KAYUGA SOLUTION

LIVERMORE CALIFORNIA

CAMP Meeting – Parks and Trails

City of Livermore General Fund Asset Management Program

April 17, 2017

Master Property Agreement (City – LARPD)

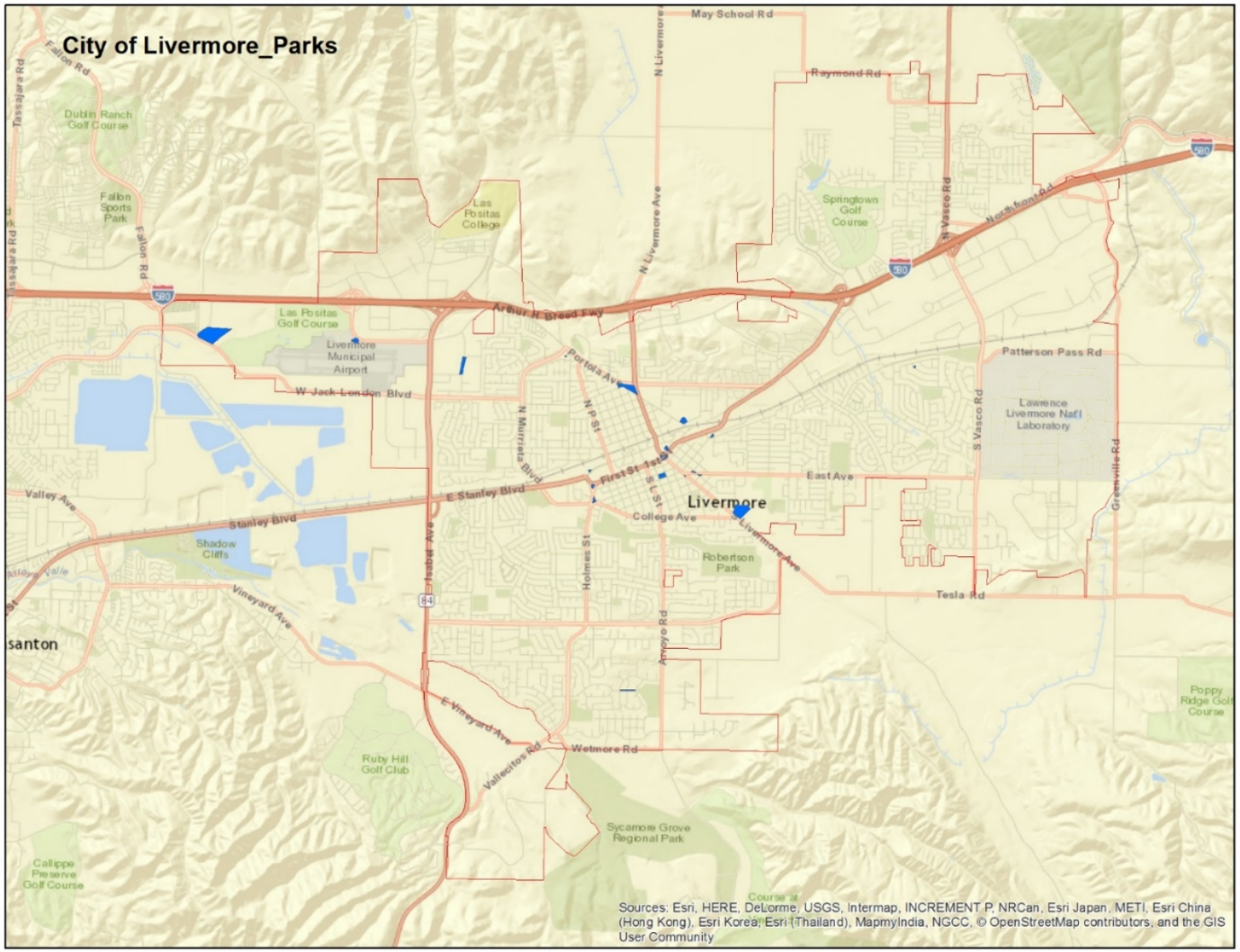
- City-owned and managed parks vs LARPD managed parks
  - City owns land for some LARPD parks

- Trail ownership and management responsibility outlined in Master Property Agreement
  - Some trails are owned by City, managed by LARPD
  - Some trails are owned and managed by City
  - Some trails are owned and managed by LARPD
  - Ownership/maintenance responsibility can change along one trail
  - Some trails funded by LMD (Landscape Maintenance District)

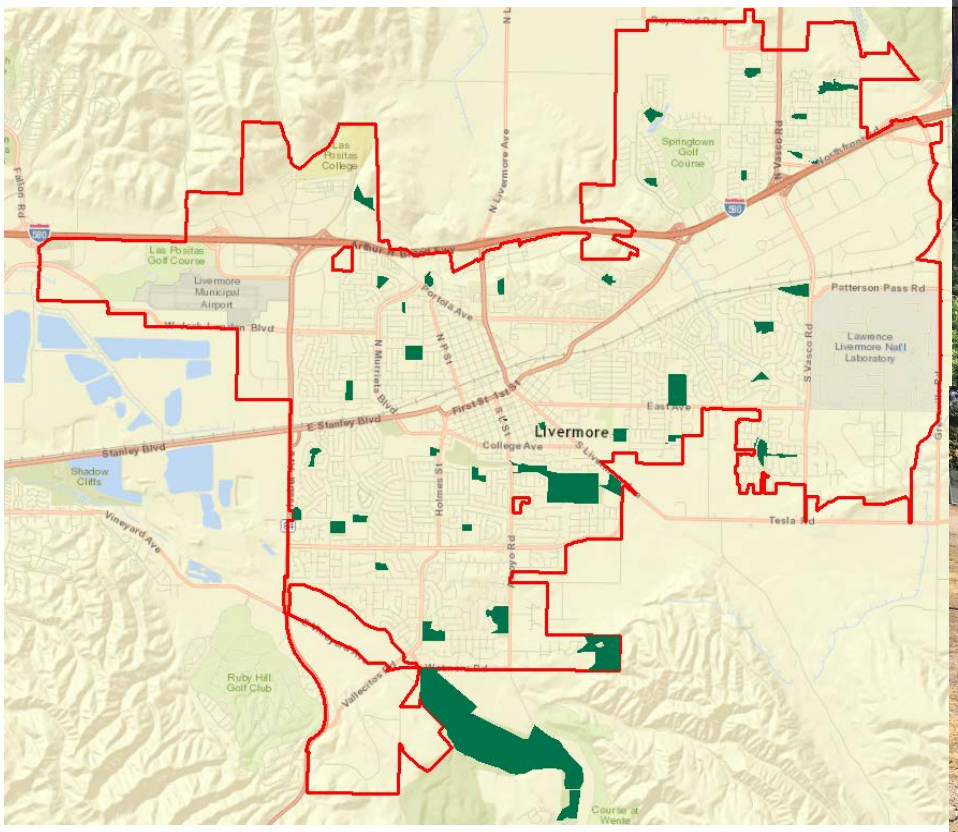
Parks and Plazas

City Parks and Plazas

- 20 parks and plazas owned and managed by City



LARPD Parks



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City Park Examples

Hansen Rose Garden

Crater Walkways

Desiree Park

Rotary Park

City Plaza Examples

Lizzie Fountain Plaza

Shea/LVC Plaza

Flagpole Plaza

Mills Square/Livermorium Plaza

Asset Inventory

Inventory

Assets by Class

- 751 assets

Asset Class	Quantity	Asset Class	Quantity	Asset Class	Quantity	Asset Class	Quantity
Amphitheater	1	Electrical Panel	2	Landscape Lighting	20	Stage	2
Backflow Preventer	19	Fencing	2	Historical Monument	3	Stage Lighting-Small	6
Bench	77	Flagpole	7	Park Monument	7	Stairs	1
Bike Rack	4	Fountain	8	Concrete Pad	21	Trash Bin	18
Bollard	36	Gate	2	Pergola	9	Trash Unit (Trash and Recycling)	39
Bollard w/ Light	2	Gazebo	1	Picnic Table and Bench	24	Turf	16
Bridge	1	Handrail	3	Planter	1	Vineyard	1
Curb	4	Information Board	1	Play Structure	2	Walkway	11
Decorative Pad	2	Irrigation Antenna	7	Playground Surfacing	2	Wall - Free Standing	6
Dedication Plaque	9	Irrigation Control Valve	273	Pole	2	Wall - Retaining	5
Dedication Plaque w/ Foundation	12	Irrigation Controller	17	Recycling Bin	5	Weather Station	1
Drinking Fountain	6	Walkway Lighting	39	Signage	14		

Condition Assessment

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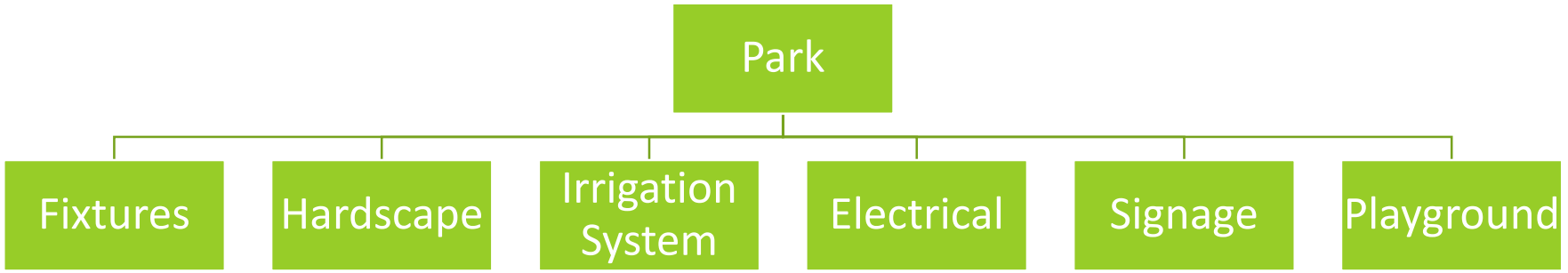
Hierarchy


Park
Fixtures
Hardscape
Irrigation System
Electrical
Signage
Playground

Use the Concept of Risk to Prioritize

Probability of Failure
(Timing to Failure)

- Mortality
- Capacity
- Level of Service
- Financial Efficiency

Consequence of Failure
(Impact of a failure)

- Economic
- Environment
- Social

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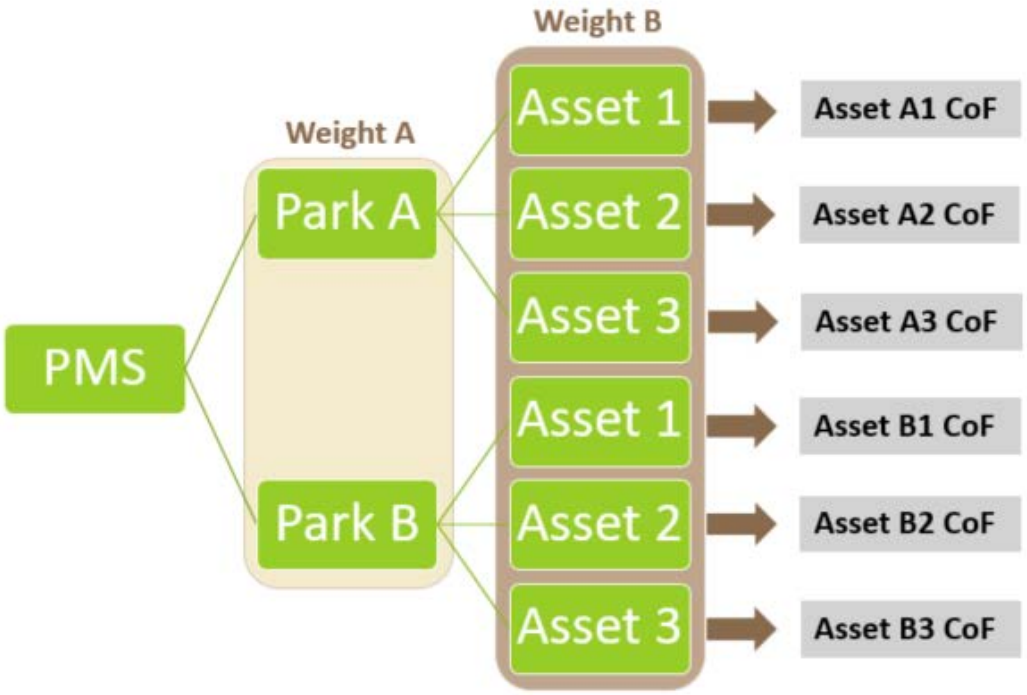
Multi-Tiered Asset Criticality Methodology

- Criticality Methodology
  - By park type and location
    - Type
    - Usage
    - Location
  - By asset class
    - Example:
      - Playground
      - Fountains
      - Bench
      - Picnic tables



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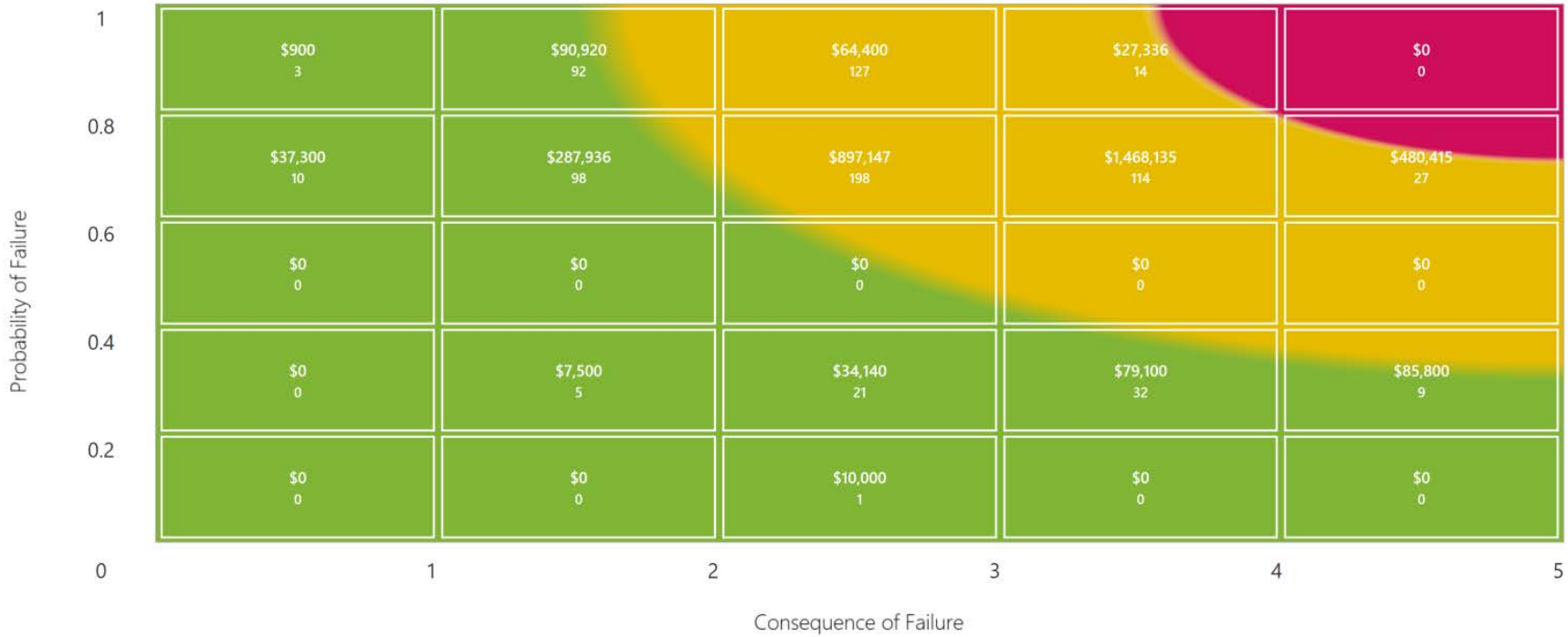
Park Criticality by Usage

Park/Plaza Name	Usage
Flagpole Plaza	High
Lizzie Fountain Park	High
Mills Square/Livermorium Plaza	High
Shea Plaza/LVC Plaza	High
Civic Center Park	High
Portola Park	High
Carnegie Park	High
Dolan Park	High
Freisman Park	High
Brickyard Park	Medium
Centennial Park	Medium
Hansen Rose Garden	Medium
Crater Walkways	Medium
East Ave Greens East	Medium
East Ave Greens West	Medium
Sister City Park	Low
Rotary Park	Low
Desiree Park	Low
Madeira Park	Low
Napa Median Island	Low
Rutan (Approach Zone)	Low

Park Asset-Level Criticality

Criticality – 5	Criticality - 4	Criticality - 3	Criticality - 2	Criticality - 1
Critical				Non-Essential
• Play Structure • Playground Surfacing • Walkway • Handrail • Etc.	• Irrigation Controller • Signage • Stairs • Etc.	• Bench • Drinking Fountain • Gazebo • Lighting • Picnic Table • Etc.	• Bike Rack • Irrigation Control Valve • Trash Bin • Fountain • Etc.	• Bollard • Park Sign • Gate • Information Board • Etc.

Risk



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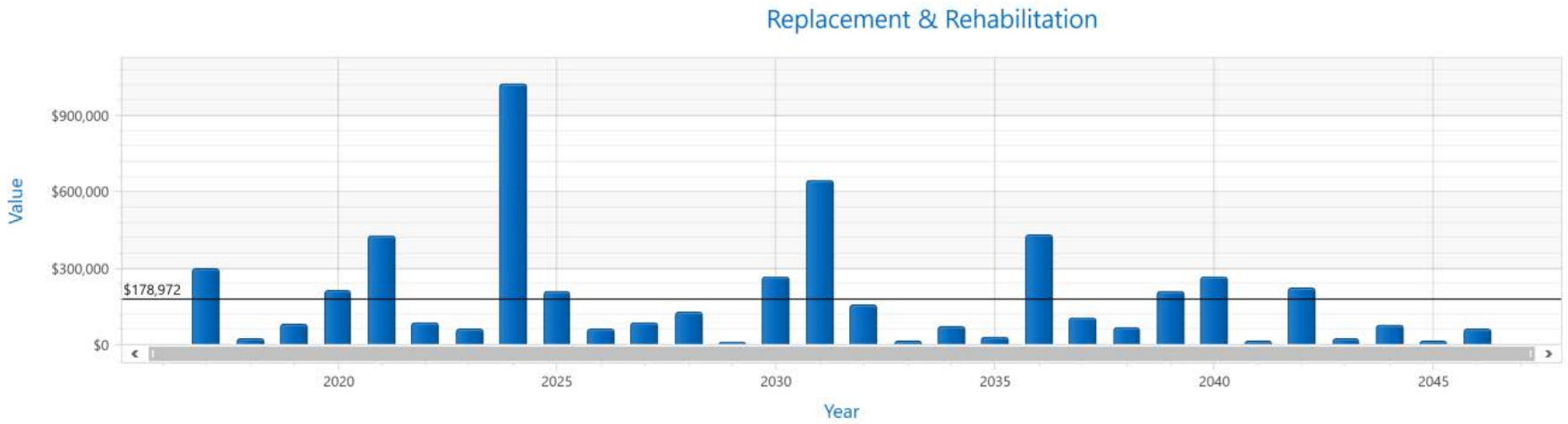
Management Strategy Examples

Asset Class	Useful Life	Rehabilitation Activity	Frequency
Bench – Concrete	30		
Bench – Composite	15		
Bench – Coated Steel	15	Recoat	8
Trash Bin – Coated Steel	10		
Play Structure	15		
Playground Surfacing	15	Replenish	1
Drinking Fountain	8		
Irrigation Controller	10		
Park Monument - Wood	15		
Pergola/Trellis - Wood	10		

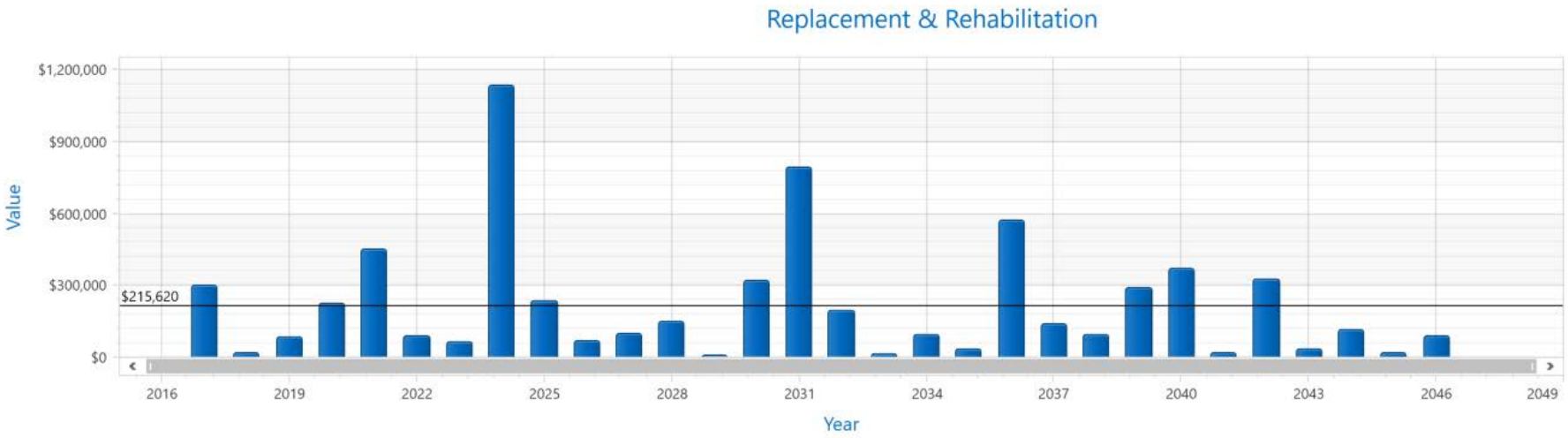
Life Cycle Cost Analysis

- Sum of asset replacement cost: $3.6 M
- Average annual cost: $179,000



Life Cycle Cost Analysis – 1.5% Inflation

- Average annual cost: $215,000



Level of Service

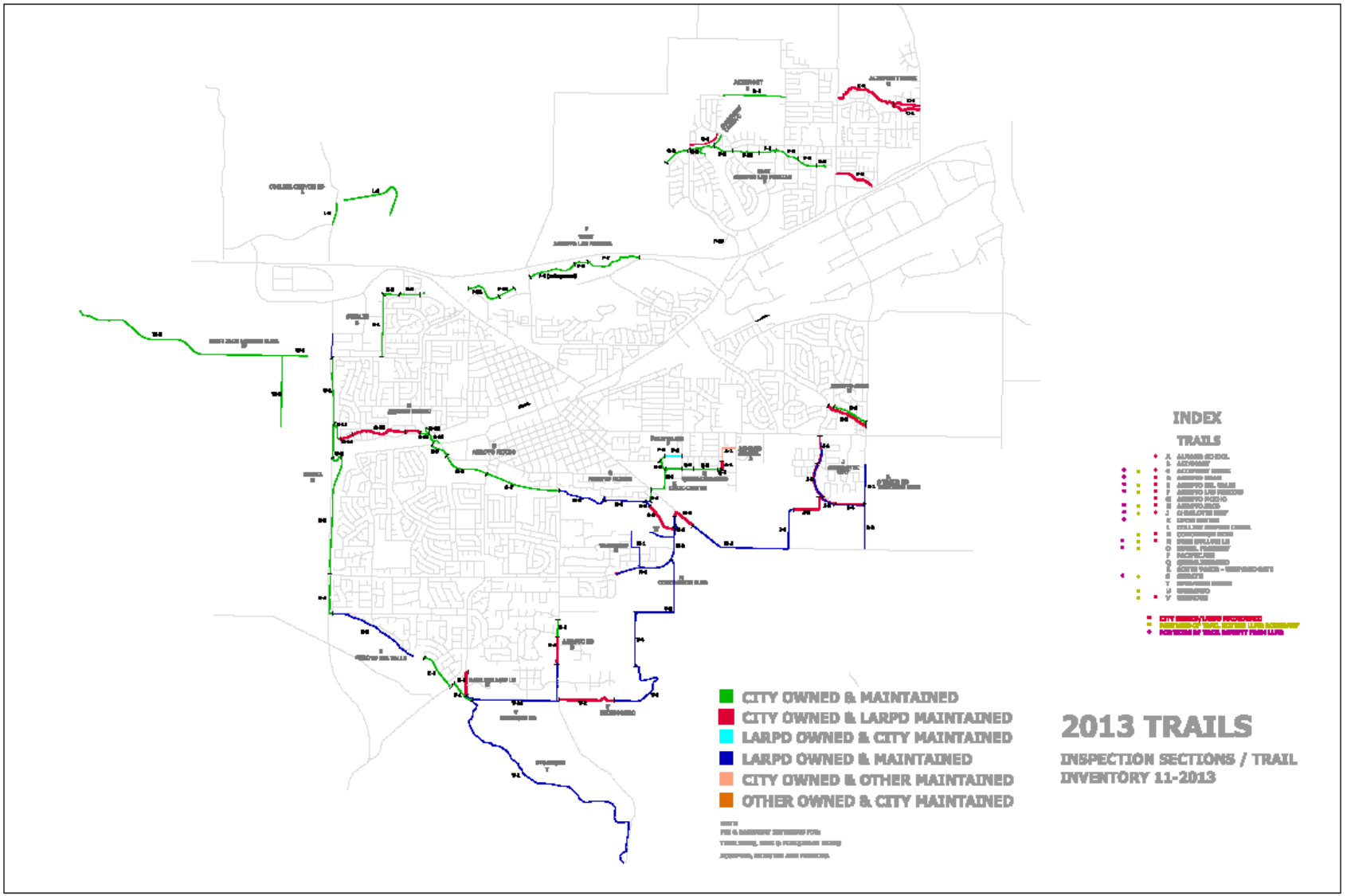
- Purpose of park
- Purpose of amenity within park setting

Policy Discussions

- Type and Number of Usage?
- Downtown

Trails

Trails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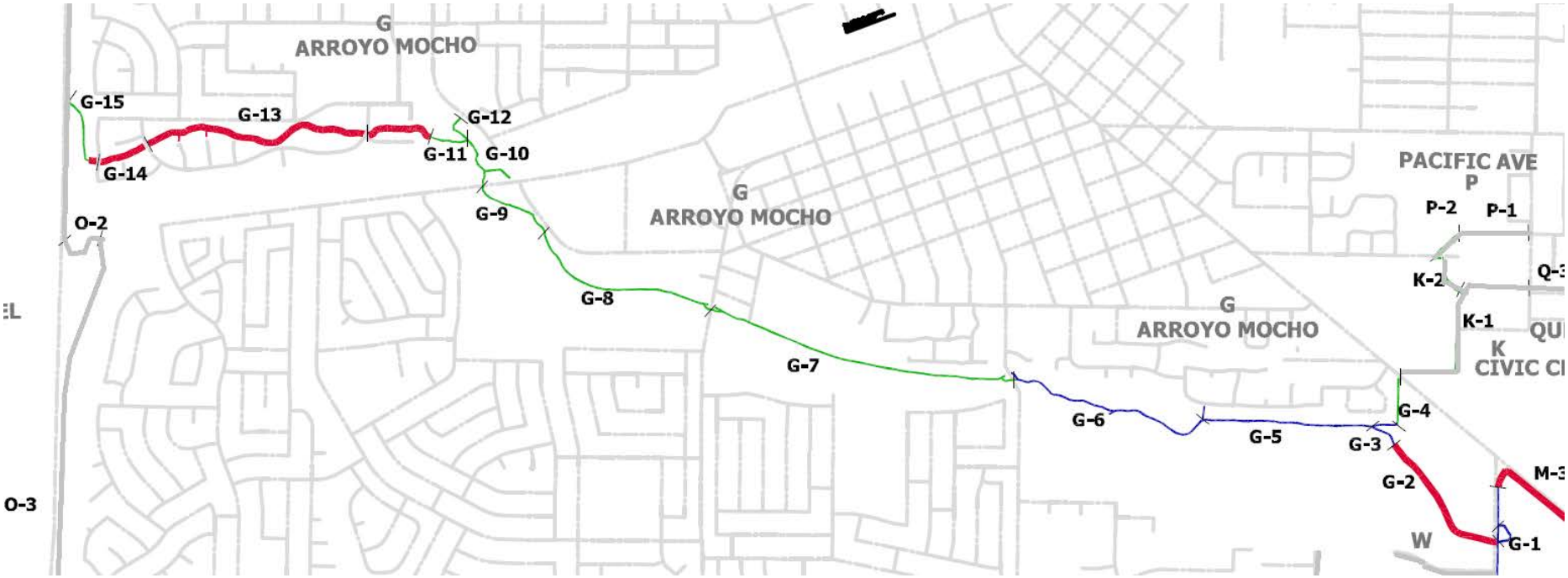
TRAILS
CITY OWNED & MAINTAINED
CITY OWNED & LARPD MAINTAINED
LARPD OWNED & CITY MAINTAINED
LARPD OWNED & MAINTAINED
CITY OWNED & OTHER MAINTAINED
OTHER OWNED & CITY MAINTAINED
2013 TRAILS
INSPECTION SECTIONS / TRAIL INVENTORY 11-2013

Trail Example – Arroyo Mocho



CITY OWNED & MAINTAINED

CITY OWNED & LARPD MAINTAINED

LARPD OWNED & MAINTAINED

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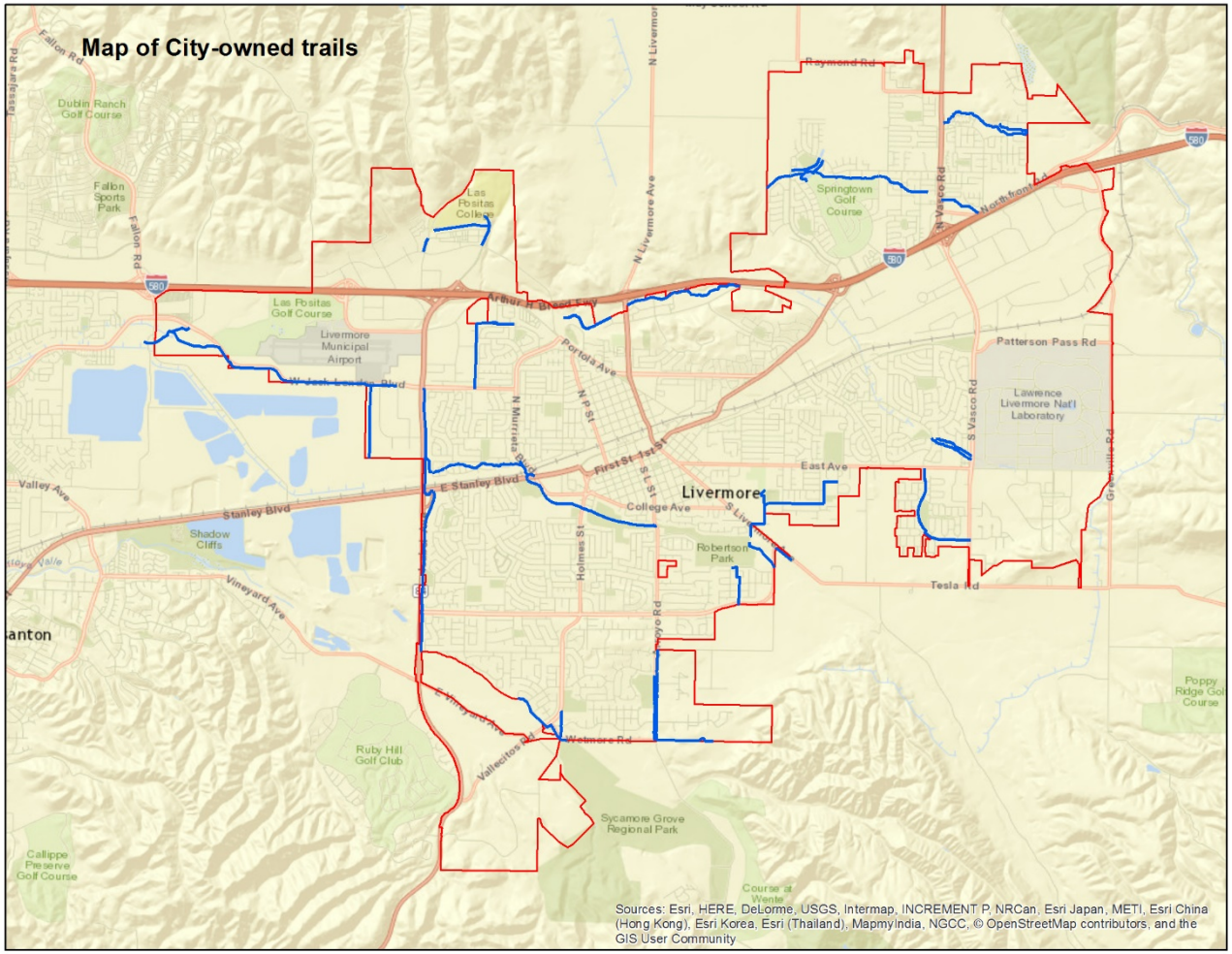
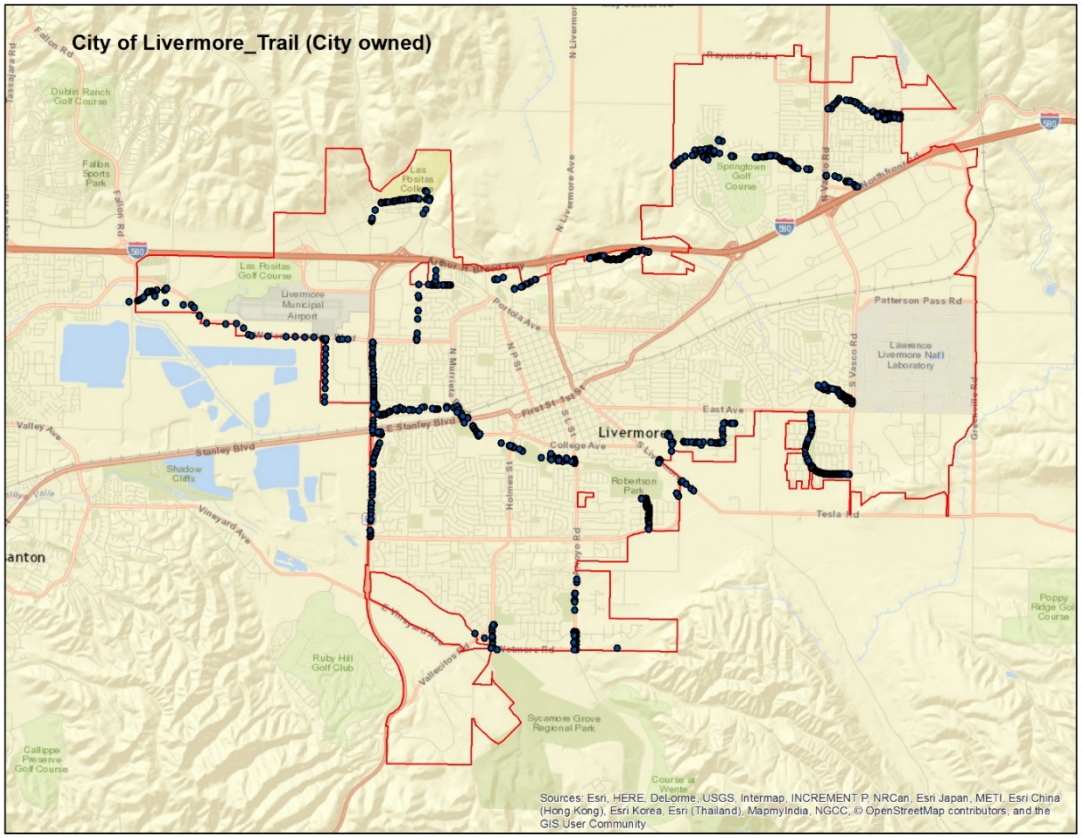
City-Owned Trails

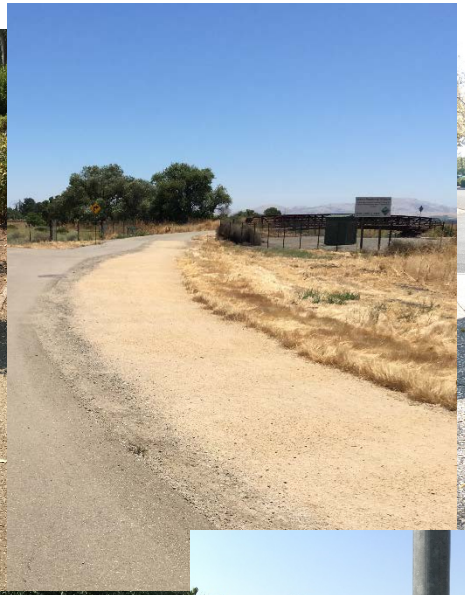


Inventory and Assessment

- 2429 assets
  - Asphalt trail included as part of Pavement Management System



Inventory

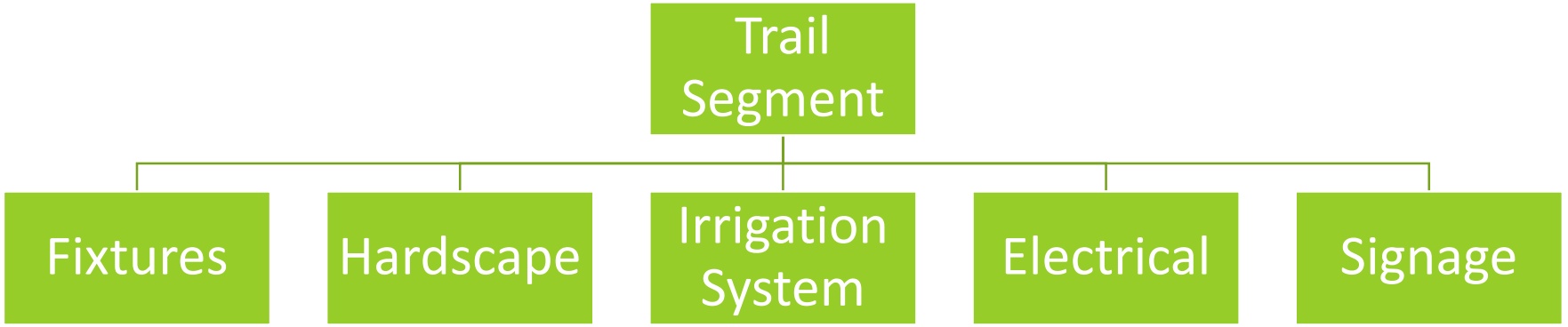


Assets by Class

Asset Class	Quantity	Asset Class	Quantity
Announcement Board	3	Gutter	4
Backflow Preventer	21	Irrigation Antenna	5
Bench	42	Irrigation Control Valve	680
Bollard	241	Irrigation Controller	25
Concrete Pad	19	Lighting	12
Control Box	1	Picnic Table	4
Curb	1	Post	7
Dedication Plaque	1	Railing	7
Dog Waste Bag Dispenser	10	Retaining Wall	23
Drainage	109	Signage	214
Drinking Fountain	4	Trail/Walkway	37
Fencing	69	Trail Marker	5
Gate	14	Trash Can	21

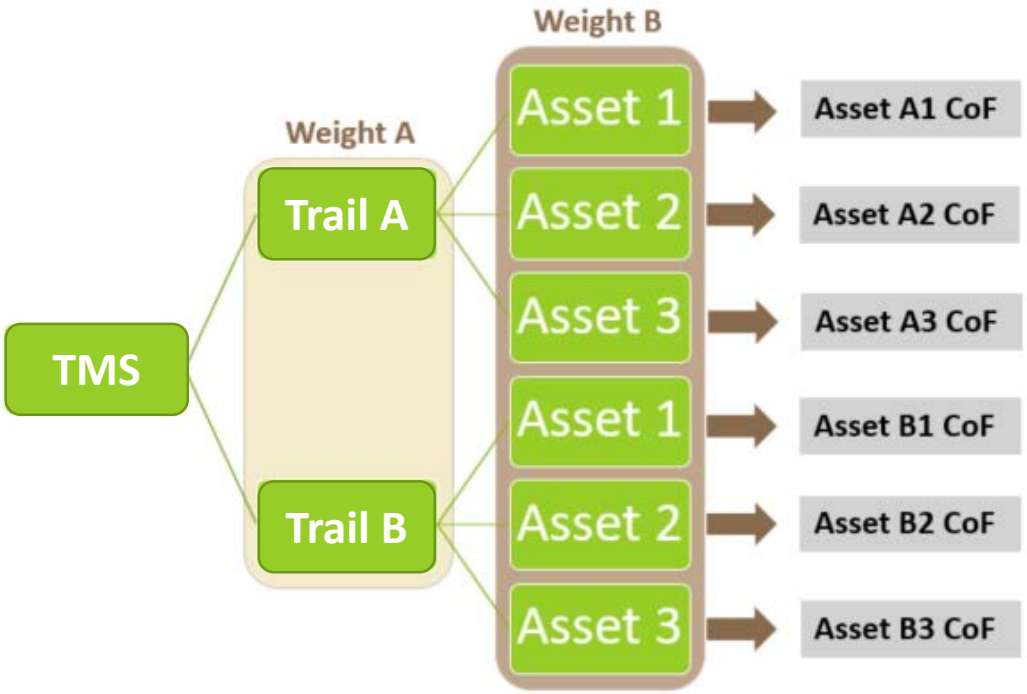
Condition Assessment

Hierarchy


Trail Segment
Fixtures
Hardscape
Irrigation System
Electrical
Signage

Multi-Tiered Asset Criticality Methodology

- Criticality Methodology
  - By trail usage and location
    - Usage
    - Location
  - By asset class
    - Example:
      - Trail
      - Bench
      - Picnic tables



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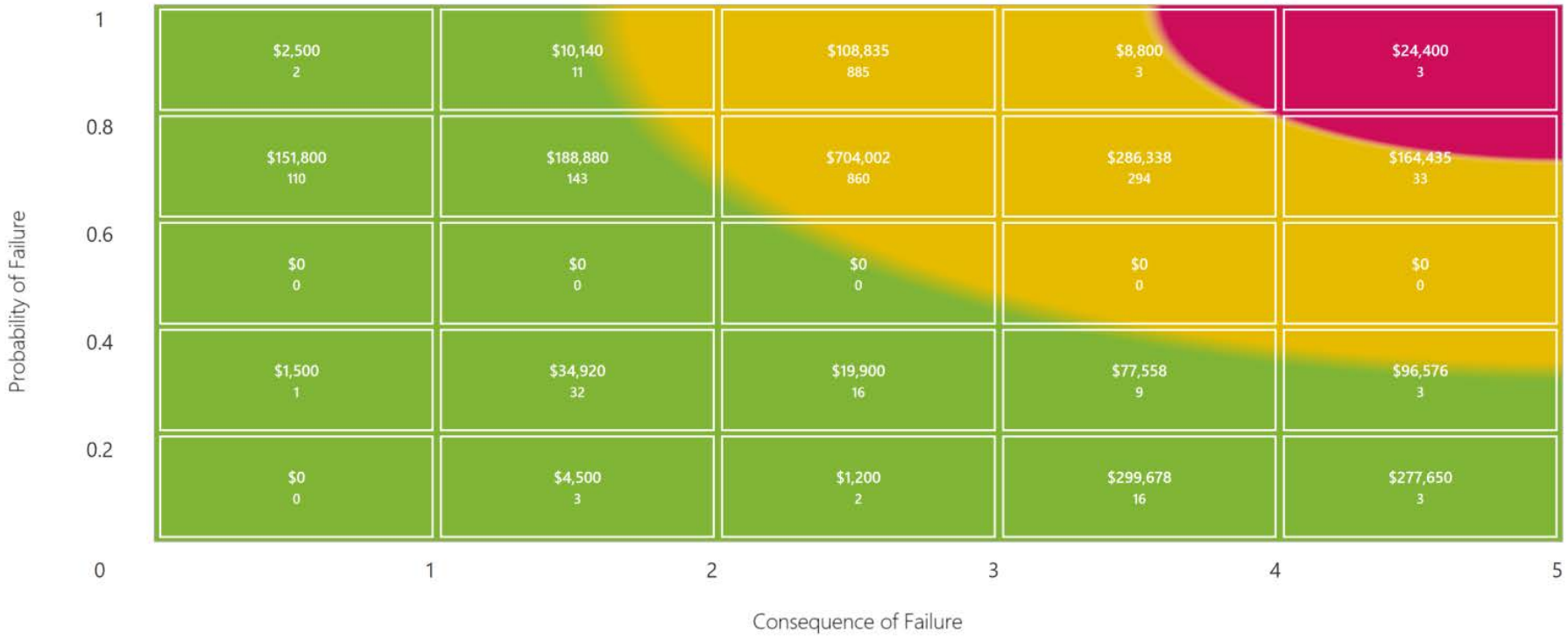
Trail Asset-Level Criticality

Criticality – 5	Criticality - 4	Criticality - 3	Criticality - 2	Criticality - 1
Critical				Non-Essential
• Trail • Handrail • Etc.	• Irrigation Controller • Signage • Etc.	• Bench • Drinking Fountain • Picnic Table • Fencing • Etc.	• Bike Rack • Irrigation Control Valve • Trash Bin • Concrete Pad • Etc.	• Bollard • Gate • Information Board • Etc.

Trail Usage

Trail Name	Usage	Trail Name	Usage
Almond School	Low	Collier Canyon Rd	Low
Altamont Creek	Medium	Concannon Blvd	Low
Arroyo Del Valle	Low	Deer Hollow Ln	Low
Arroyo Las Positas	Low	Isabel Parkway	Low
Arroyo Mocho Trail	Medium	Isabel Parkway - Section 2	Medium
Arroyo Mocho Trail - Sections 7, 8 & 9	High	Pacific Ave	Medium
Arroyo Road	Medium	Quezaltenango Parkway	Medium
Arroyo Seco	Low	Stealth	Low
Charlotte Way	Medium	Vansanto	Low
Civic Center	Medium	West Jack London Blvd	Low
Collier Canyon Rd	Low	Wetmore Rd	Low

Risk



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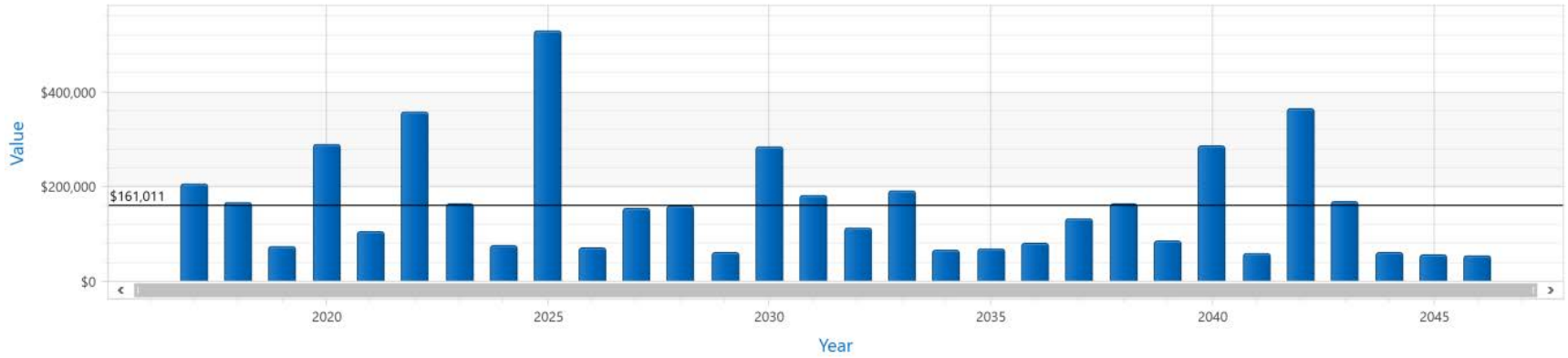
Management Strategy Examples

Asset Class	Useful Life	Rehabilitation Activity	Frequency
Trail – Decomposed Granite		Grading	1
Bench – Concrete	30		
Bench – Composite	15		
Bench – Coated Steel	15	Recoat	8
Trash Bin – Coated Steel	10		
Drinking Fountain	8		
Irrigation Controller	10		
Chainlink Fencing	20		
Wood Fencing	10		
Bollard – Steel	15		
Bollard – Plastic	3		
Dog Waste Bag Dispenser	7		

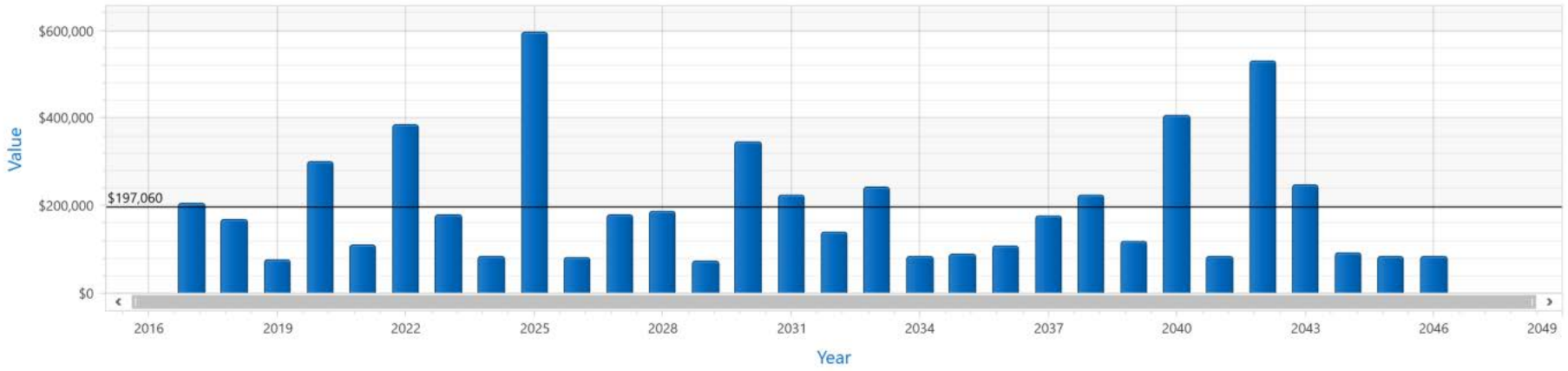
Life Cycle Cost Analysis

- Sum of asset replacement cost: $4.2 M
- Average annual needs: $161,000



Life Cycle Cost Analysis – 1.5% Inflation

- Average annual needs: $197,000



Level of Service

- Purpose of trail
- Purpose of amenities

Policy Discussions

- Type and Number of Usage?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