



**CITY OF FORT LAUDERDALE**  
**City Commission Agenda Memo**  
**CONFERENCE MEETING**

**#16-0255**

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**TO:** Honorable Mayor & Members of the  
Fort Lauderdale City Commission

**FROM:** Lee R. Feldman, ICMA-CM, City Manager

**DATE:** March 1, 2016

**TITLE:** Challenges with Pipe Breaks and Maintaining Aged Infrastructure

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The City Commission discussed concerns related to aging infrastructure at the January 5, 2016 Conference Meeting. As a result, staff was asked to prepare a presentation (Exhibit 1) regarding the challenges with pipe breaks and maintaining aged infrastructure to be presented at a future meeting.

This presentation showcases the challenges and impacts associated with aging infrastructure within the City of Fort Lauderdale. It shows examples of the amount of old pipe in the water distribution system and in the sewer collection system, funding challenges, design and construction, and maintaining services.

The City of Fort Lauderdale was incorporated almost 105 years ago. The resiliency and integrity of this aged infrastructure is paramount because it affects the level of services provided to our neighbors and 300,000 visitors annually. No changes were made to any of the pipe lines until the year 2011, when the City implemented the *Waterworks 2011* Program. Although the majority of the infrastructure is old, new pipelines were installed only in parts of the City during this program. Furthermore, there are great concerns about the pipeline network because the majority of it lies in ground water. This is worsened by sea level rise, coastal flooding, king tides, and salt water intrusion which all brings salty water in contact with various pipe materials causing severe corrosion of metal pipes and concrete pipes alike. In addition, the high rate of inflow and infiltration (I/I) into the sewer system has led to increased pressures and flow in an already vulnerable system of piping network and pumping stations which ultimately affects the George T. Lohmeyer Wastewater Plant capacity.

The water and sewer infrastructure is at some risk from independent utility operators that damage City pipelines by directional drilling without adequate preventive measures. The City continues to successfully incorporate improvements in the collection and distribution systems to accommodate the relatively high rate of commercial and residential developments throughout the City in the Community Investment Program (CIP). This adds fiscal pressures to the 5 Year CIP, but annual reviews and updates provide regular opportunities to prioritize projects appropriately.

Staff is continuously working on identifying critical infrastructure that requires attention that is due to age, unusually high maintenance or repair activity, or capacity. Numerous projects are included in the current Community Investment Plan (CIP) to address these issues, although new projects are identified every day. The Public Works Engineering and Utilities' Operations are constantly reviewing CIP projects and adjusting priorities in order to address the most serious issues first.

Utilities Operations is also acquiring a rapid response mobile trailer equipped with tools, equipment, and assets that will enable a quick response to pipe emergencies due to the increased rate of pipe breaks. This will lessen the effect of service interruptions and improve the response time so that we can better serve our neighbors with shorter service interruptions.

Staff's recommendation at this time is to perform an in-depth study of pipe conditions throughout the City in order to better understand the future long-term actions.

### **Strategic Connections**

This item is a *Press Play Fort Lauderdale Strategic Plan 2018* initiative, included within the Infrastructure Cylinder of Excellence, specifically advancing:

- Goal 2: Be a sustainable and resilient community.
- Objective 1: Proactively maintain our water, wastewater, road, and bridge infrastructure.

This item advances the *Fast Forward Fort Lauderdale 2035 Vision Plan: We Are Ready*.

### **Attachments**

Exhibit 1 – Challenges with Pipe Breaks and Maintaining Aged Infrastructure  
Presentation

Exhibit 2 – Age of Pipe Force Mains Map

Exhibit 3 – Age of Water Mains Map

Exhibit 4 – Pressure Pipe Material Map

Exhibit 5 – Potable Water System Map

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