

CITY OF TEMPE

TRANSIT ASSET MANAGEMENT PLAN



FISCAL YEAR 2022/2023



Transit Asset Management Plan

Fiscal Year 2022/2023

Updated October 2022

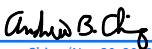
Authorization and Certification

The City of Tempe (the City) is dedicated to overseeing the development, implementation, operation, and continual improvement of asset management practices and providing a transit system that is in a good state of repair (SGR). The City is committed to ensuring this Transit Asset Management Plan (TAMP) meets the requirements of the Federal Transit Administration (FTA); 49 CFR part 625 and 630. The TAMP details how the City will authorize new or revised policies, procedures, processes and improvement activities, approves the asset management objectives and directs investment prioritization, and allocates resources for the achievement of the objectives. The commitment warrants that the City integrates asset management requirements into its core business processes, which include operations, maintenance, service planning, budgeting, and accounting.

This TAMP outlines the City's policy, approach and specific actions to improve its asset management practices over the next four years.

Approval

(Accountable Executive):


Andrew Ching (Nov 30, 2022 13:59 MST)

Andrew B. Ching, Tempe City Manager

I, Andrew B. Ching, do fully authorize and certify City of Tempe's Transit Asset Management Plan, dated

Nov 30, 2022.

REVISION HISTORY

Revision Number	Date	Reason for Change
Draft	October 2018	NA
Adopted	January 2019	NA
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Transit Asset Management Plan

Fiscal Year 2022/2023

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List of Acronyms

ADA	Americans with Disabilities Act
AM	Asset Management
ASU	Arizona State University
AZDOT	Arizona Department of Transportation
CIF	Capital Improvement Fund
CIP	Capital Improvements Program
CNG	Compressed Natural Gas
DR	Demand Response
DT	Demand Response Taxi
EAM	Enterprise Asset Management
EMS	Enterprise Management System
EVBOM	East Valley Bus Operations and Maintenance Facility
FAAS	Financial Asset Accounting System
FAST	Fixing America's Surface Transportation (Act)
FTA	Federal Transit Administration
HVAC	Heating, Ventilation, and Air Conditioning
IGA	Intergovernmental Agreement
IT	Information Technology
LMP	Lifecycle Management Plan
LNG	Liquefied Natural Gas
MAG	Maricopa Association of Governments
MAP-21	Moving Ahead for Progress in the 21 st Century (Act)
MBOM	Mesa Bus Operations and Maintenance
MMIS	Maintenance Management Information System
MPO	Metropolitan Planning Organization
NPRM	Notice of Proposed Rule Making
O&M	Operations and Maintenance

OMC	Operations and Maintenance Center
PNR	Park-and-Ride (Facility)
PTF	Public Transportation Fund
RPTA	Regional Public Transportation Authority
SGR	State of Good Repair
SOP	Standard Operating Procedures
SME	Subject Matter Expert
S RTP	Short Range Transit Program
SSCRC	Safety and Security Certification Review Committee
SSQA	Safety, Security, and Quality Assurance
TAM	Transit Asset Management
TAMP	Transit Asset Management Plan
TIP	Transportation Improvement Program
TLCP	Transit Life Cycle Program
TTC	Tempe Transportation Center

Glossary

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, 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 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 Class: a subgroup of capital assets within an asset category. For example, buses, trolleys, and cutaway vans are all asset classes within the rolling stock asset category.

Asset Inventory: a register of capital assets, and information about those assets.

Capital Asset: a unit of rolling stock, a facility, a unit of equipment, or an element of infrastructure used for providing public transportation.

Decision Support Tool: an analytic process or methodology: (1) To help prioritize projects to improve and maintain the state of good repair of capital assets within a public transportation system, based on available condition data and objective criteria; or (2) To assess financial needs for asset investments over time.

Direct Recipient: an entity that receives federal financial assistance directly from the Federal Transit Administration.

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

Exclusive-Use Maintenance Facility: a maintenance facility that is not commercial and either owned by a transit provider or used for servicing their vehicles.

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

Full Level of Performance: the objective standard established by FTA for determining whether a capital asset is in a state of good repair.

Horizon Period: the fixed period of time within which a transit provider will evaluate the performance of its TAM plan. The FTA standard horizon period is four years.

Implementation Strategy: a transit provider's approach to carrying out TAM practices, including establishing a schedule, accountabilities, tasks, dependencies, and roles and responsibilities.

Infrastructure: the underlying framework or structures that support a public transportation system.

Investment Prioritization: a transit provider's ranking of capital projects or programs to achieve or maintain a state of good repair. Investment prioritization is based on financial resources from all sources that a transit provider reasonably anticipates will be available over the TAM plan horizon period.

Key Asset Management Activities: a list of activities that a transit provider determines are critical to achieving its TAM goals.

Life-Cycle Cost: the cost of managing an asset over its whole life.

Participant: a tier II provider that participates in a group TAM plan.

Performance Measure: an expression based on a quantifiable indicator of performance or condition that is used to establish targets and to assess progress toward meeting the established targets (*e.g.*, a measure for on-time performance is the percent of trains that arrive on time, and a corresponding quantifiable indicator of performance or condition is an arithmetic difference between scheduled and actual arrival time for each train).

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).

Public Transportation System: the entirety of a transit provider's operations, including the services provided through contractors.

Public Transportation Agency Safety Plan: a transit provider's documented comprehensive agency safety plan that is required by 49 U.S.C. 5329.

Recipient: an entity that receives Federal financial assistance under 49 U.S.C. Chapter 53, either directly from FTA or as a sub-recipient.

Rolling Stock: a revenue vehicle used in providing public transportation, including vehicles used for carrying passengers on fare-free services.

Service Vehicle: a unit of equipment that is used primarily either to support maintenance and repair work for a public transportation system or for delivery of materials, equipment, or tools.

State of Good Repair (SGR): the condition in which a capital asset can perform its designed capacity, free of safety risks, with the capability to meet or recover lifecycle investments.

Sub-recipient: an entity that receives Federal transit grant funds indirectly through a State or a direct recipient.

TERM Scale: 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.

Tier I Provider: a recipient 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.

Transit Asset Management (TAM): 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.

Transit Asset Management (TAM) Plan: a plan that includes an inventory of capital assets, a condition assessment of inventoried assets, a decision support tool, and prioritization of investments.

Transit Asset Management (TAM) Policy: a transit provider's documented commitment to achieving and maintaining a state of good repair for all its capital assets. The TAM policy defines the transit provider's TAM objectives and defines and assigns roles and responsibilities for meeting those objectives.

Transit Asset Management (TAM) Strategy: the approach a transit provider takes to carry out its policy for TAM, including its objectives and performance targets.

Transit Asset Management (TAM) System: a strategic and systematic process of operating, maintaining, and improving public transportation capital assets effectively, throughout the life cycles of those assets.

Transit Provider (provider): a recipient or sub-recipient of Federal financial assistance under 49 U.S.C. Chapter 53 that owns, operates, or manages capital assets used in providing public transportation.

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

Useful life benchmark (ULB): 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.

Executive Summary

In 2012, the Federal Transit Administration (FTA) established new requirements for transit asset management (TAM) by FTA's grantees as well as new reporting requirements to promote transparency accountability (49 U.S.C. Section 5326 / MAP-21 Section 20019 Federal Public Transportation Act of 2012 (MAP-21)). The goal of the legislation is to improve TAM by implementing a strategic approach for assessing needs and prioritizing investments to bring the nation's public transit systems into a state of good repair (SGR). The legislation requires the FTA 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. In 2016 the FTA published the Final Rule including minimum requirements for transit agencies to establish a Transit Asset Management Plan (TAMP) by October 1, 2018.

The City of Tempe (the City) has developed this TAMP to meet the Federal TAM requirements of a Tier I transit provider. This TAMP includes an inventory of capital assets, an assessment of the asset condition, and the processes and tools that support investment prioritization. Additionally, the TAMP reports Tempe's TAM and SGR policy, and outlines the City's implementation strategy. In order to fulfill implementation, the City has assigned key activities with the associated resources, personnel, and technology needed. Finally, the TAMP includes an evaluation plan for continual improvement. Table ES - 1 shows how the City's TAMP aligns with the requirements.






Table ES - 1: TAMP Alignment of Federal Requirements

TAMP Requirements	MAP-21 & Final Rule References	Chapter
Develop a TAMP	5326(b)(2); 625.25	Entire TAMP
Capital asset inventories	5326(a)(2)(A); 625.25(b)(1)	2 - Inventory of Capital Assets
Condition assessments	5326(a)(2)(A); 625.25(b)(2) & 625.41	3 - Condition Assessment of Capital Assets
Decision support tool	5326(a)(2)(A) & 5326(b)(3); 625.5, 625.15(e) & 625.25(b)(3)	4 - Decision Support Tools
Investment prioritization	5326(a)(2)(A); 625.25(b)(4)	5 - Investment Prioritization
TAM and SGR policy	5326(b)(1); 625.25(b)(5)	6 - TAM and SGR Policy
Implementation strategy	5326(a)(2)(B); 625.25(b)(6) & 625.33	7 - Implementation Strategy
Key implementation activities	5326(a)(2)(B); 625.25(b)(7)	8 - Key Transit Asset Management Activities
Implementation resources	5326(a)(2)(B); 625.25(b)(8)	9 - Implementation Resources
Evaluation plan	5326(a)(2)(B); 625.25(b)(9)	10 - Evaluation Plan

TAMP AND SGR POLICY

The following asset management goals correspond directly to the City’s strategic priorities. Reported in Table ES - 2 are the goals for the City’s asset management program and the parallel strategic goal.

Table ES - 2: City of Tempe’s TAM Goals

Strategic Priorities	TAM Goals
 <p><i>Strategic Priority 1:</i> Ensuring a safe and secure community through a commitment to public safety and justice.</p>	<p>Maintain assets in SGR to deliver safe, reliable, and quality service</p>
 <p><i>Strategic Priority 2:</i> Developing and maintaining a strong community connection by emphasizing the importance of open government, customer service and communication with community members.</p>	<p>Establish TAM transparency and accountability by developing processes to inform public on asset conditions</p>
 <p><i>Strategic Priority 3:</i> Enhancing the quality of life for all Tempe residents and workers through investment in neighborhoods, parks, the arts, human services, and city amenities, with an</p>	<p><i>Same as Goal 1</i></p>
 <p><i>Strategic Priority 4:</i> Implementing sustainable growth and development strategies to improve Tempe’s environment, quality of life and economic outcomes. Tempe strives to make long-term generational investments in technology, infrastructure and public transit that create a safe, clean, equitable and healthy city.</p>	<p>Invest in life cycle cost management in planning, design, delivery, and operations of capital and operating projects</p>
 <p><i>Strategic Priority 5:</i> Maintaining long-term financial stability and vitality by focusing on economic development, business retention and generating employment to create a robust and diverse economic base.</p>	<p>Develop and prioritize resources to meet SGR requirements</p>

PERFORMANCE TARGETS & MEASURES

The FTA requires selection of performance targets based on the SGR measures established in the Final Rule. The targets encourage transit providers to work toward a quantifiable goal for improving the condition and level of performance of their assets. Table ES - 3 contains the City’s performance targets for FY2023.

Table ES - 3: Asset Performance Targets

Asset Category	Asset Class (ULB in Years)*	Performance Measure	Target
Rolling Stock ¹	Revenue Vehicles	Percentage of revenue vehicle that have met or exceeded their ULB	5%
Non-Revenue Equipment	Automobiles	Percentage of vehicles that have met or exceeded their ULB	10%
	Trucks/Service Vehicles (Rubber Tire)		10%
Facilities	Administrative Facilities	Percentage of facilities with a condition rating below 3 on FTA TERM scale	0%
	Maintenance Facilities		0%

*Note: ULB stands for useful life benchmark.

According to the TAM Final Rule, the City of Tempe will set performance targets for the subsequent fiscal year at least once every July. Additionally, it will update the entire TAMP at least once every four years; this FY203 version being its first full update. On a periodic basis, the City will review the TAMP updates and approve, reject, or modify the changes.

¹ Valley Metro reported these performance targets to the NTD beginning in FY2018 as part of an Intergovernmental Agreement (IGA) with the City of Tempe to provide bus services.

1. Introduction

The City of Tempe (the City) is an Arizona political subdivision and municipal corporation. The City provides transit services to its residents through contracts with different transit providers. The City has 12 local routes covering nearly every arterial road², two express routes connecting travelers to downtown Phoenix and the State Capital employment area, nine stations that serve the regional light rail line, fourteen streetcar stops, one Arizona State University campus circulator, and six neighborhood circulators (Orbit). The local, express, and light rail and streetcar routes abide by the regional fare structure; the neighborhood circulator service is free. The City also provides paratransit service through the East Valley Dial-a-Ride and RideChoice programs.³

The City participates in funding the operation and maintenance of the region's bus transit service, RideChoice, Dial-a-Ride paratransit services, light rail, and streetcar, which opened late Spring 2022. Approved in September 1996 and effective January 1997, Tempe residents passed a ½ sales tax for transit services and bike projects. The tax represents 0.5 percent of the City's total 1.8 percent sales tax. The tax revenue makes up 83 percent of the total transit funding for the FY2022/23 and is projected to grow at 2.8 percent annually throughout this Transit Asset Management Plan (TAMP) horizon (City of Tempe 2023a). There is no sunset date on the tax. The City does not hold any direct capital responsibility for the paratransit, light rail, or streetcar vehicle fleet, and their related asset maintenance is contracted out. However, the City does have direct capital responsibility for the local bus and circulator vehicle fleet that operates in Tempe. The City also has direct capital responsibility for a vehicle maintenance facility, an administrative facility located at a transit center, three park-and-rides (PNR), and all the bus stops within the City's boundaries.

On July 1, 2013, Tempe and Regional Public Transportation Authority (RPTA), Valley Metro's bus operating entity, entered into an Intergovernmental Agreement (IGA) for the Tempe Bus Operations Scout Program (City of Tempe 2017).⁴ The program aims to create a regionalized transit system that would effectively serve the East Valley while allowing Tempe to maintain control of local services. Prior to unification, both agencies operated similar volumes of service in the East Valley. The RPTA operated service on behalf of RPTA members and Tempe operated service on its own behalf as well as some other East Valley cities. East Valley service operated by Tempe was funded with the regional Public Transportation Fund (PTF) paid to Tempe by RPTA. Tempe also operated service in Tempe funded by its own transit tax funds and PTF funds. Rather than operating bus operations separately in the East Valley sub-region, the Scout Program examined and tested the efficacy of combined bus operations over a three-year period, ending in June 30, 2016. During the program, Valley Metro performed bus operations for the City of Tempe as set forth in the Fixed Route Bus Operations and Maintenance Service Unification contract (City of Tempe 2013).⁵ The IGA has been continued, with a few amendments, and is currently being amended to extend through December 31, 2023 (City of Tempe 2023).

In January, 2021, the Tempe City Council directed staff to pursue a study to evaluate the governance structure for bus service as purchased through Valley Metro, to analyze the cost effectiveness of the

² There is no Warner Road route.

³ Bicycle and pedestrian sidewalk assets are not part of the TAMP scope at this point.

existing contract structure and to ensure the current arrangement affords the highest level of service to the community. During April 2022, the Tempe City Council provided staff with direction to develop and request for proposals for a Tempe-administered bus service contract. The revised contracting arrangement will become effective January 1, 2024. Besides cost-effectiveness of bus operations, the unification provided cost recovery for the City's investment in its bus fleet and the East Valley Bus Operations and Maintenance Facility (EVBOM). As the asset management of the facility and fleet are charged to other cities, the City is credited a portion of the depreciation not directly consumed by Tempe. The credit comes in the form of a regional PTF credit which is used by the City to fund transit programs.

Though operating its fixed route services under an IGA, the City of Tempe is committed to maintaining its assets in a state of good repair (SGR) under one transit asset management (TAM) program. This transit asset management plan (TAMP) outlines the current TAM practices, identifies key business needs, and develops an implementation strategy for the City with respect to transit services.

TRANSIT ASSET MANAGEMENT OVERVIEW

Transit asset management (TAM) is a strategic business practice that supports transit agencies with maintaining assets in a state of good repair (SGR). To reduce the future cost of repairs and replacement of transit capital assets, the Federal Transit Administration (FTA) has made asset management (AM) a high priority in the Moving Ahead for Progress in the 21st Century Act (MAP-21). On July 26, 2016, the FTA published the Final Rule requiring public transportation providers to develop and implement a TAMP. The benefits of the TAMP include:⁴

- Improved transparency and accountability for the use of systematic practices in tracking asset conditions and performance measures;
- Optimized capital investment and maintenance decisions, leading to overall lifecycle cost savings;
- Enhanced data-driven maintenance decisions, leading to greater effectiveness of maintenance spending, as well as a reduction in unplanned mechanical breakdowns and deficiencies; and
- Potential safety benefits as the greater effectiveness of dollars spent on maintenance can lead to improved vehicle and track condition and fewer safety hazards.

TAM ROLES AND RESPONSIBILITIES

The Final Rule establishes the requirements for TAM that apply to recipients or sub-recipients of federal financial assistance under 49 United State Codes (USC) Chapter 53 that own, operate, or manage public transportation capital assets. The City of Tempe is a sub-recipient of such federal financial assistance and a Tier I entity that operates with one hundred and one (101) or more vehicles in revenue service during regular service.

The City Manager is responsible for ensuring that the TAMP and asset management objectives are established. As the Accountable Executive of the TAMP, the City Manager is also responsible for overseeing

⁴ Federal Transit Administration. (2016). *Federal Register Transit Asset Management; National Transit Database; Final Rule, 49 CFR Parts 625 and 630*. July 2016.

the development, implementation, and continual improvement of the asset management and safety program.

The City of Tempe's TAM is housed within the Transportation and Traffic Engineering & Operations Division/Transit within the Public Works Department (an organizational chart is provided in **Appendix A**). The TAM Champion from this Division is responsible for developing asset management policies, guidelines, processes, and procedures as well as other relevant asset management tools, and provides guidance and oversight on their use within different business divisions. In addition, the TAM Champion is responsible for monitoring and reporting on the status of the City's asset management program.

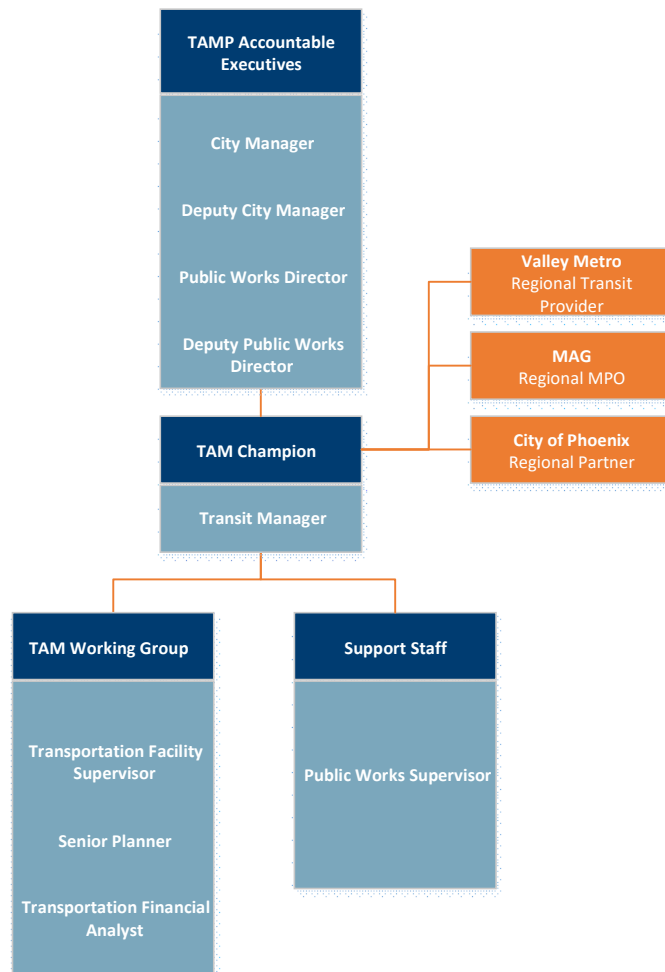
To assist the TAM Champion, a TAM working group has been formed. The working group is comprised of representatives of Transit & Engineering Section. The purpose of the working group is to:

- Assist with development and implementation of the asset management policies;
- Resolve internal asset management issues;
- Develop coordinated, interactive support from federal, state, and local agencies;
- Perform annual review and update of the TAMP, making changes according to internal or external related issues, performance monitoring and measuring results, and changes in risks and opportunities; and
- Communicate current and planned asset management activities.

Overall, TAM is a coordinated effort with regional partners such as City of Phoenix, Maricopa Association of Governments (MAG) (the region's Metropolitan Planning Organization (MPO)), and Valley Metro.

Figure 1-1 depicts the TAMP organization within the City of Tempe.

Figure 1-1. TAMP Organization Chart



TAMP ORGANIZATION

The TAMP addresses the goals and objectives of the organizational strategic plan and the asset management policies and transforms them into a high-level, long-term action plan for the management of the Agency’s assets. The TAMP addresses current and future demand, condition and performance requirements of Valley Metro’s assets, and lays out a road map on how the Agency intends to deliver these future requirements.

The remainder of this plan is organized as follows:

- Chapter 2, “Inventory of Capital Assets,” provides a list of assets.
- Chapter 3, “Condition Assessment of Capital Assets,” reports asset conditions and performance targets.
- Chapter 4, “Decision Support Tools,” lists the analytical process(es) used to prioritize investments.
- Chapter 5, “Investment Prioritization,” provides a ranked listing of proposed projects ordered by year of planned implementation.
- Chapter 6, “TAM and SGR Policy,” reports the City’s TAM policies, goals, and objectives.

- Chapter 7, “Implementation Strategy,” documents the Agency’s TAM business needs and actionable tasks.
- Chapter 8, “Key Transit Asset Management Activities,” lists the planned and budgeted actions.
- Chapter 9, “Implementation Resources,” provides a summary of necessary resources to implement TAM actions.
- Chapter 10, “Evaluation Plan,” concludes with next steps on how the TAMP is to be monitored and updated.

Within the TAMP is a list of appendices for references. Specifically, Appendix A presents the City’s organization under the Department of Public Works, where TAM is housed. Appendix B and Appendix C contain the asset inventory and condition assessment reports respectively. Appendix D provides graphical representations of some of the Agency’s lifecycle TAM processes. Appendix E contains an evaluation checklist for updating the TAMP.

2. Inventory of Capital Assets

The FTA TAM Final Rule defines an asset inventory as a register of capital assets. The inventory must include the quantity and type of all capital assets that a transit provider owns, except for non-vehicle equipment valued at less than \$50,000 (FTA, 2016). In addition, the inventory includes any rolling stock, guideway infrastructure, and maintenance, passenger, or administrative facilities that are owned by third-party contractors and used by transit agencies.

The City of Tempe's asset inventory is organized at a level of detail commensurate with the level of detail in its program of capital projects. The City is served by the following services via RPTA:

- Local, limited stop, and express bus service (13 local and three express routes)
- Neighborhood circulators (six Orbit routes and one Flash route)

As discussed previously in *Chapter 1*, an IGA was developed between the City of Tempe and RPTA in 2013. The Agreement is currently being amended to extend through December 31, 2023. Besides bus and circulator services, the City participates in funding the region's RideChoice and Dial-A-Ride paratransit services, Valley Metro light rail service, and Tempe Streetcar operations, but does not hold any capital responsibility. Though the City does not have capital responsibility for light rail vehicles, the City is working with Valley Metro and regional partners involved in the rail program (the City of Phoenix and the City of Mesa) to establish an SGR policy for the fleet since the member cities will be responsible for funding capital vehicle maintenance. Overall, the City's main transit assets include facilities, bus and circulator fleet, park-and-rides (PNR), and bus stops.⁵ The City routinely evaluates and updates the level of services for fixed-route bus, paratransit services and both rail services (Valley Metro light rail and Tempe streetcar) based on established criteria and in coordination with Valley Metro's planning services.

Concurrent with the update of this TAMP is the first year of operation of the Tempe Streetcar, a 3-mile modern streetcar operating primarily in mixed-use traffic in downtown Tempe. As the first streetcar in Valley Metro's rail portfolio, Valley Metro will own and have direct capital responsibility for the assets, including infrastructure, as noted below. This is commensurate with the regional light rail system. Reporting requirements will be coordinated between the parties. Per the streetcar O&M agreement (2019), the city is identified as the responsible party for annual operating and maintenance expenses, which includes a participatory review and adoption between parties. Additionally, the City provided \$13 million in capital funding for the project prior to construction, which will be reimbursed to the City over a period of 30 years by invested property owners through existing agreements. *(Valley Metro 2018, City of Tempe 2018b).⁶

⁵ Streetcar stops are maintained by City without ownership. Details are documented in the approved (2019) Operating and Maintenance Agreement between the City and Valley Metro.

⁶ During this TAMP horizon, and in contrast to the previous TAMP horizon, the forecast does consider service expansion pending the extension of the regional Proposition 400 funding initiative. If successful, it's anticipated the extension would increase the available funding for transit service operations in addition to several capital projects

ROLLING STOCK

Rolling stock capital assets include revenue vehicles that provide public transportation services, regardless of whether those assets are part of a fare-free passenger service. The City’s rolling stock inventory, including all vehicles currently in operation, awaiting sale or disposal, out for long-term repair, or in storage, is documented in Table B- 1 of **Appendix B**. The procurement of six streetcar vehicles has been completed for the Tempe Streetcar project, but capital and storage responsibilities for the vehicles will be under Valley Metro Rail.

While not required for the TAMP, Valley Metro reports the following data on behalf of the City to NTD in October for each fiscal year:

- Agency fleet identification
- Vehicle type
- Manufacturer
- Year of manufacture
- Year of rebuild (if applicable)
- Model
- Number of vehicles in fleet
- Number of active vehicles
- Number of ADA-accessible vehicles
- Number of emergency contingency vehicles
- Dedicated fleet vehicles
- Total miles on active vehicles
- Average lifetime miles per active vehicle
- Vehicle length
- Seating capacity
- Standing capacity
- Ownership
- Funding source
- Useful Life Benchmark

EQUIPMENT

Equipment capital assets include non-revenue service vehicles and equipment that support revenue operations. The City of Tempe’s equipment inventory is comprised of:

- Eight non-revenue vehicles (truck, van, crane truck, and path sweeper);
- One electric forklift; and
- Two self-propelled elevating work platforms.

The Agency’s equipment inventory is in Table B- 2 of **Appendix B**.

Per NTD requirements, Valley Metro reports the following information on behalf of the City of Tempe in October for each fiscal year on behalf of the City:

- Vehicle type
- Primary mode
- Secondary mode (if applicable)
- Total number of vehicles
- Year of manufacture
- Estimated cost (with year dollars of estimate)
- Useful Life Benchmark
- Transit agency with capital responsibility

for transit service expansion or enhancement. As a component of overall City sales tax, the trend projected in General Fund sales tax revenue is mirrored in the Transit Fund.

FACILITIES

Facility capital assets include all passenger stations, administrative buildings, maintenance buildings, and parking structures used by an agency to provide public transportation services. The City operates one maintenance facility, one administrative building with an adjoining transit center that serves several bus routes and the rail system, four park-and-ride surface parking lots, one park-and-ride parking garage structure, 85 bus pullouts, 313 bus shelters, and 778 bus stops⁷

Since 2007, the City has owned and operated a maintenance facility dedicated to bus transit at 2050 W Rio Salado Pkwy, Tempe.⁸ This facility, the East Valley Bus Operations and Maintenance Facility (EVBOM), provides heavy vehicle maintenance, compressed natural gas (CNG) and diesel fueling, and operator dispatch and vehicle cleaning. The facility includes:

- 75,600 sq. ft. of maintenance space;
- 7,100 sq. ft. of fuel and wash space; and
- 19,650 sq. ft. of administration operations space

EVBOM also houses administrative staff for bus operations. It has the capacity for up to 300 buses.

The Tempe Public Works Department of Transportation and Traffic Engineering and Operations Division/Transit staff are housed in Tempe Transportation Center (TTC), which is located at 200 E. Fifth Street. The 40,000 square-foot administrative building opened in 2008 and its ground floor includes retail space and a transit store. Several bus routes serve the Transportation Center including five free Orbit routes. The TTC includes a fare outlet, public restrooms, and a bicycle shop. There is also a transit center adjacent to the University Drive and Rural Road light rail station, but it does not provide any additional services. Both transit centers provide connections between light rail, local bus routes and neighborhood circulators.

The City's facility inventory is provided in Table B- 3 and Table B- 4 of *Appendix B*.

Per NTD requirements, Valley Metro, on behalf of the City, reports the following information in October of each fiscal year:

- Facility type
- Address
- Year constructed/ reconstructed
- Primary mode
- Secondary mode (if applicable)
- TERM scale condition rating
- Square footage

⁷ Bus pullouts, shelters, and stops are not enclosed structures and are not required to be inventoried. Also, the park-and-ride parking lots do not have enclosed structures that help provide transit services.

INFRASTRUCTURE

As illustrated in Table 2-1, infrastructure capital assets include fixed-guideway, power and signal, and track elements. The City and Valley Metro will coordinate to report all infrastructural elements. The City will not own or have direct capital responsibility over any of the infrastructure.

The Tempe Streetcar line opened for service on May 20, 2022. Per NTD requirements, the City will coordinate with Valley Metro to start reporting the infrastructure inventory in October of each fiscal year. Details of this agreement are found in the Operations and Maintenance Agreement between the City and Valley Metro, approved in 2019.

Table 2-1. NTD Infrastructure Inventory

Infrastructure	Element	What Is Reported
Guideway	At-grade guideway	<ul style="list-style-type: none"> Amount of track miles (including yard/side track) Amount of linear miles Expected service years when new Capital responsibility percentage Other agencies sharing capital responsibility Age group
	Elevated guideway	
	Below-grade guideway	
Power and Signal	Number of substation buildings	<ul style="list-style-type: none"> Expected service years when new Capital responsibility percentage Other agencies sharing capital responsibility
	Existence of substation equipment	
	Existence of third rail/power distribution	
	Existence of overhead contact system/ power distribution	
	Existence of train control and signaling	
Track	Tangent track miles	<ul style="list-style-type: none"> Expected service years when new Capital responsibility percentage Other agencies sharing capital responsibility
	Curve track miles	
	Non-revenue track miles	
	Quantity of special work assets	

3. Condition Assessment of Capital Assets

According to the TAM Final Rule, transit providers must conduct a condition assessment on all inventoried assets for which the provider has direct capital responsibility. The City's assessment includes a level of detail sufficient to monitor and predict the performance of the assets and to inform the investment prioritization. Specifically, the City assesses the condition of all required capital assets using the performance measures recommended by the FTA.

ROLLING STOCK

For rolling stock, the City follows Valley Metro's reporting procedure as RPTA is the service provider. Valley Metro uses its local experience to determine the appropriate useful life benchmark (ULB) for each vehicle type in its fleet. The ULB selected reflects the Agency's estimate of how many years the vehicles can be in service and remain in a state of good repair (SGR) in Phoenix. After a vehicle's age exceeds its ULB, Valley Metro believes that the ongoing maintenance costs outweigh the replacement costs for that vehicle.

In all cases, the selected ULB's are identical to the default ULB's that FTA provides for each class of revenue vehicle. Based on its asset inventory, Valley Metro compares each vehicle's age to its ULB to determine the percentage of its revenue vehicles that have met or exceeded their ULB.

For bus rolling stock, Valley Metro uses the FTA default ULB of 14 years for buses and 10 years for cutaways. Based on the selected ULB, zero percent of the bus fleet has exceeded its ULB, as illustrated in Table 3-1. Though its current ULB standards match FTA defaults, Valley Metro will update its ULB in FY2023 to better reflect real-life operating conditions in the Tempe region, which uses a ULB of 7 years for cutaways. All changes in ULB assumptions will be coordinated between Valley Metro and the City.

Table 3-1. Rolling Stock, Fleet ULB Measure

Year of vehicle	Manufacture of vehicle or chassis	Model of vehicle	Description of vehicle	Type	# in fleet	ULB	FY23 Age	Meet or Exceed
2010	New Flyer	L40LFR	HD 40ft City Bus	BU	7	14	12	N
2011	New Flyer	C40LFR	HD 40ft City Bus	BU	22	14	11	N
2012	New Flyer	C40LFR	HD 40ft City Bus	BU	16	14	10	N
2013	New Flyer	C40LFR	HD 40ft City Bus	BU	16	14	9	N
2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	17	14	11	N
2017	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	7	12	5	N

Year of vehicle	Manufacture of vehicle or chassis	Model of vehicle	Description of vehicle	Type	# in fleet	ULB	FY23 Age	Meet or Exceed
2018	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	6	12	4	N
2019	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	12	12	3	N
2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	17	12	1	N

EQUIPMENT

The City’s Field Operation - Fleet Services Division within the Public Works Department conducts preventative maintenance for non-revenue vehicles as recommended by the vehicles’ manufacturers. Manufacturers’ recommended maintenance schedules are to be followed and service to be completed when vehicles reach recommended mileage. Some specialized work is handled by a third-party vendor.

The selected ULB represents the number of years a non-revenue vehicle can be in service and remain in a state of good repair. The City compares each vehicle’s age to its ULB to determine the percentage of non-revenue vehicles that have met or exceeded their ULB, and then determines its equipment performance targets.

The City uses the FTA’s default ULB for its equipment, as reported in Table 3-2. Zero of the non-revenue vehicles have met or exceeded their ULB for FY2023.

Table 3-2. Equipment, ULB Measure

Year of Mfg	Make/Model	Quantity	ULB	FY23 Age	Meets or Exceeds
2007	Genie	1	10	15	E
2012	Chevrolet	1	10	10	E
2014	Chevrolet	1	10	8	M
2015	Izuzu	1	10	7	M
2015	Chevrolet	1	10	7	N
2016	Izuzu	1	10	6	N
2018	Genie	1	10	4	N
2019	Chevrolet	1	10	3	N
2019	Chevrolet	1	10	3	N
2021	Doosan	1	10	1	N
2021	Izuzu	1	10	1	N

FACILITIES

The City has direct capital responsibility for one maintenance facility, EVBOM, and one administrative building, the TTC. The passenger facilities (park-and-rides, bus pullouts, shelters, etc.) discussed in *Chapter 2* are not enclosed structures and do not need to be reported at this time.

The City considers any facility asset in a state of good repair if it attains a score of three (3) or higher (out of five (5)) on the FTA's TERM scale. TERM scale scores are reported as integers, with overall ratings from multiple assets (if applicable) rounded to the nearest whole number. Any equipment that is integral to the building is considered part of the facility for the purposes of the condition assessment. Equipment listed in each System is subject to FTA guidance for inclusion. Items of lower value or routine maintenance items are not included in the evaluation. The City's maintained assets are sorted into Systems as described in Table 3-3 below. The assets are reviewed and those with a value less than \$50,000 in acquisition value and not critical to the operation of the facility (per FTA TAM Final Rule) are removed from evaluation. The results in Appendix B-5 show some Systems with "No Results". The lack of results in a specific category is due to the above process of removing items that are not above the threshold value or criticality, even though the City may own and maintain assets of lower value or criticality in that System category.

The City assesses its facility assets at the system and sub-system level, considering both age and visual condition as part of its overall condition assessment score. A TERM scale score is assigned to each sub-system and those scores are then rolled up to a system and facility level score. Table 3-3 lists the ten FTA standard facility systems (referred to as components by FTA).

Table 3-3. FTA Administrative/Maintenance Facility Systems/Components

ID#	System/Component
1	Substructure
2	Shell
3	Interiors
4	Conveyance
5	Plumbing
6	HVAC (Heating, Ventilation, and Air Conditioning)
7	Fire Protection
8	Electrical
9	Equipment
10	Site

Each sub-system identified during the City's condition assessment is given a visual condition score which is then weighted based on its remaining useful life. The City applies a weight factor based on percent remaining useful life, as illustrated below in Table 3-4.

Table 3-4. Percent Remaining Useful Life Weight Factor

Year Remaining %	Weight Factor	Year Remaining %	Weight Factor
-200%	3	0%	0.5
-100%	2	10%	0.4
-50%	1	15%	0.3
-40%	0.8	20%	0.25
-30%	0.75	30%	0.2
-20%	0.7	40%	0.15
-15%	0.6	50%	0.1
-10%	0.55	100%	0

A sub-system condition score is given to each sub-system based on the following formula:

$$\begin{aligned}
 \text{Sub System Condition Score} &= \text{Sub System Visual Condition Score} \\
 &- \text{Percent Remaining Useful Life Weight Factor}
 \end{aligned}$$

From here, a system condition score is calculated based on the estimated replacement cost of the sub-system assets using the following formula:

$$\text{System Condition Score} = \frac{\sum_i(SSCS_i \times SSRC_i)}{\sum_i SSRC_i}$$

where $SSCS_i$ is the sub-system condition score for sub-system i and $SSRC_i$ is the replacement cost for sub-system i .

Finally, the City calculates the overall facility condition score based on the average value of the weighted condition score of all systems assessed per facility. The overall rating for the facility is then rounded off to the nearest integer value and this value is reported for the facility.

As reported in Table 3-3, the facilities are in a state of good repair. Details of all the assessments are reported in Appendix C .

Table 3-5. Facilities, TERM Measure

Name	Facility Type	Location	TERM Rating	Below 3 on TERM scale? (Y/N)
East Valley Bus and Operations Center	Combined Administrative and Maintenance	2050 W Rio Salado Pkwy., Tempe 85281	3.62	N
Tempe Transportation Center	Administrative	200 E 5th St, Tempe 85281	3.84	N

INFRASTRUCTURE

The City does not have any bus fixed guideway (elevated, tunnel, etc.) to report. The opening of the Tempe Streetcar project did not change this; therefore, the City will not report rail infrastructure conditions as it does not have direct capital responsibility over the Tempe Streetcar.

PERFORMANCE TARGETS

Section 625.45 of the TAM Final Rule stipulates that transit providers must set one or more performance targets per asset class based on the SGR measures established in Section 625.43 (FTA, 2016). A performance target is a “quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by the [FTA]” (FTA 2016: p.48963). Using FTA’s default ULBs,⁹ the City developed its targets based on realistic expectations as well as the most recent data available and considered the financial resources expected to be available during the TAM plan horizon period.

In accordance with TAM requirements, the City has selected appropriate performance targets for each asset class and category (provided in **Error! Reference source not found.**). The performance targets are approved by the City’s Accountable Executive and updated on an annual basis each October.

Table 3-6. Asset Performance Targets

Asset Category	Asset Class (ULB in Years)*	Performance Measure	Target
Rolling Stock ¹⁰	Revenue Vehicles	Percentage of revenue vehicle that have met or exceeded their ULB	5%
Non-Revenue Equipment	Automobiles	Percentage of vehicles that have met or exceeded their ULB	10%
	Trucks/Service Vehicles (Rubber Tire)		10%
Facilities	Administrative Facilities	Percentage of facilities with a condition rating below 3 on FTA TERM scale	0%
	Maintenance Facilities		0%

⁹ Though the City’s current ULB standards match FTA defaults, the City may be updating its ULB in FY2023 to better reflect real-life operating conditions in the Tempe region.

¹⁰ Valley Metro reported these performance targets based on the FY2018 TAMP to the NTD beginning with the FY2018 reporting year as part of an Intergovernmental Agreement (IGA) with the City of Tempe to provide bus services.

4. Decision Support Tools

The City uses several tools to support investment prioritization. From budgeting and programming project needs to managing assets, there are several processes used for decision-making. These processes do not necessarily require the use of specialized software.

BUDGETING AND PROGRAMMING

The City's financial program guides the Department of Engineering & Transportation's spending and investment in transit. The program, which is updated annually, includes historical data and a five-year planning budget forecast based on the City's strategic priorities and performance measures (City 2018a). There are two separate aspects of the budget within the City's overall financial program:

1. Operating budgets that include the General Fund and Transit Fund; and
2. Capital Improvements Program (CIP) which uses secondary property taxes to repay bonds that fund repair and construction projects.

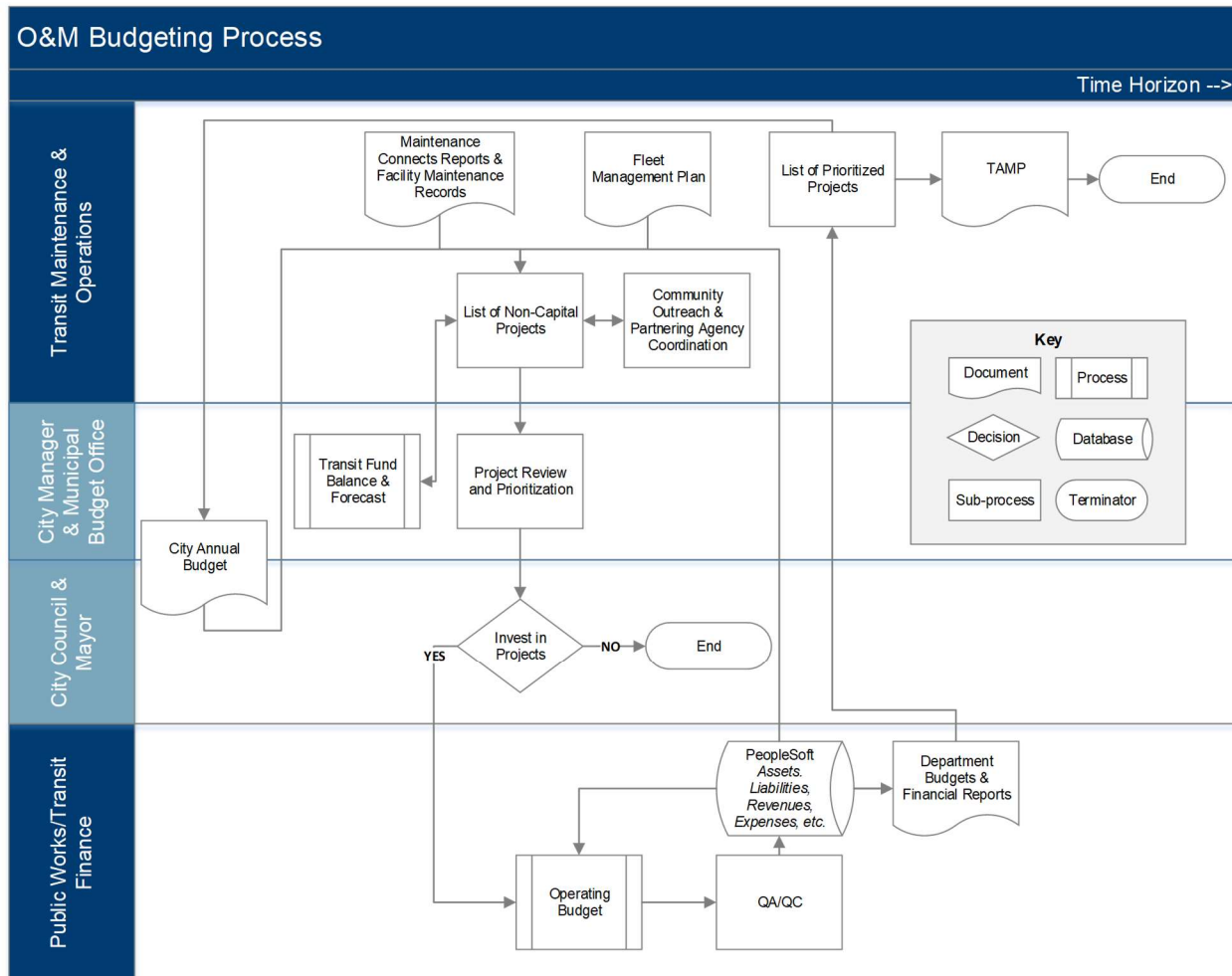
The City coordinates development of the capital improvements budget with development of the operating budget. Future operating costs associated with new capital improvements are projected and included in operating budget forecasts. In July of each year, shortly after the approval of the fiscal year's budget, budgeting for the following year begins. The City Council reviews the City's strategic priorities and performance measures, the Municipal Budget Office updates financial capacity, each department discusses policy as well as operational issues with the City Manager, and stakeholders are informed to provide feedback on changes to operating requests.

For transit service and operations planning, the priority is to maintain current services, with an increase in service frequency planned in the future. To do so the City relies on two separate yet related budgets. The City's operating budget is based off the transit fund; the CIP budget is separate and relies on federal funds in addition to the Transit Tax. The City's priority is to maintain service with the revenue generated from the Transit Tax, which is first used to fund O&M costs and debt services. Any remaining funds can then be used on transit capital projects. The Transit Fund has improved over the last few years from a structural deficit to producing an average annual surplus with the FY2021/22 balance at \$82.5 million and projected revenue for FY2022/23 AT \$66.6 million. The FY2022/23 CIP for transit projects is projected at \$34.4 million.

Forecast of revenue growth rates of the Transit Fund (the City's overall budget) from the Municipal Budget Office are used to develop the annual transit operating budget. The City maintains all its physical assets at a level adequate to protect its capital investment and to minimize future maintenance and replacement costs. Figure 4-1 depicts the operations budget process.

During this TAMP horizon, and in contrast to the previous TAMP horizon, the forecast does consider service expansion pending the extension of the regional Proposition 400 funding initiative. If successful, it's anticipated the extension would increase the available funding for transit service operations in addition to several capital projects for transit service expansion or enhancement.

Figure 4-1. Budgeting Process for Operations



For capital project planning, the City follows a separate but linked process. The City’s CIPs are guided by the City’s Transportation Master Plan, which was developed using significant public involvement and was adopted by Council in 2015. As required by City Charter, a five-year CIP is developed and updated annually, including anticipated funding sources. The CIP is designed for capital projects such as:

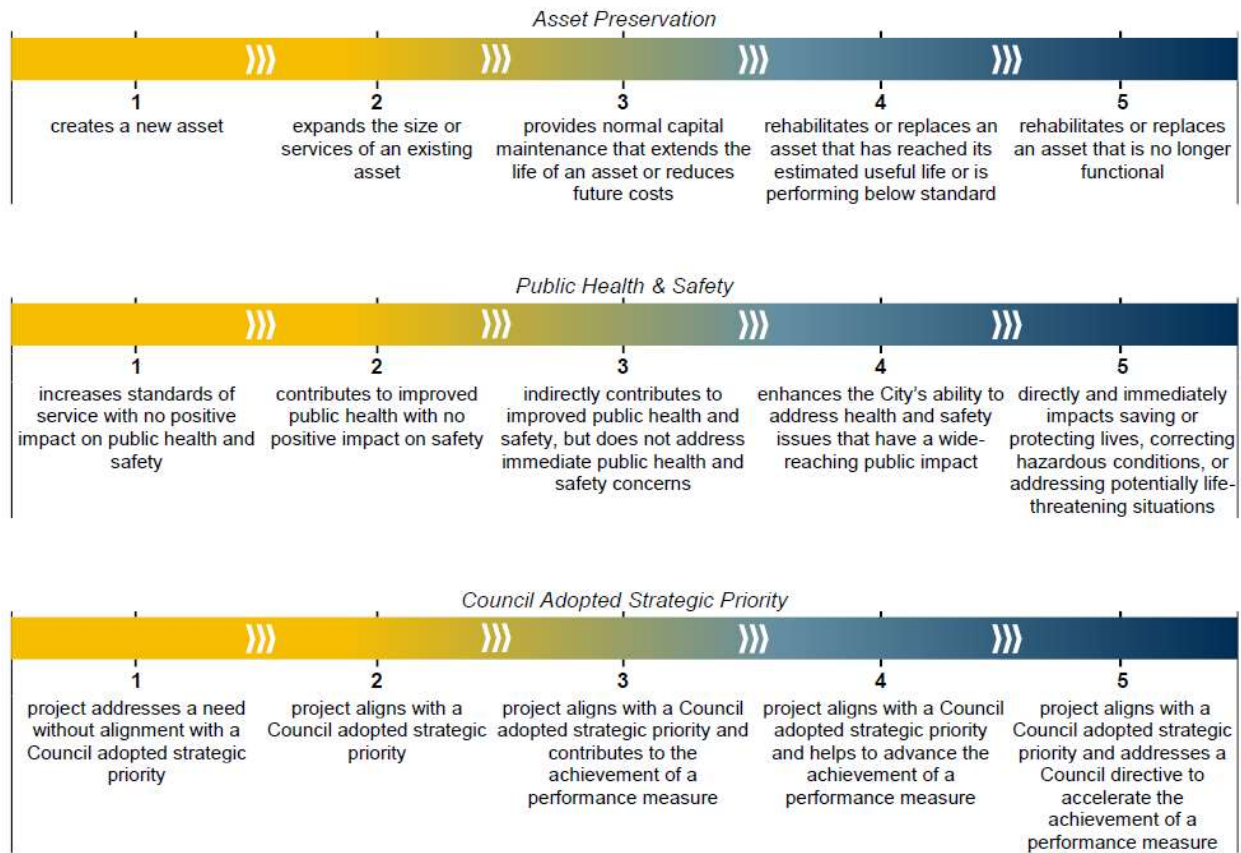
1. Expenditures which take place over two or more years, requiring continuing appropriations beyond a single fiscal year;
2. Funding with debt because of significant costs to be shared by current and future beneficiaries;
3. Creation or revitalization of a fixed asset with a minimum useful life of five years;
4. Systematic asset acquisition over an extended period; and
5. Scheduled replacement or maintenance of specific elements of physical assets.

However, the 2008-2009 recession had adverse impacts on state and local revenues because of stagnant growth in population, taxable sales, development/redevelopment, and property assessment. During the recovery, the backlog for transit services built up and the CIP has mainly been used for deferred

maintenance. The prioritization process for investment is based on a scoring system (Figure 4-2) that is simplified by the City’s transit operations as (with score of 1 being ranked the highest priority):

1. Operation critical & maintain state of good repair
2. Safety and security
3. Service expansion

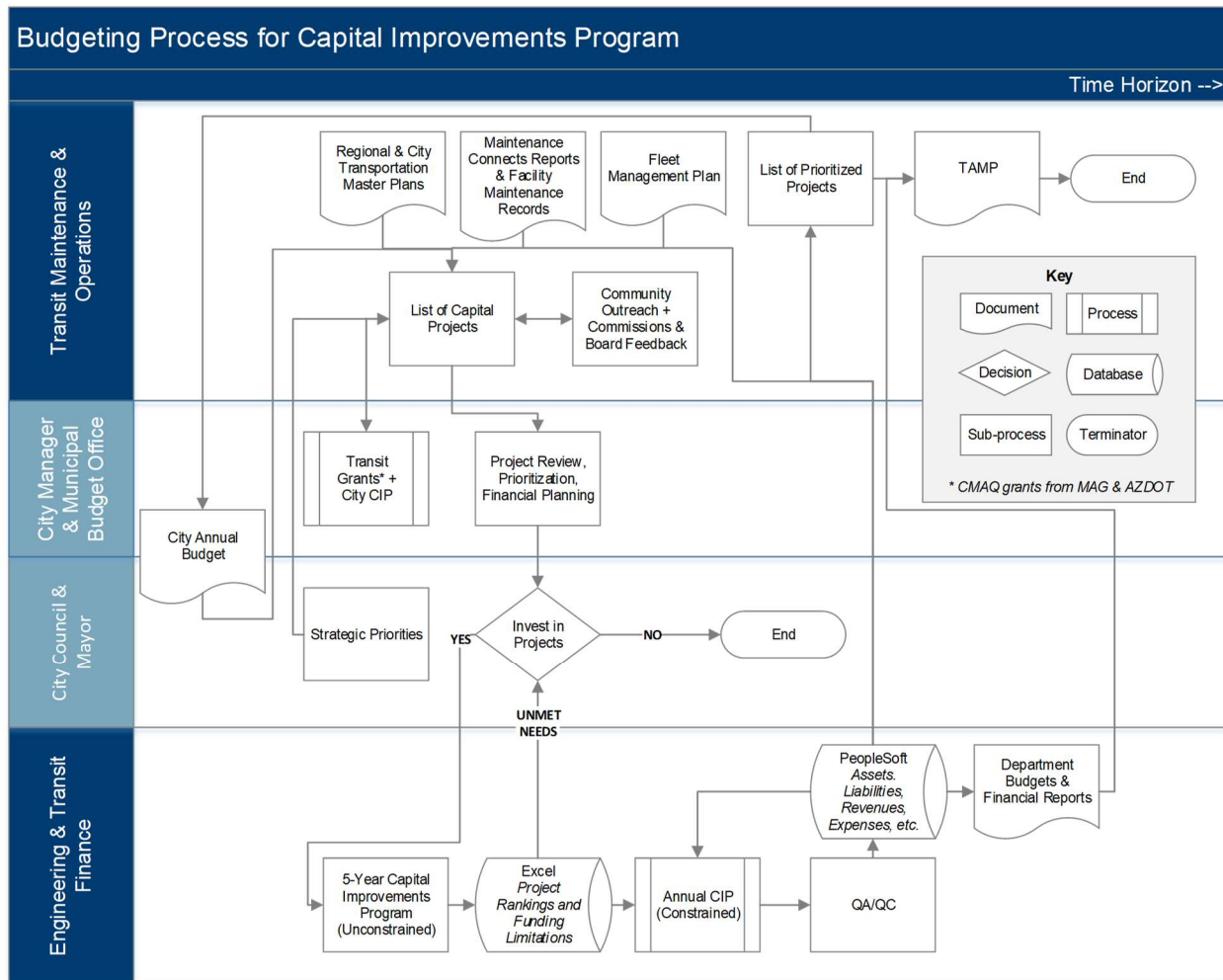
Figure 4-2. Prioritization Scoring



Source: City of Temp (2018b)

Based on inputs from stakeholders and consultation with the City Manager and the City’s Municipal Budget Office, ranked projects are submitted to City Council and the Mayor for approval. Approved projects are then incorporated into the transit capital budget; related assets are added into PeopleSoft, which is used for accounting in compliance with government reporting requirements. Figure 4-3 depicts the capital budgeting process.

Figure 4-3. Budgeting Process for Capital Spending



SERVICE CHANGE & PRIORITIZATION

Through the IGA with the City, Valley Metro plans for, prepares changes, and amends service specifications with directions from the City’s transit operations. The current priority for transit operations is to maintain or improve bus headways to 15 minutes or less, in order to attract riders. No other major service changes are planned. Otherwise, service changes and prioritization thereof follow procedures developed by Valley Metro’s Service Planning Working Group (SPWG) (Valley Metro 2017, City of Tempe 2018b).

LIFECYCLE ASSET MANAGEMENT

The City practices lifecycle management to prioritize asset investment for providing safe and efficient transit services. The lifecycle management of buses is primarily handled by Valley Metro and their contracted vendor, First Transit. In partnership with Valley Metro, the City and agency both track and monitor vehicle assets from procurement and acquisition, retrofits and upgrades, utilization and maintenance, and decommission and disposal. The duplicative efforts for vehicle lifecycle management

helps the City and agency reduce risk and exposure, improve service delivery, and determine return on investment. The lifecycle management process with Valley Metro is a continual feedback loop with information flow going through circuitous reviews and steps so the process is ever evolving.

The asset lifecycle management process for vehicles starts with the procurement of buses by regional partners, including City of Phoenix, Valley Metro, and the City of Tempe. Specifically, bus procurements have been led by either City of Phoenix or Valley Metro, and City of Tempe has been involved in development of specifications as well as the review and evaluation of the proposals submitted. New bus information obtained by the City (including registration, certificates, etc.) are provided to Valley Metro and the service contractor. Valley Metro's Finance Division enters the assets into the Fixed Assets Accounting System and is entered in Infor by First Transit. First Transit, which is responsible for the maintenance of vehicles, produces a bus inventory report that both Valley Metro and the City use to monitor the maintenance, performance, and ULB of vehicles. The bus inventory report is subsequently used to inform asset performance and timing for replacement as well as rehabilitation. Rehabilitation of a vehicle involves maintenance and retrofits aimed at returning the vehicle to its original capacity or condition allowing it to perform at, or close to, its original design standard and performance expectations set by regulatory requirements and city standards. As mentioned, for vehicle replacement, the City executes the procurement process alongside regional partners; the disposal process is carried out entirely by the City.

Tempe capital facilities also undergo a lifecycle management process that is carried out internally. FM Solutions/Facilitize, is a software tool the City uses to plan and budget for the end of an asset's life. Maintenance Connection is a software tool the City uses for work order management. Transit facilities are currently included in Maintenance Connection but not Facilitize. The City is working to update its current transit asset inventory so that it can be added to Facilitize and updated in Maintenance Connection. The City currently uses neither of these tools for TAM. Transit does use the Facility Maintenance Inspection Schedule Matrix weekly preventative work order system for both the EVBOM and TTC facilities. Asset financial information is maintained by accounting staff in PeopleSoft and conditions evaluations are maintained in Microsoft Excel. Excel is the preferred management method over Maintenance Connection, due to insufficient system training and information technology (IT) upkeep. The Excel data is based on weekly inspection reports and used to link maintenance information, condition assessment, and other asset data, to operations and maintenance (O&M) and CIP budgets and strategic planning. The Excel spreadsheet also contains asset replacement backlog, which is prioritized in the budgeting process. *Appendix D* provides graphic representations of the processes for lifecycle management of bus and facilities.

5. Investment Prioritization

In accordance with the FTA TAM Final Rule, the City of Tempe has a prioritized list of projects that will improve or manage SGR of capital assets over the TAMP horizon period. The prioritization method that the City employs is consistent with its TAM policy and strategies. The result is a list of ranked projects by asset class. The process is detailed under Budgeting and Programming in Chapter 4 Decision Support Tools, where two of the core themes steering the project prioritization process are safety and reliability of service.

The City of Tempe's CIP (FY22/23 Annual Budget) has prioritized bus and rail investments listed as:

- **Bus Pullout Project:** Installation of bus pullouts at 31 remaining locations in the city and replacement of deteriorated existing bus pullouts. The high priority locations are identified at high traffic and traffic congested intersections that also have high ridership and / or safety issues related to the intersection. Design activities have been completed for 11 locations anticipated for construction during this TAMP horizon, with additional pullouts to be completed through partnerships with new developments or concurrent City Traffic Engineering projects.
- **Bus Stop Capital Maintenance/ Improvements:** Repair, rehabilitate and/or replace bus stop infrastructure that has or will surpass its useful life during the project year or has excessive or adverse environmental exposures. The Transit Shelter Design Project, completed during FY23, will encourage ridership, support the city's sustainability efforts, maximize shade and will allow for the installation of approximately 30 additional shelters annually at locations that were previously considered right-of-way constrained;
- **EVBOM - Facility Asset Maintenance:** Repair and replacement of major systems, sub-systems and equipment at the facility, as well as complete construction and expansion of the original facility design;
- **Tempe/Mesa Streetcar/Rail Extension Feasibility Study:** In partnership with the City of Mesa and Valley Metro, identify and evaluate potential high-capacity transit corridors in Mesa and Tempe;
- **TTC - Facility Asset Maintenance:** Repair, refurbishment, or replacement of major equipment, infrastructure, and sub-systems at the facility;
- **Proposition 400 Extension Projects** – This project will help to establish the required local match for capital projects included in the proposed extension of the Proposition 400:
 - **University Drive & Light Rail/McAllister Grade Separation:** Design and eventual construction of a grade-separated crossing of the light rail at University Drive between McAllister Drive and Rural Road. The project will grade-separate light rail from University Drive and integrate the station into the adjacent developments.
 - **Scottsdale/Rural Road BRT:** New high-capacity transit corridor to serve the Scottsdale/Rural Road corridor connecting the cities of Scottsdale, Tempe and Chandler
 - **Rio Salado East/Dobson Streetcar Extension:** New high-capacity transit corridor to extend from the current streetcar terminus at Rio Salado Parkway/Marina Heights to Rio Salado Pkwy/Dobson Rd. in Mesa, and south on Dobson Road to Main Street.

Additional details on the FY 2023-FY2027 Capital Improvements Program are provided in Table 5-1.

Budgeting and Programming4Decision Support ToolsTable 5-1. Transit Capital Improvements Program FY2022/23-FY2026/27

Project Name	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	Total 5-Year Program Cost
Bus Pullout Project	\$1,990,106	\$300,000	\$300,000	\$300,000	\$300,000	\$3,190,106
Bus Stop Capital Maintenance/Improvements	\$2,078,141	\$750,000	\$750,000	\$750,000	\$750,000	\$5,078,141
EVBOm - Facility Asset Maintenance (East Valley Bus Ops/Maint Facility)	\$3,755,954	\$1,750,000	\$1,500,000	\$1,500,000	\$1,500,000	\$10,005,954
Federal Grants & Project Contingency	\$2,500,000	\$0	\$0	\$0	\$0	\$2,500,000
Light Rail Capital Maintenance - State of Good Repair	\$2,150,623	\$500,000	\$500,000	\$500,000	\$500,000	\$4,150,623
Proposition 400 Extension Projects	\$400,000	\$650,000	\$300,000	\$500,000	\$500,000	\$2,350,000
Transit Tax Funded Projects Archaeological Contingency Fund	\$400,000	\$0	\$0	\$0	\$0	\$400,000
Transportation Master Plan	\$500,000	\$100,000	\$0	\$0	\$0	\$600,000
TTC - Facility Asset Maintenance (Transportation Center)	\$3,316,436	\$400,000	\$400,000	\$400,000	\$400,000	\$4,916,436
CIP Transit Total	\$17,091,260	\$4,450,000	\$3,750,000	\$3,950,000	\$3,950,000	\$33,191,260

Note. Only FY22/23 spending has been authorized and approved. Everything else within the 5-year program can change on an annual basis, subject to review. Projects in the table above are not inclusive of all CIP projects at the City of Tempe

RISK CONSIDERATIONS

A thorough risk management process improves safety, security, operations, the environment, and goodwill, as well as reduces potential liabilities and financial outlays. For bus safety and performance reliability, the City, via Valley Metro, has specific requirements for service standards and delivery within each contractor's contract. Performance requirements and risks are identified and tracked. Other risks taken into considerations are mainly politically driven and dependent on regional and local tax revenue. They include:

- Projections of local transit tax (3.3 percent per year through FY 2022)¹¹
- Regional sales tax that expires in 2025
- Opening of streetcar and other new projects
- Increasing O&M, especially for streetcar, and fuel costs
- Coordination with Phoenix for bus procurement (Phoenix is the designated grant recipient)
- Uncertainty in Transit Fund forecast (from which transit tax is part of)
- Technological change especially with respect to electrification of buses and retrofitting maintenance facility

With shared responsibility with regional partners on providing transit services, the risks listed do not necessarily constrain only the City of Tempe. To mitigate these risks, the City will coordinate with regional partners with periodic meetings to review potential risks that can limit the region's ability to provide safe and reliable transit services. Additionally, the City will amend IGAs if necessary to address how risks are shared, tracked, and mitigated among partners.






¹¹ The Transit Tax represents 0.5 percent of the 1.8 percent City Sales Tax. The tax for transit was approved by Tempe voters in September 1996 and became effective January 1, 1997. Projection reflects the end of the construction boom driven by the Marina Heights development and assumes a continued economic recovery.

6. TAM and SGR Policy

City of Tempe is committed to employing effective asset management business practices and tools to ensure optimal asset performance and useful life, as well as cost-effective decision-making for resource allocation and asset preservation.

Reported in Table 6-1 are the goals for the asset management program and the parallel strategic goal.

Table 6-1. City's TAM Goals

Strategic Priorities	TAM Goals
 <p><i>Strategic Priority 1:</i> Ensuring a safe and secure community through a commitment to public safety and justice.</p>	<p>Maintain assets in SGR to deliver safe, reliable, and quality service</p>
 <p><i>Strategic Priority 2:</i> Developing and maintaining a strong community connection by emphasizing the importance of open government, customer service and communication with community members.</p>	<p>Establish TAM transparency and accountability by developing processes to inform public on asset conditions</p>
 <p><i>Strategic Priority 3:</i> Enhancing the quality of life for all Tempe residents and workers through investment in neighborhoods, parks, the arts, human services, and city amenities, with an</p>	<p>Same as Goal 1.</p>
 <p><i>Strategic Priority 4:</i> Implementing sustainable growth and development strategies to improve Tempe's environment, quality of life and economic outcomes. Tempe strives to make long-term generational investments in technology, infrastructure and public transit that create a safe, clean, equitable and healthy city.</p>	<p>Invest in life cycle cost management in planning, design, delivery, and operations of capital and operating projects</p>
 <p><i>Strategic Priority 5:</i> Maintaining long-term financial stability and vitality by focusing on economic development, business retention and generating employment to create a robust and diverse economic base.</p>	<p>Develop and prioritize resources to meet SGR requirements</p>

7. Implementation Strategy

The City’s approach to TAM implementation has been to:

1. Implement asset lifecycle management based on age, condition, priority and performance.
2. Prioritize and identify assets for replacement or rehabilitation to maintain safe and reliable transit service based on hands-on and coordinated efforts from the TAM working group.

To provide an AM implementation strategy that complies with the Final TAM Rule, which specifies a set of actions, schedules, accountabilities, dependencies, roles and responsibilities, the City conducted an organizational assessment to inform the City’s TAM baseline.

ORGANIZATIONAL ASSESSMENT

The City has conducted an organizational assessment to determine its current state of TAM practices. The main goals of the assessment are to:

- Measure alignment to FTA TAM elements
- Identify opportunities and a path for improvement (as guided by FTA (2016), Figure 7-1)¹²
- Document lessons learned

Findings critical to FTA TAM compliance are noted as actions to be implemented now (“Year 0-1” in the implementation schedule). Other actions (“Year 2-3” and onward) are opportunities for improvements. The opportunities that are determined to be necessary for the City’s TAM practices and critical for the City to achieve its TAM goals (reported in Chapter 6 *TAM and SGR Policy*) are documented in Chapter 8 *Key Transit Asset Management Activities*.

Figure 7-1. Asset Management Implementation Program Approach (FTA 2016)



¹² Federal Transit Administration. (2016). *Transit Asset Management Guide*. Available from: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Report_No._0098.pdf [Accessed 20th August 2022]

METHODOLOGY

A number of working meetings with City's staff who work on TAM tasks were held to discuss current practices and solicit feedback on opportunities for asset management improvement. The meetings were guided by questions in the FTA Asset Management Guide AM Maturity Self-Assessment Tool.¹³ The TAMP organization chart is illustrated in

¹³ The Microsoft Excel tool is available at <https://www.transit.dot.gov/TAM/resources/tools/SelfAssessment>.

Figure 1-1.

ASSET MANAGEMENT BASELINE & RECOMMENDATIONS

The organizational assessment informs the baseline of the City's asset management approach. The findings from the working meetings are organized by the five TAMP business processes as documented in the FTA TAM Guide (2016):

1. Policy & Strategy
2. Lifecycle Management
3. Cross-Asset Planning and Management
4. Information Systems
5. Enablers & Change Management

1. Policy & Strategy

The City delegates transit asset management responsibilities to the Transit Maintenance and Operations Section in the Public Works Department. While the City has AM programs (for public buildings, for example), it has not formally established goals and strategies for transit assets. However, since the introduction of the Final Rule, the City has been working to develop a TAM and SGR policy. The City has taken steps of identifying performance metrics that are tied to its strategic priorities; this TAMP will serve as a building block formalize a TAM approach.

To streamline transit operations, the City has established IGAs with regional partners. However, for bus service, the City may revisit the business case of Tempe/RPTA bus unification program that was recommended to the Tempe Transportation Commission in 2015 (City of Tempe 2015). Changes to IGAs in general will take TAM reporting responsibilities into account.

Key business needs identified

- Document asset management goals and objectives, activities, responsibilities, resources, and timelines
- Establish continual improvement approach
- Amend IGA with clarifications on TAM and NTD reporting responsibilities

2. Lifecycle Management

An inventory of bus and facility assets is complete and inventory information are stored in different information systems.¹⁴ Though the City has ownership of all fixed-route and circulator buses, all vehicle maintenance and operations fall under the responsibility of Valley Metro RPTA, which established an IGA with the City of Tempe in 2013 and has been amended on an annual basis.

The buses included in the IGA are operated and maintained by First Transit, a private vendor contracted through Valley Metro. First Transit provides Valley Metro with most of the information required for NTD reporting. Vehicle mileage and fuel usage is provided to Valley Metro directly by the City of Tempe, which tracks usage via FuelForce, a web-based system integrated at EVBOM's fuel islands. To ensure that Valley Metro and its vendor are upholding standards, the City conducts additional inspections of the fleet. Per-mile O&M cost data contributes to the City's transit O&M budget, which is maintained in Excel and shared

¹⁴ For example, Infor is used by bus operator First Transit and City of Tempe uses Microsoft Excel.

between Valley Metro and the City. A comprehensive description of how Valley Metro manages assets can be found in their TAMP.

While First Transit maintains the bus inventory as documented in the Valley Metro's Bus Management Plan and TAMP, the City collects and stores fleet registrations, certifications for clean air requirements, registration through Arizona Department of Transportation (AZDOT), and disposal information. Together in coordination with City of Phoenix and City of Tempe, Valley Metro provide assistance in procuring new vehicles on behalf of its member cities. The City also documents all procurement activities through PeopleSoft (accounting of contracts and payments) and as mentioned, is responsible for all local/state/federal registrations and certificates. Tempe uses PeopleSoft to store and monitor vehicle financial information. The City follows Valley Metro's bus acquisition and operations practice to ensure that the oldest vehicles with the highest mileage or highest maintenance costs are the first vehicles retired when replacement vehicles arrive. As such, the vehicle financial information in PeopleSoft feeds into the CIP when new or additional vehicles are required.

The inspections are organized by week and stored in associated weekly folders (hard copies). There are forms for the daily, weekly, monthly, quarterly, and/or annual inspections that need to be completed; and conditions are tracked on a five-year plan. The storage folder also houses records of previous inspections to track and compare the condition of equipment. A Facility Management Matrix Schedule outlines which inspection to complete by week, as well as the equipment to be reviewed. The matrix schedule acts as an insurance layer to the process flow for evaluating equipment. Per the inspection, any items requiring work orders are inputted to Maintenance Connection, the maintenance management software system. The results of the inspection reports also contribute to the development of the transit CIP and maintenance backlog (five-year), both of which are maintained in Excel.

In addition to inventory condition assessments completed to accurately determine O&M and CIP budgets, the City uses projections of transit tax revenues and the capital/operating costs of any anticipated projects when setting the budget. While Tempe's Transit Tax has seen continued growth in revenue for several years and does not have a sunset date, the City has identified the Transit Tax revenue projections and increasing O&M costs as concerns. Transit Tax growth rates used in the department's budget models are produced by the City's Municipal Budget Office and they are produced twice a year. The City also relies on Maricopa County's Proposition 400 funds (regional transportation tax), which is set to expire in 2025. The extension of Proposition 400 is dependent on voter approval and was also identified as a concern.

Another challenge faced by the City is that ownership of the four park-and-rides (PNRs) in Tempe (Dorsey and Apache, McClintock and Apache, Price and Apache, Dorsey and Lemon) is not well defined. They are maintained and operated by the City of Tempe; however, there seems to be a lack of clarity between Valley Metro and the City regarding their ownership and maintenance responsibilities. Since they are regional assets, the legal agreements for shared-use parking stalls at the locations are between Valley Metro and property owners; however, Tempe assumed maintenance responsibilities since the sites are within the City's jurisdiction. In light of preparing this TAMP, the City and Valley Metro are working on clarifying maintenance responsibilities for the hour locations. This is critical for both agencies to transparently and efficiently monitor, budget, and maintain the facilities in a state of good repair.

The City's current alternately fueled fleet of CNG and liquefied natural gas (LNG) powered vehicles are environmentally friendly. However, emerging technologies present a challenge to the City, which has yet to experience success with electric buses in terms of expected mileage and durability. An integration of

an electric fleet will require vehicle charging infrastructure and new maintenance equipment at facilities. In 2019, Tempe produced its first Climate Action Plan¹⁵, establishing a defined path for reducing the City's carbon footprint to a level of carbon neutrality. Updates to the Climate Action Plan were adopted by City Council on March 3, 2022.

Overall, maintenance and inspections procedures are generally well documented for all vehicles and facilities through standard operating procedures and other documents. The City may establish formal lifecycle management plans in coordination with the Division's finance, service planning, and Public Works Department's engineering staff.¹⁶

Key business needs identified

- Document data ownership, condition assessment, and maintenance processes for all assets
- Address risk/uncertainty and ensure assets can meet performance requirements
- Maintain asset lifecycle management plans that specify asset class activities (costs, performance, risks, conditions, maintenance, and disposal) (see Table 7-1 from FTA (2016))¹⁷

Table 7-1. Lifecycle Management Planning

Lifecycle	Activity Description
Create or Acquire	New assets created or procured to increase capacity, meet current demand, and address performance objectives.
Do Nothing	Assets are operated until they fail or no longer deliver the required performance.
Examine Operational Procedures	Operational management is changed to manage stress on the assets, such as reducing a vehicle's exposure to hills.
Routine Maintenance	Conducted to keep assets in a serviceable condition and address performance requirements.
Renew or Replace	Asset replacement occurs when it is insufficient to keep the asset serviceable or when it is more cost-effective to replace.
Upgrade	Improve existing asset to address performance requirements.
Dispose	Decommission and demolish, recycle, or sell obsolete assets.

Source: Adapted from Ciria, "Whole-Life Infrastructure Asset Management: Good Practice Guide for Civil Infrastructure" 2009

3. Cross-Asset Planning & Management

The City develops a five-year capital program and operating forecast on an annual basis as part of its budgeting process, which identifies anticipated operating costs, capital projects and costs, and the associated funding sources. City Council, with input from the residents of Tempe, reviews and approves

¹⁵ [637114975444100000 \(tempe.gov\)](https://www.tempe.gov/637114975444100000). Accessed August 17, 2022.

¹⁶ Through citation and references of existing related documents and not necessarily generating new documents.

¹⁷ The plan does not have to be a recreation of existing procedures. It can reference other plans and note the responsible party (division).

this forecast. The Transit Maintenance and Operations Section focuses on the following (in order of importance) three themes to steer their budget prioritization:

1. Operation critical and maintaining state of good repair
2. Safety and security
3. Service expansion

The priorities are in sync with how City Council allocates its General Fund: services are funded first, along with emergency funds in the event of service interruptions. Though the City performs ongoing maintenance to ensure a safe and reliable transit system, if a maintenance item gets deferred for too long or becomes operation critical suddenly, the item is moved to the CIP budget. Two primary deferred maintenance items include green building infrastructure upgrades to automate electrical systems and upgrading circulator vehicles from light-duty to medium-duty or heavy-duty with improved fuel capacity/operating range and a longer minimum useful life. As described in Chapter 4, Tempe's transit CIP is addressing many deferred maintenance projects that are a result of the 2008-2009 economic downturn.

Tempe Operations staff are involved in coordinating the procurement of new vehicles to ensure the selected vehicle type is a suitable fit for the service provided and that the maintenance and operations requirements of any new vehicles are accounted for. Operations is also responsible for implementing other capital improvement projects such as bike lanes and bus shelters, but such projects are the last to be funded.

Like all Valley Metro member jurisdictions, the City of Tempe pays an annual contracted fee reflective of the types of services, number of routes, operating span, and frequency of service provided to the city. Operations and maintenance costs are based on at the service provider's fixed rate per mile and the number of revenue miles provided. Any service changes are implemented based on Valley Metro's Transit Standards and Performance Measures (regionally funded service only) process, route operational analyses, public outreach, and Board approval process. Valley Metro, along with the City of Phoenix, provide assistance in scheduling all the routes in Tempe, including Orbit circulators. The region uses HASTUS scheduling software for the optimization of vehicle and crew schedules.

Ridership data is collected automatically through the regional fare collection system on those services that charge a fare. For fare-free services, including Orbit and FLASH, ridership data is collected manually.¹⁸ Valley Metro buses are retrofitted with CleverCAD® real-time service information devices to streamline and synchronize the bus data collection methodology across the region. The data from this software is

¹⁸ For Orbit and FLASH, ridership is recorded manually by each operator using a duty-specific, serialized count sheet for each shift. This data is then entered into a monthly excel workbook, which tabulates the daily ridership count sheets in the format reported by the monthly regional ridership report. Tempe developed this process and continues to provide oversight/QC as well as assistance in developing the count sheets and workbook. These materials are turned over to First Transit, who populate the monthly spreadsheet and submits to Valley Metro at the end of each month to be incorporated in the monthly regional ridership report. Additionally, fixed route local and express routes record ridership data through the fare collection system. Data recorded by the regional fare system is administered and maintained by the City of Phoenix. The City of Phoenix provides the monthly ridership data to Valley Metro for reporting in the regional ridership report.

useful for understanding origin-destination data, locating potential new transit center(s), studying the link between land use and economic development, making changes to the IGA, etc.

In planning for new routes, proposed service expansions must undergo a Valley Metro and City of Tempe public involvement process. The changes are then incorporated in Tempe's O&M and CIP budget and reviewed by City Council and Tempe's Transportation Commission, a 15-resident committee appointed by City Council. The Commission meets monthly and makes recommendations to proposed service changes and budgets. The public can comment on the proposed budgets prior to Council approval. Council approves budgets annually and approves service changes as needed.

As described in the Lifecycle Management Section, Valley Metro (via First Transit) has been reporting most of the information regarding Tempe's transit assets to NTD. However, Valley Metro has not reported on Tempe's facilities and equipment, as required by NTD. As such, Tempe needs to amend the IGA with Valley Metro to clarify NTD reporting responsibilities. The City will need to develop an NTD reporting framework for reporting Tempe facilities and equipment not under the reporting responsibilities of Valley Metro or work with Valley Metro to ensure those facilities are included the NTD report. If Tempe takes responsibility for facility and equipment (and/or vehicle) NTD reporting, the responsibility will need to be integrated into the existing Transit Maintenance and Operations Section organization. Furthermore, the City and Valley Metro need to amend the IGA to clarify maintenance responsibilities at park-and-ride locations.

The City understands the need to plan for a variety of future financial scenarios and works closely with Valley Metro and MAG to coordinate service plans and system growth. Though planning and operations have ongoing communication about budget needs, neither group has a formal process for incorporating risk in their calculations and projections, which needs to be addressed. Similarly, a framework for transitioning items from CIP to CIP maintenance should be developed to better prioritize needs and develop budgets. For example, the current budget shows "Bus Stop Capital Maintenance/Improvements" as a project category (estimated at \$2.1million for FY2023 and \$750k in each remaining budget on the five year outlook) and more clearly defined projects within the City's CIP maintenance submittal form can help clarify CIP maintenance needs and communicate the SGR backlog. The SGR backlog should also be incorporated in the planning and budget process.

Key business needs identified

- Integrate planning into service operations
- Establish process to transition from CIP to CIP maintenance
- Incorporate asset condition, asset performance, or risk registers into operations budgeting
- Establish a formal communication process with planning partners

4. Information Systems

City staff is equipped with the tools and skills necessary to identify current asset replacement backlog, facility maintenance needs, forecast future replacement requirements, and manage risk over the entire asset life cycle. This is done through close coordination between operations and accounting and finance staff.

Tempe's planning, accounting and finance, and operations staff have access to several software programs to manage resource information. Operations staff track repairs manually via the facility management inspection reports and utilize Maintenance Connection for placing work orders. The City has used

Facilitize, an asset management tool, to track asset lifecycles. The software has been implemented within the City to generate repeatable and consistent data that can be used to track and improve Transit facility assets. The Facilitize program has enough data to track TAMP required assets. The information recorded and gathered within the software will be reviewed and updated as needed to maintain an accurate asset lifecycle data source. Bus maintenance is tracked by the contractor, First Transit, which uses Infor. Finance and accounting use a combination of PeopleSoft and Excel. Often data is pulled from PeopleSoft and managed locally in a separate Excel database.

Key business needs identified

- Establish communication between different systems
- Set mechanisms for contractors to transfer data to the City and quality control
- Use in-house asset management system

5. Enablers & Change Management

With respect to change management and communication of asset management planning, it is unclear if the current communication strategy addresses the interests of City of Tempe's TAM. While the City's TAM is a priority and the transit system is funded through its Transit Tax, different divisions within the City have different needs. Externally, the Transit Maintenance and Operations staff meet monthly, with on-going coordination with MAG and Valley Metro, particularly to address fleet replacement needs. Tempe and Valley Metro also have frequent meetings regarding service changes, active studies, and performance of the newly opened Tempe Streetcar project.

Overall, Tempe staff is currently equipped to handle the responsibilities and challenges presented to them, though additional planning and operations staff are desired. From a risk perspective, additional staff, in conjunction with a communication and succession plan, would help reduce the loss of institutional knowledge currently accumulating in several of the staff members. While staff are authorized to take up to three trips per year for training and learning industry best practices, there does not seem to be availability for travel as there is no other staff to handle the workload.

Key business needs identified

- Develop a communication plan for TAM coordination with staff and funding partners
- Institute succession planning
- Train staff on maintenance and AM systems in a timely manner
- Hire more staff for transit planning and operations

SUMMARY OF KEY BUSINESS NEEDS

The City of Tempe has been maintaining its assets in a state of good repair to provide safe and reliable services. The City has also initiated a number of TAMP activities and Table 7-2 summarizes the needs for continual improvement.

Table 7-2. Summary of Key Business Needs

TAM Business Process	Key Business Needs
Policy & Strategy	Document asset management goals and objectives, activities, responsibilities, resources, and timelines.

TAM Business Process	Key Business Needs
	Establish continual improvement approach.
	Amend IGA with clarifications on TAM and NTD reporting responsibilities.
Lifecycle Management	Document data ownership, condition assessment, and maintenance processes for all assets.
	Address risk/uncertainty and ensure assets can meet performance requirements.
	Maintain asset lifecycle management plans that specify asset class activities (costs, performance, risks, conditions, maintenance, and disposal).
Cross-Asset Planning & Management	Integrate planning into service operations.
	Establish process to transition from CIP to CIP maintenance.
	Incorporate asset condition, asset performance, or risk registers into operations budgeting.
	Establish a formal communication process with planning partners.
Information Systems	Establish communication between different systems.
	Set mechanisms for contractors to transfer data to the City and quality control.
	Use in-house asset management system.
Enablers & Change Management	Develop an internal reporting communication plan for TAM coordination with staff and funding partners.
	Institute succession planning.
	Train staff on maintenance and AM systems in a timely manner.
	Hire more staff for transit planning and operations.

IMPLEMENTATION SCHEDULE

For each of the identified business needs, specific actions are developed and an implementation schedule is proposed. The implementation actions and schedule are documented in Table 7-3. As introduced, the findings that are critical to FTA TAM compliance are noted as actions to be implemented now (“Year 0-1”). Other actions (“Year 2-3” and onward) are opportunities for improvements. The opportunities that have been determined to be necessary for the City of Temp’s TAM practices and critical for the City to achieve its TAMP goals are documented in Chapter 8 Key Transit Asset Management Activities.

Table 7-3. Implementation Actions and Schedule

TAM Key Business Needs	Implementing Action (IA) #	Description of Actions	Short Term (Year 0-1)		Medium Term (Year 2-4)		Long Term (Year 4+)
			0	1	2	3	Beyond
Business Process: Policy & Strategy							
Document asset management goals and objectives, activities, responsibilities, resources, and timelines	IA-1	Formalize TAMP, governance, implementation accountabilities, and associated resource requirements.	→				
Establish continual improvement approach	IA-2	Monitor asset management performance; identify and respond to emerging and ongoing performance issues.	→				
Amend IGA with clarifications on TAM and NTD reporting responsibilities.	IA-3	Develop communication strategy for TAM coordination with staff and funding partners. Prepare TAM updates on a 4 year cycle.		→			
Business Process: Lifecycle Management							
Document data ownership, condition assessment, and maintenance processes for all assets	IA-4	Develop & Reassess asset lifecycle management plans for key assets.			→		
Address risk/uncertainty and ensure assets can meet performance requirements	IA-5	Establish & Review risk management practices that include periodic audits to identify, monitor, and track risks in lifecycle management plans.			→		
Maintain asset lifecycle management plans that specify asset class activities (costs, performance, risks, conditions, maintenance, and disposal)	Part of IA-4	Develop & Update asset lifecycle management plans for key assets.			→		

TAM Key Business Needs	Implementing Action (IA) #	Description of Actions	Short Term (Year 0-1)		Medium Term (Year 2-4)		Long Term (Year 4+)	
			0	1	2	3	Beyond	
Business Process: Cross-Asset Planning & Management2-								
Integrate planning into service operations	IA-6	Incorporate expectations and responsibilities in internal communication plan.			→			
Establish process to transition from CIP to CIP maintenance	IA-7	Incorporate prioritization criteria for capital reinvestments into decision support/prioritization tool(s).			→			
Incorporate asset condition, asset performance, or risk registers into operations budgeting	Part of IA-4	Develop & Update asset lifecycle management plans for key assets.			→			
Establish a formal communication process with planning partners	Part of IA-6	Incorporate expectations and requirements in external communications plan.			→			
Business Process: Information Systems								
Establish communication between different systems	IA-8	Provide information on TAM from a centralized data repository in a consistent way across all asset classes that multiple departments can access and utilize.			→			
Set mechanisms for contractors to transfer data to the City and quality control	IA-9	Ensure documentation of TAM procedures and include in contractor requirements.	→					
Use in-house asset management system	IA-10	Work with other departments to investigate usefulness of existing asset management system for TAM.		→				
Business Process: Enablers & Change Management								
Develop a communication plan	Part of IA-3	Develop communication strategy for TAM coordination with staff and funding partners.		→				
Institute succession planning	IA-11	Ensure documentation of TAM procedures and include in requirements for staff onboarding.	→					
Train staff on maintenance and AM systems in a timely manner	IA-12	Provide periodic TAM training to staff.	→					
Hire more staff for transit planning and operations	IA-13	Develop business case for additional staff needs.	→					

IMPLEMENTATION RESOURCE NEEDS

For each implementation action, the level of effort has been estimated in terms of labor hours. These estimates are reported in Table 7-4.¹⁹

Table 7-4. Resources Needs

Implementation Action	Description of Actions	Annual Average Labor Hours (40 hours = one week)		
		Year 0-1	Year 2-4	Year 4+
Business Process: Policy & Strategy				
IA-1	Formalize TAMP, governance, implementation accountabilities, and associated resource requirements. <i>Assumes a two-week effort.</i>	80	-	-
IA-2	Monitor asset management performance; identify and respond to emerging and ongoing performance issues. <i>Assumes a two-week effort.</i>	80	-	-
IA-3	Develop communication strategy for TAM coordination with staff and funding partners. <i>Assumes initial three-week effort; followed by semi-annual update; each lasting one-week.</i>	160	80	-
Business Process: Lifecycle Management				
IA-4	Develop asset lifecycle management plans for key assets. <i>Assumes three-week initial effort, followed by one-week update annually.</i>	-	120	40
IA-5	Establish risk management practices that include periodic audits to identify, monitor, and track risks in lifecycle management plans. <i>Assumes three-week initial effort, followed by one-week update annually</i>	-	120	40
-	Develop asset lifecycle management plans for key assets (IA-4)	-	-	-
Business Process: Cross-Asset Planning & Management				
IA-6	Incorporate expectations and requirements in external communications. <i>Assumes semi-annual update; each a one-week effort.</i>	-	80	80
IA-7	Incorporate prioritization criteria for capital reinvestments into decision support/prioritization tool(s). <i>Assumes semi-annual update; each a one-week effort.</i>	-	80	80
-	Develop asset lifecycle management plans for key assets (IA-4)	-	-	-
-	Incorporate expectations and requirements in external communications plan (IA-6)	-	-	-
Business Process: Information Systems				
IA-8	Provide information on TAM from a centralized data repository in a consistent way across all asset classes that multiple departments can access and utilize. <i>Assumes initial two-week effort; followed by semi-annual update; each lasting one-week.</i>	-	120	80

¹⁹ One full time equivalent (FTE) is 2,080 hours per year.

Implementation Action	Description of Actions	Annual Average Labor Hours (40 hours = one week)		
		Year 0-1	Year 2-4	Year 4+
IA-9	Ensure documentation of TAM procedures and include in contractor requirements. <i>Assumes a three-week initial effort, followed one-week update annually.</i>	120	40	40
IA-10	Work with other departments to investigate usefulness of existing asset management system for TAM. <i>Assumes a three-week effort.</i>	120	-	-
Business Process: Enablers & Change Management				
-	Develop communication strategy for TAM coordination with staff and funding partners (IA-3)	-	-	-
IA-11	Ensure documentation of TAM procedures and include in requirements for staff onboarding. <i>Assumes one-week, annual effort.</i>	40	40	-
IA-12	Provide periodic TAM training to staff. <i>Assumes one-week, annual effort for two staff members.</i>	80	80	80
IA-13	Develop business case for additional staff needs. <i>Assumes initial two-week effort; followed by annual update; each lasting one-week.</i>	80	40	-
Total FTE (One FTE = 2,080 hours)		760 hours	800 hours	440 hours

8. Key Transit Asset Management Activities

Drawing from Chapter 7, *Implementation Strategy*, key TAM activities are the implementation actions that the City of Tempe has determined to be critical to achieving its TAM goals. The City will update its list of key activities as it completes implementation actions, approves additional actions, and/or changes the prioritization thereof. The City's key TAM activities include:

- (IA-1) Formalize TAMP, governance, implementation accountabilities, and associated resource requirements;
- (IA-2) Monitor asset management performance; identify and respond to emerging and ongoing performance issues;
- (IA-3) Develop communication strategy for TAM coordination with staff and funding partners;
- (IA-4) Develop asset lifecycle management plans for key assets;
- (IA-5) Establish risk management practices that include periodic audits to identify, monitor, and track risks in lifecycle management plans;
- (IA-6) Incorporate expectations and requirements in external communications;
- (IA-7) Incorporate prioritization criteria for capital reinvestments into decision support/prioritization tool(s);
- (IA-8) Provide information on TAM from a centralized data repository in a consistent way across all asset classes that multiple departments can access and utilize;
- (IA-9) Ensure documentation of TAM procedures and include in contractor requirements;
- (IA-10) Work with other departments to investigate usefulness of existing asset management system for TAM;
- (IA-11) Ensure documentation of TAM procedures and include in requirements for staff onboarding;
- (IA-12) Provide periodic TAM training to staff; and
- (IA-13) Develop business case for additional staff needs.

9. Implementation Resources

To implement the key activities listed in Chapter 8, *Key Transit Asset Management Activities*, the City will need to enlist additional resources beyond those already designated for TAM duties. The resources needed to implement the key activities include additional personnel and funding needs.

Table 9-1 details the FTE needed to implement all key activities by business process. The City may choose to hire additional employees or identify current employees who are able to take on additional duties.

Table 9-1. Annual FTE Allocation by Implementation Business Process

TAM Business & Supportive Process	Average Annual FTE Needs			Total FTE Needs	FTE Equivalent Cost
	Year 0-1	Year 2-3	Long Term		
Policy and Strategy	0.15	0.04	0.00	0.19	\$18,384
Lifecycle Management	-	0.12	0.04	0.15	\$14,707
Cross-Asset Planning and Management	-	0.08	0.08	0.15	\$14,707
Information Systems	0.12	0.08	0.06	0.25	\$23,899
Enablers and Change Management	0.10	0.08	0.04	0.21	\$20,222
Total	0.37	0.38	0.21	0.96	\$91,920

Note: As documented in the Final Rule for wage calculations, a wage of \$45.96 for in-house staff from the Bureau of Labor Statistics is used. Rates are updated from 2016 to 2017 dollars using price deflator from the Bureau of Economic Analysis. One FTE is 2,080 hours per year.

10. Evaluation Plan

Under the TAM Final Rule, the City of Tempe must provide “an outline of how [the City] will monitor, update, and evaluate, as needed, the TAMP and related business practices, to ensure the continuous improvement of its TAM practices”. Accordingly, the City will periodically review and revise the TAMP to ensure that it continues to align with the City’s strategic goals, complies with FTA requirements and, most importantly, improves the safety and reliability of transit services.

In accordance with the TAM Final Rule, the City (along with Valley Metro) will set performance target for the following fiscal year each July. The City will also update the TAMP each year that inventory changes. Additionally, the City will update the entire TAMP at least once every four years as mandated. This version being the first full update of the TAMP. As part of ongoing TAM efforts, the City will specifically engage in the following activities:

- Conduct annual TAM meetings led by the Accountable Executive to review progress toward TAM goals and performance measures with asset management staff. The Accountable Executive will also approve the annual performance targets at these meetings.
- Conduct semiannual meetings between Accountable Executive and TAM working group to discuss potential updates to the TAMP.
- Track and monitor improvement progress, and present findings at annual and semiannual meetings.
- Document and respond to comments made by FTA.
- Coordinate performance target reporting and annual review with regional partners.
- Perform annual reviews of all vendor and contractor contracts to address issues and incorporate any updates that are reflected in the TAMP.
- Engage stakeholders on a periodic basis and address comments related to TAM from stakeholders.
- Revise inventory and condition data in TAMP with annual reporting to NTD that occurs in October.

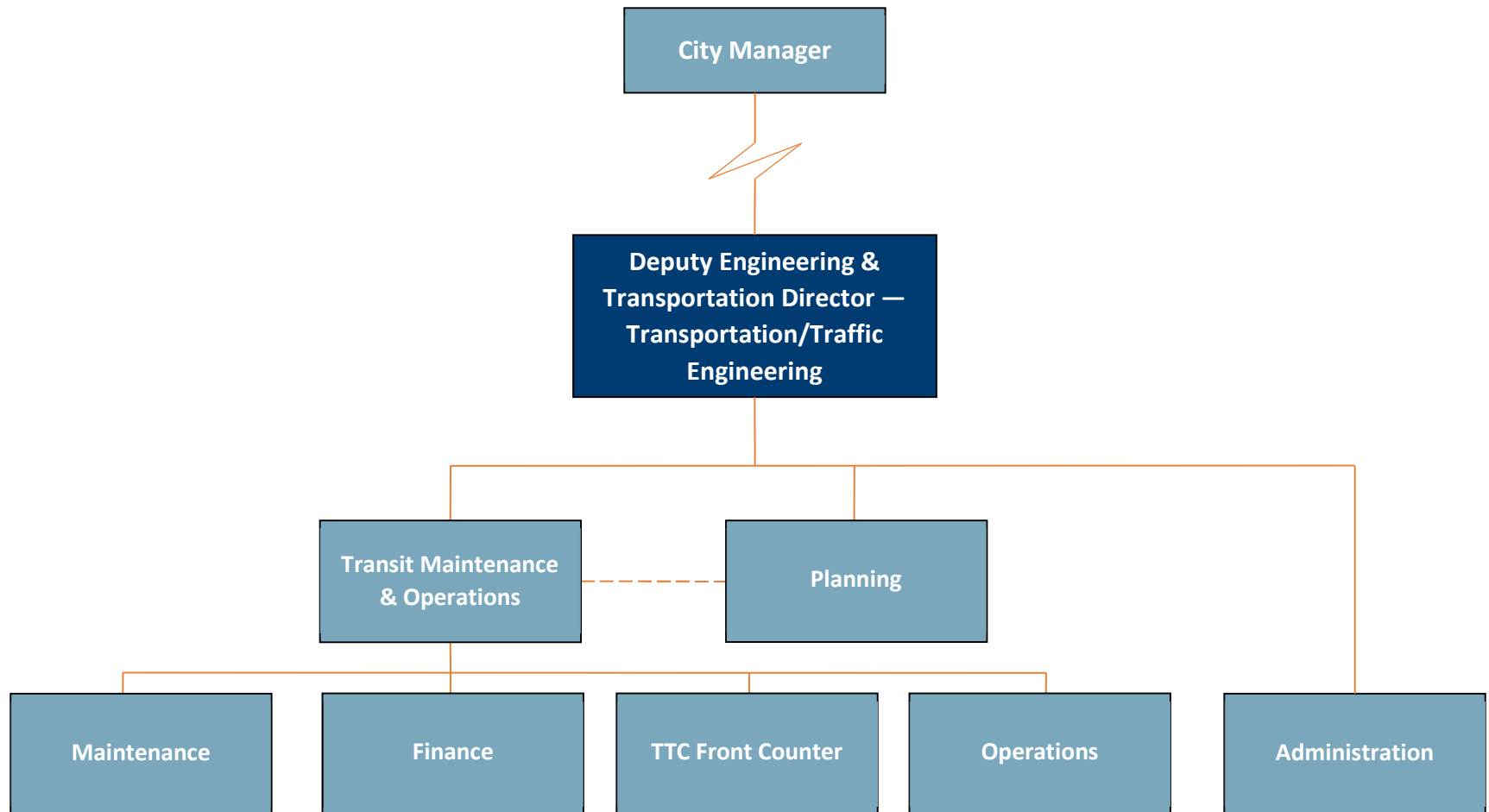
An evaluation checklist for updating the TAMP is provided *Appendix E*.

List of Appendices

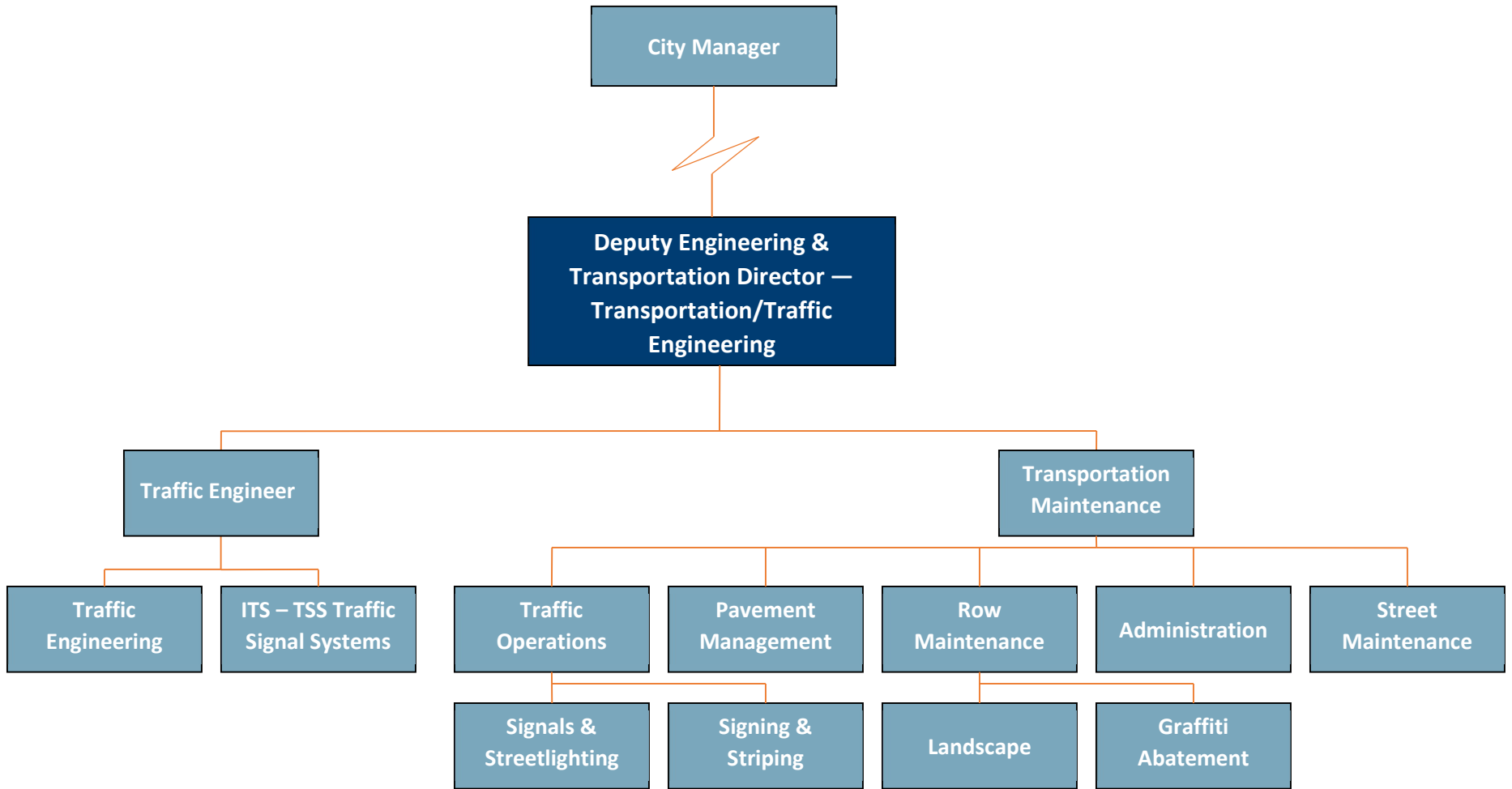
- Appendix A. City of Tempe Engineering and Transportation Department
- Appendix B. Inventory
- Appendix C. Condition Assessment Reports
- Appendix D. Lifecycle Asset Management Processes
- Appendix E. Evaluation Checklist

Appendix A. City of Tempe Engineering & Transportation Department

Transportation Division/ Transit Organizational Chart FY 2022-23



Transportation Division/ Transportation Maintenance Organizational Chart FY 2022-23



Appendix B. Inventory

Table B- 1. Rolling Stock

Asset Vehicle Number	Year of vehicle	Manuf. of vehicle or chassis	Model of vehicle	Description of vehicle	Bus Type	Vehicle identification number VIN	License Number	Seats	ADA	In-Service Date	Vehicle Condition	Valley Metro Useful Life	City / Agency Title Holder	Operator	Garage Location	Vehicle Status	Primary Use Application
6669	2010	New Flyer	L40LFR	HD 40ft City Bus	BU	5FYL5FB1 49C036437	G635HS	36	3	1/28/2010	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6670	2010	New Flyer	L40LFR	HD 40ft City Bus	BU	5FYL5FB1 69C036438	G633HS	36	3	4/16/2010	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6671	2010	New Flyer	L40LFR	HD 40ft City Bus	BU	5FYL5FB1 89C036439	G634HS	36	3	4/16/2010	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6672	2010	New Flyer	L40LFR	HD 40ft City Bus	BU	5FYL5FB1 49C036440	G536FX	36	3	5/11/2010	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6673	2010	New Flyer	L40LFR	HD 40ft City Bus	BU	5FYL5FB1 69C036441	G535FX	36	3	4/16/2010	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6674	2010	New Flyer	L40LFR	HD 40ft City Bus	BU	5FYL5FB1 89C036442	G534FX	36	3	5/4/2010	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6675	2010	New Flyer	L40LFR	HD 40ft City Bus	BU	5FYL5FB1 X9C036443	G512FX	36	3	5/4/2010	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6676	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 7BC038981	GA09617	36	3	10/7/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6677	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 9BC038982	GA09618	36	3	10/4/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6678	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 0BC038983	GA09629	36	3	10/5/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6679	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 2BC038984	GA09630	36	3	10/5/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6680	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 4BC038985	GA09639	36	3	10/14/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6681	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 6BC038986	GA09640	36	3	10/5/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6682	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 8BC038987	GA09641	36	3	10/13/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route

CITY OF TEMPE TRANSIT ASSET MANAGEMENT PLAN

Asset Vehicle Number	Year of vehicle	Manuf. of vehicle or chassis	Model of vehicle	Description of vehicle	Bus Type	Vehicle identification number VIN	License Number	Seats	ADA	In-Service Date	Vehicle Condition	Valley Metro Useful Life	City / Agency Title Holder	Operator	Garage Location	Vehicle Status	Primary Use Application
6683	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 XBC038988	GA09642	36	3	10/13/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6684	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 1BC038989	GA09631	36	3	10/13/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6685	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 8BC038990	GA09632	36	3	10/8/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6686	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 XBC038991	GA09633	36	3	1/12/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6687	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 1BC038992	GA09634	36	3	11/2/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6688	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 3BC038993	GA09635	36	3	11/2/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6689	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 5BC038994	GA09636	36	3	11/10/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6690	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 7BC038995	GA09637	36	3	11/2/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6691	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 9BC038996	GA09638	36	3	11/2/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6692	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 0BC038997	GA09613	36	3	11/16/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6693	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 2BC038998	GA09614	36	3	11/16/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6694	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 4BC038999	GA09615	36	3	12/8/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6695	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 5BC039000	GA09616	36	3	11/16/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6696	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 7BC039001	GA09643	36	3	12/22/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6697	2011	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1 9BC039002	GA09644	36	3	1/19/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
8065	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU1 1BB038964	G796GB	55	3	8/8/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
8066	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU1 3BB038965	G820GB	55	3	8/31/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route

CITY OF TEMPE TRANSIT ASSET MANAGEMENT PLAN

Asset Vehicle Number	Year of vehicle	Manuf. of vehicle or chassis	Model of vehicle	Description of vehicle	Bus Type	Vehicle identification number VIN	License Number	Seats	ADA	In-Service Date	Vehicle Condition	Valley Metro Useful Life	City / Agency Title Holder	Operator	Garage Location	Vehicle Status	Primary Use Application
8067	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU15BB038966	G821GB	55	3	1/12/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
8068	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU17BB038967	G632HS	55	3	8/31/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Inactive	Fixed Route
8069	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU19BB038968	G631HS	55	3	8/31/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
8070	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU10BB038969	G630HS	55	3	8/31/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
8071	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU17BB038970	G798GB	55	3	10/19/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
8072	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU19BB038971	G799GB	55	3	1/3/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
8073	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU10BB038972	G811GB	55	3	1/17/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
8074	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU12BB038973	G816GB	55	3	1/5/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
8075	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU14BB038974	G817GB	55	3	1/12/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
8076	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU16BB038975	G818GB	55	3	1/17/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
8077	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU18BB038976	G819GB	55	3	1/3/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
8078	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU1XBB038977	G812GB	55	3	11/1/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
8079	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU11BB038978	G813GB	55	3	1/6/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
8080	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU13BB038979	G814GB	55	3	12/22/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
8081	2011	New Flyer	DE60LFR	HD 60ft Hybrid Bus	AB	5FYH5YU1XBB038980	G815GB	55	3	12/21/2011	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6698	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB15CB040638	GA09649	36	3	7/26/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6699	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB17CB040639	GA09650	36	3	7/17/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route

CITY OF TEMPE TRANSIT ASSET MANAGEMENT PLAN

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6700	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB13CB040640	GA10194	36	3	8/16/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6701	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB15CB040641	GA09652	36	3	7/26/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6702	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB17CB040642	GA09653	36	3	7/22/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6703	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB19CB040643	GA09654	36	3	7/26/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6704	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB10CB040644	GA09655	36	3	7/26/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6705	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB12CB040645	GA09656	36	3	7/30/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6706	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB14CB040646	GA09661	36	3	7/17/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6707	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB16CB040647	GA09662	36	3	7/17/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6708	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB18CB040648	GA09663	36	3	8/2/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6709	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1XCB040649	GA09664	36	3	8/2/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6710	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB16CB040650	GA09657	36	3	7/26/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6711	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB18CB040651	GA09658	36	3	10/2/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6712	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB1XCB040652	GA09659	36	3	9/28/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6713	2012	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB11CB040653	GA09660	36	3	8/16/2012	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6734	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB13DB043071	GA09447	36	3	1/21/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6735	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB15DB043072	GA09448	36	3	1/14/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6736	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB17DB043073	GA09449	36	3	1/15/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route

CITY OF TEMPE TRANSIT ASSET MANAGEMENT PLAN

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6737	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB19DB043074	GA09450	36	3	3/3/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6738	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB10DB043075	GA09451	36	3	1/13/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6739	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB12DB043076	GA09452	36	3	1/13/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6740	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB14DB043077	GA09453	36	3	1/17/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6741	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB16DB043078	GA09454	36	3	1/27/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6742	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB18DB043079	GA09455	36	3	1/13/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6743	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB14DB043080	GA09456	36	3	1/28/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6744	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB16DB043081	GA09457	36	3	3/26/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6745	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB18DB043082	GA09458	36	3	2/6/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6746	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB18DB043289	GA09459	36	3	3/24/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6747	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB14DB043290	GA09460	36	3	3/24/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6748	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB16DB043291	GA09471	36	3	3/26/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
6749	2013	New Flyer	C40LFR	HD 40ft City Bus	BU	5FYC5FB18DB043292	GA09472	36	3	3/24/2014	Good	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	Fixed Route
1605	2017	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNALG9HC084220	GA10200	23	2	10/23/2017	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1606	2017	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNALG0HC084221	GA10504	23	2	10/23/2017	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1607	2017	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNALG2HC084222	GA10596	23	2	10/23/2017	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1608	2017	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNALG4HC084223	GA10505	23	2	10/23/2017	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator

CITY OF TEMPE TRANSIT ASSET MANAGEMENT PLAN

Asset Vehicle Number	Year of vehicle	Manuf. of vehicle or chassis	Model of vehicle	Description of vehicle	Bus Type	Vehicle identification number VIN	License Number	Seats	ADA	In-Service Date	Vehicle Condition	Valley Metro Useful Life	City / Agency Title Holder	Operator	Garage Location	Vehicle Status	Primary Use Application
1609	2017	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNAL G6HC0842 24	GA10597	23	2	10/23/2017	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1610	2017	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNAL G8HC0842 25	GA10598	23	2	10/23/2017	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1611	2017	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNAL GXHC0842 26	GA10600	23	2	11/14/2017	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1612	2018	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNAL G8JC0841 17	GA11653	23	2	8/7/2018	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1623	2018	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 N5JC08422 6	GA11797	23	2	11/12/2018	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1624	2018	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 N7JC08422 7	GA11798	23	2	11/12/2018	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1625	2018	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 N9JC08422 8	GA11799	23	2	11/12/2018	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1626	2018	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 N0JC08422 9	GA11800	23	2	11/12/2018	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1627	2018	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 N7JC08423 0	GA11796	23	2	11/12/2018	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1631	2019	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 MXKC0843 67	GA09477	23	2	8/22/2019	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1632	2019	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 N1KC0843 68	GA11804	23	2	9/12/2019	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1633	2019	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 N3KC0843 69	GA12145	23	2	9/13/2019	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1634	2019	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 NXKC0843 70	GA12146	23	2	9/13/2019	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1635	2019	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 N1KC0843 71	GA11805	23	2	9/19/2019	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1636	2019	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 N3KC0843 72	GA12105	23	2	9/19/2019	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1637	2019	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 N5KC0843 73	GA05495	23	2	9/19/2019	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator

CITY OF TEMPE TRANSIT ASSET MANAGEMENT PLAN

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1638	2019	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 N7KC0843 74	GA05496	23	2	11/5/2019	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1639	2019	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 N9KC0843 75	GA05497	23	2	9/20/2019	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1640	2019	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 N0KC0843 76	GA05498	23	2	9/13/2019	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1641	2019	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 N2KC0843 77	GA12147	23	2	9/12/2019	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1642	2019	El Dorado	EZ-Rider II MAX 32'	HD 30ft City Bus	BU	1N9MNA9 N4KC0843 78	GA12148	23	2	9/12/2019	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1650	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 XM309400 6	68A5CA	23	2	4/10/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1651	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 1M3094007	6KA2DA	23	2	4/2/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1652	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 3M3094008	6VA0DA	23	2	4/10/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1653	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 5M3094009	61A3DA	23	2	4/15/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1654	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 1M3094010	67A4DA	23	2	4/16/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1655	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 3M3094011	6EA6EA	23	2	4/20/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1656	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 5M3094012	6NA7EA	23	2	4/21/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1657	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 7M3094013	6WA2EA	23	2	4/23/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1658	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 9M3094014	62A8EA	23	2	4/26/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1659	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 0M3094015	68A2EA	23	2	4/27/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1660	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 2M3094016	6EA7FA	23	2	4/29/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1661	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 4M3094017	B5A6RB	23	2	4/29/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator

CITY OF TEMPE TRANSIT ASSET MANAGEMENT PLAN

Asset Vehicle Number	Year of vehicle	Manuf. of vehicle or chassis	Model of vehicle	Description of vehicle	Bus Type	Vehicle identification number VIN	License Number	Seats	ADA	In-Service Date	Vehicle Condition	Valley Metro Useful Life	City / Agency Title Holder	Operator	Garage Location	Vehicle Status	Primary Use Application
1662	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 2M3094100	19A64C	23	2	6/28/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1663	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 4M3094101	1BA35C	23	2	6/29/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1664	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 6M3094102	1EA05C	23	2	6/29/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1665	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 8M3094103	1EA75C	23	2	6/30/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator
1666	2021	Gillig	Low Floor 29'	HD 30ft City Bus	BU	15GGE311 XM3094104	1FA75C	23	2	6/30/2021	Excellent	12 yr / 500,000	City of Tempe	First Transit	Tempe	Active	ORBIT Circulator

Table B- 2. Equipment

Year of vehicle	Manufacture of vehicle or chassis	Model of vehicle	Description of vehicle	Vehicle identification number VIN	License Number	Vehicle Condition	Valley Metro Useful Life	City / Agency Title Holder	Operator	Garage Location	Vehicle Status	Primary Use Application
2007	Genie	GS1930	Self-Propelled Elevating Work Platform	GS3007A-919425	N/A	Fair	10 Years	City of Tempe	City of Tempe	Tempe	ACTIVE	Facility Maintenance
2012	Chevrolet		Pick Up Truck	1GC0CVCG8DF161874	G-148GN	Fair	10 Years	City of Tempe	City of Tempe	Tempe	ACTIVE	Bus Stop Maintenance
2014	Chevrolet	G23405	Cargo Van	1GCWGFCE1E1201361	G-109HA	Good	10 Years	City of Tempe	City of Tempe	Tempe	ACTIVE	Facility Maintenance
2015	Izuzu		Stake Bed Crane Truck	54DB4W1B8FS802904	G-921HE	Fair	10 Years	City of Tempe	City of Tempe	Tempe	ACTIVE	Bus Stop Maintenance
2015	Chevrolet		Cargo Van	1GC2GGFG9G1148054	G-426HK	Good	10 Years	City of Tempe	City of Tempe	Tempe	ACTIVE	Facility Maintenance
2016	Izuzu	Nighthawk	Path Sweeper	54DB4W1CXGS803403	G-136HM	Good	10 Years	City of Tempe	City of Tempe	Tempe	ACTIVE	Multiuse Path Maintenance
2018	Genie	Z-30/20N RJ	Self-Propelled Elevating Boom Work Platform	Z30NF-20302	N/A	Good	10 Years	City of Tempe	City of Tempe	Tempe	ACTIVE	Facility Maintenance
2019	Chevrolet	Silverado	Pick Up Truck	1GCRWAEF6KZ267912	G 651JK	Good	10 Years	City of Tempe	City of Tempe	Tempe	ACTIVE	Facility Maintenance
2019	Chevrolet	Silverado	Pick Up Truck	3GCPWAEF3KG168293	G 659JK	Good	10 Years	City of Tempe	City of Tempe	Tempe	ACTIVE	Facility Maintenance
2021	Doosan	BC15S-5	Electric Forklift	FBAQD-1360-00113	N/A	Good	10 Years	City of Tempe	First Transit	Tempe	ACTIVE	Warehouse
2021	Izuzu		Stake Bed Crane Truck	54DBDW1D3MS205223	OLA 11D	Good	10 Years	City of Tempe	City of Tempe	Tempe	ACTIVE	Bus Stop Maintenance

Table B- 3. Facilities – Administrative and Maintenance

Facility Name	Facility Address	Facility Type/Use	Year Built or Reconstructed	Owner
East Valley Bus and Operations Center	2050 W Rio Salado Pkwy., Tempe 85281	Maintenance Facility designed for 250 CNG, LNG, buses	2008	City of Tempe
Tempe Transportation Center	200 E 5th St, Tempe 85281	Transit Center	2008	City of Tempe

Table B- 4. Facilities – Park-and-Ride

Name	Street	City	Zip	Facility Type	Year Built or Reconstructed as New	Owner
Apache Blvd / Dorsey Ln PNR ²⁰	1306 E. Apache Boulevard	Tempe	85281	Surface Parking Lot	2007	Tempe
Apache Blvd / McClintock Dr. PNR ²¹	1811 E. Apache Boulevard	Tempe	85281	Surface Parking Lot	2007	Tempe
Apache Blvd / Price Fwy PNR ²²	101 Fwy - Price and Apache Blvd	Tempe	85281	Surface Parking Lot	2007	Tempe
E Lemon St / Dorsey Ln PNR ²³	1212 S. Dorsey Lane	Tempe	85281	Surface Parking Lot	2007	Tempe

²⁰ The property and building is owned by the City of Tempe and managed by Transit. The building is currently leased but the tenant has active business operating out of the building. Transit is responsible for a small portion of the parking lot on the north side and Valley Metro is responsible for the maintenance of the majority of the parking lot which is used as a light rail train park-and-ride lot. There are no ticketing, information, restrooms, concessions, or telephones at the building or on the Tempe side of the parking lot.

²¹ The developer has a land lease with the City of Tempe for the property which includes an agreement that a portion of the parking garage is used as a light rail train park-and-ride parking garage. There are no ticketing, information, restroom, concessions, or telephones at the parking garage. There is a small office in the parking garage that has previously been used for light rail train security but it is not currently used and has not been used for several years.

²² Valley Metro operates a light rail and bus park-and-ride lot on property owned by the City of Tempe. There are no ticketing, information, restrooms, concessions, or telephones at the parking lot. There is a small office building that is used by light rail train security.

²³ This is a back-up PNR/parking lot.

Table B-5. Facilities — EVBOM & TTC²⁴

Facility Name	System	Condition	Remaining Useful Life %	Cost \$	Cond. Value Weighted
EVBOM	Substructure	No Results	-	\$ -	-
EVBOM	Shell	Adequate	-16.25%	\$ 1,382,025	2.32
EVBOM	Interior	No Results	-	\$ -	-
EVBOM	Conveyance	Good	62.50%	\$ 11,200	3.90
EVBOM	Plumbing	Good	22.22%	\$ 26,770	3.63
EVBOM	HVAC	Good	53.26%	\$ 410,480	3.75
EVBOM	Fire Protection	Good	62.50%	\$ 114,100	3.90
EVBOM	Electrical	Good	51.83%	\$ 374,342	3.89
EVBOM	Equipment	Good	16.67%	\$ 114,000	3.70
EVBOM	Site	No Results	-	\$ -	-
Facility Name	System	Condition	Remaining Useful Life %	Cost \$	Cond. Value Weighted
TTC	Substructure	No Results	-	\$ -	-
TTC	Shell	Good	44.00%	\$ 110,133	3.85
TTC	Interior	No Results	-	\$ -	-
TTC	Conveyance	Good	65.00%	\$ 157,075	3.90
TTC	Plumbing	Good	14.38%	\$ 188,440	3.41
TTC	HVAC	Good	47.01%	\$ 422,650	3.85
TTC	Fire Protection	Good	65.00%	\$ 55,655	3.90
TTC	Electrical	Good	40.00%	\$ 179,105	3.77
TTC	Equipment	No Results	-	\$ -	-
TTC	Site	No Results	-	\$ -	-

²⁴ Equipment listed in each System is subject to FTA guidance for inclusion. Items of lower value or routine maintenance items are not included in the evaluation. The City of Tempe’s maintained assets are sorted into Systems as described in Table 3-3. The assets are reviewed and those with a value less than \$50,000 in acquisitioned value and not critical to the operation of the facility (per FTA TAM Final Rule) are removed from evaluation. The results above show some Systems with “No Results”. The lack of results in a specific category is due to the above process of removing items that are not above the threshold value or criticality, even though the City may own and maintain assets of lower value or criticality in that System category.

Appendix C. Condition Assessment Reports

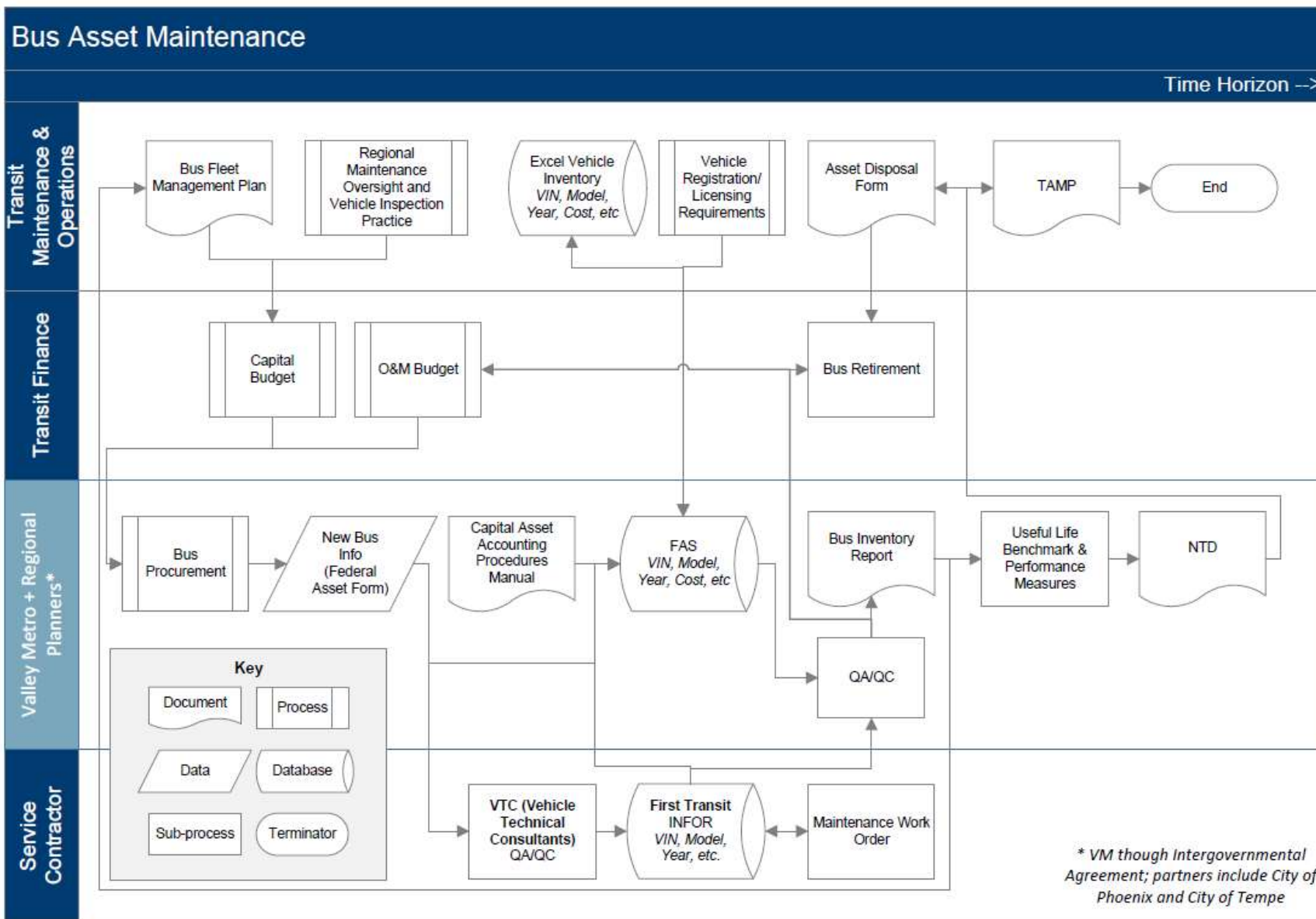
Administrative/Maintenance Facility Condition Assessment Form								
Compilation Date:		9/22/2022					Final Score	
Project Name:		FY23 TAMP Update					3.62	
Facility Name:		East Valley Bus Operations and Maintenance Facility						
Address/Location:		2050 W Rio Salado Pkwy, Tempe 85281						
ID	System	Percent of Asset Quantity by Condition ²⁵					Average System Score Weighted Time and Cost	% of Final Score
		5 Excellent	4 Good	3 Adequate	2 Marginal	1 Poor		
A	Substructure	No Results						
B	Shell			100%			2.55	14%
C	Interior	No Results						
D	Conveyance		100%				3.90	14%
E	Plumbing		100%				3.80	14%
F	HVAC		91%	9%			3.60	14%
G	Fire Protection		100%				3.90	14%
H	Electrical		100%				3.88	14%
I	Equipment		100%				3.70	14%
J	Site	No Results						

²⁵ The results above show some Systems with “No Results”. The lack of results in a specific category is due to the above process of removing items that are not above the threshold value or criticality, even though the City may own and maintain assets of lower value or criticality in that System category.

Administrative/Maintenance Facility Condition Assessment Form								
Compilation Date:		9/22/2022					Final Score	
Project Name:		FY23 TAMP Update					3.84	
Facility Name:		Tempe Transportation Center						
Address/Location:		200 E. Fifth Street, Tempe 85281						
ID	System	Percent of Asset Quantity by Condition ²⁶					Average System Score Weighted Time and Cost	% of Final Score
		5 Excellent	4 Good	3 Adequate	2 Marginal	1 Poor		
A	Substructure	No Results						
B	Shell		100%				3.85	17%
C	Interior	No Results						
D	Conveyance		100%				3.90	17%
E	Plumbing		86%	14%			3.72	17%
F	HVAC		100%				3.84	17%
G	Fire Protection		100%				3.90	17%
H	Electrical		100%				3.81	17%
I	Equipment	No Results						
J	Site	No Results						

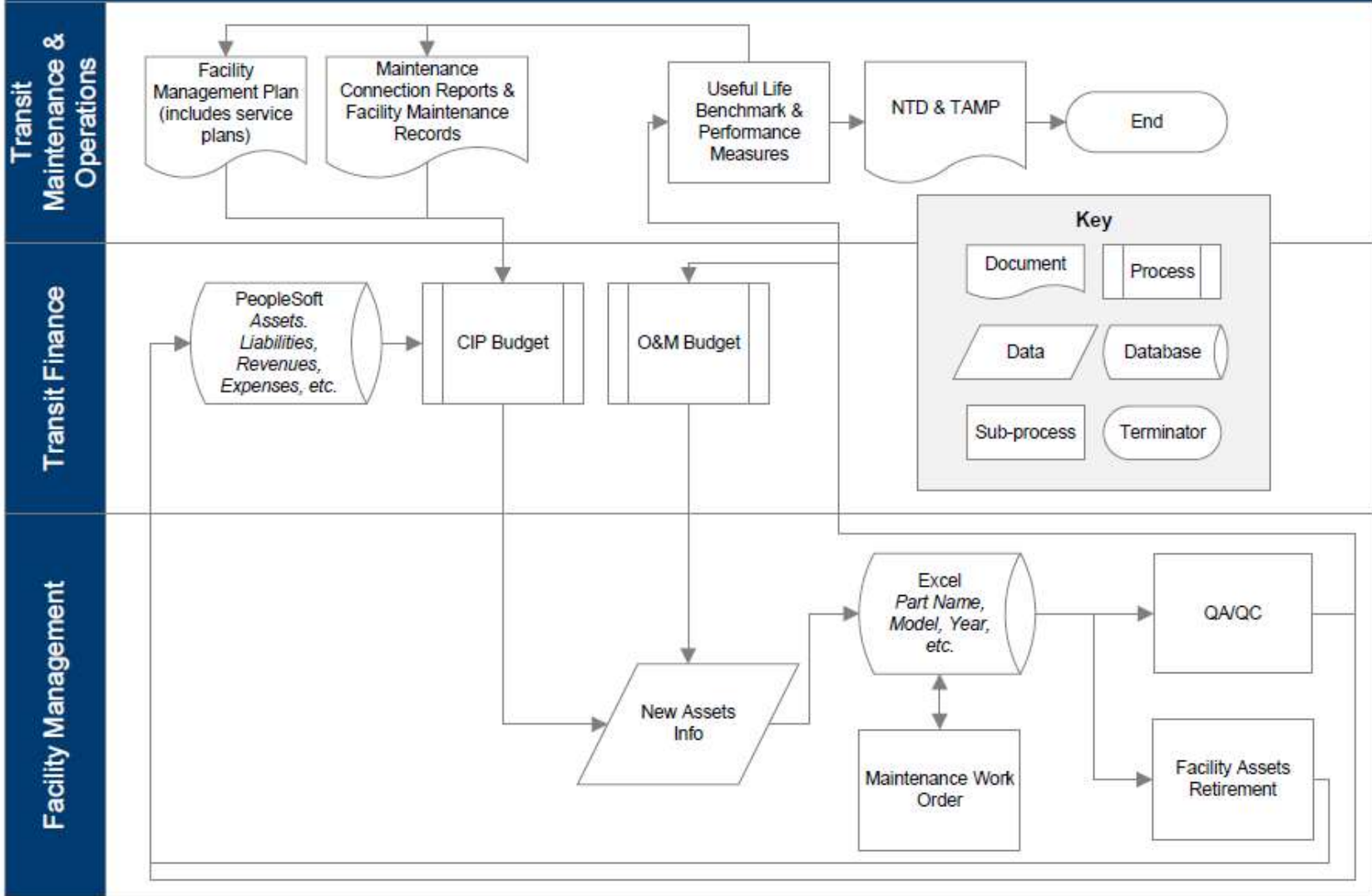
²⁶ The results above show some Systems with “No Results”. The lack of results in a specific category is due to the above process of removing items that are not above the threshold value or criticality, even though the City may own and maintain assets of lower value or criticality in that System category.

Appendix D. Lifecycle Asset Management Processes



Facility Asset Maintenance

Time Horizon -->



Appendix E. Evaluation Checklist

The following checklist is adopted from the Arizona Department of Transportation’s Rail Safety Checklist for the TAMP.

PART I. GENERAL INFORMATION

City of Tempe Transit Asset Management Plan Review	
Document Title	
Document Preparer	
Document Date/Revisions	
Reviewer Name	
Document Date/Revisions	
Preparer Response Date	

PART II. REVIEW COMMENTS

Comment #	Chapter	Requirements	Content Included? (Y/N)	Other Comments/Questions
1	General	Performance target – are the performance targets based on realistic expectations, and both the most recent data available and the financial resources from all sources that the provider reasonably expects will be available during the TAM plan horizon period?		
2	Inventory	Does the inventory include? <ul style="list-style-type: none"> • All capital assets that a provider owns, except equipment with an acquisition value under \$50,000 that is not a service vehicle. • Third party owned or jointly procured exclusive-use maintenance facilities, passenger station facilities, administrative facilities, rolling stock, and guideway infrastructure used by a provider in the provision of public transportation. • A level of detail commensurate with the level of detail in the City of Tempe’s (the City) program of capital projects. 		

Comment #	Chapter	Requirements	Content Included? (Y/N)	Other Comments/Questions
3	Condition Assessment	<p>Does the assessment?</p> <ul style="list-style-type: none"> • Include those inventoried assets for which the City has direct capital responsibility. • Generate information in a level of detail sufficient to monitor and predict the performance of the assets and to inform the investment prioritization. • Meets the standards for maintaining asset in a SGR: <ul style="list-style-type: none"> ○ The capital asset is able to perform its designed function; ○ The use of the asset in its current condition does not pose an identified unacceptable safety risk; and ○ The life-cycle investment needs of the asset have been met or recovered, including all scheduled maintenance, rehabilitation, and replacements. 		
4	Decision Support Tool	<p>Is this a description of analytical processes or decision-support tools that the City uses to estimate capital investment needs over time and develop its investment prioritization?</p>		
5	Investment Prioritization	<p>Does the prioritization?</p> <ul style="list-style-type: none"> • Identifies the City’s programs and projects to improve or manage, over the TAMP horizon period, the state of good repair of capital assets for which the City has direct capital responsibility. • Include repair of capital assets in order of priority and anticipated project year. • Include ranking of projects that is consistent with the provider’s TAM policy and strategies. • Provide due consideration given to those state of good repair projects to improve, that pose an identified unacceptable safety risk, when developing the provider’s investment prioritization. In other words, the provider is expected to give greater priority to those projects that address unacceptable safety risks. • Provide due consideration given to the estimation of funding levels from all available sources that the provider reasonably expects will be available in each fiscal year during the TAMP horizon period. 		

Comment #	Chapter	Requirements	Content Included? (Y/N)	Other Comments/Questions
		<ul style="list-style-type: none"> Provide due consideration for maintenance of accessible features and for alteration of an existing facility or part of an existing facility. 		
6	TAM and SGR Policy	Does the plan include the City's TAM and SGR policy?		
7	Implementation Strategy	Does the plan include an implementation strategy for achieving the City's TAM and SGR goals?		
8	Key TAM Activities	Does the plan include a description of key TAM activities that the City intends to engage in over the TAM plan horizon period?		
9	Evaluation Plan	Does the plan include outline of how the City will monitor, update, and evaluate, as needed, its TAM plan and related business practices, to ensure the continuous improvement of its TAM practices?		

PART III. REVIEWER SIGNATURE

This TAMP is:

- Approved
- Not Approved
- Pending/Clarification Required

References

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CITY OF TEMPE
TRANSIT ASSET MANAGEMENT PLAN



Tempe Transit Asset Management Plan

Final Audit Report

2022-11-30

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By:	Sue Taaffe (sueta@tempe.gov)
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