

**Project Update** Information Item Business Item

SUBJECT: **AMATS Travel Demand Model Update
Planning Assumptions**

PROJECT NO.: Task 450

GROUP: AMATS Policy Committee

DATE: January 22, 2015

PROJECT INFORMATION: AMATS Travel Demand Model Update

PROJECT BACKGROUND:

AMATS selected RSG, Incorporated to update the AMATS Travel Demand model to provide state-of-the-art analysis capabilities. In order to develop a robust travel demand model, regional and subarea socio-economic (SE) projections of employment, population, households and other elements are required. These regional planning assumptions are later allocated to Traffic Analysis Zones (TAZs) to serve as key inputs to the AMATS Travel Demand Model.

AMATS Staff presented the findings of a Technical Memorandum “Socio Economic (SE) Projections” to the Technical Advisory Committee (TAC) on November 6, 2014. AMATS Staff recommended adopting the planning assumptions and forecasts as developed by RSG, Inc., Alaska Department of Labor & Workforce Development (ADOLWD), and the McDowell Group. The TAC reviewed the proposed ADOLWD-based projections and instead recommended that the Policy Committee direct staff to create a “spliced” socio-economic projection using the originally-proposed ADOLWD projections for subareas within the AMATS planning geography and separate projections created by the Mat-Su Borough (MSB) - based on a 2009 forecast from the Institute for Social & Economic Research (ISER)--for the MSB subarea. The Policy Committee reviewed the staff and TAC recommendations on November 20, 2014 and requested that AMATS staff further engage the Mat-Su Borough and KABATA to attempt to refine the numbers.

This memo describes the regional collaboration effort and forwards revised recommendations from the AMATS TAC.

REGIONAL COLLABORATION:

The collaboration effort involved two steps: 1) Review and Discussion of the newly released Knik Arm Crossing population, household, and employment forecast and allocation and 2) the MSB population, household, and employment forecast and allocation.

ADOT&PF presented the findings of their Comprehensive Traffic & Revenue Study for the Knik Arm Crossing Project (published December 5, 2014) on December 8, 2014 to the AMATS Technical Advisory Committee, AMATS Policy Committee, and other interested individuals as required by the Memorandum of Understanding with AMATS (MOA). Representatives from Cardno/Agnew:Beck provided an overview of the modeling approach and methodology. The data structure of the KAC2 model is identical to the AMATS Model, except for more zone detail in the MAT-Su and project-related network features on both sides of the Knik Arm. The socio-

economic forecasts from the KAC2 Model are different than those produced by AMATS for the Anchorage MTP as well as the MSB Model. The KAC2 documentation report provides more background information on travel demand modeling, socio-economic forecasting, and the evolution and development of the KAC2 Model.

In addition, AMATS staff scheduled a regional collaboration meeting between the AMATS TAC and the MSB on December 17, 2014 to gain further understanding about the MSB model and resulting forecasts. AMATS staff and consultant provided a brief update on the AMATS travel demand model status and schedule. AMATS consultants explained that the proposed land use methodology involved a two step process. The first step is the development of a regional population, household, and employment projection. The projections include three subareas: the MSB, Chugiak-Eagle River, and the Anchorage Bowl. The methodology employed in this projection was based on the 2014 ADOL population projection. It was noted that this differed from the 2009 ISER base projection developed by the MSB for their 2035 model. The second step is the allocation of the regional projection to the TAZ level which is to be completed after adoption of the regional projections. It is the intent of AMATS to utilize the current MSB methodology for allocation of the MSB population, household and employment data to the MSB TAZs. As a result, the relative distribution of population, households and employment within the MSB will remain the same - only the overall control totals will be changed to reflect the AMATS recently developed projections.

MSB staff and their consultants, HDR, Incorporated provided a presentation on the MSB travel demand model. The MSB model's socio-economic projections for the Mat-Su Valley (MSV) subarea were based on 2009 ISER socio-economic projections, Delphi methodology to predict future land use development, and 2010 Census data. The MSB projections were allocated to MSB-developed TAZ boundaries using information acquired via the Delphi process. The MSB model applies the 2011 AMATS model's TAZ structure and SE projections to its subareas that lie within the AMATS planning boundary (Anchorage Bowl and Chugiak/Eagle River). MSB staff stated that if they had to undertake the forecasts today, then the planning assumptions would likely change to reflect current and updated conditions.

AMATS TAC RECOMMENDATION

Staff and AMATS acknowledge the differences in results of forecast regional growth totals as recently prepared by AMATS, the MSB and ADOT&PF for the KAC project. We recognized the difference in growth totals for the three entities (AMATS, MSB and ADOT/KAC) vary from 10-20%; however this is acceptable for a 20-year planning horizon knowing and understanding that the assumptions, base years, forecasting methods, and horizon years vary.

AMATS TAC and staff recommend the use of the socio economic forecasts¹ as prepared by the RSG team for the purpose of the travel demand model update that apply the RSG team regional growth totals to the Anchorage, Chugiak-Eagle River, MatSu Valley subareas and that will allocate those subarea control totals (population, employment and housing) within the MSV subarea using the same percentile allocation and distribution as the MSB is applying for their planning efforts.

¹ See "TECHNICAL MEMORANDUM #6
AMATS TRAVEL MODEL UPDATE: SOCIOECONOMIC PROJECTIONS (PRELIMINARY) DRAFT 3"

The AMATS TAC makes the following two additional recommendations:

1. The AMATS TAC encourages additional collaboration. As a result, AMATS staff should continue to move forward on coordinating modeling policies, assumptions, and planning efforts with the MSB and ADOT&PF. Questions such as growth rates, ISER 2009 data, and ADOLWD calculations, and the Knik Arm Crossing & MSB methodologies can be further discussed if needed to ensure a common understanding of methods and reasons for differences between projections². In addition, future coordination opportunities can be created.
2. The AMATS TAC also recommends that a sensitivity analysis be conducted during the future Transportation Plan development process to help understand the effects that different socio-economic projects would have on future travel model forecasts. The AMATS base case projections would adopt the originally-proposed ADOLWD-based SE projections as recommended above; the sensitivity test would replace the RSG MSV subarea future SE data with the MSB MSV projections from the latest MSB travel model and LRTP update. This will show the impact on the MOA network of the higher MSV population, household, and employment projections used by the MSB plus how the AMATS model performs with different potential future SE projections. Given the inherent uncertainties in any SE projection method showing a range of possible futures, even if in the model validation report, is a more realistic representation of what may happen in the future than any single forecast.

Additional Staff Recommendation

In addition to the joint staff-TAC recommendation described above, staff respectfully requests approval to develop AMATS policy such as FMATS to use ADOLWD data for future planning assumptions and travel demand modeling efforts.

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² Tables describing the differences in projections as of December 17, 2014) are attached.