



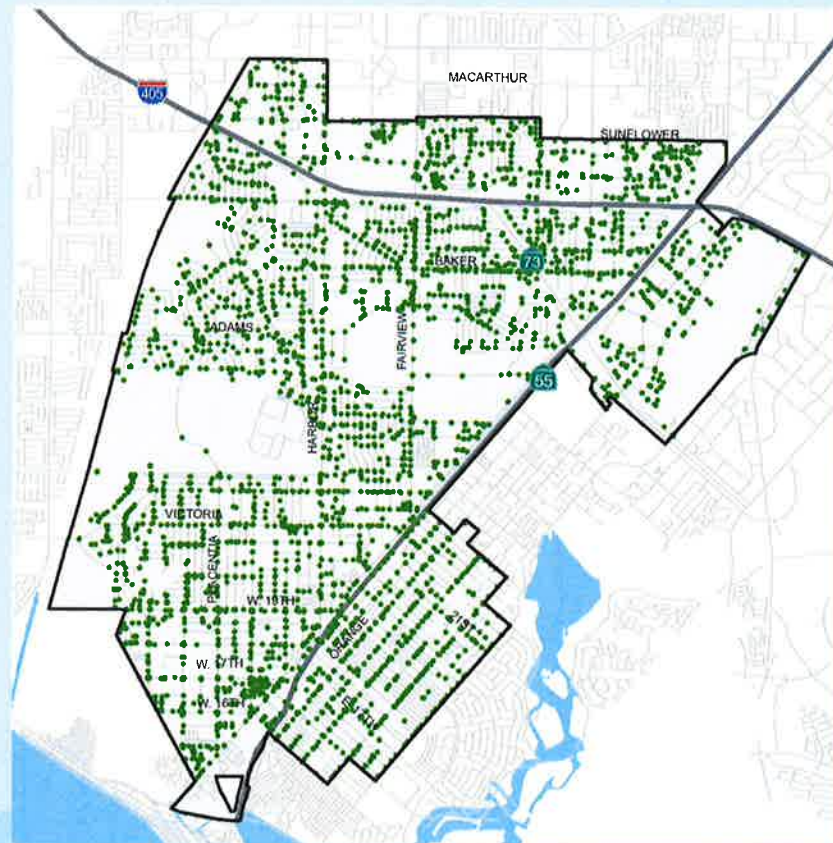
Mainline Valve Spacing Policy

August 25, 2020



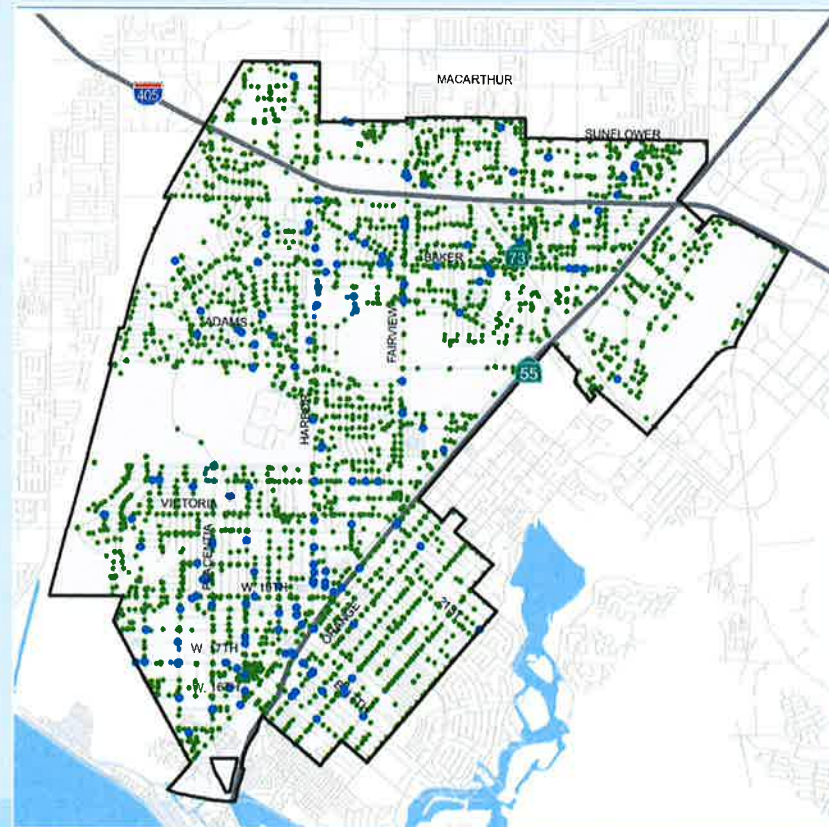
Background

- 4,400 Mainline valves
 - Facilitate maintenance and repairs
 - Exercised every two years
 - Replaced at end of useful life
- Installed over decades
- Prior to existence of industry standard
- Disproportionately affected areas



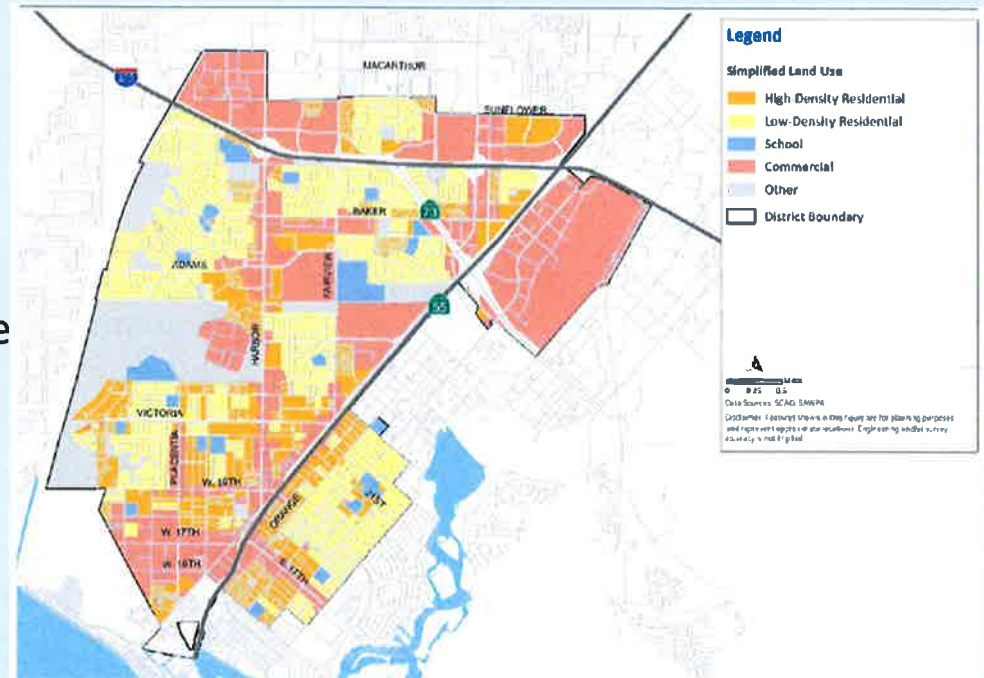
Background

- Identified 168 valves that need replacement.
- Perform a valve optimization assessment.
- Develop a Mainline Valve Spacing Policy
 - Equitable approach
 - Perpetual agency philosophy

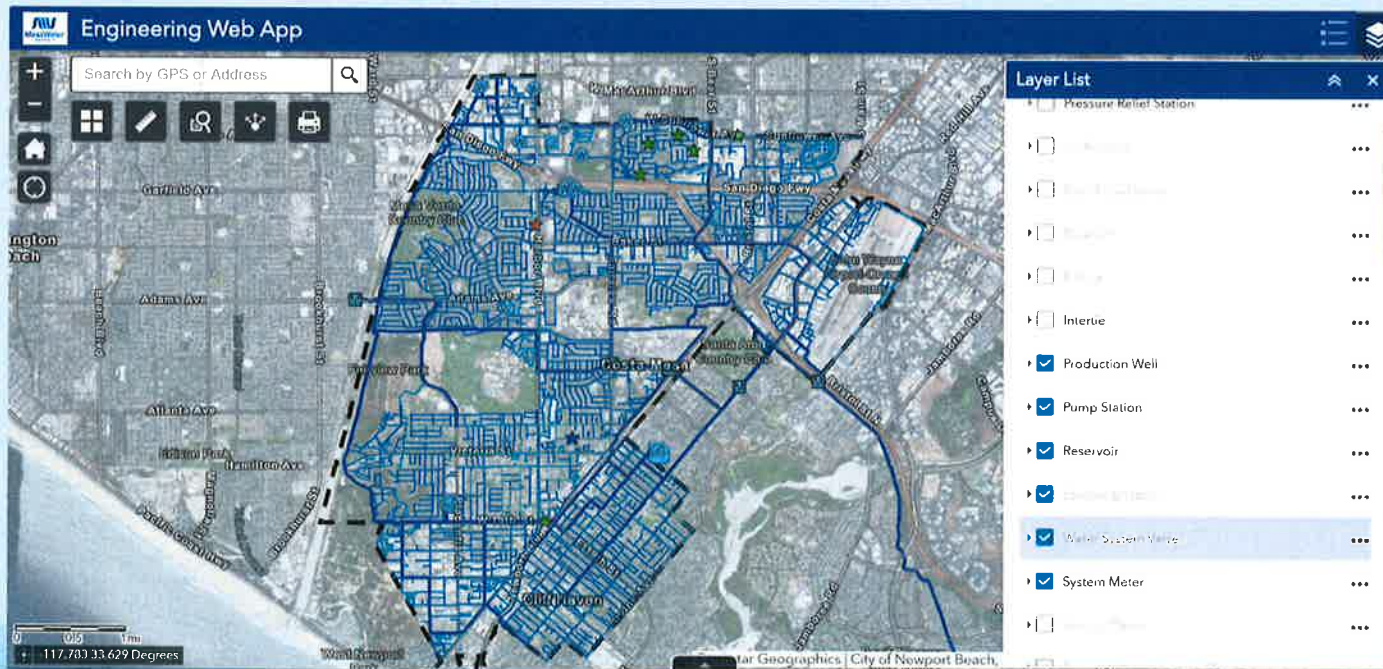


Valve Spacing Policy Criteria

- AWWA great place to start
 - Residential Spacing: 800 feet
 - Commercial Spacing: 500 feet
- Level of Service:
 - Low Density Res. (LDR): 80 People
 - High Density Res. (HDR): 200 People
 - Schools: 500 feet + 3-valve
- Ts – 2 valves minimum (conditions)
- Crosses – 3 valves (conditions)



The latest GIS tools were used to evaluate the mainline valves



LDR – Example (<800 ft; < 80 population)



Line	Feet	Pop
1	513	43
2	152	13
Total	665	56

LDR – Example (<800 ft; < 80 population)



HDR – Example (<800 ft; <200 population)



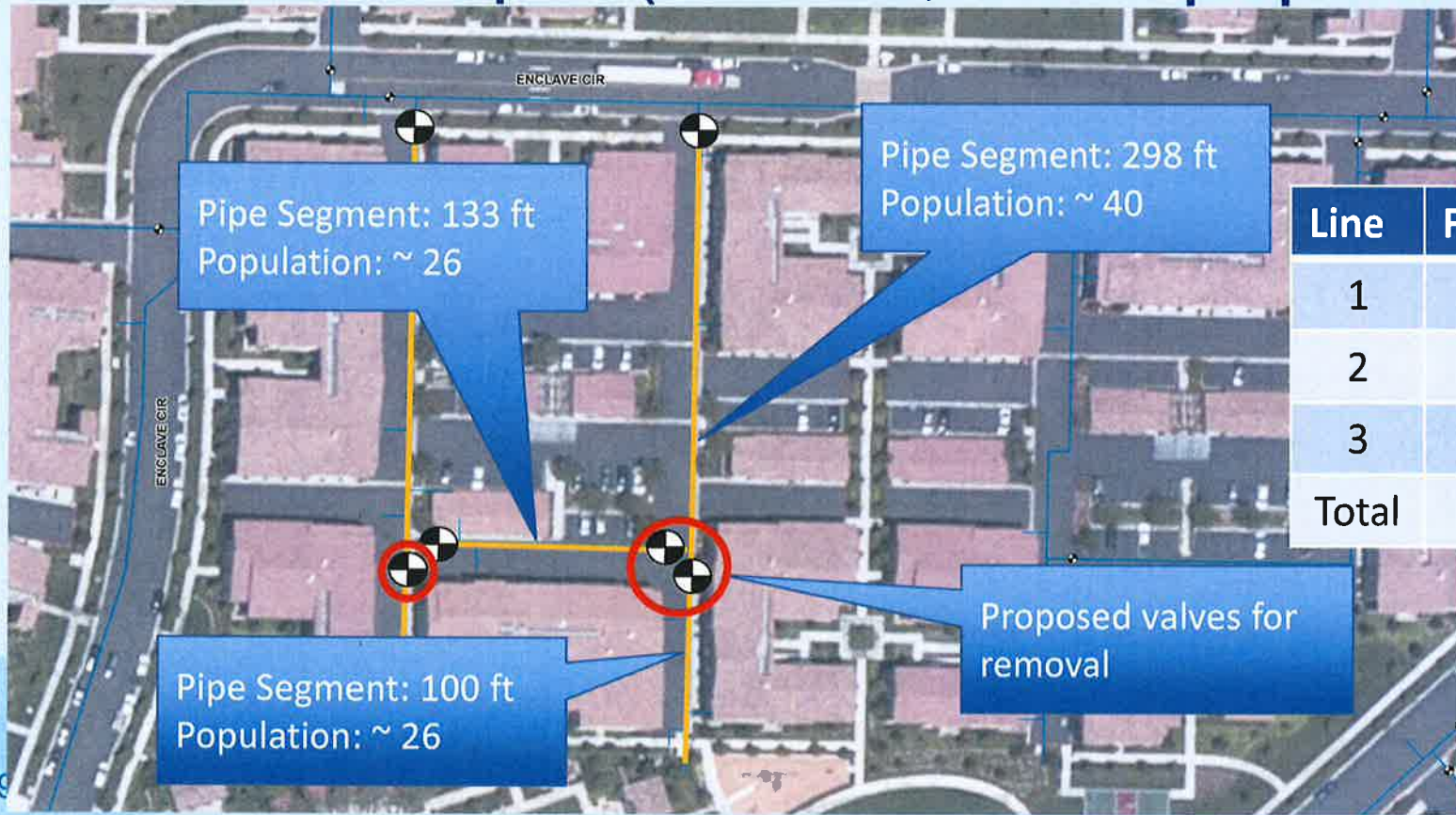
Pipe Segment: 272 ft
Population: ~40

Pipe Segment: 95 ft
Population: ~13

Proposed valve for
removal

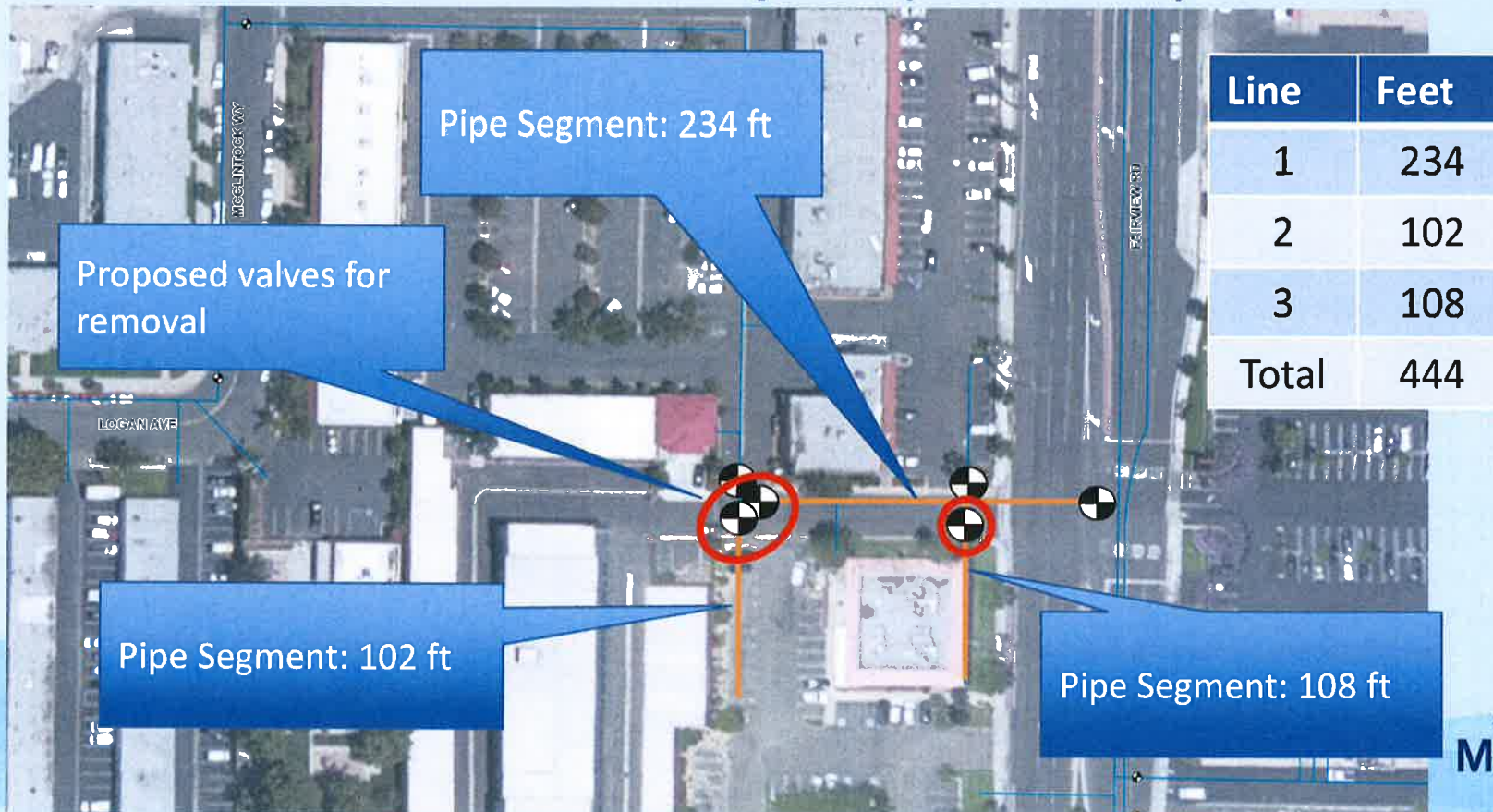
Line	Feet	Pop
1	272	40
2	95	13
Total	367	53

HDR – Example (<800 ft; <200 population)



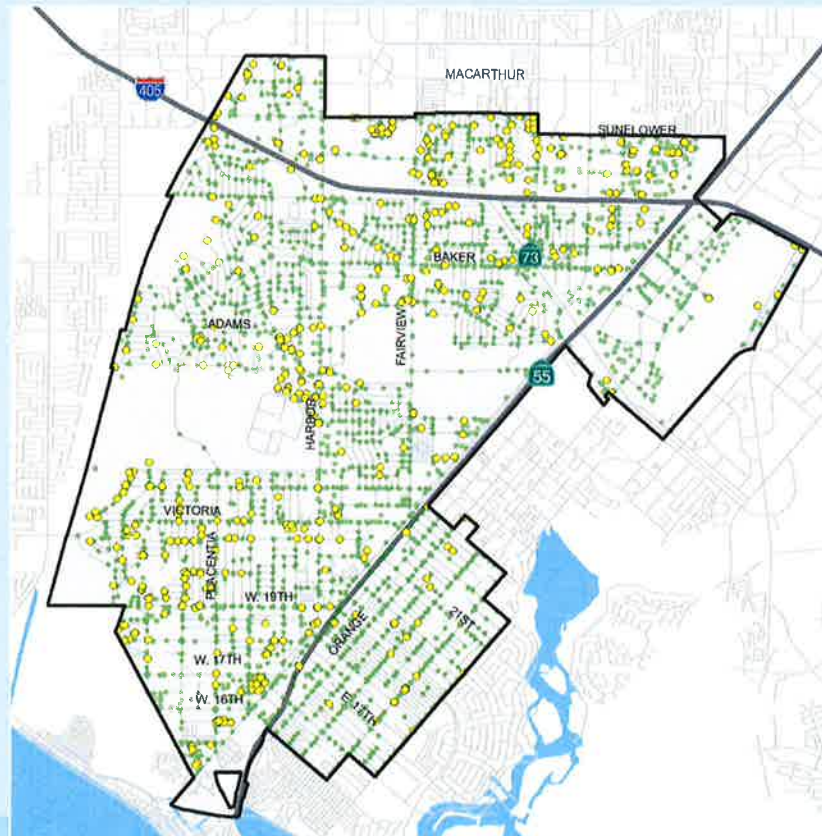
Line	Feet	Pop
1	298	40
2	100	26
3	133	26
Total	531	92

Commercial – Example (<500 ft)



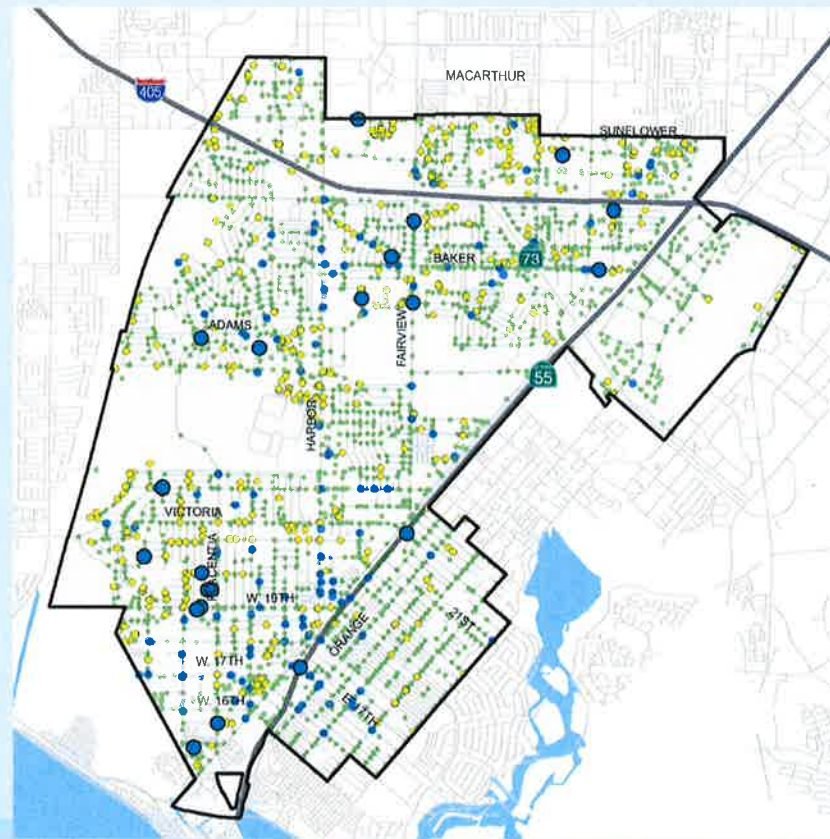
Results show 511 valves can be removed, 23 are part of CIPR program

- 23 of the 168 valves identified for replacement in CIPR can be abandoned.



Results show 511 valves can be removed, 23 are part of CIPR program

- 23 of the 168 valves identified for replacement in CIPR can be abandoned.

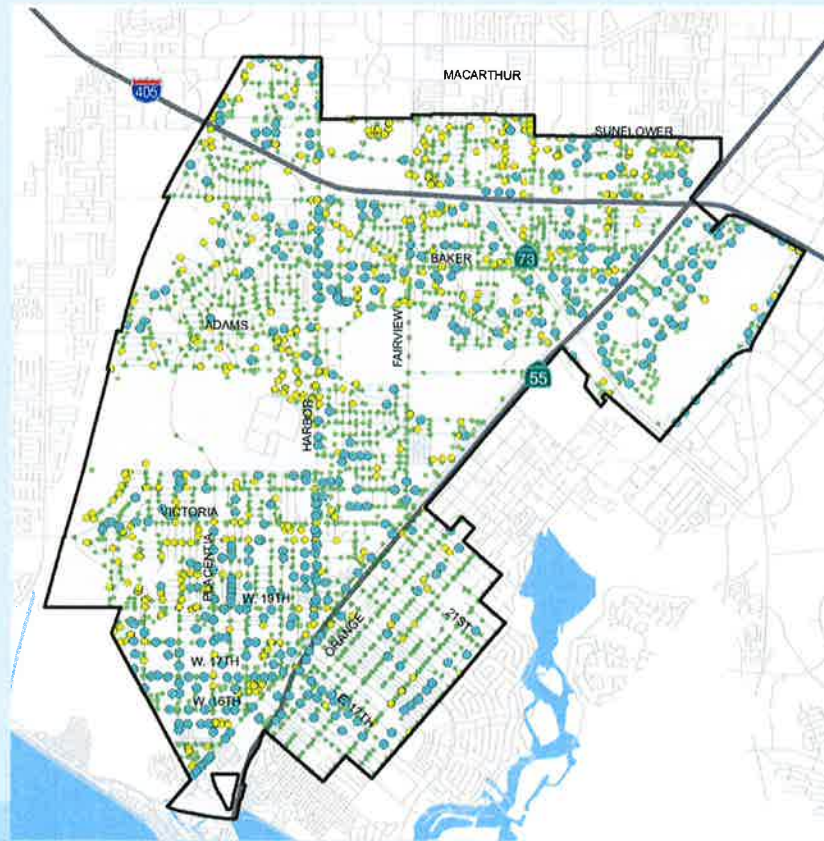


Financial Impact

	Simple Replacement (\$6,500/valve)	Complex Replacement (\$20,000/valve)	Total Valves Abandoned	Cost Savings
CIPR Program Valves to Abandon	14	9	23	\$270,000
System-wide Valves to Abandon	421	67	488	\$4,080,000
Total	435	76	511	\$4,350,000

Policy does result in additional valves (422), but...

- Will be added over time
- New valves replaced through the Routine Operations Capital Replacement Program, or
- As pipelines reach the end of their useful life and are replaced, or
- Existing valves reach the end of their useful life



Recommendation

- Recommend that the Board of Directors adopt Resolution No. XXXX Establishing a Mainline Valve Spacing Policy.