



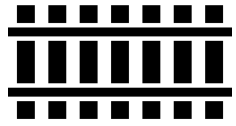
Chasing Excellence

Welcome to Denver
MAX 4/12/19

The US Transportation Asset Base



4 million miles of road



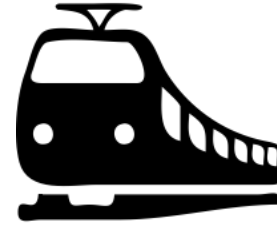
140,000 miles of rail



25,000 miles of waterway



55% publicly owned



5,200 transit stations

2,400 maintenance facilities

136,000 transit vehicles

\$7.7 trillion estimated value



\$1 trillion capital spend per year

\$133 billion O&M spend per year

Source: *Transportation Statistics Annual Report, 2016*

Our existing assets are aging and in poor condition, demand is increasing, and funding remains constrained...

Public Transit Maintenance Backlog Hurts Economic Prospects of Many US Cities

By **STEVE DUBB** | May 21, 2018

f 14 t 4 e in

Governor Declares State of Emergency for NYC Transit System

Gov. Andrew Cuomo says he's asked the new leader of New York City's troubled public transit system to do a series of urgent reviews of the agency's management and aging infrastructure.

June 29, 2017, at 2:14 p.m.

f t r e ...

\$85Bn backlog in deferred maintenance

FTA News April 2016

An FTA report on the US Transit industry has identified over \$85Bn in deferred maintenance...

What It Will Take to Fix America's Crumbling Infrastructure

by **Rosabeth Moss Kanter**

ASCE 2017 **INFRASTRUCTURE REPORT CARD**

D- Transit **D** Roads

Yet we continue to add new assets...



RTD is facing similar pressures

Denver RTD does the PPP thing

BY STEVE HYMON , JUNE 28, 2010

Rep. Jared Polis urges RTD to finish rail line to Boulder, Longmont

By John Bear
Staff Writer

POSTED: 02/09/2017 07:34:12 PM MST

[Rail News Home](#) » [Passenger Rail](#)

Rail News: Passenger Rail

FasTrack 2017: Denver RTD is setting the stage for future development in the Mile High City

September 2006



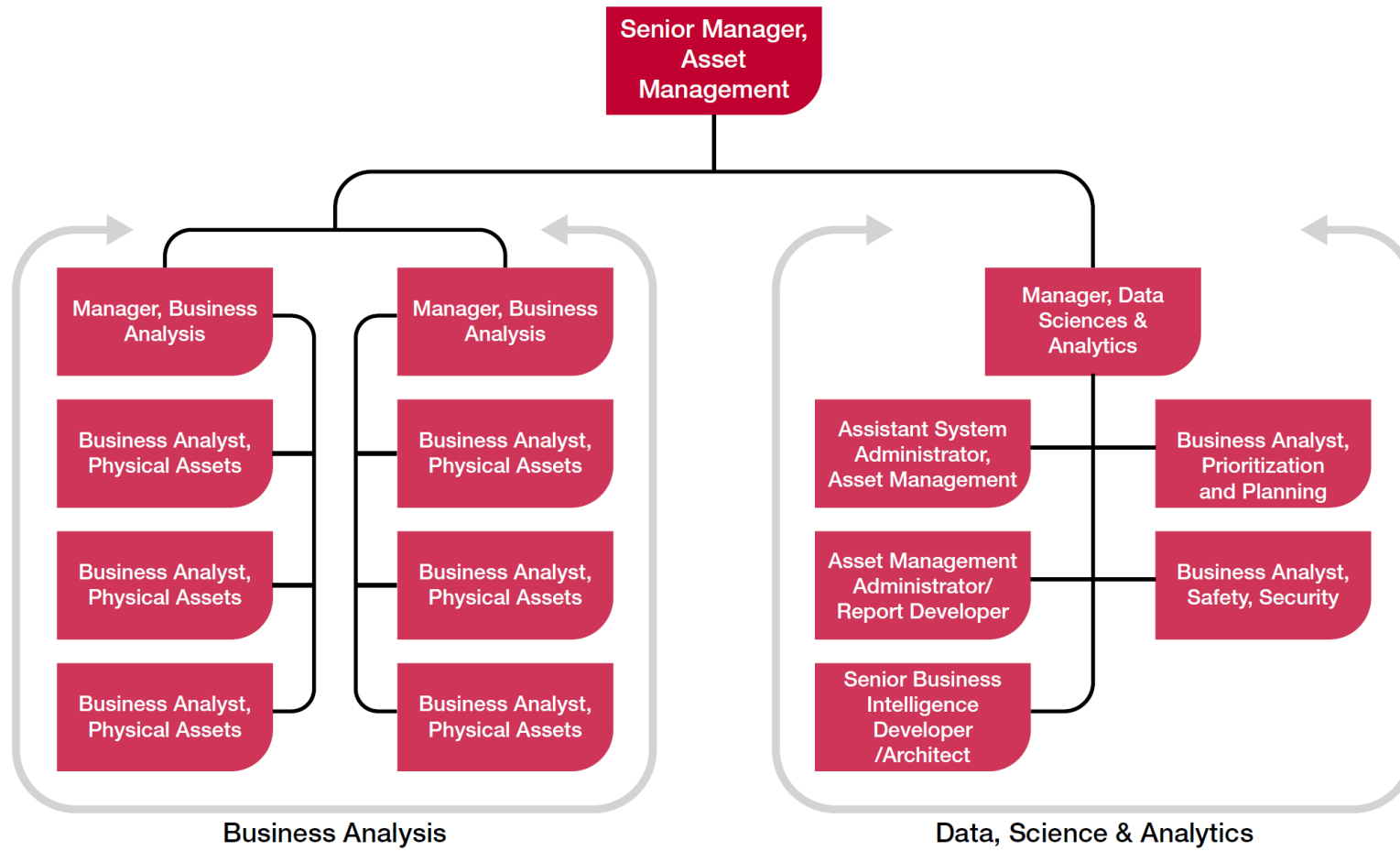
...but then what?



Presentation Goals

- Asset Management – defined and discuss acronyms
 - AM / TAM / SGR
- Background
 - FTA MAP21 / FAST Act and TAM Final Rule Making
 - TAM Requirements
- TAMP (Transit Asset Management Plan)
 - Assets deliver our agency objective
- ISO 55000
 - RTD progress towards the International standard for Asset Management
- Stewardship

Asset Management Division (AMD)



Section 1 - Fundamentals

Managing Assets vs. Asset Management

Asset Management involves the balancing of costs, opportunities and risks against the desired performance of assets, to achieve the organizational objectives.

Source: ISO 55000

State of Good Repair

The condition in which a capital asset is able to operate at a **full level of performance**. This means the asset:

1. Is able to perform its designed function,
2. Does not pose a known unacceptable safety risk, and
3. Its **lifecycle investments** have been met or recovered.

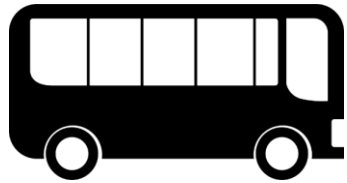
Managing Asset vs. Asset Management

There is a difference...

Managing Assets

vs

Asset Management



Daily service



Age



Long-term performance



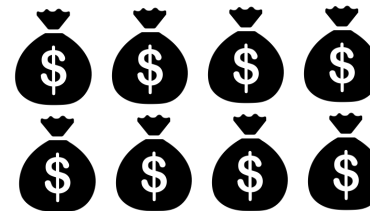
Condition and risk



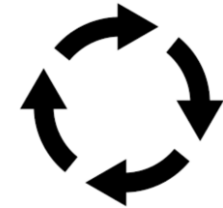
Up-front cost



Maintenance



Whole-life cost



Lifecycle management



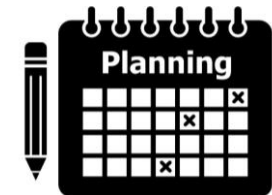
Silos



Reactive

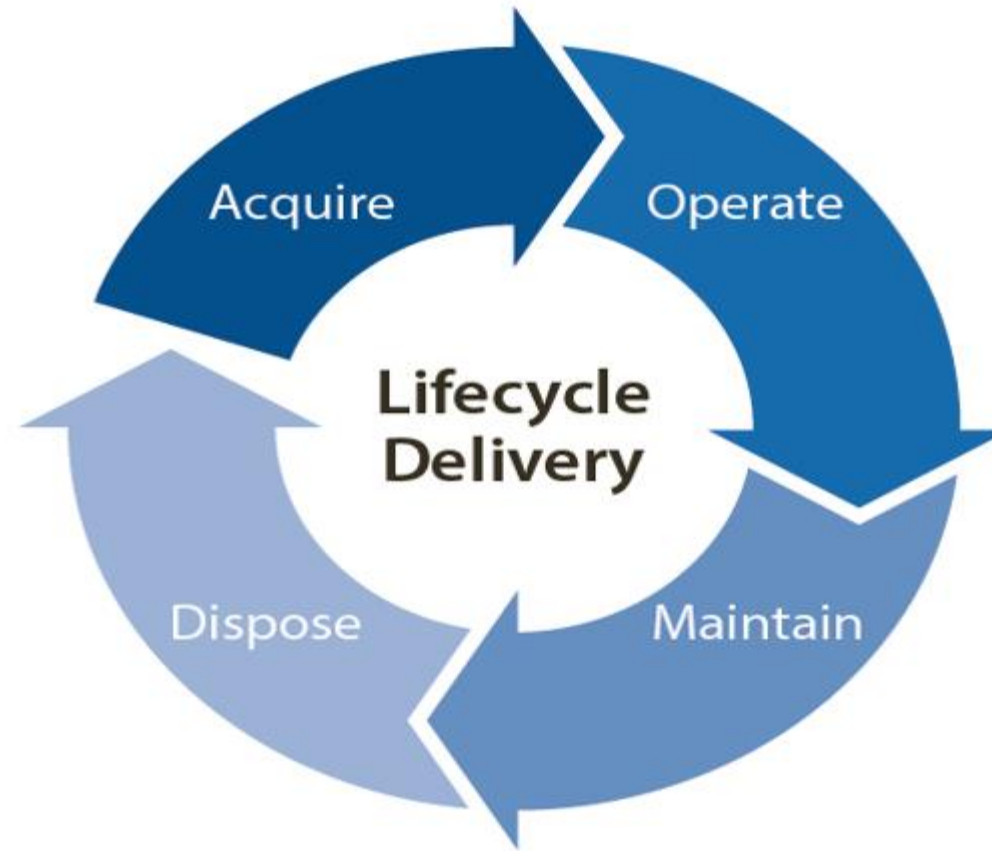


Integration



Proactive

Managing Assets



Asset Management



Benefits of the Asset Management “Mindset”

- Reduce risk
- Optimize spending
- Transparent, evidence-based decisions
- Improve collaboration and coordination



Benefits of a TAM culture

- Better business investments
- Mission alignment across all departments
- Flexible reaction to changes
- Stakeholder confidence increases

Phil Jackson

“Before a vision can become a reality, it must be owned by every member of the group”

Section 2 – Legislation MAP-21 / FAST Act

Compliance and TAM application in practice

FTA Themes

Prescriptive

TAM Plan Requirements

- ✓ Asset Inventory
- ✓ Condition Assessments
- ✓ Decision Support Tools
- ✓ Investment Prioritization
- ✓ TAM & SGR Policy
- ✓ Implementation Strategy
- ✓ List of Key Annual Activities
- ✓ Identification of Resources
- ✓ Evaluation Plan

Accountable

- ✓ Accountable Executive
- ✓ Deadlines
- ✓ Grant Eligibility

MAP 21: FTA requirements 9 TAMP elements

No.	TAMP Element	Description
1	Asset inventory	All capital assets owned by agency, including equipment (construction, maintenance, service vehicles), rolling stock (rail cars, buses, ferries), infrastructure (fixed guideway, signal systems, structures, power), facilities (support, passenger, parking)
2	Condition assessment	A rating of the inventoried assets with direct capital responsibility (age, condition, percentage of residual life, vulnerability to natural/climate hazards etc). At the individual or asset class level.
3	Decision-making approach / support tools	List analytical processes used to make investment prioritization, does not have to be software tool
4	Investment prioritization	A financially constrained ranked listing of proposed projects ordered by year of planned implementation, prioritized based on local policy, needs, safety risks, etc
5	TAM and SGR Policy	The agency's vision for TAM, SMART objectives, roles and responsibilities
6	Implementation strategy	Operational level process for implementing TAM Plan
7	Roadmap activities	Description of actions needed to implement TAM Plan for each year of the plan's horizon
8	Needed resources	Staffing, technology, funding, etc
9	Evaluation plan for continuous improvement	How TAM activities will be monitored, evaluated, and updated to ensure the continuous improvement of TAM practices

* Source: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/TAMFinalRule_Presentation.pdf

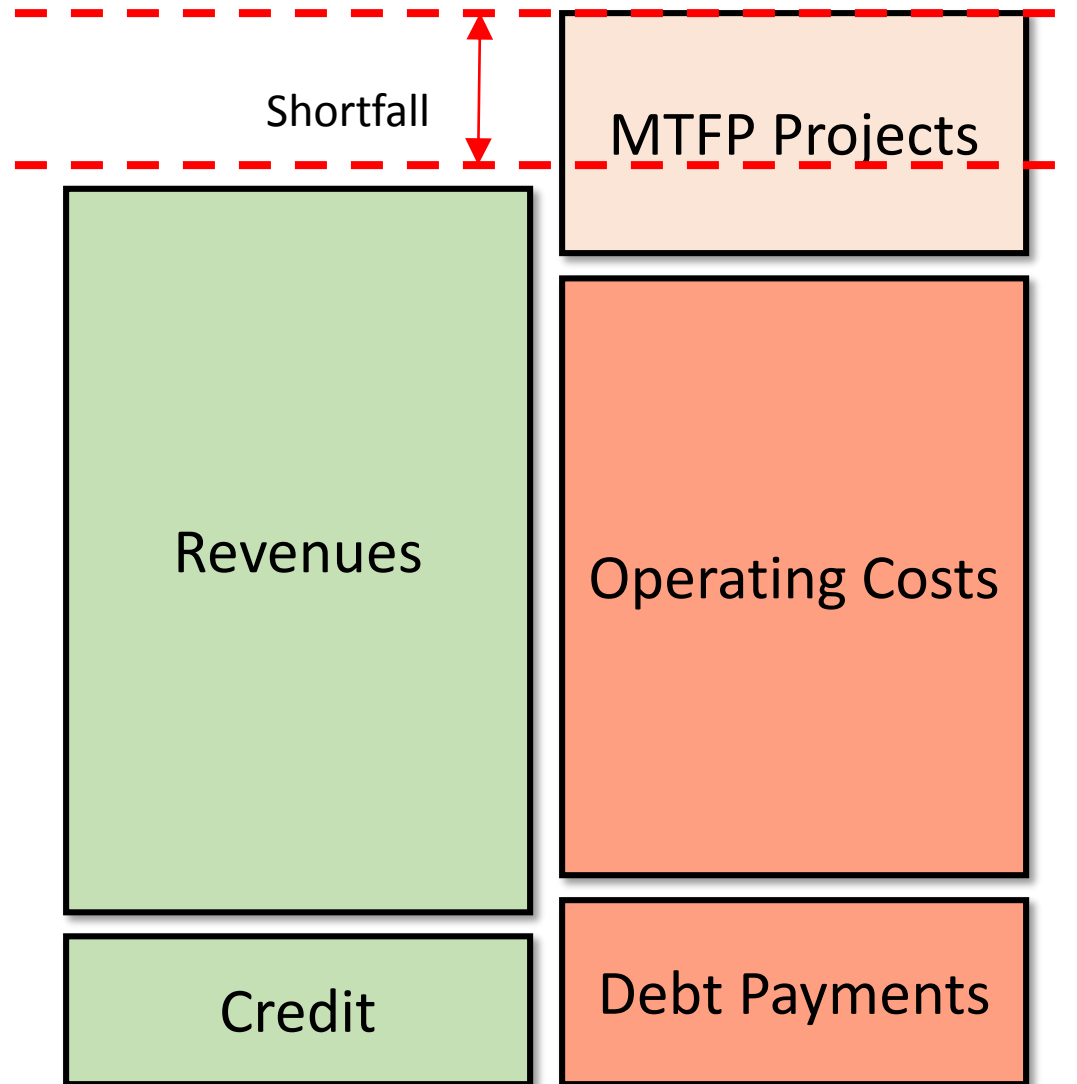
Constraints

*"...the SGR grants alone **will not be enough** to address the backlog." FTA 49 CFR Parts 625 and 630*

*"In these financially constrained times, transit agencies will need to be **more strategic** in the use of all available funds." FTA 49 CFR Parts 625 and 630*

<https://www.gpo.gov/fdsys/pkg/FR-2016-07-26/pdf/2016-16883.pdf>

Constraints

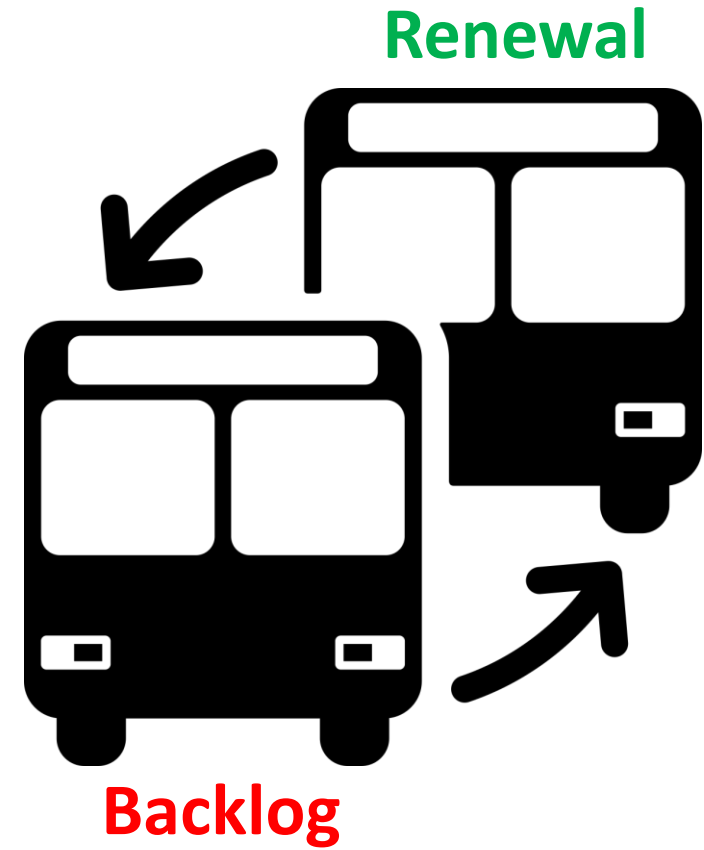
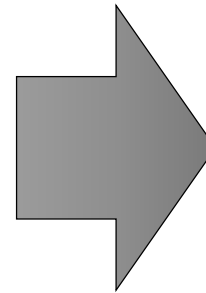


Shifting Focus

*"MAP-21 fundamentally **shifted the focus** of Federal investment in transit to emphasize the need to maintain, rehabilitate, and replace existing transit investments."* FTA 49 CFR Parts 625 and 630

<https://www.gpo.gov/fdsys/pkg/FR-2016-07-26/pdf/2016-16883.pdf>

Shifting Focus

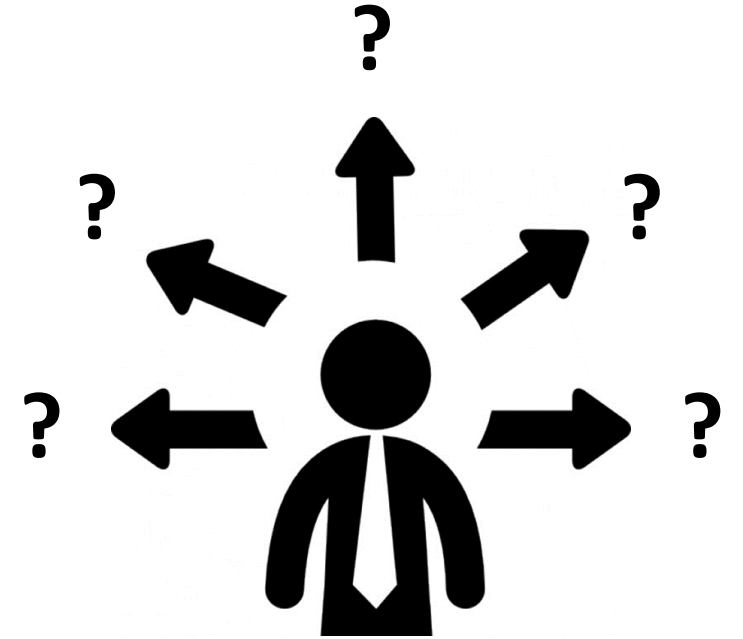
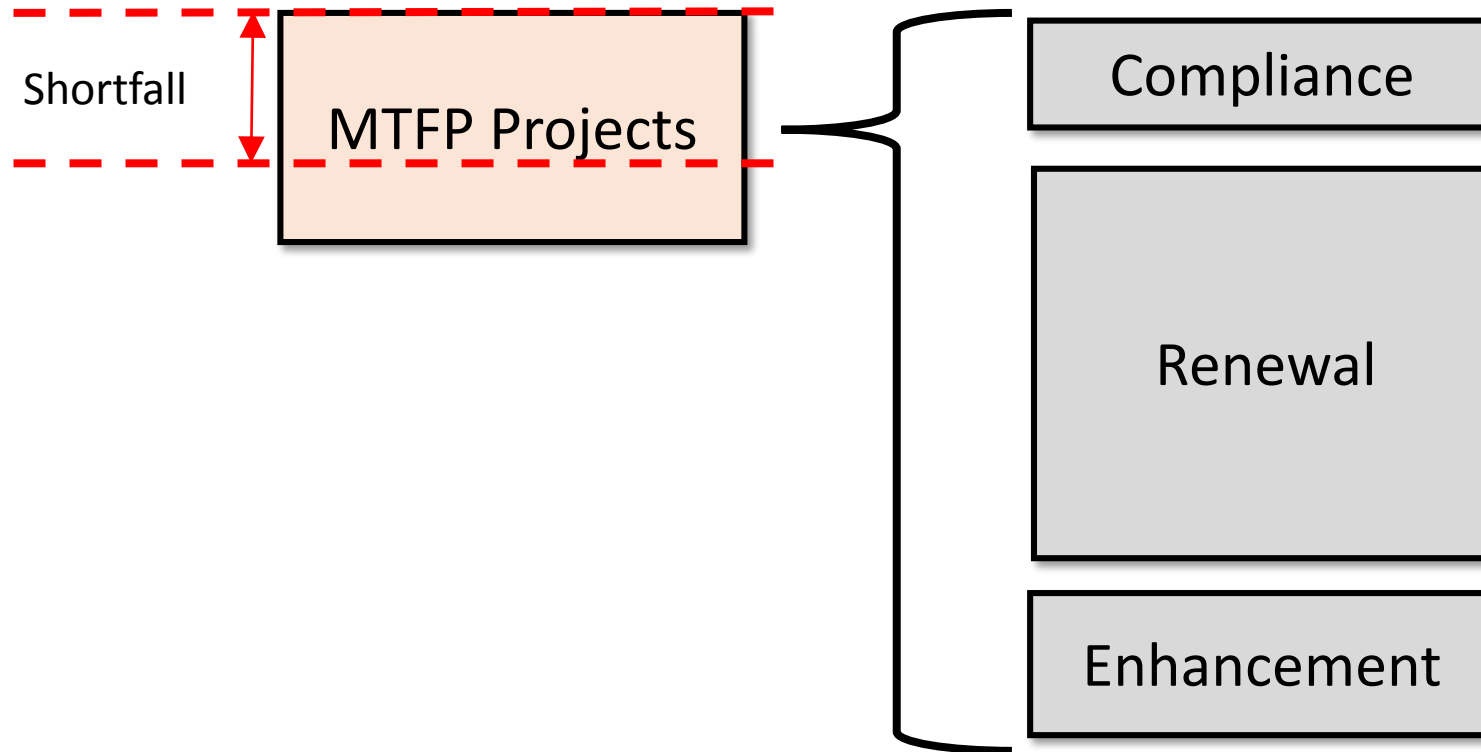


Priorities & Options

*"...set meaningful transit SGR performance targets and to achieve those targets is critically dependent upon the ability of all parties to **work together to prioritize the funding** of SGR projects from existing funding sources."* FTA 49 CRF Parts 625 and 630

<https://www.gpo.gov/fdsys/pkg/FR-2016-07-26/pdf/2016-16883.pdf>

Which is most important?

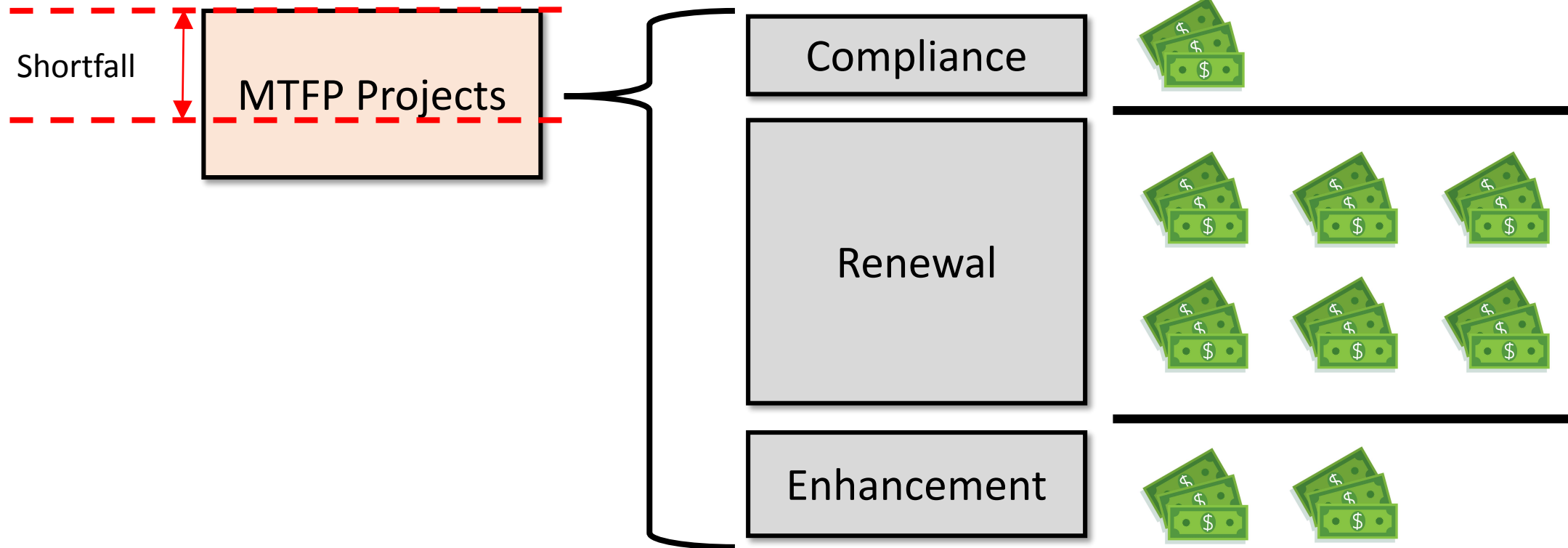


A Potential Solution = Asset Management

*"...a **systematic approach** is needed to ensure that existing funding resources are **strategically managed** to target the SGR backlog and meet the increased demand for transit." FTA 49 CFR Parts 625 and 630*

<https://s3.amazonaws.com/public-inspection.federalregister.gov/2016-16883.pdf?1469450741>

Strategically Manage



Alignment to Purpose



***Moving
People***

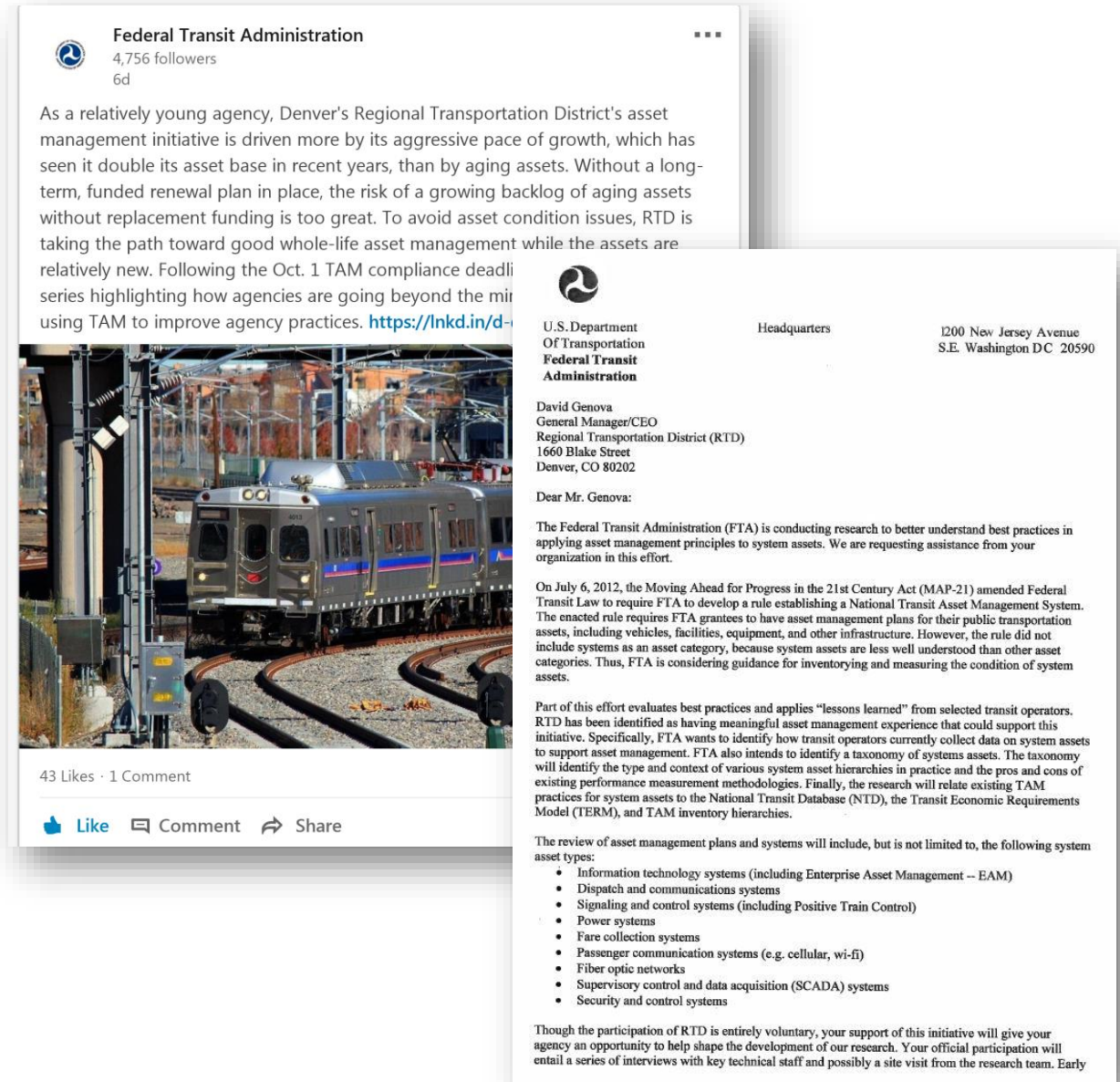
Transit Asset Management Plan (TAMP)



***Moving
People***


We are Compliant and Industry leaders

- Accountable Executive certified TAM compliance.
- Compliance during a comprehensive oversight review (Triennial or State Management)
- RTD is using proven standard to achieve excellence
- FTA holding RTD up as an example.



Federal Transit Administration
4,756 followers
6d

As a relatively young agency, Denver's Regional Transportation District's asset management initiative is driven more by its aggressive pace of growth, which has seen it double its asset base in recent years, than by aging assets. Without a long-term, funded renewal plan in place, the risk of a growing backlog of aging assets without replacement funding is too great. To avoid asset condition issues, RTD is taking the path toward good whole-life asset management while the assets are relatively new. Following the Oct. 1 TAM compliance deadline, we are launching a series highlighting how agencies are going beyond the minimum requirements using TAM to improve agency practices. <https://lnkd.in/d->



43 Likes · 1 Comment

Like Comment Share

**U.S. Department Of Transportation
Federal Transit Administration**

Headquarters
1200 New Jersey Avenue
S.E. Washington DC 20590

David Genova
General Manager/CEO
Regional Transportation District (RTD)
1660 Blake Street
Denver, CO 80202

Dear Mr. Genova:

The Federal Transit Administration (FTA) is conducting research to better understand best practices in applying asset management principles to system assets. We are requesting assistance from your organization in this effort.

On July 6, 2012, the Moving Ahead for Progress in the 21st Century Act (MAP-21) amended Federal Transit Law to require FTA to develop a rule establishing a National Transit Asset Management System. The enacted rule requires FTA grantees to have asset management plans for their public transportation assets, including vehicles, facilities, equipment, and other infrastructure. However, the rule did not include systems as an asset category, because system assets are less well understood than other asset categories. Thus, FTA is considering guidance for inventorying and measuring the condition of system assets.

Part of this effort evaluates best practices and applies "lessons learned" from selected transit operators. RTD has been identified as having meaningful asset management experience that could support this initiative. Specifically, FTA wants to identify how transit operators currently collect data on system assets to support asset management. FTA also intends to identify a taxonomy of systems assets. The taxonomy will identify the type and context of various system asset hierarchies in practice and the pros and cons of existing performance measurement methodologies. Finally, the research will relate existing TAM practices for system assets to the National Transit Database (NTD), the Transit Economic Requirements Model (TERM), and TAM inventory hierarchies.

The review of asset management plans and systems will include, but is not limited to, the following system asset types:

- Information technology systems (including Enterprise Asset Management -- EAM)
- Dispatch and communications systems
- Signaling and control systems (including Positive Train Control)
- Power systems
- Fare collection systems
- Passenger communication systems (e.g. cellular, wi-fi)
- Fiber optic networks
- Supervisory control and data acquisition (SCADA) systems
- Security and control systems

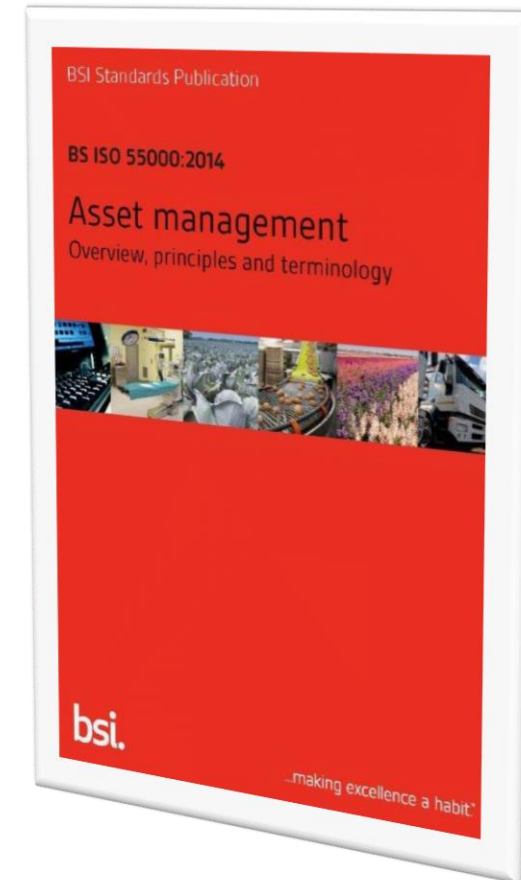
Though the participation of RTD is entirely voluntary, your support of this initiative will give your agency an opportunity to help shape the development of our research. Your official participation will entail a series of interviews with key technical staff and possibly a site visit from the research team. Early

Section 3 – Asset Management

ISO 55000

Proven standard to deliver value

General Manager and Board Goal:



Achieve ISO 55000 certification

Industry news – MARTA achieves ISO 55000

MASS TRANSIT

BUS

RAIL

TECHNOLOGY

SAFETY & SECURITY

ALT. MOBILITY

TRANSIT BIDS

CAREER CENTER

RAIL | INFRASTRUCTURE | MARTA'S ASSET MANAGEMENT PROGRAM GAINS INTERNATIONAL CERTIFICATION

MARTA's asset management program gains international certification

MARTA becomes first North American transit agency to achieve ISO 55000 certification, which provides an asset management system model that takes a whole life cycle approach.

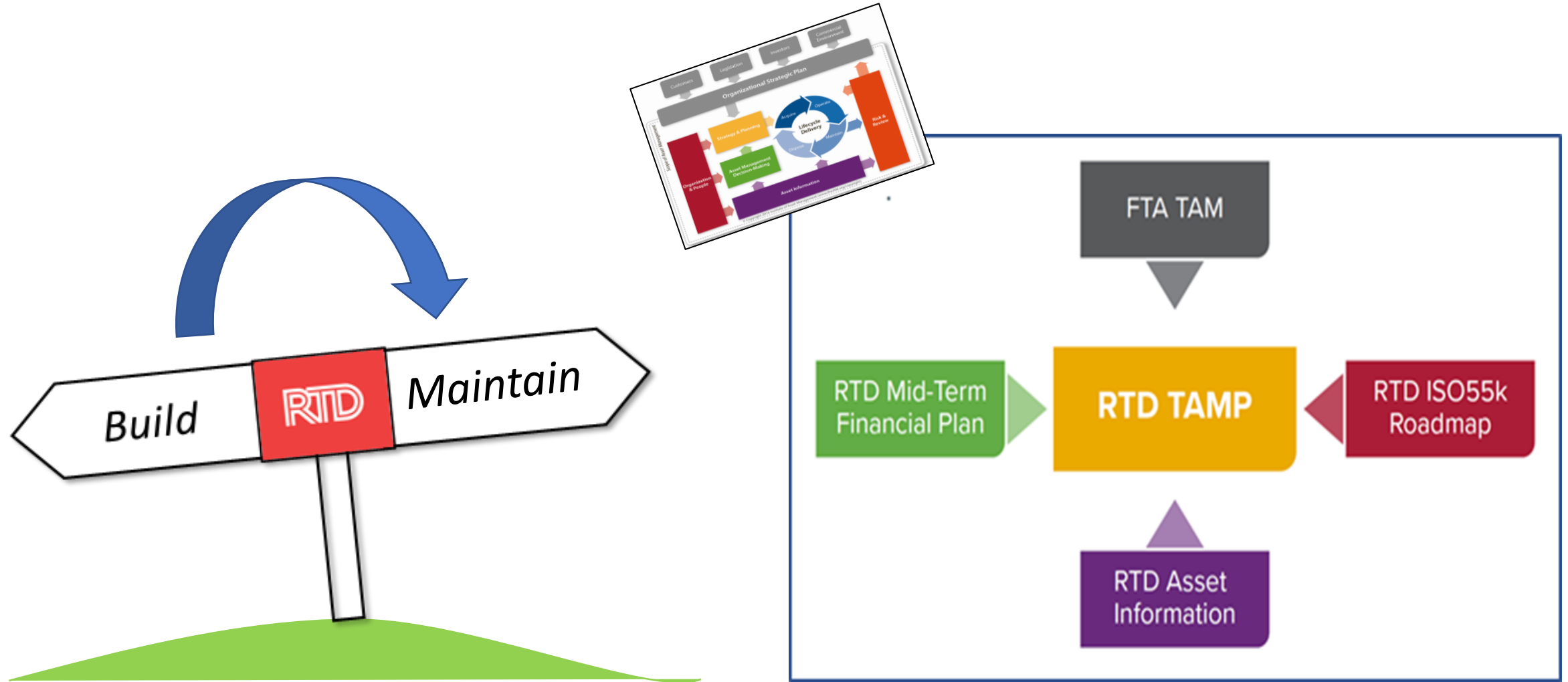
MISCHA WANER-LIBMAN MARCH 20, 2019

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To maintain what we've built, good Asset Management is critical



What is ISO 55000

The ISO 55000 is a series of three standards:

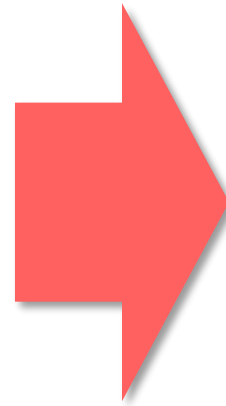
- ISO 55000 provides an overview of the subject of asset management and the standard terms and definitions
- ISO 55001 is the requirements specifications for an integrated, effective management system of assets.
- ISO 55002 provides guidance for the implementation of such a management system

- SMS – Safety Management Systems is also a management system and now law.

Shifting focus

2004 - 2017

“Build as much as we can,
as fast as we can”



How ISO 55000 will help

THEMES	How ISO 55000 will support this
Safety	Strong AM management system supports the discipline for safety as well as ensuring safety is taken into account in all asset decisions
Customer Satisfaction	Aligned AM framework ensures customer requirements are appropriately addressed across decisions – and builds trust in customers through transparent decision-making
Reliability	Good practice AM builds reliability – proactively managing the risk of asset failure – into the heart of planning
Value for money	Alignment in an AM management system allows the organization to optimize cost, risk and performance to deliver value
Compliance & Ethics	Good AM is about transparent, justifiable decisions – the management system supports this at all levels
Sustainability	An aligned AM management system is all about medium and long term strategy and planning, not just short term
Move people efficiently	Good AM management system supports focus on what the organization really exists to deliver

Crosswalk

FTA TAM Regulation

- more accessible for agencies with less capacity
- Specific deliverables and steps
- Decision making framework

ISO 55000 Standards

- Comprehensive organization wide process
- Scalable non specific and adaptable to environment
- Asset management framework

Focus on leadership, communication and monitoring performance

Section 4 – Asset Stewardship

Guardians

Asset Stewardship

When one tugs at a single thing in nature, he finds it attached to the rest of the world.

-John Muir

Asset Stewardship

*The word "steward" for the National Park Service (NPS) means a **manager, administrator, or guardian** who cares for the public parks, resources, and values.*

*NPS employees **carefully balance preservation and conservation** efforts and look to **sustainability** for the **future**. In instances where preservation and public enjoyment conflict, resource management practices dictate that **preservation should prevail**.*

Asset Stewardship

*The word "steward" for the **Transit Agencies** means a **manager**, **administrator**, or **guardian** who cares for the public, **assets**, and **resources**.*

***RTD** employees **carefully balance preservation and conservation** efforts and look to **sustainability** for the **future**. In instances where preservation and **expansion** conflict, resource management practices dictate that **preservation should prevail**.*

Remember that Asset Management is the question... **AND THEN WHAT?**

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RTD's Asset Management Team

Regional Transportation District

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