

Prepared for
Narragansett Bay
Commission

CSO Control Facilities Phase III Reevaluation IPF: Affordability Analysis & Alternatives Costs

23 October 2014

Providence

Rumford

East Providence

Edgewood Lake

Edgewood Yacht Club

Fay Memorial Field



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BUILDING A BETTER WORLD



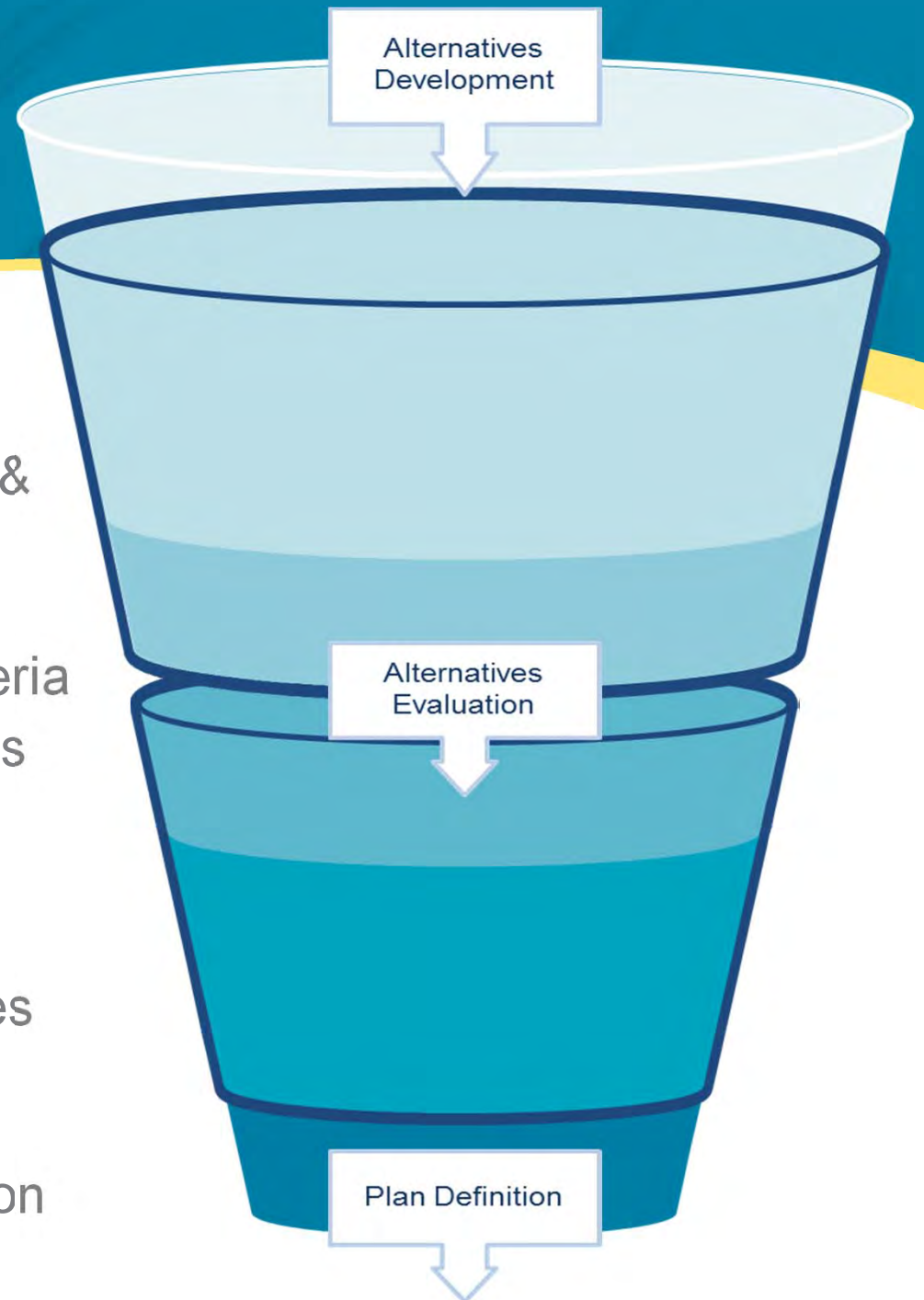
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Outline

- Stakeholder process review
- Affordability analysis
- Alternatives costs
- Subsystem alternatives evaluation completion
- Alternatives analysis conclusion & next steps

Development & Evaluation Process

- Alternatives Development
 - April 10 & May 22, Grey & Green Infrastructure
- Alternatives Evaluation
 - June 19, Evaluation Criteria
 - September 4, Alternatives Analysis Workshop
- Plan Definition
 - October 23, IPF: Affordability & Alternatives Costs
 - November 13, Scenario Review & Plan Finalization



Affordability analysis

Alternatives costs

Subsystem alternatives
evaluation completion

Alternatives analysis conclusion
& next steps

Affordability Analysis



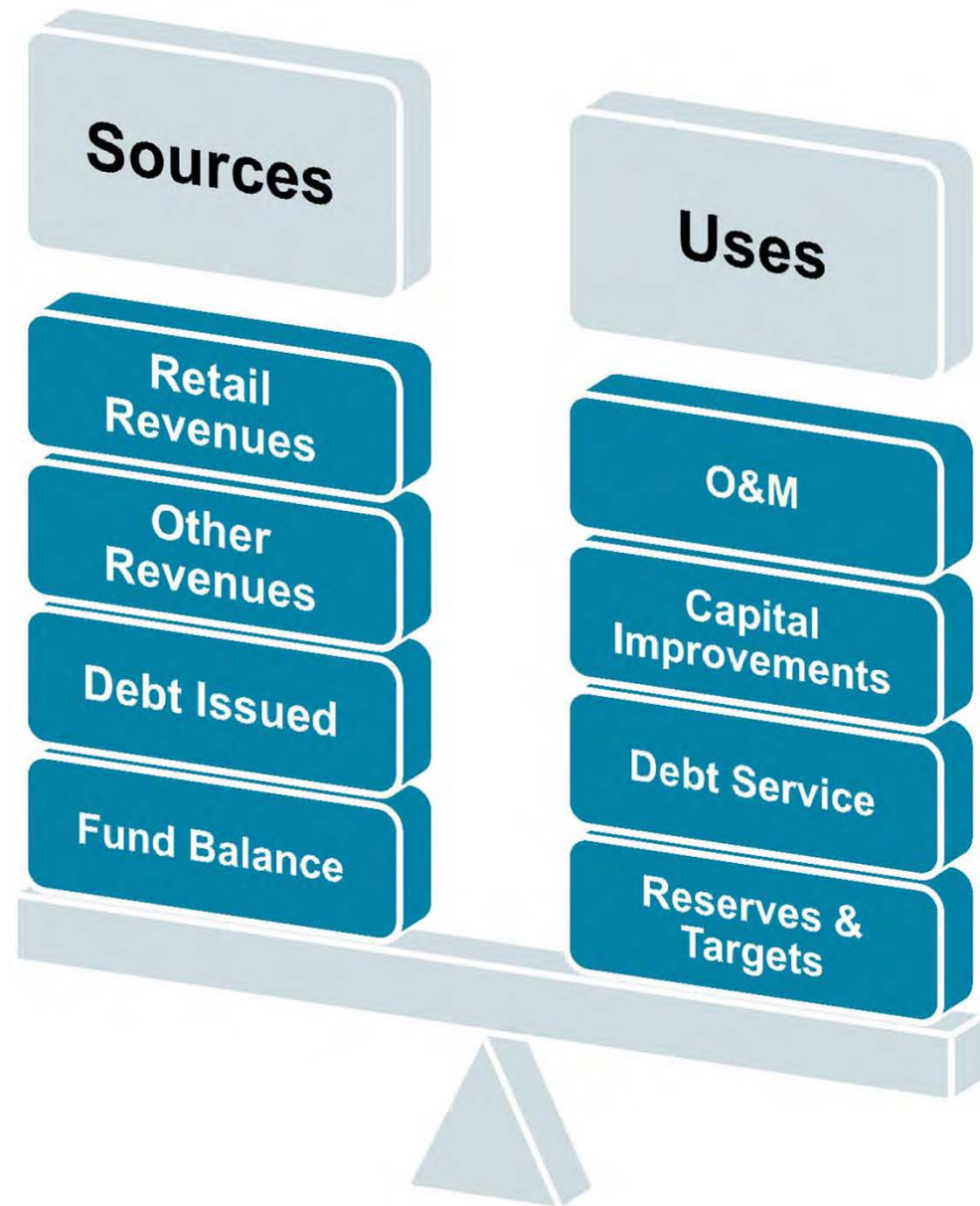
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NBC Financial Plan and Assumptions

Financial Plan



Key Financial Plan Assumptions

Retail Revenues

0% growth of usage in future years, rate increases needed to pay CSO Phase III

Other Revenues

Pretreatment, septage, late charges, and other miscellaneous income remain consistent

Debt Proceeds

Maximum allowable will be funded through RICWFA loans, projecting \$45 M in 2015 and \$25 M in future years

O&M Expenses

Escalated at 2.3% per year, includes O&M impact from CIP in future years

Debt Service

RICWFA loans at 3% for 20 years, revenue bonds at 5% for 20 years

Capital Improvement Projects

Costs from NBC budget and baseline CSO Phase III estimate

Reserves and Policy Targets

Maintain DSC of 1.25, operating reserve of \$4.5 M growing to 90 days O&M in future years

Capital Improvement Projects

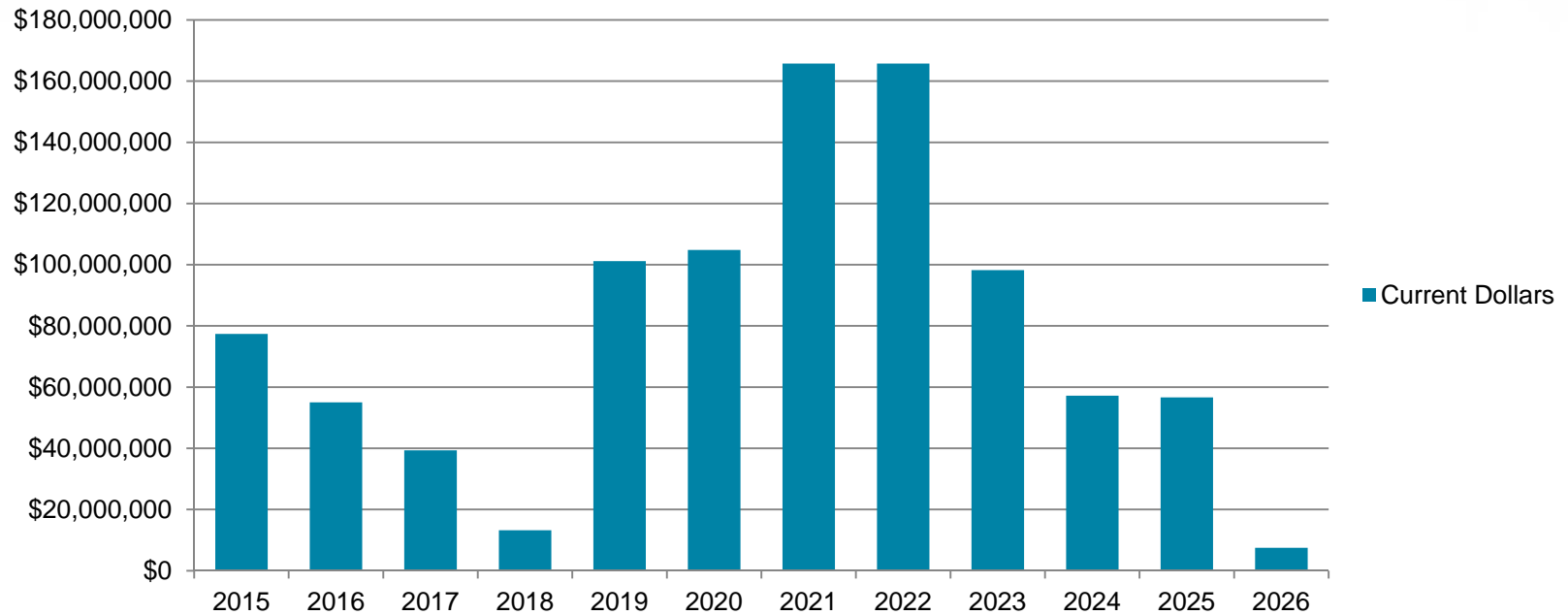
Year	WWTF Improvements	Infrastructure Management	Sewer Improvements & Interceptor Repair	CSO Phase II	CSO Phase III	Annual Total
2015	\$22,476,211	\$1,965,578	\$3,018,930	\$35,594,214	\$10,655,899	\$73,710,832
2016	25,743,500	1,686,900	5,226,363	8,924,731	10,655,899	52,237,393
2017	5,056,024	856,761	4,532,276	4,773,530	21,311,798	36,530,389
2018	2,125,922	621,300	5,325,966	0	2,841,573	10,914,761
2019	2,191,826	722,207	5,167,229	0	91,831,056	99,912,317
2020	2,259,772	564,943	2,259,772	0	97,340,231	102,424,719
2021	2,329,825	582,456	2,329,825	0	158,255,266	163,497,372
2022	2,402,050	600,512	2,402,050	0	158,255,266	163,659,878
2023	2,476,513	619,128	2,476,513	0	90,729,431	96,301,586
2024	2,553,285	638,321	2,553,285	0	49,717,079	55,461,970
2025	2,632,437	658,109	2,632,437	0	49,136,897	55,059,880
2026	2,714,043	678,511	2,714,043	0	0	6,106,596
Total	\$74,961,407	\$10,194,726	\$40,638,689	\$49,292,475	\$740,730,396	\$915,817,693

CIP/Operating Capital Outlays

Project Description	Project Group	2015	2016	2017	2018	2019	2020
Operating Capital Outlays	Operating Capital	3,678,500	2,798,400	3,261,300	2,778,000	1,962,000	3,000,000

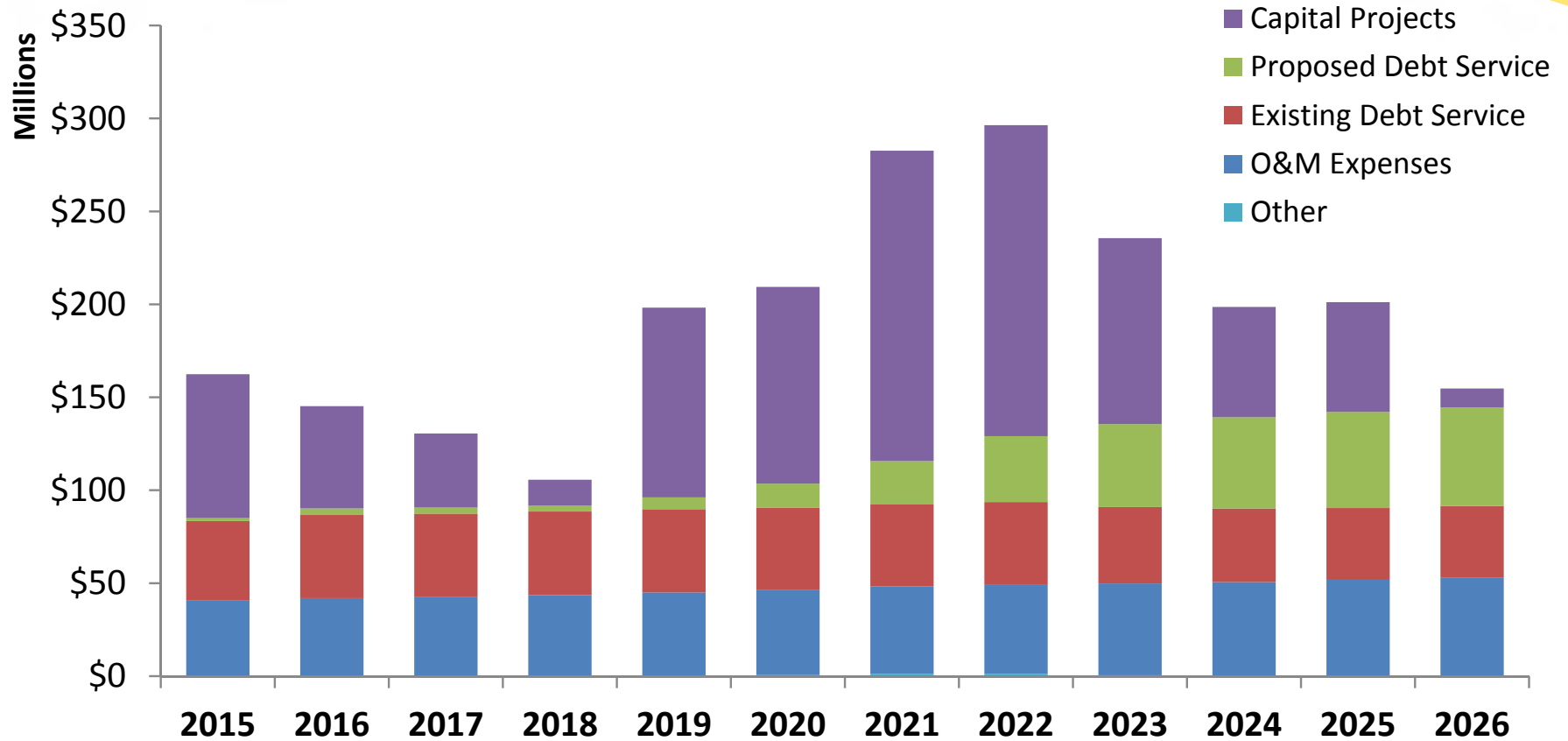
Capital Planning Trend

Projected Capital Expenditures

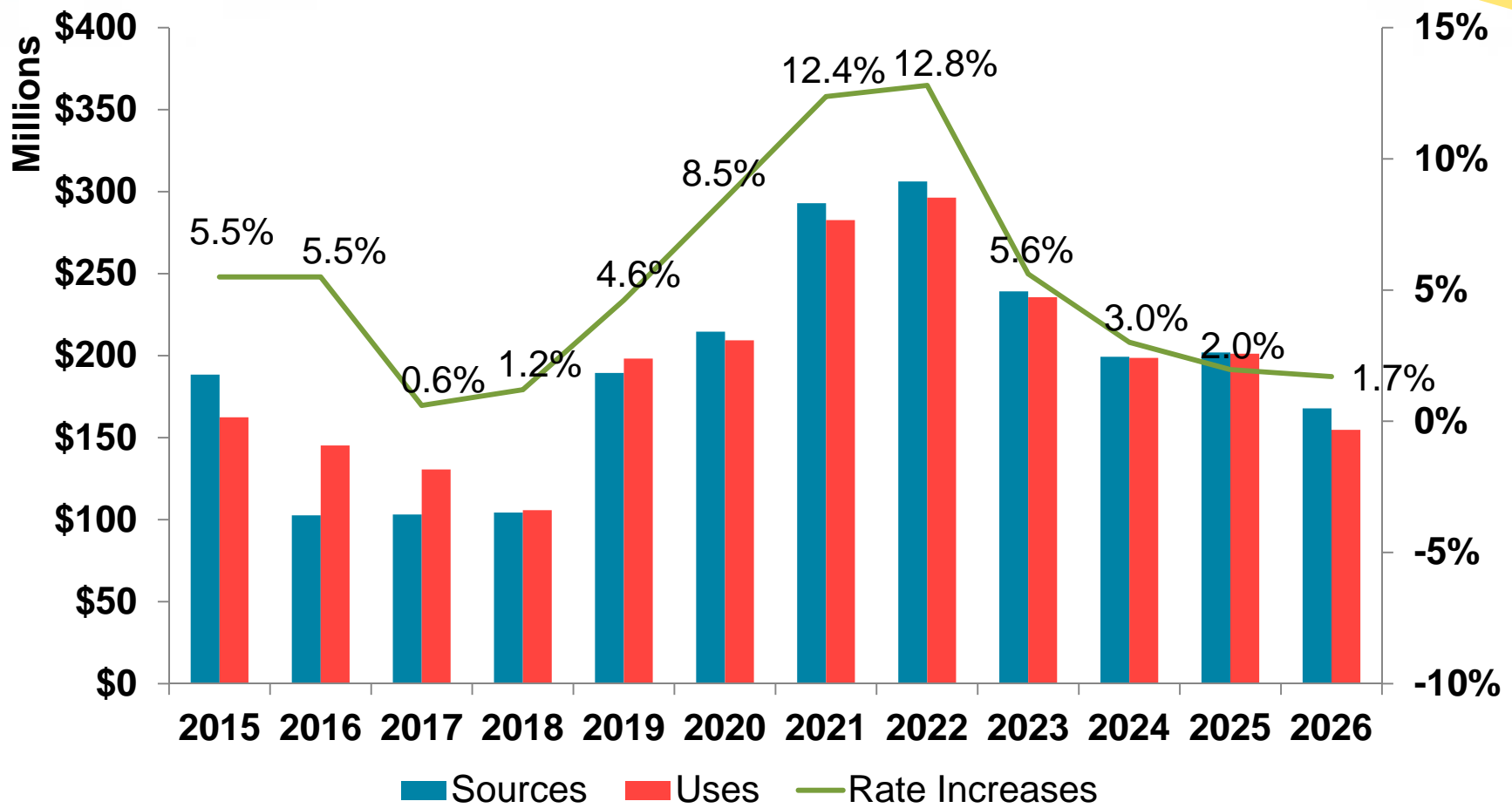


Project Description	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
TOTAL CASH EXPENDITURE	\$77,389,332	\$55,035,793	\$39,334,098	\$13,214,572	\$101,167,056	\$104,840,231	\$165,755,266	\$165,755,266	\$98,229,431	\$57,217,079	\$56,636,897	\$7,500,000

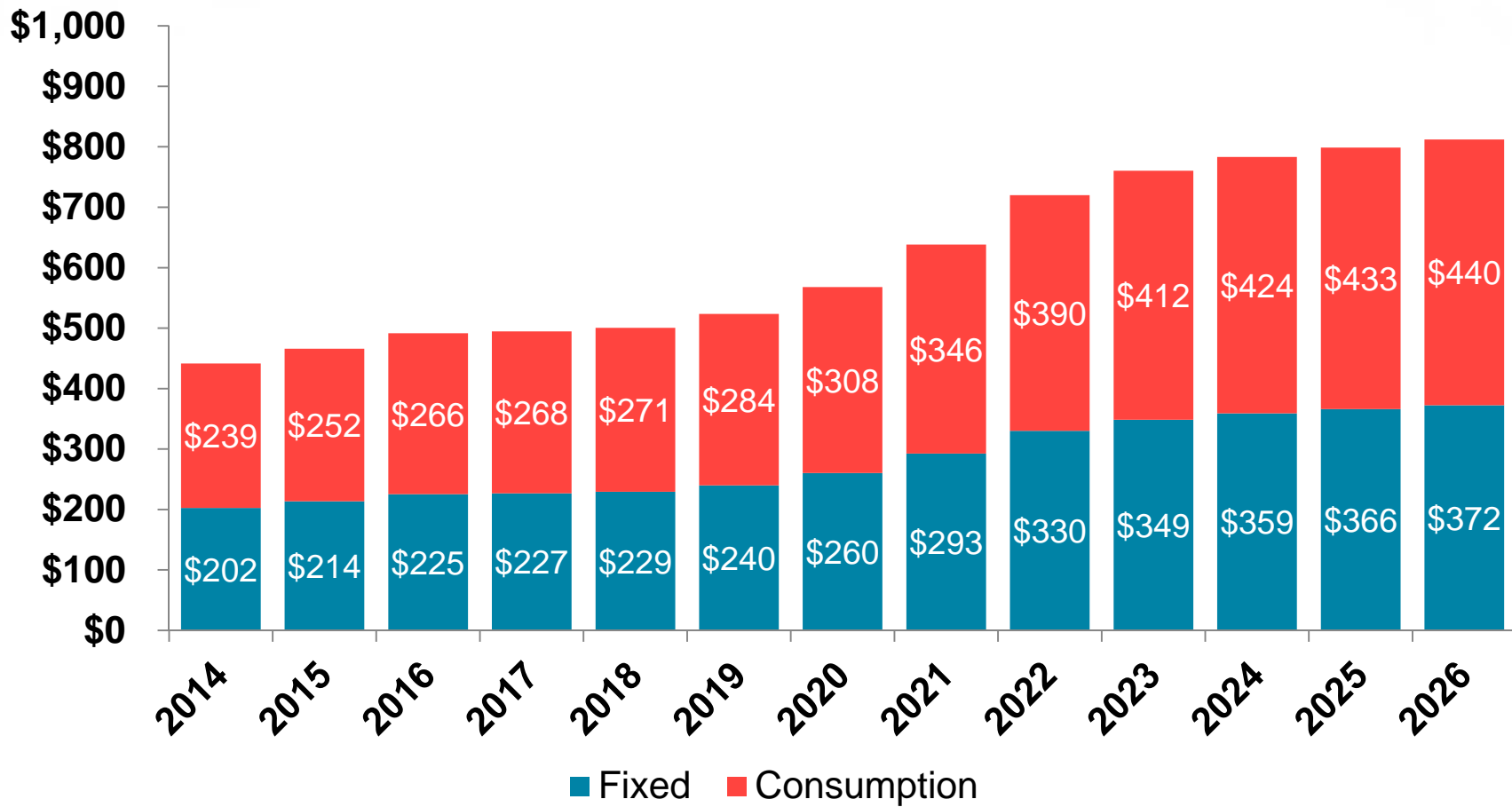
Total Expenditures/Uses of Funds



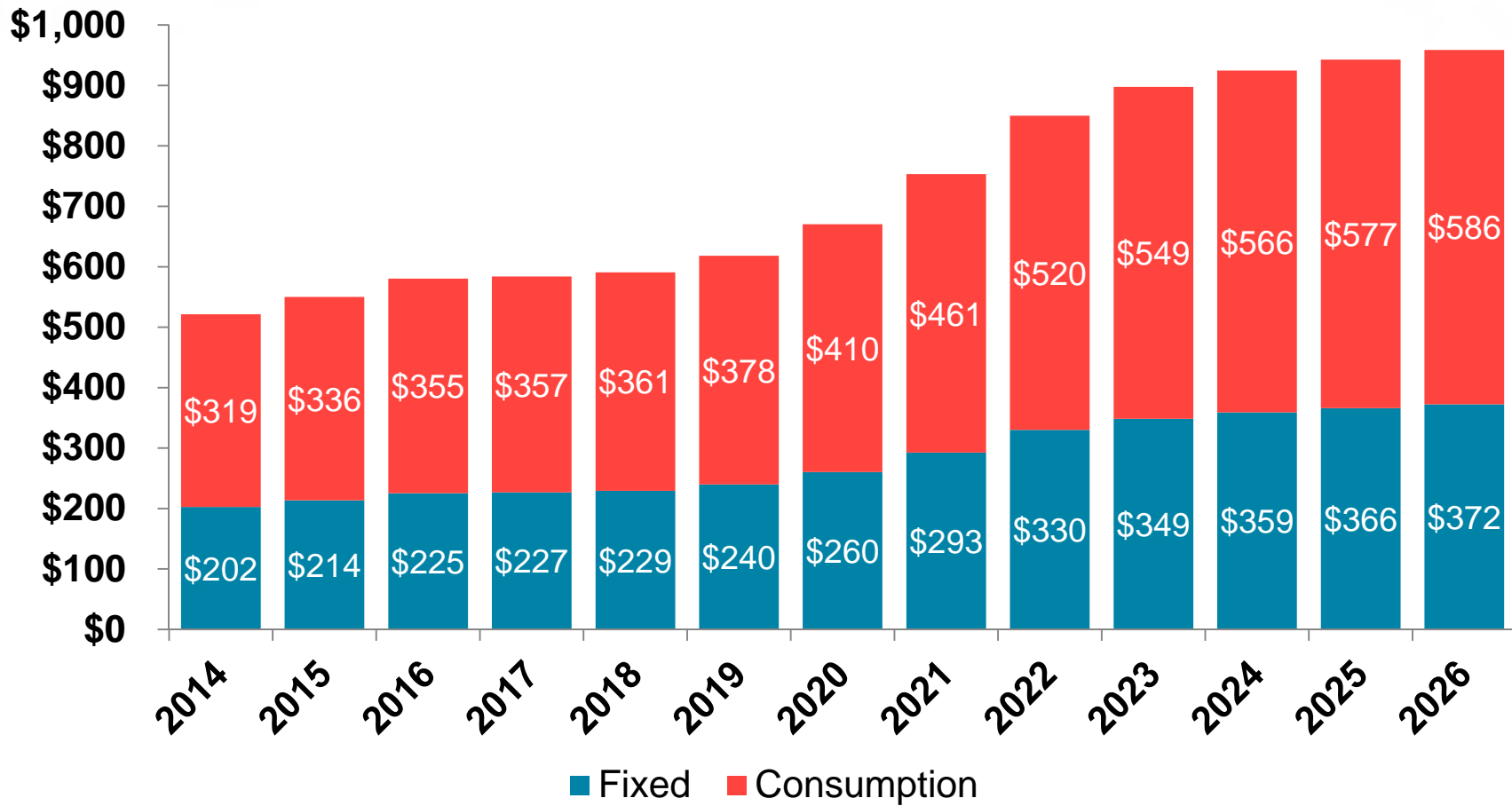
Rate Increases



Average Annual Charge (150 GPD)



Average Annual Charge (200 GPD)



Assessment Following EPA Guidance

Financial Capability Assessment

Measuring Affordability: Shifting Mind Sets and Terminology

- Population/Accounts
- EPA “No Bills”
- Entire Area-City/County
- No Income Distribution
- 2010 or 2012 MHI
- Median
- Households
- Actual Bills/Average Bills
- Census Tract Level
- 16 buckets of Income Distribution
- 2014 MHI Adjusted
- Weighted Average

EPA Methodology (1997)

PHASE 2: Economic Indicators	PHASE 1 : Residential Indicator		
	Low (below 1.0 %)	Mid-Range (between 1.0 and 2.0 %)	High (greater than 2.0 %)
Weak (Below 1.5)	Medium Burden	High Burden	High Burden
Mid-Range (Between 1.5 and 2.5)	Low Burden	Medium Burden	High Burden
Strong (Above 2.5)	Low Burden	Low Burden	Medium Burden

EPA Financial Capability Assessment

Indicator	<i>Strong</i>	<i>Mid-Range</i>	<i>Weak</i>
Bond Rating	AAA-A (S&P) or Aaa-A (MIS)	BBB (S&P) or Baa (MIS)	BB-D (S&P) or Ba-C (MIS)
Net Debt/Property Value	Below 2%	2% - 5%	Above 5%
Unemployment Rate	>1% below National Ave.	±1% of National Ave.	>1% above National Ave.
Median Household Income	>25% above adj. Nat'l MHI	±25% of adj. Nat'l MHI	>25% below adj. Nat'l MHI
Prop. Tax/Property Value	Below 2%	2% - 4%	Above 4%
Prop. Tax Collection Rate	Above 98%	94% - 98%	Below 94%

Key FCA Assumptions

Current O&M of \$41.0 M

Does not include any infrastructure costs or stormwater costs

Annual Capital of \$45.2 M

Existing debt service of \$42.2 M and annual PAYGO capital of \$3.0 M

CSO Ph III / Future CIP of \$831 M

\$678 M of CSO Phase III (\$740 M of costs with escalation), \$153 M of WWT improvements and non-LTCP, \$500k of annual infrastructure management costs

Future O&M Increase of \$490k

Additional O&M resulting from construction of Phase III

Funding aims to max RICWFA loans

51% revenue bonds, 26% RICWFA loans, 22% cash

Financing at 3% / 5% for 20 years

RICWFA loans at 3% for 20 years, revenue bonds at 5% for 20 years

Residential Share of 61.0%

Billed usage in FY 2014

Households at 118,683

Dwelling units in FY 2014

EPA Phase 1: Residential Indicator

Current Costs	\$ 86,417,929
<u>Projected Costs</u>	<u>67,165,564</u>
Total Costs	\$ 153,583,493

Residential Share \$ 97,753,926

Number of Households 118,683

Cost Per Household \$ 789.95

Weighted & Adjusted MHI \$ 47,165

Residential Indicator 1.67%

Medium Burden

EPA Phase 2: Financial Capability Indicators

Bond Rating	AA-	Strong
Net Debt/Property Value	1.4%	Strong
Unemployment Rate	+ 1.9%	Weak
MHI	- 14.5%	Mid-Range
Property Tax/Value	2.7%	Mid-Range
Property Tax/Collection	96.2%	Mid-Range
Total Score		Mid-Range

**Critical
Information
Overlooked
by EPA
Residential
Indicator**

1) Income distribution and skew

2) Neighborhoods

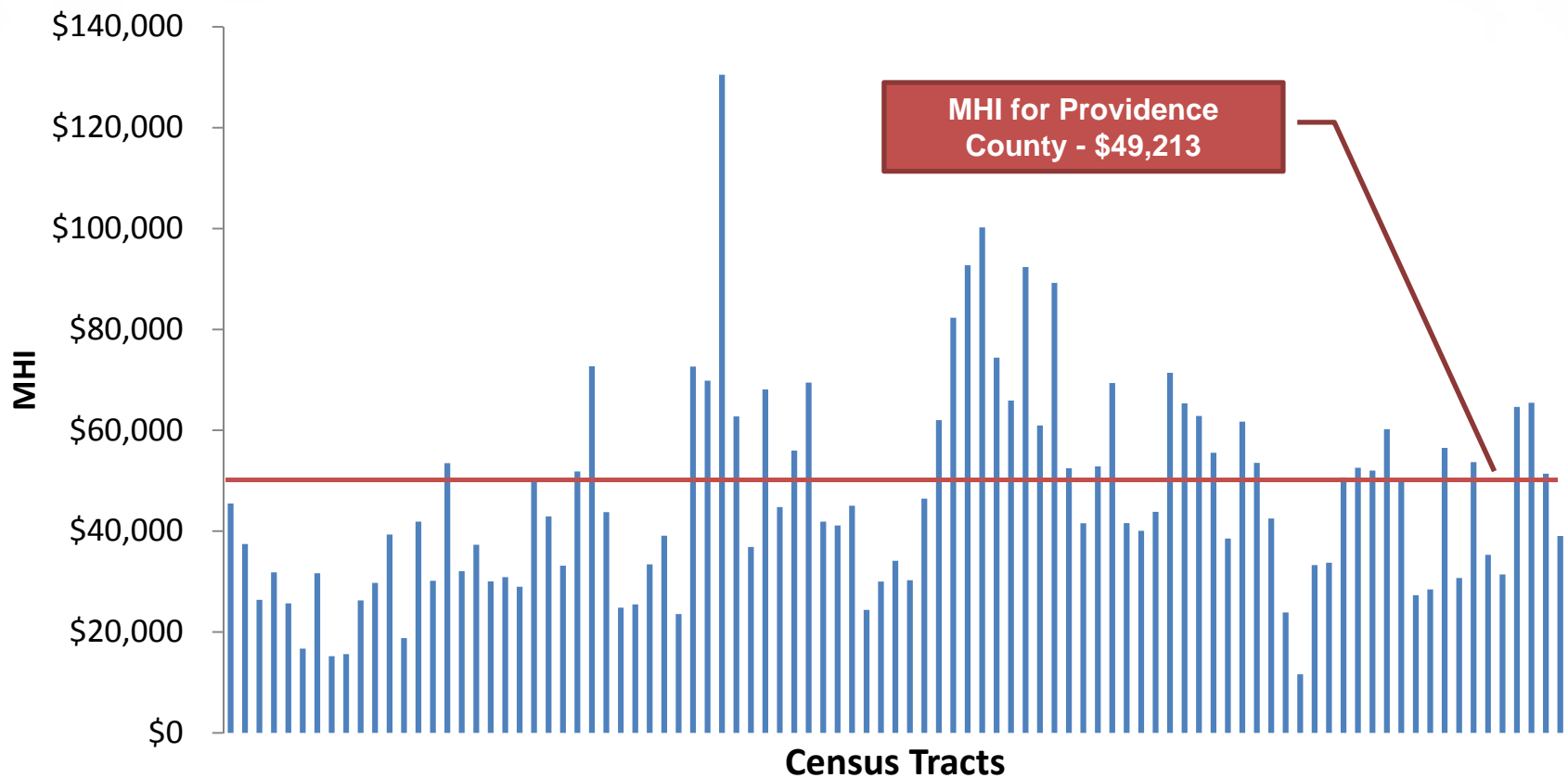
3) Actual bills

Our Approach Improves Negotiating Power

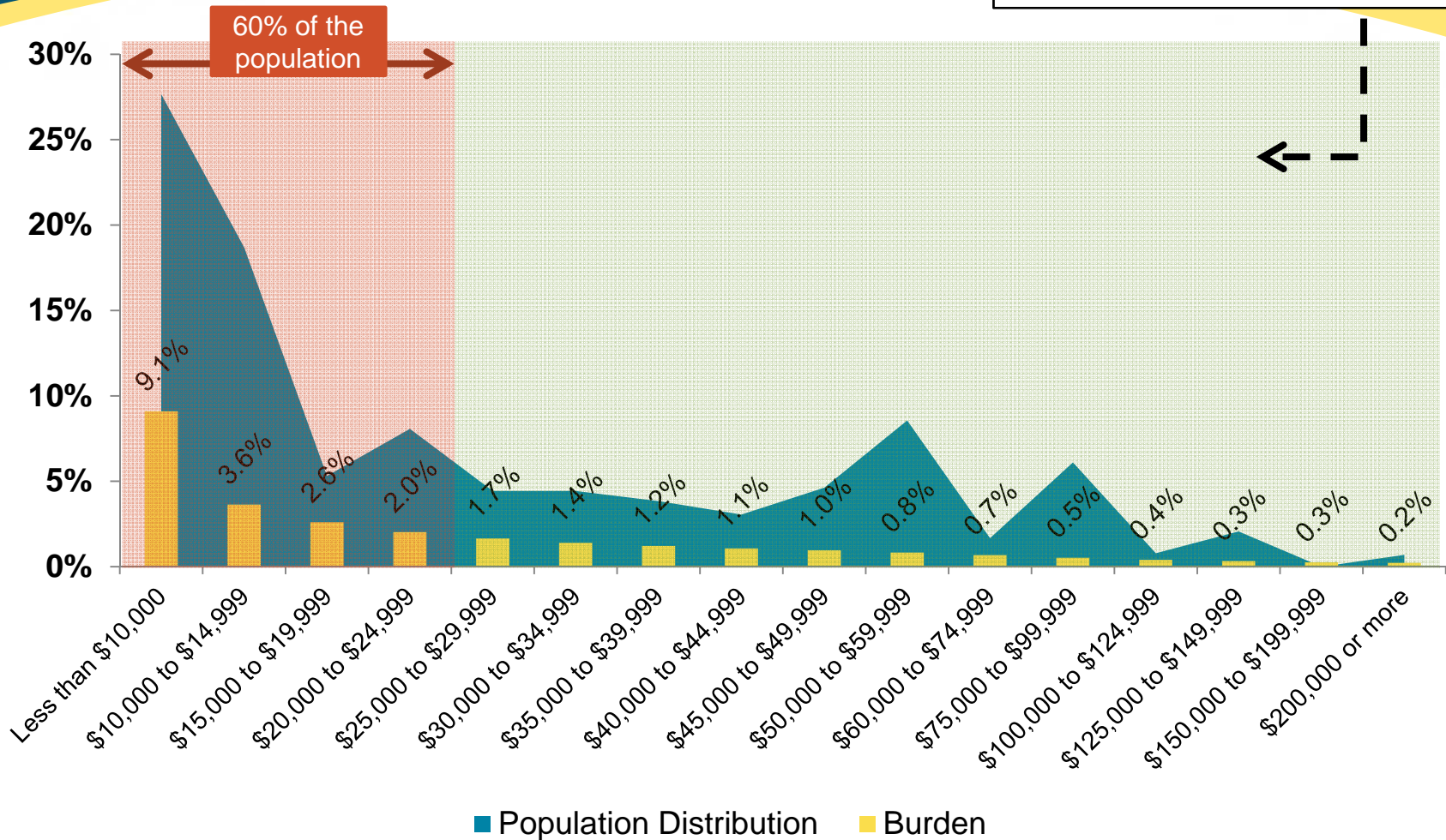
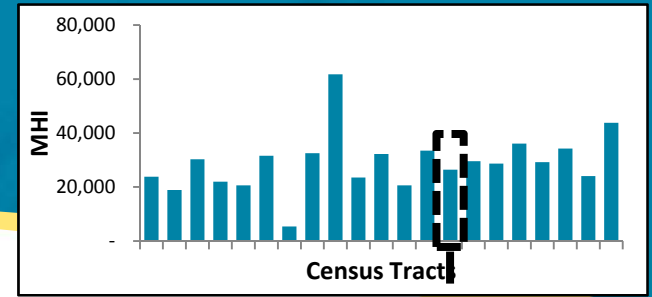
- Meets and exceeds EPA standard
- Supported by Major Industry Groups
 - US Conference of Mayors
 - AWWA
 - WEF
- Allows You to Shape CSO Long Term Control Plan (LTCP) to Fit the Whole Community



MHI by Census Tract in the NBC Service Area



Weight of Income Distribution








Affordability Modeling

Rate and Inflation Assumptions

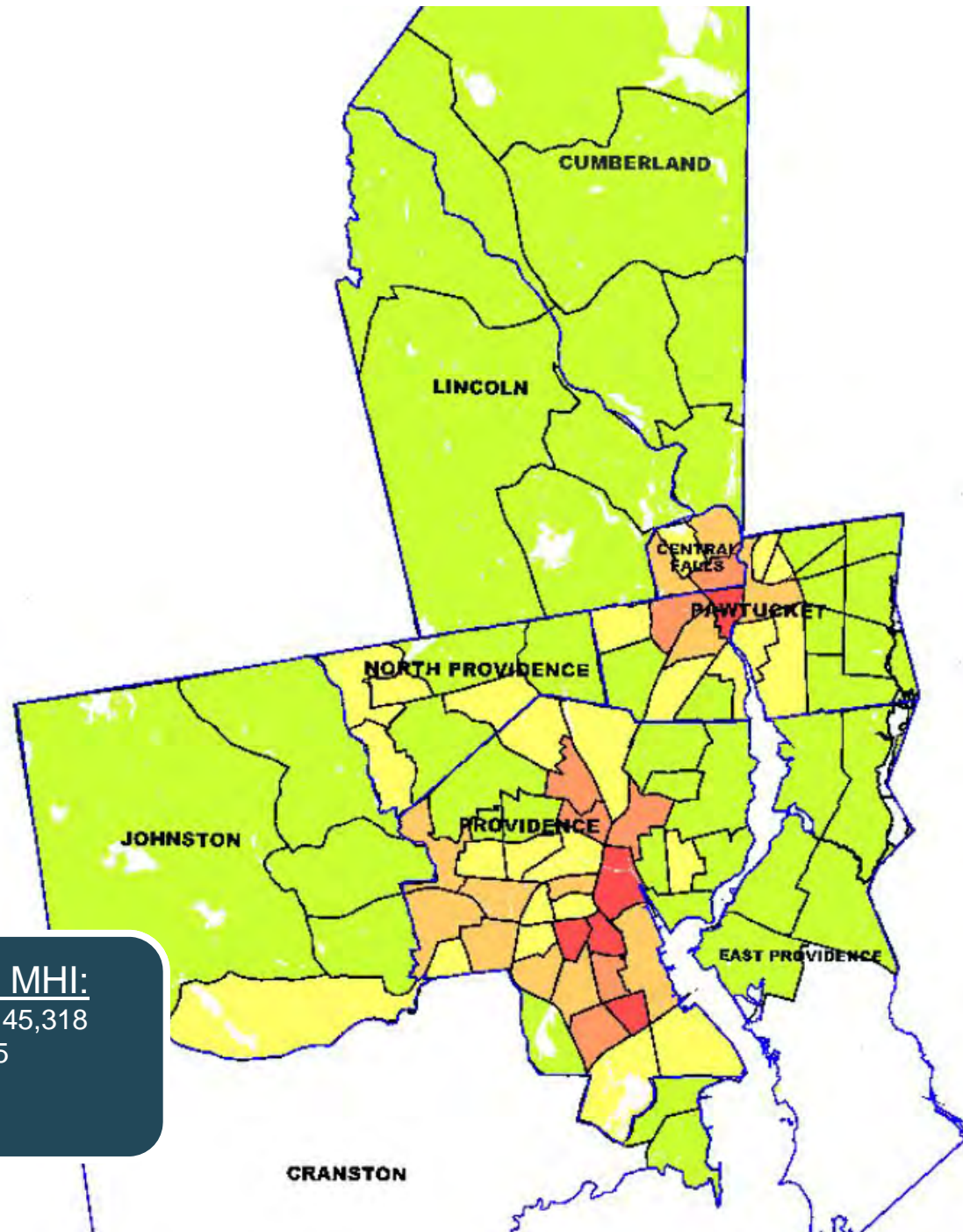
Description	Current 2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026
Financial Plan Rate Adjustment	0.0%	5.5%	5.5%	0.6%	1.2%	4.6%	8.5%	12.4%	12.8%	5.6%	3.0%	2.0%	1.7%
Annual Expected Inflation	0.0%	0.0%	1.7%	1.4%	1.3%	1.3%	1.3%	1.3%	1.2%	1.2%	1.1%	1.1%	1.0%
Cumulative Rate Adjustments	100.0%	105.5%	111.3%	112.0%	113.3%	118.5%	128.6%	144.5%	163.0%	172.2%	177.3%	180.8%	183.9%
Cumulative Inflation	100.0%	100.0%	101.7%	103.2%	104.5%	105.9%	107.3%	108.7%	110.0%	111.3%	112.5%	113.7%	114.9%
Index for Affordability	100.0%	105.5%	109.4%	108.5%	108.4%	111.9%	119.9%	133.0%	148.2%	154.7%	157.6%	159.0%	160.1%

EPA Affordability Index Thresholds

Financial Impact		Index	Color
Low	Less than	1.00%	
Low-Mid	Up to	1.50%	
Mid	Up to	1.75%	
Mid-High	Up to	2.00%	
High	Higher than	2.00%	

NBC CSO Impact of Affordability Over Time

2015



Households > 2% of MHI:

Entire NBC Service Area = 45,318

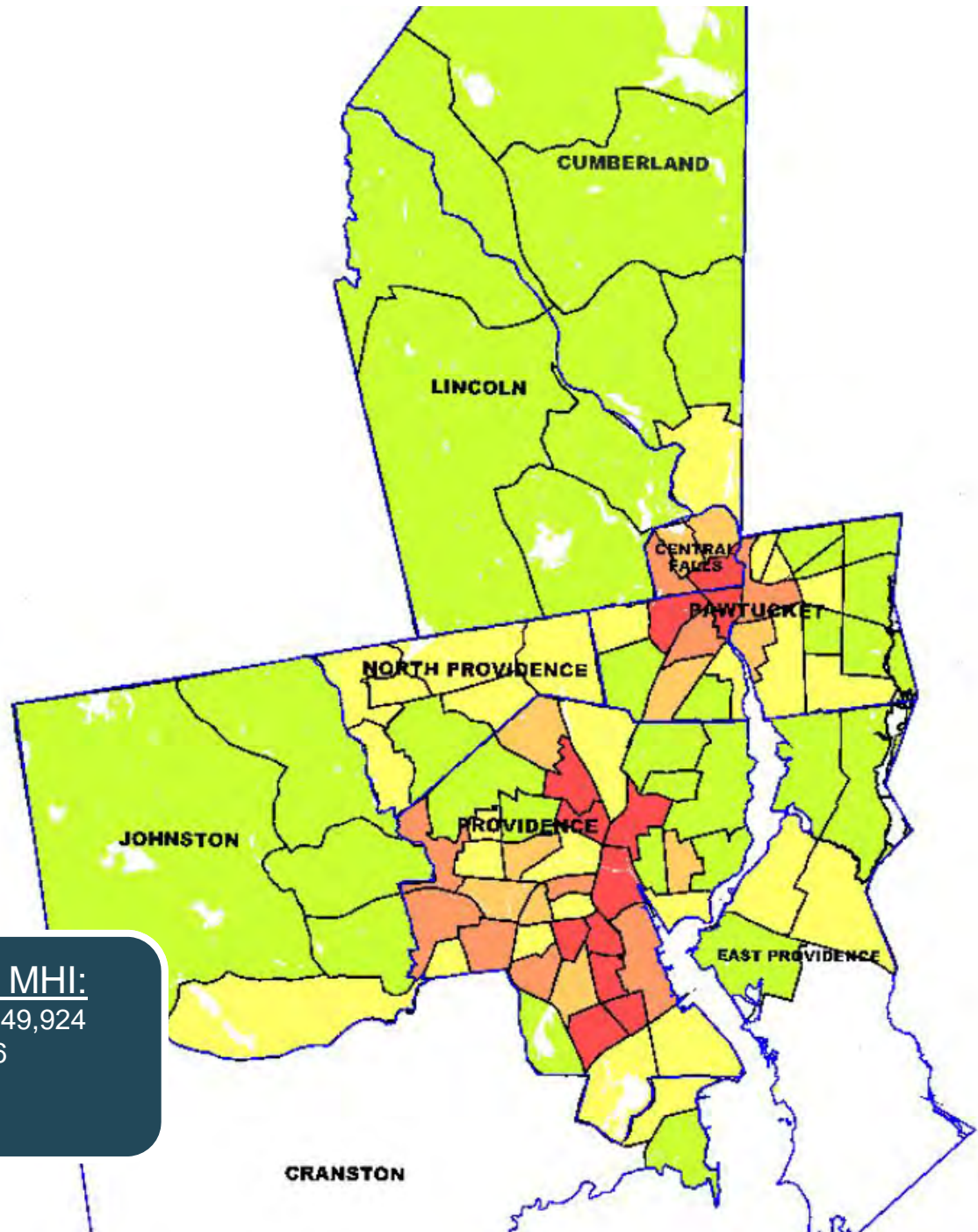
City of Providence = 21,905

City of Pawtucket = 8,027

City of Central Fall = 2,924

NBC CSO Impact of Affordability Over Time

2020



Households > 2% of MHI:

Entire NBC Service Area = 49,924

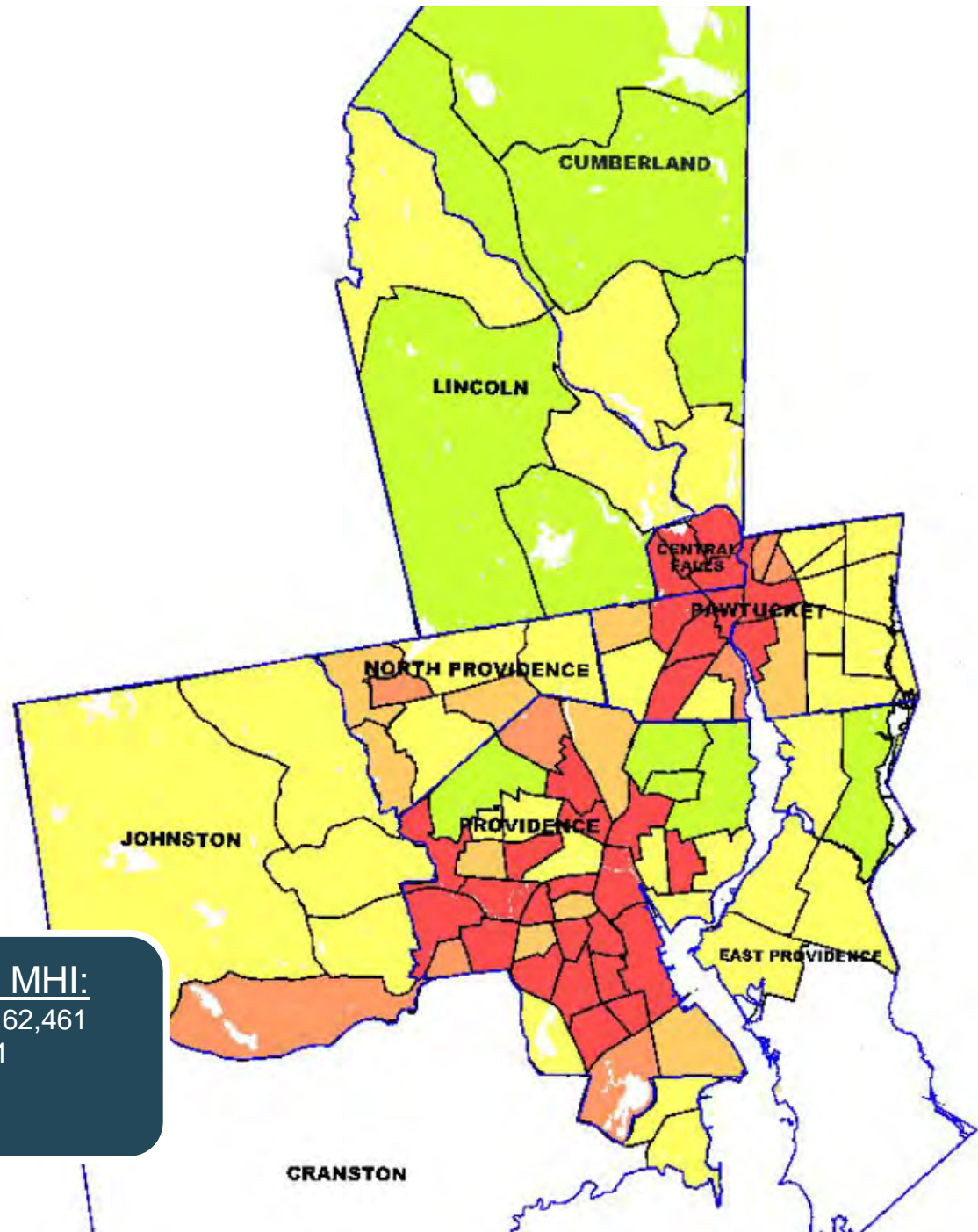
City of Providence = 23,746

City of Pawtucket = 9,346

City of Central Fall = 2,924

NBC CSO Impact of Affordability Over Time

2023



Households > 2% of MHI:

Entire NBC Service Area = 62,461

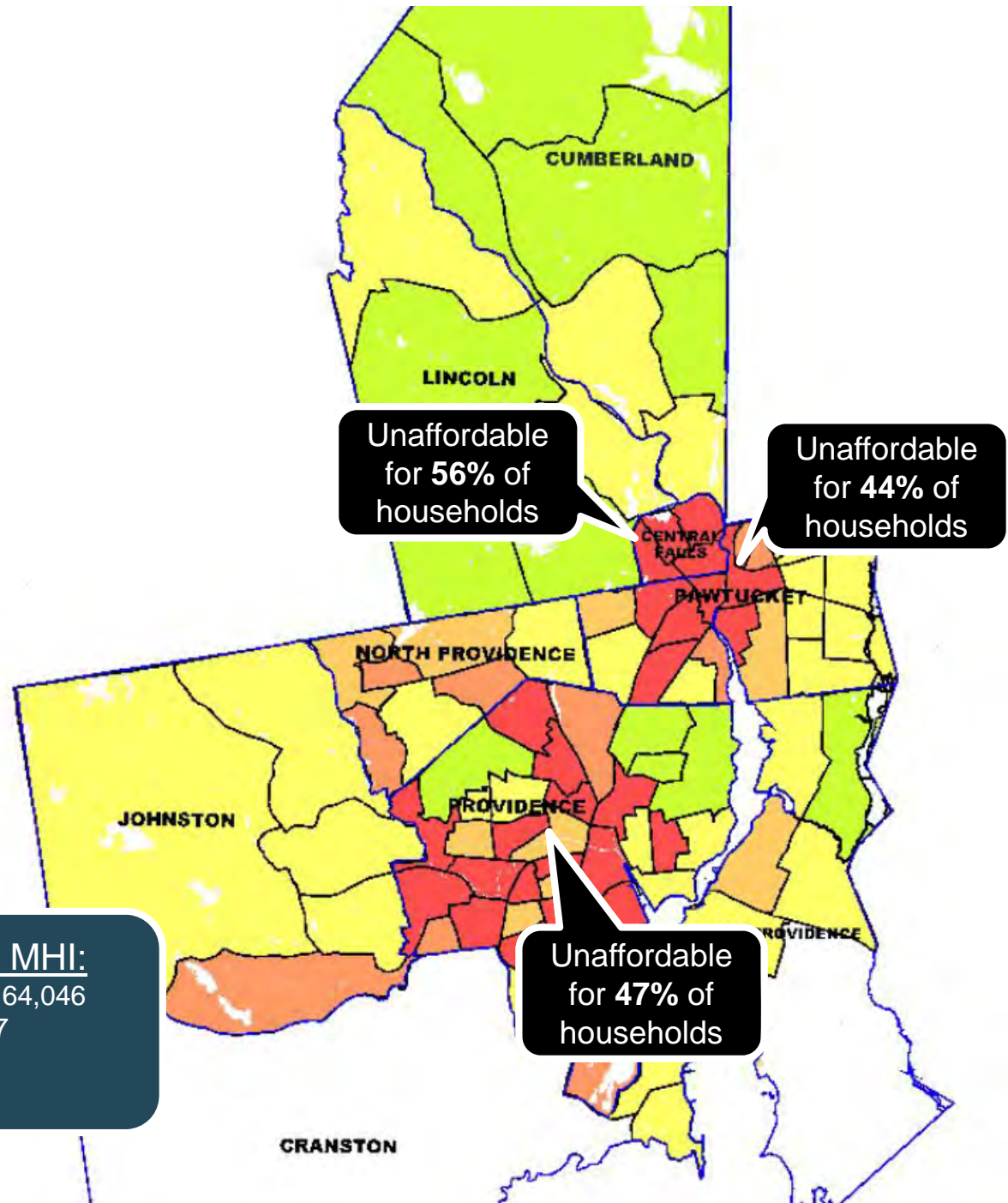
City of Providence = 28,671

City of Pawtucket = 11,996

City of Central Falls = 3,723

NBC CSO Impact of Affordability Over Time

2026



Households > 2% of MHI:

Entire NBC Service Area = 64,046

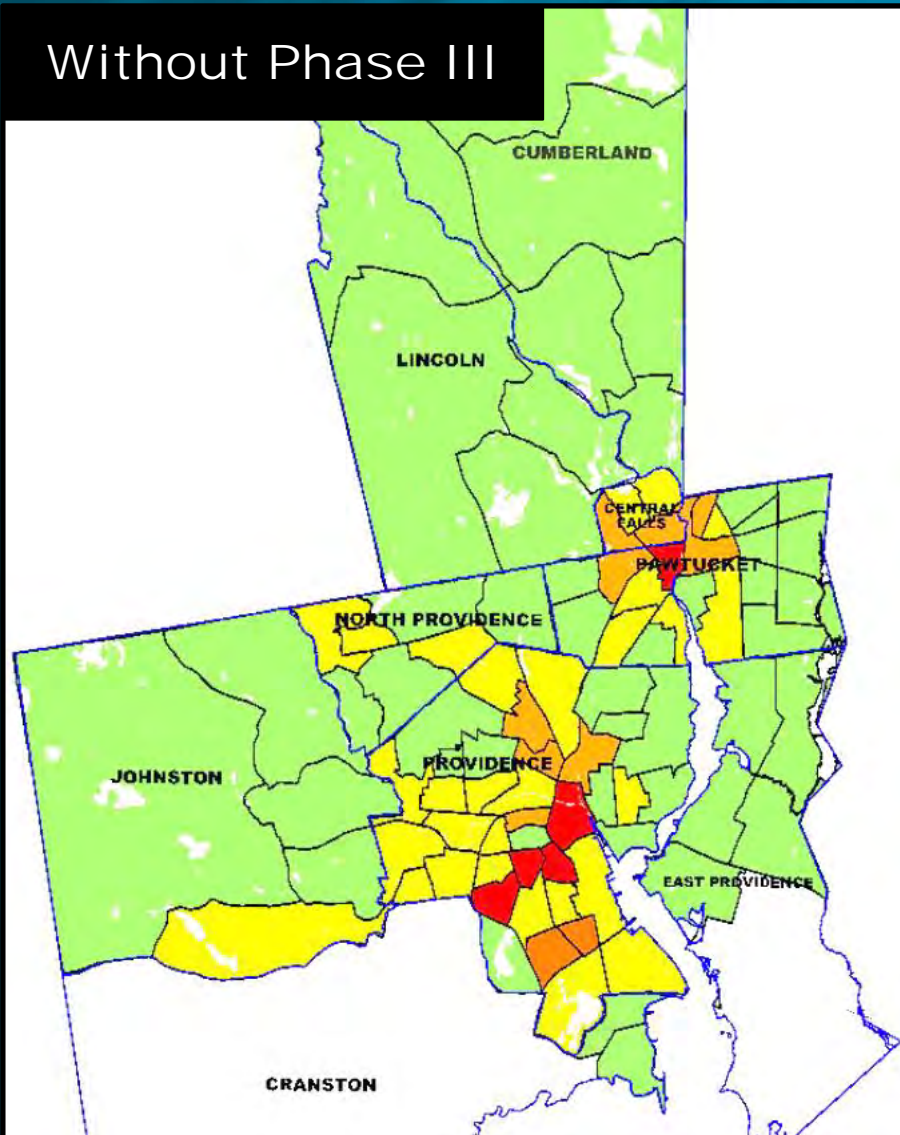
City of Providence = 29,067

City of Pawtucket = 12,894

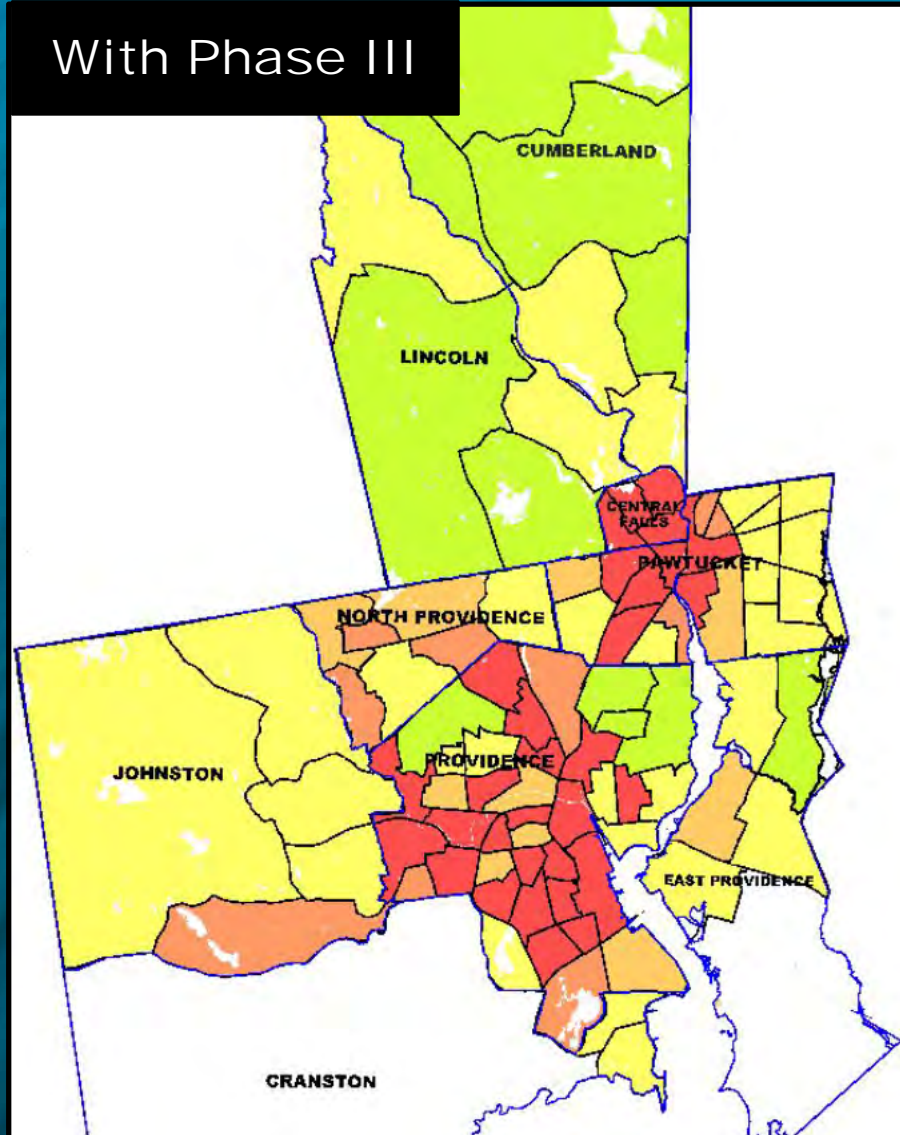
City of Central Fall = 3,723

Affordability Comparison in 2026

Without Phase III



With Phase III



A Case Study: Providence, Central Falls, & Pawtucket

Infrastructure Cost Considerations

Member Communities

Narragansett Bay Commission



Member Communities

	<u>MHI</u>	<u>Households</u>
Cumberland town, Providence County, Rhode Island	73,340	13,048
Johnston town, Providence County, Rhode Island	56,803	11,561
Lincoln town, Providence County, Rhode Island	75,445	8,424
North Providence town, Providence County, Rhode Island	50,939	14,178
Smithfield town, Providence County, Rhode Island	72,546	7,155
Central Falls city, Rhode Island	29,268	6,615
Cranston city, Rhode Island	58,772	30,510
East Providence city, Rhode Island	49,545	20,173
Pawtucket city, Rhode Island	40,383	29,075
Providence city, Rhode Island	38,243	61,556

Member Communities WW CIP Needs

Municipality	Total Pipe Length (mi)	Average Pipe Age (yr)	Annual Pipe Replacement (mi/yr)	Annual Cost (2014 USD)
Providence	370	110	3.7	\$8,300,000
North Providence	115	60	1.2	\$2,000,000
Johnston	58	50	0.6	\$900,000
Pawtucket	180	100	1.8	\$4,000,000
Central Falls	23	100	0.3	\$680,000
Cumberland	100	35	1.0	\$1,200,000
Lincoln	103	25	1.1	\$1,500,000
East Providence	173	50	1.8	\$2,700,000

Member Communities Storm CIP Needs

Municipality	Total Pipe Length (mi)	Average Pipe Age (yr)	Annual Cost (2014 USD)
Providence	130	75	\$1,275,000
North Providence	115	75	\$1,125,000
Johnston	58	50	\$435,000
Pawtucket	20	75	\$195,000
Central Falls	0	75	\$0
Cumberland	160	35	\$960,000
Lincoln	103	25	\$615,000
East Providence	66	50	\$495,000

City of Providence

Current Costs

\$50,000 to \$100,000 per year spent on emergencies

Estimated Infrastructure Improvement Costs Required

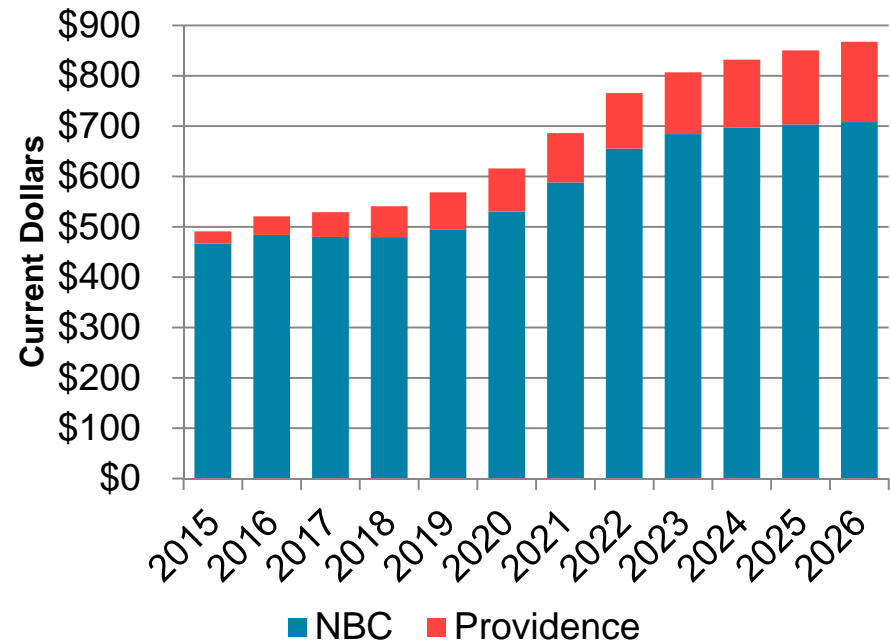
\$8,300,000 per year on wastewater CIP

\$1,275,000 per year on stormwater CIP

Case Study Assumptions

All CIP would be debt financed using debt at 4% for 20 years

Average Bill



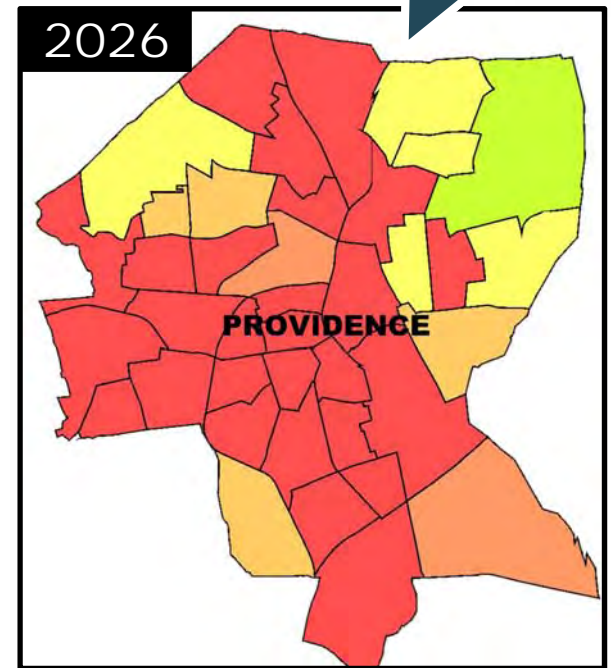
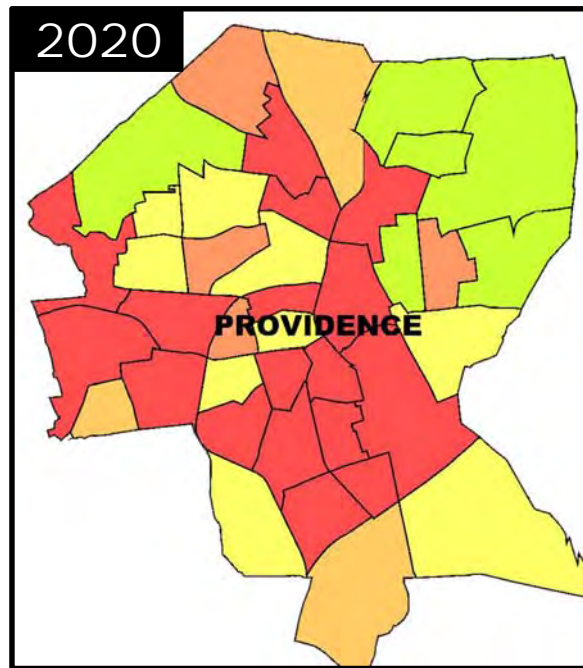
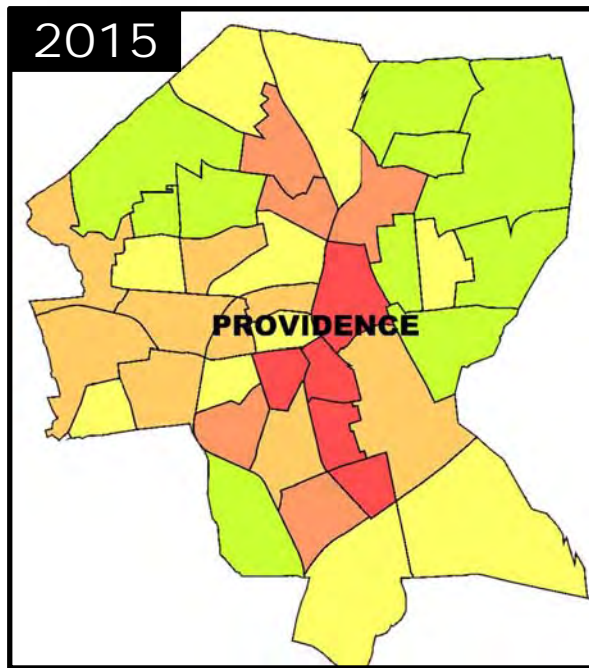
City of Providence

Description	Current 2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026
Average Annual Bill - NBC	\$442.29	\$466.62	\$483.97	\$480.04	\$479.52	\$495.01	\$530.10	\$588.16	\$655.37	\$684.25	\$697.20	\$703.22	\$708.16
Estimated Average Bill - Providence	\$12.26	\$24.52	\$36.77	\$49.03	\$61.29	\$73.55	\$85.81	\$98.06	\$110.32	\$122.58	\$134.84	\$147.09	\$159.35
Total Average Bill	\$454.55	\$491.14	\$520.74	\$529.07	\$540.81	\$568.55	\$615.90	\$686.22	\$765.69	\$806.82	\$832.03	\$850.32	\$867.51
EPA - NBC	1.31%	1.38%	1.43%	1.42%	1.42%	1.46%	1.57%	1.74%	1.94%	2.02%	2.06%	2.08%	2.09%
EPA - NBC + Providence	1.34%	1.45%	1.54%	1.56%	1.60%	1.68%	1.82%	2.03%	2.26%	2.38%	2.46%	2.51%	2.56%

Census Tract	City/Town	Number of Households	MHI	Current 2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026
1.01	Providence city	1,132	\$45,484	1.04%	1.12%	1.19%	1.21%	1.23%	1.29%	1.40%	1.56%	1.74%	1.83%	1.89%	1.93%	1.97%
1.02	Providence city	1,815	37,438	1.26%	1.36%	1.44%	1.46%	1.50%	1.57%	1.70%	1.90%	2.12%	2.23%	2.30%	2.35%	2.39%
2	Providence city	1,915	26,394	1.84%	1.98%	2.10%	2.13%	2.17%	2.28%	2.47%	2.75%	3.07%	3.23%	3.33%	3.40%	3.47%
3	Providence city	2,261	31,833	1.48%	1.60%	1.70%	1.72%	1.76%	1.85%	2.00%	2.23%	2.49%	2.62%	2.70%	2.76%	2.81%
4	Providence city	1,140	25,673	1.89%	2.03%	2.15%	2.19%	2.23%	2.34%	2.54%	2.83%	3.15%	3.32%	3.42%	3.49%	3.56%
5	Providence city	1,016	16,713	2.77%	2.99%	3.17%	3.22%	3.29%	3.46%	3.74%	4.17%	4.65%	4.90%	5.06%	5.17%	5.27%
6	Providence city	520	31,667	1.51%	1.63%	1.73%	1.75%	1.79%	1.88%	2.04%	2.27%	2.53%	2.66%	2.75%	2.80%	2.86%
7	Providence city	1,022	15,203	3.10%	3.35%	3.55%	3.60%	3.68%	3.86%	4.18%	4.66%	5.20%	5.48%	5.65%	5.77%	5.88%
8	Providence city	1,632	15,613	2.76%	2.99%	3.17%	3.23%	3.30%	3.48%	3.77%	4.20%	4.69%	4.94%	5.10%	5.21%	5.32%
9	Providence city	892	26,276	1.55%	1.68%	1.78%	1.81%	1.86%	1.96%	2.12%	2.37%	2.64%	2.79%	2.88%	2.94%	3.01%
10	Providence city	1,131	29,741	1.42%	1.54%	1.64%	1.67%	1.71%	1.80%	1.95%	2.17%	2.42%	2.55%	2.63%	2.69%	2.75%
11	Providence city	1,035	39,341	1.05%	1.14%	1.21%	1.23%	1.26%	1.33%	1.44%	1.61%	1.79%	1.89%	1.95%	2.00%	2.04%
12	Providence city	1,051	18,810	2.47%	2.66%	2.82%	2.87%	2.93%	3.08%	3.34%	3.72%	4.15%	4.37%	4.50%	4.60%	4.69%
13	Providence city	1,480	41,888	1.05%	1.14%	1.21%	1.23%	1.26%	1.32%	1.43%	1.60%	1.78%	1.88%	1.94%	1.98%	2.02%
14	Providence city	2,002	30,142	1.66%	1.79%	1.89%	1.92%	1.96%	2.06%	2.22%	2.48%	2.76%	2.91%	3.00%	3.06%	3.12%
15	Providence city	951	53,469	0.83%	0.90%	0.96%	0.97%	0.99%	1.04%	1.13%	1.26%	1.41%	1.48%	1.53%	1.56%	1.60%
16	Providence city	2,603	32,076	1.54%	1.66%	1.76%	1.78%	1.82%	1.91%	2.07%	2.30%	2.57%	2.70%	2.79%	2.84%	2.90%
17	Providence city	1,240	37,295	1.22%	1.32%	1.40%	1.42%	1.45%	1.53%	1.66%	1.85%	2.06%	2.17%	2.24%	2.29%	2.33%
18	Providence city	2,084	30,036	1.60%	1.72%	1.82%	1.85%	1.89%	1.99%	2.15%	2.40%	2.67%	2.82%	2.90%	2.96%	3.02%
19	Providence city	1,803	30,901	1.48%	1.60%	1.70%	1.72%	1.76%	1.85%	2.01%	2.24%	2.50%	2.63%	2.71%	2.77%	2.83%
20	Providence city	2,048	28,977	1.58%	1.71%	1.81%	1.84%	1.88%	1.97%	2.14%	2.38%	2.66%	2.80%	2.89%	2.95%	3.01%

Providence - Affordability Over Time

Unaffordable for 33,880 households - 55%



City of Pawtucket

Current Costs

\$80,000 to \$100,000 per year spent on maintenance of infrastructure

Estimated Infrastructure Improvement Costs Required

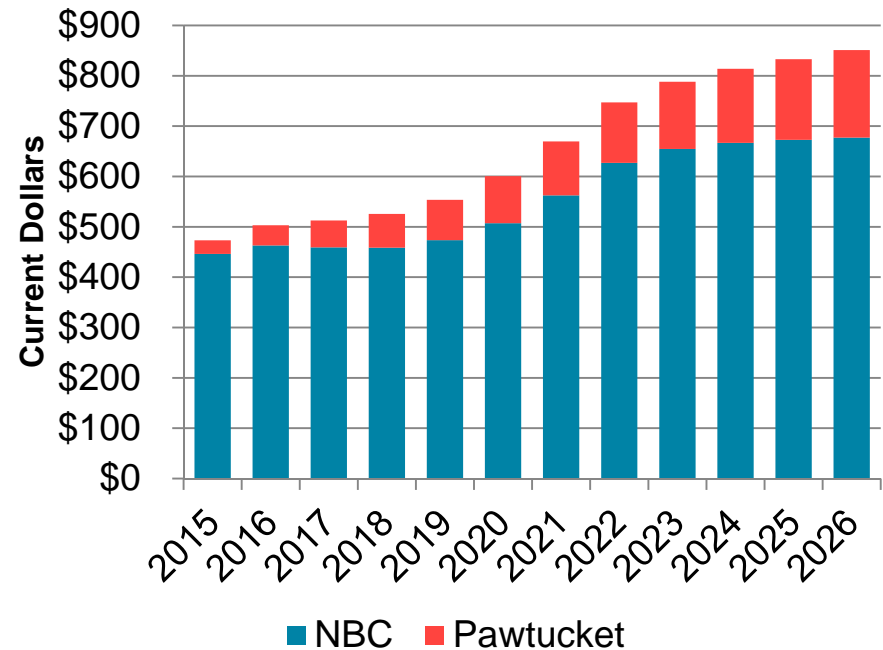
\$4,000,000 per year on wastewater CIP

\$195,000 per year on stormwater CIP

Case Study Assumptions

All CIP would be debt financed using debt at 4% for 20 years

Average Bill

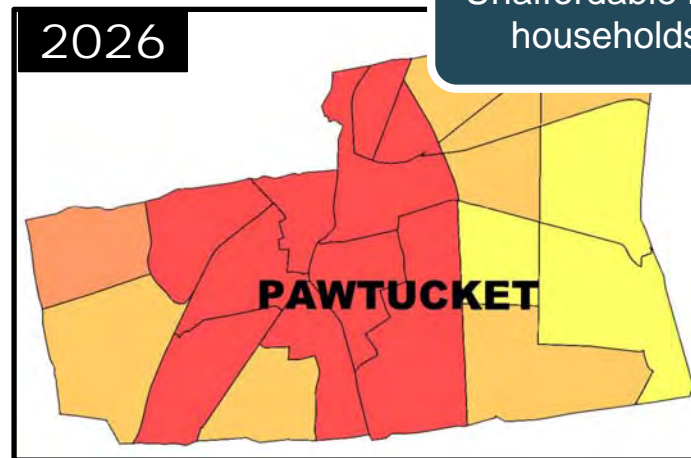
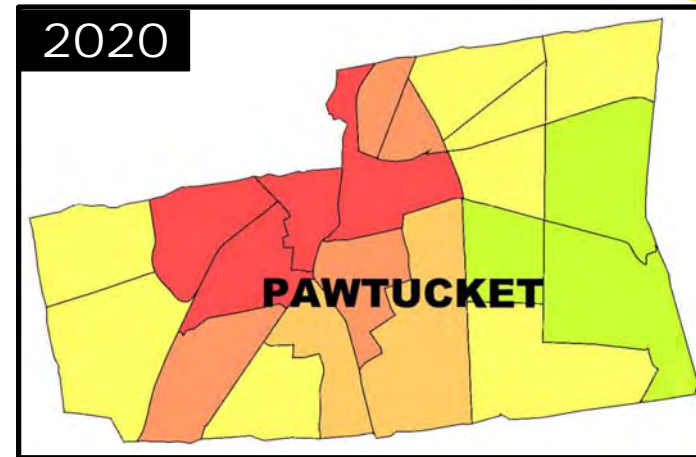
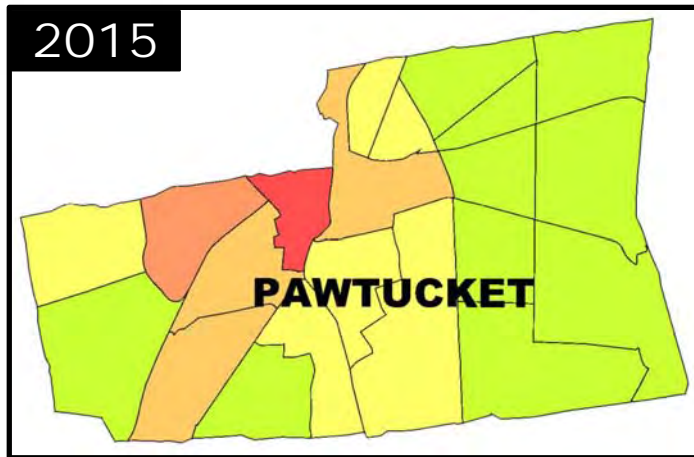


City of Pawtucket

Description	Current 2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026
Average Annual Bill - NBC	\$423.08	\$446.35	\$462.94	\$459.18	\$458.68	\$473.50	\$507.06	\$562.60	\$626.89	\$654.51	\$666.90	\$672.67	\$677.39
Estimated Average Bill - Pawtucket	\$13.37	\$26.74	\$40.10	\$53.47	\$66.84	\$80.21	\$93.58	\$106.94	\$120.31	\$133.68	\$147.05	\$160.42	\$173.78
Total Average Bill	\$436.44	\$473.08	\$503.05	\$512.65	\$525.52	\$553.71	\$600.64	\$669.55	\$747.21	\$788.19	\$813.95	\$833.08	\$851.17
EPA - NBC	1.19%	1.26%	1.31%	1.29%	1.29%	1.34%	1.43%	1.59%	1.77%	1.85%	1.88%	1.90%	1.91%
EPA - NBC + Pawtucket	1.23%	1.33%	1.42%	1.45%	1.48%	1.56%	1.69%	1.89%	2.11%	2.22%	2.30%	2.35%	2.40%

Census Tract	City/Town	Number of Households	MHI	Current 2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026
150	Pawtucket city	1,736	\$42,500	1.02%	1.11%	1.18%	1.20%	1.23%	1.30%	1.41%	1.57%	1.75%	1.85%	1.91%	1.95%	2.00%
151	Pawtucket city	1,745	23,882	1.79%	1.94%	2.07%	2.11%	2.16%	2.28%	2.47%	2.76%	3.08%	3.25%	3.35%	3.43%	3.51%
152	Pawtucket city	1,451	11,612	3.82%	4.14%	4.40%	4.49%	4.60%	4.84%	5.25%	5.85%	6.53%	6.89%	7.11%	7.28%	7.44%
153	Pawtucket city	866	33,281	1.29%	1.40%	1.49%	1.52%	1.55%	1.64%	1.78%	1.98%	2.21%	2.33%	2.41%	2.47%	2.52%
154	Pawtucket city	901	33,750	1.28%	1.39%	1.48%	1.51%	1.55%	1.63%	1.77%	1.97%	2.20%	2.32%	2.40%	2.45%	2.51%
155	Pawtucket city	1,655	50,670	0.85%	0.92%	0.97%	0.99%	1.02%	1.07%	1.17%	1.30%	1.45%	1.53%	1.58%	1.62%	1.65%
156	Pawtucket city	1,024	52,576	0.78%	0.85%	0.90%	0.92%	0.95%	1.00%	1.08%	1.21%	1.35%	1.42%	1.47%	1.51%	1.54%
157	Pawtucket city	1,382	52,000	0.86%	0.93%	0.99%	1.01%	1.03%	1.09%	1.18%	1.31%	1.47%	1.55%	1.60%	1.63%	1.67%
158	Pawtucket city	1,491	60,223	0.72%	0.78%	0.83%	0.85%	0.87%	0.92%	1.00%	1.11%	1.24%	1.31%	1.35%	1.38%	1.41%
159	Pawtucket city	1,108	49,972	0.86%	0.94%	1.00%	1.02%	1.04%	1.10%	1.19%	1.33%	1.48%	1.56%	1.61%	1.65%	1.69%
160	Pawtucket city	1,523	27,313	1.56%	1.69%	1.80%	1.84%	1.89%	1.99%	2.16%	2.40%	2.68%	2.83%	2.92%	2.99%	3.06%
161	Pawtucket city	1,839	28,456	1.56%	1.69%	1.80%	1.83%	1.88%	1.98%	2.14%	2.39%	2.66%	2.81%	2.90%	2.97%	3.03%
163	Pawtucket city	1,135	56,509	0.79%	0.85%	0.91%	0.92%	0.95%	1.00%	1.08%	1.20%	1.34%	1.42%	1.46%	1.50%	1.53%
164	Pawtucket city	1,698	30,729	1.39%	1.50%	1.60%	1.63%	1.67%	1.76%	1.91%	2.13%	2.38%	2.51%	2.59%	2.66%	2.71%
165	Pawtucket city	1,812	53,682	0.85%	0.92%	0.97%	0.99%	1.01%	1.07%	1.16%	1.29%	1.44%	1.52%	1.57%	1.60%	1.64%
166	Pawtucket city	707	35,313	1.24%	1.34%	1.42%	1.45%	1.49%	1.57%	1.70%	1.89%	2.11%	2.23%	2.30%	2.36%	2.41%
167	Pawtucket city	1,238	31,421	1.34%	1.45%	1.55%	1.58%	1.62%	1.71%	1.85%	2.07%	2.31%	2.43%	2.51%	2.57%	2.63%
168	Pawtucket city	1,308	64,625	0.68%	0.73%	0.78%	0.80%	0.82%	0.86%	0.93%	1.04%	1.16%	1.22%	1.26%	1.29%	1.32%
169	Pawtucket city	850	65,455	0.72%	0.78%	0.82%	0.84%	0.86%	0.90%	0.98%	1.09%	1.22%	1.28%	1.32%	1.35%	1.38%
170	Pawtucket city	1,762	51,384	0.87%	0.94%	1.00%	1.02%	1.05%	1.10%	1.19%	1.33%	1.49%	1.57%	1.62%	1.66%	1.69%
171	Pawtucket city	1,844	39,038	1.11%	1.20%	1.28%	1.31%	1.34%	1.41%	1.53%	1.71%	1.90%	2.01%	2.07%	2.12%	2.17%

Pawtucket - Affordability Over Time



Unaffordable for 29,075 households - 52%

City of Central Falls

Current Costs

\$0 per year spent on infrastructure

Estimated Infrastructure Improvement Costs Required

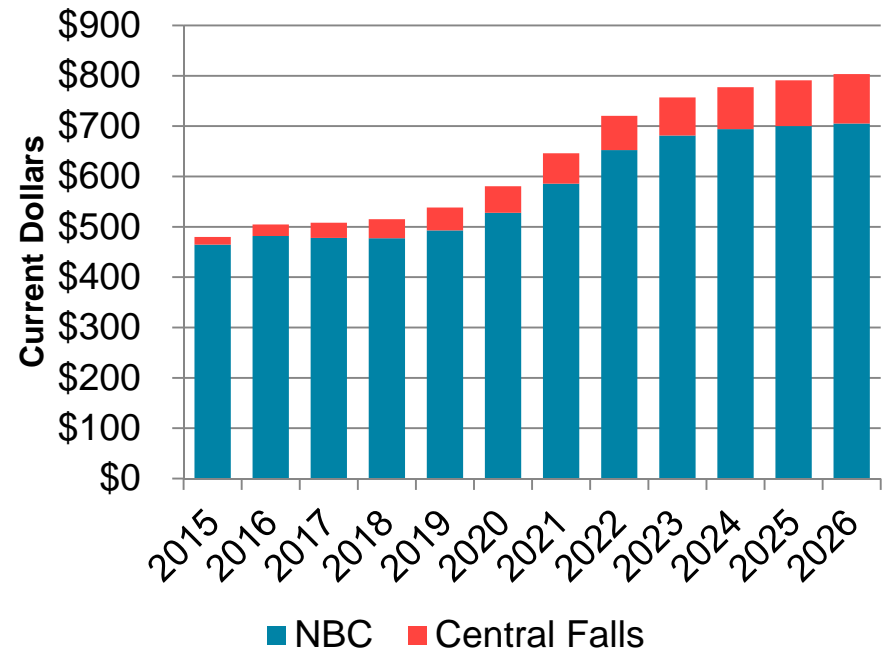
\$680,000 per year on wastewater CIP

\$0 per year on stormwater CIP

Case Study Assumptions

All CIP would be debt financed using debt at 4% for 20 years

Average Bill



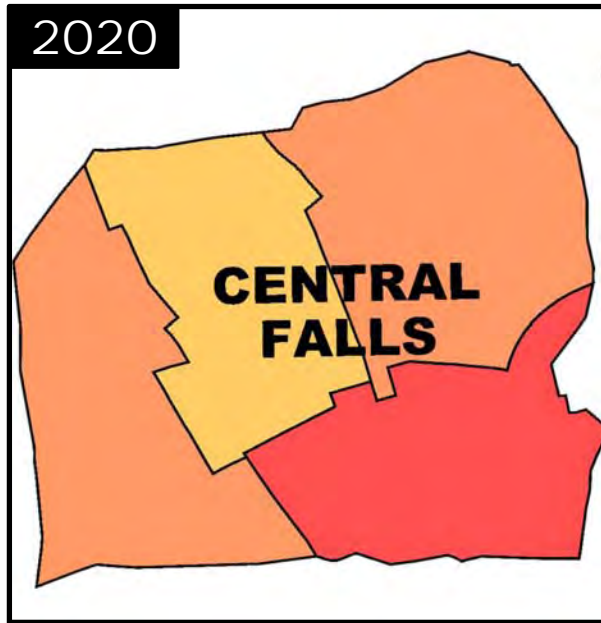
City of Central Falls

Description	Current 2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026
Average Annual Bill - NBC	\$440.38	\$464.60	\$481.88	\$477.96	\$477.44	\$492.86	\$527.80	\$585.61	\$652.53	\$681.28	\$694.18	\$700.18	\$705.09
Estimated Average Bill - Central Falls	\$7.56	\$15.13	\$22.69	\$30.26	\$37.82	\$45.38	\$52.95	\$60.51	\$68.08	\$75.64	\$83.20	\$90.77	\$98.33
Total Average Bill	\$447.94	\$479.73	\$504.57	\$508.22	\$515.26	\$538.25	\$580.75	\$646.12	\$720.61	\$756.92	\$777.38	\$790.95	\$803.43
EPA - NBC	1.50%	1.58%	1.64%	1.63%	1.63%	1.68%	1.80%	1.99%	2.22%	2.32%	2.36%	2.38%	2.40%
EPA - NBC + Central Falls	1.52%	1.63%	1.72%	1.73%	1.75%	1.83%	1.98%	2.20%	2.45%	2.58%	2.65%	2.69%	2.74%

Census Tract	City/Town	Number of Households	MHI	Current 2014	Projected 2015	Projected 2016	Projected 2017	Projected 2018	Projected 2019	Projected 2020	Projected 2021	Projected 2022	Projected 2023	Projected 2024	Projected 2025	Projected 2026
108	Central Falls city	1,711	\$24,386	1.79%	1.92%	2.02%	2.04%	2.07%	2.16%	2.33%	2.59%	2.89%	3.04%	3.12%	3.18%	3.23%
109	Central Falls city	1,624	30,000	1.47%	1.58%	1.66%	1.67%	1.70%	1.77%	1.91%	2.13%	2.37%	2.49%	2.56%	2.61%	2.65%
110	Central Falls city	1,900	34,120	1.33%	1.43%	1.50%	1.51%	1.53%	1.60%	1.73%	1.92%	2.14%	2.25%	2.31%	2.35%	2.39%
111	Central Falls city	1,380	30,263	1.51%	1.62%	1.70%	1.71%	1.74%	1.81%	1.96%	2.18%	2.43%	2.55%	2.62%	2.67%	2.71%
Total		6,615	\$29,786	1.52%	1.63%	1.72%	1.73%	1.75%	1.83%	1.98%	2.20%	2.45%	2.58%	2.65%	2.69%	2.74%

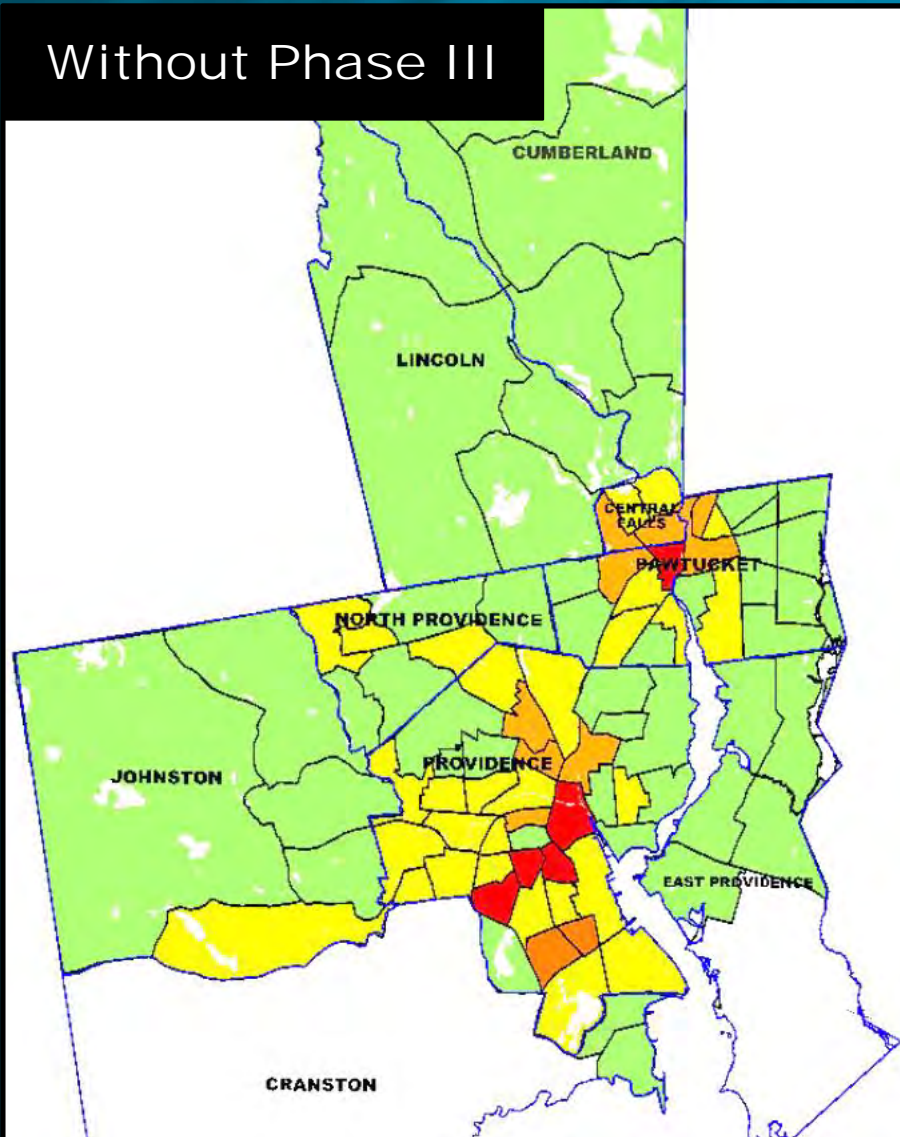
Central Falls - Affordability Over Time

Unaffordable for 6,615 households - 61%

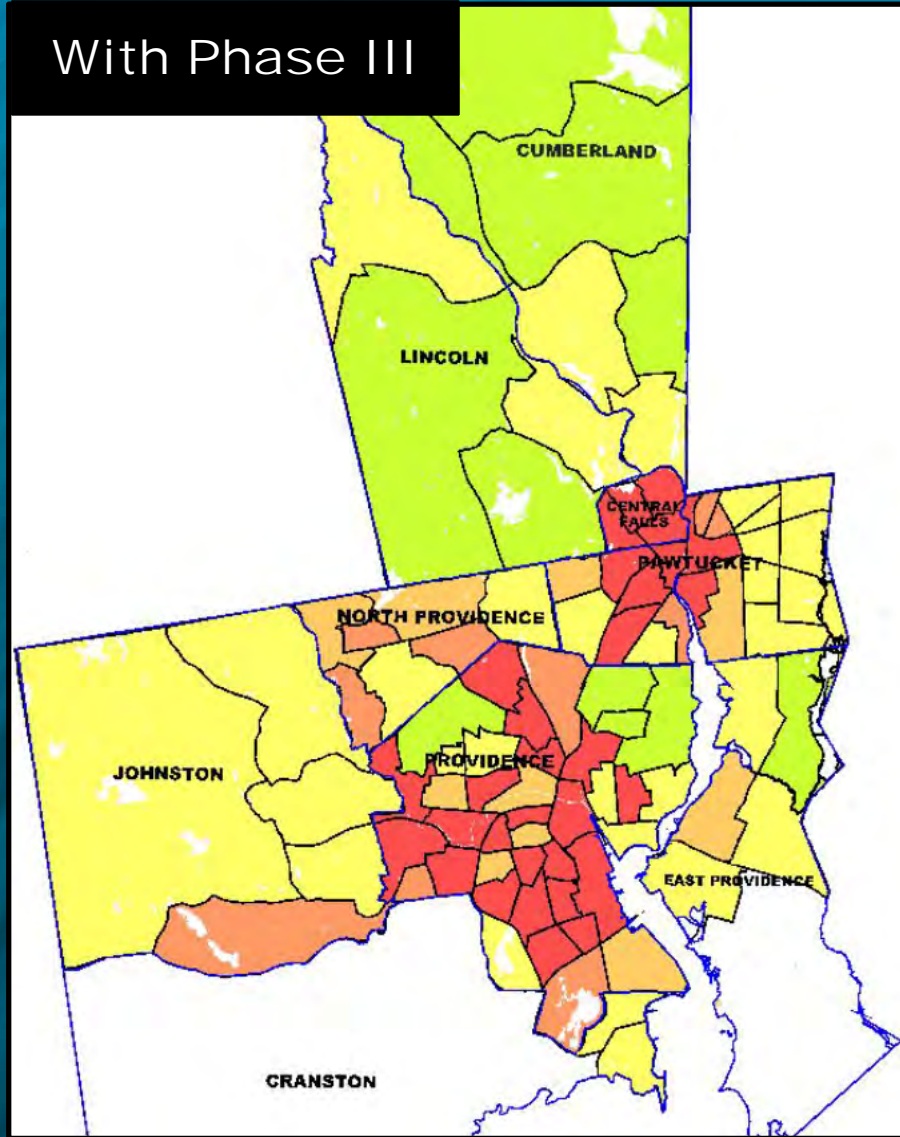


Affordability Comparison in 2026

Without Phase III



With Phase III



After the break....

Alternatives Analysis Part 2