PUERTO RICO HIGHWAYS AND TRANSPORTATION AUTHORITY

Transit Asset Management Plan
ATM - Autoridad de Transporte Marítimo

VERSION: 1.0

DATE: May 7, 2020

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TABLES

FIGURES

1. ABBREVIATIONS

Abbreviation	Expansion
AMA	*Autoridad Metropolitana de Autobuses* (MBA in English)
ATI	*Autoridad de Transporte Integrado*(PRITA in English)
ATM	*Autoridad de Transporte Marítimo* (MTA in English)
DTOP	*Departamento de Transporte y Obras Públicas* (DTPW in English)
DTPW	Department of Transportation and Public Works (DTOP in Spanish)
NTD	National Transit Database
MBA	Puerto Rico Metropolitan Bus Authority (AMA in Spanish)
MTA	Puerto Rico Maritime Transport Authority (ATM in Spanish)
PRHTA	Puerto Rico Highways and Transportation Authority
PRITA	Puerto Rico Integrated Transit Authority (ATI in Spanish)
SGR	State of Good Repair
SMART	Specific-Measurable-Achievable-Relevant-Timely, acronym for target setting criteria
STIP	Statewide Transportation Improvement Plan
TAM	Transit Asset Management
TAMP	Transit Asset Management Plan
TERM	Transit Economic Requirements Model
ULB	Useful Life Benchmark
UPWP	Unified Planning Work Program

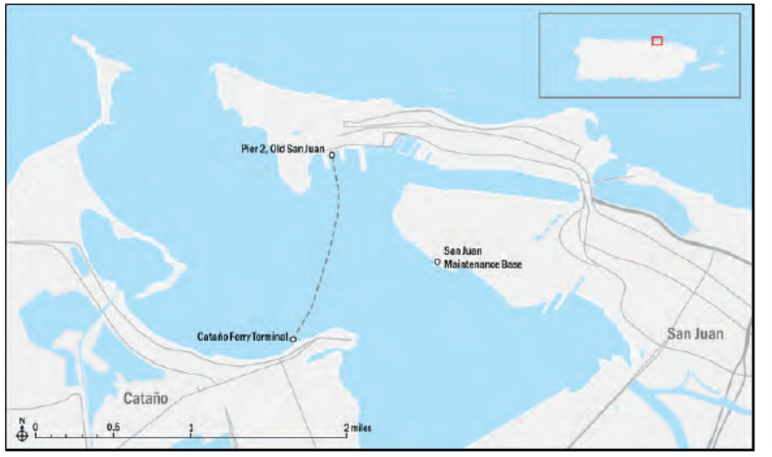
Table 1 - TAMP Abbreviations

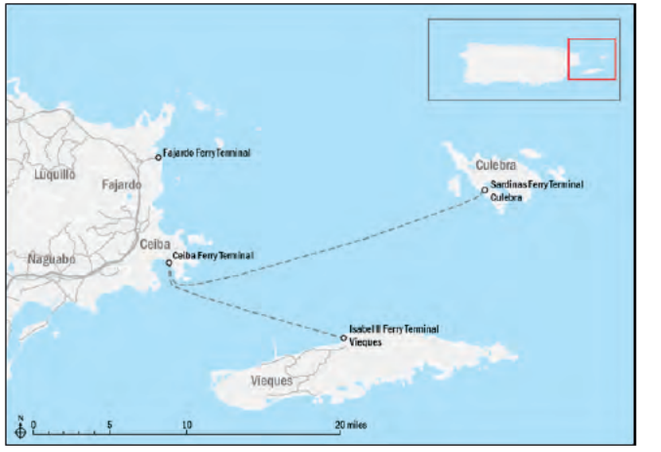
Autoridad de Transporte Marítimo (ATM)

Puerto Rico Maritime Transport Authority (PRMTA)

Background

The Puerto Rico Maritime Transport Authority (PRMTA), also known Autoridad de Transporte Marítimo (ATM), was created on January 1, 2000 through the "Puerto Rico and Island Municipalities Maritime Transport Authority Act". The Act established ATM as a public corporation that owns ferry assets used to provide maritime ferry services on the main island and from the main island to the island municipalities. The ATM is under the Department of Transportation and Public Works (DTOP), which oversees all transportation agencies in Puerto Rico.

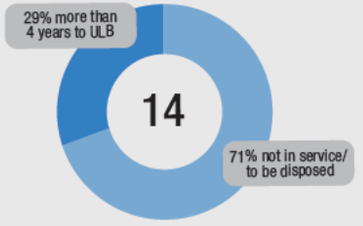




Rolling Stock Performance

Rolling stock performance is measured by the percentage of revenue vehicles that meet or exceed the Useful Life Benchmark (ULB). ATM owns 14 ferryboats; four vessels are capable of transporting both passengers and cargo. The remaining vessels are out of order, awaiting critical maintenance or disposal. ATM leases three additional vessels from a private operator, Puerto Rico Fast Ferries.

Ferry Boats



Privately operated ferries, leased by ATM

3

3 Routes
Serving the San Juan and the Puerto Rico Islands

3.2m Riders
In FY 2018

14 Rolling Stock Vehicles
Ferry boats

	Asset Type	No. of Assets	Useful Life Benchmark (ULB)	Average Age (2020)	No. of Assets that Meet or Exceed ULB	FY 2019 Performance (% not SGR)	FY 2020 Performance Target (% not SGR)	FY 2021 Performance Target (% not SGR)
Revenue Vehicles	Ferry Boats	14	42	20	0	0% only 4 assets in services)	0%	0%
Non-Revenue Vehicles	Other Rubber Tire Vehicles	8	14	13	4	50%	-	-
	Generator	1	N/A	N/A	N/A	N/A	-	-
Facilities*	Administrative/ Maintenance	N/A	N/A	N/A	1	50%	0%	0%
	Terminal/Parking	N/A	N/A	N/A	3	60%	0%	0%

*Facilities are rated on the FTA TERM scale 1-5. Good performance is indicated by a Level 2 Facility score for 3 or higher.

3. INTRODUCTION

The Commonwealth of Puerto Rico is an unincorporated territory of the United States located in the northeast Caribbean Sea. The Island is home to 3.2 million constituents making it the 31st most populous U.S. state / territory.

Figure 1 - Map of Puerto Rico

To traverse the Island, Puerto Ricans rely upon a combination of public and private transit options. In the early 2000s, Puerto Rico took steps towards broadening its public transit system. This past decade, however, the provision of public transit has suffered from a persistent debt crisis, declining population, and increasingly severe natural disasters. As a result, the utilization of and investment in public transit has fallen and the Island has become heavily auto and highway dependent, thereby significantly increasing vehicular traffic in the San Juan Urbanized Area.

In addition to increased traffic volumes, the provision of public transit is also an issue of equity. 40% of Puerto Ricans live below the poverty line; a figure three times higher than the national average of 13.5%. Dependable, accessible, and affordable public transportation options is foundational to facilitating economic prosperity on the Island.

This document serves as the formal **Transit Asset Management Plan (TAMP)** for the Puerto Rico Maritime Transport Authority (MTA) or Autoridad de Transporte Marítimo (ATM), with sponsorship from the Puerto Rico Highways and Transportation Agency (PRHTA), in accordance to the **Final Rule for Transit Asset Management (TAM)**.

> *Transit asset management is the strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing transit capital assets to manage their*

performance, risks, and costs over their life cycles, for the purpose of providing safe, cost-effective, and reliable public transportation. [1]

The **Moving Ahead for Progress in the 21st Century (MAP-21) Act** was signed into law on July 6, 2012, which authorized $105 billion in funding towards surface transportation programs. Through MAP-21, the Federal Transit Administration (FTA), issued the Final Rule for Transit Asset Management; National Transit Database (49 CFR Sections 625 and 630) on July 26, 2016. The Final Rule established the requirement for recipients and sub-recipients of FTA funding to develop a TAMP.

By developing the TAMPs, FTA aims to improve safety and performance of the transportation network, reduce the $85.9 billion backlog to achieve a State of Good Repair (SGR), and enhance the asset management capabilities of transit providers nationwide. According to the Final Rule, "[a] capital asset is in a state of good repair if it is in a condition sufficient for the asset to operate at a full level of performance"[2]. Performance is measured in different ways depending on the type of asset and will be covered later within this TAMP.

The Final Rule has established criteria to separate larger Tier-I providers and smaller Tier-II providers, as seen in Table 2 below.

Tier	Criteria
Tier-I	Tier I providers are those operators with one hundred and one (101) or more vehicles in revenue service during peak regular service or operators of rail fixed-guideway public transportation systems.
Tier-II	Tier II providers are those transit operators that do not operate rail fixed-guideway public transportation systems and have either one hundred (100) or fewer vehicles in fixed-route revenue service during peak regular service or have one hundred (100) or fewer vehicles in general demand response service during peak regular service hours.

Table 2 – Transit Provider Criteria

The TAMP requirements differ based on the relative size of the transit provider, as seen in Table 3 below.

Tier	Element	Description
Tier-I and Tier-II	Inventory of Capital Assets	A register of capital assets and information about those assets.
	Condition Assessment	A rating of the assets' physical state; to be completed for assets an agency has direct capital responsibility for; should be at a level of detail sufficient to monitor and predict performance of inventoried assets.

[1] Transit Asset Management definition 49 CFR Section 625.5
[2] Sec. 625.17 of FTA Final Rule on Transit Asset Management

	Decision Support Tools	An analytic process, tool or methodology that assists in capital asset investment prioritization and/or estimates capital needs over time.
	Investment Prioritization	A prioritized list of projects or programs to manage or improve the SGR of capital assets.
Tier-I Only	TAM and SGR Policy	The executive-level direction regarding expectations for transit asset management and State of Good Repair of capital assets.
	Implementation Strategy	The actions that a transit provider decides to conduct to achieve its TAM goals and policies.
	List of Key Annual Activities	The actions needed to implement a TAM plan for each year of the plan's horizon.
	Identification of Resources	A summary or list of the resources, including personnel, that a provider needs to develop and carry out the TAM plan.
	Evaluation Plan	An outline of how a provider will monitor, update, and evaluate its TAM plan and related business practices to ensure the continuous improvement.

Table 3 - TAMP Required Elements

All transit providers in this TAMP are Tier-II providers and therefore only contain the following elements:

Figure 2 - Core FTA TAMP Requirements

Through these four elements, transit agencies can assess their current SGR, identify needs to improve SGR, set performance targets and outline their plans to achieve those targets.

The Final Rule also establishes that State Departments of Transportation may sponsor Group TAMPs for Tier-II subrecipients. PRHTA administers FTA grant funding to its subrecipients in-lieu of the Puerto Rico Department of Transportation and Public Works, is sponsoring this TAMP in order to assist its subrecipients in compliance with the Final Rule.

As the designated FTA grant funding administrator, the PRHTA has sponsored the development of the TAMPs for the following transit providers:

- Puerto Rico Metropolitan Bus Authority (MBA) or Autoridad Metropolitana de Autobuses (AMA)
- Puerto Rico Integrated Transportation Authority (PRITA) or Autoridad de Transporte Integrado (ATI) [3]
- **Puerto Rico Maritime Transport Authority (MTA) or Autoridad de Transporte Marítimo (ATM)**
- Seventy-Eight (78) Municipal Transit Services (Group TAMP)

All providers are united in their mission to enhance regional mobility and provide sustainable transit for riders

TAMPs are required to be updated every four years, though agencies may decide to update their TAMPs intermittently to reflect the most up-to-date information. The transit agencies in Puerto were given a two-year extension (2018 to 2020) to produce their TAMPs due to the extenuating circumstances caused by Hurricanes Irma and Maria in late 2017. Puerto Rico's TAMPs still cover a four-year horizon (FY2020 to FY2023). It is noted, however, that the TAMPs will need to be realigned with their respective agency's capital budget process as well as other regulatory investment and work plans.

[3] It is noted that Tren Urbano (TU), the Island's only rail provider, has opted to produce their TAMP without PRHTA's sponsorship.

4. PURPOSE AND SCOPE

TAMPs are a critical part of asset stewardship. They are used to assess the current condition of the assets owned by transit providers, support the long-term capital planning process and provide justification for the use of taxpayer's dollars and fares. The TAMP aims to demonstrate the optimal use of funds to maintain and improve the service provided. PRHTA's Agency TAMPs include:

- The inventory of assets owned, operated and maintained by the agencies
- The current condition of the agencies' asset base
- The processes, tools and measures used to assess agencies' performance
- How performance and needs assessments go into the decision-making process
- A proposed capital investment plan to achieve defined performance goals
- Actions for improvements in overall asset management capabilities

The TAM Final Rule states that every Tier-II provider must develop their own TAMP or participate in a group TAMP. The FTA defines a Tier-II provider as:

> *A recipient that owns, operates or manages one hundred (100) or fewer vehicles in revenue service during peak regular service across all non-rail fixed route modes or in any one non-fixed route mode, a subrecipient under the 5311 Rural Area Formula Program, or any American Indian tribe" (49 CFR 625.5).*

All sponsored transit providers, including ATM qualify as Tier II providers, due to having fewer than 100 revenue vehicles in service during peak regular service. The FTA requirements for a Transit Asset Management plan for Tier II providers are as follows:

FTA TIER II TAMP REQUIREMENTS	ASSET INVENTORY	CONDITION ASSESSMENT OF INVENTORIED ASSETS	DESCRIPTION OF DECISION SUPPORT TOOLS	INVESTMENT PRIORITIZATION
REQUIREMENT DESCRIPTION	A register of assets owned, operated and maintained by the agency and information about those assets.	A State of Good Repair (SGR) assessment for all inventoried assets owned by the agency. SGR assessment for rolling stock and non-revenue vehicles are aged-based condition assessments where each asset type has an estimated Useful Life Benchmark (ULB). Facilities are given an overall condition assessment score by averaging building elements scored on a 1-5 scale.	Processes or tools that assist in estimating long term capital needs and capital asset investment prioritization.	A prioritized list of projects, programs or procurements in order to meet SGR performance goals.

Figure 3 - FTA Requirements for Tier II TAMPs

5. AGENCY BACKGROUND INFORMATION

5.1 INTRODUCTION

The Puerto Rico Maritime Transport Authority (PRMTA), also known *Autoridad de Transporte Marítimo* (ATM), was created on January 1, 2000 through the "Puerto Rico and Island Municipalities Maritime Transport Authority Act". The Act established ATM as a public corporation that owns ferry assets used to provide maritime ferry services on the main island and from the main island to the island municipalities.

The ATM is under the Department of Transportation and Public Works (DTOP), which oversees all transportation agencies in Puerto Rico.

5.2 ORGANIZATIONAL STRUCTURE

During the production of this TAMP, ATM is in the process of transitioning its operations to a private operator. Under this arrangement, all operations, preventive maintenance and facility management will be handled by the private operator, while MTA retains ownership, capital planning and other support functions. The handover is expected to happen through a transition period of one year, starting with the maintenance facility, then the San Juan-Cataño route, and finally the Culebra and Vieques routes.

Figure 3 below shows the organizational structure following the handover of operations. The Contract Management Department will have the primary responsibility of monitoring the private operator and ensuring compliance with the contract.

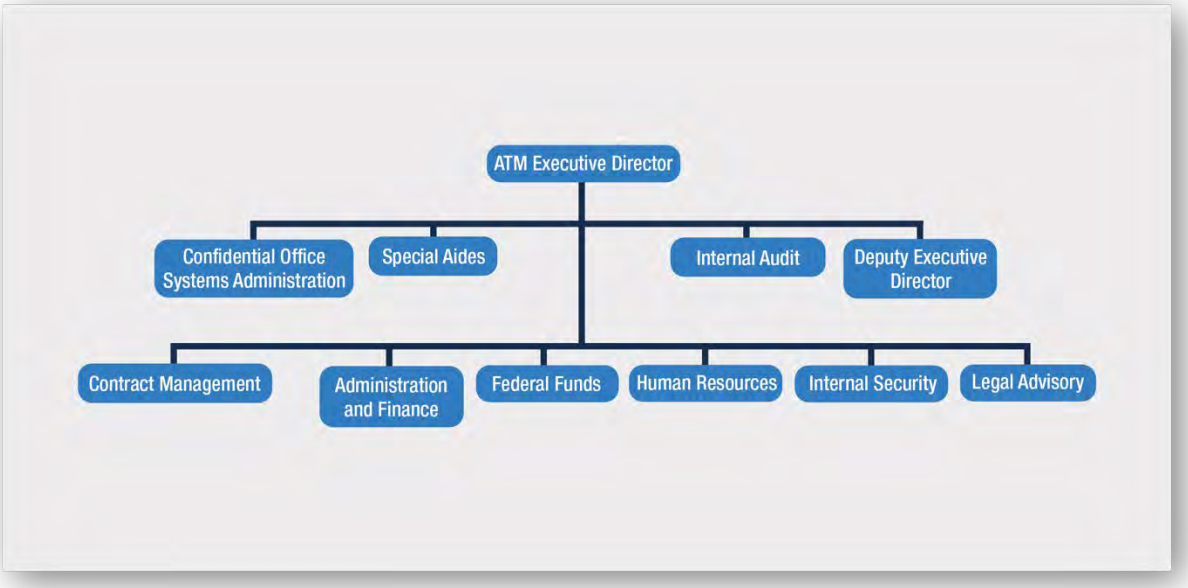


Figure 4 - ATM Organization Chart (post-handover)

5.3 SERVICE CONTEXT

ATM's three routes transport passengers and cargo between the main island and the island municipalities. The Metro service ferries passengers between the historic Old San Juan to the ferry terminal in Cataño, which is located just beside the Cataño Convention Center. This route is scheduled to run every 30 mins in both directions from 5:45AM to 9:45PM on weekdays and 8:00AM to 10:00PM on the weekends. The tickets for passengers cost $0.50 each and the travel time is approximately 10 minutes.

Figure 5 - Metro Service (Old San Juan - Cataño)

The Island Service transports passengers and cargo between the main island to the island municipalities of Vieques and Culebra. Originally, the Fajardo Terminal was used for this service, but due to severe damage during Hurricanes Irma and Maria in 2017, the Island Service had to be rerouted to the Ceiba Ferry Terminal, which ATM leases from the Puerto Rico Army National Guard.

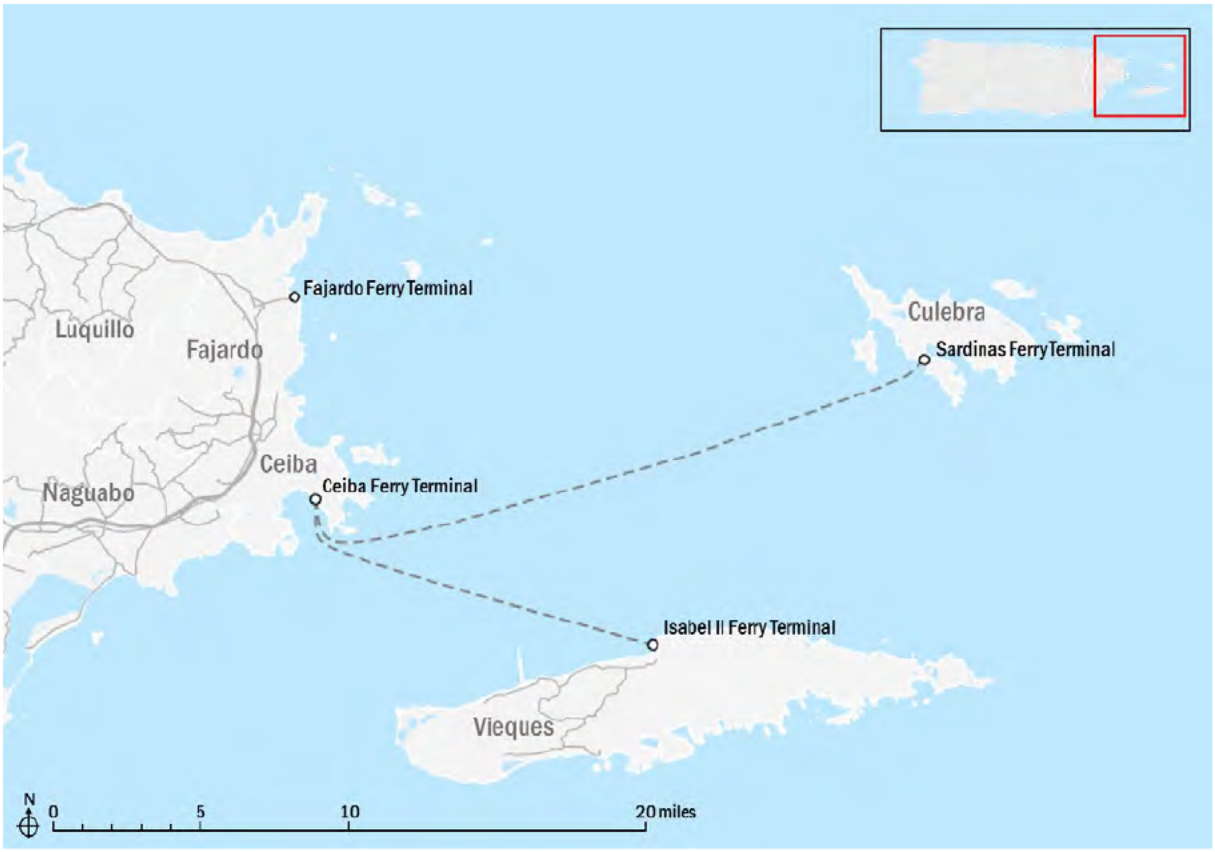


Figure 6 - Island Service (Ceiba - Culebra/Vieques)

This route is scheduled to run sixteen times a day (eight from either end) between 4:00AM-10:00PM for Ceiba – Vieques and 4:45-7:30PM for Ceiba - Culebra. The travel time from Ceiba to Vieques is approximately 90 minutes, and from Ceiba to Culebra is approximately 60 minutes. The passenger rates for these two routes can be found in Table 4:

Fare Type	Vieques	Culebra
Infants (0-2 years old)	Free	Free
Kids (3-11 years old)	$ 1.00	$ 1.00
Adults (12-59 years old)	$ 2.00	$ 2.25
Adults (60-74 years old)	$ 1.00	$ 1.00
Seniors (75 + years old)	Free	Free

Table 4 - Ceiba - Vieques/Culebra Passenger Fares

6. ASSET INVENTORY AND CONDITION ASSESSMENT

6.1 OVERVIEW

FTA requires an inventory of all rolling stock, equipment, infrastructure assets and facilities purchased with federal funds in the TAMP. Figure 6 shows the different types of assets within those categories.

Rolling stock contains all revenue vehicles. This includes active vehicles, standby vehicles and vehicles undergoing maintenance.

The equipment asset category contains all non-revenue service vehicles and equipment valued $50,000 or more.

The facility asset category contains administrative, maintenance, parking and passenger facilities that are used and/or owned by the agency. It is important to note that bus shelters and other similar structures are not considered within this asset category.

The infrastructure asset category contains all infrastructure used for the operations and maintenance of the rolling stock. This asset category typically pertains to all infrastructure for heavy rail, commuter rail and light rail transit.

For this TAMP, ATM's asset inventory consists of rolling stock, equipment and facilities used for the express purpose of running the ferry services.

Figure 7 - FTA Asset Inventory Requirements

The small fleet size and relatively small scale of operations do not constitute a significant need for an Enterprise Asset Management Software, and ATM has opted to direct their resources elsewhere. Even though their asset inventories are small, ATM can continue to improve the management of their asset inventory – see Section 9 for more details regarding improvements.

The condition assessment process varies by asset class. FTA's mandated SGR performance measure for revenue vehicles is the percentage of vehicles that have met or exceed their Useful Life Benchmark (ULB). Useful Life and ULB are defined in 49 CFR Section 625.5 – Definitions as:

> *Useful life means either the expected life cycle of a capital asset or the acceptable period of use in service determined by FTA.*

Useful life benchmark (ULB) means the expected life cycle or the acceptable period of use in service for a capital asset, as determined by a transit provider, or the default benchmark provided by FTA.

The ULB is the age at which a vehicle has reached the end of its economic useful life. This value may be specified in terms of vehicle age, mileage and/or other factors.

Useful life for facilities is based upon a facility condition rating score on a scale from 1-5, where facilities scored higher than 3 are considered to be in a State of Good Repair (see Section 6.4 for further details). For reporting purposes, the results of the facility condition and performance assessment are organized by the following asset classes:

- Administrative and Maintenance Facilities
- Passenger Terminals and Parking Facilities

An overview of ATM's asset can be seen in Table 5 below.

Asset Type	No. of Assets	Useful Life Benchmark (ULB)	Average Age/ Facility Condition Score	No. of Assets that Meet or Exceed ULB/ Facilities under Condition Score 3.0
Rolling Stock				
FB Ferryboat	14	42	27	0*
Equipment				
ORTV – Other Rubber Tire Vehicles	14	14	18	3
Generator	1	-	-	-
Facilities				
Administrative/Maintenance Facilities	2**	-	2.6	1
Passenger Terminals/Parking Facilities	5	-	2.8	3

Table 5 - ATM Overview of Asset Inventory

*5 Ferryboats are in process of being disposed due to significant damage

**Fajardo Terminal is included under Administrative/Maintenance Facilities because it is only being used for storage

6.2 ROLLING STOCK

ATM's rolling stock only consists of passenger and passenger/cargo ferryboats.

6.2.1 FERRYBOAT

ATM owns 14 ferryboats of varying size and type. Four of ATM's vessels are capable of transporting both passengers and cargo, which include private vehicles, construction equipment and materials, fuel and commercial goods, among others. Out of the 14 vessels, only four vessels are still in active service; the majority of the vessels are out of order and are awaiting critical maintenance or are marked for disposal. This is due to two reasons: (1) Hurricanes Irma and Maria significantly damaged the vessels and the sychrolift in the Isla Grande Maintenance Base beyond feasible repair, and (2) because of the broken synchrolift, vessels must be brought to the St. Thomas Subbase in the U.S. Virgin Islands to be repaired, which has caused a significant backlog.

In order to maintain their level of service, ATM has leased out three additional vessels from a private operator, Puerto Rico Fast Ferries (PRFF). Those vessels include *Julia Leigh* and *Coastal Explorer*, which are passenger vessels, and *Mr. Cade* which is a passenger/cargo vessel. These vessels are privately owned and operated by PRFF and so are not included in this TAMP.

Table 6 below provides details on each vessel in ATM's fleet.

Vessel Name	Vessel Type	Gross Tonnage	Dimensions (Length x Breadth)	In Service Date	Status	Service / Location	Replacement Cost
Cayo Blanco	Passenger	735	160 x 34 ft	4/7/2008	Operational	Island Service	$10,632,409
Cayo Largo	Passenger/ Cargo	652	165 x 46 ft	2/15/2007	Operational	Island Service	$6,601,640
Isleño	Passenger	528	154.2 x 41.4 ft	8/11/2003	Operational	Island Service	$3,966,258
Santa María	Passenger/ Cargo	326	134.5 x 36.1 ft	12/1/1989	Out of Order	St. Thomas Subbase	$1,860,647
Isla Bonita	Passenger/ Cargo	768	158.4 x 46.6 ft	3/1/2012	Out of Order	Ceiba Ferry Terminal	$2,905,132
Amelia	Passenger	87	72.2 x 26.2 ft	4/15/1989	Operational	Metro Service	$1,710,921
Covadonga	Passenger	87	72.2 x 26.3 ft	8/14/1989	Out of Order	Isla Grande Dry Dock	$1,306,826

La Décima	Passenger	45	45 x 17 ft	11/1/2008	Out of Order	Isla Grande Dry Dock	$1,306,826
Culebra II	Passenger	493	120.3 x 29.5 ft	1/1/1996	To Be Disposed	St. Thomas Subbase	$3,771,849
Caribeña	Passenger	191	89.5 x 24 ft	6/1/2003	To Be Disposed	Fajardo Ferry Terminal	$2,415,682
Fajardo II	Passenger	186	95 x 24 ft	1996	To Be Disposed	Lost during Hurricane	$1,917,600
Vieques II	Passenger	493	120.3 x 29.5 ft	6/30/1995	To Be Disposed	Isla Grande Dry Dock	$2,292,530
Cayo Norte	Passenger/ Cargo	497	155 x 41.5 ft	4/1/2008	To Be Disposed	Pier 15, San Juan	
La Princesa	Passenger	74	68.9 x 19.7 ft	8/25/1995	Out of Order	Isla Grande Dry Dock	$2,937,315

Table 6 - ATM Rolling Stock Asset Inventory

Figures 7 to 10 depict the vessels that are currently in active service:

Figure 8 - Cayo Blanco[5]

Figure 9 - Cayo Largo[6]

[5] © Angel Melendez, MarineTraffic.com
[6] © Angel Melendez, MarineTraffic.com

Figure 10 - Isleño[7]

Figure 11 - Amelia[8]

[7] © Tony Bessinger, MarineTraffic.com
[8] © Mladen Krce, MarineTraffic.com

6.3 EQUIPMENT

Equipment being used by ATM for maintenance and operations of the ferry vessels and facilities represents a large part of ATM's overall asset base. FTA mandates that all equipment owned and operated by transit agencies are to be included in the TAMP if they fall within the following asset classes:

- Non-Revenue Service Vehicles
- Equipment over $50,000 in acquisition value

While Non-Revenue Vehicles are subject to a condition assessment, equipment assets over $50,000 in acquisition value only need to be included in the agency's asset inventory.

Non-Revenue Service Vehicles Condition Assessments

The condition assessment approach for non-revenue service vehicles follows the same approach as revenue vehicles. Following FTA's guidelines, ATM uses fleet age as indicator of vehicle condition. A vehicle is deemed to be in good repair if its age is less than the ULB specified for the corresponding vehicle type. Likewise, a vehicle is deemed to no longer be in good repair if its age equals or exceeds the corresponding ULB.

Table 7 below provides details on the equipment/non-rolling stock vehicles in ATM's inventory.

Asset Type	Model	In-Service Date	Year ULB met	Location	Replacement Cost
Equipment - Generator	Planta Electrica Vagón Caterpillar V16S-L (Federal Transfer)	4/24/2015	- (no condition assessment)	Isla Grande Maintenance Base	$317,000
ORTV - Other Rubber Tire Vehicles	Forklift Hyster	7/1/1989	2003	Isla Grande Maintenance Base	$74,975
ORTV - Other Rubber Tire Vehicles	Forklift Hyundai HF70A	6/30/2003	2017	Fajardo Terminal	$74,975
ORTV - Other Rubber Tire Vehicles	Aircraft Tractor (Remolque) FMC B-350	unknown	-	Isla Grande Maintenance Base	-
ORTV - Other Rubber Tire Vehicles	Truck Sterling Acterra 2003 Plataforma 15' T.H37728	9/30/2003	2017	Isla Grande Maintenance Base	$49,995
ORTV - Other Rubber Tire Vehicles	Hydraulic Crane Grove RT540E de 40 TONS	9/7/2010	2024	Isla Grande Maintenance Base	$345,335

Asset Type	Model	In-Service Date	Year ULB met	Location	Replacement Cost
ORTV - Other Rubber Tire Vehicles	Genie Boom Z-45/25	1/12/2011	2025	Fajardo Terminal	$57,937
ORTV - Other Rubber Tire Vehicles	Genie Boom Z-45/25	1/12/2011	2025	Isla Grande Maintenance Base	$57,937
ORTV - Other Rubber Tire Vehicles	Truck de Puntal International MaxxForce 2011 T. H-58827	10/11/2011	2025	Ceiba Terminal	$192,495
ORTV - Other Rubber Tire Vehicles	Forklift DP70E (Digger)	4/1/2012	2026	Fajardo Terminal	$76,675
ORTV - Other Rubber Tire Vehicles	Forklift Caterpillar DP70E	4/1/2012	2026	Isla Grande Maintenance Base	$76,675
ORTV - Other Rubber Tire Vehicles	Forklift Truck Palm Industries (Transfer from Army)	12/15/2014	2028	Ceiba Terminal	$72,370
ORTV - Other Rubber Tire Vehicles	Truck Tractor 5 Ton. 6x6 MFR-5U403 T. H-71213 (Transfer from Army)	4/30/2015	2029	Fajardo Terminal	$75,620
ORTV - Other Rubber Tire Vehicles	Truck Cargo 5 Ton 6x6 M925 T. H-71212 (Transfer from Army)	4/30/2015	2029	Isla Grande Maintenance Base	$75,278
ORTV - Other Rubber Tire Vehicles	Truck Utility 1 1/4 Ton. 4x4 M998A1 1987 (Transfer from Army)	6/3/2015	2029	Isla Grande Maintenance Base	$47,023

Table 7 - ATM Equipment Asset Inventory

6.4 FACILITIES

To support their ferry services, ATM owns and maintains several terminals, parking, administrative and maintenance facilities. The facilities included in this TAMP are those that were purchased using FTA funds.

The condition assessment approach provided herein is based on FTA's guidance detailed in *TAM Facility Performance Measure Reporting Guidebook: Condition Assessment Calculation*[9]. See Appendix A for a detailed description of the facilities condition assessment methodology used for this TAMP.

The condition assessment approach for facilities is based on visual inspections to evaluate the overall facility condition rating for each facility. Facilities are broken up into primary level elements, which are then each broken up further into secondary level elements. Following a visual inspection of a secondary level element, a score is assigned to that secondary element using the 1-5 scale found in the FTA Transit Economic Requirements Model (TERM), as seen Table 8 below.

Rating	Condition	Description
5	Excellent	No visible defect, new or near new condition, may still be under warranty
4	Good	Good condition, but no longer new, may be slightly defective or deteriorated, but is overall functional
3	Adequate	Moderately deteriorated or defective; but has not exceeded useful life
2	Marginal	Defective or deteriorated in need of replacement; exceeded useful life
1	Poor	Critically damaged or in need of immediate repair; well past useful life

Table 8 - TERM Condition Assessment Scoring

The secondary level element scores are then aggregated using the equal weighting method to produce an overall score for each of the primary level elements, which are then aggregated again using the equal weighting method to produce an overall facility condition rating score.

This facility condition assessment approach supports calculation of the required SGR performance measure for facilities, which is the percentage of facilities within an asset class rated less than three on a five-point scale used in the FTA Transit Economic Requirements Model (TERM).

Using the condition rating for each facility, the percentage of facilities with a condition rating below 3.0 on the scale (1=Poor to 5=Excellent) is calculated for each facility asset class.

Table 9 below provides details on ATM's facilities. It is important to note that several facilities have multiple buildings, and so have individual condition assessment scores for each building as well as a composite score for the whole facility derived from the equal weight average of all the buildings in the facility. A complete list of each facility's condition assessment score broken down by element can be found in Appendix C.

[9] FTA TAM Facility Performance Measure Reporting Guidebook v1-2

No.	Facility	Type	Address	Condition Assessment Score	% of Facility Elements below 3.0
1	Cataño Ferry Terminal	Terminal	Frente Marítimo Avenida Las Nereidas, Cataño 00962	3.21	33%
2	Isla Grande Maintenance Base	Maintenance	Calle Lindbergh final Isla Grande, San Juan 00907	3.32	13%
2a	Isla Grande Maintenance Base – Maintenance Building	Maintenance	Calle Lindbergh final Isla Grande, San Juan 00907	3.46	17%
2b	Isla Grande Maintenance Base – Administrative & Warehouse Building	Administrative	Calle Lindbergh final Isla Grande, San Juan 00907	3.68	0%
2c	Isla Grande Maintenance Base – Personnel Building	Administrative	Calle Lindbergh final Isla Grande, San Juan 00907	3.83	0%
2d	Isla Grande Maintenance Base – Synchrolift Control & Generator Building	Maintenance	Calle Lindbergh final Isla Grande, San Juan 00907	3.14	20%
2e	Isla Grande Maintenance Base – Dock & Fueling Station	Maintenance	Calle Lindbergh final Isla Grande, San Juan 00907	1.64	100%
2f	Isla Grande Maintenance Base - Dry Dock Boat Elevator & Transfer Equipment	Maintenance	Calle Lindbergh final Isla Grande, San Juan 00907	1.00	100%
3	Cataño Ferry Terminal – Pier 2	Terminal	Muelle 2 calle Marina Paseo Gilberto Concepción de Gracia, San Juan 00901	2.94	22%
4	Fajardo Ferry Terminal	Maintenance*	Calle Union Final Playa Puerto Real, Fajardo 00738	2.44	100%

No.	Facility	Type	Address	Condition Assessment Score	% of Facility Elements below 3.0
4a	Fajardo Ferry Terminal - Terminal	Terminal	Calle Union Final Playa Puerto Real, Fajardo 00738	1.89	89%
4b	Fajardo Ferry Terminal – Administrative Building	Administrative	Calle Union Final Playa Puerto Real, Fajardo 00738	3.48	13%
4c	Fajardo Ferry Terminal – Mechanical Workshop	Maintenance	Calle Union Final Playa Puerto Real, Fajardo 00738	2.05	86%
4d	Fajardo Ferry Terminal – Fueling Station	Maintenance	Calle Union Final Playa Puerto Real, Fajardo 00738	2.44	50%
4e	Fajardo Ferry Terminal – Parking Facilities	Parking	Calle Union Final Playa Puerto Real, Fajardo 00738	2.68	100%
4f	Fajardo Ferry Terminal – Welding Shop	Maintenance	Calle Union Final Playa Puerto Real, Fajardo 00738	2.25	50%
4g	Fajardo Ferry Terminal Warehouse	Maintenance	Calle Union Final Playa Puerto Real, Fajardo 00738	2.50	33%
4h	Fajardo Ferry Terminal – Plumbing, Electrical and Carpentry Workshops	Maintenance	Calle Union Final Playa Puerto Real, Fajardo 00738	2.25	50%
5	Sardinas Ferry Terminal	Terminal	Bo. Sardinas Carr. PR-250, Culebra 00775	3.11	11%
6	Isabel II Ferry Terminal	Terminal	Calle Germán Rieckehoff #581, Vieques 00765	2.68	56%
7	Ceiba Ferry Terminal**	Terminal	Marina DR, Roosevelt Roads, Ceiba 00735	2.88	57%

No.	Facility	Type	Address	Condition Assessment Score	% of Facility Elements below 3.0
	Summary	**Administrative & Maintenance**		**2.6**	**58%**
		Terminals & Parking		**2.8**	**71%**

Table 9 - ATM Facility Asset Inventory

*Fajardo Ferry Terminal is categorized under Maintenance because it is only being used for storage

**ATM leases the Ceiba Ferry Terminal to replace the Fajardo Ferry Terminal

7. PERFORMANCE

7.1 PERFORMANCE GOALS AND OBJECTIVES

ATM's performance objective is to ensure that all rolling stock and facility assets are in a State of Good Repair by the end of FY2020 prior to handover all operations and maintenance to the private operator.

Table 10 below shows the performance goals for ATM's rolling stock in FY 2020 and FY2021.

Asset Type	No. of Assets*	Average Age of Assets	No. of Assets that Meet or Exceed ULB	% of Assets that Meet or Exceed ULB	FY 2020 Performance Target	FY 2021 Performance Target
Ferryboat	9	20	0	0%	0%	0%

Table 10 - ATM Rolling Stock SGR Performance

*Does not include assets marked for disposal

All of ATM's ferryboats are below their useful life benchmark, with an average remaining useful life of 42 years – well beyond the scope of this TAMP. Despite this, a significant proportion of ATM's fleet requires major maintenance or overhauls and are therefore not in a State of Good Repair. In order to capture this, Table 11 below shows the number of assets that are out of service rather than the number of assets over the useful life benchmark.

Asset Type	No. of Assets*	Average Age of Assets	No. of Assets Out of Service	% of Assets that are Out of Service	FY 2020 Performance Target	FY 2021 Performance Target
Ferryboat	9	20	5	55.6%	0%	0%

Table 11 - ATM Rolling Stock SGR Performance (including out-of-service assets)

*Does not include assets marked for disposal

Despite the high percentage of assets out of service, ATM is determined to get all their vessels in good working order by the end of FY2020.

Table 12 below shows the performance goals for ATM's non-revenue service vehicles.

Asset Type	No. of Assets	Average Age of Assets*	No. of Assets that Meet or Exceed ULB*	% of Assets that Meet or Exceed ULB	FY 2020 Performance Target	FY 2021 Performance Target
Other Rubber Tired Vehicles	14	11	3	21.5%	21.5%	21.5%

Table 12 - ATM Non-Revenue SGR Performance

*Does not include assets with unknown age

ATM currently does not have any plans for replacing their non-revenue service vehicles, as their priorities for investment remain with rolling stock and facility assessments. It is envisioned that once the handover is complete, the private operator will have their own non-revenue service vehicles to utilize.

Table 13 below shows the performance goals for ATM's facilities

Facility Type	No. of Facilities	No. of Facilities with a Condition Score of under 3.0	% of Facilities with a Condition Score of under 3.0	FY 2020 Performance Target	FY 2021 Performance Target
Administrative/ Maintenance	2*	1	50%	0%	0%
Terminal/ Parking	5	3	60%	0%	0%

Table 13 - ATM Facilities TERM Performance

*Fajardo Terminal is categorized under Administrative/Maintenance because it is only being used for storage

Despite the high percentage of facilities with a condition score under 3.0, ATM is determined to get all their facilities in good working order by the end of FY2020.

8. DECISION SUPPORT TOOLS

8.1 PLANNING PROCESS THROUGHOUT ASSET LIFECYCLE

According to the TAM Final Rule, decision support tools are any methodologies, software or processes used to help transit providers make decisions. The decision-making processes used by ATM are largely reactionary to certain needs, and formal decision-making methodologies, processes and software have yet to be developed fully. As ATM strives to improve their asset management capabilities, future iterations of this TAMP will expand on the decision-support tools to be developed.

ATM maintains a needs-based planning process for their asset base. Since the hurricanes Irma and Maria in 2017, ATM has sought to remedy the damages to their asset base sustained during the hurricanes. One of the decisions made was to handover operations and maintenance to a private operator so that the ATM staff can focus more on policy and planning activities.

One of the first activities with the private operator that ATM expects to complete is the development of a comprehensive needs assessment to identify the resources needed to fulfil both immediate requirements and anticipated future needs, based on results-oriented goals and objectives. This assessment will support a long-term capital plan that will identify existing capital assets and new investments needed to fully comply with the agreement with the private operator, as well as achieving ATM's goals.

In addition to this, ATM is a member of the Municipal Planning Organization (MPO), a transportation policy-making body made-up of representatives from local government and from operators and managers of mass transit systems and state-level planning agencies. Because of the variety of different population sizes and transportation needs in different areas of the Island, the MPO makes policy and program decisions through three Policy Board Committees that preside over 11 urbanized areas. Its members include:

- Puerto Rico Department of Transportation and Public Works
- Puerto Rico Highway and Transportation Agency
- Puerto Rico Integrated Transit Authority
- Maritime Transportation Agency
- Metropolitan Bus Authority
- Puerto Rico Port Authority
- Puerto Rico Planning Board
- Public Services Commission
- Permissions Management Office
- Environmental Quality Board
- Department of Environmental and Natural Resources
- Puerto Rico Tourism Company
- Puerto Rico Emergency Management Agency
- San Juan Urbanized Area Municipality Governments
- Aguadilla Urbanized Area Municipality Governments
- Arecibo Urbanized Area Municipality Governments
- Urbanized Areas under 200,000 pop. Group Municipality Governments
- Federal Highway Administration (non-voting member)
- Federal Transit Administration (non-voting member)

Under 49 U.S.C. 5304(g), each state is required to produce a Statewide Transportation Improvement Plan (STIP) to document a statewide intermodal program of transportation projects. The STIP covers a timeframe of four years at a minimum, and is produced in collaboration between metropolitan planning organizations, public transit providers and other regional/state level transportation planning organizations.

PRHTA has developed a STIP that covers fiscal years 2019 to 2022 (STIP 2019-2022), in collaboration with the MPO in compliance with federal requirements. The MPO evaluates all transportation-related capital investments, allocates available FTA and FHWA funds and submits the projects to be included in the latest iteration of the STIP. The STIP is then submitted to the FTA, who then awards the grant reimbursements to PRHTA, who then disseminates the funds accordingly.

8.2 LONG TERM CAPITAL PLANNING DECISIONS

8.2.1 ACQUISITION STRATEGY

For all capital needs above $50,000, ATM must seek approval from its Board of Directors, which is headed by the Secretary of DTOP. In order to receive capital funding from Federal grants, ATM undergoes the grant selection process done by the MPO to be included in the STIP.

Under the new structure with the private operator, decision making relating to acquisition and procurement will still reside with ATM.

8.2.2 OPERATIONS STRATEGY

ATM envisions that all daily operations will be handed over to the private operator, including preventive maintenance, operation of the vessels, cleaning, passenger notifications, preservation and regulatory compliance. This will free up ATM personnel to plan capital improvements, routes and schedules and write grant applications, as well as organize major repairs and overhauls.

In order to maintain oversight over the private operator, ATM is currently developing KPIs for the operator to report periodically and on demand.

8.2.3 MAINTENANCE STRATEGY

Preventive maintenance is currently done regularly by ATM's engineers and mechanics on-site. For more major maintenance work, smaller vessels are brought to the San Juan Maintenance Base for service. For the largest vessels in ATM's fleet, maintenance was previously done off the Island at the nearby St. Thomas Subbase in the U.S. Virgin Islands because the sychrolift in the San Juan Maintenance Base was not equipped to handle very large vessels. During the hurricanes in 2017, however, the sychrolift was damaged beyond repair and all major vessel maintenance had to be rerouted to the St. Thomas Subbase. ATM is currently in the process of procuring a travelift for the San Juan Maintenance Base to allow for all maintenance to be done in-house.

8.2.4 DISPOSAL STRATEGY

If the decision is made to dispose of a federally funded asset, the disposal process is done in accordance to the disposition methods found in the FTA Circular 5010.E and 2 CFR Section 200.313 - Equipment (e) Disposition. This allows the asset, following instruction to do so by the FTA, to be sold at fair market value and ATM to deduct $500 or 10% of the sale proceeds (whichever is less) from the repayable federal share. If the FTA does not instruct the asset to be sold, it may be transferred to another non-federal agency.

9. INVESTMENT PRIORITIZATION

9.1 CRITERIA FOR INVESTMENT PRIORITIZATION

According to the TAM Final Rule, TAMPs are to include a prioritized list of proposed projects and programs in order to reach their SGR goals. The following section elaborates on ATM's priorities and the approved capital projects that will lead to reaching ATM's SGR goals.

Currently, the investment priorities for ATM revolve around ensuring that ATM's fleet, equipment and facilities are in good working order prior to handover to the private operator. These include:

Procurement of a new travelift for the Isla Grande/San Juan Maintenance base.

The current synchrolift was damaged beyond repair from Hurricanes Irma and Maria and was unable to lift the largest vessels in ATM's fleet. Those larger vessels had to go to the Subbase in St. Thomas for major maintenance. ATM will procure a new travelift, so that all vessel maintenance can be conducted on the Island.

Procurement of new and replacement vessels

ATM is looking to procure additional vessels that can handle both cargo and passenger traffic, as transport via ship is the only feasible way of moving essential goods to the island municipalities. Having more vessels that can transport cargo will reduce the risk of a potential disruption to this critical flow. Cargo and passenger traffic to Vieques and Culebra have been increasing. ATM intends to procure two new RoPax (Roll-On/Roll-Off Passenger) vessels that can handle both kinds of traffic. One of those new vessels will be a replacement for the *Culebra II*, a passenger ferry used for the Vieques and Culebra routes that was sunk after breaking free from its moorings during Hurricane Irma, while being docked at the St. Thomas Subbase.

Rehabilitation and improvement of ferry terminals and maintenance facility

Several ferry terminals and the San Juan Maintenance Base have fallen into disrepair and have been damaged by the hurricanes, particularly the Fajardo Terminal and Mosquito Terminal on Vieques. Repairing these facilities and improving the size of their docks will help to ensure that they are able to maintain service and accommodate the largest vessels in ATM's fleet.

Major fleet maintenance

The vast majority of ATM's fleet is out of active service because of they are unable to be repaired in Puerto Rico. The broken synchrolift has forced vessels to go to the St. Thomas Subbase for repairs, but even the Subbase cannot accommodate all of the vessels, creating a backlog. Procurement of the travelift will help to clear the backlog, but additional funds will be needed to repair the vessels.

Creating a Resident Registry for Vieques and Culebra

In order to capture the economic boosts from the tourism industry and ensure greater financial stability, ATM is looking into raising the price of their fares. For the residents of Vieques and Culebra, however, the ferry is the most affordable method of travel between their island municipalities and the main island. In order to not disadvantage the residents, ATM is looking to create a Resident Registry for the residents of

Vieques and Culebra, as many of them do not have official government ID. This way, the residents will be able to pay the current amount while non-residents and tourists will pay the higher fare.

9.2 CAPITAL BUDGET NEEDS ACCORDING TO INVESTMENT PRIORITIZATION

There are several federal funding mechanisms that ATM is eligible for to achieve those goals. They are as follows:

Funding Source	Description	Eligible Recipients
Section 5307 – Urbanized Area Formula Grants (FTA)	Funding for transit capital and operating assistance in urbanized areas and for transportation funding.	Large Urbanized Areas (over 200,000 residents) and Small Urbanized Areas (50,000-200,000 residents)
Section 5311 – Formula Grants for Rural Areas (FTA)	This program provides capital, planning, and operating assistance to support public transportation in rural areas with populations less than 50,000. This includes the Rural Transit Assistance Program (RTAP) which supports rural transit providers through training, technical and administrative assistance.	Rural Areas (under 50,000 residents), groups or communities identified by the Bureau of Indian Affairs.
Section 5324 – Public Transportation Emergency Relief Program (FTA)	Funding for eligible emergency relief operating costs, including evacuation services, rescue operations, temporary public transportation service and re-establishing, expanding or relocating public transportation route service before, during, or after an emergency.	All Areas
Section 1121 – Ferry Boat Program (FHWA)	Funding available for designing and constructing ferryboats, acquiring right-of-way and constructing ferry terminal facilities.	Publicly owned ferry services

Table 14 - Eligible Federal Grants

In order to meet those goals, ATM has planned for the following capital and operating budget needs, many of which have been included in the STIP 2019-2022 or have been established as Emergency Relief Projects:

Description	Total Estimated cost	Total Apportioned in the STIP 2019-2022	Funding Source
Priority #1: Procurement of a new travelift for the Isla Grande/San Juan Maintenance base			
Rehabilitate, Rebuild and Maintain Ship Lift and Transfer System (Travelift) at the San Juan Maintenance Base	$5,400,000.00	$3,996,110.00	Section 5307 San Juan Urbanized Area (SJUA)
Priority #2: Procurement of new and replacement vessels			
Construction of Passenger/Cargo Ferry Boat at Roosevelt Road (Ceiba Terminal)	$25,000,000.00	$25,000,000.00	Section 5307 Group Urbanized Area (UZA)
Acquisition of a new RoPax Vessel	$15,000,000.00	-	Section 5324 - Emergency Relief Funds
Priority #3: Rehabilitation and improvement of ferry terminals and maintenance facility			
Improvement to San Juan Maintenance Base	$480,000.00	$480,000.00	Section 5307 San Juan Urbanized Area (SJUA)
Surveillance and Security System for Terminal and Vessels	$800,000.00	$800,000.00	Section 5307 San Juan Urbanized Area (SJUA)
Rebuilding and Rehabilitation of Main Passenger Terminal and Platform Finger Piers and Cargo Dock - Mosquito	$4,117,590.00	$4,117,590.00	Section 5311 Non-Urbanized Areas (NUA)
Design, Rehabilitation and Initial Improvements to the Infrastructure in the Ceiba Ferries Terminal Building	$1,067,299.00	$1,067,299.00	Section 5307 - Passenger Ferry Discretionary Funds

Description	Total Estimated cost	Total Apportioned in the STIP 2019-2022	Funding Source
Dredging for the Navigable Channel for the Fajardo Ferry Terminal	$90,820.00	$90,820.00	Section 5307 Group Urbanized Area (UZA)
Emergency operations, emergency protective measures and permanent repairs of Isla Grande/San Juan Maintenance Base	$585,257.00	-	Section 5324 - Emergency Relief Funds
Emergency and Permanent Repairs of Cataño Ferry Terminal	$6,084,145.00	-	Section 5324 - Emergency Relief Funds
Emergency Protective Measures and Permanent Repairs of the Old San Juan Ferry Terminal	$7,350,170.00	-	Section 5324 - Emergency Relief Funds
Construction of a new Ferry Terminal in Ceiba to replace the Fajardo Terminal	$9,955,695.00	-	Section 5324 - Emergency Relief Funds
Priority #4: Major fleet maintenance			
Acquisition of Parts and Equipment for the Maintenance of the Vessels Fleet in Fajardo	$2,000,000.00	$2,000,000.00	Section 5307 Group Urbanized Area (UZA)
Island Service Vessel Refit	$7,692,405.00	$4,200,000.00	Section 5307 Group Urbanized Area (UZA)
Funds for Vessel Parts, Equipment and Drydocking	$1,500,000.00	$1,500,000.00	Section 5307 San Juan Urbanized Area (SJUA)
Maintenance of Ferries for Vieques and Culebra Routes	$1,589,449.00	$1,589,449.00	Section 1121

Description	Total Estimated cost	Total Apportioned in the STIP 2019-2022	Funding Source
Preventive Maintenance and Related Material Cost	$1,500,000.00	$1,500,000.00	Section 5307 San Juan Urbanized Area (SJUA)
Priority #5: Creating a Resident Registry for Vieques and Culebra			
Vieques and Culebra Island Resident Registry	$365,000.00	-	
Other Operational Funds			
Insurance for vessel fleet	$3,492,405.00	$3,492,405.00	Section 5307 Group Urbanized Area (UZA)
Operational Assistance of Ferry Boat Fajardo	$13,440,910.00	$13,440,910.00	Section 5307 Group Urbanized Area (UZA)
TOTAL	**$107,511,145.00**	**$63,274,583.00**	

Table 15 - ATM Capital Budget Needs

10. OPPORTUNITIES FOR IMPROVEMENT

Through the development of this TAMP, ATM has identified a number of opportunities to improve the overall maturity of the organization, enhance the provided transit services as well as the production of future TAMPs.

Further development of Transit Asset Management Plans

As this TAMP is the first for ATM, it is a process of continual improvement.

A best practice Transit Asset Management Plan is based on these elements.

1. Appropriate asset data to support a mature decision process for prioritizing asset interventions
2. Analysis tools in place to exploit this data
3. An integrated longer-term planning process, ideally at least ten years, that provides a consistent approach to investment against the agency objectives, themselves ideally quantified, 'SMART' targets
4. Subject Matter Expert-based asset class and system strategies to support this integrated planning process
5. A systematic move towards risk-based decision making against agency targets, which would include both risk-based replacement and risk-based maintenance, making use of established techniques from other transit agencies globally
6. An articulated 'Asset Management System' that defines the elements of processes and procedures, roles and responsibilities for good Transit Asset Management

This goal is best approached through a coordinated improvement plan over some years, making good use of lessons learned elsewhere.

The aim is to develop a TAMP improvement plan for the next three years:

1. Put in place TAMP awareness training for key asset decisions makers

   Wider awareness of good practice will support ATM in exploiting useful approaches that are appropriate to its size and complexity, and focus effort on TAMP improvements

2. Maintain its transit asset inventory through the spreadsheets developed for this TAMP and making good use of the standardized templates for NTD reporting.

   It is important to maintain the asset inventories collected for this TAMP as the assets are replaced.

3. Develop early asset class strategies to address any asset class that is at or exceeds its class ULB – that includes Passenger Terminals, Parking Facilities, Other Rubber Tired Vehicles, and Maintenance Bases.

   These strategies are best done using a working group of internal SMEs facilitated by an AM practitioner. They are very useful to pick up collective experience on how to improve the management of each class.

4. Plan to improve the integrated planning process towards a mature AMP process

   This would start by using the asset inventory spreadsheets to capture life cycle renewals requirements for the next five to ten years.

Furthermore, development of a whole life cost profile for the ATM's assets would provide valuable information for use in capital planning and decision-making. Along with initial acquisition costs, current operating and maintenance costs could be aggregated to understand total spending levels. A more accurate level of investment could then be tied to asset age, condition, or performance. Asset profiles of other transit operators, available in the public domain, should be used as a model for ATM.

ATM is also committed to the following actions in order to provide a reliable, safe and accessible ferry service to all its customers.

Long-term Capital Planning

Since Hurricanes Irma and Maria, ATM has primarily been focused on getting their assets and services back to an acceptable level of service. This has reduced the resources available to conduct long term asset lifecycle and capital planning, both of which are critical to a TAMP (see above). The decision to handover operations and maintenance to a private operator will not only alleviate their resourcing needs, but also provides an opportunity for ATM to reallocate their remaining resources towards improving their TAMP capabilities and enhance the long-term planning maturity.

Documenting Decision Making Processes

In the wake of the 2017 hurricanes and the resulting disruption, several decision-making processes were not clearly documented and communicated. This includes decisions to decommission and dispose damaged vessels. Since ATM leadership has changed, several decisions were inherited, without being able to see the research and justifications behind it. This has caused issues with maintaining an up-to-date asset inventory and knowing the conditions of those assets.

ATM will improve its decision documentation and quality assurance/quality control protocols, to ensure that information and decisions are traceable and accountable.

Improve Vessel Disposal Process

Because the main priority for ATM is to get its assets into a State of Good Repair to facilitate the handover, the decision has been made to put the vessel disposal process on hold until the vessels requiring maintenance are repaired. This has caused some difficulty with reporting accurate NTD targets in differentiating out-of-service vessels and vessels pending disposition, as the vessels pending disposition are still a part of ATM's asset inventory.

Before handing over to the private operator, ATM will develop a solution for disposing the vessels while properly decommissioning them from the asset inventory and NTD database.

APPENDICES

Appendix A KEY TERMS

Accountable Executive

Defined by 49 U.S.C. Chapter 53 as a "single, identifiable person who has ultimate responsibility for carrying out the safety management systems of a public transportation agency; responsibility for carrying out transit asset management practices; and control or direction over the human and capital resources needed to develop and maintain both the agency's public transportation agency safety plan, in accordance with 49 U.S.C. 5329(d), and the agency's transit asset management plan in accordance with 49 U.S.C. 5326."

Asset

A tangible entity, or system of entities, that are owned, leased or maintained by the transit provider.

Lifecycle

The time elapsed between an acquisition and disposition of an asset. This can include the planning, design, procurement, construction, operations, maintenance, rehabilitation and disposal phases.

State of Good Repair (SGR)

Defined by 49 U.S.C. Chapter 53 as the condition in which a capital asset is able to operate at a full level of performance. For rolling stock and non-revenue vehicles, assets in a SGR are those with an active life lower than their Useful Life Benchmark. For facilities, assets in a SGR are those scoring 3.0 or higher on the condition assessment rating score.

Statewide Transportation Improvement Plan (STIP)

A multi-year, statewide intermodal program of transportation projects outlining all capital transportation projects in a 4-year period. The STIP is an FTA requirement under 49 U.S.C. 5304(g) and is developed in cooperation with the MPO.

TERM Scale

A one to five rating scale used in FTA's Transit Economic Requirements Model (TERM) to describe the condition of an asset, where a score of one indicates poor condition and a score of five indicates excellent condition.

Tier-I Operator

An entity that receives federal financial assistance under 49 U.S.C. Chapter 53, either directly from FTA or as a subrecipient, that owns, operates, or manages either (1) one hundred and one (101) or more vehicles in revenue service during peak regular service across all fixed route modes or in any one non-fixed route mode, or (2) rail transit.

Tier-II Operator

An entity that receives federal financial assistance under 49 U.S.C. Chapter 53, either directly from FTA or as a subrecipient that owns, operates, or manages (1) one hundred (100) or fewer vehicles in revenue service during peak regular service across all non-rail fixed route modes or in any one non-fixed route mode, (2) a subrecipient under the 5311 Rural Area Formula Program, (3) or any American Indian tribe.

Transit Asset Management (TAM)

Defined by 49 U.S.C. Chapter 53 as "the strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing transit capital assets to manage their performance, risks, and costs over their lifecycles, for the purpose of providing safe, cost-effective, and reliable public transportation."

Useful Life

Defined by 49 U.S.C. Chapter 53 as "either the expected lifecycle of a capital asset or the acceptable period of use in service determined by FTA." Useful life is essentially the number of years an asset is expected to remain in service before being eligible for replacement, retirement or disposal.

Unified Planning Work Program (UPWP)

Defined by 23 CFR 450.308(b) as an annual or biennial statement of work identifying the planning priorities and activities to be carried out within a metropolitan planning area. Metropolitan planning organizations are required to develop UPWPs to govern work programs for the expenditure of FHWA and FTA planning funds.

Useful Life Benchmark (ULB)

Defined by 49 U.S.C. Chapter 53 as "the expected lifecycle or the acceptable period of use in service for a capital asset, as determined by a transit provider, or the default benchmark provided by FTA." The ULB essentially denotes the expectation of an asset's life (in years) based upon its operating environment, and usually pertains to rolling stock or non-revenue vehicles only.

Appendix B FACILITY CONDITION ASSESSMENET METHODOLOGY

The condition assessment approach provided herein is based on FTA's guidance detailed in *TAM Facility Performance Measure Reporting Guidebook: Condition Assessment Calculation*[10].

The facility condition assessments are based on visual inspections of the facilities. The general process of the condition assessments can be seen in Figure 11 below.

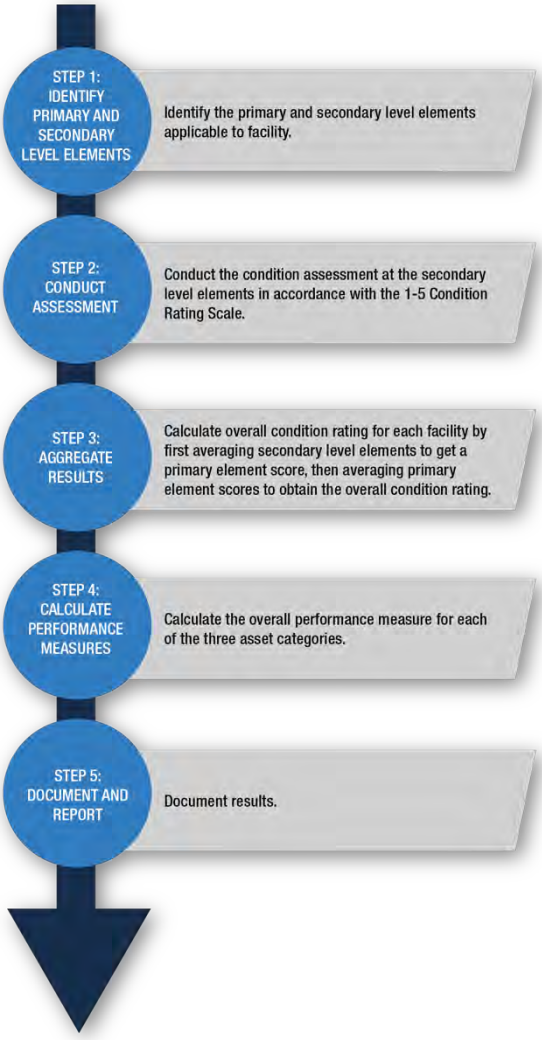


Figure 12 - Facility Condition Assessment Methodology

[10] FTA TAM Facility Performance Measure Reporting Guidebook v1-2

Step 1: Identify Primary and Secondary Level Elements

The primary level elements are broad asset categories that divide a building into individual systems. The first step to the condition assessment is identifying which of the following primary level elements are applicable to the facility being assessed:

- Structure
- Shell
- Interiors
- Conveyance
- Plumbing
- HVAC
- Fire Protection
- Electrical
- Facility Equipment
- Site

The subsequent step is identifying the secondary level elements that are present within the facility. The following list of secondary elements were identified in the facilities that were assessed

Primary Level Element	Secondary Level Element
Structure	• Foundations: Walls, columns, pilings, etc. • Basement: Materials, insulation, slab, floor underpinnings
Shell	• Superstructure / structural frame: Columns, pillars, walls • Roof: Roof surface, gutters, eaves, skylights, chimney surrounds • Exterior: Windows, doors, and all finishes (paint, masonry) • Shell appurtenances: Balconies, fire escapes, gutters, downspouts
Interiors	• Partitions: Walls, interior doors, fittings and signage • Stairs: Interior stairs and landings • Finishes: Materials used on walls, floors, and ceilings • Covers all interior spaces, regardless of use. • Passenger areas: Platform and access tunnels / passageways
Conveyance	• Elevators • Escalators • Lifts: Any other such fixed apparatuses for the movement of goods or people
Plumbing	• Fixtures • Water distribution • Sanitary waste • Rainwater drainage
HVAC	• Energy supply • Heat generation and distribution systems • Cooling generation and distribution systems • Testing, balancing, controls, and instrumentation • Chimneys and vents
Fire Protection	• Sprinklers • Standpipes • Hydrants and other fire protection specialties
Electrical	• Electrical service & distribution • Lighting & branch wiring (interior and exterior) • Communications & security

	• Other electrical system-related pieces such as lightning protection, generators, and emergency lighting
Facility Equipment	• Equipment related to the function of the facility, including maintenance or vehicle service equipment – does not include supplies
Site	• Roadways/driveways and associated signage, markings, and equipment • Parking lots and associated signage, markings, and equipment • Pedestrian areas and associated signage, markings, and equipment • Site development such as fences, walls, and miscellaneous structures • Landscaping and irrigation • Site utilities

Table 16 - Facility Assessment Methodology Primary & Secondary Levels

Step 2: Conduct Assessment

The secondary elements are visually inspected and scored according to a 1 to 5-point scale used in the FTA Transit Economic Requirements Model (TERM). The rating scale is as follows:

Rating	Condition	Description
5	Excellent	No visible defect, new or near new condition, may still be under warranty
4	Good	Good condition, but no longer new, may be slightly defective or deteriorated, but is overall functional
3	Adequate	Moderately deteriorated or defective; but has not exceeded useful life
2	Marginal	Defective or deteriorated in need of replacement; exceeded useful life
1	Poor	Critically damaged or in need of immediate repair; well past useful life

Table 17 - Facilities Condition Assessment Rating Scale

The inspection tasks that are to be performed on the secondary level elements to derive a score are as follows:

Primary Level Element	Secondary Level Element
Substructure	• Foundations: Inspect walls, columns, pilings, other structural elements for signs of decay. • Basement: Inspect non-foundation and structural elements such as facing materials, insulation, slab, floor underpinnings, crawl spaces, etc.

Primary Level Element	Secondary Level Element
Shell	• Inspect superstructure / structural frame, including columns, pillars, and walls. • Inspect façade, curtain wall system, glazing system, exterior sealants, exterior balconies, doors, stairways, parapets, fire escapes, gutters, downspouts. • Inspect windows, doors, and all finishes (paint, masonry). • Inspect roof, including roof surface (tiles, membrane, shingles, gravel etc.), gutters, eaves, skylights, flashing, chimney surrounds, and sealants, hardware and painted or coated surfaces. Note evidence of ponding, or roof leaks, significant age – and other indicators that repair may be necessary. Note age of roof(s) and whether warranty is still in effect.
Interiors	• Inspect soundness and finish of drywall, partitions, interior doors, fittings, ceiling tiles, and signage. • Inspect stairs including fire and access issues. • Inspect interior finishes, including materials used on walls, floors, and ceilings, such as tile, paint, and other coatings. Look for roughness and damage.
Conveyance	• Inspect condition, function, and code compliance of elevators, escalators, lifts, and any other fixed apparatuses for the movement of goods or people.
Plumbing	• Inspect fixtures and pipes for water distribution, sanitary waste, rainwater drainage, and any leaks.
HVAC	• Inspect systems and their elements for energy supply, heating and cooling systems, distribution systems, terminal and package units, controls and instrumentation including testing and balancing, and chimneys. Specifically, inspect coils, housing, drains, and wiring and evaluate overall performance of the system. • Note apparent or reported age of the equipment, past material element replacements/ upgrades, and the apparent level of maintenance exercised. If heating equipment is shut down or not operational at the time of the walk-through survey, provide an opinion of the condition to the extent observed. Note refrigerants and fuels used and their suitability or need for improvement / upgrade.
Fire Protection	• Inspect sprinklers, standpipes, hydrants, fire alarms, emergency lighting, smoke evacuation, stairwell pressurization, and any other specialized elements relating to overall protection system and compliance.

Primary Level Element	Secondary Level Element
Electrical	• Inspect electrical service & distribution, noting deficiencies or needed / recommended upgrades • Inspect lighting and branch wiring (interior and exterior), communications and security, noting deficiencies or needed / recommended upgrades • Examine other electrical system-related pieces such as lightning protection, generators, emergency lighting, and elements related to electrical service and distribution such as conduit, boxes, solar panels and mountings for any damage wire chaffing or loose or corroded connections. Evaluate overall performance of the system.
Equipment/ Fare Collection	• Inspect equipment, noting age, condition, and functional deficiencies. • For Maintenance Facilities, this is focused on major pieces of equipment integral to the function of the facility. • For Passenger Facilities, this item is focused on the fare collection system and any associated elements.
Site	• Inspect roadways/driveways and associated signage, markings, and equipment. Look for cracking or settling of the concrete or asphalt. • Inspect parking lots and associated signage, markings, and equipment. Look for cracking or settling of the concrete or asphalt • Inspect pedestrian areas and associated signage, markings, and equipment. Inspect the curbing and ramps for cracking, settling, holes, uneven surfaces and trip hazards. Pay special attention to wheelchair ramp areas and other ADA / access considerations • Site development such as fences, walls, and miscellaneous structures. Look for corrosion, structural integrity and condition of paint. • Landscaping, Site Utilities: Look for signs of drainage problems such as flooded areas, eroded soil and water damage to the asphalt and clogged storm drain inlets. Visually inspect the irrigation system, if installed. Look for signs of leaks, such as sagging areas in grass and/or pooling water. Look for dead spots in the grass indicating lack of water possibly caused by a mechanical failure. • Inspect passenger huts and benches for corrosion, paint condition, glass condition and damage.

Table 18 - Primary & Secondary Levels Facility Assessment Tasks

Step 3: Aggregate Results

This condition assessment methodology utilizes an equal weight average, meaning that the various elements have equal weight when calculating an overall facility condition rating score. Once the secondary level elements have been assessed, the secondary level element scores are then averaged out by corresponding primary level element to create a single primary level element score. This can be represented as an equation where P is the primary level element score, S is the secondary level element score and n is the number of secondary level elements within the primary level element.

$$P = \sum_{i=1}^{n} S_i$$

The primary level element scores are then averaged out again to create an overall facility condition rating score. This can be represented as an equation where FCR is the overall facility condition rating score, P is the primary level element score and m is the number of primary level elements in the facility.

$$FCR = \sum_{x=1}^{m} P_x$$

The facility condition rating scores are rounded to one decimal place, leaving the results ranging between 1.0 to 5.0. The FTA TERM scale uses integer scores in the ratings, but PRHTA has opted for a score with one decimal place to provide more detail in the condition assessment.

Step 4: Calculate Performance Measures

FTA TERM performance measure reporting groups facilities into two groups: administrative and maintenance facilities, and passenger terminals and parking facilities. This TAMP has done the same to be in line with FTA standards.

The FTA TERM defines performance for facilities as the number and percentage of facilities under the TERM score of 3. In line with this, the performance measures for this TAMP are the number and percentage of facilities under the score of 3.0.

Step 5: Document and Report

The findings of this condition assessment effort are then documented and reported in this TAMP.

Appendix C FACILITY CONDITION ASSESSMENT

No.	Facility	Type	Address	Condition Assessment Score	Structure	Shell	Interior	Conveyance	Plumbing	HVAC	Fire Protection	Electrical	Facility Equipment	Site
1	Cataño Ferry Terminal	Terminal	Frente Marítimo Avenida Las Nereidas, Cataño 00962	3.21	4.00	3.88	3.46	-	3.25	1.75	2.25	2.65	3.75	3.86
2	Isla Grande Maintenance Base	Maintenance	Calle Lindbergh final Isla Grande, San Juan 00907	3.32	4.00	3.71	3.44	-	3.89	4.00	3.17	3.02	1.32	-
2a	Isla Grande Maintenance Base – Maintenance Building	Maintenance	Calle Lindbergh final Isla Grande, San Juan 00907	3.46	4.00	3.50	3.00	-	3.67		2.83	3.75	-	-
2b	Isla Grande Maintenance Base – Administrative & Warehouse Building	Administrative	Calle Lindbergh final Isla Grande, San Juan 00907	3.68	4.00	3.72	3.40	-	4.00	4.00	3.33	3.33	-	-
2c	Isla Grande Maintenance Base – Personnel Building	Administrative	Calle Lindbergh final Isla Grande, San Juan 00907	3.83	4.00	3.81	3.72		4.00	4.00	3.25	4.00	-	-
2d	Isla Grande Maintenance Base – Synchrolift Control & Generator Building	Maintenance	Calle Lindbergh final Isla Grande, San Juan 00907	3.14	4.00	3.81	3.64	-	-	-	3.25	1.00	-	-
2e	Isla Grande Maintenance Base – Dock & Fueling Station	Maintenance	Calle Lindbergh final Isla Grande, San Juan 00907	1.64	-	-	-	-	-	-	-	-	1.64	-
2f	Isla Grande Maintenance Base - Dry Dock Boat Elevator & Transfer Equipment	Maintenance	Calle Lindbergh final Isla Grande, San Juan 00907	1.00	-	-	-	-	-	-	-	-	1.00	-
3	Cataño Ferry Terminal – Pier 2	Terminal	Muelle 2 calle Marina Paseo Gilberto Concepción de Gracia, San Juan 00901	2.94	3.00	3.50	3.50	-	3.00	3.33	1.00	2.27	3.00	3.83

No.	Facility	Type	Address	Condition Assessment Score	Structure	Shell	Interior	Conveyance	Plumbing	HVAC	Fire Protection	Electrical	Facility Equipment	Site
4	Fajardo Ferry Terminal	Maintenance*	Calle Union Final Playa Puerto Real, Fajardo 00738	2.44	2.60	2.67	2.26	2.50	2.78	2.75	1.57	2.95	2.00	
4a	Fajardo Ferry Terminal - Terminal	Terminal	Calle Union Final Playa Puerto Real, Fajardo 00738	1.89	1.00	2.00	2.00	-	3.00	2.00	2.00	1.00	2.00	2.00
4b	Fajardo Ferry Terminal – Administrative Building	Administrative	Calle Union Final Playa Puerto Real, Fajardo 00738	3.48	4.00	3.50	3.67	-	3.00	3.50	4.00	3.93	-	2.25
4c	Fajardo Ferry Terminal – Mechanical Workshop	Maintenance	Calle Union Final Playa Puerto Real, Fajardo 00738	2.05	2.00	2.17	1.88	2.00	2.33	-	1.00	3.00	-	-
4d	Fajardo Ferry Terminal – Fueling Station	Maintenance	Calle Union Final Playa Puerto Real, Fajardo 00738	2.44	3.00	2.00	-	-	-	-	1.00	3.75	-	-
4e	Fajardo Ferry Terminal – Parking Facilities	Parking	Calle Union Final Playa Puerto Real, Fajardo 00738	2.68	-	-	-	-	-	-	-	-	-	2.68
4f	Fajardo Ferry Terminal – Welding Shop	Maintenance	Calle Union Final Playa Puerto Real, Fajardo 00738	2.25	-	3.00	2.00	-	-	-	1.00	3.00	-	-
4g	Fajardo Ferry Terminal Warehouse	Maintenance	Calle Union Final Playa Puerto Real, Fajardo 00738	2.50	3.00	3.00	2.00	3.00	-	-	1.00	3.00	-	-
4h	Fajardo Ferry Terminal – Plumbing, Electrical and Carpentry Workshops	Maintenance	Calle Union Final Playa Puerto Real, Fajardo 00738	2.25	-	3.00	2.00	-	-	-	1.00	3.00	-	-
5	Sardinas Ferry Terminal	Terminal	Bo. Sardinas Carr. PR-250, Culebra 00775	3.11	4.00	3.00	3.00	-	2.00	3.00	3.00	3.00	4.00	3.00
6	Isabel II Ferry Terminal	Terminal	Calle Germán Rieckehoff #581, Vieques 00765	2.68	3.00	2.83	2.58	-	3.00	3.00	3.00	2.08	2.20	2.47
7	Ceiba Ferry Terminal	Terminal	Marina DR, Roosevelt Roads, Ceiba 00735	2.88	3.67	3.26	3.17	-	2.25	-	2.42	2.50	-	2.90

Table 19 - Complete ATM Facility Assessment