

LAMTPO
2040 LONG RANGE TRANSPORTATION PLAN ADDENDUM #1
Performance Measures

TIP Addendum Purpose

The Lakeway Area Metropolitan Transportation Planning Organization (LAMTPO) is required to develop and regularly update the Transportation Improvement Program (TIP) for the LAMTPO metropolitan planning area (MPA) in cooperation with the Tennessee Department of Transportation (TDOT) and any affected public transportation operators. The TIP serves as a four-year implementation plan of federally funded and regionally significant projects derived from the longer-term Long Range Transportation Plan (LRTP) for the region. The primary requirements of the TIP are:

1. It shall cover a period of no less than four years, updated at least every four years, and approved by the LAMTPO Executive Board, Federal Highway Administration (FHWA), Federal Transit Administration (FTA), and Governor.
2. It shall provide all interested parties with a reasonable opportunity to comment on the proposed TIP through formal public meeting and public review via electronic accessible formats such as the World Wide Web.
3. It shall include capital and non-capital surface transportation projects for funding that are consistent with the adopted LRTP.
4. It shall include a financial plan demonstrating how the projects in the plan can be fiscally implemented.
5. It shall include all regionally significant projects.

The current TIP, covering the federal fiscal years 2017-2020, was initially adopted by the LAMTPO Executive Board on October 12, 2016. This addendum serves to supplement the existing document with regard to Performance Measures regulations and guidance that have been finalized since the time of approval.

Performance and outcome-based planning was first emphasized in the 2012 transportation funding authorization bill, Moving Ahead for Progress in the 21st Century (MAP-21), and is continued through the current Fixing America's Surface Transportation Act (FAST Act). The bills direct the use of a performance-based planning and programming (PBPP) process to inform strategic transportation investment decisions with a focus on achieving performance outcomes. A PBPP process can serve to encourage progress toward the Region's desired multimodal transportation system in addition to its link to national goals. Through data collection and monitoring of the transportation system's performance, transportation agencies can strategically allocate resources to critical need areas. Investing in projects based on their ability to meet established goals is a key element of a PBPP process.

Congress established seven “National Goals” to guide the planning process and federal investments toward the following areas:

1. Safety: To achieve a significant reduction in traffic fatalities and serious injuries on all public roads;
2. Infrastructure condition: To maintain the highway infrastructure asset system in a state of good repair;
3. Congestion reduction: To achieve a significant reduction in congestion on the National Highway System (NHS);
4. System reliability: To improve the efficiency of the surface transportation system;
5. Freight movement and economic vitality: To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development;
6. Environmental sustainability: To enhance the performance of the transportation system while protecting and enhancing the natural environment; and,
7. Reduced project delivery delays: To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

To monitor the performance of the transportation system, and the effectiveness of programs and projects as they relate to the National Goals, a series of performance measures were established in the areas of safety (PM1), infrastructure condition (PM2), and system performance (PM3). These measures are outlined in 49 USC 625 and 23 CFR 490.

Table 1: Federal Highway Performance Measures: See 23 CFR 490

Performance Measure	National Goal	Performance Area	Performance Measures
PM1	Safety	Injuries and Fatalities	<ol style="list-style-type: none"> 1. Number of Fatalities 2. Fatality Rate (per 100 million vehicle-miles traveled) 3. Number of Serious Injuries 4. Serious Injury Rate (per 100 million vehicle-miles traveled) 5. Number of non-motorized fatalities and non-motorized serious injuries
PM2	Infrastructure Condition	Pavement Condition	<ol style="list-style-type: none"> 1. Percentage of Pavements on the Interstate System in Good Condition 2. Percentage of Pavements on the Interstate System in Poor Condition 3. Percentage of Pavements on the non-interstate National Highway System (NHS) in Good Condition 4. Percentage of Pavements on the non-interstate NHS in Poor Condition
		Bridge Condition	<ol style="list-style-type: none"> 1. Percentage of NHS Bridges classified as in Good Condition 2. Percentage of NHS Bridges classified as in Poor Condition
PM3	System Reliability	System Performance: Performance of the NHS	<ol style="list-style-type: none"> 1. Percentage of person-miles traveled on the Interstate System that are reliable 2. Percent of person-miles traveled on the non-interstate NHS that are reliable
	Freight Movement and Economic Vitality	System Performance: Freight Movement of the Interstate System	Truck Travel Time Reliability index
	Congestion Reduction	System Performance: Traffic Congestion	<ol style="list-style-type: none"> 1. Annual hours of peak hour excessive delay per capita 2. Percent of non-single-occupant vehicle travel
	Environmental Sustainability	System Performance: Congestion Mitigation and Air Quality Program	Total Emissions Reductions

Recipients of public transit funds are required to establish performance targets, develop transit asset management and safety plans, and report on their progress toward achieving targets. Public transportation operators are directed to share information with MPOs and states so that all plans and performance reports are coordinated.

Table 2. Federal Transit Performance Measures: See 49 USC 625

National Goals	Performance Area	Performance Measures
Infrastructure Condition	Equipment	Percentage of vehicles that have met or exceeded their Useful Life Benchmark
	Rolling Stock	Percentage of Revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark
	Infrastructure	Percentage of track segments with performance restrictions
	Facilities	Percentage of facilities within an asset class rate below 3.0 on the FTA Transit Economic Requirements Model scale.

Responsibilities

For each roadway performance measure, LAMTPO is required to establish a Regional performance target or adopt TDOT's target and therefore agree to plan and program projects that contribute toward meeting the targets. PM1 targets are updated annually. PM2 and PM3 are based on a 4-year "Performance Period", the first of which is from 2018 to 2021. Separate 2-year and 4-year targets are established for various particular measures under PM2 and PM3, as applicable under 23 CFR part 490.

Transit performance measures require MPOs to establish performance targets not less than 180 days from the establishment of the transit provider TAM targets or standards established under 23 CFR part 490, and 49 U.S.C. 5326(c). MPOs will have one year from the establishment of the transit agency safety targets to establish performance targets that address the performance measures or standards established under 23 CFR part 490, and 49 U.S.C. 5329(d).

LAMTPO reporting responsibilities must be integrated into the LRTP and TIP. The LRTP must describe the performance measures and targets used to assess system performance, evaluate the performance of the transportation system with respect to the performance targets, and report on progress made. The TIP must link investment priorities to the targets in the Mobility Plan and describe, to the maximum extent practicable, the anticipated effect of the program toward achieving established targets.

This addendum serves to address these requirements for the established safety performance measure (PM1) targets, while also creating a format upon which forthcoming infrastructure condition (PM2), system performance (PM3), and transit targets will be integrated.

Safety Performance Measures (PM1)

The FHWA published the Highway Safety Improvement Program and Safety Performance Management Measures (PM1) Final Rules in the Federal Register on March 15, 2016, with an effective date of April 14, 2016. The Tennessee Department of Transportation (TDOT) established statewide safety performance targets and LAMTPO adopted those targets at the November 8, 2017 Executive Board meeting.

Table 3. TDOT and LAMTPO Safety Targets

Performance Measure	5-Year Rolling Averages	
	Baseline	Target
	2012-2016	2014-2018
Number of Fatalities	995.6	1021.4
Fatality Rate	1.358	1.337
Number of Serious Injuries	7,319.4	7,630.8
Serious Injury Rate	9.976	9.982
Number of Non-Motorized Fatalities and Serious Injuries	434.6	493.2

LAMTPO Performance Based Planning

LAMTPO's 2040 LRTP and FFY 2017-2020 TIP project selection criteria prioritize projects that promote safety and security. The selection criteria are presented in Table 4-1 on page 4-1 in the TIP.

Safety for all users should be a top priority in transportation planning. Communication and collaboration among many agencies and the public is a vital part of safety planning. LAMTPO uses best available data to make funding decisions. Specifically, LAMTPO uses TDOT provided crash data for motor vehicles.

In the FFY 2017-2020 TIP \$1,370,224.00 of Highway Safety Improvement Program (HSIP) funds were programmed to projects that promote safety. In addition to the HSIP program, the broader program of projects is encouraged to incorporate safety elements that benefit all modes. For example, intersection projects may address geometric or sight distance concerns, while road widening/reconstruction projects can benefit active transportation by typically including bike facilities and sidewalks

Future Performance Measures Implementation Update

LAMTPO is actively participating with regional, state, and federal partners to develop targets for the remaining performance measures. The current status of these efforts, and upcoming target setting deadlines are as follows:

Pavement and Bridge Infrastructure Condition Performance Measures (PM2)

TDOT Deadline to Establish Target: May 20, 2018

LAMTPO Deadline to Establish Target: November 16, 2018

Table 4: TDOT Pavement and Bridge Condition (PM2) Targets

Performance Measures		Baseline	2-Year Draft Target	4-Year Draft Target
Pavement	Percentage of pavements on the Interstate System in good condition	75.6%	N/A	60.0%
	Percentage of pavements on the Interstate System in poor condition	0.14%	N/A	1.0%
	Percentage of pavements on the non-Interstate NHS in good condition	44.8%	42.0%	40.0%
	Percentage of pavements on the non-Interstate NHS in poor condition	3.24%	4.0%	4.0%
Bridges	Percentage of NHS bridges classified as in good condition	39.5%	36.0%	36.0%
	Percentage of NHS bridges classified as in poor condition	4.9%	6.0%	6.0%

System Performance Measures (PM3)

TDOT Deadline to Establish Target: May 20, 2018

LAMTPO Deadline to Establish Target: November 16, 2018

Table 5: TDOT System Performance (PM3) Targets

Performance Measures	Baseline	2-Year Draft Target	4-Year Draft Target
Percentage of person-miles traveled on the Interstate System that are reliable	87.7%	85.3%	83.0%
Percent of person-miles traveled on the non-Interstate NHS that are reliable	89.7%	N/A	87.5%
Truck Travel Time Reliability Index	1.35	1.35	1.33
Total Emissions Reductions	VOC = 230.025 CO = 530.282 NOx = 363.399 PM2.5 = 2.897	VOC = 30.698 CO = 75.000 NOx = 62.840 PM2.5 = 0.120	VOC = 61.396 CO = 150.000 NOx = 125.680 PM2.5 = 0.240

Transit Asset Management (TAM) and Transit Safety

The Federal Transit Administration (FTA) requires recipients of FTA funds to maintain and document minimum Transit Asset Management (TAM) standards. The purpose of these standards is to create a strategic and systematic practice of procuring, operating, inspecting, maintaining, and replacing transit capital assets and to manage their performance, risks, and costs over their life cycles, for the purpose of providing safe, cost effective, and reliable public transportation. The State of Good Repair (SGR) is defined as the condition at which the capital asset is able to operate at a full level of performance and does not pose unacceptable safety risks for users. FTA requires SGR performance measures be set for the urban area. Performance Measures required are set by asset category, which includes Rolling Stock, Equipment (both maintenance

equipment or non-revenue vehicles), and Facilities. Assets are measured against Useful Life Benchmarks (ULB), which are the expected life cycle (period of time) of the asset for a particular operating environment. East Tennessee Human Resource Agency (ETHRA) is the direct recipient and public transportation provider in the LAMTPO MPA.

Transit Agency Deadline to establish TAM targets: January 1, 2017

LAMTPO Deadline to establish Performance targets: Transit Agency targets + 180 days

The National Goals pertaining to the Transit Performance Measures:

National Goals	Performance Area	Performance Measures
Infrastructure Condition	Equipment	Percentage of vehicles that have met or exceeded their Useful Life Benchmark
	Rolling Stock	Percentage of Revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark
	Infrastructure	Percentage of track segments with performance restrictions
	Facilities	Percentage of facilities within an asset class rate below 3.0 on the FTA Transit Economic Requirements Model scale.

TDOT Transit Asset Management/ State of Good Repair Performance Targets Created on December 22, 2017, with an Effective Date of January 1, 2018 is shown on the following tables:

Rolling Stock:

Rolling Stock performance measure targets are targets for revenue vehicles

Vehicle Type	FTA Default Useful life Benchmark(ULB) (in years)	TDOT Set Performance Measure Target
Automobile	8	Less than 25% of automobiles will exceed the 8-year ULB
Cutaway Bus	10	Less than 25% of the cutaway buses will exceed to 10-year ULB
Minivan	8	Less than 25% of minivans will exceed the 8-year ULB
Other Rubber Tire Vehicles	14	Less than 25% of other rubber tire vehicles will exceed the 14-year ULB
Sport Utility Vehicles	8	Less than 25% of sport utility vehicles will exceed the 8-year ULB
Van	8	Less than 25% of vans will exceed the 8-year ULB
Bus	14	Less than 25% of buses will exceed the 14-year ULB

Equipment: Equipment performance measure targets are targets for service vehicles.

Vehicle Type	FTA Default Useful life Benchmark(ULB) (in years)	TDOT Set Performance Measure Target
Automobile	8	Less than 25% of automobiles will exceed the 8-year ULB
Minivan	8	Less than 25% of minivans will exceed the 8-year ULB
Other Rubber Tire Vehicles	14	Less than 25% of other rubber tire vehicles will exceed the 14-year ULB
Sport Utility Vehicles	8	Less than 25% of sport utility vehicles will exceed the 8-year ULB

The ETHRA 2018/2019 vehicles and facilities within the LAMTPO region are shown in table below:

Asset Class/ Definition	Agency	Total Assets	2018 # Assets in Good Repair	2018 # Assets in SGR Backlog	2018 % Assets in SGR Backlog	2019 % Assets in SGR Backlog
Rolling Stock - All Revenue Vehicles % of revenue vehicles that have met or exceeded their Useful Life Benchmark (ULB)						
Cutaway -5 years (and 150,000 miles)	ETHRA	14	14	0	0	0%
Lowered Floor Minivan	ETHRA	1	1	0	0	0%
Equipment - Non-Revenue Vehicles % of non-revenue vehicles that have met or exceeded their Useful Life Benchmark (ULB)						
Support Vehicle 8 years	ETHRA	0	0	0	0%	0%
Equipment – Over \$50,000/Owned % of equipment with a condition rating below 3.0 on FTA’s Transit Economic Requirements Model (TERM) Scale						
Equipment	ETHRA	0	0	0	0%	0%
Facilities - All Buildings or Structures % of facilities with a condition rating below 3.0 on FTA’s Transit Economic Requirements Model (TERM) Scale						
Facilities (1 leased) (part of shopping complex)	ETHRA	1	1	0	0.00%	0.00%

Transit Agency Deadline for TAM Plans: October 1, 2018

Transit Agency Deadline to establish Public Transit Agency Safety Plans (includes safety targets): Final Rule + 1 year

MPO Deadline to establish Transit Safety Performance targets: Final Rule + 1 year + 180 days

Progress, Monitoring, and Next Steps

The establishment of LAMTPO and TDOT targets for the PM2 and PM3 measures noted above will result in updates to this addendum. A broader discussion of TIP impacts on established targets will be included in the FY 2020-2023 TIP, due in 2019, as comparisons to the baseline data can be made. This comparative data will serve to inform future LRTP System Performance reporting, as required by 23 CFR 450.324 (f)(4). The next LAMTPO LRTP is due in 2021.