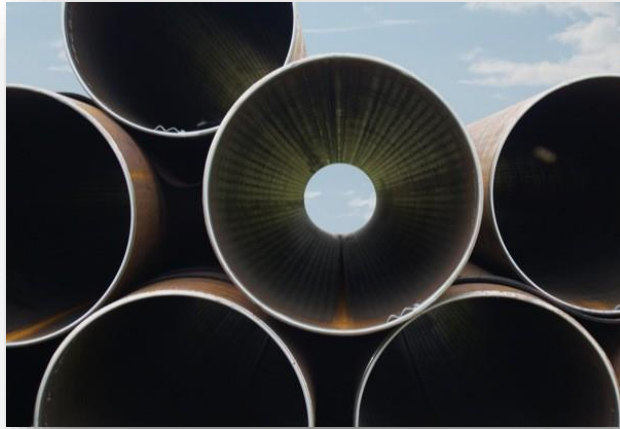




# Asset Management Principles

BPU Study Session  
February 16, 2017



OUR FUTURE IN EVERY DROP



# Outline

- What is an Asset?
- Water Department Assets
- Why Asset Management?
- What is Asset Management?
- How do we get from Asset Management to Project Development?
- Questions?

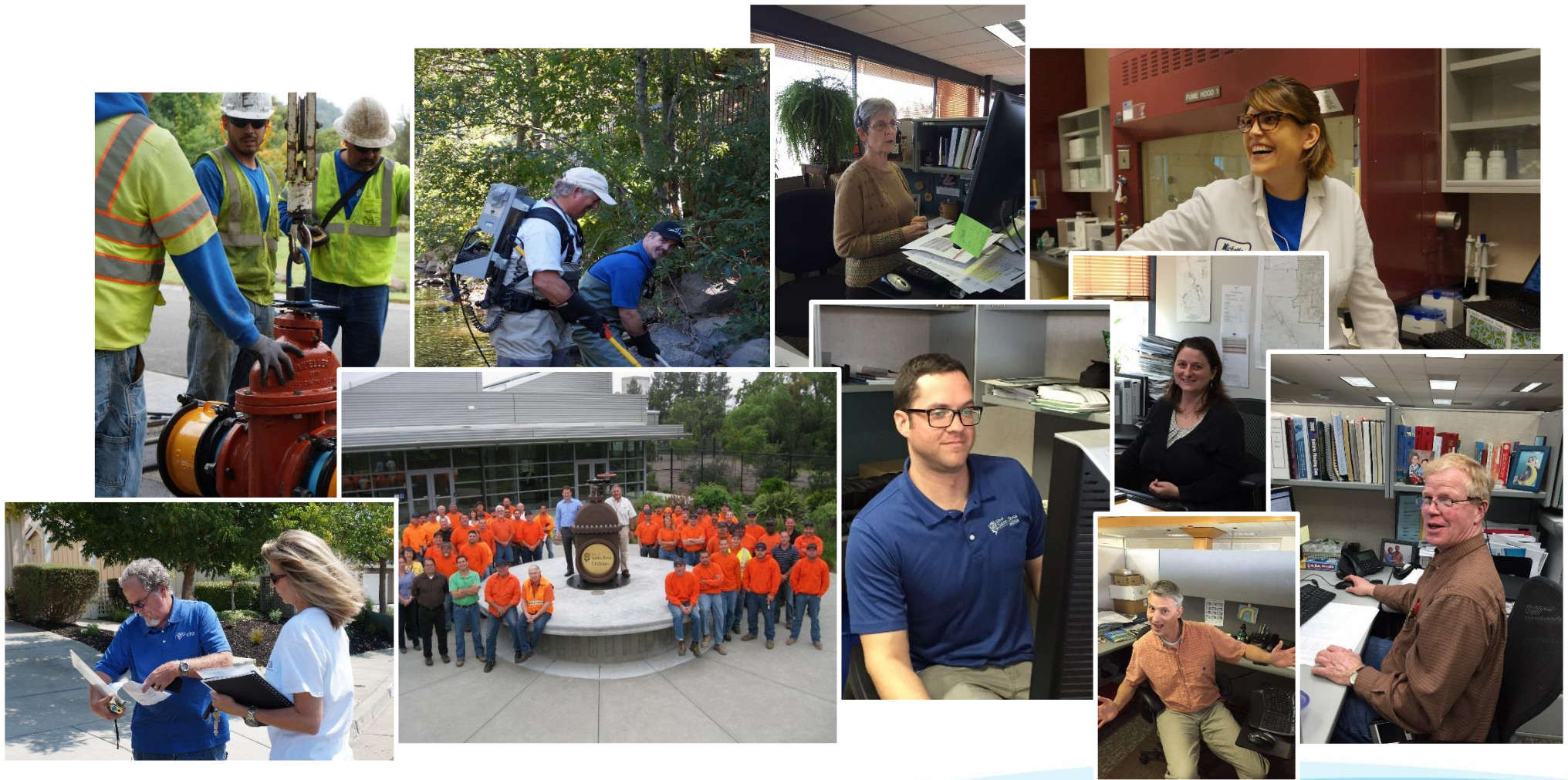
# What is an Asset?

**as·set**—noun

1. *a useful or valuable thing, person, or quality*



# Water Department's Biggest Asset



# Local Water Assets

- 619 Miles of Transmission and Distribution Mains
- 28,824 Water Valves
- 6,299 Hydrants
- 23 Reservoirs
- 20 Booster Stations



# Local Sewer Assets

- 591 Miles of Trunks and Collection Mains
- 17 Sewage Lift Stations
- 12,216 Sewer Manholes



# Increasing Challenges

- Regulatory compliance
- Aging assets
- Customer demands
- Security
- Financial constraints
- Loss of institutional knowledge
- Climate change
- Emergency response
- Resiliency / Redundancy



# Why Asset Management?

- Programmatic Approach
- No Surprises
- Right Decisions
- Right Time



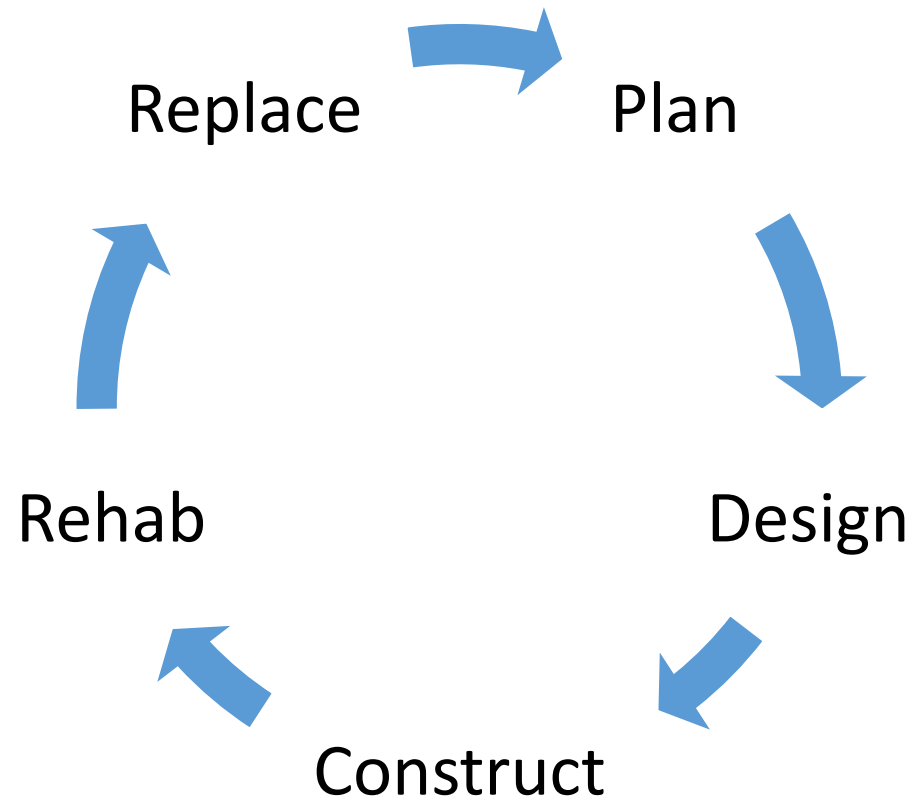
# Why Asset Management?

- Which **capital projects** to undertake, when, and why?
- What asset information should our **operations and maintenance** crews be tracking and why?
- When to **repair**, when to **refurbish**, and when to **replace**?
- To give our **customers** the **best value**

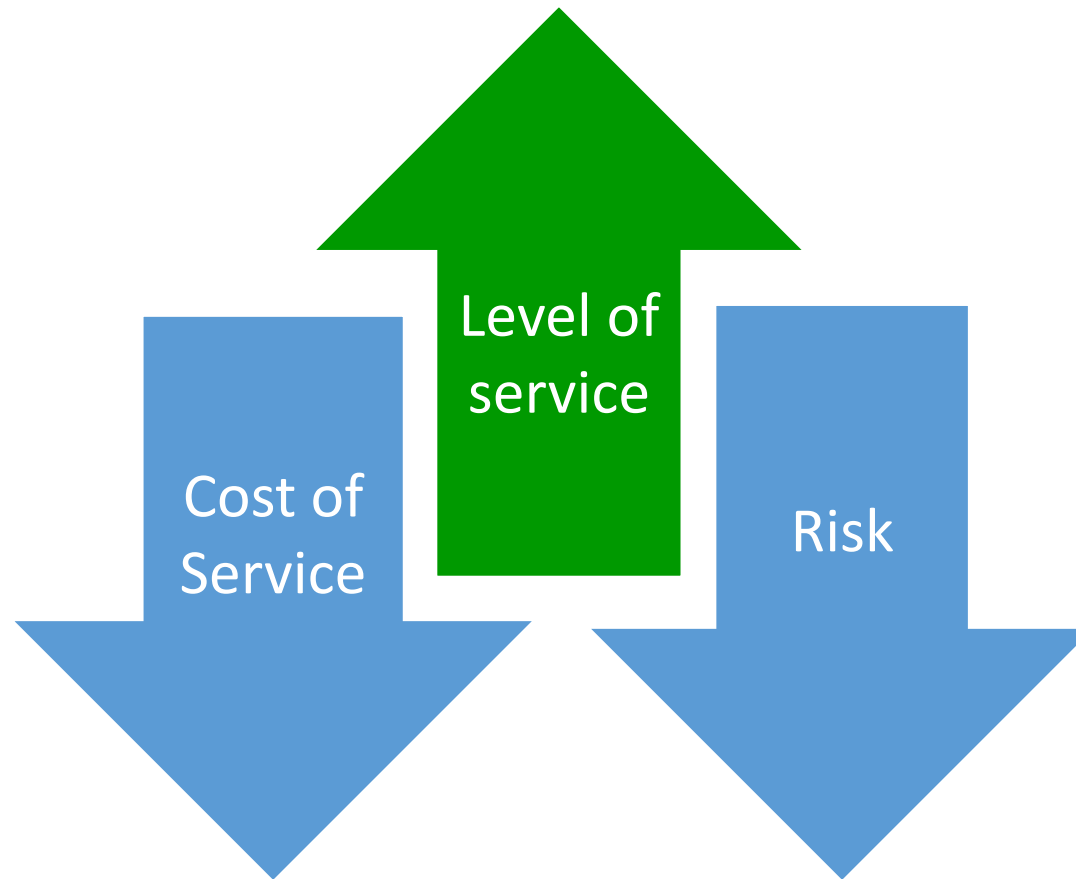


# What is Asset Management?

- Not software
- Management Commitment
- Long Term Financial plan
- Project Development
- Based on life cycle of assets
- Software used to analyze and track assets



# Comprehensive Asset Management



# How do we get from AM to Project Development?

- Comprehensive Asset Management
  - Data
    - Asset Inventory
    - Maintenance Management System
  - Standardized Criteria
- Leads To Data Driven Decisions
  - Project Development
  - 5 Year CIP Program
  - O&M Budgets

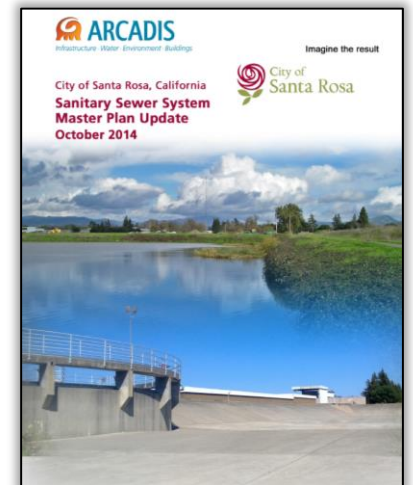
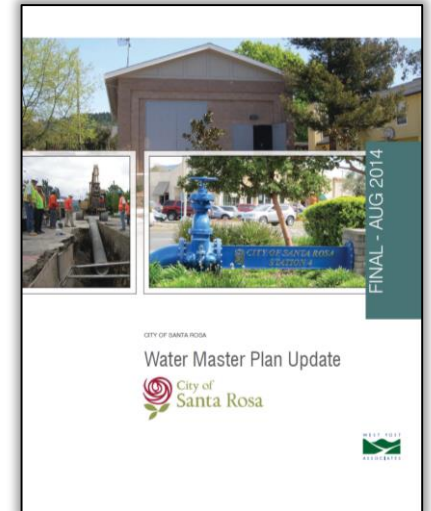
# Project Development Process

1. Review Master Plans
2. Update asset scores
3. Assess risks
4. Establish new scores
5. Rank priorities
6. Reality check
7. Develop CIP based on funding



# Standardized Criteria

- Regulatory Requirements
- Legal Mandates
- Condition Assessment
- Operations Maintenance History
- General Plan and Master Plans
- Public Input
- Street Rehabilitation and Maintenance
- Proximity to Other Assets



# Asset Scoring Process

## CONDITION

- Remaining Service Life
- CCTV-Pipe Condition
- Number of repair work orders
- Number of schedule maint

## PERFORMANCE

- Hydraulic Capacity
- Flush Score
- Slope

## RISK

- Seismic Activity
- Fire Flow Deficiencies
- Creeks
- Hwy Right of Way
- RR XINGS

# Asset Scoring Process

CONDITION

+

PERFORMANCE

+

RISK

=

TOTAL SCORE

# Condition Assessment

- CCTV
  - assess condition of sewer pipes
  - identifies deteriorated sewer pipes that need replacement



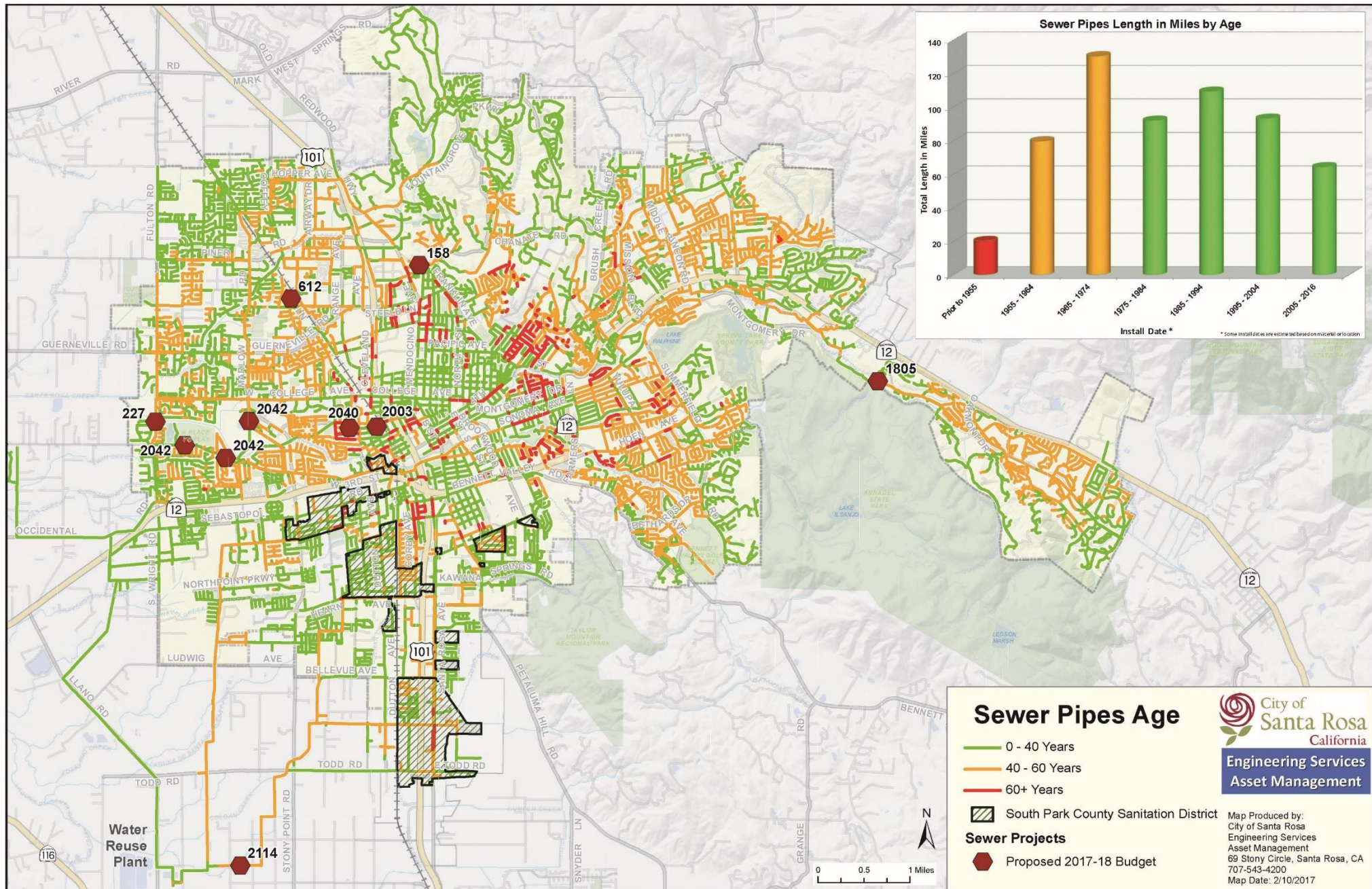
# Residual Life

## Remaining Service Life

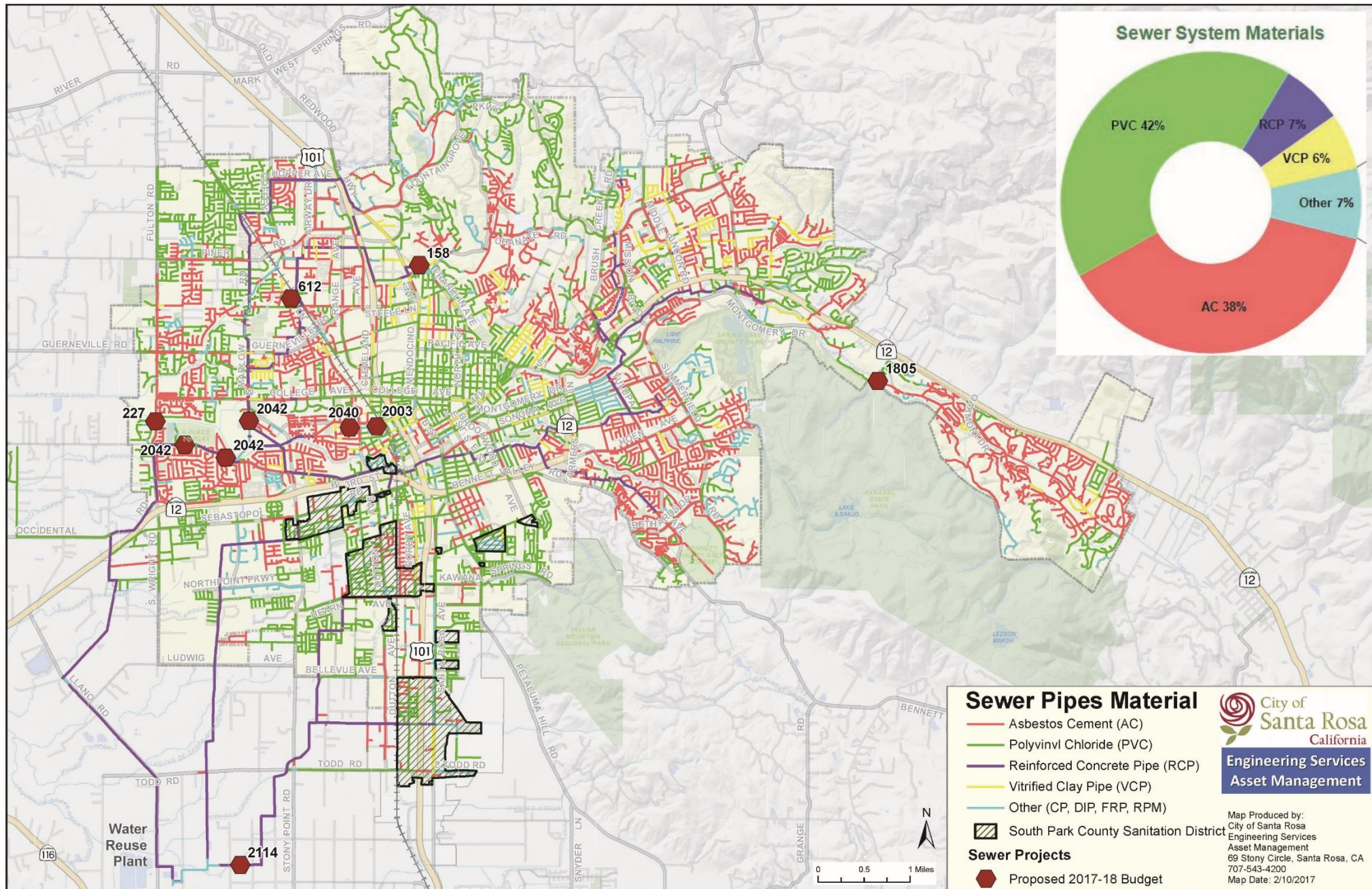
### Sanitary Sewers

| Material Type |  | Description        | Estimated Service Life |
|---------------|--|--------------------|------------------------|
| PVC           |  | POLYVINYL CHLORIDE | 100                    |
| PE            |  | POLYETHYLENE       | 100                    |
| DIP           |  | DUCTILE IRON PIPE  | 80                     |
| AC            |  | ASBESTOS CEMENT    | 65                     |
| CAS           |  | CAST IRON          | 75                     |

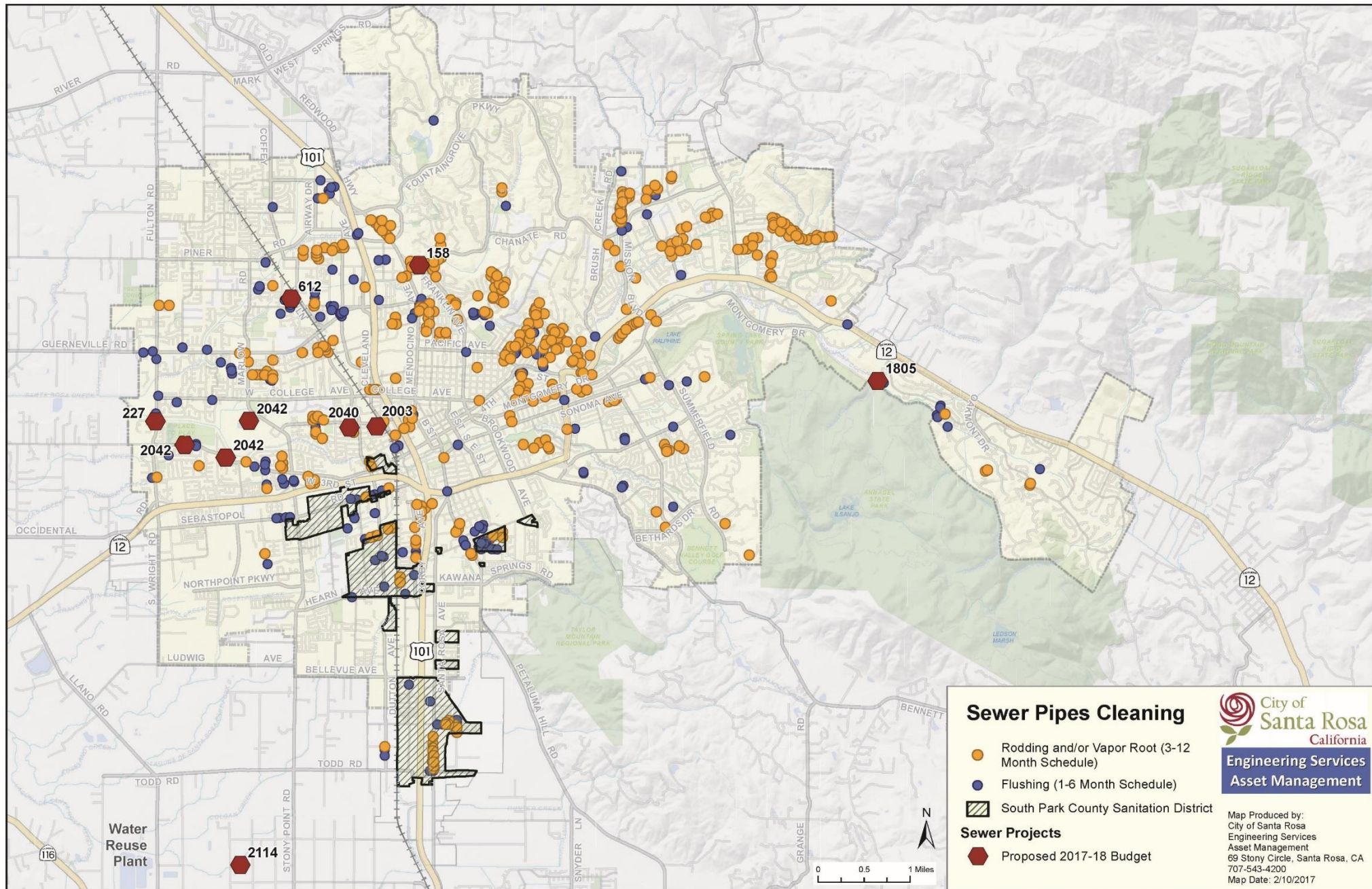
# Sewer Collection System by Age



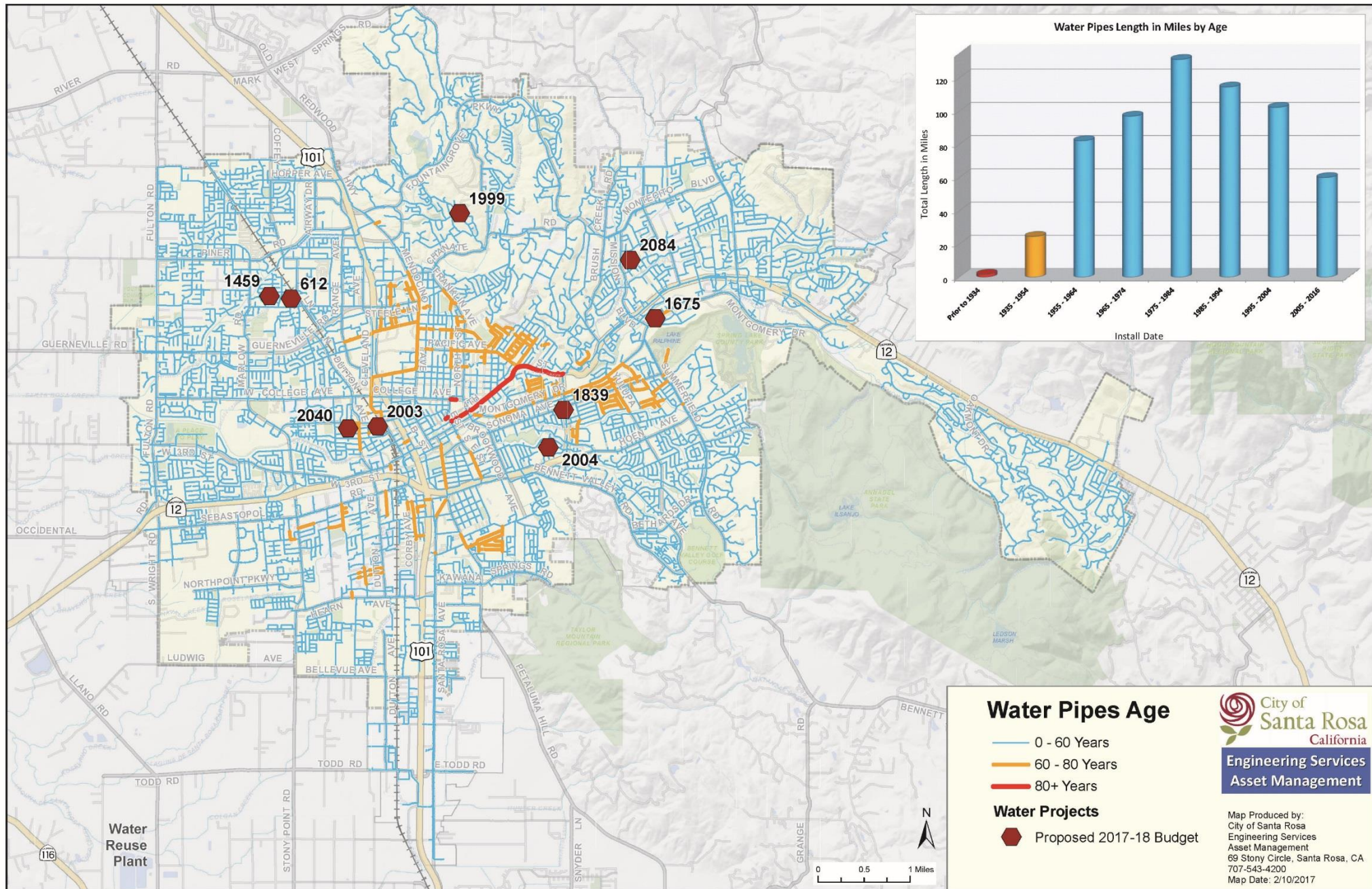
# Sewer System by Material



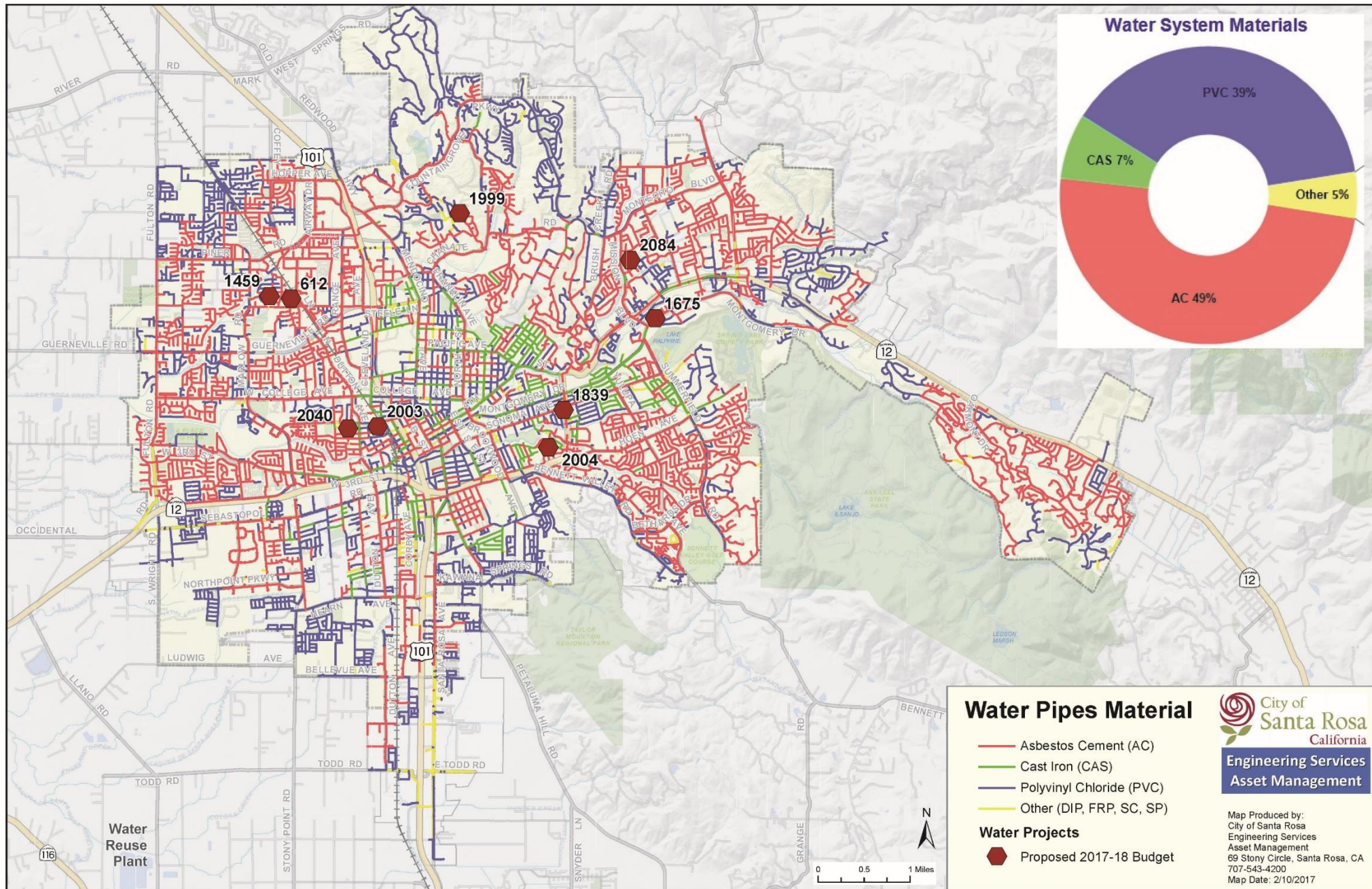
# Sewer System Scheduled Maintenance



# Water System by Age



# Water Systems by Material



# Regional Water Reuse System

- Treatment Plant
- Laboratory
- Reclamation
- Geysers
- Biosolids



# Regional Water Reuse System

## Master Plan (under development)

- Condition Assessments
- Agreements, Contracts, Permits
- Regulatory Requirements
- Project Prioritization
- CIP Project Identification
- 10 Year + Horizon
- Risks
- Opportunities
- Strategies





# Questions?