

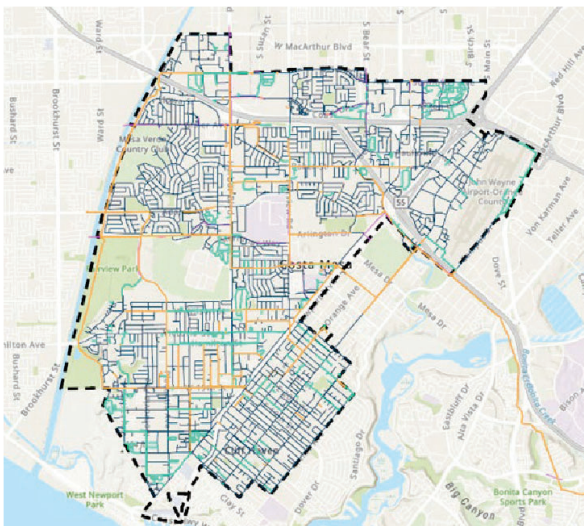
PIPELINE INTEGRITY PROGRAM UPDATE

Karyn Igar, PE, Principal Engineer, Mesa Water District
David Spencer, PE, Water Pipeline Asset Management Leader, HDR

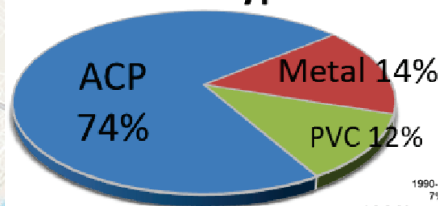
October 22, 2025

Pipeline Integrity Program History

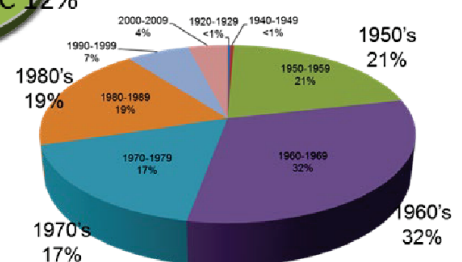
2013 Questions: "If we had to replace all of our pipelines in 100 years:
How much would it cost? How would we do it? How would we fund it?"



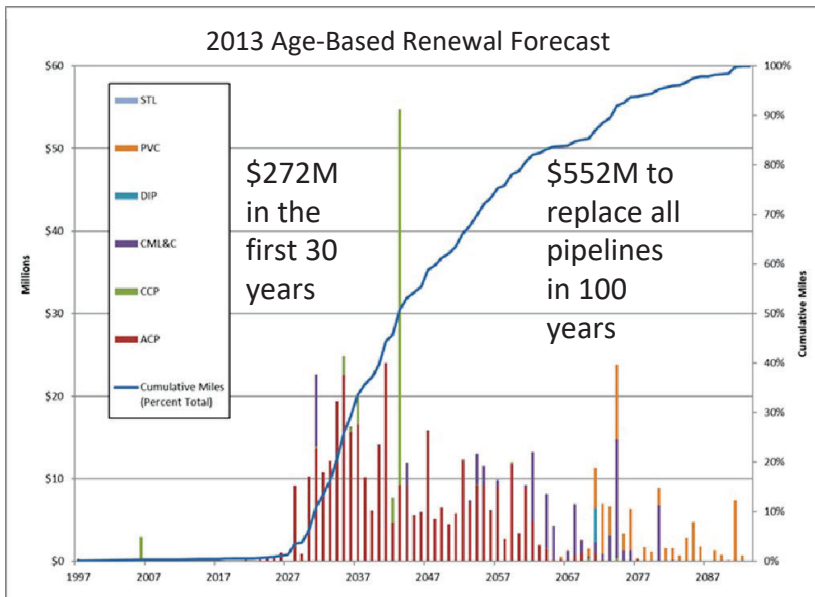
Material Type



Installation Decade



Pipeline Integrity Program History



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Pipeline Integrity Program Goals

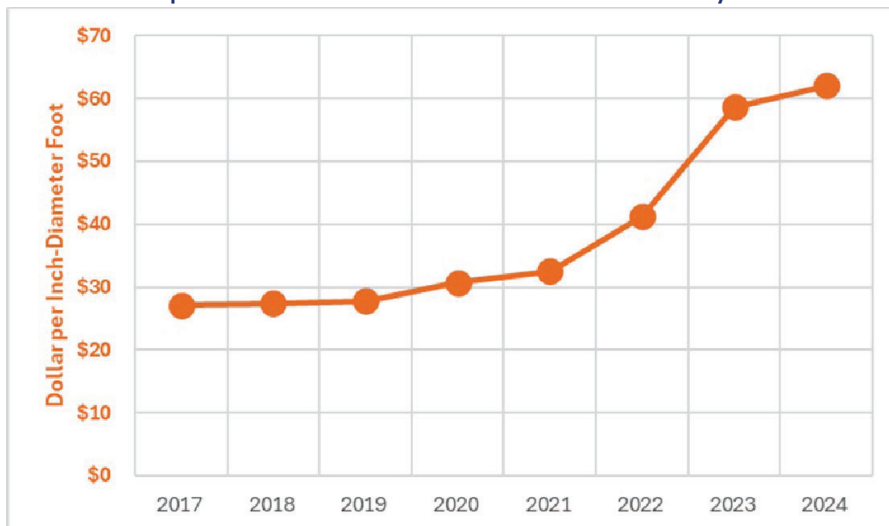
- Maximize investment
- Replace at end of Useful Life
- Transparent and Dependable Decision Making

Pipeline Integrity Program is Staff's Implementation of the Board's Replacement of Assets Policy for Pipeline Assets



Rapid Escalation in Pipe Renewal Cost Since COVID

Pipeline Construction Cost Doubled in 3 years



Total Pipeline Replacement Cost

- 2013: \$0.55B
- Today: \$1.4B

More important than ever to maximize life

Benchmarked Utilities:

City of Ventura, City of Long Beach, Suburban Water Systems, Irvine Ranch WD, Olivenhain MWD, Rancho California WD, Las Virgenes MWD, San Dieguito WD, Sweetwater Authority, San Juan WD, San Lorenzo Valley WD, City of Bellevue, Vista Irrigation District, and the Port of Long Beach.

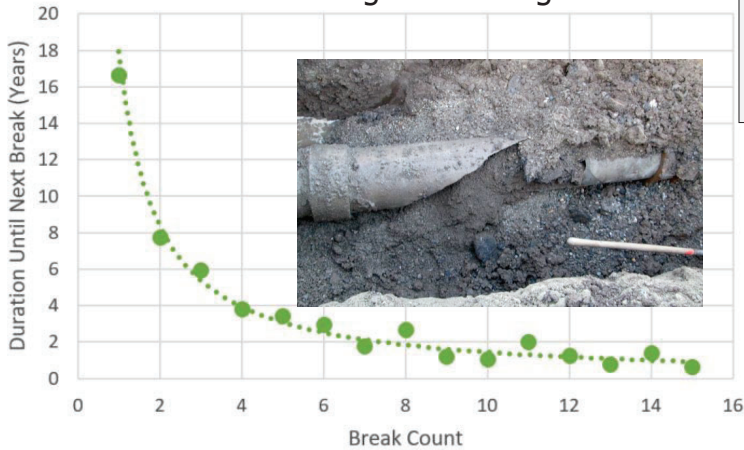


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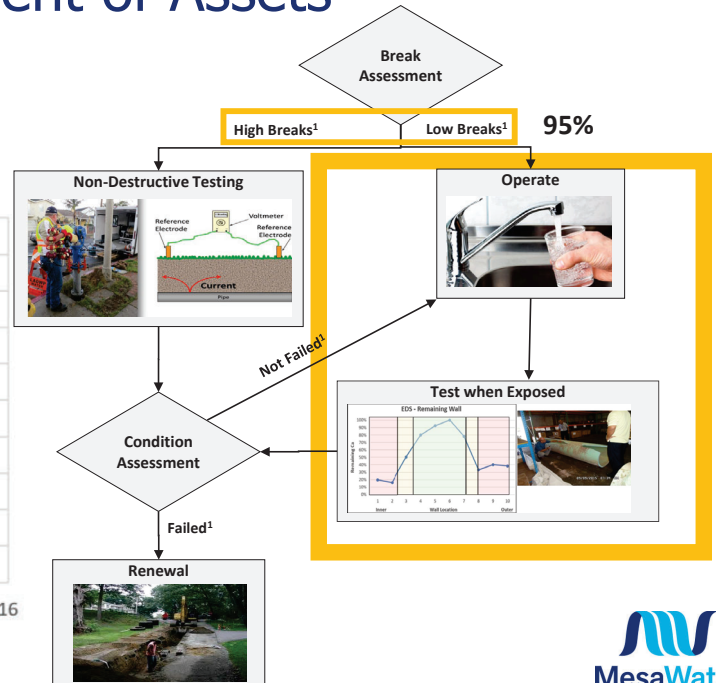
Resolution 1525 Replacement of Assets

Mesa Water® Break Rate:

4.6X better than national average
2.4X better than regional average



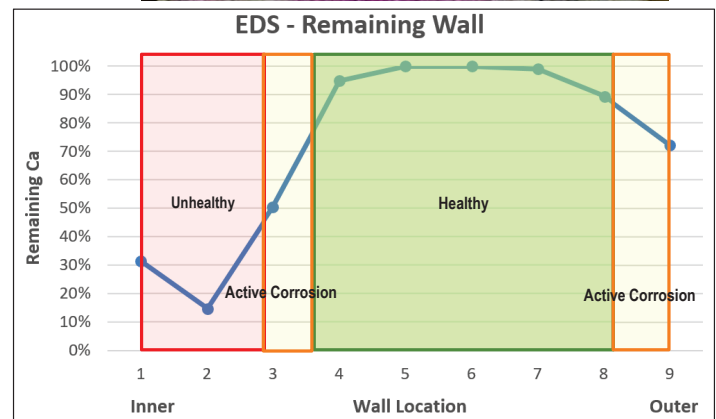
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Exposed Pipe Testing

Past 10 Years

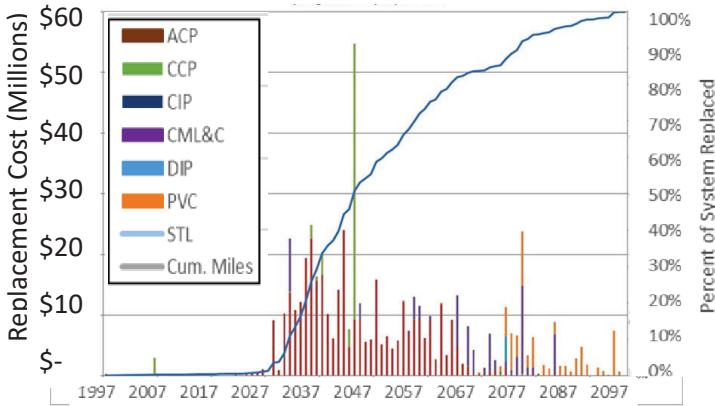
- 133 samples tested
- Average useful life = 143 years
- No Failed Pipe



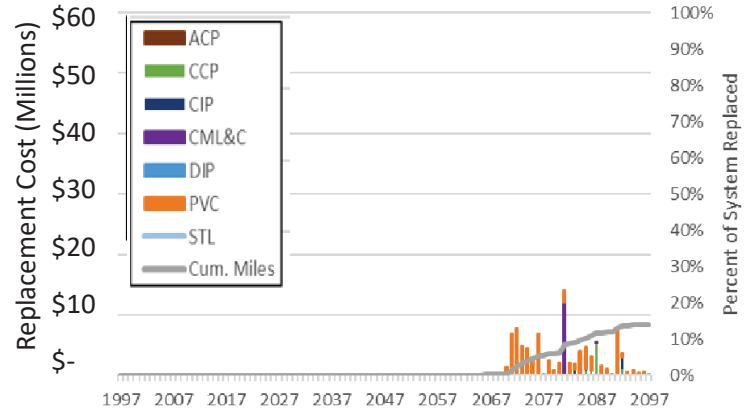
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Updated 100-Year Replacement Cost Curve

Age based: 50% Replaced by 2043 &
100% Replace by 2097



Condition based: 15% Replace by 2097

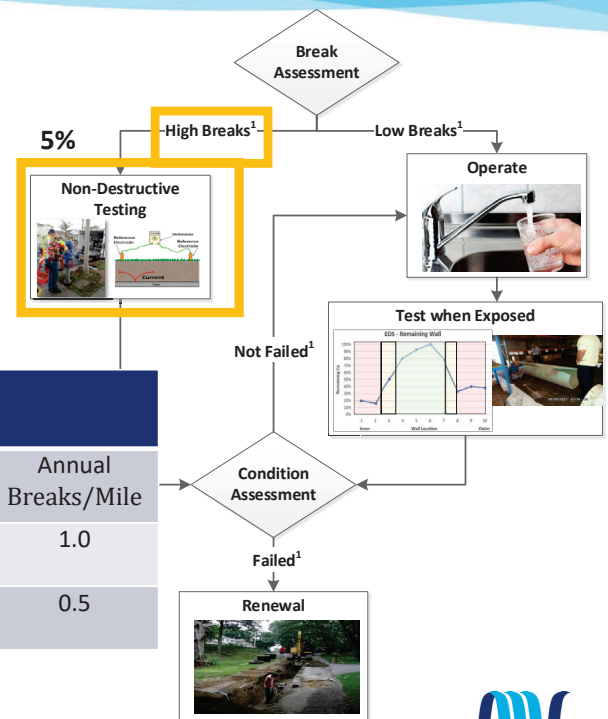


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Resolution 1525 Replacement of Assets

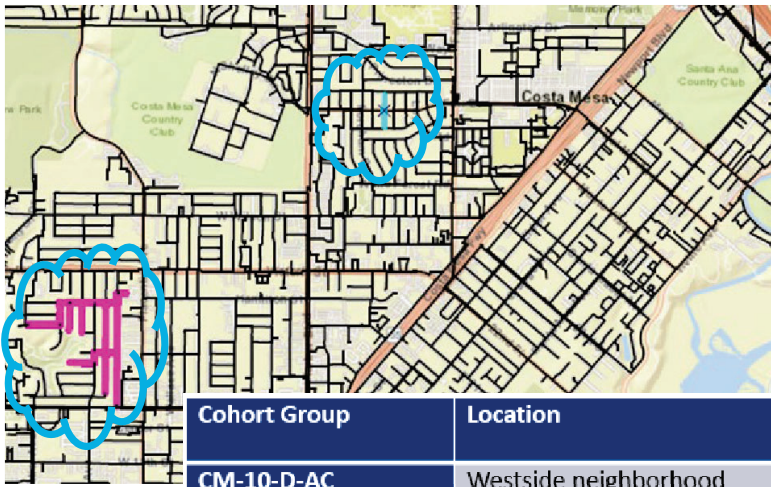
Type of Pipeline	Condition Assessment		Replacement		
	Number of Breaks	Annual Breaks/Mile	Remaining Useful Life	Number of Breaks	Annual Breaks/Mile
Distribution (14" Dia. and smaller)	3	0.2	<10 years and	5	1.0
Transmission (16" Dia. and greater)	2	0.2	<10 years and	3	0.5



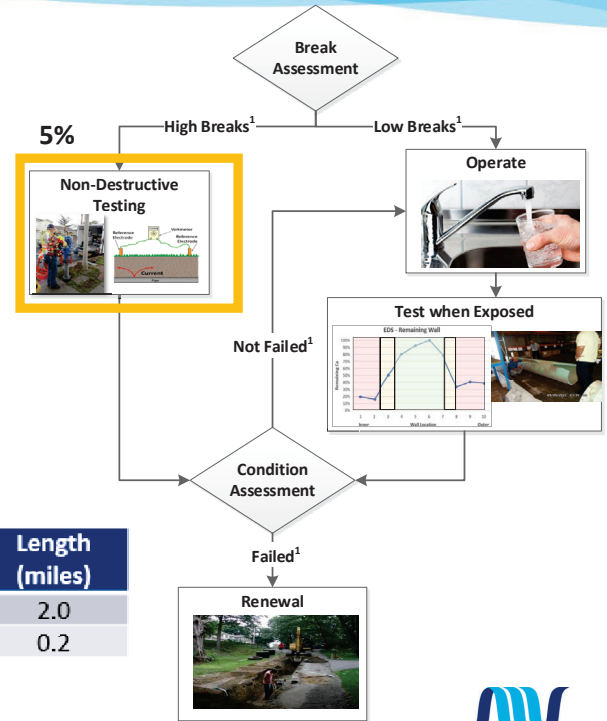
8 | October 22, 2025



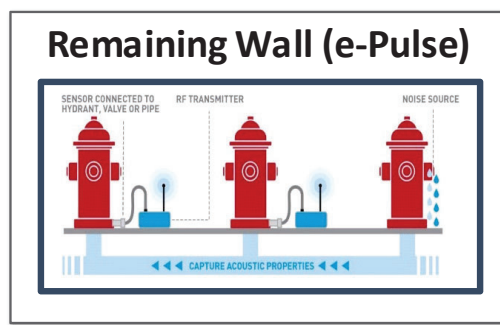
Resolution 1525 Replacement of Assets



Cohort Group	Location	Length (miles)
CM-10-D-AC	Westside neighborhood	2.0
CM-45-D-AC	Bowdoin Place	0.2

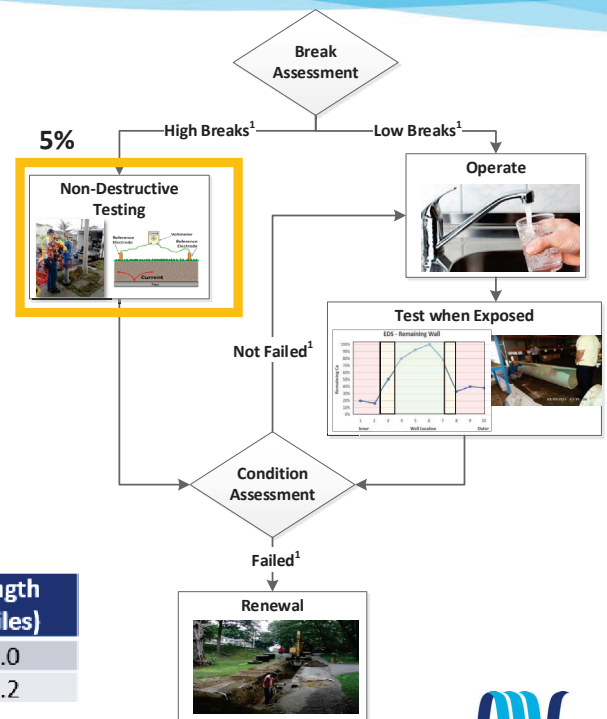


Resolution 1525 Replacement of Assets

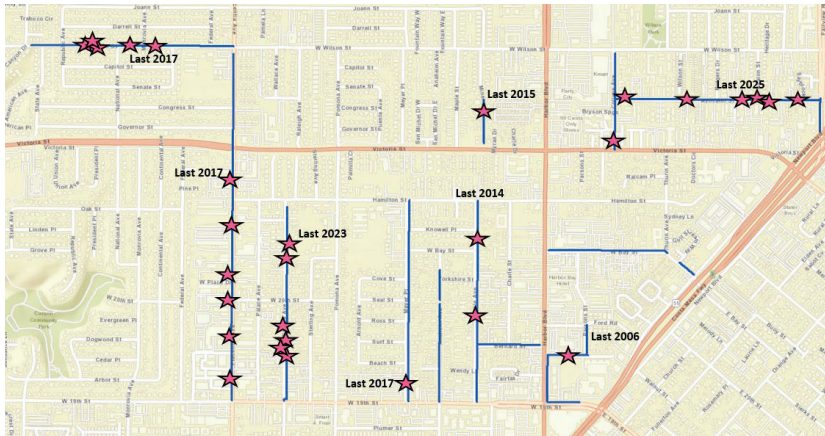


Wall Lost: (25% to 61%)

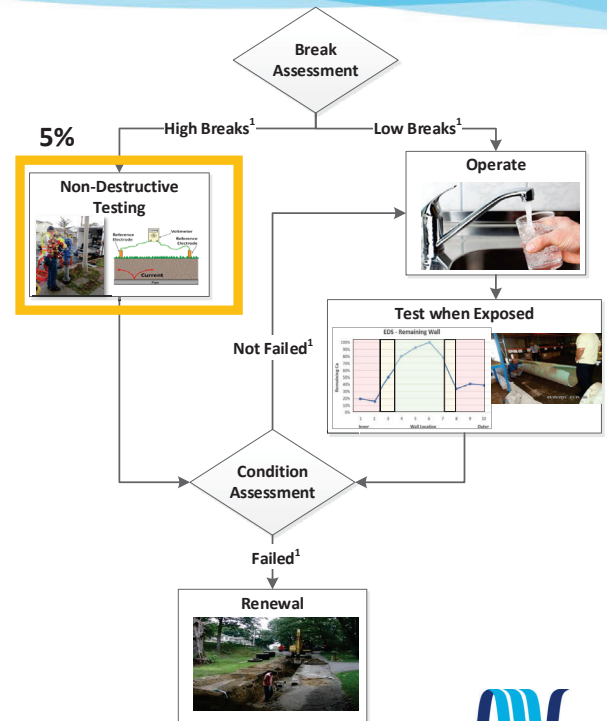
Cohort Group	Location	Length (miles)
CM-10-D-AC	Westside neighborhood	2.0
CM-45-D-AC	Bowdoin Place	0.2



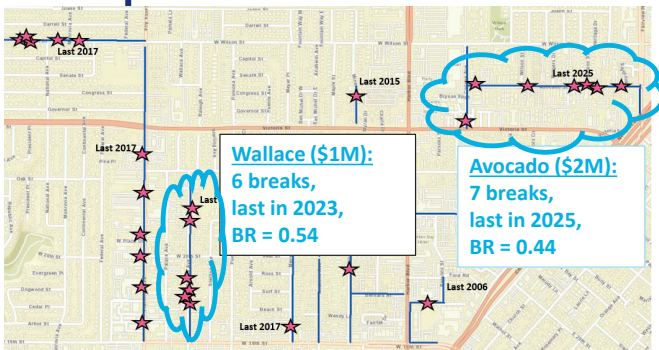
Resolution 1525 Replacement of Assets



1951 CMLC



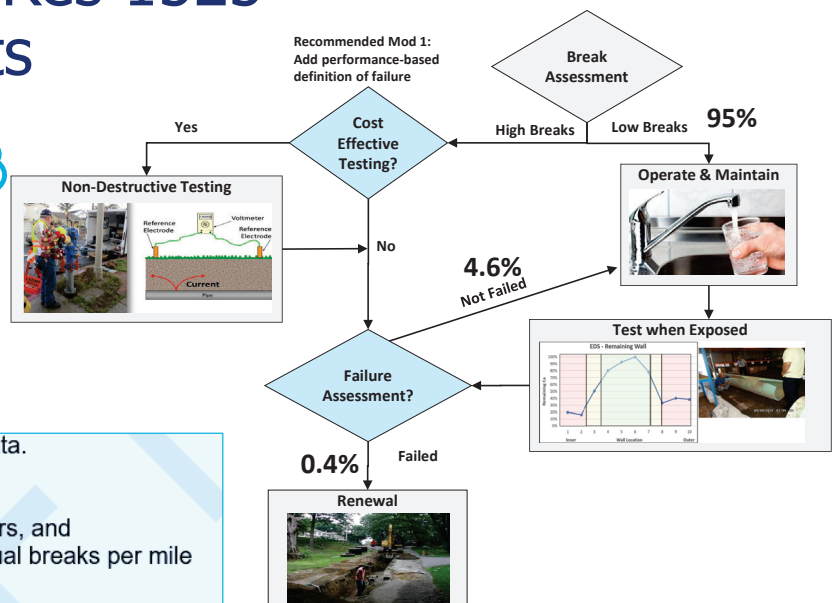
Proposed Updates to Res 1525 Replacement of Assets



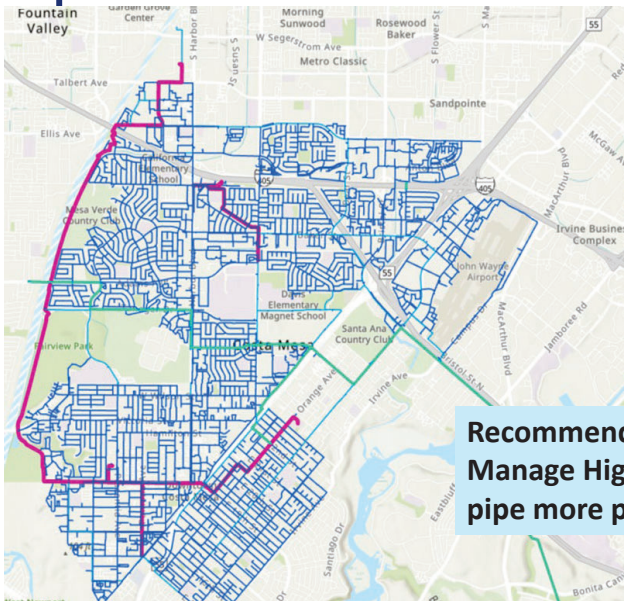
1951 CMLC

Failed due to performance, without test data.

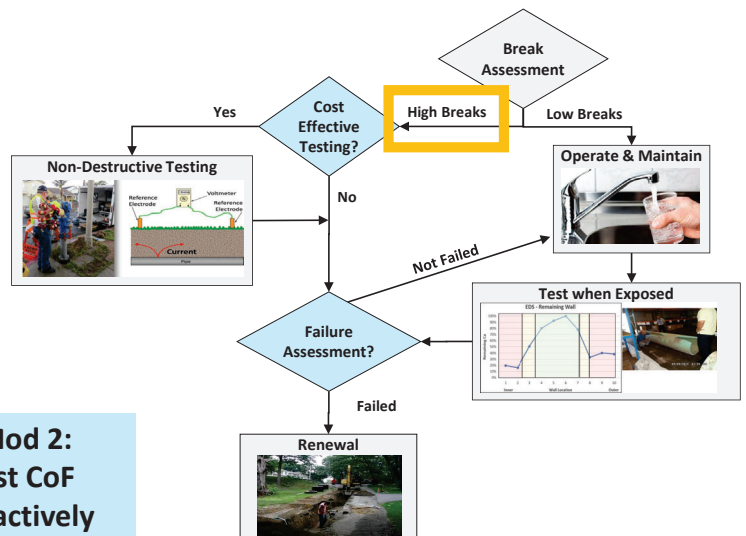
- i. Distribution cohorts
 - 1. 3 or more breaks,
 - 2. Broken within the past 5 years, and
 - 3. Break rate exceeds 0.4 annual breaks per mile
- ii. Transmission cohorts
 - 1. 3 or more breaks,
 - 2. Broken within the past 5 years, and
 - 3. Break rate exceeds 0.3 annual breaks per mile



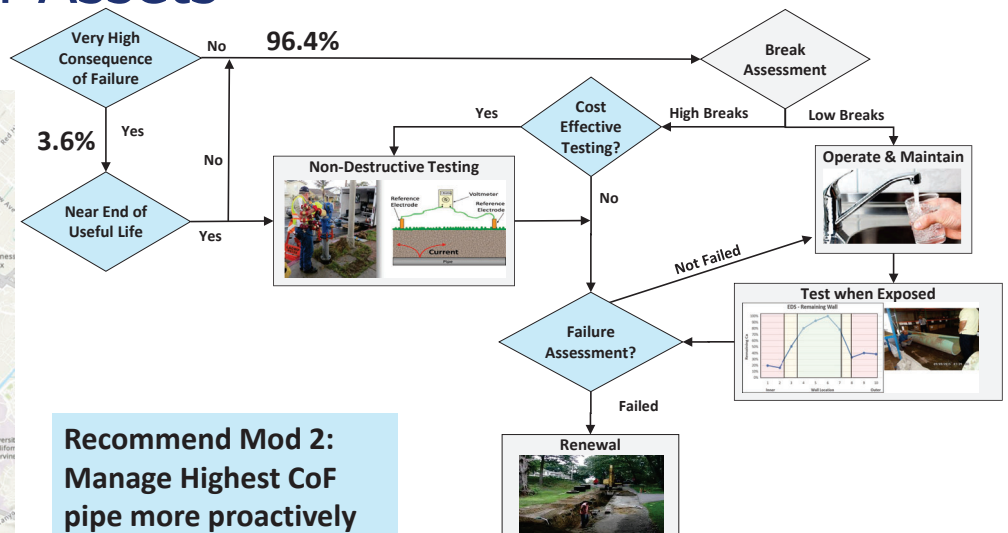
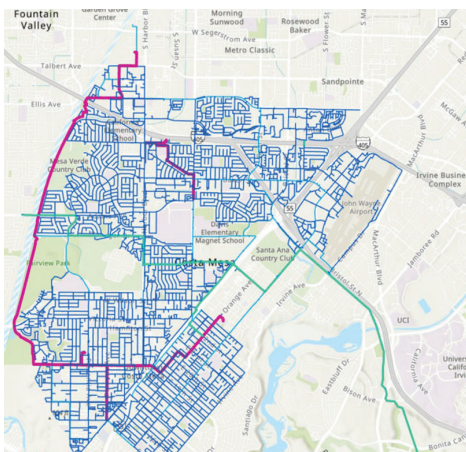
Proposed Updates to Res 1525 Replacement of Assets



**Recommend Mod 2:
Manage Highest CoF
pipe more proactively**

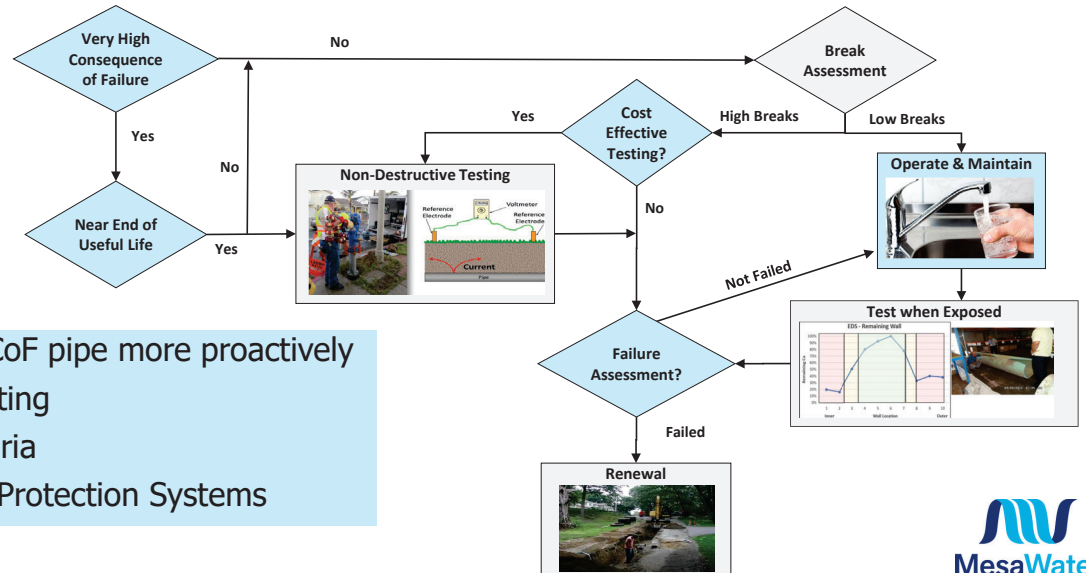


Proposed Updates to Res 1525 Replacement of Assets



**Recommend Mod 2:
Manage Highest CoF
pipe more proactively**

Summary of Proposed Updates to Res 1525 Replacement of Assets



1. Manage Highest CoF pipe more proactively
2. Cost Effective Testing
3. Performance Criteria
4. Maintain Pipeline Protection Systems



THANK YOU!