MIAMI-DADE COUNTY

Department of Transportation and Public Works

State of Good Repair

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BACKGROUND

- Established in 1960, 15th Largest Public Transportation System, Largest in the State of Florida
- Multi-modal System
  - Metrobus - Approximately 850 Revenue Vehicles, 93 routes, and travels nearly 34 million miles of service
  - Metrorail - Approximately 25 miles (bi-directional) elevated, electrically powered rapid transit system with 23 Passenger Stations and approximately 140 Revenue Heavy Rail Vehicles
  - Metromover - Approximately 4.4 miles (bi-directional) elevated people mover system with 22 Passenger Stations and approximately 29 Automatic Guideway Vehicles
  - Paratransit - Special Transportation Services (Contracted Services)
  - Facilities - Approximately 162 individual locations (Maintenance Shops and Utilities, Administrative Offices, Parking Facilities, Pedestrian Walkways, Pedestrian Overpasses, and Transfer Stations)

MAP-21 requires the development of a Transit Asset Management (TAM) Plan for all public transportation agencies receiving Federal financial assistance. The purpose of the Final Rule is to help achieve and maintain a State of Good Repair (SGR) for the nation's public transportation assets and the reduction of SGR backlogs.

State of Good Repair Definition

The condition in which a capital asset is able to operate at a full level of performance. Does the asset answer the following questions:

1. Is the asset able to perform its designed function,

1. Does the asset pose a known unacceptable safety risk, and

2. Has the asset life-cycle investment been met or recovered?

SGR Reportable Inventory

- ROLLING STOCK - All types of passenger carrying rolling stock, except emergency contingency vehicles and contracted vehicles.

- EQUIPMENT - Non-revenue vehicles regardless of value, except construction and maintenance equipment (crane, prime mover, fork lifts, solar panel battery packs and generators).

- FACILITIES - All facilities required for transportation services (Administrative, Maintenance, Passenger & Parking). These facilities are additionally broken into 16 sub-categories.

- INFRASTRUCTURE - Percentage of track segments by mode that incurs a performance restriction.

SGR Performance Targets

- Service Equipment & Rolling Stock (Age Based)

The definition allows for a Defaulted Useful Life Standard or an Agency Defined Benchmark. DTPW utilizes the Defaulted Useful Life Benchmark outlined by the FTA.

ASSET CATEGORY	ASSET CLASS / ASSET TYPE	FLEET SIZE	FLEET AGE	USEFUL LIFE (ULB)	FY18 TARGET	FY 18 PERFORMANCE METRIC (% Exceeding ULB)	FY 19 TARGET
Rolling Stock	Minibus (BU)	79	9.8	10	96%	2%	68%
	Cutaway (CU)	30	0.2	10	N/A		
	Over-The-Road (BU)	12	11.4	14	0%	43%	43%
	Commuter Bus (BU)	9	5.0	14	N/A		
	40 Foot Bus (BU)	723	13.0	14	59%		
	Articulated Bus (BU)	89	3.2	14	0%		
	Metrorail (HR)	142	31.2	31	90%	96%	71%
	Metromover (AG)	48	13.8	20	0%	40%	40%

ASSET CATEGORY	ASSET CLASS / ASSET TYPE	FLEET SIZE	FLEET AGE	USEFUL LIFE BENCHMARK (ULB)	FY 18 TARGET	FY 19 TARGET
Equipment	Automobile	103	6.8	8	49%	40%
	Steel Wheel Vehicles	7	23.7	25	89%	71%
	Trucks & Other Rubber Tire Vehicles	159	15.1	14	49%	55%

SGR Performance Targets

- Facilities (Condition Based)

This category is represented at the highest asset class. There are several asset types and sub-asset components required to successfully determine the condition of a facility.

ASSET CATEGORY	ASSET CLASS	NUMBER OF FACILITIES	FACILITIES ASSESSED	FY 18 PERFORMANCE METRIC (< 3 on TERM Scale)	FY 19 TARGET
Facilities	Maintenance & Administration	41	0	0%	0%
	Passenger & Parking	114	0	0%	0%

Facility Condition Assessments have been developed and approved. Currently, none of the facilities have received an initial assessment.

SGR Performance Targets

- Facilities (Condition Based)
  - List all asset types and potential sub asset types (example: Service & Inspection, Vehicle Washing or Fueling)
  - Define Facility Components (see examples below)
  - Define Condition Assessment Language (TERM Lite 5 point Scale)
  - Conduct Assessment (Projected to use current inspection schedule for better productivity)
  - Calculate Overall Condition (Weighted Average)

Example – Calculating Overall Condition Using Alternative 1

The following is an example calculation overall rating using Alternative 1- Weighted Average Condition.

Component	Value	Rating
Substructure	2.4	1.87
Shell	2.2	2.11
Interiors	0.9	3.10
Conveyance	1.5	2.38
Plumbing	1.5	2.08
HVAC	1.1	2.83
Fire Protection	1.6	2.91
Electrical	1.0	2.48
Equipment	1.1	3.16
Site	0.4	2.90
Total	***13.7***	***2.44***

Based on this method the average rating is 2.44. This rounds to an overall rating of 2.

SGR Performance Targets

- Infrastructure (Performance Based)

Percentage of track segments by mode that has incurred a performance restriction. Although all modes of transportation are required, only rail fixed guideway systems are reportable.

ASSET CATEGORY	ASSET CLASS	SYSTEM (TRACK FEET)	TOTAL PERFORMANCE RESTRICTIONS	FY 18 PERFORMANCE METRIC (% Performance Restrictions)	FY 19 TARGET
Infrastructure	Rail Fixed Guideway	298,957	4	1.39%	0%
	Mover Automated Guideway	46,464	0	0%	0%

SGR Performance Targets

Percentage of Inventory in SGR by January of the following Calendar Year

- Infrastructure (Performance Based)
  - List fixed guideway segments, total directional miles and design speed
  - Define and categorize all potential performance restrictions
  - Record all restrictions, determine which are performance based
  - Calculate performance restriction length by month
  - Calculate annual average performance restriction

Example List of Guideway Segments

Segment ID	Description	From	To	DRM	Design Speed (MPH)
1	Track 1 West Station	0.00	0.10	0.10	10
2	Track 1 West-Park	0.10	2.90	2.80	40
3	Track 1 Park Station	2.90	3.10	0.20	10
4	Track 1 Park-East Station	3.10	7.90	4.80	40
5	Track 1 East Station	7.90	8.00	0.10	10
6	Track 2 West Station	0.00	0.10	0.10	10
7	Track 2 West-Park	0.10	2.90	2.80	40
8	Track 2 Park Station	2.90	3.10	0.20	10
9	Track 2 Park-East Station	3.10	7.90	4.80	40
10	Track 2 East Station	7.90	8.00	0.10	10

Example Form Showing Sum of Length of Performance Restrictions

Segment ID	Descrip-tion	From	To	DRM	Performance Restriction Cause
2.1	Track 1 West-Park A	0.10	0.35	0.25	Temporary speed restriction due to rail defects
2.3	Track 1 West-Park C	2.75	2.90	0.15	ROW maintenance
4.2	Track 1 Park-East Station B	7.67	7.90	0.23	East Station Improvement Project
7.1	Track 2 West-Park A	0.10	0.35	0.25	Temporary speed restriction due to rail defects
9.2	Track 2 Park-East Station B	4.00	5.08	1.08	Temporary speed restriction due to improper elevation
9.4	Track 2 Park-East Station D	7.67	7.90	0.23	East Station Improvement Project
Total				**2.19**	

Table 5 - Example Breakdown and Calculation of Yearly Average of Guideway Under Performance Restriction, Tabulated By Cause.

Restriction Causes (Examples)	Month 1	2	3	4	5	6	7	8	9	10	11	12	YTD AVG
Maintenance	0.15	2.05	2.45	1.78	1.50	0.57	1.50	1.05	1.25	0.40	0.15	0.15	1.08
Rail Defect	0.50	0.15	0.91	0.91	0.91	0.25	0.44	0.25	0.44	0.15	0.50	0.50	0.49
Signal, Controls Issue	0.00	0.50	0.53	0.53	0.53	0.11	0.11	0.00	0.20	0.20	0.00	0.00	0.23
Bridge Conditions	0.00	0.00	0.00	0.00	0.00	0.50	0.50	0.50	0.02	0.10	0.10	0.00	0.14
Track Geometry	1.08	0.25	0.00	0.00	0.00	0.75	0.70	0.75	0.75	0.25	0.08	0.08	0.39
Construction	0.46	0.00	0.00	0.00	0.00	1.20	1.20	3.00	2.00	0.00	0.00	0.46	0.69
Other	0.00	0.31	0.31	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
TOTAL Under Performance Restriction (miles)	2.19	3.26	4.20	3.53	2.94	3.38	4.45	5.55	4.66	1.10	0.83	1.19	3.11

DTPWs NEXT STEPS

- Review and certify the Comprehensive Transit Asset Management Plan – projected by 9/1/18
- Facility Condition and Performance Assessment: Full implementation over 3 years
  - 1/3 due by fiscal year 2018 (January 2019)
  - 1/3 due by fiscal year 2019 (January 2020)
  - 1/3 due by fiscal year 2020 (January 2021)
- Decision Support Tool for support of Investment Prioritization Strategies – projected by fiscal year 2019
- Program Evaluation and Lessons Learned
- GAP Analysis Report