

Technical Memorandum#1B Screening

AMATS 2040 Metropolitan Transportation Plan
Draft

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Acronyms and Abbreviations

| | |
|----------|--|
| AMATS | Anchorage Metropolitan Area Transportation Solutions |
| CMP | Congestion Management Program |
| FAST Act | <i>Fixing America's Surface Transportation Act</i> |
| MAP-21 | <i>Moving Ahead for Progress in the 21st Century Act</i> |
| MPO | Metropolitan Planning Organization |
| MTP | Metropolitan Transportation Plan |

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1 Purpose

The purpose of this technical memorandum is to identify and recommend appropriate Metropolitan Transportation Plan (MTP) analysis framework and measures to be used to screen and rank projects for inclusion in the MTP.

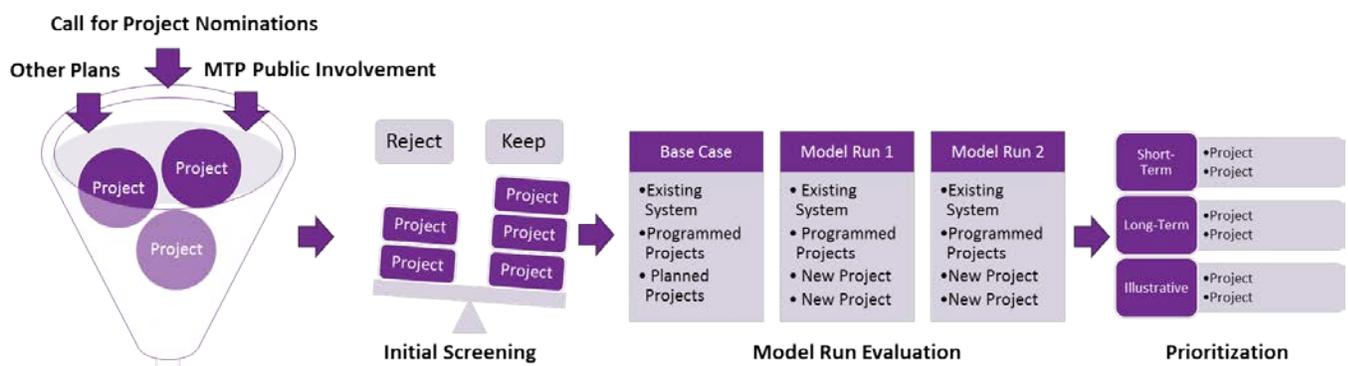
MAP-21 and the FAST Act require Metropolitan Planning Organizations (MPOs) incorporate performance measures and targets into their long-range transportation plans. Performance measures are a way to assess how the proposed MTP improvements will allow AMATS to reach their adopted goals and objectives. 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. These are described in Technical Memorandum 1A.
- **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.

2 Project Level Performance Measures/Screening Criteria

This section describes the screening process (Figure 2-1) to be used to determine how proposed projects will be screened and evaluated for inclusion in the 2040 MTP.

Figure 2-1. Screening Process



2.1 Initial Screening

Projects identified during the nomination process will be evaluated according to the criteria shown in Table 2-1. The results of the evaluation are not intended to be the final determination in what projects are included in the MTP. It is meant as an initial step to identify projects that are reasonable to be considered as part of the alternative development phase. This initial evaluation will provide basic information about how well each project addresses the 2040 MTP transportation priorities. In some cases, projects may be included in the MTP based on information not easily evaluated by these criteria.

| Table 2- 1. Draft 2040 MTP Initial Screening Criteria | | | | |
|--|--|--------------------------------------|--|---|
| | -2 Poor | 0 Neutral | +1 Fair | +2 Good |
| Operational Improvements | Worsens traffic operations | No change | Limited improvement | Significant improvement |
| Regional Connections¹ | N/A | No effect on Regional Connectivity | New or improved Regional Connection between 0 and 1 mile in length | New or improved Regional Connection 1 mile long or longer |
| System Connectivity (Motorized and Non-Motorized) | Reduces system connectivity | No change | New or improved system connectivity | New or improved system connection closing a gap of ½ mile or more |
| Bicycle Route/Trail Use | Negatively impacts bicycle route/trail use | No change | N/A | Improves bicycle route/trail use |
| Transit Access | Negatively impacts transit access | No change | Improves transit access within ½ mile of a transit route | Improves transit access within ¼ mile of a transit route |
| Sidewalk Use | Negatively impacts sidewalk use | No change | N/A | Improves sidewalk use |
| Level of Environmental Impacts² | Significant negative impacts anticipated | Minimal positive or negative impacts | Moderate positive impacts anticipated | Significant positive impacts or no negative impacts anticipated |

¹ Regional Connections are facilities that serves regional transportation needs (such as access to and from the area outside the region; major activity centers in the region; major planned developments such as new retail malls, sports complexes, or employment centers; or transportation terminals).

² Level of Environmental Impacts: consider factors such as property impacts, potential threatened and endangered species, wetlands, floodplains, stream crossings, and parkland.

| Table 2- 1. Draft 2040 MTP Initial Screening Criteria | | | | |
|---|--|--------------------------------------|--|---|
| | -2 Poor | 0 Neutral | +1 Fair | +2 Good |
| Level of Community Impacts ³ | Significant negative impacts anticipated | Minimal positive or negative impacts | Moderate positive impacts anticipated | Significant positive impacts or no negative impacts anticipated |
| Environmental Justice ⁴ | Degrades mobility for EJ populations | No effect | N/A | Directly improves mobility for EJ populations |
| ADA ⁵ | Project decreases ADA elements | No effect | N/A | Project incorporates new ADA elements |
| Addresses Safety Issue | Increases safety concerns | No effect | Project should improve vehicular or bicycle/pedestrian safety in area not identified as safety issue | Directly addresses an identified vehicular or bicycle/pedestrian safety issue |
| Improve the existing transportation system efficiency through the implementation of effective and innovative transportation system management (TSM)⁶, transportation demand management (TDM)⁷, and Intelligent Transportation System (ITS) strategies.⁸ | N/A | No TSM, TDM, or ITS | N/A | Includes TSM, TDM, or ITS |
| Level of consistency with other adopted plans or studies | N/A | Not addressed in other plans | Marginally beneficial to existing plans | Consistent with other plans and studies |

³ Level of Community Impacts - Consider factors such as impacts to educational facilities, negative visual impacts, impacts to recreational facilities, neighborhood division, and impacts to livability factors.

⁴ Environmental Justice (EJ) at the Federal Highway Administration (FHWA) means identifying and addressing disproportionately high and adverse effects of the agency's programs, policies, and activities on minority populations and low-income populations to achieve an equitable distribution of benefits and burdens.

⁵ The Americans with Disabilities Act of 1990 (ADA) prohibits discrimination and ensures equal opportunity and access for persons with disabilities.

⁶ 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.

⁷ 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.

⁸ ITS (Intelligent Transportation Systems) is the deployment of advanced transportation technologies in an integrated manner to improve the surface transportation system.

| Table 2- 1. Draft 2040 MTP Initial Screening Criteria | | | | |
|---|---|--|--|---|
| | -2 Poor | 0 Neutral | +1 Fair | +2 Good |
| Economic Benefits⁹ | No economic benefits | Minimal benefits | Moderate benefits | Significant benefits |
| Preservation of Existing Facility | No impact | Minor preservation | Moderate preservation | Significant preservation |
| Deliverability | Significant community concerns and/or significant financial impacts | Mixed community support and/or financial impacts | Moderate community support and/or marginal financial impacts | Strong community support and/or minimal financial impacts |

These initial screening criteria are related to the proposed 2040 MTP goals. Projects under consideration should be consistent with and help to achieve the goals. Table 2-2 compares the initial screening criteria with the proposed 2040 MTP goals.

| Table 2- 2. Comparison of Proposed Initial Screening Criteria with Proposed 2040 MTP Goals | |
|--|---|
| Goal | Proposed Screening Criteria |
| GOAL 1 Preserve the Existing System: Maintain the transportation system in a state-of-good repair. | <ul style="list-style-type: none"> • Preservation of Existing Facility • 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. |
| GOAL 2 Improve Safety: Increase the safety and security of the transportation network. | <ul style="list-style-type: none"> • Addresses safety issue |
| GOAL 3 Improve Travel Conditions: Develop an efficient multi-modal transportation system to reduce congestion, promote accessibility, and improve system reliability. | <ul style="list-style-type: none"> • Operational Improvements • Regional Connections • System Connectivity • Bicycle Route/Trail Use • Transit Access |

⁹ Economic benefits consider factors that encourage economic development, redevelopment, and/or freight mobility through improved access and transportation opportunities; addresses impacts on urban areas, freight corridors, recreational or educational opportunities, tourism activity. Benefits economic development projects and or/facility improvements to support mixed use/redevelopment, business areas, employment center, transit supportive corridors, other significant types of urban development areas; recreation or education opportunities; and/or tourism activity.

| Table 2- 2. Comparison of Proposed Initial Screening Criteria with Proposed 2040 MTP Goals | |
|--|--|
| Goal | Proposed Screening Criteria |
| | <ul style="list-style-type: none"> • Sidewalk Use • 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. |
| <p>GOAL 4 Support the Economy: Develop a transportation system that supports a thriving, sustainable, broad-based economy.</p> | <ul style="list-style-type: none"> • Economic Benefits • Regional Connections |
| <p>GOAL 5 Promote Environmental Sustainability: In developing the transportation network, respect the community’s natural and built environment and quality of life while considering our northern climate and supporting planned land use patterns.</p> | <ul style="list-style-type: none"> • Level of Environmental Impacts • Level of Community Impacts • Environmental Justice and ADA • Level of consistency with other adopted plans or studies |
| <p>GOAL 6 Quality Decision-Making: Make sound public investments.</p> | <ul style="list-style-type: none"> • Level of consistency with other adopted plans or studies • Economic Benefits • Deliverability |

2.2 Group and Evaluate

Table 2-3 shows the performance measures that will be used to evaluate the traffic model runs. Maps showing level of service for each model run will also be produced.

| Table 2- 3. Draft 2040 MTP Model Run Evaluation Criteria | | | |
|---|------------------|--------------------|--------------------|
| Measure | Base Case | Model Run 1 | Model Run 2 |
| Person Trips in AMATS | | | |
| Auto share | | | |
| Transit share | | | |
| Non-motorized share | | | |
| Vehicle Miles Traveled | | | |
| Daily | | | |
| AM | | | |
| PM | | | |
| Vehicle Miles Traveled (per capita) | | | |
| Daily | | | |
| AM | | | |
| PM | | | |
| Vehicle Hours Traveled | | | |
| Daily | | | |
| AM | | | |
| PM | | | |
| Vehicle Hours Traveled (per capita) | | | |
| Daily | | | |
| AM | | | |
| PM | | | |
| Vehicle Hours of Delay | | | |
| Daily | | | |
| AM | | | |
| PM | | | |
| Vehicle Hours of Delay (per capita) | | | |
| Daily | | | |
| AM | | | |
| PM | | | |

Based on the model results, projects in each alternative scenario will be considered and assessed based on the improvement the project makes to the transportation system and how well it meets the proposed 2040 MTP goals and objectives. The project team will present information to the public and decision makers to foster a discussion of which projects should advance into the preferred alternative. This information will come from the results of the initial screening and may be supplemented with additional information during the alternatives evaluation. As part of this process, consideration will be given to all modes, as well as consistency with the comprehensive plans, the MTP Goals and Objectives, and the land use plan map.

2.3 Select and Prioritize

The transportation improvements needed by 2040 are likely to be greater than the available funding for over the next 20 years. As a result, the recommendations need to be prioritized so that the total cost of the recommendations match the anticipated available funding; resulting in a fiscally constrained plan. The prioritization criteria measures were developed with the intent of uniformly scoring both new projects and improvements to existing facilities. While other measures can be used to quantify improvement that would result from a project, such as congestion reduction measured by LOS, using this as a measure would unfairly prioritize capacity enhancements to existing roadways. Other measures that could be effective, such as measuring the efficiency of freight movement, were not used due to limitations of available data.

To avoid unfairly prioritizing one mode over another, roads, transit, and non-motorized improvements will be scored separately. The prioritization criteria for each mode can be found in Tables 2-4, 2-5, and 2-6.

| Table 2- 4. Draft 2040 MTP Prioritization Criteria for Road Projects | | | | | |
|--|-------------------------------------|--------------------------------|--|--|---|
| Criterion | -2 | 0 | 1 | 3 | 5 |
| Project Readiness | N/A | No work started | Some preliminary design and/or environmental work complete | Final engineering completed or nearing completion | Right-of-way purchased; ready to construct |
| Timing of need | N/A | Can wait until beyond 2035 | Long-term need (2031-2040) | Needed in short term—helps to complete grid system or improves facility to standards | Needed in short term (2018-2030 – addresses major safety/capacity needs |
| Functional Classification | N/A | N/A | Collector | Arterial/Expressway | Highway |
| Logical sequencing | Would conflict with another project | N/A | New project | N/A | Next logical or final phase of an existing road |
| Cost (length X AADT) | N/A | Fourth quantile | Third quantile | Second quantile | First quantile |
| Obstacles to construction | N/A | Unlikely to be overcome | Require significant effort to resolve | Likely to be overcome | No obstacles are foreseeable |

| Table 2- 5. Draft 2040 MTP Prioritization Criteria for Transit Projects | | | | | |
|---|---|-----------|---|---|---|
| Criterion | -2 | 0 | 1 | 3 | 5 |
| Timing of Need | | Long Term | | Middle Term | Short-Term |
| Additional Transit Service | Reduces service coverage, frequency, or removes transit amenities | No Change | Helps to maintain existing service or amenities | Increases capacity on existing routes or adds additional amenities (i.e. bike racks, vehicles, benches, etc.) | Helps expands service coverage and/or helps increase frequency on an existing route |
| Accessibility | Reduces accessibility for transit users | N/A | N/A | Improves/fixes/replaces existing accessibility accommodation | Addresses accessibility need for a current non-accessible condition |
| Increase Ridership | Worsens | No change | Minimal Increase | Moderate Increase | Substantial Increase |
| Improve Rolling Stock | Reduces FTA required fleet size | No change | Routine capital repair or maintenance | N/A | Replaces assets at the end of FTA useful life or buys new assets to accommodate additional service. |
| Safety | Worsens | No change | Minimal Improvement | Moderate Improvement | Substantial Improvement |

| Table 2- 6. Draft 2040 MTP Prioritization Criteria for Non-motorized Projects | | | | |
|---|---|--|---|--|
| Criterion | 0 | 1 | 3 | 5 |
| Project Readiness | No work started | Some preliminary design and/or environmental work complete | Final engineering completed or nearing completion | Right-of-way purchased; ready to construct |
| Community Support | Negative public comments | No known issues complete | Positive public support | N/A |
| Project Need | Upgrade of an existing facility versus no | Lower demand and non-safety-related project | Medium demand and safety-related project | Addresses major safety issues and/or high |

| Table 2- 6. Draft 2040 MTP Prioritization Criteria for Non-motorized Projects | | | | |
|--|--|---|--|---|
| Criterion | 0 | 1 | 3 | 5 |
| | existing facility | | | demand |
| Inclusion in plans | Not in an existing plan | In one plan | In two plans | In three plans |
| Primary purpose of project | Does not serve utilitarian users | Completes a gap in existing sidewalk/recreational trail network | Low to moderate utilitarian use | High utilitarian use |
| Potential for New Trips considering type of facility, nearby facilities, topography, etc. | Unlikely to generate new walking/bicycle trips | Small likelihood to generate new walking/bicycle trips | Moderately likely to generate new walking/bicycle trips | Highly likely to generate new walking/bicycle trips |
| Priority | N/A | Low | Medium – high quality, low cost, low stress, high visibility | High priority – low cost, |

AMATS has the final authority to select the projects included in the recommendations and to prioritize them. The final selection and prioritization will be refined during the plan adoption process.