



American Water Works
Association

Dedicated to the World's Most Important Resource™

US Water Challenges

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November 10, 2016

Order of Presentation

- Introduction
- US Water Challenges
 - Climate Change
 - Aging Infrastructure
 - Water Quality
- Q&A



AWWA 2016

- 50,000+ members in **98** countries
 - Utilities
 - Service Providers
 - Individuals
- 150 staff in 2 office locations
- 43 Sections
- 6 Councils
- 6,000 Volunteers active in Committees

841 members outside
North America



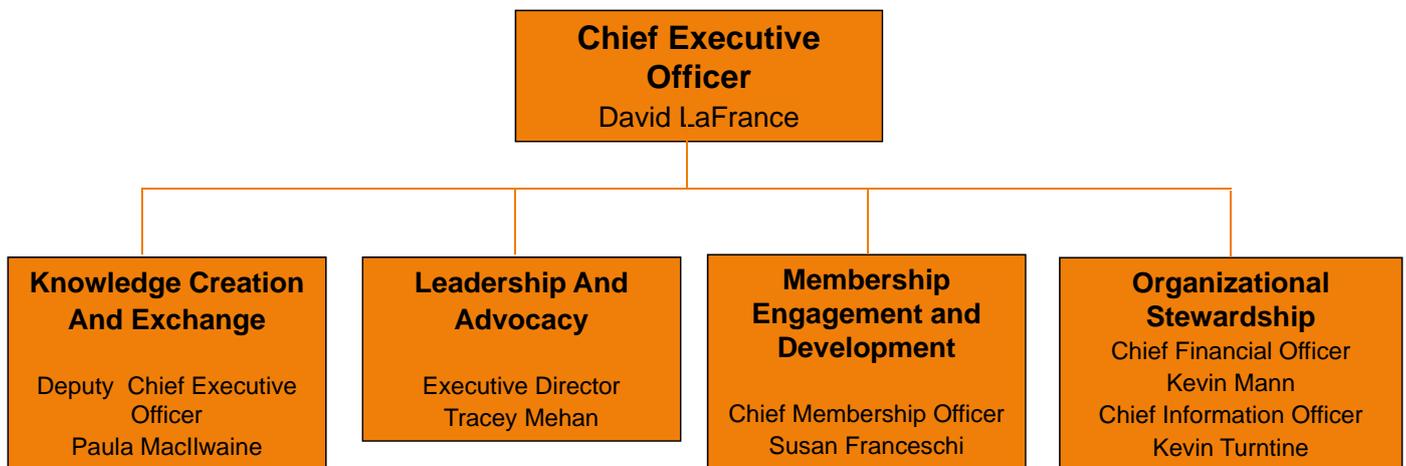
AWWA Goals

- **Knowledge, Creation & Exchange** – **Create & exchange** knowledge to benefit public health and the needs of the water community.
- **Leadership & Advocacy** – Lead the water community by **identifying trends and issues**; actively informing consumers, media, lawmakers, regulators, manufacturers, consultants, and water professionals; and by advocating for public policies and other actions promoting safe water and reflect sound science.
- **Member Engagement & Development** – Create vibrant and expanding **opportunities** for the development of all water professionals.
- **Organizational Stewardship** - Create an effective & efficient organization by engaging in strategic partnership.



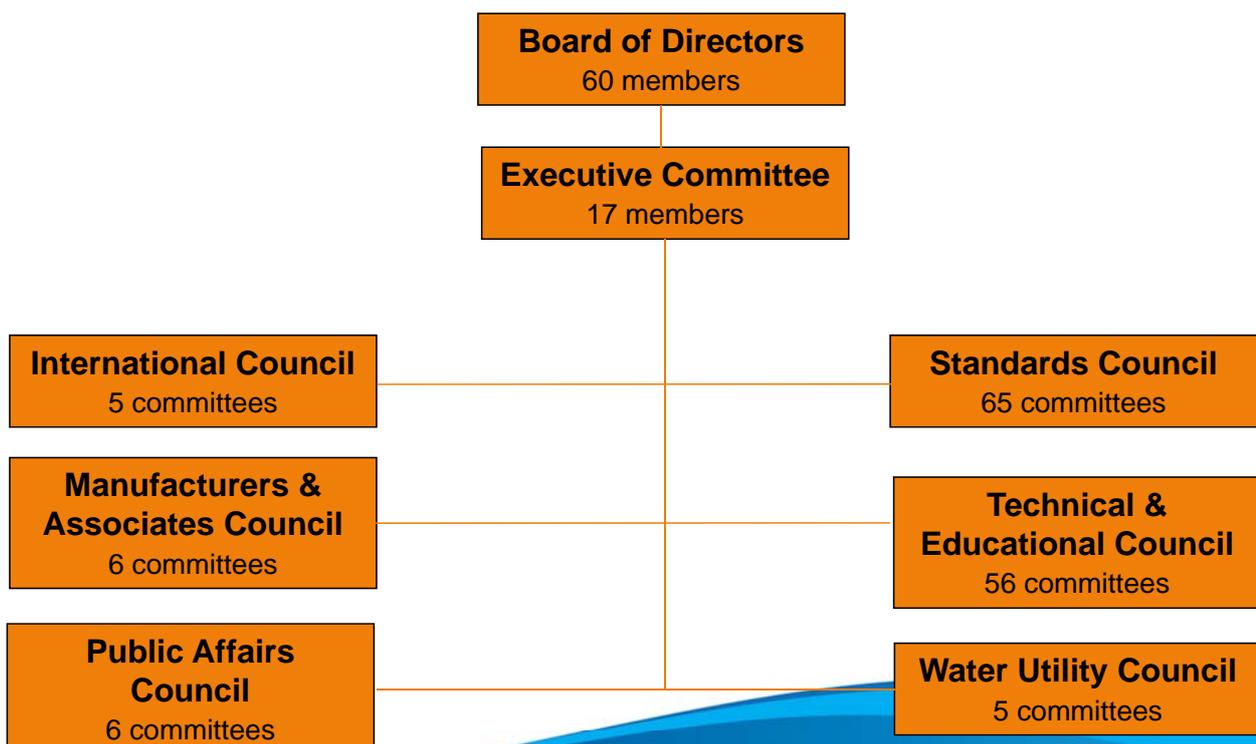
Staff Organizational Design

Supports the Association's Strategic Plan



Volunteer Organizational Design

Supports the Association's Strategic Plan





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Water Challenges

Biggest US Challenge



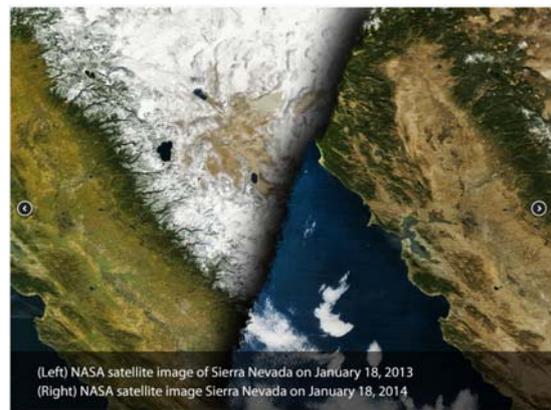


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Water Shortage (California)

California's 6th Year Drought



Source: Drought.ca.gov



California's 6th Year Drought



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

Mark Svoboda
National Drought Mitigation Center



<http://droughtmonitor.unl.edu/>



California Water Action Plan

Notable items:

- Making water conservation a way of life in California
 - Executive Order → mandatory 25% reduction in water use
- Increase self-reliance and integrating water management across levels of government
 - Water recycling
 - Desalination
- Developing a more reliable and sustainable water supply
- Preparing for more frequent and severe droughts
- Expanding water storage and managing groundwater supplies
 - Increase water storage
 - Protect over pumping of groundwater supply
- Increasing flood protection
 - Prepare for flood triggering intense storms
- Seeking new water resource funding sources
 - Increase research funding for ecosystem, watershed, infrastructure, and drinking water





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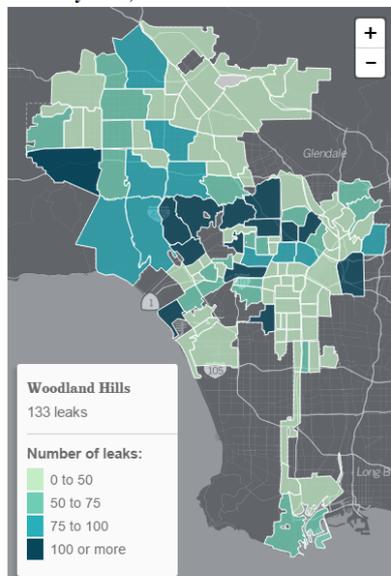
Aging Infrastructure

Water Leaks in Los Angeles L.A.'s aging water pipes; a \$1-billion dilemma

By **BEN POSTON** and **MATT STEVENS**

FEB. 16, 2015

Leaks by area, 2010 to 2014



Sources: Los Angeles Department of Water and Power, MapBox and OpenStreetMap.

By the numbers

6,730 — Miles of pipe in the DWP water main network

435 — Miles of deteriorated water mains that DWP wants to replace, about 6.5% of the network

\$1.34 billion — Cost to replace at-risk water mains by 2025

\$44 million — Annual average amount DWP has spent on pipe replacement in the last eight fiscal years

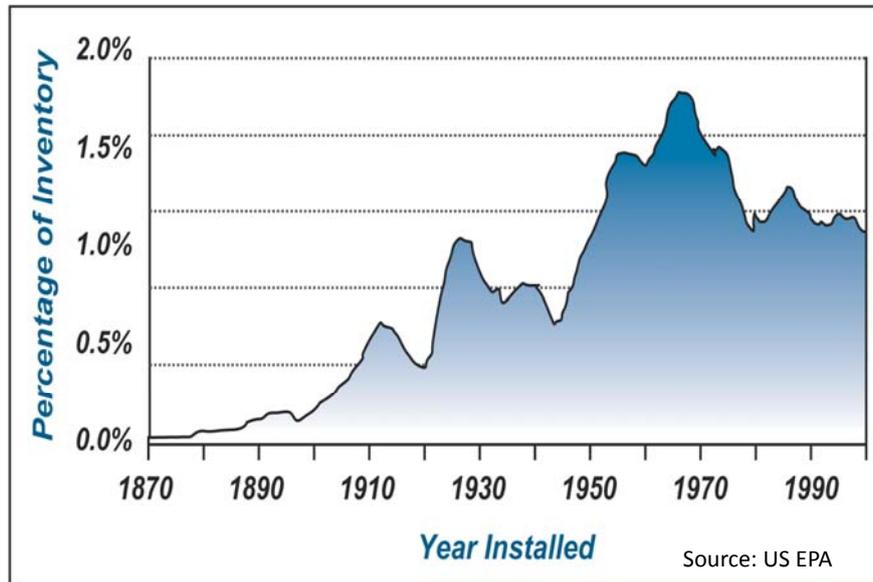
\$135 million — Annual spending needed to reach 10-year pipe replacement goal

Source: Los Angeles Department of Water and Power



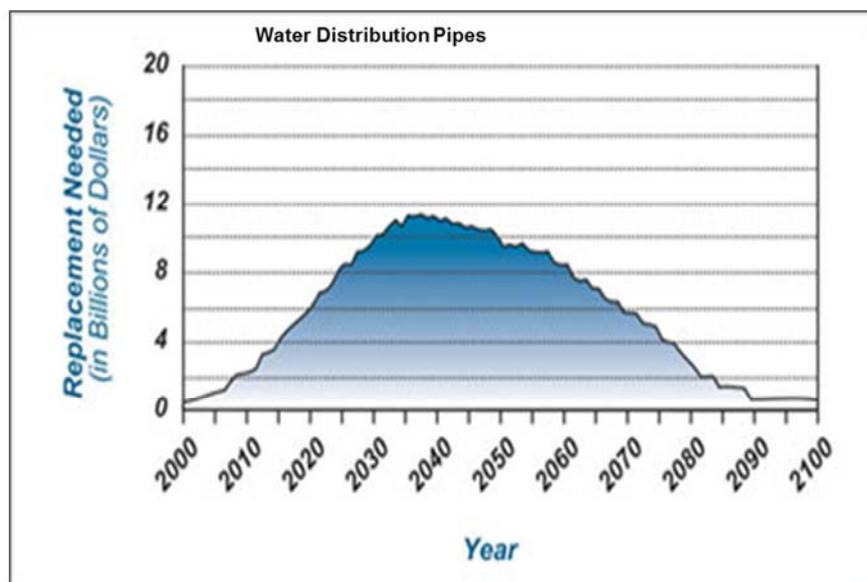
Historical Development Trend of US Infrastructure

- Age distribution of water pipes for 20 major cities



Historical Development Trend of US Infrastructure

- Age distribution of water pipes for 20 major cities



Why Be Concerned?

- Old assets are in need of replacement (aging asset)
- Decreasing revenue (reducing water demand)
- Can our current financial plan pay for future capital needs?
- Want to understand the estimated magnitude and timing of replacement and rehabilitation needs
- Want to proactively manage the future needs



Asset Management



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Water Quality

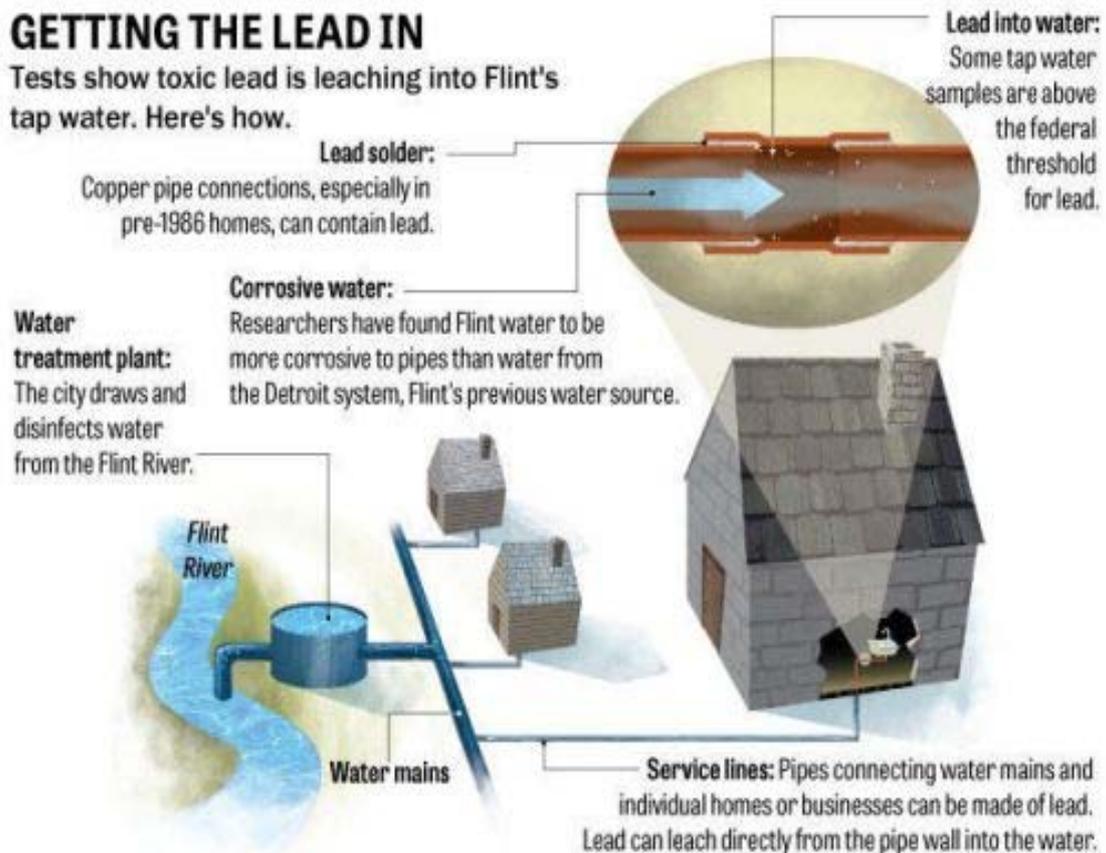
Flint, Michigan



Lead in the Service Lines

GETTING THE LEAD IN

Tests show toxic lead is leaching into Flint's tap water. Here's how.



Source of Problem

Flint River:

- High levels of Chlorides
- Result of industrial pollution and road salts



Water Treatment:

- No anti-corrosion treatment process
- Fear that phosphates would increase bacteria growth



Communication Problem

- Michigan Department of Environmental Quality misreads EPA requirement
- Michigan officials report Flint water is safe after only testing treatment plant
- State's Emergency Manager refused to allow Flint to re-connect with Detroit Water
- Some Flint residents never heard the status of the recovery plan and did not know about filters and bottled water



Questions?

