

FORT DODGE CSI PROGRAM UPDATE CAPITAL IMPROVEMENT PLAN

CITY COUNCIL MEETING
FORT DODGE, IA
JUNE 9, 2014



The Community Sewer Initiative – Why?

- Basement Back-ups
 - 16% of CSI Survey respondents (220 homes)
- Iowa DNR Requirements
 - SSO's, bypassing, and basement back-ups are reportable events
- Health & Safety of Public
 - Back-ups in basements
 - Street bypassing
- Bypass Pumping Locations
 - 23 historical locations throughout the community for 13 pumps

The CSI Program will require a dedicated and consistent approach by multiple City Councils.

The CSI Program - Fort Dodge Strategic Initiatives

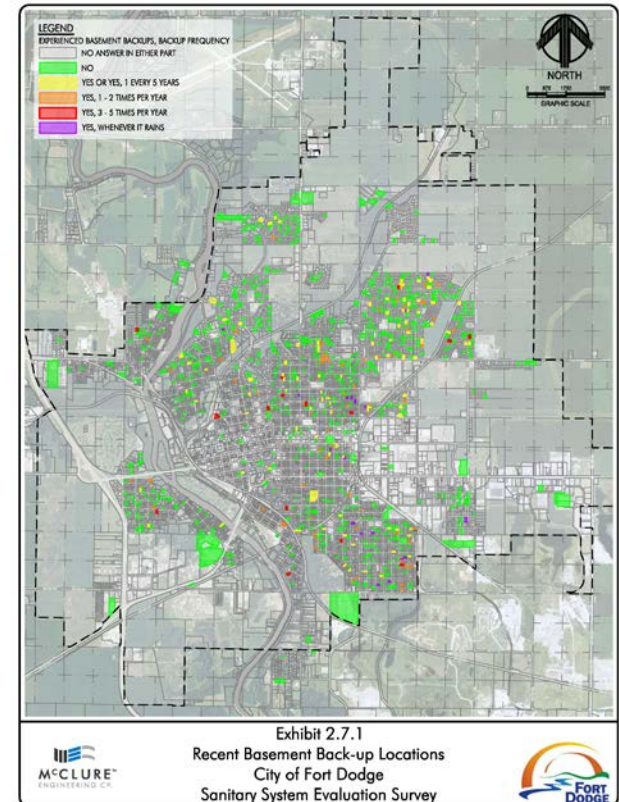
- Alignment with City's Envision 2030



- Identify & upgrade inadequate water & sewer utilities
- Define utility service areas for expansion outside of City limits
- Plan for the infrastructure improvements and expansions necessary to promote infill housing developments for target markets

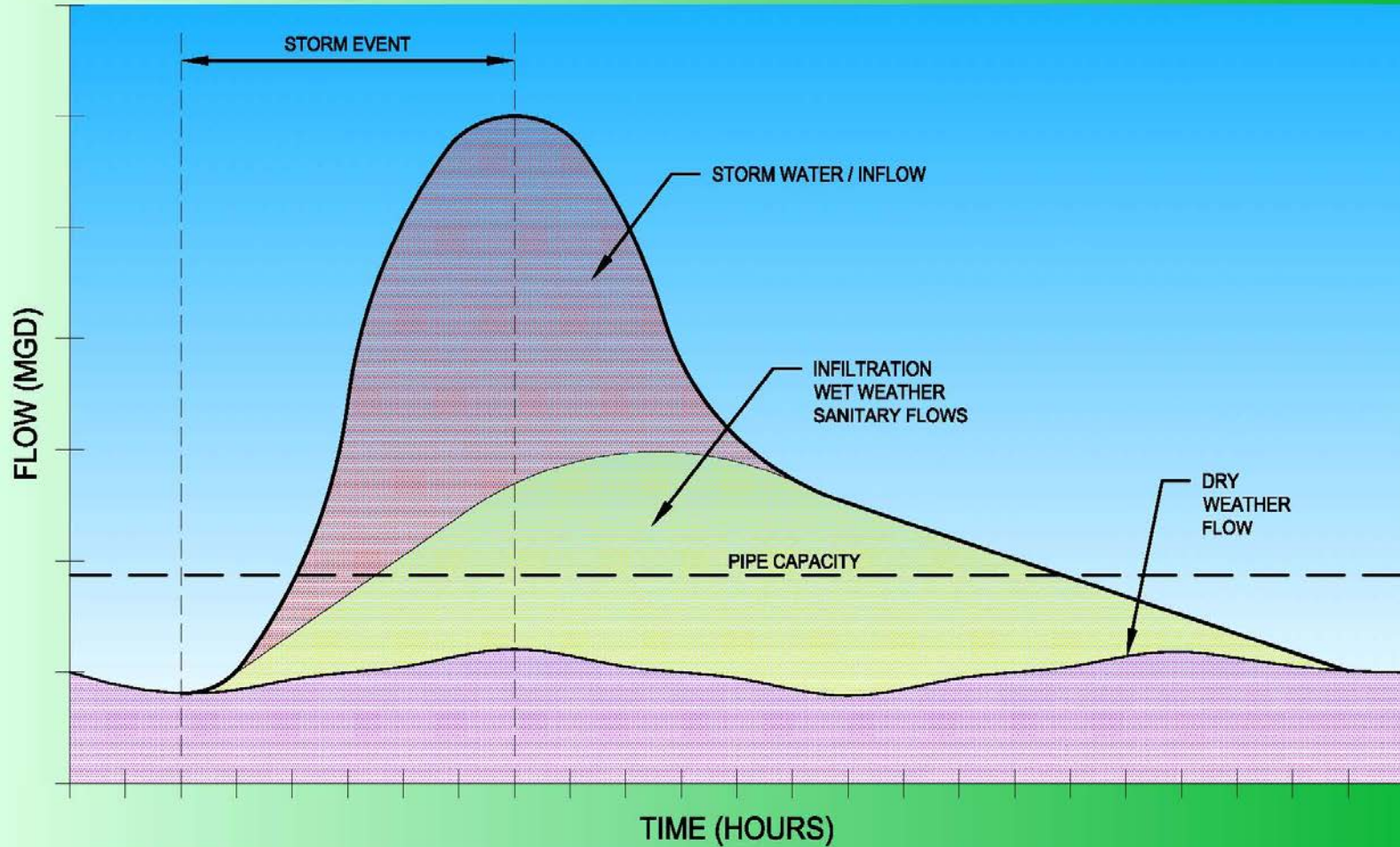
The CSI Program – How do we know?

- Extensive field investigations during SSES
 - CSI Survey
 - Field Survey & Inventory
 - Manhole Inspections
 - Flow Monitoring
 - Rainfall Monitoring
 - Hydraulic Modeling
 - Closed Circuit Televising
 - Nighttime Flow Monitoring
 - Smoke Testing
 - Rainfall Simulation



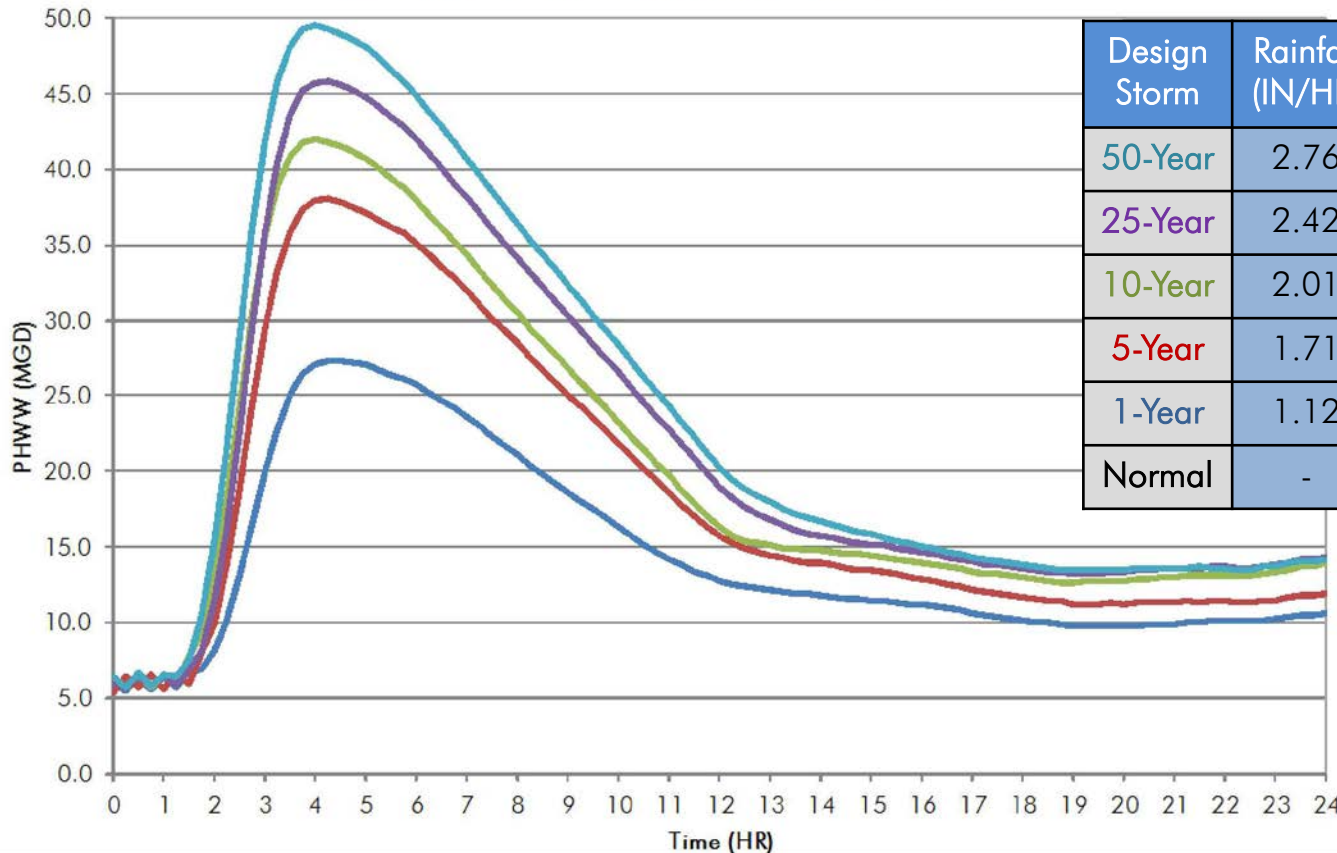
- All data being fully integrated into City's GIS software

STORM WATER / INFILTRATION / SANITARY SEWER FLOW VS. PIPE CAPACITY



The CSI Program – Peak Flows

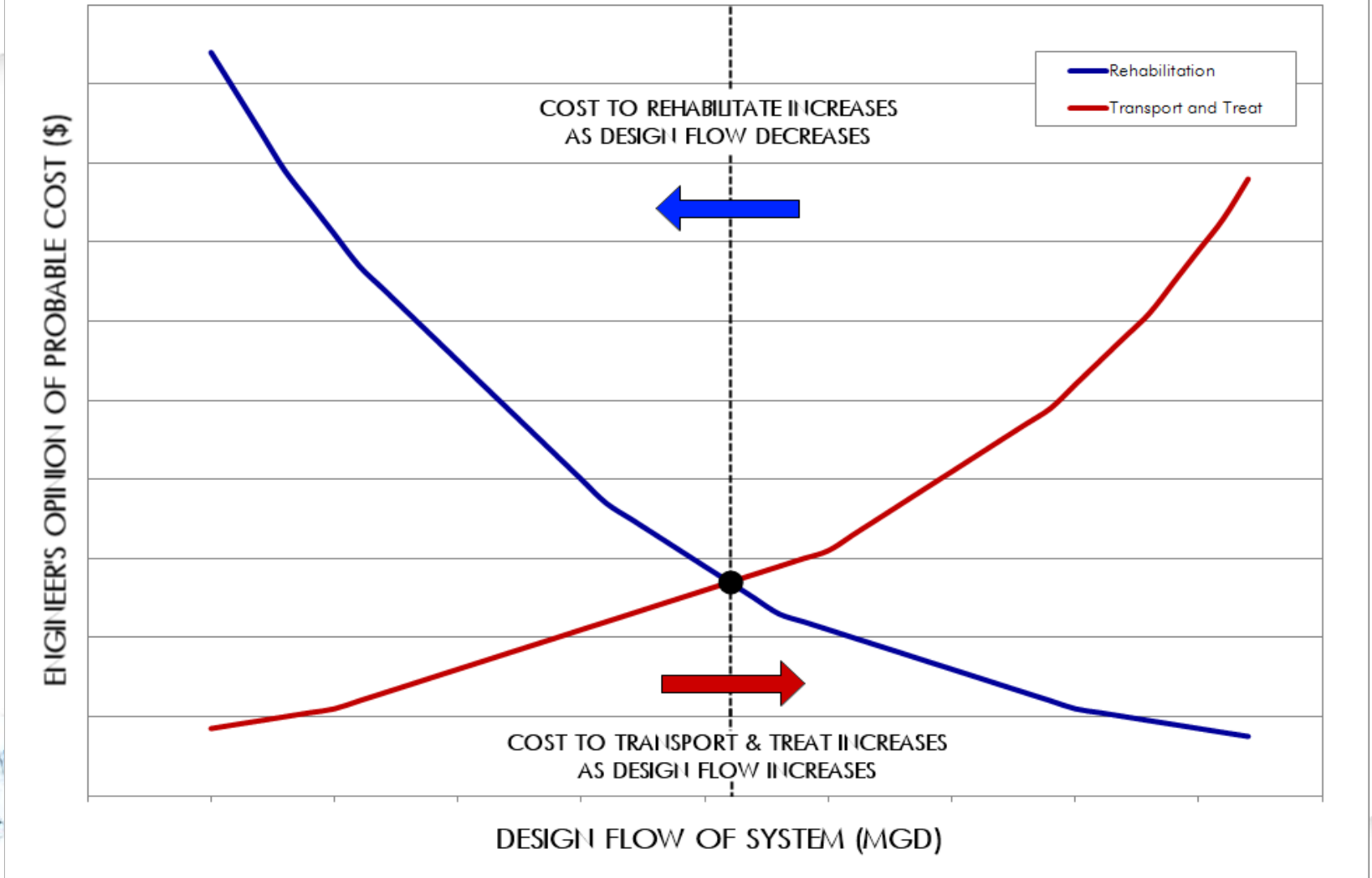
Design Storm Hydrographs at WPCF



Design Storm	Rainfall (IN/HR)	MWW (MGD)	PHWW (MGD)
50-Year	2.76	23.3	49.5
25-Year	2.42	21.8	45.8
10-Year	2.01	20.2	42.1
5-Year	1.71	18.4	38.0
1-Year	1.12	14.4	27.3
Normal	-	-	4.5



COST EFFECTIVE ANALYSIS CURVE



Recommended program removes 14.1 MGD

The CSI Program – What's Included?

Capital Improvement Plan

• Grade 5 Rehabilitation	\$15.0
• Cost Effective Rehabilitation	\$10.1
• Collection System Hydraulic Upgrades	\$39.9
• Lift Station Upgrades	\$ 9.2
• <u>WPCF Upgrades</u>	\$ 5.7
Community Sewer Initiative Program Total	\$79.9



Implementation & Financing Alternatives

Description	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 6	Scenario 7	Scenario 8
Program	Complete 1 YR; 20-YR Loan	Complete 1 YR; 30-YR Loan	Spread Evenly Next 30 Years	50% in First 10 Years; 50% next 20 Years	20% Every 5 Years	Wait 10 YR; Spread Over Next 20 YR	Rotating Capital Fund
Total CIP Program	\$80 mil	\$80 mil	\$80 mil	\$80 mil	\$80 mil	\$80 mil	\$80 mil
Years to Complete Work	1-YR	1-YR	30-YR	30-YR	25-YR	30-YR	30-YR
Years to Retire Debt	20-YR	30-YR	60-YR	60-YR	55-YR	60-YR	40-YR
Maximum Average Monthly Sewer Increase	\$49.54	\$37.60	\$59.64	\$55.51	\$51.65	\$67.90	\$41.00
Total Amortized Cost	\$119 mil	\$136 mil	\$215 mil	\$200 mil	\$186 mil	\$245 mil	\$148 mil

*All loan calculations assuming 3.0%, 30 years, and a 10% debt service buffer unless otherwise noted. All rate calculations assuming 10,000 users. Rotating Capital Fund utilizes 2% and 20 year loan paid off at an accelerated rate.

The CSI Program – Recommendations

- Recommendation - \$25 million with three \$5 rate increases
 - Cost of construction
 - Historically low financing terms
 - Need for basement back-up/bypass pumping relief
 - Similar community rate comparison
- Included Improvements:

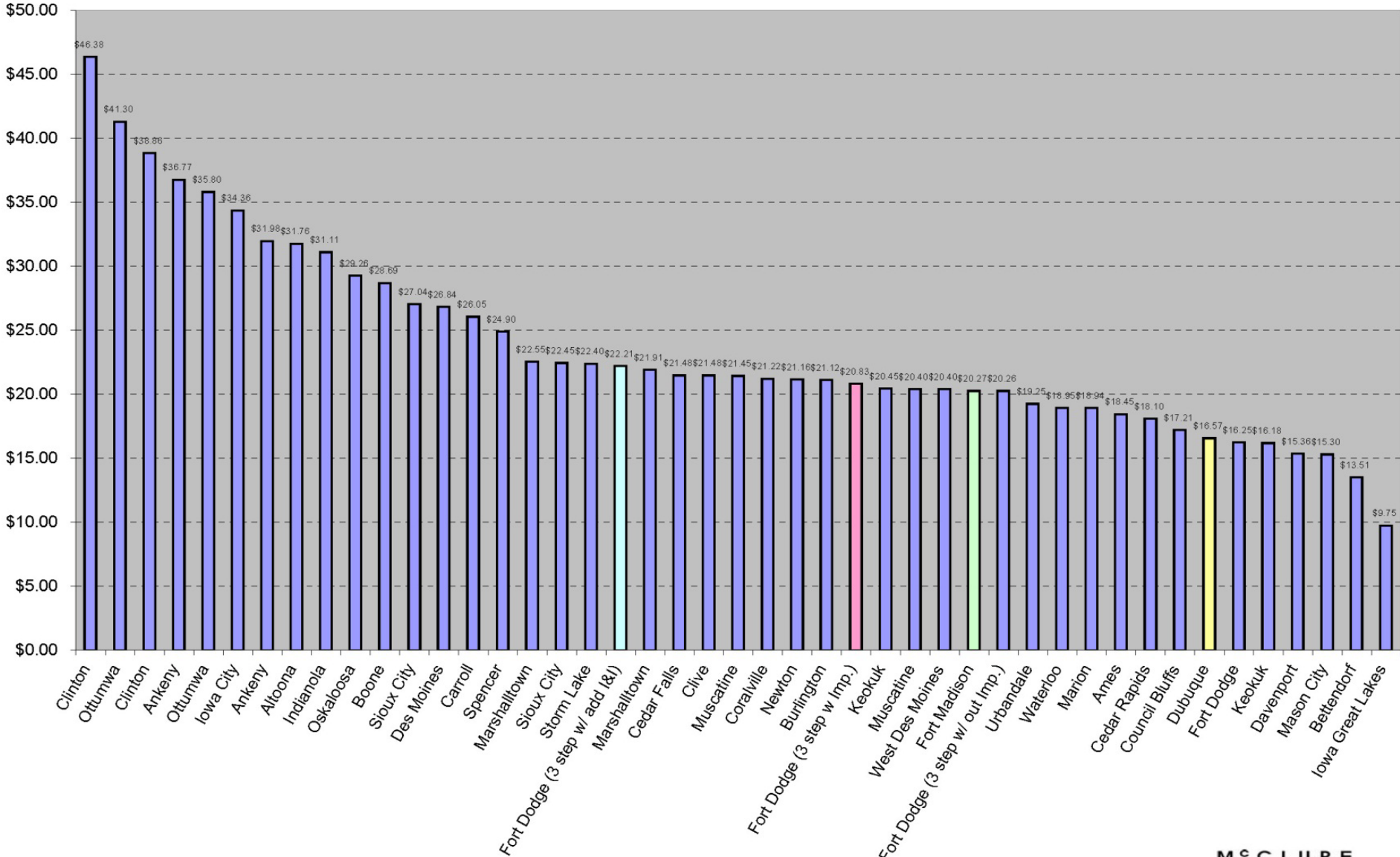
– 13 th /15 th Avenue South Sewer Upgrade (M05)	\$5.2 mil
– South 17 th Street South Sewer Upgrade (G10)	\$5.2 mil
– 13 th /15 th Avenue South Sewer Upgrade (R17)	\$3.5 mil
– East Lawn Lift Station Upgrade	\$4.4 mil
– Main Lift Station Replacement	\$6.1 mil
– Grade 5 Rehabilitation	\$0.4 mil±
– Cost Effective Rehabilitation	\$0.2 mil±

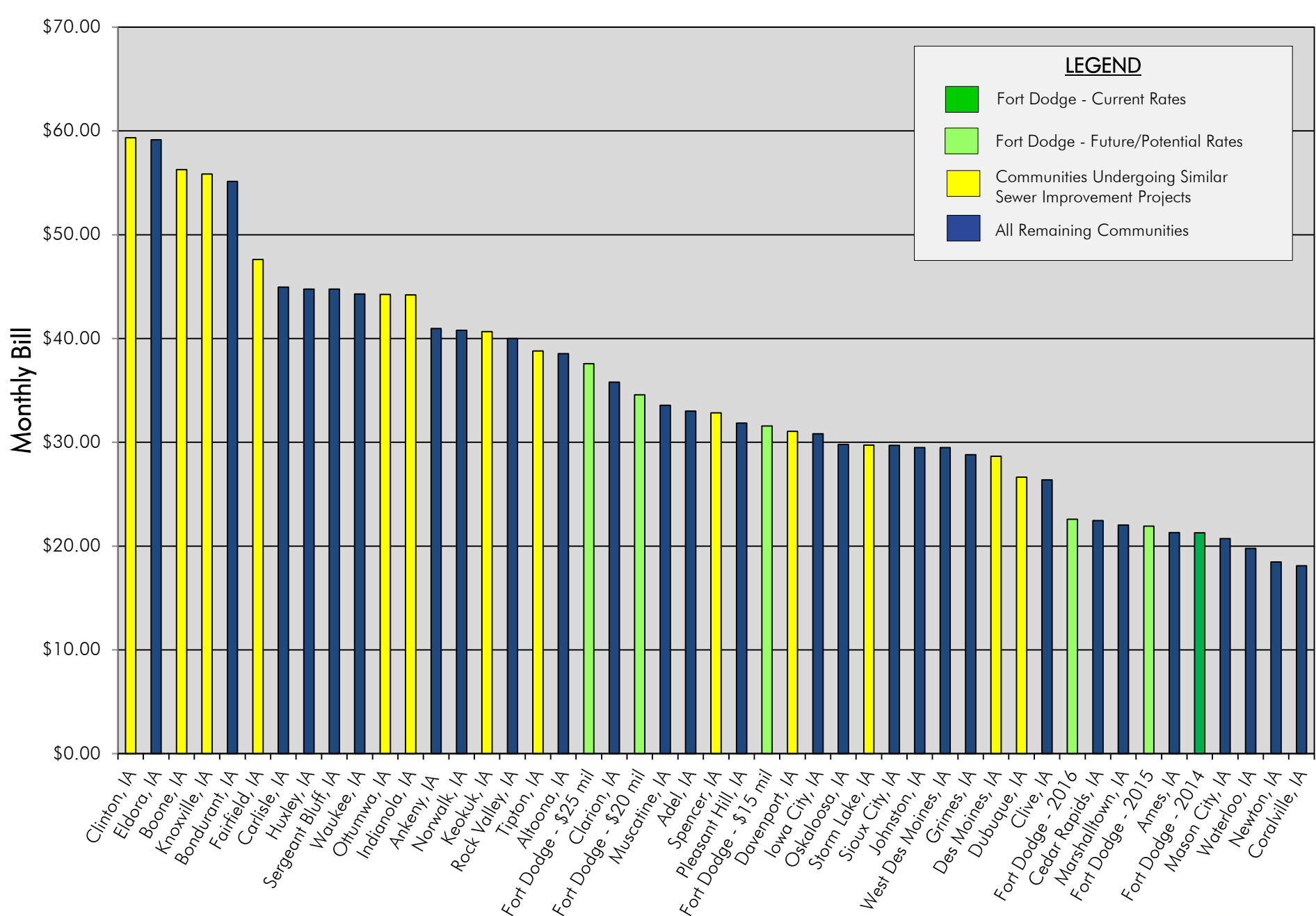


COMPARISON OF DOMESTIC SEWER SERVICE CHARGES

MONTHLY CHARGE FOR VOLUME - 6000 Gallons

From City of Ames - 2007 data





Comparison of Statewide Sewer Bills
 Monthly Charge for a 5,000 Gal. User

QUESTIONS & DISCUSSION

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