HDR

Technical Memorandum#1A
Goals, Objectives, and Performance Measures

AMATS 2040 Metropolitan Transportation Plan

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Acronyms and Abbreviations

AMATS   Anchorage Metropolitan Area Transportation Solutions

CMP   Congestion Management Program

FAST Act   *Fixing America's Surface Transportation Act*

ITS   Intelligent Transportation System

MAP-21   *Moving Ahead for Progress in the 21st Century Act*

MPO   Metropolitan Planning Organization

MTP   Metropolitan Transportation Plan

TDM   Transportation Demand Management

TSM   Transportation System Management

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1.0 Purpose

The purpose of this technical memorandum is to review the existing Metropolitan Transportation Plan (MTP) goals and objectives and recommend MTP performance measures based on recent federal requirements for the Anchorage Metropolitan Area Transportation Solutions (AMATS) 2040 MTP. Specifically the effort included:

1) Review and confirm existing MTP goals and objectives as still relevant and consistent with adopted land use plans; to assess their appropriateness with respect to current federal planning requirements (national goals and planning factors); and to identify any gaps that should be addressed in the 2040 MTP goals and objectives.

2) Conduct a gap analysis of objectives (by goal) comparing the existing Interim 2035 MTP goals and objectives to the goals of the adopted comprehensive plans for Anchorage and Chugiak-Eagle River.

3) Use the results of the Congestion Management Program Update, Freight Mobility Study, and ITS Architecture Plan, and other AMATS adopted plans to reorganize and consolidate existing MTP goals and objectives, under major discrete elements, making them easier to correlate to performance measures.

2.0 National Goals and Planning Factors

The "*Moving Ahead for Progress in the 21st Century Act*" (MAP-21), signed into law in 2012, was a 2-year funding and authorization bill to govern United States federal surface transportation spending. MAP-21 reinforced the eight planning factors introduced by SAFETEA-LU (the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users of 2005), and established a performance- and outcome-based program with an objective for States and Metropolitan Planning Organizations (MPOs) to invest in projects that will make progress toward national performance goals for the Federal highway program. The "*Fixing America's Surface Transportation (FAST) Act*," passed in 2015, continues MAP-21's overall performance management approach.

2.1 National Goals and Planning Factors

The national goals (and themes), as outlined in Section 150(b) of MAP-21 and continued in the FAST Act, include:

- **Safety –** To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- **Infrastructure condition –** To maintain the highway infrastructure asset system in a state of good repair.
- **Congestion reduction –** To achieve a significant reduction in congestion on the National Highway System (NHS).
- **System reliability –** To improve the efficiency of the surface transportation system.
- **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.
- **Environmental sustainability –** To enhance the performance of the transportation system while protecting and enhancing the natural environment.
- **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.

MAP-21 also included a new focus on performance measures and reinforced the eight areas that MPOs should consider when developing their long-range transportation plans. Those eight planning factors are:

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
2. Increase the safety of the transportation system for motorized and non-motorized users.
3. Increase the security of the transportation system for motorized and non-motorized users.
4. Increase the accessibility and mobility of people and for freight.

5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
6. Enhance the integration and connectivity of the transportation system, across and between modes, people and freight.
7. Promote efficient system management and operation.
8. Emphasize the preservation of the existing transportation system.

The FAST Act added two factors:

9. Improve the resiliency and reliability of the transportation system and reduce or mitigate storm water impacts of surface transportation; and
10. Enhance travel and tourism.

Table 2-1 compares the Interim MTP 2035 goals and objectives to the MAP-21 National Goals and planning factors, including those added by the FAST Act. The table is organized to correspond to the themes of the seven national goals. National planning factors, MTP goals, and MTP objectives have been matched up to these themes to facilitate comparisons and to identify gaps.

Table 2-1. Comparison of Federal Transportation Goals and Factors with MTP Goals and Objectives			
National Goals	**National Planning Factors**	**2035 MTP/Interim 2035 MTP Goals**[1]	**2035 MTP/Interim 2035 MTP Objectives**[2]
Safety To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.	Increase the **safety** of the transportation system for motorized and non-motorized users Increase the **security** of the transportation system for motorized and non-motorized users	Goal 1. Ensure development of a balanced transportation network for people, goods, and services that provides an acceptable level of service, **maximizes safety**, minimizes environmental impacts, provides a variety of transportation choices, and supports planned land use patterns. Goals 2. Provide a transportation system that moves people and goods **safely and securely** throughout the community. Goal 5. Establish community connectivity with **safe**, convenient, year-round automobile and non-automobile travel routes within and between neighborhoods, commercial centers, and public facilities.	• 1C. Strike a balance between **safety** and economical design with all transportation projects. • 1D. Improve, as necessary, expressway, arterial, and collector roads to **safely** and efficiently handle projected traffic. • 2A. **Reduce** vehicle, pedestrian, and bicyclist **crashes**. • 2B. Decrease emergency response time and **reduce risk** to the community from natural hazards and disasters. • 2C. Promote a walkable community with **safe** winter walking conditions. • 2D. **Minimize conflicts** between freight and passenger vehicles and non-motorized travelers. • 5E. Improve **safe** and convenient connectivity from schools to neighborhoods, parks, and other recreational and commercial areas by use of multi-use trails, bicycle lanes, sidewalks, and transit.
Infrastructure Condition To **maintain** the highway infrastructure asset system in a state of good repair.	Emphasize the **preservation** of the existing transportation system Promote efficient **system management and operation**	Goal 3. Develop an attractive and efficient transportation network that considers the cost of building, **operating, and maintaining** the system; the equity of all users; public health impacts; community values; and social justice.	• 3B. Consider the **life-cycle costs** of projects when evaluating and selecting them within the MTP. • 3F. **Maintain** and rehabilitate the existing transportation system to **minimize deterioration** and the need for major reconstruction projects.
Congestion Reduction To achieve a significant reduction in congestion on the NHS.	Increase accessibility and **mobility** of people and freight Promote **efficient system management** and **operation**.	Goal 1. Ensure development of a balanced transportation network for people, goods, and services that provides an **acceptable level of service**, maximizes safety, minimizes environmental impacts, provides a variety of transportation choices, and supports planned land use patterns. Goal 3. Develop an attractive and **efficient transportation** network that considers the cost of building, operating, and maintaining the system; the equity of all users; public health impacts; community values; and social justice. Goal 6. Improve **access** to goods, jobs, services, housing, and other destinations while **providing mobility** for people and goods in a safe, affordable, efficient, and convenient manner.	• 1A. **Decrease travel** time through an increase in transportation efficiency during peak-hour periods. • 1D. Improve, as necessary, expressway, arterial, and collector roads to safely and **efficiently handle projected traffic**. • 5A. Ensure **an adequate system** of arterial and collector roads is identified. • 5B. Promote the **even distribution of traffic loads** between streets by enhancing the existing grid pattern of streets. • 6B. Reduce the passenger vehicle miles traveled (VMT) and passenger vehicle hours traveled (VHT) per capita. • 6D, Promote the development of an effective roadway network through improvements in **intersection and efficient roadway capacity**. • 6E. Improve the existing transportation **system efficiency** through the implementation of effective and innovative transportation system management (TSM), transportation demand management (TDM), and Intelligent Transportation System (ITS) strategies.

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[1] The Interim 2035 MTP goal overlap with the national goals. This overlap is reflected here.

[2] The objectives were not numbered in the Interim 2035 MTP. They are numbered here for readability.

[3] TSM (Transportation System Management) is a program to reduce congestion and improve traffic flow through traffic signal synchronization, freeway operations improvements (e.g., changeable message signs and ramp metering), incident management (clearing accidents and breakdowns quickly), and other methods.

[4] TDM (Transportation Demand Management) is the application of strategies and policies to reduce travel demand, or to redistribute this demand in space or in time, to increase transportation system efficiency.

[5] ITS (Intelligent Transportation Systems) is the deployment of advanced transportation technologies in an *integrated* manner to improve the surface transportation system.

Table 2-1. Comparison of Federal Transportation Goals and Factors with MTP Goals and Objectives			
National Goals	**National Planning Factors**	**2035 MTP/Interim 2035 MTP Goals[1]**	**2035 MTP/Interim 2035 MTP Objectives[2]**
System Reliability To improve the **efficiency** of the surface transportation system.	Improve the **resiliency and reliability** of the transportation system and reduce or mitigate stormwater impacts of surface transportation	Goal 3. Develop an attractive and **efficient transportation** network that considers the cost of building, operating, and maintaining the system; the equity of all users; public health impacts; community values; and social justice. Goal 6. Improve access to goods, jobs, services, housing, and other destinations while providing mobility for people and goods in a safe, affordable, **efficient**, and convenient manner. Goal 7. Provide a transportation system that provides **viable transportation choices** among various modes – This goal also seems applicable here; as choices help efficiency/reliability	• 1A. Decrease travel time through an increase in transportation **efficiency** during peak-hour periods. • 1D. Improve, as necessary, expressway, arterial, and collector roads to safely and **efficiently handle projected traffic**. • 6D. Promote the development of an effective roadway network through improvements in intersection and **efficient** roadway capacity. • 6E. Improve the existing transportation system **efficiency** through the implementation of effective and innovative transportation system management (TSM), transportation demand management (TDM), and Intelligent Transportation System (ITS) strategies. • 7B. Optimize the year-round accessibility and convenience of travel choices and, in particular, improve the year-round **reliability** and travel time of transit through the implementation of programs such as transit signal priority.
Freight Movements 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.	Support the **economic vitality** of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency Increase accessibility and mobility of people and **freight** Enhance the integration and connectivity of the transportation system, across and between modes, for people and **freight**	Goal 2. Provide a transportation system that moves people **and goods** safely and securely throughout the community. Goal 4. Develop a transportation system that **supports a thriving, sustainable, broad-based economy** by locating and using transportation infrastructure and facilities to enhance community development. Goal 6. Improve access to goods, jobs, services, housing, and other destinations while providing mobility for people and goods in a safe, affordable, efficient, and convenient manner.	• 2D. Minimize conflicts between **freight** and passenger vehicles and non-motorized travelers. • 4A. Optimize the transportation system to meet the needs of the Port of Anchorage, Ted Stevens Anchorage International Airport, the Alaska Railroad, the military bases, employment centers, and industrial and commercial areas. • 8E. Use context-sensitive design strategies especially to support the development of mixed-use centers (such as town centers, employment centers, and redevelopment areas) and transit-supportive corridors with more pedestrian-, bicycle-, and transit-oriented street environments while **recognizing the need to move freight into and throughout the community**. • 8F. Coordinate planning efforts across disciplines (such as transportation, land use, **economic development**, emergency management, public health, and the military) and geographic areas.
Environmental Sustainability To enhance the performance of the transportation system while protecting and enhancing the natural environment.	**Protect and enhance the environment**, promote energy conservation, improve the **quality of life**, and promote consistency between transportation improvements and State and local planned growth and economic development patterns Enhance the integration and **connectivity** of the transportation system, across and between modes, for people and freight Improve the resiliency and reliability of the transportation system and **reduce or mitigate storm water impacts** of surface transportation	Goal 1. Ensure development of a balanced transportation network for people, goods, and services that provides an acceptable level of service, maximizes safety, **minimizes environmental impacts**, provides a variety of transportation choices, and supports planned land use patterns. Goal 3. Develop an **attractive** and efficient transportation network that considers the cost of building, operating, and maintaining the system; the equity of all users; **public health impacts; community values; and social justice.** Goal 4. Develop a transportation system that supports a thriving, sustainable, broad-based economy by locating and using transportation infrastructure and facilities to **enhance community development** Goal 5. Establish community connectivity with safe, convenient, year-round automobile and non-automobile travel routes within and between **neighborhoods, commercial centers, and public facilities.**	• 1B. Minimize **cut-through traffic** in residential neighborhoods. • 2C, Promote a **walkable community** with safe winter walking conditions. • 3C. Optimize the **travel choices** within the transportation system to maximize the associated benefits for all users while minimizing the costs to taxpayers. • 3D. Balance the purpose of each project with **aesthetic considerations**. • 3E. Match street and highway design to the use and **character of the community/ neighborhood**, recognizing that character may vary from primarily commercial to primarily residential and from primarily urban to primarily rural. • 3G. Improve opportunities for **active transportation** (non-motorized) as part of daily system use. • 3H. Balance the benefit of improvements against the impacts to neighborhoods with populations **traditionally underserved by transportation**. • 3I. Preserve and improve **air quality** to maintain the health and welfare of citizens. • 5C. Establish an adequate number of access points from **subdivisions** to adjacent higher-order streets. • 5D. Enhance the physical **connectivity** between **neighborhoods** by increasing the number of roadway, pedestrian, bicycle, and transit connections. • 5E. Improve safe and convenient connectivity **from schools to neighborhoods, parks, and other recreational and commercial** areas by use of multi-use trails, bicycle lanes, sidewalks, and transit. • 6C. Increase opportunities for multi-purpose trips in planned **mixed-use centers**. • 7A. Promote the development of a safe network of trails and sidewalks that provide reasonable access to **work, schools, parks, services, shopping, and the natural environment**, with priority given to trail and sidewalk projects expected to have the highest use.

Table 2-1. Comparison of Federal Transportation Goals and Factors with MTP Goals and Objectives			
National Goals	**National Planning Factors**	**2035 MTP/Interim 2035 MTP Goals[1]**	**2035 MTP/Interim 2035 MTP Objectives[2]**
		Goal 6. Improve **access to goods, jobs, services, housing, and other destinations** while providing mobility for people and goods in a safe, affordable, efficient, and convenient manner. Goal 7. Provide a transportation system that provides **viable transportation choices** among various modes Goal 8. Design and maintain a transportation system that **respects the integrity of the community's natural and built environment** and protects scenic vistas.	• 7B. Optimize the year-round accessibility and convenience **of travel choices** and, in particular, improve the **year-round** reliability and travel time of transit through the implementation of programs such as transit signal priority. • 8A. Minimize **adverse impacts on the community**, such as neighborhood through-traffic movements. • 8B. Minimize **noise and light pollution** impacts, to the extent practical. • 8C. Balance the benefit of improvements against the impacts on the natural environment, such as water resources, fish habitat, watersheds and wetlands, and parklands. • 8D. Design and landscape roads to maintain and enhance the attractiveness of neighborhoods, open space, and commercial corridors and centers. • 8E. Use context-sensitive design strategies especially to support the development of **mixed-use centers** (such as town centers, employment centers, and redevelopment areas) and transit-supportive corridors with **more pedestrian-, bicycle-, and transit-oriented street environments** while recognizing the need to move freight into and throughout the community. • 8F. Reinforce the link between transit and land use by establishing as a priority the building of **transit-friendly residential and commercial development** in Downtown Anchorage and Downtown Eagle River.
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.		Goal 6. Improve access to goods, jobs, services, housing, and other destinations while providing mobility for people and goods in a safe, affordable, efficient, and convenient manner.	• 6A. Develop mechanisms for improving **regional cooperation** and planning to address important transportation issues. • 6F. **Coordinate planning efforts** across disciplines (such as transportation, land use, economic development, emergency management, public health, and the military) and geographic areas.

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2.2 2035 Goals and Objectives Gap Analysis and Recommendations

This section presents an analysis and recommendations to better align the MTP's goals and objectives with the national goals and planning factors.

Findings and Recommendations:

Table 2-2 National Goals and Planning Factor Findings and Recommendations	
Topic	**Findings and Recommendations**
General	While the federal goals are focused on specific topics (Safety, Congestion, etc.), the MTP goals present a variety of ideas within each goal. The overlap and duplication leads to confusion about what is really trying to be achieved. The goals should be simplified and more focused on what is trying to be achieved. Avoid mixing multiple concepts together, e.g. safety, accessibility, connectivity, etc. This multiplicity of ideas also makes it difficult to categorize objectives and performance measures; in the end it makes evaluation of performance too cumbersome. The current MTP objectives can be reapplied to correlate with appropriate national goals and planning factors.
General	A number of the Interim 2035 MTP objectives are not measureable. These objectives should either be incorporated into the goals, re-written to be measurable, or addressed as a policy.
General	Minimize use of jargon. Ensure the concepts that have very specific meaning to transportation planners, engineers, etc. are well explained and understandable by the average citizen. Consider using a reader friendly style (e.g. question and answer format). Remove jargon where possible.
General	General. A number of the MTP objectives actually relate suggestions of solutions or alternatives, as opposed to purely articulating objectives. It is recommended that the objectives focus on measurable factors that relate to and help measure progress toward achieving the goal, and not put forth the specific solutions. See objective 7B for example.
General	The national planning factor of enhance travel and tourism is not addressed by the MTP goals and objectives
Safety	The MTP goals and objectives address safety as do the national goals and planning factors.
Safety	The MTP goals address security as do the national goals and planning factors. There are no objectives related to security.
Safety	The MTP should be more specific with respect to reducing traffic fatalities and serious public injuries as called for in the federal goals. Consider an objective that specifically addresses this goal. Data on these crash statistics are already collected and readily available.
Safety	National goals and planning factors stress safety and security for both motorized and non-motorized users, as do the MTP goals and objectives. This emphasis should be continued. Consider changing to the national terms "motorized" and "non-motorized" as this is more inclusive. For example, the MTP uses "automobile

Table 2-2 National Goals and Planning Factor Findings and Recommendations	
Topic	**Findings and Recommendations**
	routes" and "non-automobile routes" which is less than precise because it could confuse the applicability for other motorized vehicles like buses and trucks.
Infrastructure Condition	The concepts embodied in the national goals and planning factors of "state of good repair" and system "preservation" are captured in objective 3F. However, goal language articulating this concept is weak. It refers to consideration of cost, but fails to fully explain preserving the system and maintaining it in a state of good repair. Consider strengthening the goal language to better link the national goal to the same ideas expressed in objective 3F.
Infrastructure Condition	The concept of system management (which has a very specific meaning) is not adequately articulated in the Interim 2035 MTP goals and objectives. With Alaska's current fiscal situation, the purpose of system management should be strengthened (optimizing the system we have – e.g. better timing of signals before adding expensive capital projects).
Accessibility	Accessibility. The national goals and planning factors include a greater emphasis on "accessibility" than do the Interim 2035 MTP goals and objectives. While mobility focuses on the ability to move and generally is focused on the functioning of road network, and is typically measured with factors such as "level of service." Accessibility on the other hand incudes a greater focus on the traveler rather than the system. It asks the question: do people have access to the activities that they need or want to participate in? This expands the discussion of potential solutions to include strategies that enhance accessibility without needing to increase their travel such as the use of land use policies and telecommunications technologies. A good discussion of the distinctions between mobility and accessibility can be found at http://www.des.ucdavis.edu/faculty/handy/ECMT_report.pdf. As can be seen in the goals and objectives the emphasis is on mobility conveyed by phrases such as efficiency, acceptable level of service, efficiently handle projected travel, roadway capacity, etc. The MTP should consider strengthening the concept of accessibility.
System Reliability	National planning goals place greater emphasis on system reliability than the MTP. The MTP only mentions transit reliability in objective 7B. The concept of reliability generally relates to travel time and refers to consistency or dependability in the time it takes to make the trip. For transit it can mean that the bus arrives when it is scheduled to be there (when the travel time on the roadway network varies widely from day to day, then bus schedule reliability proves difficult). More importantly, other travelers on roads, bikes, or walking need a reliable transportation system. All travel modes, users of the transportation system must have the ability to count on consistent travel times.
Resiliency	National planning factors call for a transportation system to be resilient. Resiliency means the ability to bounce back after an incident, like a natural disaster or hazard. The concept of resiliency should be incorporated into the 2040 MTP goals and objectives.
Environmental Sustainability	Is a trending concept at the federal level and has a specific definition. While the Interim 2035 MTP goals mention minimizing environmental impacts, the goals do

Table 2-2 National Goals and Planning Factor Findings and Recommendations	
Topic	**Findings and Recommendations**
	not adequately integrate the concept of "sustainability." The concept is broader and should be incorporated into the 2040 MTP goals. Of note, the objectives for the MTP do a good job of articulating the broader concept of sustainability. Among the definitions suggested by FHWA is one put forth by Centre for Sustainable Transport in Canada which includes the following, " "A sustainable transportation system: • Allows the basic access needs of individuals and societies to be met safely and in a manner consistent with human and ecosystem health, and with equity within and between generations. • Is affordable, operates efficiently, offers choices of transport mode, and supports a vibrant economy. • Limits emissions and waste within the planet's ability to absorb them, minimizes consumption of nonrenewable resources, limits consumption of renewable resources to the sustainable yield level, reuses and recycles its components, and minimizes the use of land and the production of noise." For a good discussion on how FHWA defines sustainability see the following document: https://www.fhwa.dot.gov/policy/2010cpr/pdfs/part3.pdf
Environmental Sustainability	There is no objective relating to the equity of all users.
Energy efficiency	The notion of energy efficiency is not specifically including in the Interim 2035 MTP.
Connectivity	The concept is well integrated in the MTP goals and objectives.
Storm water	While protecting watersheds and water resources is mentioned in the Interim 2035 MTP goals and objectives, the specific relationship between transportation improvements and storm water, as suggested by the national goals and planning factors is missing and should be strengthened. This is an important concept being managed through Anchorage's storm water permitting responsibilities.
Project Delivery	National goals specifically call for reducing project delivery delays. The Interim 2035 MTP has several objectives that relate to this national goal, however, it lacks a clear goal to which to tie these objectives. Since these objectives fall under Goal 6, they have been included under that goal in Table 2-1, however, one can see that this goal does not correlate well.

3.0 Comprehensive Planning

3.1 Comparison of 2035 MTP/Interim 2035 MTP Goals and Objectives with Comprehensive Plan Goals

The MTP is an element of the Comprehensive Plans for Anchorage and Chugiak-Eagle River. The project team evaluated the existing 2035 MTP/Interim 2035 MTP goals and objectives against the applicable goals from the adopted Comprehensive Plans for the Anchorage Bowl and Chugiak-Eagle River plans. This entailed comparing the applicable goals and objectives side by side to identify whether adequate synergy exists or whether there were important gaps between them. The results of this comparison are shown in Table 3-1 and the results of the gap analysis follow the table.

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Table 3-1. Comparison of MTP Goals and Objectives with Applicable Anchorage 2020 and Chugiak-Eagle River Comprehensive Plan Goals			
Interim 2035 MTP Goals	**2035 Objectives³**	**Applicable Anchorage 2020 Goals**	**Applicable Chugiak-Eagle River Comp. Plan Goals**
Safety and Security • Goal 1. Ensure development of a balanced transportation network for people, goods, and services that provides an acceptable level of service, **maximizes safety**, minimizes environmental impacts, provides a variety of transportation choices, and supports planned land use patterns. • Goals 2. Provide a transportation system that moves people and goods **safely and securely** throughout the community. • Goal 5. Establish community connectivity with **safe**, convenient, year-round automobile and non-automobile travel routes within and between neighborhoods, commercial centers, and public facilities.	• 1C. Strike a balance between **safety** and economical design with all transportation projects. • 1D. Improve, as necessary, expressway, arterial, and collector roads to **safely** and efficiently handle projected traffic. • 2A. **Reduce** vehicle, pedestrian, and bicyclist **crashes**. • 2B. Decrease emergency response time and **reduce risk** to the community from natural hazards and disasters. • 2C. Promote a walkable community with **safe** winter walking conditions. • 2D. **Minimize conflicts** between freight and passenger vehicles and non-motorized travelers. • 5E. Improve **safe** and convenient connectivity from schools to neighborhoods, parks, and other recreational and commercial areas by use of multi-use trails, bicycle lanes, sidewalks, and transit.	**Safety**: A community where people and property are safe. **Natural Hazards**: coordinated and proactive public policies, emergency plans and procedures, and educational programs that minimize the risk to the community from natural hazards and disasters.	**Natural Environment:** Protect the health, safety and welfare of residents from natural hazards, such as floods, avalanches, wildfires, mass wasting and areas of high seismic risk. **Police:** Ensure that neighborhoods and communities are safe and free from crime. **Fire Protection and Emergency Response:** Ensure effective fire protection, emergency medical services and emergency preparedness and response capabilities throughout the Chugiak-Eagle River area. **Street Lighting:** Ensure that adequate street lighting is available where and when needed, and is adequately maintained.
Preservation • Goal 3. Develop an attractive and efficient transportation network that considers the cost of building, **operating, and maintaining** the system; the equity of all users; public health impacts; community values; and social justice.	• 3B. Consider the **life-cycle costs** of projects when evaluating and selecting them within the MTP. • 3F. **Maintain** and rehabilitate the existing transportation system to **minimize deterioration** and the need for major reconstruction projects.	**Transportation Design and Maintenance**: A safe, energy-efficient transportation system that is designed and maintained for year-round use and that respects the integrity of Anchorage's natural and build northern environment.	
Accessibility and Mobility • Goal 1. Ensure development of a balanced transportation network for people, goods, and services that provides an **acceptable level of service**, maximizes safety, minimizes environmental impacts, provides a variety of transportation choices, and supports planned land use patterns. • Goal 3. Develop an attractive and **efficient transportation** network that considers the cost of building, operating, and maintaining the system; the equity of all users; public health impacts; community values; and social justice.	• 1A. **Decrease travel** time through an increase in transportation efficiency during peak-hour periods. • 1D. Improve, as necessary, expressway, arterial, and collector roads to safely and **efficiently handle projected traffic**. • 5A. Ensure **an adequate system** of arterial and collector roads is identified. • 5B. Promote the **even distribution of traffic loads** between streets by enhancing the existing grid pattern of streets. • 6B. Reduce the passenger vehicle miles traveled (VMT) and passenger vehicle hours traveled (VHT) per capita. • 6D, Promote the development of an effective roadway network through improvements in **intersection and efficient roadway capacity**. • 6E. Improve the existing transportation **system efficiency** through the implementation of effective and innovative transportation	**Mobility and Access**: A transportation system, based on land use that moves people and goods safely, conveniently, and economically, with minimal adverse impact on the community.	**Transportation:** Ensure development of a transportation network that provides an **acceptable level of service,** maximizes safety, minimizes environmental impacts, provides alternate transportation types and is compatible with planned land use patterns.

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³ The objectives were not numbered in the Interim 2035 MTP. They are numbered here for readability. Goal and objective numbering can be found in Table 3.

Table 3-1. Comparison of MTP Goals and Objectives with Applicable Anchorage 2020 and Chugiak-Eagle River Comprehensive Plan Goals			
Interim 2035 MTP Goals	**2035 Objectives[3]**	**Applicable Anchorage 2020 Goals**	**Applicable Chugiak-Eagle River Comp. Plan Goals**
• Goal 5. Establish community **connectivity** with safe, convenient, year-round automobile and non-automobile travel routes within and between neighborhoods, commercial centers, and public facilities. • Goal 6. **Improve access** to goods, jobs, services, housing, and other destinations while **providing mobility** for people and goods in a safe, affordable, **efficient**, and convenient manner. • Goal 7. Provide a transportation system that provides **viable transportation ch**oices among various modes	system management (TSM), transportation demand management (TDM), and Intelligent Transportation System (ITS) strategies.		
Economic Vitality • Goal 2. Provide a transportation system that moves people **and goods** safely and securely throughout the community. • Goal 4. Develop a transportation system that **supports a thriving, sustainable, broad-based economy** by locating and using transportation infrastructure and facilities to enhance community development. • Goal 6. Improve access to **goods, jobs,** services, housing, and other destinations while providing mobility for people and goods in a safe, affordable, efficient, and convenient manner.	• 2D. Minimize conflicts between **freight** and passenger vehicles and non-motorized travelers. • 4A. Optimize the transportation system to meet the needs of the Port of Anchorage, Ted Stevens Anchorage International Airport, the Alaska Railroad, the military bases, employment centers, and industrial and commercial areas. • 8F. Coordinate planning efforts across disciplines (such as transportation, land use, **economic development**, emergency management, public health, and the military) and geographic areas.	**Economic Viability**: A built environment based on design standards that sustain long-term **economic viability** and growth and that promotes affordable residential, **commercial, and industrial development**.	**Economic Development:** Promote **economic growth** that both builds on the area's resources and assets, and supports a mix of urban, suburban and rural lifestyles, while providing a range of **employment** opportunities and an **adequate supply and variety of goods** and services.
Environmental sensitivity, energy efficiency, quality of life, land use-transportation integration • Goal 1. Ensure development of a balanced transportation network for people, goods, and services that provides an acceptable level of service, maximizes safety**, minimizes environmental impacts**, provides a variety of transportation choices, and supports planned land use patterns. • Goal 3. Develop an **attractive** and efficient transportation network that considers the cost of building, operating, and	• 1B. Minimize **cut-through traffic** in residential neighborhoods. • 2C, Promote a **walkable community** with safe winter walking conditions. • 3C. Optimize the **travel choices** within the transportation system to maximize the associated benefits for all users while minimizing the costs to taxpayers. • 3D. Balance the purpose of each project with **aesthetic considerations**. • 3E. Match street and highway design to the use and **character of the community/ neighborhood**, recognizing that character may vary from primarily commercial to primarily residential and from primarily urban to primarily rural.	**Harmony with Nature**: An urban place that develops in harmony with its natural setting and is mindful of its natural hazards. **Natural Open Spaces:** A network of natural open spaces throughout the community that preserves and enhances Anchorage's scenic vistas, fish, wildlife, and plant habitants and their ecological functions and values. **Water Resources:** Water resources and watersheds that are protected and enhanced for their enduring viability and values.	**Natural Environment:** Ensure that natural systems are protected, maintained and enhanced. **Natural Environment:** Ensure that development plans adequately address or offset impacts on the environment. **Land Use:** Ensure an orderly, efficient pattern of development that reflects the diverse needs of the community and encourages growth that is consistent with historical land uses, community character and the natural environment.

Table 3-1. Comparison of MTP Goals and Objectives with Applicable Anchorage 2020 and Chugiak-Eagle River Comprehensive Plan Goals			
Interim 2035 MTP Goals	**2035 Objectives[3]**	**Applicable Anchorage 2020 Goals**	**Applicable Chugiak-Eagle River Comp. Plan Goals**
maintaining the system; the equity of all users; **public health impacts; community values; and social justice.** • Goal 4. Develop a transportation system that supports a thriving, sustainable, broad-based economy by locating and using transportation infrastructure and facilities to **enhance community development** • Goal 5. Establish community connectivity with safe, convenient, year-round automobile and non-automobile travel routes within and between **neighborhoods, commercial centers, and public facilities.** • Goal 6. Improve **access to goods, jobs, services, housing, and other destinations** while providing mobility for people and goods in a safe, affordable, efficient, and convenient manner. • Goal 8. Design and maintain a transportation system that **respects the integrity of the community's natural and built environment** and protects scenic vistas.	• 3G. Improve opportunities for **active transportation** (non-motorized) as part of daily system use. • 3H. Balance the benefit of improvements against the impacts to neighborhoods with populations **traditionally underserved by transportation**. • 3I. Preserve and improve **air quality** to maintain the health and welfare of citizens. • 5C. Establish an adequate number of access points from **subdivisions** to adjacent higher-order streets. • 5D. Enhance the physical **connectivity** between **neighborhoods** by increasing the number of roadway, pedestrian, bicycle, and transit connections. • 5E. Improve safe and convenient connectivity **from schools to neighborhoods, parks, and other recreational and commercial** areas by use of multi-use trails, bicycle lanes, sidewalks, and transit. • 6C. Increase opportunities for multi-purpose trips in planned **mixed-use centers**. • 7A. Promote the development of a safe network of trails and sidewalks that provide reasonable access to **work, schools, parks, services, shopping, and the natural environment**, with priority given to trail and sidewalk projects expected to have the highest use. • 7B. Optimize the year-round accessibility and convenience **of travel choices** and, in particular, improve the **year-round** reliability and travel time of transit through the implementation of programs such as transit signal priority. • 8A. Minimize **adverse impacts on the community**, such as neighborhood through-traffic movements. • 8B. Minimize **noise and light pollution** impacts, to the extent practical. • 8C. Balance the benefit of improvements against the impacts on the natural environment, such as water resources, fish habitat, watersheds and wetlands, and parklands. • 8D. Design and landscape roads to maintain and enhance the attractiveness of neighborhoods, open space, and commercial corridors and centers. • 8E. Use context-sensitive design strategies especially to support the development of **mixed-use centers** (such as town centers, employment centers, and redevelopment areas) and transit-supportive corridors with **more pedestrian-, bicycle-, and transit-oriented street environments** while recognizing the need to move freight into and throughout the community.	**Wetlands:** A system of wetland with functions and values that are preserved and enhanced. **Wildlife:** A wide diversity of fish, wildlife, and habitats throughout the Municipality that thrives and flourishes in harmony with the community. **Air Quality**: Clear healthful air that is free of noxious odors and pollutants. **Neighborhood Identity and Vitality**: A variety of safe, pleasant and distinctive neighborhoods responsive to the diverse needs of residents, with good access to schools, recreation, natural areas, and community facilities. **Community Facilities**: A well planned mix of public and institutional facilities that meet the health, education, governmental, and social needs of all citizens. **Commercial, Industrial, Institutional, and Transportation Uses**: A balanced supply of commercial, industrial, institutional, and transportation land uses which is compatible with adjacent land uses and has good access to transportation networks. **Parks, Trails, and Recreation**: A sustainable and accessible **system of recreational facilities, parks, trails**, and open spaces that meets **year-round** neighborhood and community-wide needs. **Arts and Culture**: A community that encourages arts and cultural activities as a **catalyst for education, communication, economic development**, and social programs. **Social Environment:** A welcoming, culturally diverse community with **opportunities for all residents** to be responsible and active participants in a caring community.	**Land Use:** Promote a range of urban, rural, and suburban lifestyles to match the following: Urban, Rural, and Suburban[4]. **Community Design:** Encourage development patterns and site designs which protect natural amenities, scenic vistas, general community character and also promote safe and healthy environments. **Community Design:** Improve the appearance and function of arterials and major collectors through the use of appropriate design techniques. **Community Design:** Encourage well-planned development that creates a sense of place and incorporates northern city design. **Parks, Open Space, Greenways and Recreation Facilities:** Establish an integrated open space and greenways network which effectively links parks, recreational facilities, schools, residential and commercial areas, and which includes ecologically valuable open space lands and scenic vistas. **Parks, Open Space, Greenways and Recreation Facilities:** Establish a system of parks, from the neighborhood to the regional level, to serve all segments of the community.

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[4] Text modified for readability. For complete goal, please see Chugiak-Eagle River Comprehensive Plan Update.

Table 3-1. Comparison of MTP Goals and Objectives with Applicable Anchorage 2020 and Chugiak-Eagle River Comprehensive Plan Goals			
Interim 2035 MTP Goals	**2035 Objectives[3]**	**Applicable Anchorage 2020 Goals**	**Applicable Chugiak-Eagle River Comp. Plan Goals**
	• 8F. Reinforce the link between transit and land use by establishing as a priority the building of **transit-friendly residential and commercial development** in Downtown Anchorage and Downtown Eagle River.	**Transportation Choices**: an efficient transportation system that offers affordable, viable choices among various modes of travel that serve all parts of the community.	
Coordinated Planning • Goal 6. Improve access to goods, jobs, services, housing, and other destinations while providing mobility for people and goods in a safe, affordable, efficient, and convenient manner.	• 6A. Develop mechanisms for improving **regional cooperation** and planning to address important transportation issues. • 6F. **Coordinate planning efforts** across disciplines (such as transportation, land use, economic development, emergency management, public health, and the military) and geographic areas.	**Civic Involvement:** a civic community that encourages public involvement in decision-making **Planning:** Coordination of public development decisions and programs to implement the Comprehensive Plan and Its Goals and Objectives. **Funding:** Development of funding strategies for efficient, effective use of public and private resources to implement the comprehensive plan.	

3.2 Gap Analysis and Recommendations

Table 3-2 presents analysis and recommendations to better align the MTP goals and objectives with the adopted Comprehensive Plan goals.

Table 3-2 2035 MTP Goals and Objectives Gap Analysis for Consistency with Comprehensive Plans	
Topic	**Findings and Recommendations**
Safety, Natural Hazards	Both Anchorage and Chugiak-Eagle River contain strong goals relating protection and recovery from natural disasters, and the emergency response to those disasters with the transportation network (Similar to resiliency from the federal goals). The 2040 MTP goals should be strengthened relative to the natural hazards.
Safety, Effective Fire Protection, and Emergency Response	The time it takes to respond to emergencies is directly related to the transportation network. The 2040 MTP goals and objectives should be strengthened regarding emergency response.
Preservation, Energy Efficiency	Like the federal requirement, Anchorage 2020 identifies energy efficiency as a quality to strive for in the design, operation, and maintenance of the transportation system. Energy efficiency should be considered for addition to the goals and objectives.
Built Northern Environment.	Numerous references in the Anchorage 2020 and the Chugiak-Eagle River plans, embody the fact we live in a northern city. While the goals and objectives for the MTP do call for the consideration of "year-round" facilities, the wording and concept could be brought more in line with the vision extolled by the adopted comprehensive plans.
Mobility and Accessibility	The MTP's goals and objectives align well with the Mobility and Accessibility goals of the adopted comprehensive plans.
Economic Vitality	The MTP's goals and objectives align well with the Economic Vitality goals of the adopted comprehensive plans.
Environment, Wildlife	Consider adding wildlife to the environmental goals and objectives in the MTP.
Coordinated Planning	Consider adding a goal that more directly ties coordinated planning objectives in the MTP and the Anchorage 2020 planning goals to the MTP goals.

4.0 Draft 2040 MTP Goals and Objectives

4.1 Draft 2040 MTP Goals and Objectives

This section proposes draft 2040 MTP Goals and Objectives. The 2035 MTP/Interim 2035 Goals and Objectives were refined to make them more measurable and to minimize redundancies (i.e. having the same measure for multiple objectives). They were also refined to have a more direct relationship with the MAP-21 and FAST Act national goals and planning factors and local comprehensive planning goals for the Anchorage Bowl and Chugiak-Eagle River. The proposed 2040 Draft MTP Goals and objectives, shown in the first column of Table 4-1 below, are the result of integration of previous MTP goals and objectives with FAST Act goals and planning factors. Table 4-1, second column, presents a direct comparison between the proposed 2040 Goals and Objectives and the 2035 MTP/Interim 2035 MTP Goals and Objectives. The refinement of goals and objectives for the 2040 MTP was not intended to remove or add to any of the goals and objectives from the Interim 2035 MTP. Where an Interim 2035 MTP goal is proposed to be replaced by multiple 2040 MTPs goals, the relevant section of the Interim 2035 goals are listed, linking them. The new goal number was also added in parenthesis and superscripted after the relevant, corresponding text. Table 4-1, third column, includes a Gap Analysis and Recommendations showing the recommended change and reason for change. References to "system" and "network" refer to all modes, unless specifically defined otherwise.

Table 4-1. Comparison of Proposed 2040 MTP Goals and Objectives to 2035 MTP/Interim 2035 MTP Goals and Objectives with Gap Analysis

Draft 2040 MTP Goals and Objectives	2035 MTP/Interim 2035 MTP Goals and Objectives	Gap Analysis Recommendations
GOAL 1 Preserve the Existing System: Maintain the transportation system in a state-of-good repair.		• New Goal • Align with the national goal "State of Good Repair"
1A. Maintain and rehabilitate the existing transportation system to achieve and maintain a state of good repair for all modes.	3F. Maintain and rehabilitate the existing transportation system to minimize deterioration and the need for major reconstruction projects.	• Align with the national goal "State of Good Repair"
GOAL 2 Improve Safety: Increase the safety and security of the transportation network.	Goal 1: Ensure development of a balanced transportation network for people, goods, and services that provides an acceptable level of service [Goal 3], maximizes **safety** [Goal 2], minimizes environmental impacts [Goal 5], provides a variety of transportation choices [Goal 3], and supports planned land use patterns [Goal 5]. Goal 2: Provide a transportation system that moves people and goods **safely and securely** throughout the community. Goal 5: Establish community connectivity [Goal 3] with **safe** [Goal 2], convenient, year-round automobile and non-automobile travel routes within and between neighborhoods, commercial centers, and public facilities [Goal 3]. **Goal 6:** Improve access to goods, jobs, services [Goal 4], housing, and other destinations [Goal 3] while providing mobility for people and goods in a **safe** [Goal 2], affordable, efficient, and convenient manner [Goal 3].	• Align with planning factor "Increase the security of the transportation system for motorized and non-motorized users" • Reduce redundancy
2A. Reduce vehicle, pedestrian, and bicyclist crashes, especially those resulting in traffic fatalities and serious injuries.	2A. Reduce vehicle, pedestrian, and bicyclist crashes.	• Align with national goal, Safety – "To achieve a significant reduction in traffic fatalities and serious injuries on all public roads"
2B. Decrease emergency response time.	2B. Decrease emergency response time and reduce risk to the community from natural hazards and disasters.	• Refined to be more measureable
2C. Reduce vulnerability and increase resiliency of transportation infrastructure from natural hazards and disasters.	2B. Decrease emergency response time and reduce risk to the community from natural hazards and disasters.	• Align with planning factor "Improve the resiliency and reliability of the transportation system…"
2D. Minimize conflicts between freight and other motorized and non-motorized travelers.	2D. Minimize conflicts between freight and passenger vehicles and non-motorized travelers.	• No Change
GOAL 3 Improve Travel Conditions: Develop an efficient multi-modal transportation system to reduce congestion, promote accessibility, and improve system reliability.	Goal 1: Ensure development of a **balanced transportation network** for people, goods, and services that provides an **acceptable level of service** [Goal 3], maximizes safety [Goal 2], minimizes environmental impacts [Goal 5], provides a **variety of transportation choices** [Goal 3], and supports planned land use patterns [Goal 5]. Goal 3:Develop an attractive [Goal 5] and efficient [Goal 3] transportation network that considers the cost of building, operating, and maintaining the system ([Goal 6]; the equity of all users; public health impacts; community values; and social justice [Goal 5]. Goal 5: Establish community connectivity [Goal 3] with safe [Goal 2], convenient, year-round automobile and non-automobile travel routes within and between neighborhoods, commercial centers, and public facilities [Goal 3].	• Reduce redundancy

Table 4-1. Comparison of Proposed 2040 MTP Goals and Objectives to 2035 MTP/Interim 2035 MTP Goals and Objectives with Gap Analysis		
Draft 2040 MTP Goals and Objectives	2035 MTP/Interim 2035 MTP Goals and Objectives	Gap Analysis Recommendations
	Goal 6: Improve access to goods, jobs, services [Goal 4], housing, and other destinations [Goal 3] while providing mobility for people and goods in a safe [Goal 2], affordable, efficient, and convenient manner [Goal 3]. **Goal 7:** Provide a transportation system that provides viable transportation choices among various modes.	
3A. Decrease travel time.	1A. Decrease travel time through an increase in transportation efficiency during peak-hour periods.	• Text deleted to avoid identifying a specific solution
3B. Improve, as necessary, expressway, arterial, and collector roads and intersections to safely and efficiently handle projected traffic.	1D. Improve, as necessary, expressway, arterial, and collector roads to safely and efficiently handle projected traffic. 5A. Ensure an adequate system of **arterial and collector roads** is identified. 6D. Promote the development of an effective **roadway network** through improvements in **intersection** and efficient **roadway capacity**.	• Reduce redundancy
3C. Establish an adequate number of access points from subdivisions to adjacent higher-order streets.	5C. Establish an adequate number of access points from subdivisions to adjacent higher-order streets.	• No Change
3D. Improve the existing transportation system efficiency through the implementation of effective and innovative transportation system management (TSM), transportation demand management (TDM), and Intelligent Transportation System (ITS) strategies.	6E. Improve the existing transportation system efficiency through the implementation of effective and innovative transportation system management (TSM), transportation demand management (TDM), and Intelligent Transportation System (ITS) strategies.	• No Change
3E. Promote bicycle, pedestrian, and transit use.	2C. Promote a **walkable** community with safe **winter** walking conditions. 3G. **Improve opportunities** for active transportation (**non-motorized**) as part of daily system use. 7A. Promote the development of a safe network of trails and sidewalks that provide reasonable access to work, schools, parks, services, shopping, and the natural environment, with priority given to trail and sidewalk projects expected to have the highest use.	• Refined to be more measureable • Reduce redundancy
3F. Improve accessibility to major education, recreation, employment, commercial, health care, and other public facilities.	5E. Improve safe and convenient connectivity from schools to neighborhoods, parks, and other recreational and commercial areas by use of multi-use trails, bicycle lanes, sidewalks, and transit. 7A. Promote the development of a safe network of trails and sidewalks that provide reasonable access to work, schools, parks, services, shopping, and the natural environment, with priority given to trail and sidewalk projects expected to have the highest use.	• Align with national goals and planning factors that place a greater emphasis on "accessibility" • Refined to be more measureable
3G. Enhance the physical connectivity between neighborhoods by increasing the number of roadway, pedestrian, bicycle, and transit connections.	5B. Promote the even distribution of traffic loads between streets by enhancing the existing grid pattern of streets. 5D. Enhance the **physical connectivity** between neighborhoods by increasing the number of roadway, pedestrian, bicycle, and transit connections. **5E. Improve safe and convenient connectivity** from schools to neighborhoods, parks, and other recreational and commercial areas by use of multi-use trails, bicycle lanes, sidewalks, and transit.	• Reduce redundancy
3H. Reduce congestion.		• New objective • Align with the national goal "Congestion Reduction"

Table 4-1. Comparison of Proposed 2040 MTP Goals and Objectives to 2035 MTP/Interim 2035 MTP Goals and Objectives with Gap Analysis		
Draft 2040 MTP Goals and Objectives	2035 MTP/Interim 2035 MTP Goals and Objectives	Gap Analysis Recommendations
3I. Reduce the passenger vehicle miles traveled (VMT) and passenger vehicle hours traveled (VHT) per capita.	6B. Reduce the passenger vehicle miles traveled (VMT) and passenger vehicle hours traveled (VHT) per capita.	• No Change
3J. Increase competitiveness of transit.	7B. Optimize the **year-round** accessibility and convenience of travel choices and, in particular, improve the year-round **reliability and travel time of transit** through the implementation of programs such as transit signal priority.	• Refined to be more measureable
3K. Improve year-round mobility for all modes.	2C. Promote a **walkable** community with safe **winte**r walking conditions. 7B. Optimize the **year-round** accessibility and convenience of travel choices and, in particular, improve the year-round **reliability and travel time of transit** through the implementation of programs such as transit signal priority.	• Reduce redundancy
3L. Improve incident clearance time.		• New objective • Align with the national goal "System Reliability"
3M. Improve system reliability for all modes.	7B. Optimize the **year-round** accessibility and convenience of travel choices and, in particular, improve the year-round **reliability and travel time of transit** through the implementation of programs such as transit signal priority	• Align with national goals and planning factors that place a greater emphasis on "system reliability"
GOAL 4 Support the Economy: Develop a transportation system that supports a thriving, sustainable, broad-based economy.	**Goal 4:** Develop a transportation system that supports a **thriving, sustainable, broad-based economy** by locating and using transportation infrastructure and facilities to enhance community development. **Goal 6:** Improve access to goods, jobs, services [Goal 4], housing, and other destinations [Goal 3] while providing mobility for people and goods in a safe [Goal 2], affordable, efficient, and convenient manner [Goal 3].	• Text deleted to avoid identifying a specific solution • Reduce redundancy
4A. Optimize the transportation system to meet the needs of the Port of Anchorage, Ted Stevens Anchorage International Airport, the Alaska Railroad, the military bases, employment centers, and industrial and commercial areas as well as enhancing intermodal capabilities.	4A. Optimize the transportation system to meet the needs of the Port of Anchorage, Ted Stevens Anchorage International Airport, the Alaska Railroad, the military bases, employment centers, and industrial and commercial areas	• Refined to be more measureable
4B. Enhance Travel and Tourism.		• New objective • Align with the planning factor "Enhance Travel and Tourism"
4C. Promote a dynamic transportation system that supports the local and regional economy and job growth.		• New objective • Align with national goal and planning factor "Freight Movements and Economic Vitality"
4D. Set policy and plan for new technology such as autonomous vehicles and electric vehicles.		• New objective
GOAL 5 Promote Environmental Sustainability: In developing the transportation network, protect, preserve, and enhance the community's natural and built environment and quality of life, including the equity of all users and social justice, while considering our northern climate and supports planned land use patterns.	**Goal 1:** Ensure development of a balanced transportation network for people, goods, and services that provides an acceptable level of service [Goal 3], maximizes safety [Goal 2], minimizes environmental impacts [Goal 5], provides a variety of transportation choices [Goal 3], and supports planned land use patterns [Goal 5].	• New Goal • Align with national goal "Environmental Sustainability" • To better align with comprehensive plans

Table 4-1. Comparison of Proposed 2040 MTP Goals and Objectives to 2035 MTP/Interim 2035 MTP Goals and Objectives with Gap Analysis		
Draft 2040 MTP Goals and Objectives	2035 MTP/Interim 2035 MTP Goals and Objectives	Gap Analysis Recommendations
	Goal 3:Develop an attractive [Goal 5] and efficient [Goal 3] transportation network that considers the cost of building, operating, and maintaining the system [Goal 6]; the equity of all users; public health impacts; community values; and social justice [Goal 5]. **Goal 5:** Establish community connectivity [Goal 3] with safe [Goal 2], convenient, year-round automobile and non-automobile travel routes within and between neighborhoods, commercial centers, and public facilities [Goal 3]. **Goal 8**: Design and maintain a transportation system that **respects the integrity of the community's natural and built environment** and protects scenic vistas.	
5A. Promote transportation improvements that provide for the needs of traditionally underserved populations.	3H. Balance the benefit of improvements against the impacts to neighborhoods with populations traditionally underserved by transportation.	• Refined objective to more directly address the needs of traditionally underserved populations
5B. Preserve and improve air quality to maintain the health and welfare of citizens.	3I. Preserve and improve **air quality** to maintain the health and welfare of citizens.	• No change
5C. Reduce or mitigate storm water impacts of surface transportation.		• New objective • Align with the national goals and planning factors regarding the relationship between transportation and storm water
5D. Use coordinated transportation and land use planning techniques that support intermodal connections to reduce reliance on auto trips.	5B. Promote the even distribution of traffic loads between streets by enhancing the existing grid pattern of streets. 6C. Increase opportunities for **multipurpose** trips in planned mixed-use centers. 8E. Use **context-sensitive design** strategies especially to support the development of mixed-use centers (such as town centers, employment centers, and redevelopment areas) and transit-supportive corridors with **more pedestrian-, bicycle-, and transit-oriented street environments** while recognizing the need to move freight into and throughout the community. 8F. Reinforce the link between **transit and land use** by establishing as a priority the building of **transit-friendl**y residential and commercial **development** in downtown Anchorage and downtown Eagle River.	• To better align with comprehensive plans • Reduce redundancy
5E. Coordinate transportation and land use decisions to support livable, northern communities	1B. Minimize **cut-through traffic** in residential neighborhoods. 6C. Increase opportunities for **multipurpose** trips in planned mixed-use centers. 8E. Use **context-sensitive design** strategies especially to support the development of mixed-use centers (such as town centers, employment centers, and redevelopment areas) and transit-supportive corridors with **more pedestrian-, bicycle-, and transit-oriented street environments** while recognizing the need to move freight into and throughout the community. 8F. Reinforce the link between **transit and land use** by establishing as a priority the building of **transit-friendl**y residential and commercial **development** in downtown Anchorage and downtown Eagle River.	• Refined to be more measurable • Reduce redundancy
5F. Minimize adverse impacts on existing communities, such as neighborhood through-traffic movements, speeding, noise, and light pollution, etc.	1B. Minimize **cut-through traffic** in residential neighborhoods. 3I. Preserve and improve **air quality** to maintain the health and welfare of citizens. **8A. Minimize adverse impacts** on the community, such as neighborhood through-traffic movements. 8B. Minimize **noise and light pollution** impacts, to the extent practical.	• Refined to be more measureable • Reduce redundancy

Table 4-1. Comparison of Proposed 2040 MTP Goals and Objectives to 2035 MTP/Interim 2035 MTP Goals and Objectives with Gap Analysis		
Draft 2040 MTP Goals and Objectives	2035 MTP/Interim 2035 MTP Goals and Objectives	Gap Analysis Recommendations
5G. Minimize and mitigate impacts on the natural environment, such as water resources, fish and wildlife habitat, watersheds and wetlands, and parklands.	8C. Balance the benefit of improvements against the impacts on the natural environment, such as **water resources, fish habitat, watersheds and wetlands, and parklands**.	• Align with comprehensive plan wildlife component • Reduce Redundancy
5H. Enhance aesthetics through transportation improvements consistent with community character.	3D. Balance the purpose of each project with **aesthetic** considerations.	• Refined to be more measureable • Reduce redundancy
5I. Match street design to the use and character of the community/ neighborhood through Complete Streets, **recognizing that character** may vary from primarily commercial to primarily residential and from primarily urban to primarily rural.	3E. Match street and highway design to the use and character of the community/ neighborhood, **recognizing that character** may vary from primarily commercial to primarily residential and from primarily urban to primarily rural.	• Add in Complete Streets
GOAL 6 Quality Decision-Making: Make sound public investments.	**Goal 3**:Develop an attractive [Goal 5] and efficient [Goal 3] transportation network that considers the cost of building, operating, and maintaining the system [Goal 6]; the equity of all users; public health impacts; community values; and social justice [Goal 5].	• Refined to be more measureable • Reduce redundancy
6A. Prioritize the projects within the MTP to optimize the benefit-cost ratio.	**3A. Prioritize** the projects within the MTP to **optimize** the benefit-cost ratio. 3B. Consider the **life-cycle costs** of projects when evaluating and selecting them within the MTP. 3C. Optimize the travel choices within the transportation system to **maximize** the associated **benefits** for all users while minimizing the costs to taxpayers. 7A. Promote the development of a safe network of trails and sidewalks that provide reasonable access to work, schools, parks, services, shopping, and the natural environment, with priority given to trail and sidewalk projects expected to have the highest use.	• Reduce redundancy
6B. Consider the life-cycle costs of projects when evaluating and selecting them within the MTP.	3B. Consider the **life-cycle costs** of projects when evaluating and selecting them within the MTP.	• No change
6C. Optimize benefits of capital expenditures.	1C. Strike a balance between **safe**ty and **economical design** with all transportation projects. **3A. Prioritize** the projects within the MTP to **optimize** the benefit-cost ratio. 3B. Consider the **life-cycle costs** of projects when evaluating and selecting them within the MTP. 3C. Optimize the travel choices within the transportation system to **maximize** the associated **benefits** for all users while minimizing the costs to taxpayers.	• Refined to be more measureable • Reduce redundancy
6D. Continue to improve regional cooperation and planning to address important transportation issues.	6A. Develop mechanisms for improving regional cooperation and planning to address important transportation issues.	• Align with national goal "Reduce Project Delivery Delays
6E. Reduce unnecessary project delivery delays (which add to project costs) through efficient coordination.		• New objective • Align with national goal "Reduce Project Delivery Delays
6F. Coordinate planning efforts across disciplines (such as transportation, land use, economic development, emergency management, parking management, public health, and the military) and geographic areas.	6F. Coordinate planning efforts across disciplines (such as transportation, land use, economic development, emergency management, public health, and the military) and geographic areas.	• No change

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4.2 Comparison with National Goals and Planning Factors

Table 4-2 compared the national goals and planning factors to the proposed draft 2040 MTP goals and objectives.

Table 4-2. National Goals Compared to Draft 2040 MTP Goals and Objectives	
National Goals and Planning Factors	**Draft 2040 MTP Goals and Objectives**
Infrastructure Condition **Goal.** To maintain the highway infrastructure asset system in a state of good repair. • **Factor 9.** Emphasize the preservation of the existing transportation system • **Factor 7.** Promote efficient system management and operation	**GOAL 1 Preserve the Existing System:** Maintain the transportation system in a state-of-good repair. • 1A. Maintain and rehabilitate the existing transportation system to achieve and maintain a state of good repair for all modes.
Safety **Goal**. To achieve a significant reduction in traffic fatalities and serious injuries on all public roads. • **Factor 2.** Increase the safety of the transportation system for motorized and non-motorized users • **Factor 3.** Increase the security of the transportation system for motorized and non-motorized users • **Factor 9.** Improve the resiliency and reliability of the transportation system and reduce or mitigate storm water impacts of surface transportation	**GOAL 2 Improve Safety:** Increase the safety and security of the transportation network. • 2A. Reduce vehicle, pedestrian, and bicyclist crashes, especially those resulting in traffic fatalities and serious injuries. • 2B. Decrease emergency response time. • 2C. Reduce vulnerability and increase resiliency of transportation infrastructure from natural hazards and disasters. • 2D. Minimize conflicts between freight and other motorized and non-motorized travelers.
Congestion Reduction **Goal**. To achieve a significant reduction in congestion on the NHS. • **Factor 4.** Increase accessibility and mobility of people and freight **System Reliability** **Goal**. To improve the efficiency of the surface transportation system. • **Factor 4.** Increase accessibility and mobility of people and freight	**GOAL 3 Improve Travel Conditions:** Develop an efficient multi-modal transportation system to reduce congestion, promote accessibility, and improve system reliability. • 3A. Decrease travel time. • 3B. Improve, as necessary, expressway, arterial, and collector roads and intersections to safely and efficiently handle projected traffic. • 3C. Establish an adequate number of access points from subdivisions to adjacent higher-order streets.

Table 4-2. National Goals Compared to Draft 2040 MTP Goals and Objectives	
National Goals and Planning Factors	**Draft 2040 MTP Goals and Objectives**
• **Factor 6.** Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight	• 3D. Improve the existing transportation system efficiency through the implementation of effective and innovative transportation system management (TSM), transportation demand management (TDM), and Intelligent Transportation System (ITS) strategies. • 3E. Promote bicycle, pedestrian, and transit use. • 3F. Improve accessibility to major education, recreation, employment, commercial, health care, and other public facilities. • 3G. Enhance the physical connectivity between neighborhoods by increasing the number of roadway, pedestrian, bicycle, and transit connections. • 3H. Reduce congestion. • 3I. Reduce the passenger vehicle miles traveled (VMT) and passenger vehicle hours traveled (VHT) per capita. • 3J. Increase competitiveness of transit. • 3K. Improve year-round mobility for all modes. • 3L. Improve incident clearance time. • 3M. Improve system reliability for all modes.
Freight Movements and Economic Vitality Goal. To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development. • **Factor 1.** Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency • **Factor 4.** Increase accessibility and mobility of people and freight • **Factor 6.** Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight • **Factor 10.** Enhance travel and tourism.	**GOAL 4 Support the Economy:** Develop a transportation system that supports a thriving, sustainable, broad-based economy. • 4A. Optimize the transportation system to meet the needs of the Port of Anchorage, Ted Stevens Anchorage International Airport, the Alaska Railroad, the military bases, employment centers, and industrial and commercial areas as well as enhancing intermodal capabilities. • 4B. Enhance Travel and Tourism. • 4C. Promote a dynamic transportation system that supports the local and regional economy and job growth. • 4D. Set policy and plan for new technology such as autonomous vehicles and electric vehicles.
Environmental Sustainability Goal. To enhance the performance of the transportation system while protecting and enhancing the natural environment.	**GOAL 5 Promote Environmental Sustainability:** In developing the transportation network, protect, preserve, and enhance the community's natural and built environment and quality of life, including the equity of all users and social justice, while

Table 4-2. National Goals Compared to Draft 2040 MTP Goals and Objectives	
National Goals and Planning Factors	**Draft 2040 MTP Goals and Objectives**
• **Factor 5.** Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns • **Factor 6.** Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight • **Factor 9.** Improve the resiliency and reliability of the transportation system and reduce or mitigate storm water impacts of surface transportation	considering our northern climate and supports planned land use patterns. • 5A. Promote transportation improvements that provide for the needs of traditionally underserved populations. • 5B. Preserve and improve air quality to maintain the health and welfare of citizens. • 5C. Reduce or mitigate storm water impacts of surface transportation. • 5D. Use coordinated transportation and land use planning techniques that support intermodal connections to reduce reliance on auto trips. • 5E. Coordinate transportation and land use decisions to support livable, northern communities. • 5F. Minimize adverse impacts on existing communities, such as neighborhood through-traffic movements, speeding, noise, and light pollution, etc. • 5G. Minimize and mitigate impacts on the natural environment, such as water resources, fish and wildlife habitat, watersheds and wetlands, and parklands. • 5H. Enhance aesthetics through transportation improvements consistent with community character. • 5I. Match street design to the use and character of the community/ neighborhood through Complete Streets, **recognizing that character** may vary from primarily commercial to primarily residential and from primarily urban to primarily rural.
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.	**GOAL 6 Quality Decision-Making**: Make sound public investments • 6A. Prioritize the projects within the MTP to optimize the benefit-cost ratio. • 6B. Consider the life-cycle costs of projects when evaluating and selecting them within the MTP. • 6C. Optimize benefits of capital expenditures. • 6D. Continue to improve regional cooperation and planning to address important transportation issues.

Table 4-2. National Goals Compared to Draft 2040 MTP Goals and Objectives	
National Goals and Planning Factors	**Draft 2040 MTP Goals and Objectives**
	• 6E. Reduce unnecessary project delivery delays (which add to project costs) through efficient coordination. • 6F. Coordinate planning efforts across disciplines (such as transportation, land use, economic development, emergency management, parking management, public health, and the military) and geographic areas.

5.0 Proposed Draft 2040 MTP Performance Measures

MAP-21, and the FAST Act, requires Metropolitan Planning Organizations (MPOs) incorporate performance measures and targets into their long-range transportation plans. Performance measures are a way to assess how the proposed MTP improvements will allow AMATS to reach their adopted goals and objectives. Performance measures can be used at two levels of analysis:

- **System Level Performance Measures**: These performance measures are meant to track the progress the overall transportation system is making towards implementing the MTP goals and objectives over time. These performance measures will be used to monitor the system performance, and will be tracked and reported. For more information see section 5.1.
- **Project Level Performance Measures**: These criteria will be used to assess how specific projects/alternatives fit in with the AMATS 2040 goals and objectives and whether those projects are consistent with the plan. For more information, see Technical Memorandum 1B.

5.1 System Level Performance Measures

AMATS has been using a performance-based planning and programming process (PBPP) to make decisions as part of the MTP and TIP (Figure 5-1). With this MTP update, AMATS will need to respond to new federal PBPP requirements such as establishing performance measures that are consistent with the national performance management measure rules.

Through the federal rulemaking process, the Federal Highway Administration (FHWA) has required MPOs to monitor the transportation system using specific performance measures to address the national goals, and to develop targets for those measures. Recipients of public transit funds are also required to establish performance targets for safety and state of good repair for performance measures established by the Federal Transit Administration.

The identification of performance measures for the 2040 MTP started with a comparison of the FHWA and FTA performance measures to the existing AMATS performance measures to determine if there were any gaps. The results of the gap analysis and recommendations to align the existing AMATS performance measures with the federal requirements are shown in Tables 5-1 and 5-2.

Figure 5-1 AMATS Performance Based Planning Process Framework

PLAN
- Goals and Objectives
- Performance Measures
- Gather and Analyze Data
- Identify Trends and Targets

PROGRAM

TIP
(Project Level Investments)

- Evaluate Projects
- Develop Four-year Investment Program
- Allocate Resources
- Program Projects

MTP
(System Level Framework)

- Conduct Scenario Planning
- Evaluate Projects (High Level)
- Identify Twenty-year Strategy
- Develop Investment Priorities
- Allocate Resources

Monitor and Evaluate
- Monitor Current Condition
- Evaluate to Determine Effectiveness of Strategies
- Identify Needs for Future Study as Necessary
- Analyze Needs and Develop Recommendation
- Report to Stakeholders

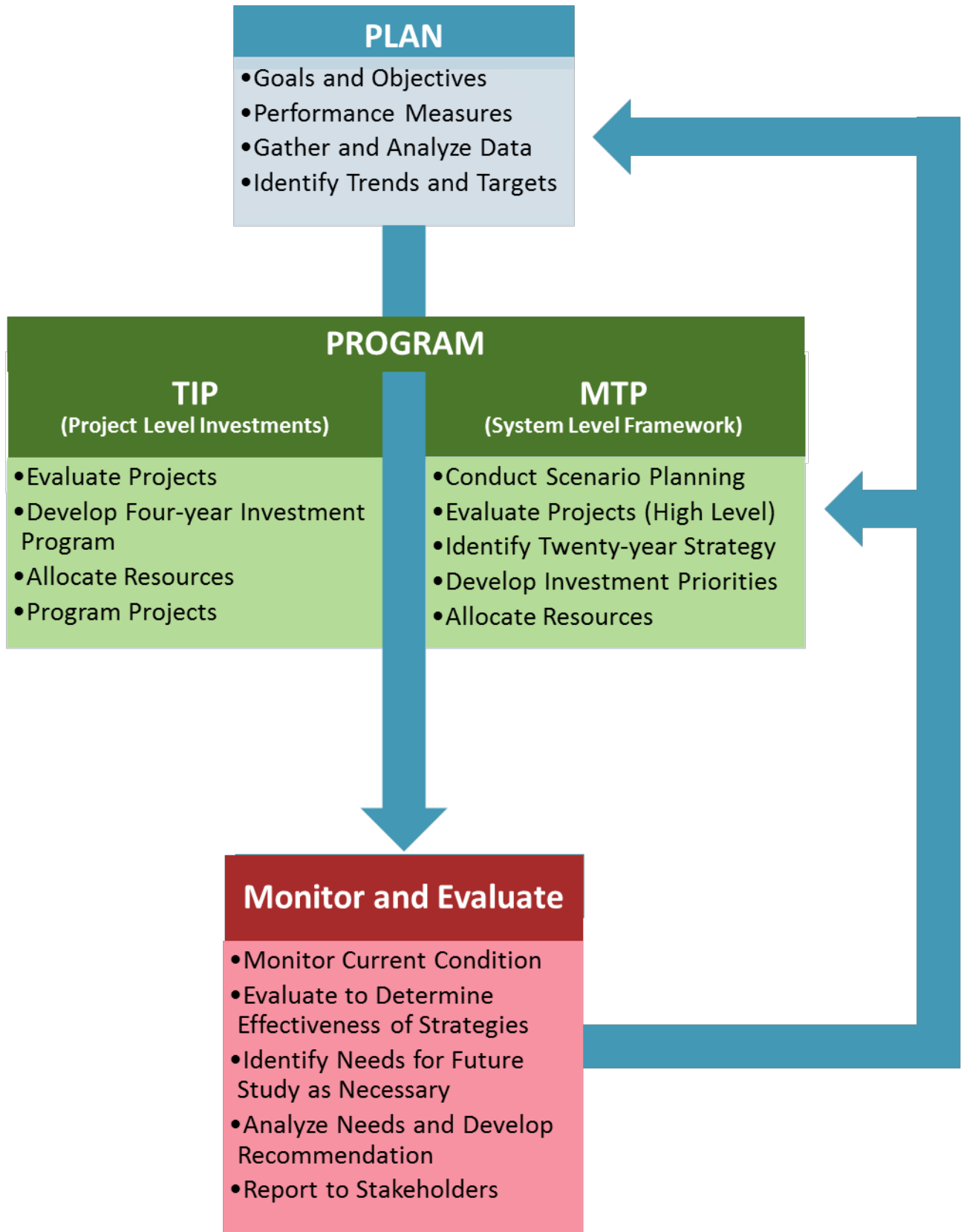| Table 5-1 Comparison of FHWA Performance Measures (as of 1/18/2017) to AMATS Performance Measures			
National Goal Theme	FHWA Performance Measures	Existing AMATS Performance Measure	Gap Analysis/ Recommendation
Safety	Number of fatalities	Vehicle Crashes (Number) by Severity	Modify CMP performance measure to be consistent with federal requirements: Number of Fatalities
	Rate of Fatalities	Fatality and serious injury crash rate per 100 million VMT	Modify CMP performance measure to be consistent with federal requirements: Rate of Fatalities (per 100 million VMT)
	Number of serious injuries	Vehicle Crashes (Number) by Severity	Modify CMP performance measure to be consistent with federal requirements: Number of serious injuries
	Rate of Serious Injuries	Fatality and serious injury crash rate per 100 million VMT	Modify CMP performance measure to be consistent with federal requirements: Rate of serious injuries (per 100 million VMT)
	Number of non-motorized fatalities and non-motorized serious injuries	Number of Pedestrian-Vehicle and Bicycle-Vehicle crashes by severity	Modify CMP performance measure to be consistent with federal requirements: Number of Non-motorized fatalities and non-motorized serious injuries
Infrastructure Condition	Percentage of pavements of the Interstate System in Good condition	None	New Performance Measure: Percentage of pavements of the Interstate System in Good condition
	Percentage of pavements of the Interstate System in Poor condition	None	New Performance Measure: Percentage of pavements of the Interstate System in Poor condition
	Percentage of pavements of the non-Interstate National Highway System (NHS) in Good condition	None	New Performance Measure: Percentage of pavements of the non-Interstate National Highway System (NHS) in Good condition
	Percentage of pavements of the	None	New Performance Measure: Percentage of pavements of the

Table 5-1 Comparison of FHWA Performance Measures (as of 1/18/2017) to AMATS Performance Measures			
National Goal Theme	FHWA Performance Measures	Existing AMATS Performance Measure	Gap Analysis/ Recommendation
	non-Interstate NHS in Poor condition		non-Interstate NHS in Poor condition
	Percentage of NHS bridges classified as in Good condition	None	New Performance Measure: Percentage of NHS bridges classified as in Good condition
	Percentage of NHS bridges classified as in Poor condition	None	New Performance Measure: Percentage of NHS bridges classified as in Poor condition
System Reliability	Percent of person miles traveled on the Interstate System that are reliable	80th percentile travel time index	Modify CMP performance measure to be consistent with federal requirements: Percent of person miles traveled on the Interstate System that are reliable
	Percent of person miles traveled on the non-Interstate NHS that are reliable	80th percentile travel time index	Modify CMP performance measure to be consistent with federal requirements: Percent of person miles traveled on the non-Interstate NHS that are reliable
	Percent change in tailpipe carbon dioxide emissions on the NHS compared to the calendar year 2017 level	None	New Performance Measure: Percent change in tailpipe carbon dioxide emissions s on the NHS compared to the calendar year 2017 level
Freight Mobility & Economic Vitality	Truck Travel Time Reliability (TTTR) Index	Truck reliability index (RI$_{80}$)	Modify CMP performance measure to be consistent with federal requirements: Truck Travel Time Reliability Index
Congestion Reduction	Annual hours of peak-hour excessive delay per capita	Annual vehicle-hours of delay	Modify CMP performance measure to be consistent with federal requirements: Annual hours of peak-hour excessive delay per capita (on the NHS)
	Percent of non-single-occupant vehicle travel	Ride Share/Vanpool Participation Number of bicycle trips Number of pedestrian trips	The existing measures provide valuable information to AMATS and should be retained. They should be supplemented by a new

Table 5-1 Comparison of FHWA Performance Measures (as of 1/18/2017) to AMATS Performance Measures			
National Goal Theme	FHWA Performance Measures	Existing AMATS Performance Measure	Gap Analysis/ Recommendation
			performance measure: Percent of non-single-occupant vehicle travel (on the NHS)
Environmental Sustainability	Total emissions reduction	None	New Performance Measure: Total emissions reduction

Table 5-2 Comparison of FTA Performance Measures (as of 1/18/2017) to AMATS Performance Measures				
National Goal Topic	Transit Performance Area or Asset Category	Performance Measure	Existing AMATS Performance Measure	Gap Analysis/ Recommendation
Safety	Fatalities	Total number of reportable* fatalities and rate per total vehicle revenue miles by mode	None	New performance measure: Total number of reportable* fatalities and rate per total vehicle revenue miles by mode
	Injuries	Total number of reportable* injuries and rate per total vehicle revenue miles by mode	None	New performance measure: Total number of reportable* injuries and rate per total vehicle revenue miles by mode
	Safety Events	Total number of reportable* events and rate per total vehicle revenue miles by mode	None	New performance measure: Total number of reportable* events and rate per total vehicle revenue miles by mode
Reliability	System Reliability	Mean distance between major mechanical failures by mode	None	New performance measure: Mean distance between major mechanical failures by mode
Infrastructure Condition	Equipment	Percentage of vehicles that have met or exceeded their Useful Life Benchmark (ULB)	None	New performance measure: Percentage of vehicles that have met or exceeded their Useful Life Benchmark (ULB)
	Rolling Stock	Percentage of revenue vehicles within a	None	New performance measure: Percentage of

Table 5-2 Comparison of FTA Performance Measures (as of 1/18/2017) to AMATS Performance Measures				
National Goal Topic	Transit Performance Area or Asset Category	Performance Measure	Existing AMATS Performance Measure	Gap Analysis/ Recommendation
(State of Good Repair: Transit Asset Management)		particular asset class that have met or exceeded their ULB		revenue vehicles within a particular asset class that have met or exceeded their ULB
	Infrastructure	Percentage of track segments with performance restrictions	None	Additional research is needed to determine if this performance measure applies to the Alaska Railroad.
	Facilities	Percentage of facilities within an asset class rated below 3.0 on the FTA Transit Economic Requirements Model scale	None	New performance measure: Percentage of facilities within an asset class rated below 3.0 on the FTA Transit Economic Requirements Model scale

Reportable as defined in the National Transit Database *Safety and Security Reporting Manual.*

Next, each federal performance measure was associated with an objective to determine if additional objectives were needed to meet federal requirements. All of the FHWA and FTA performance measures related to a proposed objective show no additional proposed objectives are needed.

Next, each objective was analyzed to identify an associated performance measure. It was determined that some objectives would be implemented through policies rather than as a performance measure. The results of the gap analysis and performance measure/policy recommendations are shown in Table 5-3.

Table 5-3 Performance Measure Recommendations			
Proposed 2040 MTP Goals and Objectives	**AMATS Measure**	**Gap Analysis/Recommendation**	**Applicability**
GOAL 1 Preserve the Existing System: Maintain the transportation system in a state-of-good repair.			
1A. Maintain and rehabilitate the existing transportation system to achieve and maintain a state of good repair for all modes.	None	New Federal Performance Measure: Percentage of pavements of the Interstate System in Good condition	Interstate System
	None	New Federal Performance Measure: Percentage of pavements of the Interstate System in Poor condition	Interstate System
	None	New Federal Performance Measure: Percentage of pavements of the non-Interstate System NHS in Good condition	Non- Interstate NHS
	None	New Federal Performance Measure: Percentage of pavements of the non-Interstate System NHS in Poor condition	Non-Interstate NHS
	None	New Federal Performance Measure: Percentage of NHS bridges classified as in Good condition	NHS
	None	New Federal Performance Measure: Percentage of NHS bridges classified as in Poor condition	NHS
	None	New Federal Performance Measure: Percentage of non-revenue [support-service and maintenance vehicles] met or exceeded useful life benchmark	Transit
	None	New Federal Performance Measure: Percentage of revenue vehicles [rolling stock] met or exceeded useful life benchmark	Transit
	None	New Federal performance measure: Percentage of facilities within an asset class	Transit

Table 5-3 Performance Measure Recommendations			
Proposed 2040 MTP Goals and Objectives	**AMATS Measure**	**Gap Analysis/Recommendation**	**Applicability**
		rated below 3.0 on the FTA Transit Economic Requirements Model scale	
GOAL 2 Improve Safety: Increase the safety and security of the transportation network.			
2A. Reduce vehicle, pedestrian, and bicyclist crashes, especially those resulting in traffic fatalities and serious injuries.	Vehicle Crashes (Number) by Severity	Modify CMP performance measure to be consistent with federal requirements: "Number of Fatalities"	All public roads
	Fatality and serious injury crash rate per 100 million VMT	Modify CMP performance measure to be consistent with federal requirements: "Rate of Fatalities (per 100 million VMT)"	All public roads
	Vehicle Crashes (Number) by Severity	Modify CMP performance measure to be consistent with federal requirements: "Number of serious injuries"	All public roads
	Fatality and serious injury crash rate per 100 million VMT	Modify CMP performance measure to be consistent with federal requirements: "Rate of serious injuries (per 100 million VMT)"	All public roads
	Number of Pedestrian-Vehicle and Bicycle-Vehicle crashes by severity	Modify CMP performance measure to be consistent with federal requirements: "Number of Non-motorized fatalities and non-motorized serious injuries"	All public roads
	None	New Federal performance measure: Total number of reportable* fatalities and rate per total vehicle revenue miles by mode	Transit
	None	New Federal performance measure: Total number of reportable* injuries and rate per total vehicle revenue miles by mode	Transit
	None	New Federal performance measure: Total number of reportable* events and rate per total vehicle revenue miles by mode	Transit

Table 5-3 Performance Measure Recommendations			
Proposed 2040 MTP Goals and Objectives	**AMATS Measure**	**Gap Analysis/Recommendation**	**Applicability**
	None	New Federal performance measure: Mean distance between major mechanical failures by mode	Transit
2B. Decrease emergency response time.	Incident response time	Keep existing CMP measure: Incident response time	APD/AFD service area within the MPO Boundary
2C. Reduce vulnerability and increase resiliency of transportation infrastructure from natural hazards and disasters.	None	Develop MTP policy statement	Bridges on Collector and Above
2D. Minimize conflicts between freight and other motorized and non-motorized travelers.	None	New MTP performance measure: Number of commercial vehicle/car crashes	Selected corridors
	None	New MTP performance measure: Number of commercial vehicle/pedestrian crashes	Selected corridors
	None	New MTP performance measure: Number of commercial vehicle/bicycle crashes	Selected corridors
	None	Develop MTP policy statement	Collector and Above
GOAL 3 Improve Travel Conditions: Develop an efficient multi-modal transportation system to reduce congestion, promote accessibility, and improve system reliability.			
3A. Decrease travel time.	Travel Time by Corridor	Keep existing CMP measure: Travel Time by Corridor	Selected corridors
	Travel Time Ratio	Keep existing CMP measure: Travel Time Ratio	Selected corridors
	80th percentile travel time index	Modify CMP performance measure to be consistent with federal requirements: "Percent of person miles traveled on the Interstate System and Non-Interstate NHS that are reliable"	Interstate System, Non-Interstate NHS, and Selected corridors
3B. Improve, as necessary, expressway,	None	New MTP performance measure: percent of roadway	Modeled roads

Table 5-3 Performance Measure Recommendations			
Proposed 2040 MTP Goals and Objectives	**AMATS Measure**	**Gap Analysis/Recommendation**	**Applicability**
arterial, and collector roads and intersections to safely and efficiently handle projected traffic.		miles projected to have unacceptable LOS in plan horizon year	
	None	New MTP performance measure: number of intersections projected to have unacceptable LOS in plan horizon year	Modeled roads
3C. Establish an adequate number of access points from subdivisions to adjacent higher-order streets.	None	Develop MTP policy statement	New subdivisions
3D. Improve the existing transportation system efficiency through the implementation of effective and innovative transportation system management (TSM), transportation demand management (TDM), and Intelligent Transportation System (ITS) strategies.	None	Develop MTP policy statement	Collector and Above
3E. Promote bicycle, pedestrian, and transit use.	None	New Federal Performance Measure: Percent of non-SOV travel	NHS
	Transit Ridership	Keep existing CMP measure: Transit Ridership	Transit
	Ride Share/Vanpool Participation	Keep existing CMP measure: Ride Share/Vanpool Participation	AMATS
	Number of bicycle trips	Keep existing CMP measure: Number of bicycle trips	Non-motorized
	Number of pedestrian trips	Keep existing CMP measure: Number of pedestrian trips	Non-motorized
3F. Improve accessibility to major education, recreation, employment, commercial, health care, and other public facilities.	None	New MTP Performance Measure: Centerline miles within 0.25 miles of major education, recreation, employment, and health care facilities	Collector and Above

Table 5-3 Performance Measure Recommendations			
Proposed 2040 MTP Goals and Objectives	**AMATS Measure**	**Gap Analysis/Recommendation**	**Applicability**
	None	New MTP Performance Measure: Transit service route miles within 0.25 miles of major education, recreation, employment, and health care facilities	Transit
	None	New MTP Performance Measure: Trail/sidewalk/bike lane miles within 0.25 miles of major education, recreation, employment, and health care facilities	Non-motorized
3G. Enhance the physical connectivity between neighborhoods by increasing the number of roadway, pedestrian, bicycle, and transit connections.	Connectivity index for pedestrian and bikeway system	Modify CMP performance measure: Connectivity index for roadway, pedestrian, and bikeway system	Selected corridors and Non-motorized
3H. Reduce congestion.	Annual Vehicle-Hours of delay	Modify CMP performance measure to be consistent with federal requirements: Annual hours of peak-hour excessive delay per capita (on the NHS)	NHS
3I. Reduce the passenger vehicle miles traveled (VMT) and passenger vehicle hours traveled (VHT) per capita.	Vehicle hours of travel	Modify CMP performance measure: Vehicle hours of travel per capita	Selected corridors
	Total System VMT	Modify CMP performance measure: VMT per capita	Selected corridors
3J. Increase competitiveness of transit.	Public transportation/automobile travel-time ratio to/from selected locations	Keep existing CMP measure: Public transportation/automobile travel-time ratio to/from selected locations	Selected corridors
	Mean distance between major mechanical failures by mode	New Federal performance measure: System Reliability (Mean distance between major mechanical failures by mode)	Transit
	None	New MTP performance measure: Number of People Mover service hours per capita	Transit

Table 5-3 Performance Measure Recommendations

Proposed 2040 MTP Goals and Objectives	AMATS Measure	Gap Analysis/Recommendation	Applicability
3K. Improve year-round mobility.	None	Develop MTP policy statement	Selected corridors
3L. Improve incident clearance time.	Incident clearance time	Keep existing CMP measure: Incident clearance time	Interstate and Non-Interstate NHS
3M. Improve system reliability for all modes.	None	New Federal Performance Measure: Percent of the Person-Miles Traveled on the Interstate that are reliable	The Interstate System
	None	New Federal Performance Measure: Percent of the Person-Miles Traveled on the Non-Interstate NHS that are reliable	The non-Interstate NHS
	Transit on-time performance	Keep existing CMP measure: Transit on-time performance	Transit
	None	New Federal Performance Measure: Percent Change in tailpipe CO_2 emissions on the NHS compared to the calendar year 2017 level	NHS
GOAL 4 Support the Economy: Develop a transportation system that supports a thriving, sustainable, broad-based economy.			
4A. Optimize the transportation system to meet the needs of the Port of Anchorage, Ted Stevens Anchorage International Airport, the Alaska Railroad, the military bases, employment centers, and industrial and commercial areas as well as enhancing intermodal capabilities.	Truck reliability index (RI_{80})	Modify CMP performance measure to be consistent with federal requirements: Truck Travel Time Reliability (TTTR) Index	Interstate
	Annual hours of truck delay	Keep existing CMP measure: Annual hours of truck delay	Freight
	Daily truck volumes by location	Keep existing CMP measure: Daily truck volumes by location	Freight
4B. Enhance Travel and Tourism.	None	Develop MTP policy statement	All capital improvements

Table 5-3 Performance Measure Recommendations			
Proposed 2040 MTP Goals and Objectives	**AMATS Measure**	**Gap Analysis/Recommendation**	**Applicability**
4C. Promote a dynamic transportation system that supports the local and regional economy and job growth	None	New MTP performance measure: Average Home Based Work travel time	All capital improvements
	None	New MTP performance measure: Percentage of jobs within ½ mile of frequent transit service.	Transit service with a minimum weekday headway of 30 minutes
4D. Set policy and plan for new technology such as autonomous vehicles and electric vehicles.	None	Develop MTP policy statement	AMATS
GOAL 5 Promote Environmental Sustainability: In developing the transportation network, protect, preserve, and enhance the **community's** natural and built environment and quality of life, including the equity of all users and social justice, while considering our northern climate and supports planned land use patterns.			
5A. Promote transportation improvements that provide for the needs of traditionally underserved populations.	None	New MTP performance measure: Average roadway travel times for areas with high low-income and minority populations within 5 percent of AMATS average travel time	Selected corridors
	None	New MTP performance measure: Average transit travel times for areas with high low-income and minority populations within 5 percent of AMATS average travel time	Selected corridors
5B. Preserve and improve air quality to maintain the health and welfare of citizens.	None	New Federal performance measure: Total Emissions Reduction	All public roads
5C. Reduce or mitigate storm water impacts of surface transportation.	None	New MTP performance measure: Miles of impaired waterbodies (impaired by petroleum or sediment).	Impaired waterbodies
5D. Use coordinated transportation and land use planning techniques that support intermodal	SF of mixed-use centers/transit-oriented development	Keep existing CMP measure: SF of mixed-use centers/transit-oriented development	New development

Table 5-3 Performance Measure Recommendations			
Proposed 2040 MTP Goals and Objectives	**AMATS Measure**	**Gap Analysis/Recommendation**	**Applicability**
connections to reduce reliance on auto trips.	None	New MTP performance measure: Percentage of people within ½ mile of frequent transit service.	Transit service with a minimum weekday headway of 30 minutes
5E. Coordinate transportation and land use decisions to support livable, northern communities.	None	Develop MTP policy statement	New development
5F. Minimize adverse impacts on existing communities, such as neighborhood through-traffic movements, speeding, noise, and light pollution, etc.	None	Develop MTP policy statement	All capital improvements
5G. Minimize and mitigate impacts on the natural environment, such as water resources, fish and wildlife habitat, watersheds and wetlands, and parklands.	None	Develop MTP policy statement	All capital improvements
5H. Enhance aesthetics through transportation improvements consistent with community character.	None	Develop MTP policy statement	All capital improvements
5I. Match street design to the use and character of the community/ neighborhood through Complete Streets, recognizing that characters may vary from primarily commercial to primarily residential and from primarily urban to primarily rural.	None	Develop MTP policy statement	All street improvements
GOAL 6 Quality Decision-Making: Make sound public investments.			

Table 5-3 Performance Measure Recommendations			
Proposed 2040 MTP Goals and Objectives	**AMATS Measure**	**Gap Analysis/Recommendation**	**Applicability**
6A. Prioritize the projects within the MTP to optimize the benefit-cost ratio.	None	Develop MTP policy statement	AMATS
6B. Consider the life-cycle costs of projects when evaluating and selecting them within the MTP.	None	Develop MTP policy statement	AMATS
6C. Optimize benefits of capital expenditures.	None	New MTP Performance Measure: Capital expenditure/travel time savings benefit ratio	AMATS
6D. Continue to improve regional cooperation and planning to address important transportation issues.	None	Develop MTP policy statement	AMATS
6E. Reduce unnecessary project delivery delays (which add to project costs) through efficient coordination.	None	Develop MTP policy statement	All AMATS projects
6F. Coordinate planning efforts across disciplines (such as transportation, land use, economic development, emergency management, parking management, public health, and the military) and geographic areas.	None	Develop MTP policy statement	AMATS

Table 5-4 shows the new performance measures and policies by category (Federally required performance measure, new MTP performance measure, and new MTP policy). There are 26 Federally required performance measures (including 8 CMP measures to be modified and 19 new measures), 16 new MTP performance measures, and 15 new MTP policies.

Table 5-4 Proposed 2040 MTP Draft Performance Measures and Policies	
Proposed Performance Measure or Policy	
Federal Required Performance Measure	Percentage of pavements of the Interstate System in Good condition

Table 5-4 Proposed 2040 MTP Draft Performance Measures and Policies

	Percentage of pavements of the Interstate System in Poor condition
	Percentage of pavements of the non-Interstate NHS System in Good condition
	Percentage of pavements of the non-Interstate NHS System in Poor condition
	Percentage of NHS bridges classified as in Good condition
	Percentage of NHS bridges classified as in Poor condition
	Percentage of non-revenue [support-service and maintenance] vehicles met or exceeded useful life benchmark
	Percentage of revenue vehicles [rolling stock] met or exceeded useful life benchmark
	Percentage of facilities within an asset class rated below 3.0 on the FTA Transit Economic Requirements Model scale
	Number of Fatalities*
	Rate of Fatalities (per 100 million VMT)*
	Number of serious injuries*
	Rate of serious injuries (per 100 million VMT)*
	Number of Non-motorized fatalities and non-motorized serious injuries
	Total number of reportable fatalities and rate per total vehicle revenue miles by mode
	Total number of reportable injuries and rate per total vehicle revenue miles by mode
	Total number of reportable events and rate per total vehicle revenue miles by mode
	Percent of non-SOV travel (on the NHS)
	Annual hours of peak-hour excessive delay per capita (on the NHS)*
	System Reliability (Mean distance between major mechanical failures by mode)
	Percent of the Person-Miles Traveled on the Interstate that are reliable*
	Percent of the Person-Miles Traveled on the Non-Interstate NHS that are reliable*
	Percent Change in tailpipe CO_2 emissions on the NHS compared to the calendar year 2017 level
	Truck Travel Time Reliability (TTTR) Index*
	Total Emissions Reduction
New MTP Performance Measures	Number of commercial vehicle/car crashes
	Number of commercial vehicle/pedestrian crashes

Table 5-4 Proposed 2040 MTP Draft Performance Measures and Policies	
	Number of commercial vehicle/bicycle crashes
	Percent of roadway miles projected to have unacceptable LOS in plan horizon year
	Number of intersections projected to have unacceptable LOS in plan horizon year
	Centerline miles within 0.25 miles of major education, recreation, employment, and health care facilities
	Transit service route miles within 0.25 miles of major education, recreation, employment, and health care facilities
	Trail/sidewalk/bike lane miles within 0.25 miles of major education, recreation, employment, and health care facilities
	Number of People Mover service hours per capita
	Average Home Based Work travel time
	Percentage of jobs within ½ mile of frequent transit service.
	Average roadway travel times for areas with high low income and minority populations within 5 percent of AMATS average travel time
	Average transit travel times for areas with high low income and minority populations within 5 percent of AMATS average travel time
	Miles of impaired waterbodies (impaired by petroleum or sediment).
	Percentage of people within ½ mile of frequent transit service.
	Capital expenditure/travel time savings benefit ratio
Address with New MTP Policy:	Minimize conflicts between freight and other motorized and non-motorized travelers
	Establish an adequate number of access points from subdivisions to adjacent higher-order streets
	Improve the existing transportation system efficiency through the implementation of effective and innovative transportation system management (TSM), transportation demand management (TDM), and Intelligent Transportation System (ITS) strategies
	Improve year-round mobility for all modes
	Enhance Travel and Tourism
	Plan for new technology such as autonomous vehicles and electric vehicles.

Table 5-4 Proposed 2040 MTP Draft Performance Measures and Policies	
	Coordinate transportation and land use decisions to support livable, northern communities
	Minimize adverse impacts on existing communities, such as neighborhood through-traffic movements, noise and light pollution, etc.
	Minimize and mitigate impacts on the natural environment, such as water resources, fish and wildlife habitat, watersheds and wetlands, and parklands
	Enhance aesthetics through transportation improvements consistent with community character
	Consider the life-cycle costs of projects when evaluating and selecting them within the MTP
	Match street and highway design to the use and character of the community/ neighborhood through Complete Streets, **recognizing that character** may vary from primarily commercial to primarily residential and from primarily urban to primarily rural.
	Improve regional cooperation and planning to address important transportation issues
	Reduce unnecessary project delivery delays (which add to project costs) through efficient coordination
	Reduce vulnerability and increase resiliency of transportation infrastructure from natural hazards and disasters.
	Benefit/Cost Ratio
	Coordinate planning efforts across disciplines (such as transportation, land use, economic development, emergency management, public health, and the military) and geographic areas

*includes CMP measures that require modification

Once the performance measures are adopted by AMATS, AMATS will need to consider establishing targets for each MTP performance measure. The transit related objectives and performance measures should be re-visited after the MOA Public Transportation Department completes their Transit Asset Management plan. The freight related objectives and performance measures should also be re-visited after the AMATS Freight Mobility Study is adopted. In addition, the CMP should be updated to reflect 2040 MTP performance measures.