

WATER INFRASTRUCTURE at a TURNING POINT

The Road to Sustainable Asset Management



Presented to:
Washington Public
Utility Districts
Association
Water Workshop



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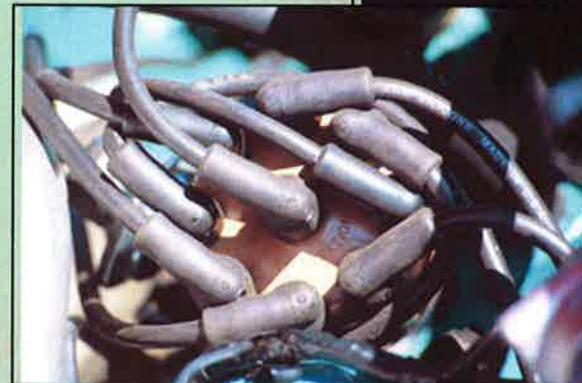
Across North America, water systems represent a vast legacy of public investment entrusted to our care.



Pipes don't last forever... ultimately, they will need to be replaced – at significant expense.

It's as if we've inherited a fine automobile

- **It looks good, but...**
- **How many more miles can it go before rehab and replacement are required?**



Elected and appointed leaders have a choice to make about how to manage water assets

Avoid the issue and risk...

- emergency repairs
- business interruption
- public health impacts
- regulatory problems
- higher long-term costs



OR...

Invest proactively in sustainable management of water infrastructure assets to continue providing high-quality, reliable service.



Elected officials offer pragmatic reasons why it is difficult to adopt a more proactive approach

- “crisis” motivation
- competing demands
- concern about rates
- invisibility of water infrastructure



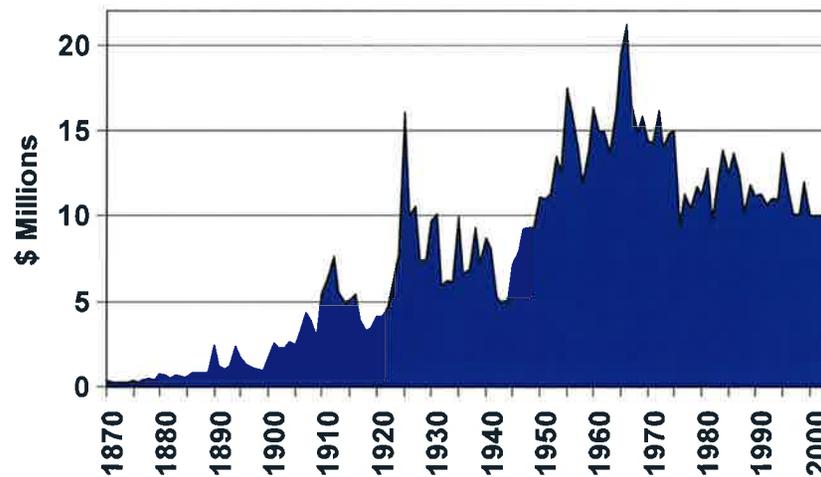
Sewer bills likely to triple in 5 years



But pipes keep getting older — they were built in waves to address the needs of growing populations

Anytown – Population 250,000

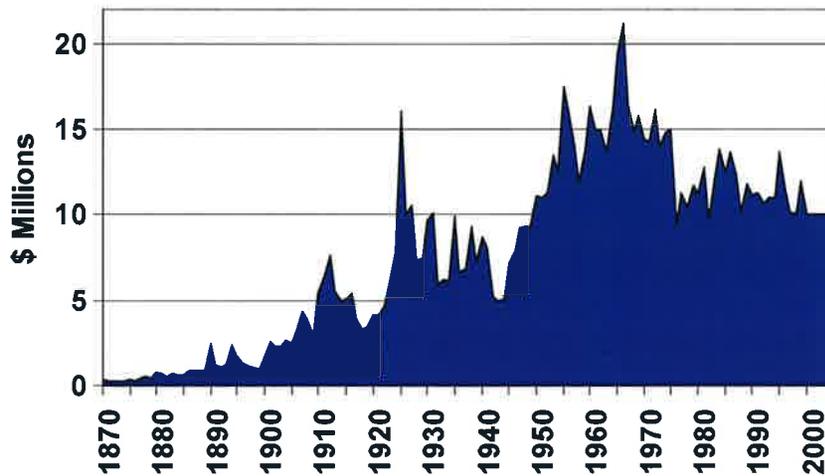
Water Main Construction



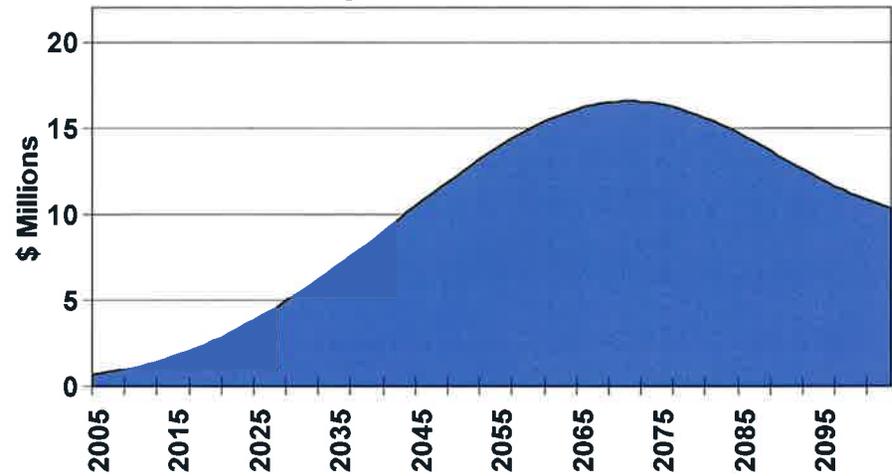
Replacement needs reflect an echo of earlier demographic waves

Anytown – Population 250,000

Water Main Construction



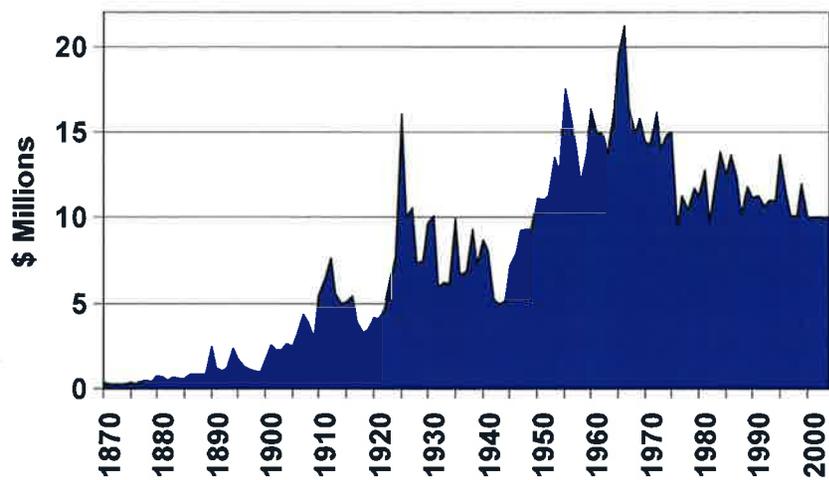
Future Pipeline Replacement Needs



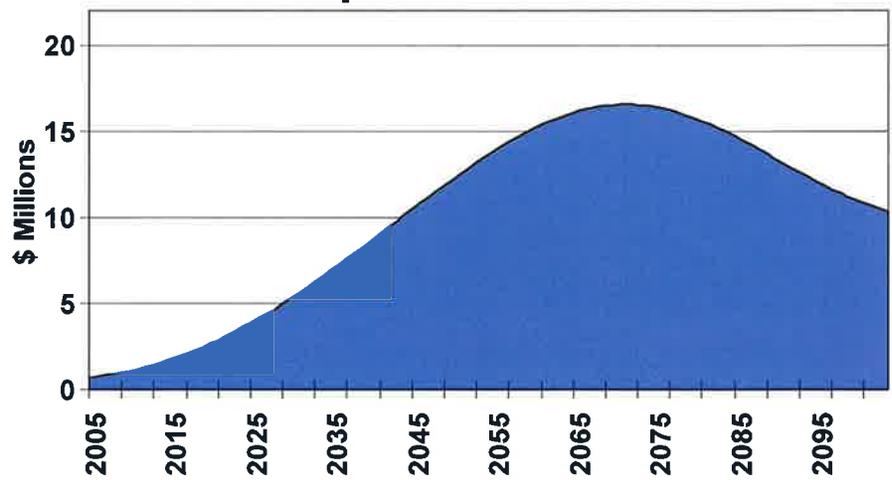
There is good news and bad news in this picture

Anytown – Population 250,000

Water Main Construction



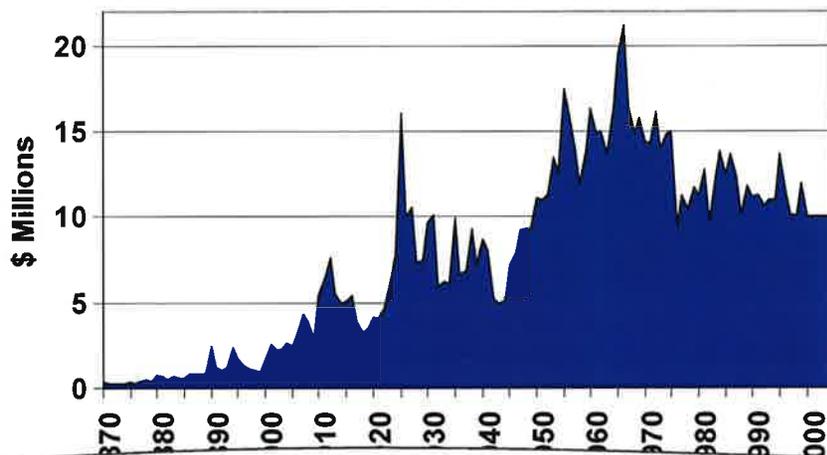
Future Pipeline Replacement Needs



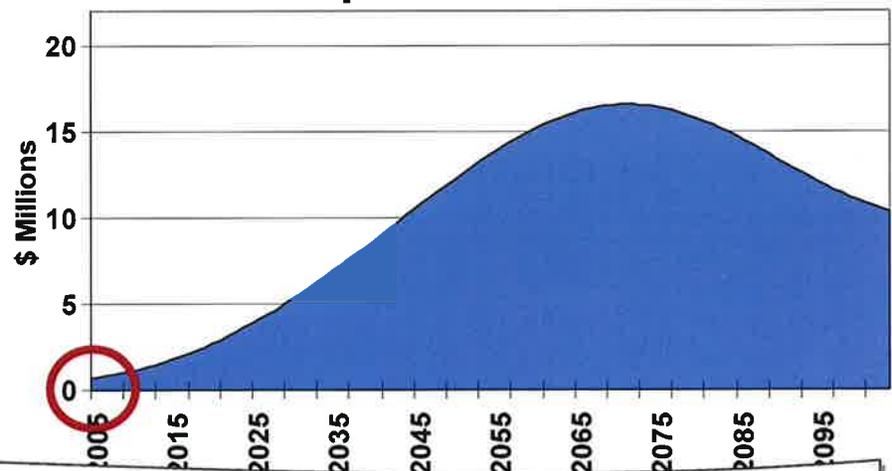
The bad news: a wave of increasing reinvestment expenditures lies ahead

Anytown – Population 250,000

Water Main Construction



Future Pipeline Replacement Needs

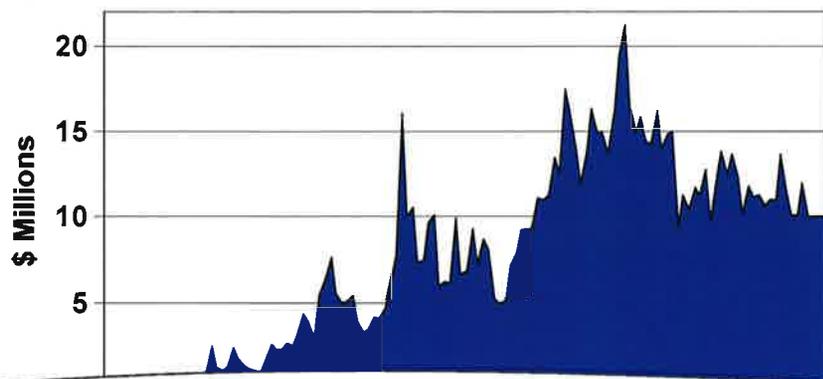


We are at a turning point... it's time to make important decisions about the care of our water system assets.

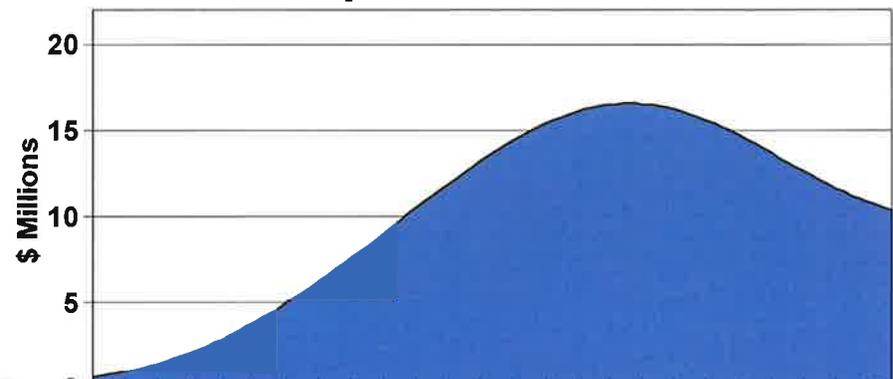
The good news: reinvestment needs will ramp up rather than hit all at once – **IF** you don't get behind

Anytown – Population 250,000

Water Main Construction



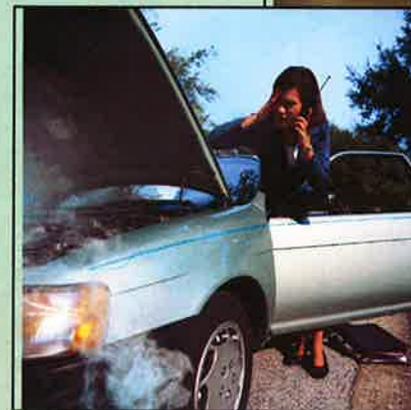
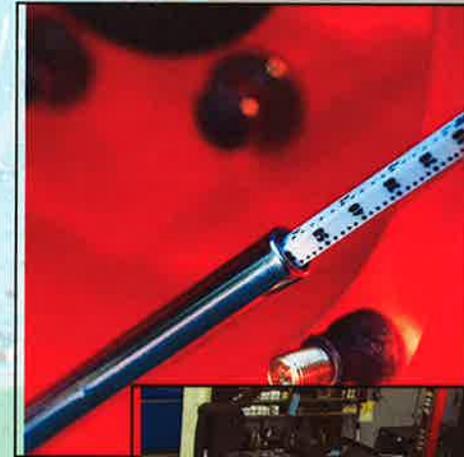
Future Pipeline Replacement Needs



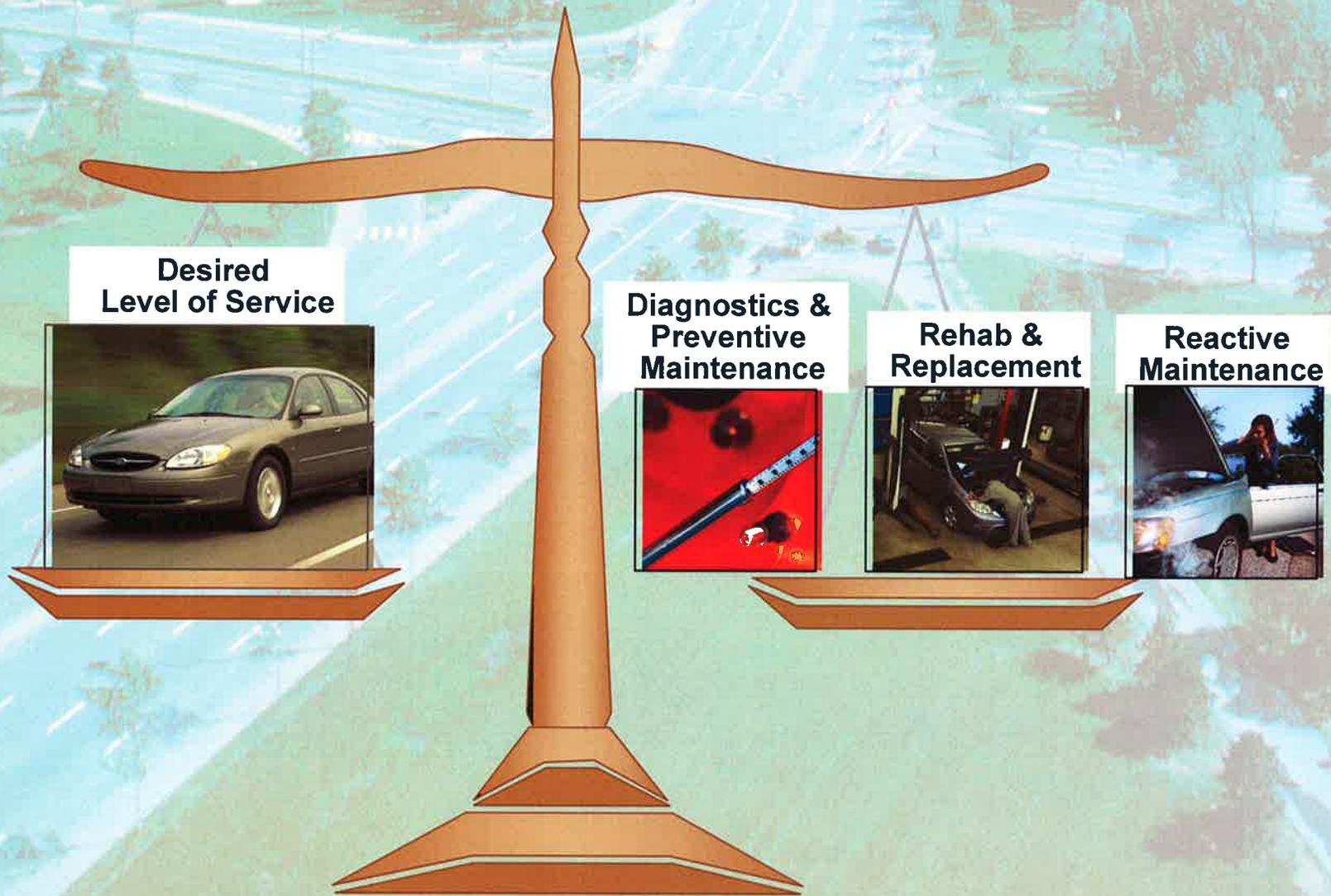
**Asset Management can “flatten” the ramp and save large amounts of money...
*IF YOU START NOW***

Our approach to managing vehicles reflects all the basic principles of Asset Management

- **Diagnostics & preventive maintenance to reduce wear**
- **Life-extending rehabilitation & eventual replacement**
- **Enhanced reactive maintenance to cope with breakdowns**



Asset Management balances expenditures to attain the desired level of service at the least cost





Asset Management Plans (AMPs) take a lifecycle cost approach

- **Not** the same as Capital Improvement Plans (CIPs)
- Look at capital and operating expenditures **together** to get the most value over the life of the asset, while delivering high-quality, reliable service

Asset Management requires cooperative efforts between utility managers and governing boards



What utilities need to do:

- use a business risk management vs. engineering framework
- address crosscutting information needs
- pick an appropriate organizational starting point (there are many)
- embrace transforming impacts of asset management
- sustain management across successive generations

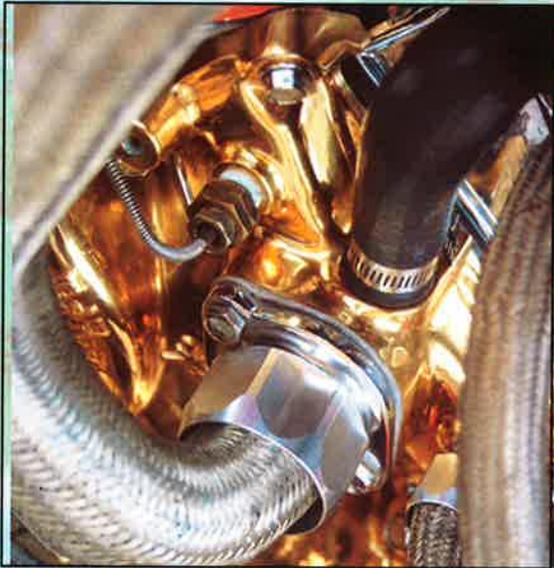
Asset Management requires cooperative efforts between utility managers and governing boards



What boards and councils need to do:

- balance capital & operating budgets with risk tolerance
- link asset management to shareholder value (the public's equity)
- support sustainable delivery of reliable service at the best cost
- help educate the public

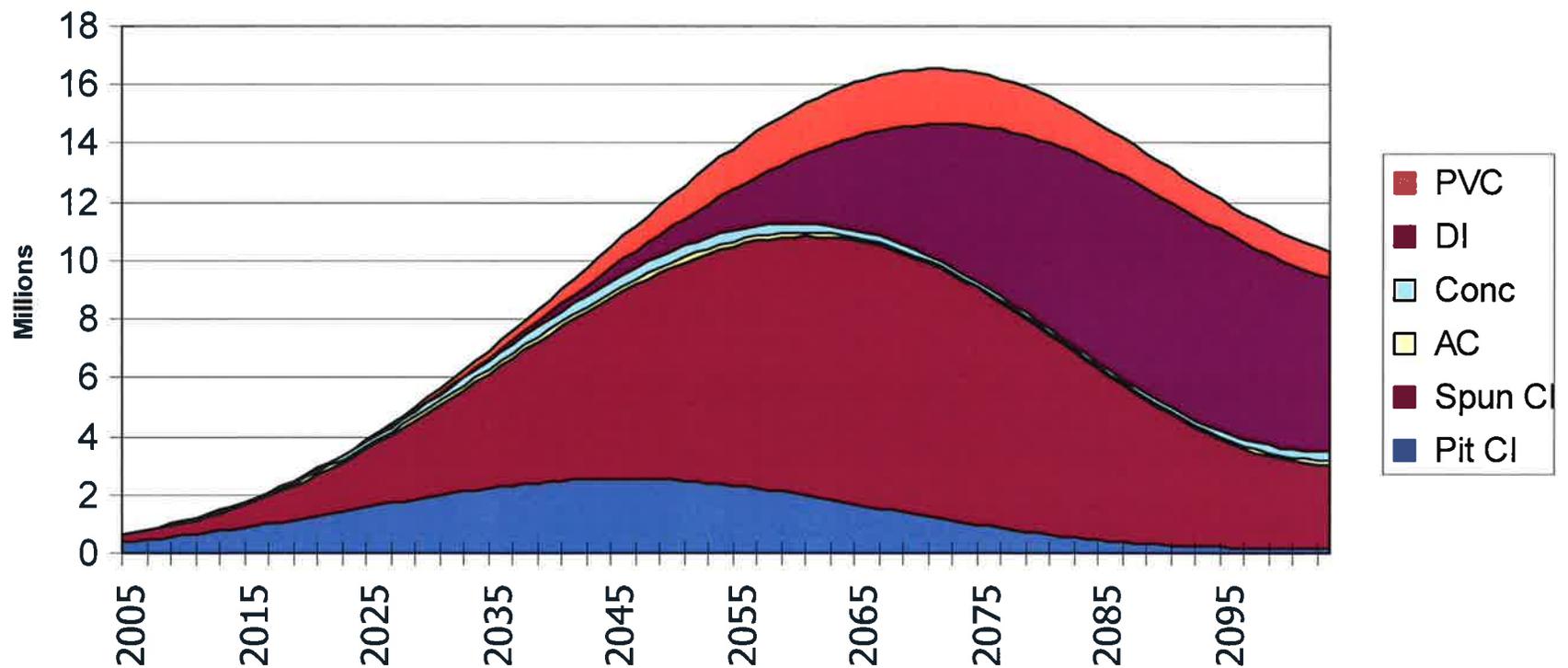
Start with the most important priorities and most critical assets, then build the program incrementally



fix the engine before you fix the vanity mirror

Expand by following the money: which groups of assets comprise most of the reinvestment needs?

Main Replacement (Cumulative)



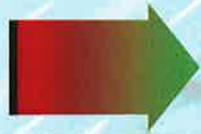
Use Asset Management to convert challenges into opportunities

“Crisis” motivation



Avoid future blame and need to write one big emergency check

Competing demands



Balance priorities wisely and manage like a household budget

Concern about rates



Invest now and pay less later to sustain public's equity value

Invisibility of water infrastructure



Avoid risks from invisible threats

The public equity is in your hands... *drive it like you own it!*

