

FAST Act Requirements

Integration of Performance Measures into the

Alamo Area Metropolitan Planning Organization

FY 2021 – 2024 Transportation Improvement Program

Introduction

The Moving Ahead for Progress (MAP-21) federal transportation bill instituted performance measurement to provide greater accountability and transparency to achieve the most efficient and effective investment of transportation resources. Performance measurement requirements were refined in the Fixing America's Surface Transportation (FAST) Act. State DOTs and Metropolitan Planning Organizations (MPOs) are required to move towards a performance-based planning process with an emphasis on project selection based on specific planning factors. Among its project scoring criteria, the Alamo Area Metropolitan Planning Organization (AAMPO) considers the following factors for selection of projects in its financially constrained project list:

- Highway Safety: Three year average of vehicle-related fatal and incapacitating crashes within the project limits
- Congestion: Current and future Volume/Capacity ratio in excess of 1.0
- Bicycle and Pedestrian Safety: Three year average of bicycle and pedestrian-related fatal and incapacitating crashes within the project limits, adjacent vehicle volumes and speeds and proximity to moving traffic

Safety

Under the FAST Act, States are required to set annual safety performance targets. The annual measures States set targets for include:

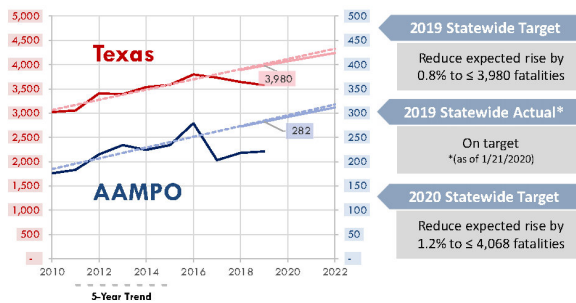
- Number of fatalities (The total number of persons suffering fatal injuries in a motor vehicle crash during a calendar year).
- Rate of fatalities per 100 million vehicle miles traveled (VMT) (The ratio of total number of fatalities to the number of vehicle miles traveled (VMT expressed in 100 Million VMT) in a calendar year).
- Number of serious injuries (The total number of persons suffering at least one serious injury in a motor vehicle crash during a calendar year).
- Rate of serious injuries per 100 million VMT (The ratio of total number of serious injuries to the number of VMT (VMT expressed in 100 Million VMT) in a calendar year).
- Number of non-motorized fatalities and number of non-motorized serious injuries combined (The combined total number of non-motorized fatalities and non-motorized serious injuries involving a motor vehicle during a calendar year).

The Texas Department of Transportation established the statewide targets to support the Strategic Highway Safety Plan (SHSP) and the Highway Safety Improvement Program (HSIP). Once the State of Texas set their safety targets, MPOs within Texas were required to either adopt the Texas targets or set their own that would help achieve the statewide target. To date, the AAMPO Transportation Policy Board has adopted TxDOT's statewide safety targets which are found in the table below.

| Safety Targets (expressed as a five year average) | Adopted January 2018 | Adopted January 2019 | Adopted January 2020 | Adopted January 2021 |
|--|-------------------------|-------------------------|-------------------------|-------------------------|
| Total Traffic Fatalities Year per Calendar Year | 3,703.8 | 3,791 | 4,068 | <i>pending</i> |
| Rate of Traffic Fatalities per 100M VMT | 1.432 | 1.413 | 1.48 | <i>pending</i> |
| Number of Serious Injuries | 17,565.4 | 17,751 | 18,602 | <i>pending</i> |
| Rate of Serious Injuries per 100M VMT | 6.740 | 6.550 | 6.56 | <i>pending</i> |
| Number of Non Motorized Fatalities and Serious Injuries | 2,250.6 | 2,237.6 | 2,477 | <i>pending</i> |

The graphs below document the AAMPO study area crash trends since 2010.

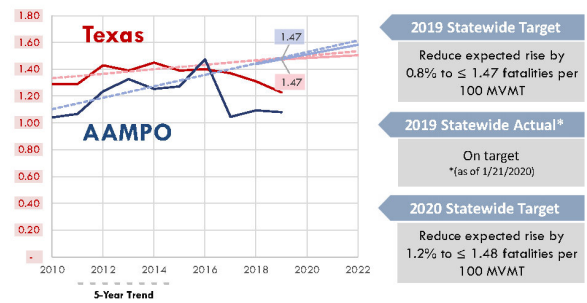
Number of Fatalities (2010-2019)



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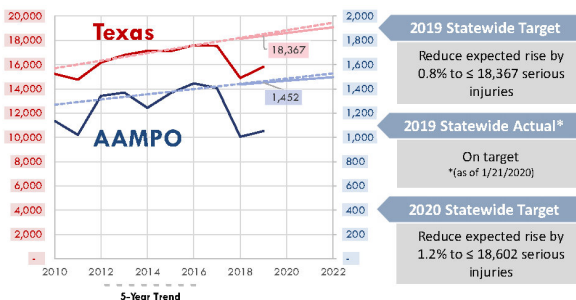
Rate of Fatalities (2010-2019)



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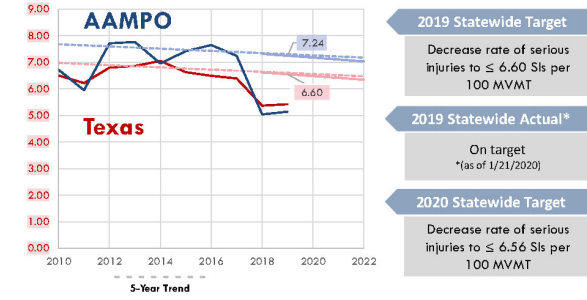
Number of Serious Injuries (2010-2019)



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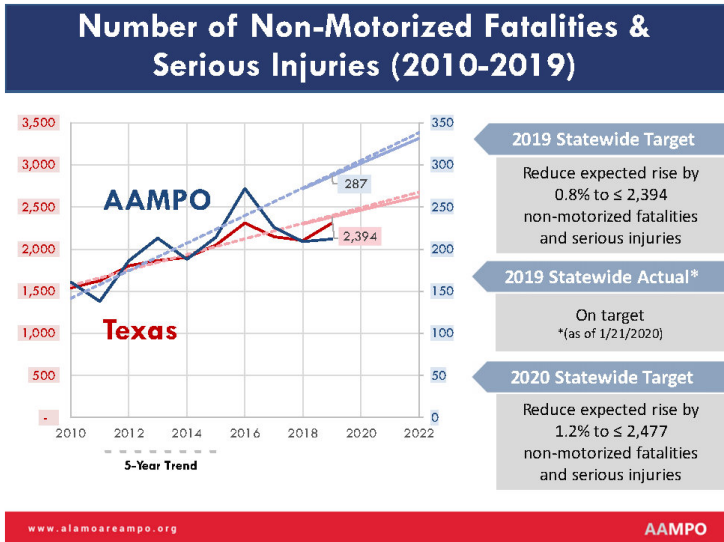
AAMPO

Rate of Serious Injuries (2010-2019)



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For each safety target, overall, crashes and rates are trending downward. This may be due to the extensive education programs such as Vision Zero and Street Skills classes that have been implemented in the last few years. Additionally, an emphasis on safe sidewalks, bike lanes, lighting, pavement markings, improved traffic signals and other funded infrastructure improvements should result in a downward on crashes and rates.

Transit Asset Management

As part of the FAST Act, performance measures were incorporated for transit agencies, primarily through the Transit Asset Management (TAM) assessment and planning requirements. A Tier II provider in the Alamo Area, Alamo Regional Transit, opted to work toward achievement of the statewide TAM plan and targets. VIA Metropolitan Transit (VIA) is the only Tier 1 transit provider serving the Alamo Area and developed its own TAM plan to meet that requirement. All assets owned by VIA were examined using the Federal Transit Administration (FTA) Transit Economic Requirements Model (TERM) which uses a scale of one to five to determine the quality of the asset. The scale is as follows:

- 1 = Poor: The asset is critically damaged or in need of immediate repair; well past useful life.
- 2 = Marginal: Defective or deteriorated in need of replacement; exceeded useful life.
- 3 = Adequate : Moderately deteriorated or defective; has not exceeded useful life.
- 4 = Good: Good condition, no longer new, may be slightly defective/deteriorated but is functional.
- 5 = Excellent: No visible defects, new or near new, may still be under warranty if applicable.

An asset is deemed to be in good repair if it has a rating of 3, 4, or 5 on this scale. Likewise, an asset is deemed to not be in good repair if it has a rating of 1 or 2. Using this scale, VIA examined revenue vehicles, non-revenue vehicles and facilities.

In June 2020, the AAMPO approved the TAM targets below.

1. Equipment - percentage of non-revenue vehicles that have either met or exceeded their useful life benchmark (ULB):

| Asset Class | 2020 Performance Targets |
|---------------------------------------|--------------------------|
| Automobiles | 2.69% |
| Trucks and Other Rubber Tire Vehicles | 5.91% |

2. Rolling Stock - percentage of revenue vehicles that have either met or exceeded their useful life benchmark (ULB):

| Asset Class | 2020 Performance Targets |
|--------------------|---------------------------------|
| Articulated Bus | 0% |
| Bus | 0% |
| Vans | 0% |

3. Facilities – percentage of facilities rated below condition 3 (adequate) on the TERM scale:

| Asset Class | 2020 Performance Targets |
|--------------------|---------------------------------|
| Administrative | 0% |
| Maintenance | 0% |
| Passenger/Parking | 0% |

Roadway System Performance Targets

Under the FAST Act, States are required to set targets for Roadway System Performance, specifically Interstate Reliability, Non Interstate National Highway System Reliability and Truck Travel Time Reliability. In December 2018, the AAMPO Transportation Policy Board adopted targets for the study area that will contribute to the State being able to meet its adopted targets. For the Alamo Area the adopted targets are:

1. Interstate Reliability: 65.0%
2. Non Interstate National Highway System Reliability: 45.0%
3. Truck Travel Time Reliability: 2.20

The AAMPO commits to planning for and programming projects that contribute to the accomplishments of these targets. The AAMPO will also monitor the established targets and report achievements to the Transportation Policy Board as required.

The AAMPO understands it is not yet required to set targets for 1) Annual Hours of Peak Excess Delay per Capita, 2) Percent Non-SOV Travel, and 3) Total Emissions Reductions based on the current applicability determination.

Bridge / Pavement Condition Targets

Under the FAST Act, States are required to set targets for Bridge and Pavement Condition for both Interstate and Non Interstate National Highway System roadways. In December 2018, the AAMPO Transportation Policy Board adopted targets for the Metropolitan Area Boundary (study area). These targets are as follows:

1. Pavement in Good Condition:
 - a. National Highway System (Interstate): 66.4%
 - b. National Highway System (Non Interstate): 52.3%

2. Pavement in Poor Condition
 - a. National Highway System (Interstate): 0.3%
 - b. National Highway System (Non Interstate): 14.3%
3. National Highway System Bridge Condition
 - a. Good: 50.42%
 - b. Poor: 0.8%

The AAMPO commits to planning for and programming projects that contribute to the accomplishments of these targets. The AAMPO will also monitor the established targets and report achievements to the Transportation Policy Board as required.

FY 2021 – FY 2024 Transportation Improvement Program Analysis

Upon adoption of the FAST Act, a direct correlation between TAM Plans, safety targets, roadway system performance targets and bridge/pavement condition targets needed to be established through project selection as reflected in the Transportation Improvement Programs (TIPs). The AAMPO's FY 2021-2024 TIP was reviewed and this analysis developed showing how projects included in the TIP help achieve TAM plan requirements, safety, roadway reliability, and pavement and bridge condition.

Transit Projects

VIA Metropolitan Transit developed investment priorities for vehicles and facilities. Transit projects listed in the FY 2021-2024 Transportation Improvement Program include:

Revenue Vehicles

1. Purchasing of CNG buses (\$45,075,016)
2. Purchasing of paratransit vehicles (\$10,249,960)

Non-Revenue Vehicles

1. From 2021 through 2024 VIA plans to continue its replacement program of non-revenue cars and trucks (\$1,865,271)

Facilities

1. VIA has planned for improvements to many of its passenger facilities including: IH 10 Park & Pool lot, Randolph P&R, Robert Thompson Transit Center and others. Total investment for the four year time period in passenger facilities is \$41,147,137.
2. VIA has also planned for improvements to its Maintenance Facility, Bus Yard, Administration Building, and a new satellite Maintenance Facility for a total investment of \$43,286,941.

Roadway Projects

Safety

Most of the roadway projects included in the TIP have significant impact on improving safety and thus work towards achieving the adopted safety targets. Generally, these projects include: stand-alone safe

bicycle and pedestrian projects and Complete Streets (road diet) projects; added capacity and operational projects that also include safe bicycle and pedestrian facilities; intersection improvements; safety lighting; improved traffic signals; grade separated overpasses; installation of flashing beacons; and Intelligent Transportation Systems projects. While it would be redundant to relist the relevant projects in the TIP in this document, some of the major efforts include:

- Implementing the Safety Service Patrol on controlled access highways in Bexar, Comal and Kendall Counties to quickly clear disabled vehicles and primary crashes and prevent secondary crashes
- Constructing direct connectors at the following interchange locations: SH 151 at Loop 1604, IH 10 at Loop 1604, IH 410 N at Loop 1604, IH 35 at IH 410 North and at IH 410 South, to reduce conflict points and crashes
- Constructing interchange improvements at IH 410/US 281/San Pedro to reduce weaving which will prevent crashes
- Constructing a bicycle and pedestrian bridge on SS 536 at the San Antonio River

A number of roadway projects in the TIP also include improvements to bicycle and pedestrian facilities to improve the safety of non-motorized travelers. Additionally, there are a number of locally funded road diet projects to reduce the number of vehicle travel lanes and provide wider sidewalks and marked bike lanes.

Additional safety improvements from the Grouped CSJ project list include:

- Improving traffic signals at 18 locations
- Improving safety lighting at 18 locations
- Improving pavement markings on 97 roadway segments
- Implementing pedestrian safety improvements at 5 locations

For many years the AAMPO has been proactively working to improve safety in the region. AAMPO staff have been long time users of TxDOT's Crash Records Information System (CRIS dataset) and have reported, through project scoring processes, online dashboards, and presentations, the crash data trend for the region. Since 1997, AAMPO staff have also worked with partner agency staff on our Active Transportation Program to host Walkable Community Workshops with schools and neighborhood groups to identify bicycle and pedestrian needs in their communities. AAMPO staff also hold Streets Skills classes for teens and adults in both English and Spanish for new and returning cyclists. Bicycle helmets and bike light sets are provided as an incentive for participation. AAMPO staff also assists with school bike rodeos to be sure safe cycling starts early. The City of San Antonio was an early adopter of the Vision Zero initiative and the AAMPO continues to partner with San Antonio and other local governments on safety outreach efforts.

Roadway System Reliability

Because the AAMPO's project selection process considers reliability, specifically reliability in the form of reducing congestion, both current and projected congestion levels, many of the roadway projects included in the TIP can have significant impact on improving travel reliability and thus work towards achieving the adopted targets. Generally, these projects include: added capacity projects and certain

operational projects including intersection improvements, grade separated overpasses and interchange direct connectors. While it would be redundant to relist all of the relevant projects in the TIP in this document, some of the major efforts, primarily focusing on the National Highway System, include:

- Constructing direct connectors at the following interchange locations: SH 151 at Loop 1604, IH 10 at Loop 1604, IH 410 N at Loop 1604, IH 35 at IH 410 North and at IH 410 South, to reduce conflict points and crashes *
- Constructing interchange improvements at IH 410/US 281/San Pedro to reduce weaving which will prevent crashes
- Expanding IH 35 North from IH 410 S to FM 3009 from 8 to 14 lanes, including HOV/special use lanes *
- Expanding IH 10 East from Bexar/Guadalupe County Line to FM 465 from 4 to 6 lanes*
- Expanding IH 10 East from FM 464 to SH 123 from 4 to 6 lanes *
- Expanding Loop 1604 from SH 16 to Redland Road from 4 to 10 lanes expressway to include HOV/special use lanes
- Expanding SH 151 from Loop 1604 to IH 410 from 4 to 6 lanes expressway
- Expanding SH 46 from Farhills to US 281 from 2 to 6 lanes *

Those projects noted with an asterisk (*) are on heavy truck travel roadways and improvements to these roadways can improve truck travel time reliability.

The AAMPO has used its travel demand model to evaluate the projects programmed in its FY 2021-2024 TIP, The table below shows the adopted projects in the TIP do fairly maintain speeds, thus maintaining travel reliability on the system.

| Facility Type | 2017 Speed (mph) | 2025 Speed (mph) |
|----------------------------|------------------|------------------|
| Interstate Freeways | 40.6 | 39.3 |
| Other Freeways | 41.5 | 40.2 |
| Expressways | 34.2 | 33.2 |
| Principal Arterials | 25.2 | 23.9 |
| Minor Arterials | 22.5 | 21.0 |
| Collectors | 21.7 | 20.2 |
| Frontage Roads | 22.1 | 20.9 |
| Ramps | 26.7 | 25.4 |
| Totals | 29.7 | 28.3 |

Bridge/Pavement Condition

Bridge and pavement condition targets are related to those roadways on the National Highway System. Typically, when roadway capacity is added, the existing travel lanes are reconstructed also. As noted in the previous section, many added capacity projects are included in the AAMPO's FY 2021-2024 TIP. For each of these projects, then, when new lanes are added, the existing lanes are reconstructed, thus improving the condition of the entire facility. Major projects where pavement condition will be significantly improved include:

- IH 35 North from IH 410 S to FM 3009
- IH 10 East from Bexar/Guadalupe County Line to FM 465
- IH 10 East from FM 464 to SH 123
- Loop 1604 from SH 16 to Redland Road
- SH 151 from Loop 1604 to IH 410
- SH 46 from Farhills to US 281
- Additionally, 24 roadways are identified in the TIP for pavement rehabilitation

As noted in the Grouped CSJ project list, 10 locations are identified for replacement or rehabilitation of a bridge.

Conclusion

The AAMPO has proactively responded to the requirements of performance planning and target setting. The AAMPO Transportation Policy Board commits to supporting, planning and programming funding for projects and programs that contribute to the accomplishments of:

- transit asset management,
- safety targets,
- NHS interstate reliability,
- NHS non interstate reliability,
- truck travel reliability,
- NHS interstate pavement condition,
- NHS non interstate pavement condition, and
- NHS bridge condition.

The MPO, along with its partners will continue to monitor the established targets for all performance measures and report achievements.