



# State of Good Repair Discussion

EMSC  
Citizens' Advisory Council  
2/23/2022



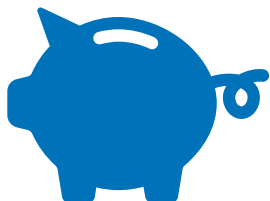
**SFMTA**

# State of Good Repair (SGR) Defined

The SFMTA defines State of Good Repair as the condition in which the Agency's assets can operate at a full level of performance.

SGR investment includes any revenues or expenditures used to ensure an asset critical for transportation service delivery or support agency operations remain effective, efficient, reliable, and safe.

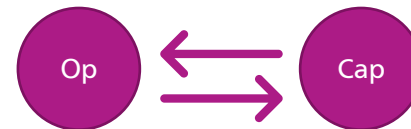
## Why does it matter?



Constrained Resources



Invest in Renewal Vs. Expansion

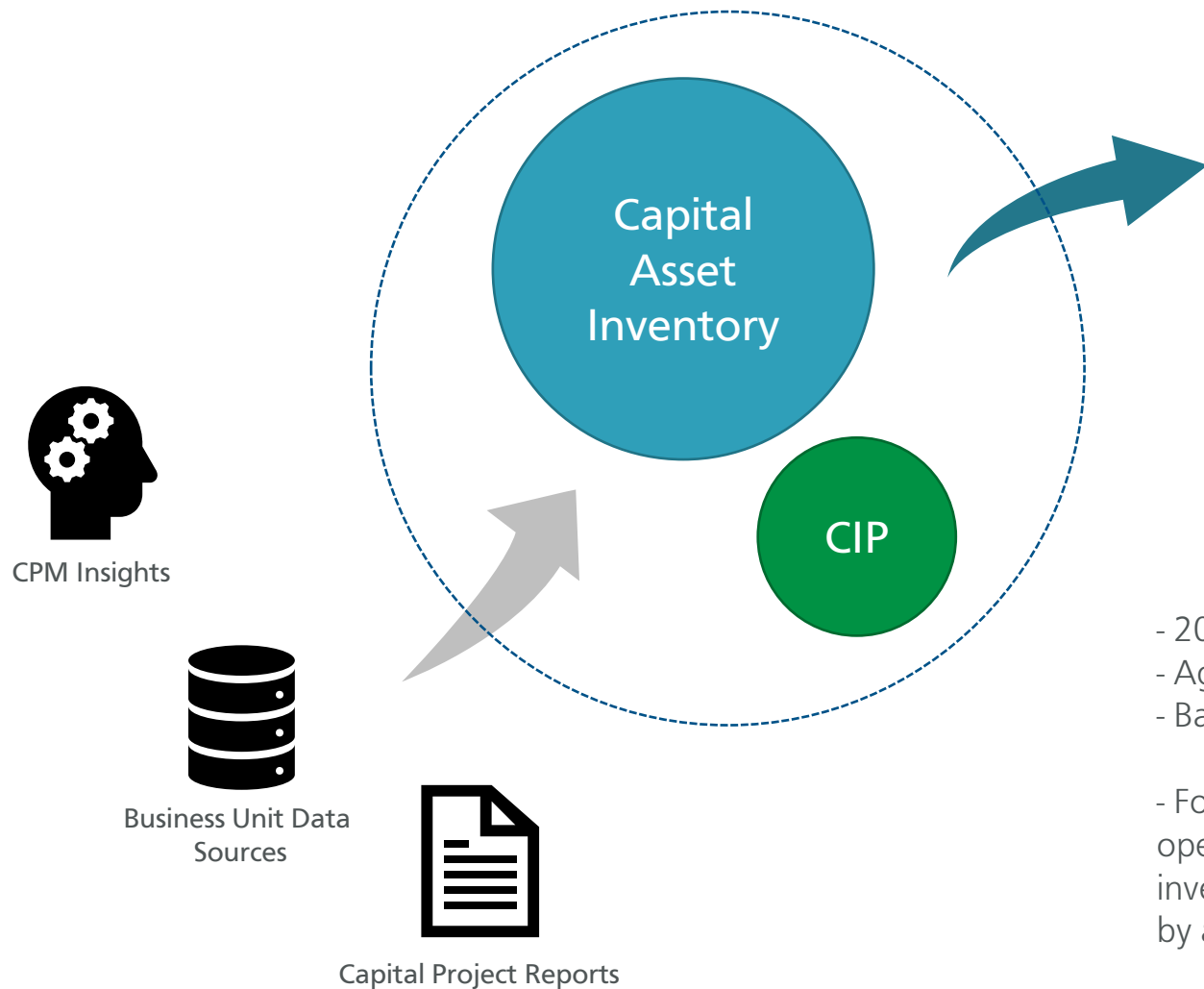


Cause and Effect relationship between investment decisions



Public Expectations / Performance of Transportation Services

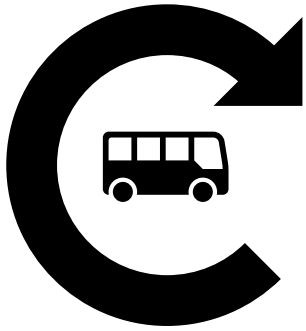
# What informs the SGR analysis?



- 20 Year Replacement Needs
- Age-Based Condition Score
- Backlog (deferred replacement)

- For FY2020, additional insight into operating impacts, link with near term investments, long range future needs by asset class.

# Understanding the Approach



## Motor Coach

**In-Service  
2012**

**Useful Life  
12 years**

**Replacement Value  
\$1.5 million**

**Asset decay curve  
estimates asset  
condition over  
time**

## Analysis

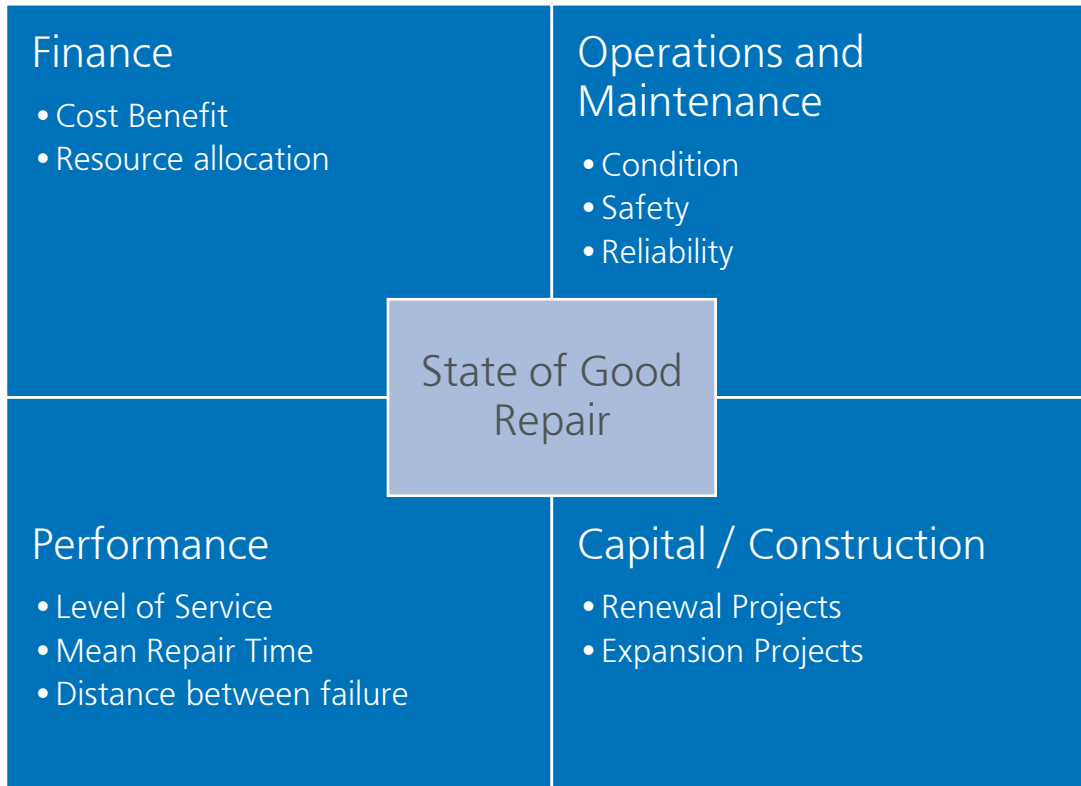
**Expected out of Service  
2024**

**2024 Capital Need  
\$1.5+ million per vehicle replaced**

### **Business Decisions:**

- Impacts of deferred replacement
- Time actions with projected revenues
- Analysis alignment with real-world performance and condition scores

# Key Players in SFMTA's State of Good Repair

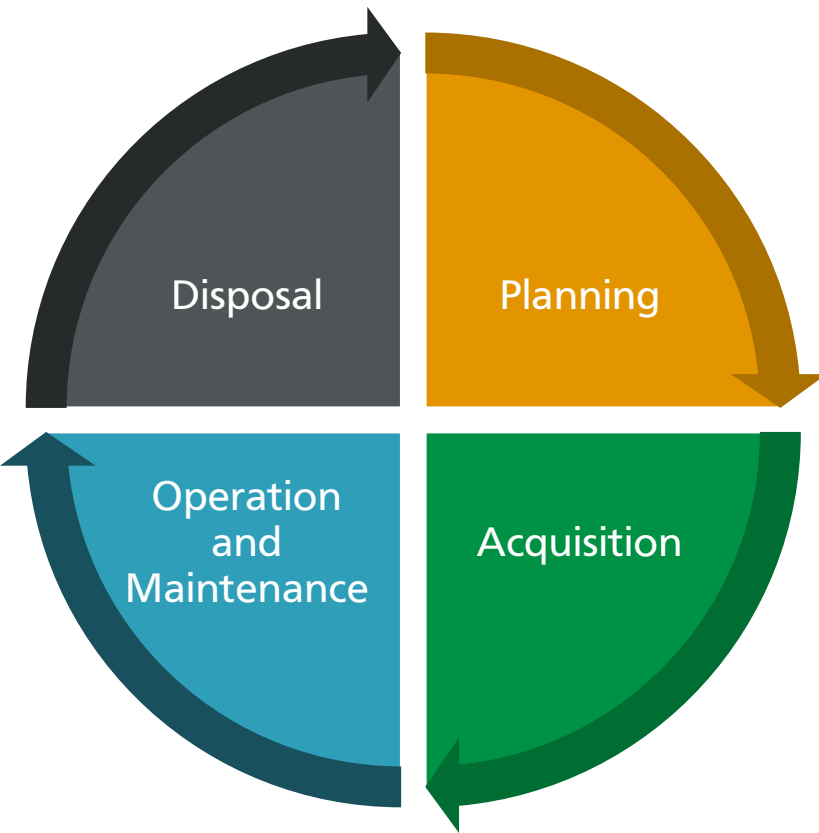


Key asset classes continue to age with associated decrease in performance

State of Good Repair investment has been insufficient

SFMTA network continues to expand, operating budgets have not kept pace

# Lifecycle Management and Asset Management Approach



**Planning:** Determines if there is a need for the infrastructure. Planning includes basic design, defining operation and maintenance requirements, and long-term financial planning.

**Acquisition:** The infrastructure is procured, installed, built and/or delivered. Staying on time and on budget is critical to mitigate negative downstream impacts.

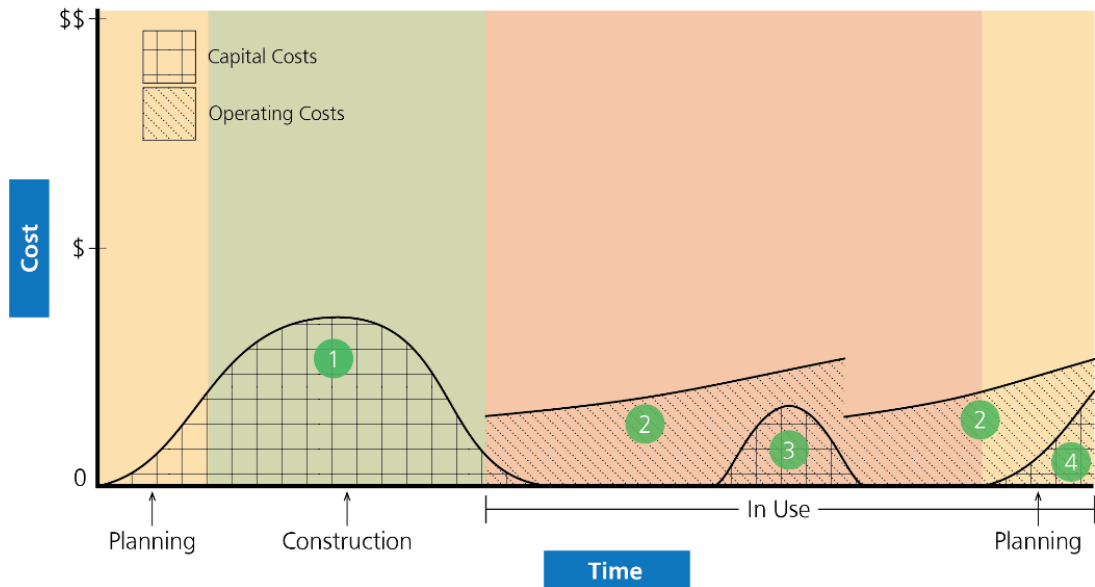
**Operation and Maintenance:** Infrastructure is in use. Regular maintenance, scheduled capital repairs upgrades, and continuous condition tracking are required at this state. Typically, the longest and most resource intensive.

**Disposal:** Comes at the end of the infrastructure's useful life. It should be scheduled but can also occur when maintenance and operations costs become too high.

# Operating with a Lifecycle Management Approach

- 1 Total capital costs incurred through planning, acquisition and construction of the asset.
- 2 Preventative operating and maintenance costs (O&M). Costs steadily increase over time as assets age and are in good use.
- 3 Capital repair or rehabilitation cost. Ensures asset meet its anticipated useful life, in some cases extend it. Reduces O&M costs by fixing common wear and tear issues.
- 4 Asset retirement and replacement costs

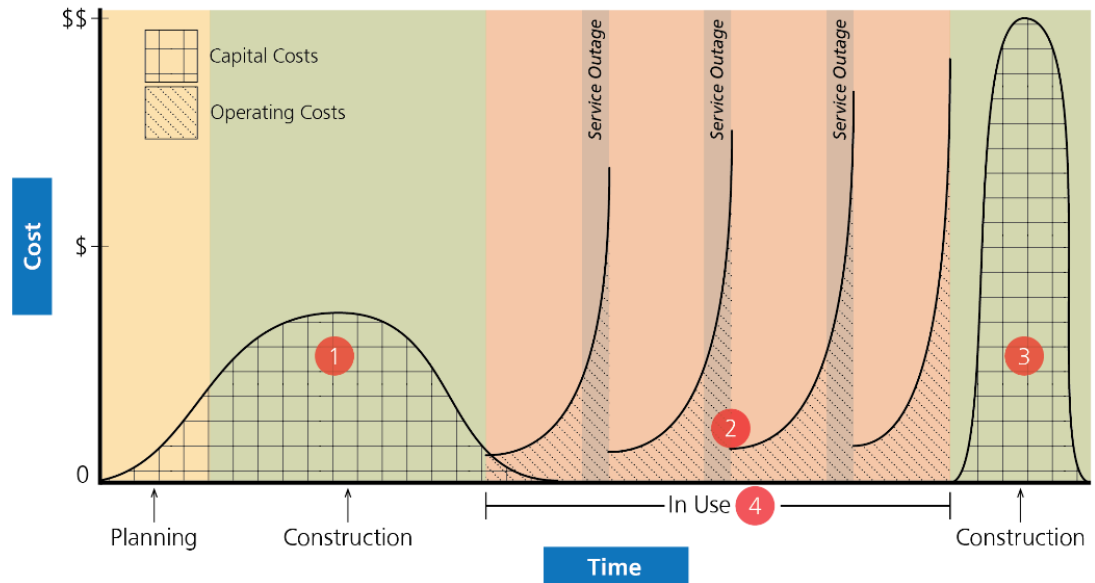
## Operating with a Lifecycle Management Approach



# Operating without a Lifecycle Management Approach

- 1 Total capital costs incurred through planning, acquisition and construction of the asset
- 2 Reactive operating and maintenance costs (O&M). Underinvestment in preventative maintenance at the on set, result in costly response to failure and outages.
- 3 No planned capital repair or rehabilitation mean the asset is only reinvested in when it becomes too expensive to operate or breaks down completely.
- 4 Despite additional O&M spending, the asset will not stay in use as long. Shortening the asset's useful life incurs capital costs more frequently and depletes available capital funds more quickly.

## Operating without a Lifecycle Management Approach





# State of Good Repair / Lifecycle Management

## Key Takeaways

- The nature of transportation planning requires thinking two to three budget cycles ahead.
- Operating costs represent **65-80% of total lifecycle costs**.
- Ongoing operating resources must be enough to cover new infrastructure projects.
- **Preventative maintenance costs 25 times less** than responding to emergencies when infrastructure fails.
- Clearly established levels of service or performance targets are required before determining what investments are needed for the SFMTA's transportation infrastructure.

When approving new capital infrastructure projects, decision makers must consider:

- the ongoing operating costs of new infrastructure
- staffing levels required to maintain and operate new infrastructure
- the expected infrastructure performance
- Asset mid and end of life plan.

Staffing and Organization management is key to maintaining institutional knowledge and organizational resiliency. These resources are not easily replaced or substituted through one-time efforts.

# Lifecycle Management at SFMTA

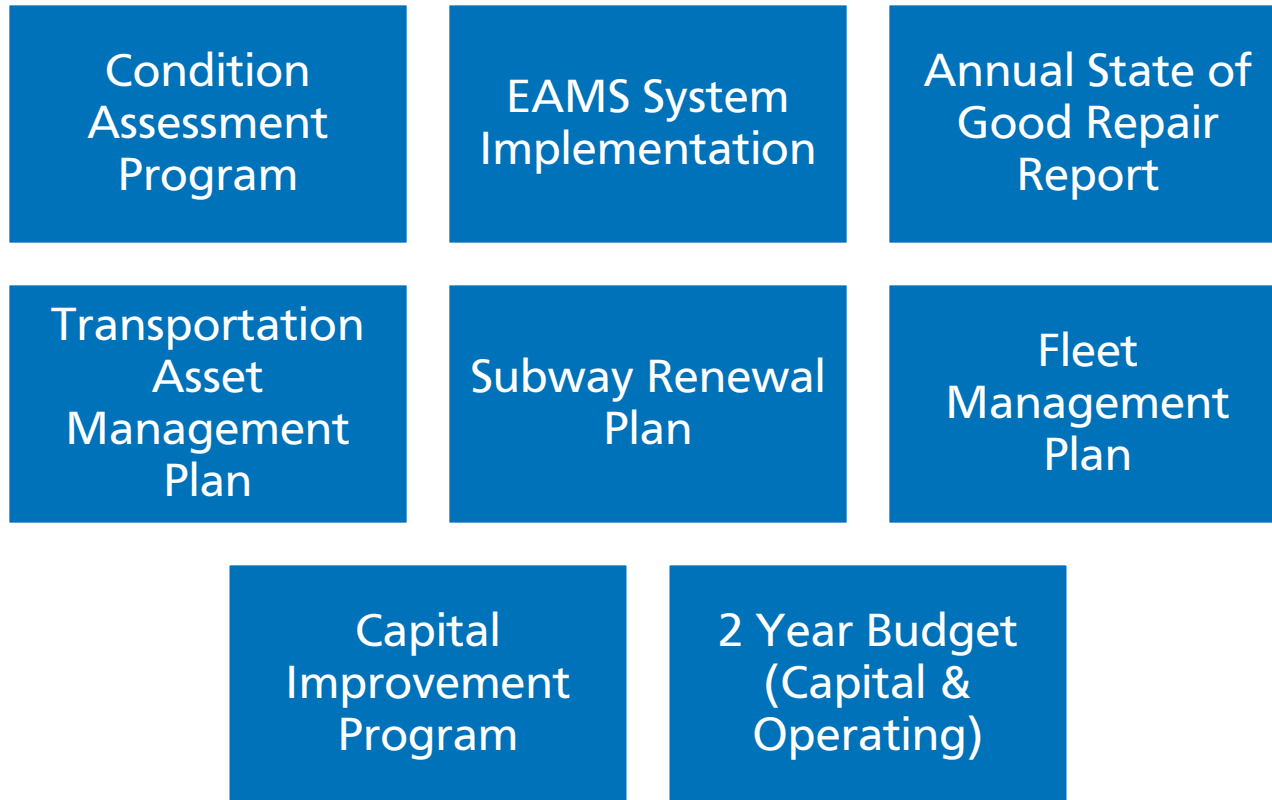


Supporting Vision Zero with Lifecycle Management



Supporting Transit Service with Lifecycle Management

# SFMTA's Current Efforts to Support Lifecycle Management





# Questions / Comments

Jerad Weiner, Asset Management Unit Manager  
[Jerad.weiner@sfmta.com](mailto:Jerad.weiner@sfmta.com)



**SFMTA**