Chapter Two:
Planning Factors and Performance Measures

FAST Act Planning Factors

The development of goals and objectives for any planning effort reflect the values and principles of the people of an area. They are also a means of measuring the relative success of implementing the proposed plan. When applying these goals and objectives to any effort, the decision makers will need to make tradeoffs between different goals and objectives.

The planning factors provide the ability of BCATS improve the livability of study are residents and access areas needing improvement. Livability is the ability of transportation to provide a higher quality of life for citizens by providing access to a better road system, enhances local economy, provides a safe system to navigate, and provide multiple modes of travel. BCATS will try and incorporate result driven approach to implementing livability factors into the planning process. Projects will be considered for improving quality of life, improve economic vitality, promote energy conservation, safety, and protect the environment.

The following goals and objectives have been formulated by an integration of previous BCATS goals and objectives along with the FAST Act ten planning factors that must be considered as part of the planning process for BCATS. The following factors have been explicitly considered, analyzed as appropriate, and reflected in the BCATS long range planning process.

BCATS Goal One/FAST Act Factor One

Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.

Objectives

- Promote general economic development
- Specifically improve or enhance tourism
- Specifically improve or enhance the movement of freight and services
- Improve or enhance the movement of workers
- Provide new access to jobs and opportunities
- Improve the value of residential or nonresidential properties
- Encourage investments from the private sector
- Improve access to terminals (sea, air, multimodal, etc.)
- Enhance the ability of the freight system to support product exports/imports

BCATS Goal Two/FAST Act Factor Two

Increase the safety of the transportation system for motorized and non-motorized users.

Objectives

- Reduce vehicular accidents and eliminate hazardous locations
- Minimize rail/auto/transit/non-motorized conflicts
- Assist the monitoring or patrolling of the system
- Increase access to accident incidences and/or disabled vehicles
- Enhance or add to the system of bike lanes and sidewalks
- Enhance the public safety of pedestrians
- Contribute to a reduction in traffic volume
- Improve the handling of hazardous materials movement

BCATS Goal Three/FAST Act Factor Three

Increase the security of the transportation system for motorized and non-motorized users.

Objectives

- Reduce and eliminate hazardous locations
- Assist the monitoring or patrolling of the system
- Increase access to accident incidences and/or disabled vehicles
- Enhance the public safety of pedestrians
- Improve the handling of hazardous materials movement

BCATS Goal Four/FAST Act Factor Four

Increase the accessibility and mobility of both people and freight.

Objectives

- Provide enhanced or new capacity or mobility to the transportation system to move people
- Provide enhanced or new accessibility to the transportation system to move people
- Provide enhanced or new capacity or mobility to the transportation system to move freight
- Provide enhanced or new accessibility to the transportation system to move freight
- Enhance the range of freight service options available to local business
- Provide appropriate access to and from major land uses
- Minimize barriers to disadvantaged mobility-limited persons

BCATS Goal Five/FAST Act Factor Five

Protect and enhance the environment, promote energy conservation, improve quality of life and promote consistency between transportation improvements and State and local planned growth and economic development patterns.

Objectives

- Reduce vehicle emissions
- Reduce vehicle noise
- Decrease fuel consumption
- Add to the convenience or efficiency of the system
- Specifically protect wetlands or other natural habitats
- Decrease air or water pollution
- Promote non-motorized travel
- Promote traffic calming measures
- Support cultural and/or historic property retention or development
- Support community cohesion and design
- Promote environmental equity
- Enhance development of brownfields
- Conserve prime agricultural resources and open spaces
- Planning consistent with local township and city land use plans

BCATS Goal Six/FAST Act Factor Six

Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.

Objectives

- Improve intermodal connectivity for people
- Improve the integration/connectivity within people serving modes
- Improve intermodal connectivity for freight
- Improve the integration/connectivity within freight serving modes
- Enhance the information/telecommunication networks that integrate freight and people serving modes

BCATS Goal Seven/FAST Act Factor Seven

Promote efficient system management and operation.

Objectives

- Use Intelligent Transportation Systems (ITS) technology
- Reduce transportation system cost
- Contribute to better vehicle and commercial traffic counts
- Enhance administrative productivity/efficiency
- Enhance electronic processing of vehicle information
- Provide technologies to alert traffic to road conditions/alternate routing

BCATS Goal Eight/FAST Act Factor Eight

Emphasize the preservation of the existing transportation system.

Objectives

- Contribute to better system maintenance
- Emphasize system rehabilitation rather than expansion
- Incorporate new technologies
- Maximize existing capacity
- Optimize use of existing infrastructure to enhance service

BCATS Goal Nine/FAST Act Factor Nine

Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.

Objectives

- Improve infrastructure to mitigate stormwater impacts
- Emphasize system rehabilitation rather than expansion
- Incorporate new technologies
- Maximize and implement Green infrastructure to manage stormwater runoff
- Optimize use of infiltration based approaches to reduce runoff such as porous pavement, bio-swales, basins, and trenches.

BCATS Goal Ten/FAST Act Factor Ten

Enhance travel and tourism

Objectives

- Contribute to a better infrastructure to facilitate increased foot traffic and safety for non-motorized transportation options throughout BCATS area
- Emphasize system and connectivity to the BCATS area social and natural attractions
- Connect current trail system
- Maximize existing tourism features currently in place such as the Saginaw Bay Water Trail and Bay City recreation area
- Optimize use of existing infrastructure to enhance service

Performance Measures

Performance Measures (PMs) are ways of determining whether implementation of the Metropolitan Transportation Plan (MTP) will bring BCATS closer to the adopted goals and objectives. PMs can be either quantitative or qualitative. Examples of quantitative PMs include: change in average speed, change in air quality emissions and change in congested Vehicle Miles Traveled (VMT).

The U.S. DOT has issued Notices of Proposed Rulemaking or Final Rules for most of the performance areas. Within one year after rules are finalized, MDOT will be required to set performance targets. BCATS will be required to establish performance targets within six months of the statewide targets. The performance measures will be phased in three rules proposed by the USDOT in the following years. The Safety Performance Measure final rule was the first and became effective on April 14, 2016. Within one year of the USDOT final rule on performance measures, requires States to set performance targets in support of those measures. States may set different performance targets for urbanized and rural areas. Within 180 days of States or providers of public transportation setting performance targets, MPOs are required to set performance targets in relation to the performance measures (where applicable).

Performance targets will be measured by USDOT to access whether or not states meet their goals. There is no rule to enforce penalties on the consequence of not meeting targets on MPO's. The proposed rule could allow the USDOT to require MDOT and MPOs to develop documents to describe the actions the State and MPOS will undertake to achieve all related NHPP targets. Additionally, MDOT could be penalized up to 10 percent of the amount of the State's previous fiscal year transportation budget.

The following performance measures have been formulated by an integration of previous measures set by MAP-21 and FAST Act. The following factors have been explicitly considered, analyzed as

appropriate, and reflected in the BCATS long range planning process. MDOT currently has not set any performance targets. Once Targets are set by MDOT, BCATS policy members will vote on whether to accept MDOT targets, or develop BCATS regional targets. In the coming months BCATS members will be advised on the MDOT planned targets, and what following those will entail for the BCATS area.

BCATS Performance Measure

BCATS Performance Measure One: Safety Measures

The Safety PM Final Rule supports the data-driven performance focus of the HSIP. The Safety PM Final Rule establishes five performance measures to carry out the HSIP: the five-year rolling averages for: (1) Number of Fatalities, (2) Rate of Fatalities per 100 million VMT, (3) Number of Serious Injuries, (4) Rate of Serious Injuries per 100 million VMT, and (5) Number of Non-motorized Fatalities and Non-motorized Serious Injuries.

Performance Measures:

- Reduce the number of fatalities
- Decrease the rate of percent of fatalities compared to total crashes
- Reduce the number of serious injuries
- Rate of Serious injuries percent of fatalities compared to total crashes
- Reduce the average number of non-motorized fatalities and non-motorized serious injuries.

Performance Targets:

- Performance targets have not been set by MDOT currently, but a summary of the BCATS safety data can be on the following graphs

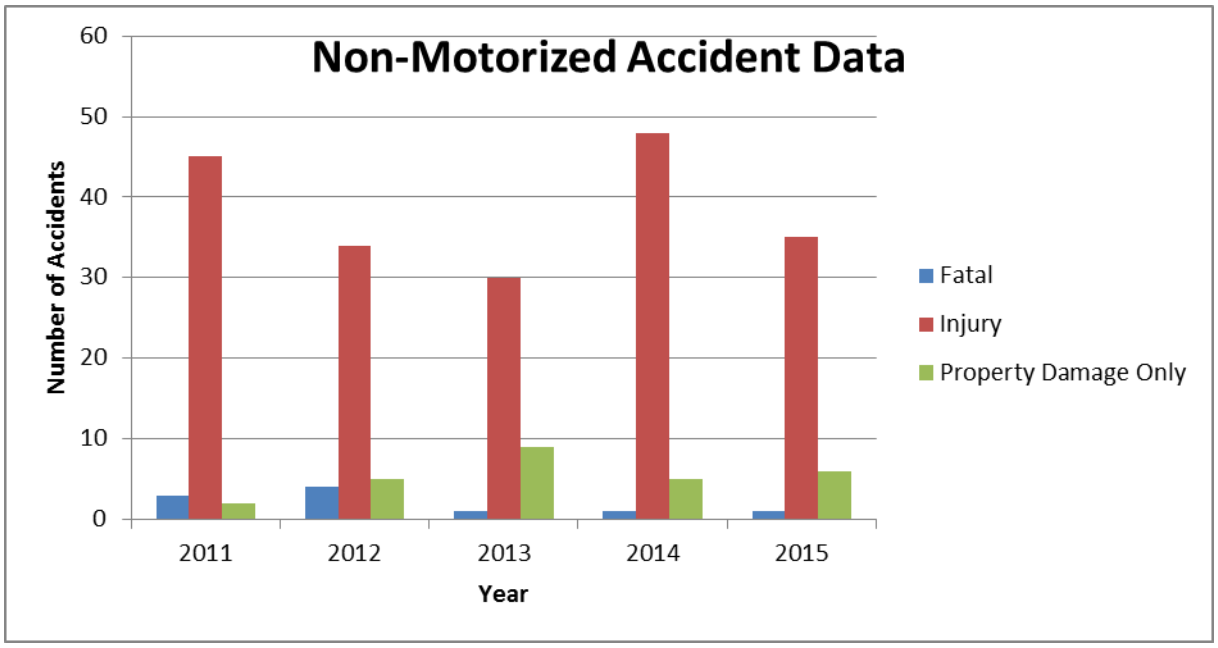

Figure 1: Non-Motorized Accident Data

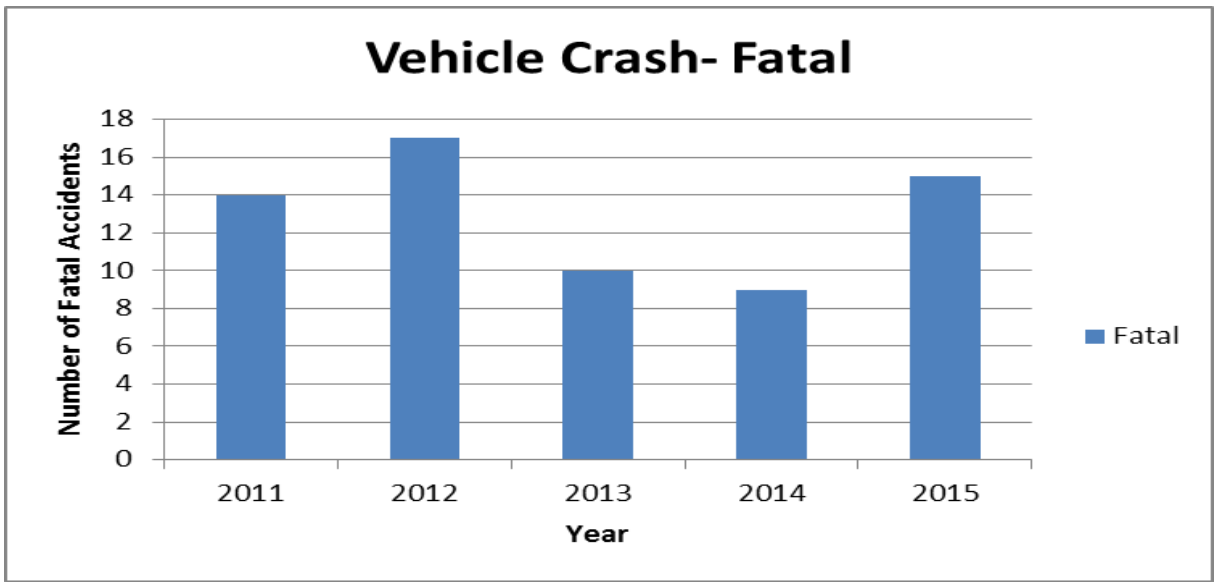

Figure 2: Vehicle Crash Data (Fatal)

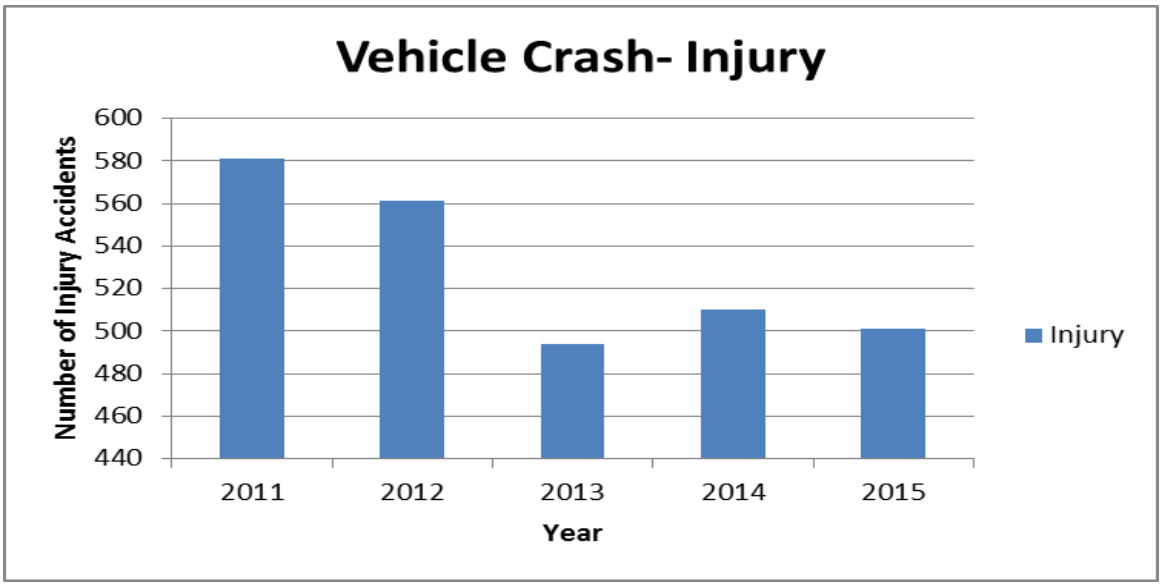

Figure 3: Vehicle Crash Data (Injury)

BCATS Performance Measure Two: System Performance/Freight/CMAQ

The purpose of this final rule is to establish measures for State departments of transportation (State DOT) to use to carry out the National Highway Performance Program (NHPP) and to assess the condition of the following: Pavements on the National Highway System (NHS) (excluding the Interstate System), bridges carrying the NHS which includes on- and off-ramps connected to the NHS, and pavements on the Interstate System.

Performance Measures:

- Percentage of reliable person-miles traveled on the Interstate
- Percentage of reliable person-miles traveled on the non-Interstate NHS
- Percent change in CO2 emissions from 2017, generated by on-road mobile sources on the NHS.
- A measure that will evaluate truck travel time reliability on the Interstate system (average truck reliability index).
- Total emission reductions for applicable criteria pollutants, for non-attainment and maintenance areas
- Two measures to assess traffic congestion:
    - Annual hours of peak hour excessive delay per capita
    - Modal share; specifically, the percent of non-single occupancy vehicle travel, including travel avoided by telecommuting.

Performance Targets:

- Calculate residents in BCATS area without a vehicle and residents access to Bay Metro Services
- Measure the transit routes near businesses (percentage) and increased target to improve the ability for people to access jobs and the market place

BCATS Performance Measure Three: Pavement and Bridge Condition

The measures in this third rule will be used by State DOTs and MPOs to assess the performance of the Interstate and non-Interstate National Highway System (NHS) for the purpose of carrying out the National Highway Performance Program (NHPP); to assess freight movement on the Interstate System; and to assess traffic congestion and on-road mobile source emissions for the purpose of carrying out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program. This third performance measure final rule also includes a discussion that summarizes all three of the national performance management measures rules and the comprehensive regulatory impact analysis (RIA) to include all three final rules.

Performance Measures Pavement:

- percentage of pavements on the Interstate System in Good condition
- percentage of pavements on the Interstate System in Poor condition
- percentage of pavements on the NHS (excluding the Interstate System) in Good condition
- percentage of pavements on the NHS (excluding the Interstate System) in Poor condition
- impacting land use

Performance Measures Bridge:

- percentage of NHS bridges in Good condition
- percentage of NHS bridges in Poor condition

Performance Targets:

Performance targets have not been set by MDOT currently

BCATS Performance Measure Four: Asset Management

Asset management is a strategic and systematic process of operating, maintaining, and improving physical assets, with a focus on engineering and economic analysis based upon quality information, to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement

actions that will achieve and sustain a desired state of good repair over the lifecycle of the assets at minimum practicable cost.

Performance Measures:

- Summary listing and condition description of the NHS pavements and bridges
- NHS pavements and bridges targets
- Asset management objectives and measures
- Performance gap analysis—State DOTs must include performance gaps that affect NHS pavements and bridges regardless of physical condition or ownership.
- Risk analysis
- Life-cycle planning
- Financial plan (minimum 10 years)
- Developing investment strategies

Performance Targets:

Performance targets have not been set by MDOT currently