City of Atlanta
Mayor Kasim Reed

Department of Watershed Management

Water Utility of the Future
Charting the Evolution from Consent Decree and Beyond

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Commissioner

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Agenda

• Where we’ve been
• The complication
• Further transformation steps
• Enablers for industry evolution
DWM faced tremendous challenges

Lawsuit brought by EPA and environmental NGO led to two Consent Decrees
## Significant accomplishments to date!

*Consent decree implementation, Economic stimulation*

<table>
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<tr>
<th>Consent decree success</th>
<th>Local economic impact</th>
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<tr>
<td>✓ Successfully met all 1,064 milestones</td>
<td>✓ Significant local small business development</td>
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<td>✓ Saved $600+M (18%) from baseline using innovative</td>
<td>(100 minority-owned small businesses involved)</td>
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<td>approaches</td>
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<td>✓ Earned trust of regulators</td>
<td>✓ Program prioritization enabled ongoing growth, net</td>
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<td>economic impact of $17.7B</td>
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Clear progress made against consent decree objectives...

Total Public Spills/SSOs per 100 miles of pipe
...Driven by number of program innovations

Example: Rehabilitation Decision Support System

- Project data visually linked
- Predefined criteria promote consistency and speed
- Photos and/or video tagged to the asset ID number

Software application created to automate the sewer rehabilitation design process
The Complication...

While these steps were necessary, they are not enough

- **Financial pressures intensifying**
  - Highest rates in the nation
  - 40% debt service

- **Areas of prior under-investment requiring attention**

- **Workforce succession**
A consequence of prior phase: imbalanced investment

DWM System Capital Improvements, by type

$M

Water  Wastewater
Asset Conditions: Auto Care Analogy

**Chattahoochee WTP (1960)**
- Muscle car/stylish, with high horsepower
- Good performance
- 56 Chevy

**Hemphill WTP (1890/2012)**
- Drive with pride; classic with new engine
- Good performance but plan for replacement in long-term
- Studebaker

**Combined Sewer Facilities**
- Sometimes you need to pull over and tinker
- Upgrades planned now
- “Old”smobile
Asset Conditions: Auto Care Analogy

**South River WRC (1936)**
- Manual transmission; burns oil
- Upgrades planned in next few years

**R.M. Clayton WRC (1935/1950s)**
- Odometer has turned a few times; Exhaust problems (incinerator)
- Upgrades planned in next few years, incinerator to be decommissioned

**Utoy WRC (1936/2000)**
- Good performance; Exhaust problems (incinerator)
- Incinerator to be decommissioned

**Intrenchment WRC (1910/1982)**
- They don’t make ‘em anymore; time to retire
- Decommissioning in next few years
We face significant workforce challenges

40+% eligible in 7 years
(another 25%)

15% of DWM Staff in ‘retirement window’ NOW

More strategic, holistic approach required to transform DWM
Transforming into “Utility of the Future”

- Energy Neutrality,
- resource recovery,
- green solutions,
- biosensors,
- direct reuse

Integrated Utility Planning

Strategic Planning
Developed set of tailored, cross-functional strategic initiatives

- Strategic Financial Resource Allocation
  - Stakeholder Engagement
  - Sustainable Watershed Management
  - Workforce Development
- Asset Management / Risk-Based Planning
- Data and System Enablement
Integrated Utility Planning uses holistic, multi-criteria approach to score projects.

**Environmental & Regulatory Criteria**
- *E.g.*, WW Pathogens Removed

**Financial Criteria**
- *E.g.*, Opportunity to stimulate job creation

**Social Criteria**
- *E.g.*, Results in increased drinking water quality to end users

**Project Delivery Criteria**
- *E.g.*, Addresses condition of existing systems/assets
Integrated Planning yields clear benefits

**Balanced Investments**

**Improved Affordability**
Historic Fourth Ward Park and Skatepark

- 17 acres
- Opened June 2011
- 2-acre lake that doubles as stormwater detention
- Outdoor amphitheater
- Modern playground with splashpad
- Open, passive lawns
- Elegant walkways
DWM moving toward Energy Neutrality as one area for Water Utility of the Future

Enhancing conservation...  ...and generating energy

Virtual Works Simulation

Refocusing on utilizing technology to work “smarter”
Additional enablers required to facilitate realization of Utility of Future vision

Regulatory enablers

• Support Renewable Portfolio Standards for biogas, etc
• Support legislative changes to facilitate water reuse
• Re-examine EPA affordability thresholds for consent decrees

Financial incentives

• Expand tax credits for UOTF energy generation & water reuse
• Maintain SRF for water
• Add DOE incentives for R&D in water
• Refocus Federal grant programs to support UOTF initiatives
  o Technology Innovation Grants
A view of the future?

Perspective from the UK

After period of prescriptive regulation, the UK regulator has adopted flexible, outcome-based approach

Multi-faceted approach to evaluating utilities

- **TOTEX** efficiency- not CAPEX or OPEX in isolation
- Customer service *outcomes* - not just inputs
- Asset *resilience* - not just lowest short term cost

“...independent analysis shows there are around £2 billion of combined benefits on the table for customers coming from the changes in our approach” Ofwat (UK Regulator)

U.S. regulatory approach lagging industry best practices