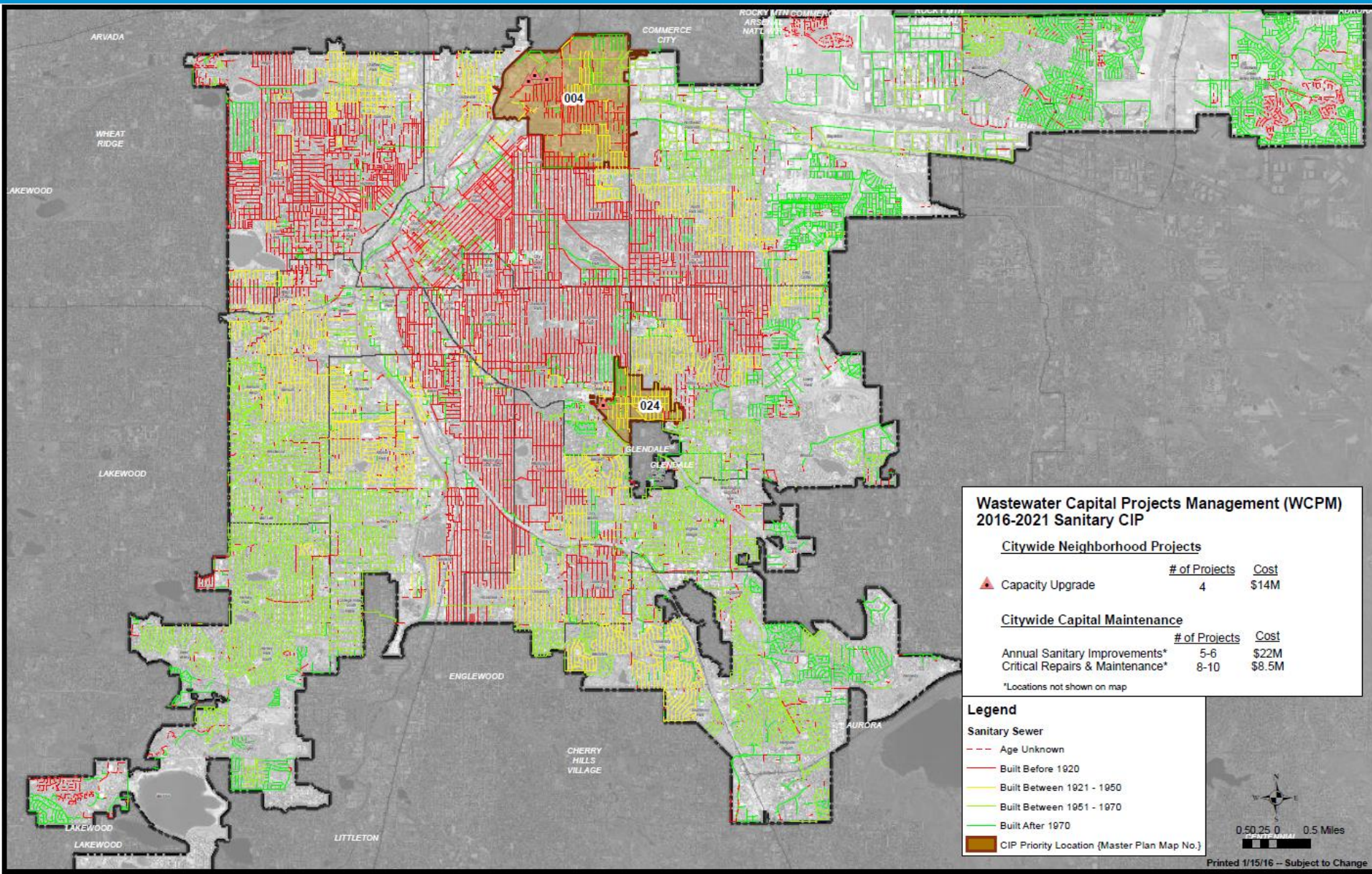
- The total impact to residential rate payer is approximately \$61 over five years or average of \$12.24 per year.
- Meets \$177M storm capital improvement project needs of system (\$30M/year).
- In order to maintain \$30M/year program, a projected rate increase of approximately 9% will be needed in 2021-2023.

* The new monthly bill rate if we switch to monthly billing with the help of Denver Water

SANITARY

- Average age of sanitary system is 60 years old.
- Sanitary Sewer spends \$2.5M on capital improvement projects each year.
 - Sanitary capital expenditures include:
 - Annual sanitary needs and improvements in neighborhoods:
 - Critical sanitary sewer lining program
 - Critical sanitary sewer replacement program (urgent repairs)
 - Annual sanitary sewer improvements
 - Water quality sewer lining program
 - Discretionary sanitary projects
- Metro Wastewater Reclamation District - 65% of sanitary operating expenditures.

Sanitary CIP Program (2016-2021)



**Wastewater Capital Projects Management (WCPM)
2016-2021 Sanitary CIP**

Citywide Neighborhood Projects

	# of Projects	Cost
▲ Capacity Upgrade	4	\$14M

Citywide Capital Maintenance

	# of Projects	Cost
Annual Sanitary Improvements*	5-6	\$22M
Critical Repairs & Maintenance*	8-10	\$8.5M

*Locations not shown on map

Legend

Sanitary Sewer

- Age Unknown
- Built Before 1920
- Built Between 1921 - 1950
- Built Between 1951 - 1970
- Built After 1970
- CIP Priority Location (Master Plan Map No.)



Sanitary Sewer Rate Structure (Monthly Billing)			
Year	Rate Change	Monthly Bill	Monthly Change
2011	45%*	\$16.40	\$6.65
2012	15%	\$16.25	-\$0.15
2013	10%	\$17.90	\$1.65
2014	CPI (2.8%)	\$18.40	\$0.50
2015	CPI (2.7%)	\$18.90	\$0.50

*Billing system surcharge of \$2.25 per month was also applied for six months from July 2011 until December 2011 (total of \$13.50).

- As of 2015, Denver is the lowest sanitary sewer rate in the metro area
- Based on metered water consumption.
- Prior to 2011, the last structural rate increase for sanitary sewer occurred in 1995.
- In 2016, sanitary sewer revenue is estimated to be \$86M.

Sanitary Sewer Estimated Rate Structure (Monthly Billing)

Year	Total Avg. Residential Annual Bill	Total Avg. Monthly Bill	Total Rate Change % (Rate w/o CPI)	Annual Rate Change \$	Monthly Rate Change \$
2015	\$226.80	\$18.90	2.7%	\$6.00	\$0.50
2016	\$238.08	\$19.84	5% (2%)	\$11.28	\$0.94
2017	\$249.96	\$20.83	5% (2%)	\$11.88	\$0.99
2018	\$260.04	\$21.67	4% (1%)	\$10.08	\$0.84
2019	\$270.36	\$22.53	4% (1%)	\$10.32	\$0.86
2020	\$281.28	\$23.44	4% (1%)	\$10.92	\$0.91

- Meets capital project needs of sanitary sewer system.
 - Annual program of \$8M (\$5.3M annual sanitary capital maintenance, \$3M in discretionary sanitary projects).
- Maintains sufficient cash reserves and debt service requirements.
 - Long-term financial sustainability of sanitary sewer utility service.
 - Annual Metro Reclamation District increases

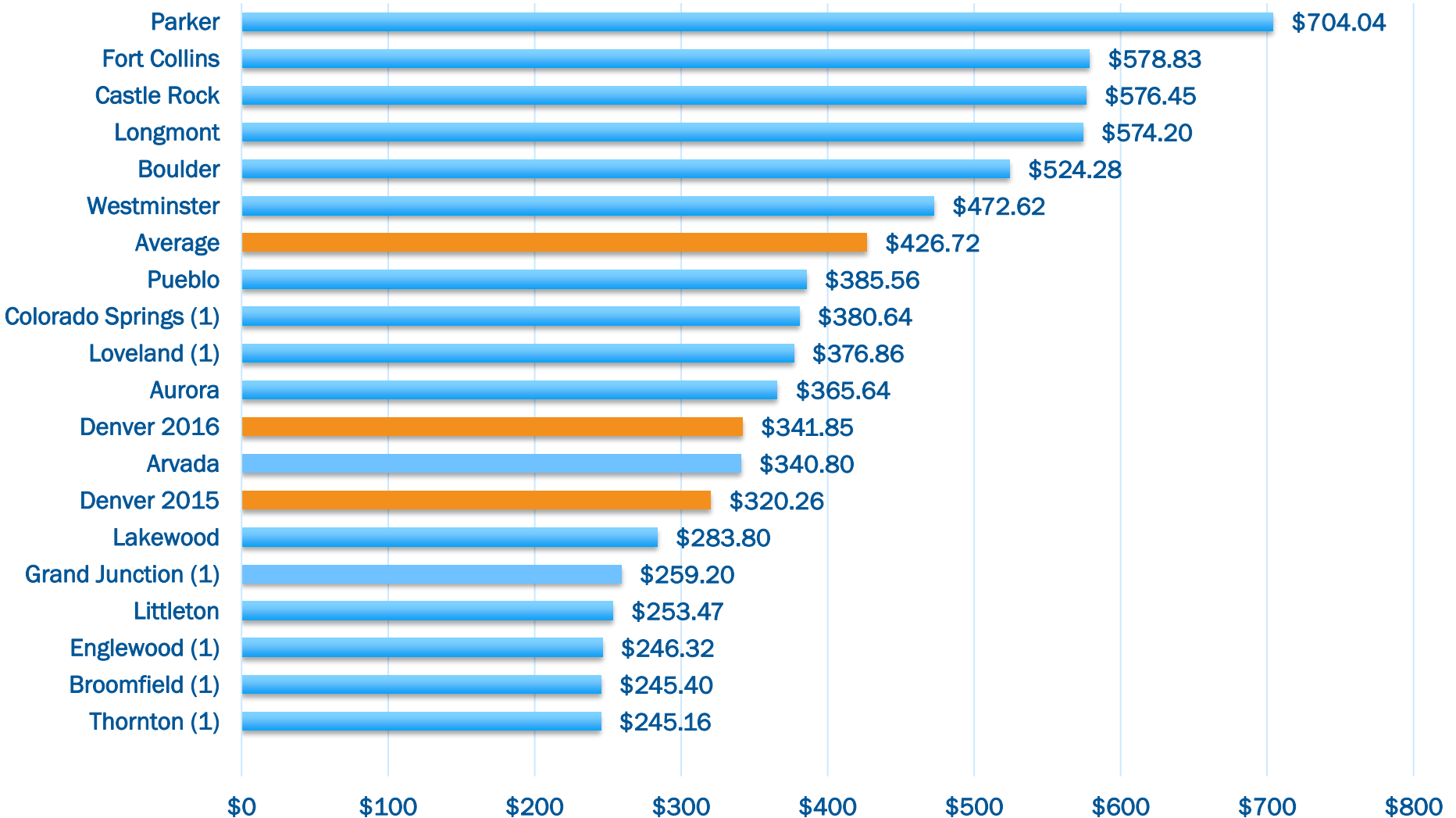
Storm & Sanitary Combined Recommended Rate Structures

Year	Avg. Annual Combined Single Family Bill (1)	Total Increase in Annual Bill
2016	\$341.85	\$21.56
2017	\$365.15	\$23.30
2018	\$387.90	\$22.75
2019	\$411	\$23.10
2020	\$436	\$25

- Total increase over five-year period is approximately \$116 per single family residential home or an average increase of \$23 per year.

Sewer & Storm Combined

Single Family Residential Annual Bill Comparison (2)



(1) Annual charge does not include Storm Utility charges

(2) 5/8-inch meter; 5,000 gallons usage; Lot size 7,500 sq. ft.; Impervious Area 2,750 sq. ft.

- **Storm billing options include:**
 - Moving to monthly or quarterly billing from annual
 - Installment payments
 - Annual bill with payment coupons (quarterly or monthly)
 - Outsource of storm billing through a partnership with Denver Water can simplify billing for customers.
 - Promotion of online payments (currently storm only) will make paying easier for customers.

- The Finance Department is researching potential affordability program options to support residents.
- Research will include structure, timing, criteria and public-private partnership opportunities.
- The goal is to have an affordability solution in place that complies with legal and TABOR requirements by January 1, 2017.

- Request adoption of preferred storm and sanitary five-year rate plan effective July 1st of 2016 and January 1st each year thereafter.
 - Public Works will return to City Council every five years to align rates with the updated six-year storm and sanitary capital plan.



June 8, 2015 – Denver Post