

*Fort Bend County Transit – New Park and Ride at the University of Houston – Sugar Land*

**Planning Factors – Facility Maintenance Plan**

UH will be responsible for the maintenance of the Park and Ride with oversight done by FBCT as outlined in its Transit Asset Management (TAM) Plan.

The Fort Bend County Transit Asset Management Plan is attached here.

# Fort Bend County Public Transportation Department

## Transit Asset Management Plan



**APPROVED BY:  
FORT BEND COUNTY  
PUBLIC TRANSPORTATION DIRECTOR**

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**INTRODUCTION**

The Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21) required the Transportation Secretary to develop rules to establish a system to monitor and manage public transportation assets to improve safety and increase reliability and performance, and to establish performance measures. The Fixing America’s Surface Transportation (FAST) Act reaffirmed this requirement. On July 26, 2016, the Federal Transit Administration (FTA) published the Transit Asset Management (TAM) Final Rule, which requires Public Transportation Systems, such as Fort Bend County Public Transportation (FBCPT) to establish and maintain TAM plans.

As noted in 49 U.S.C. 5326(a)(3), a Transit Asset Management System is “the strategic and systematic practice of operating, maintaining, and improving transit capital assets effectively through the life cycle of such assets”.

In addition, Transit Asset Management is a business model that uses transit asset condition to guide the optimal prioritization of funding to improve or maintain a state of good repair. Used together, a TAM Plan provides the framework necessary to maintain a State of Good Report (SGR) by monitoring the condition of our assets in relation to the local operating environment.

In the Final Rule, transit providers are grouped into two categories: Tier I and Tier II.

Tier I	Tier II
Operates Rail, or	Sub-recipient of 5311 Funds, or
≥ 101 Vehicles Across All Fixed Routes, or	American Indian Tribe, or
≥ 101 Vehicles in One Non-fixed Route Mode	≤ 100 Vehicles Across All Fixed Routes, or
	≤ 100 Vehicles in One Non-fixed Route Mode

Tier I providers must develop and carry out their own TAM plans. Tier II providers may develop their own plans or participate in a group plan, which is compiled by a Group Plan Sponsor (generally the State DOT or designated §5310 recipient). Tier II §5307 sub-recipients are not required to be offered a Group Plan but may participate in one if a Sponsor invites them.

Fort Bend County Public Transportation (FBCPT) is currently operating as an FTA-defined *Tier II* transit operator in compliance with 49 CFR § 625.45(B)(1) and elects to create their own Transportation Asset Management Plan.

As a Tier II transit operator, Fort Bend County Public Transportation’s TAM must include the following:

- Inventory of assets
- Condition assessment of inventoried assets
- Description of a decision support tool
- Prioritized list of investments

The TAM Plan is required to be updated, at minimum, every four years, when there is a significant change in service, or incorporation of a full line of new vehicles. The TAM Plan can also be revised as needed by the Finance & Administrative Manager or designee.

## **AGENCY OVERVIEW**

Fort Bend County (FBC) officially formed a Public Transportation Department in June 2005 to provide residents with safe and efficient public transportation services while maintaining service quality and customer satisfaction. FBCPT is committed to operating a public transportation system that offers reliable, accessible, and convenient services with safe vehicles and facilities. Currently, public transportation services are provided to approximately 383,000 passengers annually (data from January-December, 2017) to destinations in Fort Bend and Harris Counties. The services provided are Demand Response Service, Commuter Park and Ride Services, and Point Deviation Route Service. FBCPT has a core inventory of vehicles as well as a fleet provided through a contracted service provider.

Demand Response Service is a curb-to-curb, shared ride service that covers all of Fort Bend County. Customers must register for the service over the phone and may start making their reservations at least one (1) day in advance or up to thirty (30) days in advance. Demand Response Service operates Monday through Friday, excluding FBC acknowledged holidays, from 8:00 am until 5:00 pm.

Commuter Park and Ride Service provides weekday service to the Texas Medical Center, Greenway Plaza, and Galleria areas of Houston. Commuter Service operates during peak hours Monday through Friday, excluding FBC acknowledged holidays, with routes starting as early as 4:30 am and ending as late as 9:00 pm.

Point Deviation Route Service operates along a fixed route and keeps to a timetable, but the bus or van can deviate up to  $\frac{3}{4}$  of a mile from the route to go to a specific location, such as a residence, child care center, or employment site within the route area located in Richmond and Rosenberg. Once the pick-up or drop-off is made, the vehicle returns to the fixed route. Point Deviation Service operates Monday through Friday, excluding FBC acknowledged holidays, starting as early as 6:25 am and ending as late as 5:45 pm.

The operating climate conditions in the FBC service area are humid/subtropical. The growing season is 296 days, with an average annual rainfall of 45.3 inches. The average first freeze date in the fall is December 7, and the average last freeze date is February 14. Temperatures range from a mean minimum in January of 41° to a mean maximum in July of 93°. The Gulf of Mexico is located only 50 miles from FBC and its close proximity helps to hold the summer and winter temperatures to moderate levels. Extremes in climatic changes are usually short in duration. FBC is also susceptible to each year's Hurricane Season, starting June 1 and continuing through November 30. In addition, there are two rivers within the county that are prone to flooding.

## **DEFINITIONS**

Accountable Executive: A single, identifiable person who has ultimate responsibility for carrying out the safety management system 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. For this department, that person is the Finance and Administration Manager.

Asset Category: A grouping of asset classes, including a grouping of equipment, a grouping of rolling stock, a grouping of infrastructure, and a grouping of facilities.

Asset Inventory: A comprehensive list of an agency's assets and specific information about those assets.

Asset Portfolio: All FTA funded assets that are within their Useful Life Benchmark.

Condition Assessment: The process of assessing and documenting the condition or residual life of an asset. It is a rating of the assets' physical state.

Equipment: An article of nonexpendable, tangible property having a useful life of at least one year.

Facility: Any building or structure that is used in providing public transportation.

Investment Prioritization: A ranking of capital assets to achieve or maintain a state of good repair based on financial resources reasonably anticipated to be available over the TAM plan period.

Management Approach: The decision-making process, investment prioritization, risk management considerations, and the strategies for maintenance, overhaul, disposal, acquisition, and renewal of capital assets.

Park and Ride Facility: A facility primarily comprised of a parking area and open air passenger waiting areas.

Performance Measure: A quantifiable indicator of performance or condition that is used to establish targets and to assess progress toward meeting the established targets.

Performance Target: A quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by the Federal Transit Administration (FTA).

Risk Management: The processes and framework for managing potential risks, including identifying, analyzing, evaluating, and addressing the risks to assets and system performance.



## ACRONYMS

FAST: Fixing American's Surface Transportation  
FBC: Fort Bend County  
FBCPT: Fort Bend County Public Transportation  
FTA: Federal Transit Administration  
MAP: Moving Ahead for Progress in the 21<sup>st</sup> Century  
SGR: State of Good Repair  
TAM: Transit Asset Management  
TERM: Transit Economic Requirement Model  
ULB: Useful Life Benchmark

## ABOUT THE TAM PLAN

### **Four Components**

The Transit Asset Management (TAM) plan contains four components: Asset Portfolio, Condition Assessment, Management Approach, and Investment Prioritization.

The **Asset Portfolio** provides a list of all the capital assets that support the delivery of public transportation services for Fort Bend County.

The **Condition Assessment** section includes the current condition of each capital asset and how they compare to the performance targets and measures per asset category.

The **Management Approach** outlines the decision-making process, investment prioritization, risk management considerations, and the strategies for maintenance, overhaul, disposal, acquisition, and renewal of capital assets.

The **Investment Prioritization** identifies all Fort Bend County Public Transportation programs and projects and prioritizes based on potential safety risks and estimated funding available from all sources.

### **Roles and Responsibilities**

In compliance with 49 CFR 625, each transit provider must designate an **Accountable Executive**. An Accountable Executive is a single, identifiable person who has ultimate responsibility for carrying out the safety management system 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. For FBCPT, this Account Executive is the Finance and Administration Manager.



## TAM Vision

The purpose of developing the FBCPT's TAM plan is to aid in achieving and maintaining a State of Good Repair (SGR) of all public transportation assets operated by FBCPT. The SGR is the condition in which a capital asset can operate at a full level of performance. A capital asset is in a state of good repair (SGR) when each of the following objective standards is met:

- The asset is able to perform its manufactured design function;
- The use of the asset in its current condition does not pose an identified unacceptable safety risk and/or deny accessibility;
- The life-cycle investment needs of the asset has been met or recovered, including all scheduled maintenance, rehabilitation and replacements (ULB).

## Performance Targets and Measures

When determining performance targets and measures, FBCPT first identifies what factors should be taken into account and what that data entails. FBCPT utilizes the following data (depending on the type of asset) when determining performance targets and measures:

- Useful Life
- Asset Age
- Vehicle Mileage
- Asset Condition
- Useful Life Benchmark (ULB)
- Manufacturer Recommendations

## Useful Life Benchmark

The ULB considers how long it is cost effective to operate an asset and enhances the ability to maintain a SGR by proactively investing in an asset before the asset's condition deteriorates to an unacceptable level. The ULB also considers each transit provider's unique operating environment such as service frequency, weather, and geography.

For the purpose of this TAM plan, the following identifies FBCPT public transportation assets:

- **Rolling Stock** is any FBCPT-owned and/or operated revenue service vehicle used in the provision of providing public transportation.
- **Service Vehicle** is all non-revenue service vehicles regardless of value used primarily to support maintenance and repair work for a public transportation system.
- **Equipment-Other** is any FBCPT-owned equipment with a cost of over \$50,000 in acquisition value.
- **Facilities** includes any structure used in providing public transportation where FBCPT owns or has a direct capital responsibility.

Recipients of federal assistance must specify the expected minimum useful life in invitations for bids when acquiring new or replacement vehicles. The following chart summarizes the FTA

guidelines for Minimum Useful Life for rolling stock assets. FBCPT has developed its own ULB standards which coincide with historical use and department fleet replacement standards.

Vehicle Type	FBCPT ULB (in years)	FTA Default ULB (in years)
Automobile (AO)	N/A	8
Bus (BU)	N/A	14
Cutaway Bus (CU)	10	10
Minivan (MV)	8	8
Sports Utility Vehicle (SV)	N/A	8
Van (VN)	N/A	8

**Transit Economic Requirements Model (TERM) Scale**

Rolling Stock, Equipment, Facilities, and Park & Rides will be assessed using the TERM scale. A TERM Scale is the five (5) category rating system used in the Federal Transit Administration’s Transit Economic Requirements Model (TERM) to describe the condition of an asset: 5.0—Excellent, 4.0—Good; 3.0—Adequate, 2.0—Marginal, and 1.0—Poor. A TERM chart follows below with a description for each rating for each type of asset.

**Rolling Stock**

Performance Target: 20% of Large Cutaway Bus, Medium Cutaway Bus, and Mini-Van Fleet meet or exceed default useful life benchmark.

Condition	TERM Scale	Description
Excellent 5.0-4.8	New Asset; no visible defects	Brand new, no major problems exist, only routine PM required
Good 4.7-4.0	Asset showing minimal signs of wear; some (slightly) defective or deteriorated components	Elements are in good working order, require only nominal or infrequent minor repairs (more than 6 months between minor repairs)
Adequate 3.9-3.0	Asset has reached its mid-life (condition 3.5); some moderately defective or deteriorated components	Requires frequent minor repairs (<6 months between) or infrequent major repairs (>6 months between)
Marginal 2.9-2.0	Asset reaching or just past the end of its useful life, increasing number of defective or deteriorated components and increasing maintenance needs	Requires frequent majors repairs (<6 months between)
Poor/Inoperable .9-1.0	Asset is past its useful life and is in need of immediate repair or replacement, may have critically damaged components	In such poor condition that continued use presents potential problems

### Equipment

Performance Target: Equipment not to fall below 3.0 rating on TERM scale.

Condition	TERM Scale	Description
Excellent 5.0-4.8	New Asset; no visible defects	Brand new, no major problems exist, only routine PM required
Good 4.7-4.0	Asset showing minimal signs of wear; some (slightly) defective or deteriorated components	Elements are in good working order, require only nominal or infrequent minor repairs (more than 6 months between minor repairs)
Adequate 3.9-3.0	Asset has reached its mid-life (condition 3.5); some moderately defective or deteriorated components	Requires frequent minor repairs (<6 months between) or infrequent major repairs (>6 months between)
Marginal 2.9-2.0	Asset reaching or just past the end of its useful life, increasing number of defective or deteriorated components and increasing maintenance needs	Requires frequent majors repairs (<6 months between)
Poor or Inoperable 1.9-1.0	Asset is past its useful life and is in need of immediate repair or replacement, may have critically damaged components	In such poor condition that continued use presents potential problems

### Facilities

Performance Target: Facility not to fall below 3.0 rating on TERM scale.

Condition	TERM Scale	Description
Excellent 5.0-4.8	New Asset; no visible defects	Substructure, shell, interiors, conveyance, plumbing, HVAC, fire protection, electrical, security (camera, locks, badges, keys), and equipment all in new or near new condition
Good 4.7-4.0	Asset showing minimal signs of wear; some (slightly) defective or deteriorated components	Minor improvement needed; shows superficial damage or defect with no functional impact
Adequate 3.9-3.0	Asset has reached its mid-life (condition 3.5); some moderately defective or deteriorated components	Repairs are needed; signs of corrosion and damage, cosmetically "fair," but functioning as intended under maintenance schedule, has not exceeded useful life
Marginal 2.9-2.0	Asset reaching or just past the end of its useful life, increasing number of defective or deteriorated components and increasing maintenance needs	Need replacement or extensive repair, more substantial part replacement and/or repair is frequent, there currently does not appear to be any safety issues, exceeded useful life
Poor/Inoperable 1.9-1.0	Asset is past its useful life and is in need of immediate repair or replacement, may have critically damaged components	Critical defects are affecting function, they are in visibly poor condition and must be replaced rather than repaired, well past useful life

**Park & Ride Facilities**

Performance Target: Park & Ride not to fall below 3.0 rating on TERM scale.

Condition	TERM Scale	Description
Excellent 5.0-4.8	New Asset; no visible defects	New construction, no potholes, no crack filling required
Good 4.7-4.0	Asset showing minimal signs of wear; some (slightly) defective or deteriorated components	Minor improvement needed, only shows superficial damage or defect with no functional impact, some potholes, minimal crack filling
Adequate 3.9-3.0	Asset has reached its mid-life (condition 3.5); some moderately defective or deteriorated components	Repairs are needed; signs of corrosion and damage, cosmetically "fair", but functioning as intended under maintenance schedule, evidence of deterioration, has numerous potholes, regular crack filling
Marginal 2.9-2.0	Asset reaching or just past the end of its useful life, increasing number of defective or deteriorated components and increasing maintenance needs	Need replacement or extensive repair, more substantial part replacement and/or repair is frequent, there currently does not appear to be any safety issues, pavement deteriorating, extensive pot holes and cracks, joint failures, needs resurfacing
Poor or Inoperable 1.9-1.0	Asset is past its useful life and is in need of immediate repair or replacement, may have critically damaged components	Critical defects are affecting function, they are in visibly poor condition and must be replaced rather than repaired, they have exceeded their useful life and warrant structural review, road bed and surface needs replacing

**MANAGEMENT APPROACH**

**Decision Support Tools**

FBCPT uses the following tools to make investment decisions:

Tool	Brief Description
Inspection Checklists	A visual assessment is conducted at scheduled intervals to document the condition of each asset.
Rolling Stock Inventory Spreadsheet	Age, cost, and mileage are recorded to compare details about all rolling stock inventory.
Equipment Inventory	Cost, location, and useful life are recorded to compare details about all equipment, regardless of value.

**Investment Prioritization**

Repairs or replacements to rolling stock, equipment, or facilities are prioritized according to useful life, based initially on whether or not the asset has met or exceeded its useful life. If

necessary, further evaluation is done by taking into account the condition, age, and mileage, if applicable.

## **ASSET PORTFOLIO**

Assets included in the portfolio include all Fort Bend County-owned/FTA-funded Rolling Stock, Equipment, and Facilities and all contractor-owned Rolling Stock currently utilized for our transit services. FBCPT's Asset Portfolio Summary and Asset Portfolio Details for Rolling Stock, Equipment, and Facilities, are presented in **Exhibit A**, updated annually and maintained in-house.

## **CONDITION ASSESSMENT**

### **Rolling Stock**

There are 60 vehicles in our rolling stock inventory. Currently, the average condition of these vehicles is "Adequate" with a rating of 3.51.

### **Equipment**

At this time, FBCPT does not possess any equipment inventory that meets FTA requirements for incorporation into the TAM Plan (>\$50,000).

### **Facilities**

The FBCPT Administration and Operations facility has no federal interest, however, FBCPT will follow the guidelines outlined in this Plan to ensure the building is properly maintained at all times. FBCPT's bus operations' contractor utilizes a county owned facility which has no federal interest for operations activities and bus storage. FBCPT will follow these guidelines to ensure the building is maintained. The contractor has leased a facility to perform bus maintenance. FBCPT is not a party to the agreement. *NOTE: FBCPT is currently in the process of constructing a new transit facility estimated to be complete in late 2019 that will have federal interest.*

### **Park & Rides**

FBCPT utilizes three Park & Ride locations: Fairgrounds, AMC Theater, and University of Houston-Sugar Land. Of the three, the Fairgrounds is the only FBCPT owned location. This facility is also the only facility with no FTA interest in the facility. FBCPT will follow the established guidelines in this TAM Plan to ensure all Park and Ride locations are properly maintained at all times.

### **Asset Condition Summary**

FBCPT assesses the condition of its assets on an annual basis by utilizing TERM condition rating assessment scales. These rating scales assign a numerical value or rank based on the physical conditions presented by each individual asset throughout its life cycle. The rating scale is based on numbers 1 to 5, with five being excellent and one being poor. Assets with a rating of 3.0 or higher are considered to be in a SGR. FBCPT's current Asset Category and Asset

Condition Details are presented in **Exhibit B** which are updated at least annually and maintained in-house.

**CONCLUSION**

FBCPT firmly believes that implementing this TAM Plan will allow the agency to better meet its mission and offer safe, efficient, reliable, and accessible public transportation options to the general public of Fort Bend County.

**EXHIBIT A**

**Asset Portfolio Summary**

Asset Category	Total FTA	Total Non-FTA
Rolling Stock	51	9
Equipment	0	0
Facilities	0	3
Park & Rides	1	2

**Asset Portfolio Detail – Rolling Stock**

Asset Category	Count	Avg. Age	Useful Life Remaining
Light-Duty Small Bus, Cutaways, Regular, Modified Van-FTA	36	5.8 years	42%
Heavy-Duty Large Bus-FTA	15	5.2 years	48%
Light-Duty Bus-Non FTA	1	4 years	100%
Heavy-Duty Large Bus-Non FTA	8	7 years	100%

**Asset Portfolio Detail – Equipment**

Asset Category	Count	Avg. Age	Useful Life Remaining
n/a	n/a	n/a	n/a

**Asset Portfolio Detail – Facilities**

Asset Category	Count	Avg. Age
Facility (FTA)	0	n/a
Facility (Non-FTA)	3	35
Park & Ride (FTA)	1	9
Park & Rides (Non-FTA)	2	6.5

**EXHIBIT B**

Asset Category-FTA	Count	Avg. Age	Avg. Mileage	Avg. Condition Value	% At/Past ULB
Rolling Stock-FBCPT	51	5.55	209,937	Adequate	16.39%

**Asset Condition Detail – Rolling Stock**

Rolling Stock	Quantity	Condition	% Within Category	% Within Fleet
Heavy-Duty Large	5	Excellent	21.7%	38.3%
Heavy-Duty Large	4	Good	17.4%	
Heavy-Duty Large	13	Adequate	56.5%	
Heavy-Duty Large	1	Marginal	4.3%	
Heavy-Duty Large	0	Poor	0%	
Light-Duty Small, Cutaway, Regular, Modified	4	Excellent	10.8%	61.7%%
Light-Duty Small, Cutaway, Regular, Modified	6	Good	16.2%	
Light-Duty Small, Cutaway, Regular, Modified	10	Adequate	27.0%	
Light-Duty Small, Cutaway, Regular, Modified	10	Marginal	27.0%	
Light-Duty Small, Cutaway, Regular, Modified	4	Poor	10.8%	
Light-Duty Small, Cutaway, Regular, Modified	3	Subrogation	8.1%	

**Asset Condition Detail – Facilities**

Facilities	Condition	% Within Category
Fairgrounds Park & Ride	Good	33.3%
AMC Park & Ride	Adequate	33.3%
U of H Park & Ride	Adequate	33.3%