



STAKEHOLDER ADVISORY GROUP

Board of Water Supply, City & County of
Honolulu
September 17, 2026
Meeting 62

WELCOME & INTRODUCTIONS

DAVE EBERSOLD, FACILITATOR

STAKEHOLDER ADVISORY GROUP MEETING 62

SEPTEMBER 17, 2026



MEETING OBJECTIVES

- Welcome and public comment
- BWS updates
- Pipeline renewal progress and planning
- Accept notes from meeting #61
- WSFC introduction
- Adjourn



ROADMAP TOWARDS WMP ADOPTION



PUBLIC COMMENT ON AGENDA ITEMS





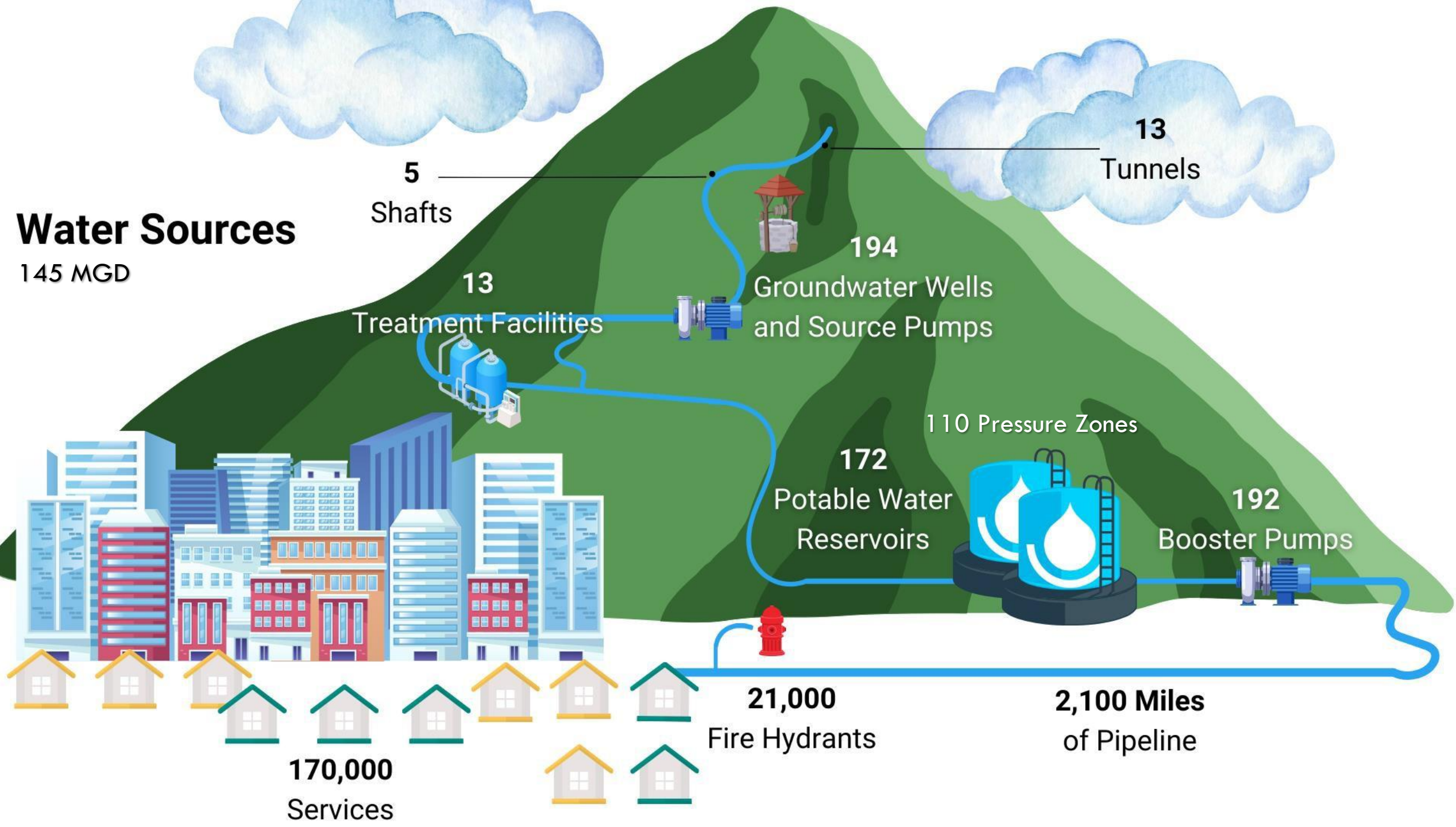
BWS UPDATES

Ernest Lau, PE
Manager and Chief Engineer

boardofwatersupply.com

Water Sources

145 MGD





PIPELINE RENEWAL PROGRESS AND PLANNING

Carl Lundin, PE, PMP

boardofwatersupply.com

AGENDA

- 2016 Planning Methods
- What has happened in the last 10 years?
- How does the future look now?
- Where should we be going?



2016 PLANNING METHODS



THE 2016 WATER MASTER PLAN ESTABLISHED THE DIRECTION

A 30-year plan to keep water service reliable and affordable.

- 1 ASSESS** System condition and performance
- 2 FORECAST** Long-term needs
- 3 PRIORITIZE** Capital improvement projects
- 4 FINANCE** Sustainable investment strategy

Update the evidence, then update the investment plan.



STEP 1: AVERAGE LIFESPAN OF PIPES

1% (21 mi/yr)

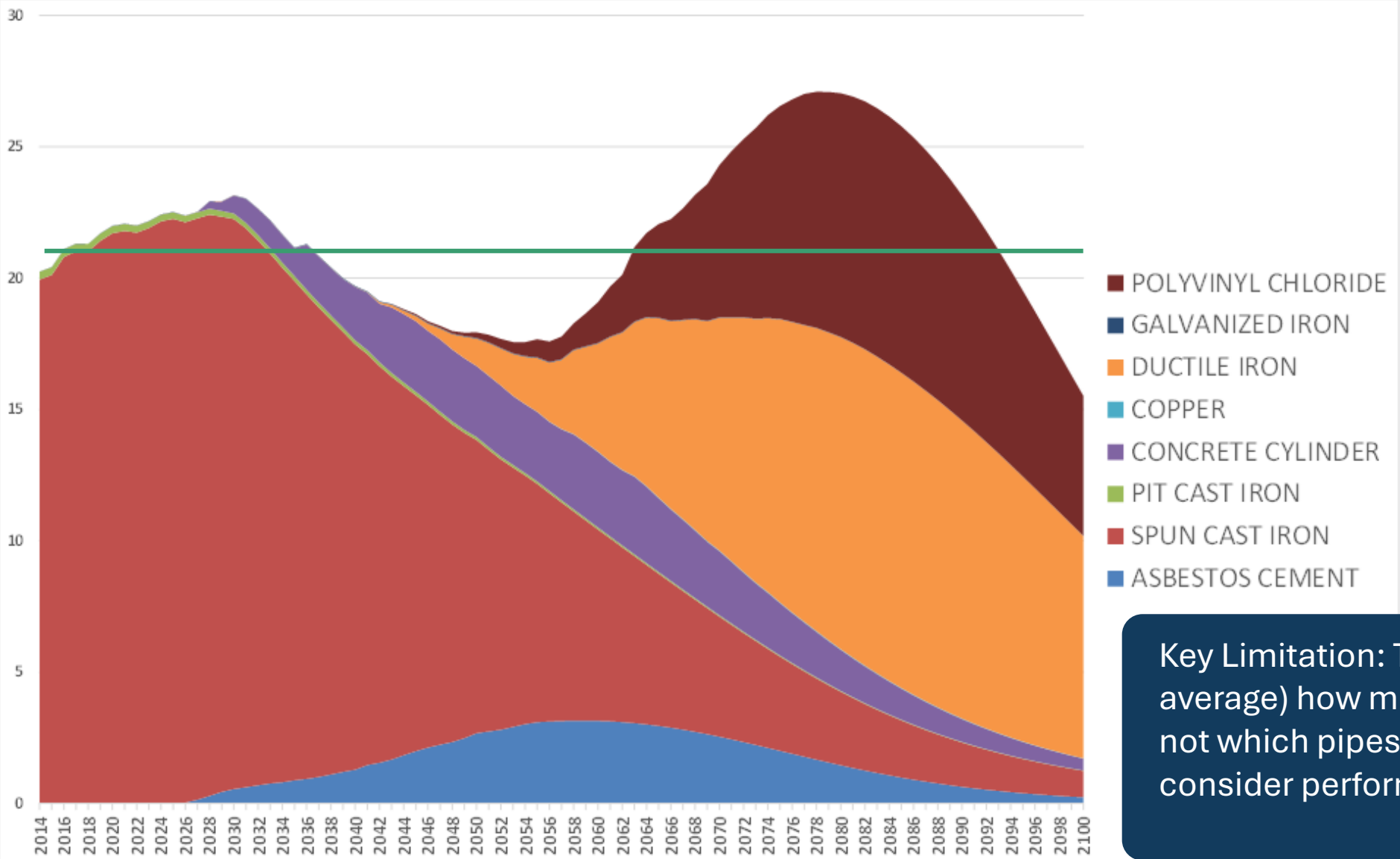
Renewal Target

Assume 100-year lifespan → 1%
replacement

Key Limitation: Gives only a basic idea of level of renewal. Doesn't consider timelines or inventory, or performance history.



STEP 2: CUSTOMIZE FOR PIPE INVENTORY, MATERIAL, AND MATERIAL-SPECIFIC LIFESPAN



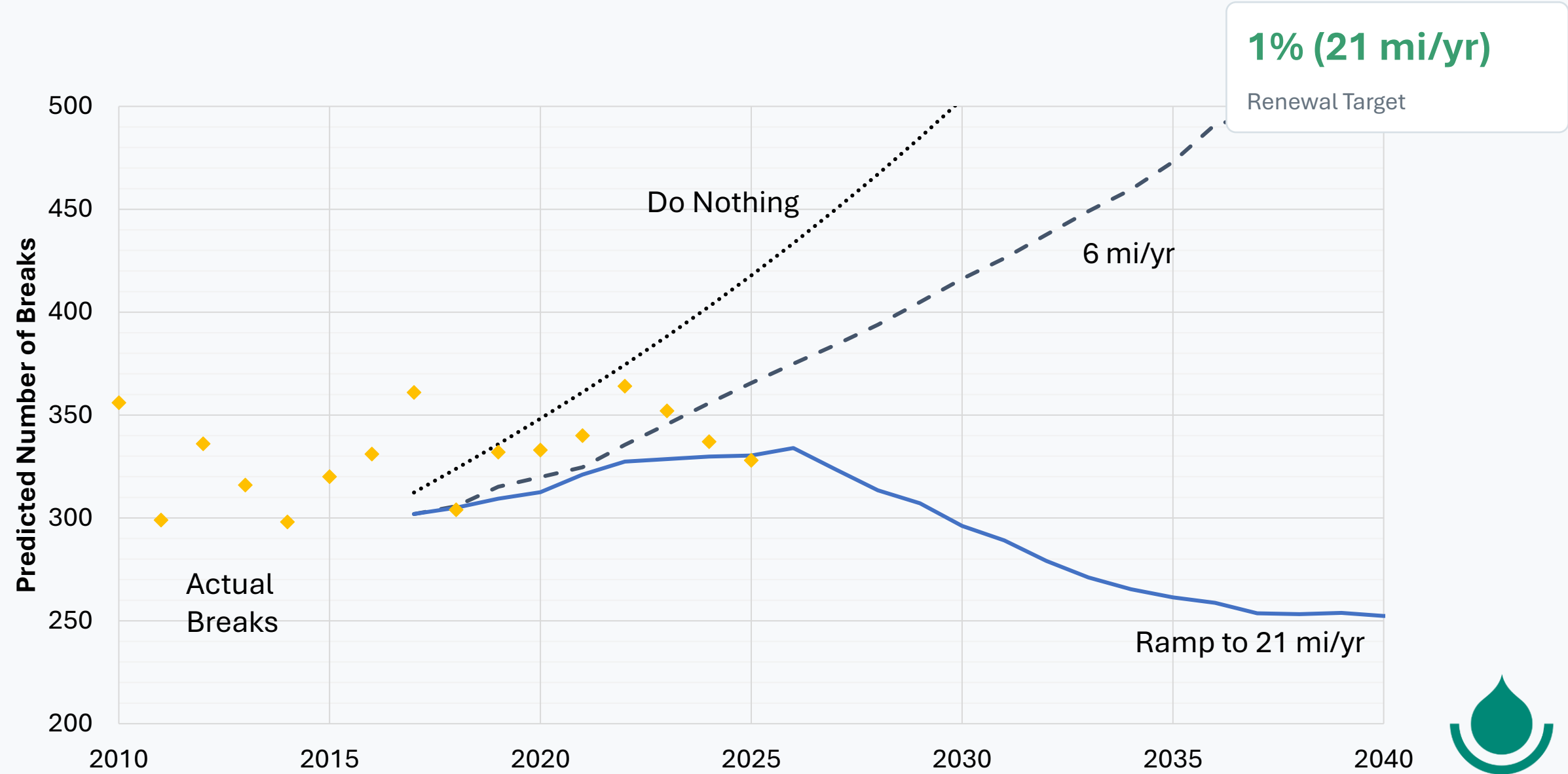
1% (21 mi/yr)

Renewal Target

Key Limitation: Tells us (on average) how much to replace, not which pipes. Doesn't consider performance history.



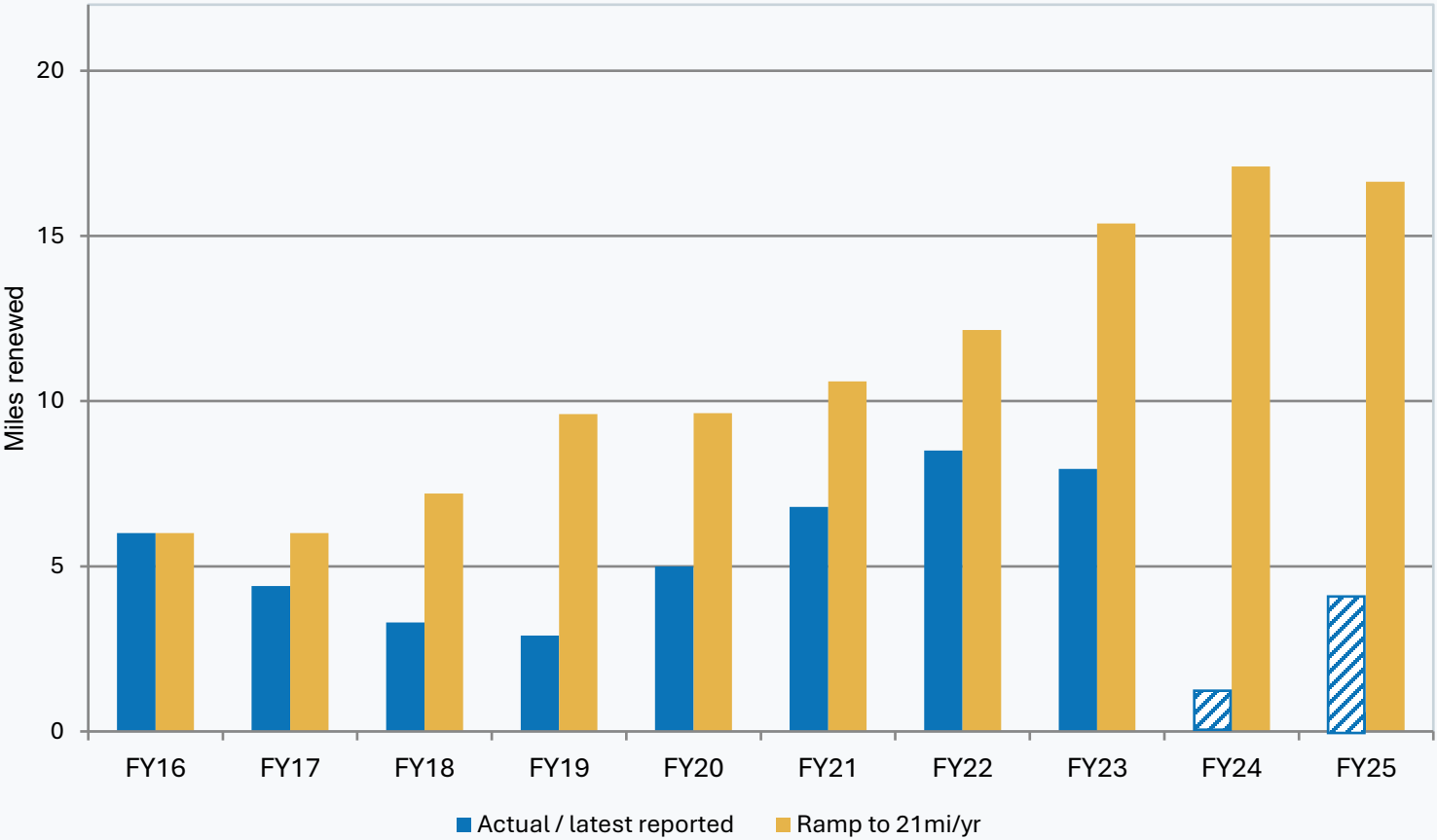
STEP 3: STATISTICAL EVALUATION OF INDIVIDUAL PIPE SEGMENTS



WHAT HAS HAPPENED IN 10 YEARS?



RENEWAL PROGRESS SINCE 2016



What this shows

- Actual delivery rose through FY22, then declined.
- FY24 and FY25 figures are preliminary.



THE 21-MILE ANNUAL RENEWAL TARGET NOT YET MET

WHAT CHANGED

RED HILL DISRUPTION

Fuel spill led to the Hālawā Shaft shutdown.

Focus shifted toward developing new water sources.

WHAT LIMITS DELIVERY

DELIVERY CONSTRAINTS

- BWS throughput
- Contractor capacity
- Permitting

HOW BWS IS RESPONDING

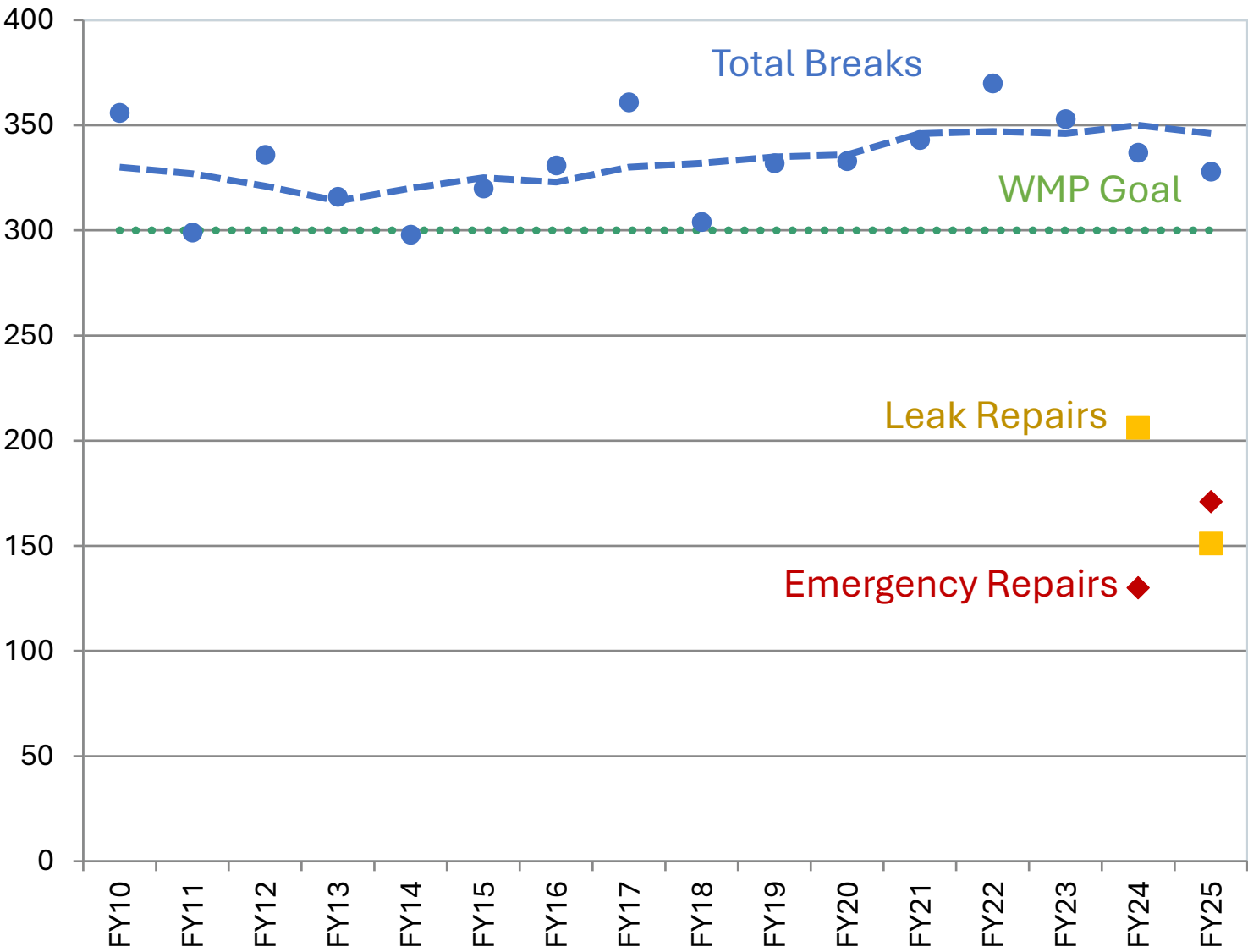
WMP UPDATE

Adding an Implementation Challenges and Solutions section.

Using the WMP update to identify and mitigate the issues slowing delivery.



THE TOTAL NUMBER OF LEAKS AND BREAKS IS ABOVE THE WMP GOAL



Leaks vs Breaks

Since 2024 leaks and breaks are tracked separately.

Leaks: Proactive Repairs
Breaks: Emergency Repairs

Should the Break goal be revised to consider only emergency repairs? What is a reasonable target?

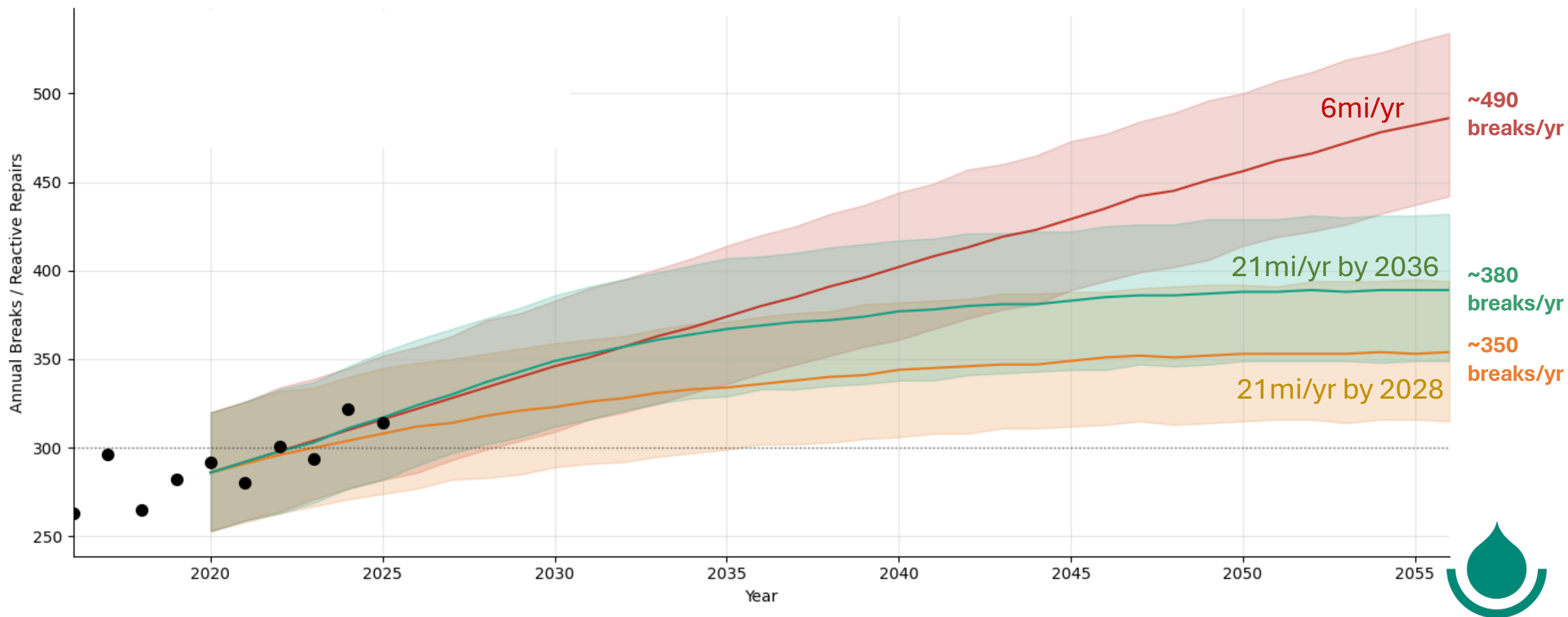


HOW DOES THE FUTURE LOOK NOW?



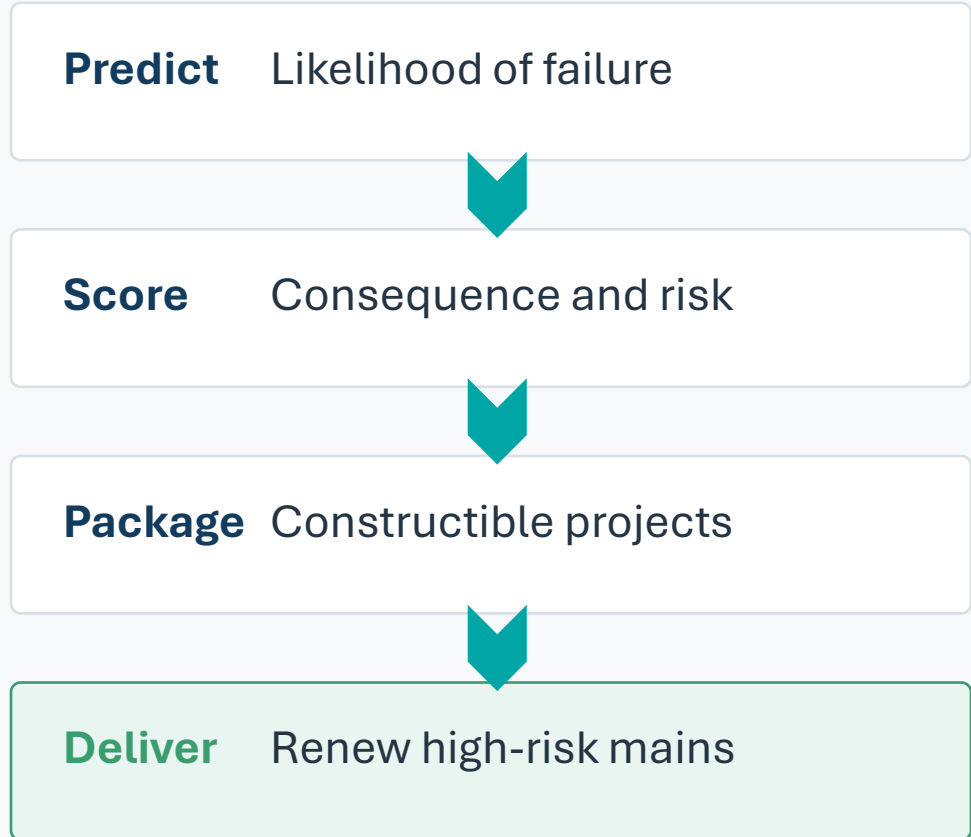
FORECASTING BREAKS WITH REPLACEMENTS ORDERED BY RISK

Modeled annual *leaks and breaks* through 2056 under three replacement scenarios with highest risk pipes replaced first.



MEASURE VALUE THROUGH RISK REMOVED, NOT MILES ALONE

Targeting high-risk mains can improve outcomes even when total renewal miles are constrained.



GOAL: Reduce overall system risk efficiently



RISK REMOVED: AS OF 2021, BWS HAS REMOVED ~1/3RD OF EXTREME RISK PIPES

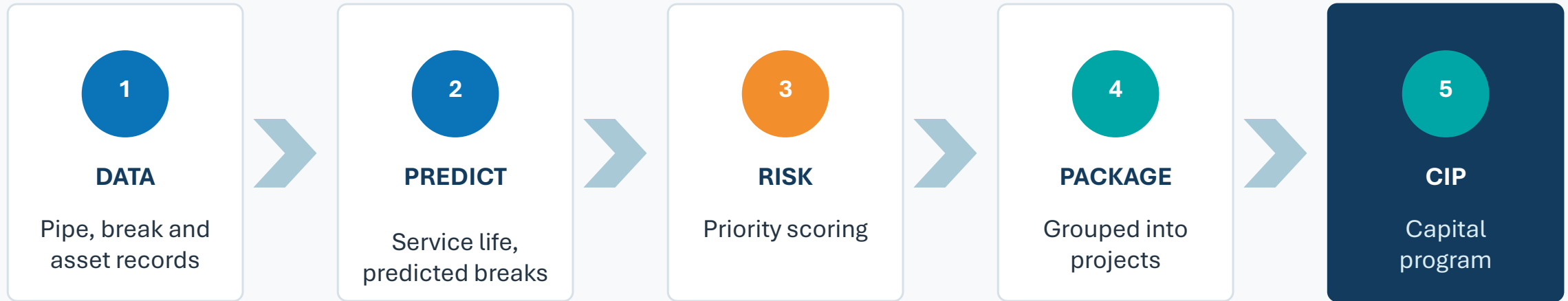
Analysis currently being updated for 2025

Category	Mileage
Pipes with Extreme Risk (2016)	29.6
Addressed via Replacement Project	-8.3
Risk lowered due to refined analysis	-13.1
Risk raised due to refined analysis	+12.0
Outstanding / Remaining Extreme Risk (2021)	20.2



THE DECISION WORKFLOW IS NOW MORE INTEGRATED

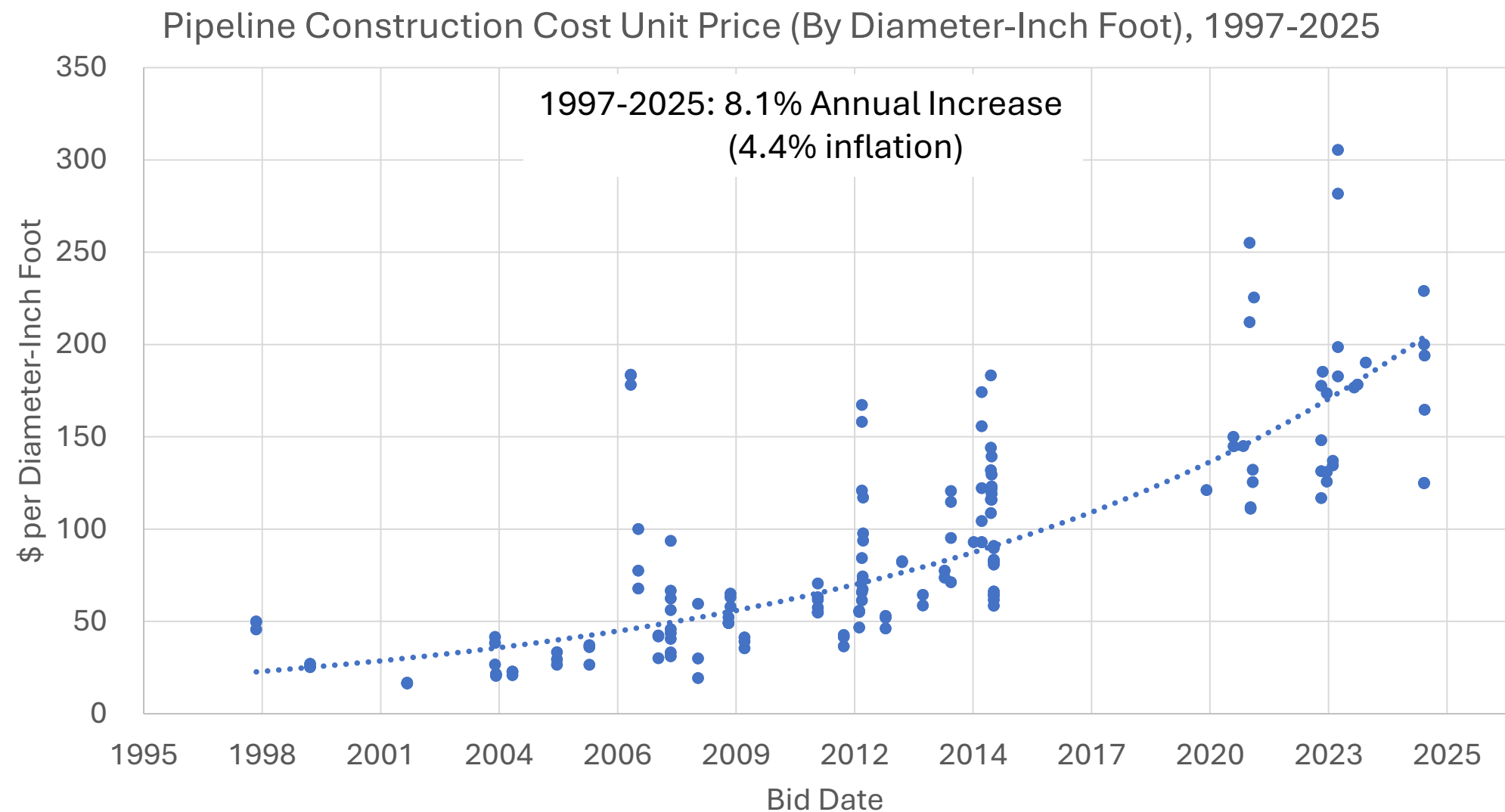
Model results now feed directly into planned construction projects.



Strategic shift Build coordinated capital projects rather than fixing single pipe segments.

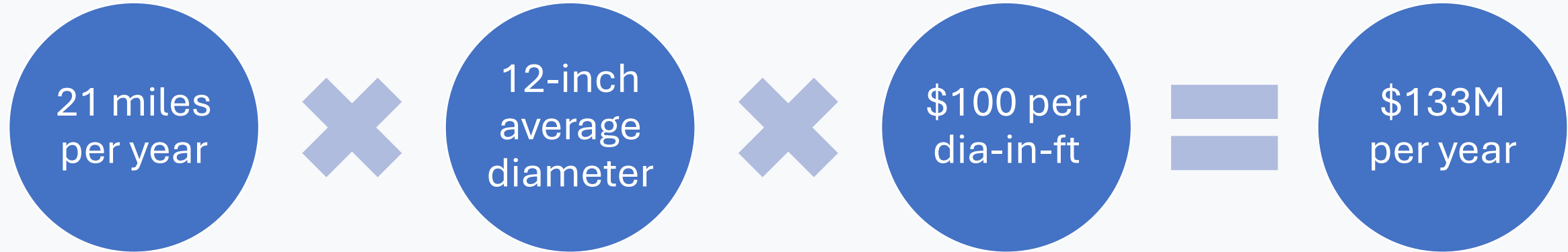


PIPELINE COSTS CONTINUE TO RISE

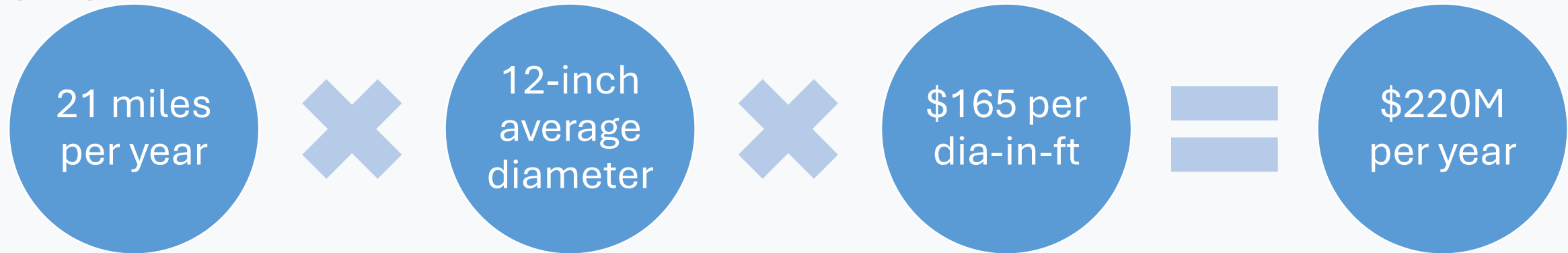


HOW MUCH DOES 1% (21 MILES PER YEAR) REPLACEMENT COST?

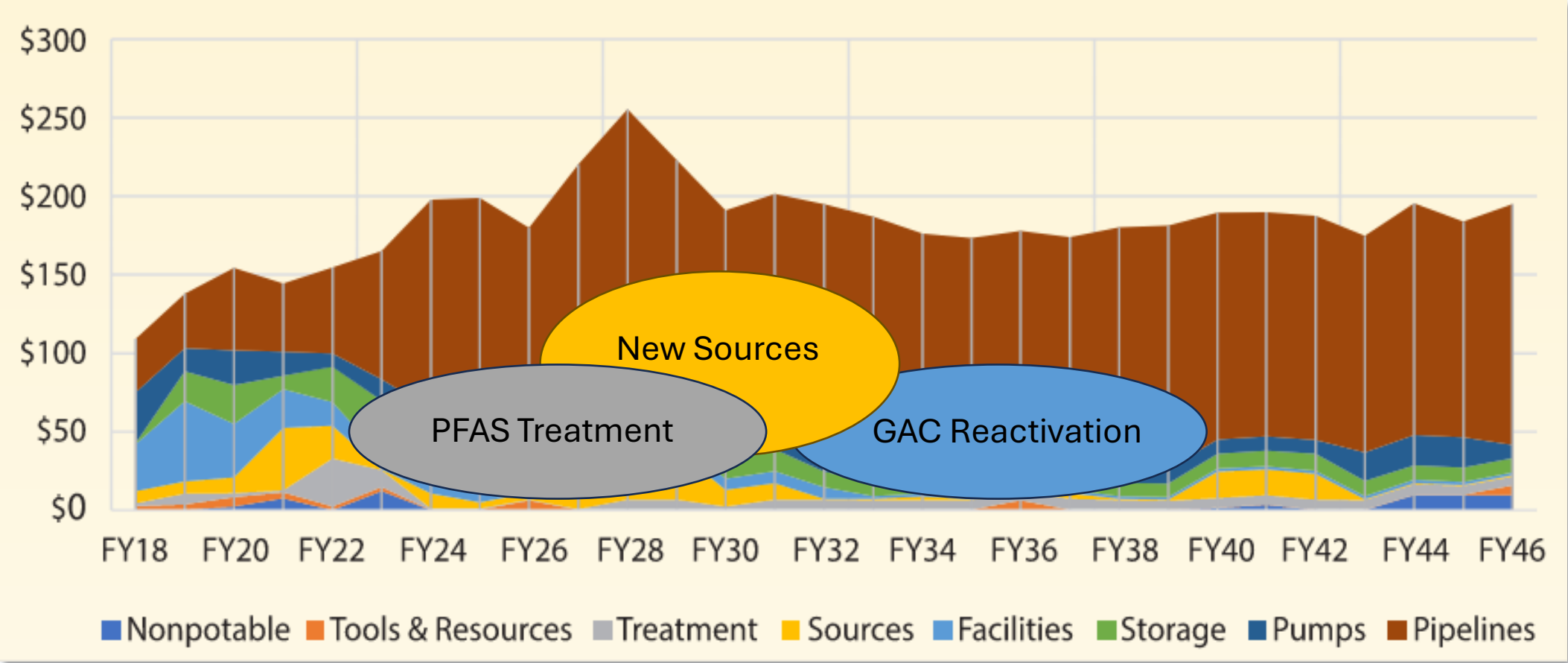
2016



2026



2016 INFRASTRUCTURE INVESTMENT PLAN ANTICIPATED SIGNIFICANT BUDGET TO PIPELINES



2017 dollars – Does not consider inflation



WHERE SHOULD WE BE GOING?



RIGHT-SIZE THE FUTURE PIPELINE PROGRAM AROUND OUTCOMES

A

Maintain current pace

Develop data on proactive leak repairs vs emergency break repairs.

B

Risk stabilization

Find the rate that holds breaks to some acceptable level.

C

1% replacement

Use 21 mi/yr as the long-term goal.

D

Accelerated reduction

Invest more in the highest-risk pipes.

Not mutually-exclusive. Could follow different strategies at different time horizons

A horizontal timeline bar chart illustrating a sequence of strategies over time. The x-axis is labeled 'Year' and ranges from 2025 to 2055, with major ticks every 5 years. The bar is divided into four colored segments: a grey segment from 2025 to 2032, a blue segment from 2032 to 2040, a green segment from 2040 to 2045, and an orange segment from 2045 to 2055.

Year	Strategy
2025 - 2032	Maintain current pace (A)
2032 - 2040	Risk stabilization (B)
2040 - 2045	Accelerated reduction (D)
2045 - 2055	1% replacement (C)

Example for discussion purposes only

A stylized teal logo consisting of a water drop shape with a circular swoosh underneath it.

DISCUSSION





QUESTIONS?





ACCEPT MEETING NOTES FROM MEETING 61

David Ebersold
Facilitator

www.boardofwatersupply.com



WATER SYSTEM FACILITIES CHARGE

David Ebersold

boardofwatersupply.com

YOUR INPUT NEEDED FOR WSFC POLICY AND IMPLEMENTATION CONSIDERATIONS

- **Should growth-related capital projects be paid for entirely by the development creating the growth?**
Why or why not?
- **What types of developments, if any, should be discounted or exempt?**
What would be the goal of those discounts or exemptions?
- **Should a particular customer class be discounted or exempt?**
For example, agricultural customers.
- **Should changes to the charge be phased in over a period of years?**



WATER SYSTEM FACILITIES CHARGE (WSFC) IS:

A one-time charge based on how much water capacity a property needs

Applies to

New development that needs water from the Board of Water Supply (BWS) system

Added capacity for an existing water service

Does not apply to

Developments that paid for and installed an entire water system

The portion a developer installed, such as source, transmission or storage



WSFC PURPOSE



Pay for growth

Fund growth-related capacity expansions



Repay existing customers

Fairly reimburse existing rate payers for their investment in oversizing infrastructure to serve future customers



BWS'S AUTHORIZATION FOR WSFC

State law lets BWS charge this fee

Hawaii Revised Statutes, Chapter 46, Sections 141–148

Section 46-142(a)(2)

BWS may charge an impact fee on development that needs water supply or service

Section 46-143(d)

The fee can cover only that development's fair share of the cost it creates

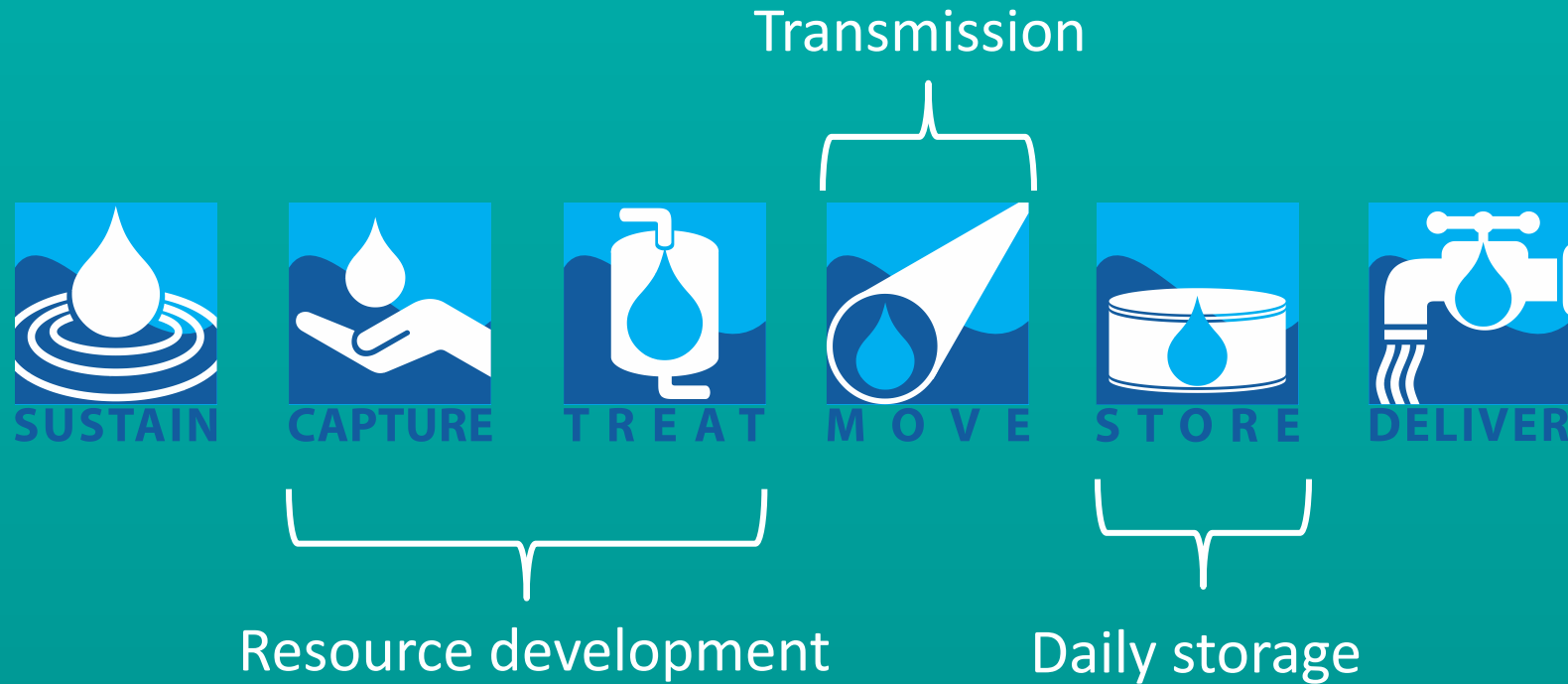
Section 46-146

The fee is set and paid in full before a grading or building permit is issued

BWS Rules and Regulations, Chapter I, Section 1-102 sets who pays the WSFC and lets the Department negotiate a charge when appropriate



WSFC IS FOR THE BACKBONE SYSTEM ONLY (GENERAL USE FACILITIES)



[AWWA M1 Manual]



WHY UPDATE THE WSFC NOW?

1993



Current charges adopted in 1993

Unchanged for more than 30 years

Today

- Water use patterns have changed
- Growth needs have changed
- Available capacities in existing system have changed
- Costs have increased
- Technical analysis needs to be updated
- WSFC revenues do not cover costs of growth-related projects



WSFC SHORTFALL: ABOUT \$30 MILLION PER YEAR

THE GAP
\$30M
short every year



\$10.3 million per year

WSFC money collected, 2015–2020
average



\$41.8 million per year

Projected annual cost of growth-related
improvements, 2021–2026 average



WHO PAYS THE ANNUAL \$30 MILLION GAP? ALL RATE PAYERS DO.

Annual cost of growth-related improvements: \$41.8 million/year (2021-2026 average)

~\$10 million
WSFC from new
development

The ~\$30 million gap
Not funded by the WSFC



Subsidized by ALL water rate payers

Every dollar of growth cost the WSFC does not collect is recovered through water rates paid by all customers.

FIVE BASIC STEPS TO UPDATING THE WSFC

1

Determine the value what is already in place

Determine the existing available capacity in the core “backbone system” and what it is worth (buy-in)

2

Identify what projects will be required for growth

From the Water Master Plan and the 10-year Capital Improvement Program, identify planned additions and upgrades to meet growth, and their cost (incremental)

3

Estimate each customer type’s share

Estimate how much capacity each customer type needs, measured in gallons per day per fixture unit

4

Calculate the updated charge

Translate those capacity needs and costs into updated WSFC amounts

5

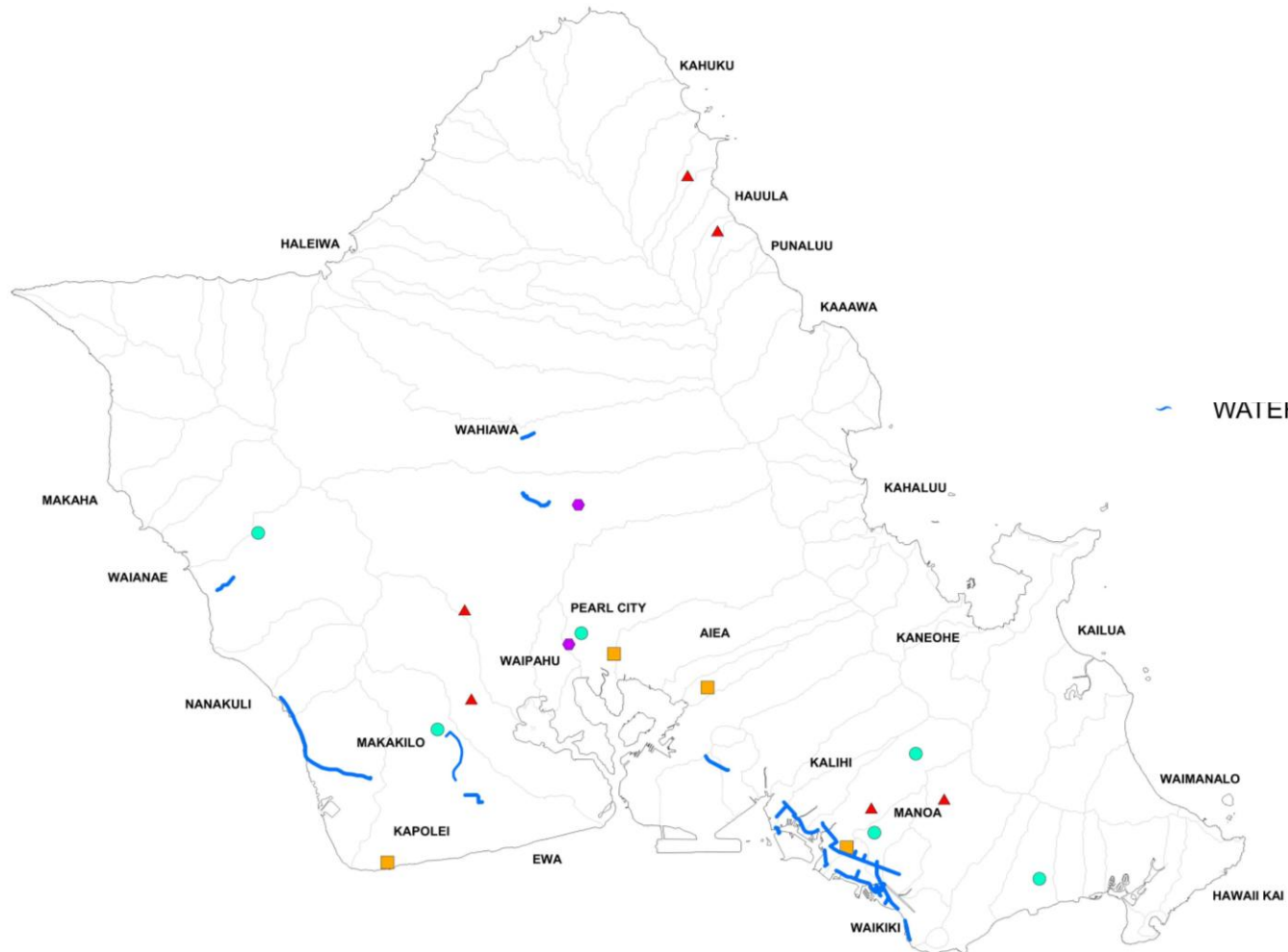
Evaluate policy and implementation issues

Consider discounts, exemptions, and how any changes would be phased in



EXAMPLE GROWTH PROJECTS THE WSFC PAYS FOR

Growth-related projects scheduled for construction over the next six years
FY2021-2026 6-Year CIP Capacity Expansion Projects



What is being built

Projects span the whole system, from source to storage to delivery.

- Pumps
- Reservoirs
- Facility
- Treatment
- Water mains

Each project adds capacity for future customers, island wide.



YOUR INPUT NEEDED FOR WSFC POLICY AND IMPLEMENTATION CONSIDERATIONS

- **Should growth-related capital projects be paid for entirely by the projects creating the growth?**
Why or why not?
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QUESTIONS AND DISCUSSION





Mahalo!

Providing safe, dependable, and affordable
drinking water, now and into the future.

UPCOMING STAKEHOLDER MEETINGS THROUGH 2027

Type	Date	Topic	Stakeholder Input
Virtual	17-Sep-26	Pipeline/WSFC Intro	Input on Pipeline Target
In-Person	15-Oct-26	Draft Reports and Policy Feedback: WMP, CIP, LRFP, WSFC	Feedback on overall plan and policy recommendations to BWS Board
Virtual	19-Nov-26	Feedback and Discussion	Feedback on overall plan and policy recommendations to BWS Board
In-Person	21-Jan-27	Recommendations to the Board: WMP, CIP, LRFP, WSFC	Feedback on overall plan and policy recommendations to BWS Board
In-Person	15-Apr-27	Draft WMP Final Review	Concurrence with Board-approved Draft WMP
In-Person	15-Jul-27	Final WMP and Summaries (pending Board Adoption)	Recommendation for Board adoption of Final WMP





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