



# **Travel Demand Model Policies and Procedures**

**Adopted June 24, 2014**

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# Travel Demand Model Policies and Procedures

This document establishes policies and procedures as they relate to the use of the regional travel demand model in Shasta County, which is maintained by the Shasta Regional Transportation Agency (SRTA).

These policies have been reviewed and approved by the Shasta Model Users Group, and adopted by the SRTA Board of Directors, per resolution 14-06 as shown in Appendix A. These policies apply to SRTA, all local governmental agencies within Shasta County, Caltrans District 2, as well as any and all users of the Shasta County Regional Travel Demand Model.

## Section 100: Purpose for the Shasta County Regional Travel Demand Model

SRTA is the federally designated Metropolitan Planning Organization (MPO) and state designated Regional Transportation Planning Agency (RTPA) for the Shasta County region. As such, federal law requires that when an MPO updates their Regional Transportation Plan (RTP) they must do so with the latest available estimates and assumptions for population, land use, travel, employment, congestion, and economic activity (*Title 23 CFR Par 450.322(e)*). The Shasta County Regional Travel Demand Model functions as the technical tool that meets federal and state of California requirements.

## Section 200: Background

As the designated MPO for the Shasta County region, SRTA must adhere to certain federal and state requirements for development and use of travel models in support of regional transportation plans and programs. Chapter 3 of the *2010 Regional Transportation Plan Guidelines*, developed by the California Transportation Commission (CTC), outline requirements for all MPOs and RTPAs in California. According to those guidelines, SRTA falls within group “B.” Below are the requirements specified in Section 3.2<sup>1</sup> that SRTA must adhere to:

- 1) Each MPO shall model a range of alternative scenarios in the RTP Environmental Impact Report based on the policy goals of the MPO and input from the public.
- 2) MPO models shall be capable of estimating future transportation demand at least 20 years into the future. (*Title 23 CFR Part 450.322(a)*)
- 3) For federal conformity purposes, each MPO shall model criteria pollutants from on-road vehicles as applicable. Emission projections shall be performed using modeling software approved by the EPA. (*Title 40 CFR Part 93.111(a)*)
- 4) Each MPO shall quantify the reduction in greenhouse gas emissions projected to be achieved by the SCS. (*California Government Code Section 65080(b)(2)(G)*)
- 5) The MPO, the state(s), and the public transportation operator(s) shall validate data utilized in preparing other existing model plans for providing input to the regional transportation plan. In updating the RTP, the MPO shall base the update on the latest available estimates and assumptions for population, land use, travel, employment,

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<sup>1</sup> See chapter 3 of the 2010 RTP Guidelines available here: <http://www.dot.ca.gov/hq/tpp/offices/orip/rtp/>

congestion, and economic activity. The MPO shall approve RTP contents and supporting analyses produced by a transportation plan update. *(Title 23 CFR Part 450.322(e))*

- 6) The metropolitan transportation plan shall include the projected transportation demand of persons and goods in the metropolitan planning area over the period of the transportation plan. *(Title 23 CFR Part 450.322(f)(1))*

The above summary is the basis for the need and use of the regional travel demand model.

### **Section 300: Definitions and Terms Used in This Handbook**

#### **1) Definitions** - The following definitions apply to this document:

- a) Metropolitan Planning Organization (MPO)
  - i) A “metropolitan planning organization” is defined under Title 23 USC §134(b)(2).
- b) Regional Transportation Planning Organization/Agency (RTPA)
  - i) A “regional transportation planning organization/agency” is defined under Title 23 USC Section 134(b)(5).
- c) Lead Agency
  - i) “Lead agency” means the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment. (Pub. Res. Code §21067)
  - ii) The “lead agency” is determined as specified under California Code of Regulations (CCR), Title 14, Chapter 3, §15367 (CEQA Guidelines) and 40 CFR 1508.16 of the National Environmental Policy Act (NEPA).
  - iii) The following are typical lead agencies within the Shasta County region:
    - (1) Caltrans District 2
    - (2) City of Anderson
    - (3) City of Redding
    - (4) City of Shasta Lake
    - (5) Shasta County
- d) Responsible Agency
  - i) “Responsible agency” means a public agency, other than the lead agency, which has responsibility to carrying out or approving a project. (Pub. Res. Code §21069; CCR, Title 14, Chapter 3, §15381)
- e) Trustee Agency
  - i) “Trustee agency” means a state agency that has jurisdiction by law over natural resources affected by a project, that are held in trust for the people of the State of California. (Pub. Res. Code § 21070; CCR, Title 14, Chapter 3, §15386)
- f) Existing Project
  - i) Any project, located within the boundaries of SRTA, in which a formal application has been submitted to a lead agency, before July 1, 2014.
  - ii) Projects in which only a pre-application has been provided or which have only been discussed, suggested, explored, or expressed in any form of communication (verbal or written), but no formal application was submitted, are not considered an existing

project. Said projects fall under the definition of “new project” as identified in section 300(1)(g) below.

g) New Project

- i) Any project, located within the boundaries of SRTA, in which a formal application has been submitted to a lead agency, starting July 1, 2014 or afterwards.

**2) Terms**

- Caltrans California Department of Transportation
- CTC California Transportation Commission
- MPO Metropolitan Planning Organization
- RTP Regional Transportation Plan
- SMUG Shasta Model Users Group
- TDM Travel Demand Model

**Section 400: Travel Demand Model Technical Advisory Committee**

1) The travel demand model technical advisory committee is a group of transportation engineering, and transportation and land use planning professionals within the Shasta County region who assist SRTA in periodic review and updating of the regional travel demand model. The group convenes as the Shasta Model Users Group (SMUG) and meets bi-annually or more frequently as needed.

2) Members of SMUG consist of the following:

- SRTA staff
- City of Anderson Development Services Director, or his/her designee
- City of Anderson Public Works Director, or his/her designee
- City of Redding Planning Manager, or his/her designee
- City of Redding Public Works Director, or his/her designee
- City of Shasta Lake Development Services Director, or his/her designee
- City of Shasta Lake Public Works Director, or his/her designee
- Shasta County Resource Management Director, or his/her designee
- Shasta County Public Works Director, or his/her designee
- Shasta County Air Quality Management District (SCAQMD) Air Quality District Manager, or his/her designee
- Caltrans District 2 – Branch Chief of Office of System Planning, or his/her designee
- Caltrans District 2 – Branch Chief of Community & Regional Planning, or his/her designee

3) Responsibilities of the Shasta Model Users Group

- a) To review, advise and make recommendations to SRTA staff and board of directors regarding model updates and enhancements.
- b) To ensure regional consistency on the use of the model by all regional partners.
- c) To assist SRTA in reviewing consistency with the most current federal and state regulations, including but not limited to: Regional Housing Need Allocation (RHNA) cycle, California Senate Bill 375 (SB 375), and performance measures reporting requirements.

- d) To assist in reviewing and recommending solutions on any errors or issues identified within the model.
- e) To assist in review and acquisition of travel model consultants.

**Section 500: Responsibilities of the Shasta Regional Transportation Agency**

- 1) Apply, manage and update the Shasta County Regional Travel Demand Model.
- 2) Lead and manage bi-annual (minimum) meetings of SMUG.
- 3) Maintain a list of travel model users for current and future correspondence related to the model.
- 4) Conduct and provide staff training as needed.
- 5) Review, manage and update the Travel Model Data Request form as needed.
- 6) Support lead agencies in review of traffic impact studies or analyses regarding use of the model, as requested.
- 7) Maintain and manage consultant contracts for the model.
- 8) Review and provide comments on transportation sections of Environmental Impact Reports/Studies (EIR/EIS) or use of the model in said studies, as requested.
- 9) Ensure transparency and provide travel model data and information in a readily accessible format, including on SRTA's website.

**Section 600: Responsibilities of the cities, Shasta County, and Caltrans District 2 within the Shasta County region**

- 1) To provide staff for attendance at SMUG meetings.
- 2) To annually update SRTA on significant land use, housing or transportation network changes within their jurisdiction.
- 3) To inform SRTA on any significant errors or issues identified within the travel model.
- 4) To assist in the collection and reporting of traffic counts, pavement conditions, or other data as needed for the annual Highway Performance Management Systems (HPMS) or California Local Streets and Roads Statewide Need Assessment data requests.

**Section 700: Appropriate use of the Shasta County Regional Travel Demand Model**

- 1) The travel demand model is generally applicable only at the regional, area-plan, or corridor-level scale of analysis. Microscopic scales of analysis or simulations (such as analysis of intersection or turning movement volumes) should be conducted with other available methods and tools.
- 2) Travel demand models utilize generalized land use patterns and transportation networks that represent the entire region. Therefore, city or county planning or public works departments should be consulted regarding specific land uses (such as those identified in General Plans or Zoning Ordinance) or local transportation network details.
- 3) Travel demand model results should be combined with other data analysis to make informed transportation and land use decisions, and therefore should not be relied upon as the only source of information.

## **Section 800: Conditions for use of the Shasta County Regional Travel Demand Model**

- 1) Any interested person(s) or party (including federal, state or local governments, non-profits, consultants, developers, academic researchers, or any other member of the public) who desire to acquire a copy of the model input data, the travel demand model, and/or model outputs are required to complete a Travel Model Data Request form. The form is provided in Appendix B.
- 2) For purposes of this section, any individual/party who fills out a Travel Model Data Request form will henceforth be referred to as "REQUESTER."
- 3) The model input data, the travel model, associated files, programming code, materials and data developed from the model will not be used by REQUESTER beyond the intended use designated on the Travel Model Data Request form. Should REQUESTER desire to use the model outside the initial request, a new request form must be filled out and submitted to SRTA.
- 4) The model is developed with and utilizes proprietary software. Any REQUESTER(S) of the model must purchase and maintain their own licensed copy of the software. SRTA shall not provide a copy of any software.
- 5) The REQUESTER shall not distribute the model to other potential REQUESTER(S). All requests for use of the model or model data, including any printed documents and electronic files must be referred to SRTA. Any use, copying, or distribution of the model by the REQUESTER not authorized by SRTA's travel demand model policies and procedures document, or the Travel Model Data Request form, shall automatically terminate the REQUESTER's rights and may lead to possible legal action. Any use, infringement, copying or other action related to the model that is considered illegal shall automatically terminate the REQUESTER's rights and may lead to possible legal action
- 6) Upon completion of the project, the REQUESTER shall provide a copy of all final model results, including all input and output files, executables, intermediate files, maps, or other documentation, to the lead agency. The lead agency shall retain a copy of the travel model files for a period of three years, or until said project is completed, whichever is longer.
- 7) The REQUESTER agrees to provide copies of the final model results, including but not limited to all input files, executables, intermediate files and output files in the same format they were obtained from SRTA, or as otherwise requested, to the lead agency for which the project is being conducted for, or to SRTA by request, for their records. In addition, REQUESTER shall provide a document identifying all files edited by the REQUESTER, a step-by-step description explaining how and why the files were modified, as well as any and all supporting software/files used to make modifications to the model to the lead agency or SRTA. Said files and documentation should be sufficient such that the lead agency or SRTA are able to replicate the results using only the information provided by the REQUESTER. The REQUESTER shall grant the lead agency and/or SRTA the right to use, reproduce, or modify this information.

## **Section 900: Process for Transitioning from the Regional 4-step Travel Demand Model to the New Activity-based Travel Demand Model (ShastaSIM)**

The following section outlines how the Shasta County region, including all government agencies, consultants, developers, or other organizations/individuals, will transition from using the current traditional 4-step travel demand model to the activity-based travel demand model, adopted by the SRTA Board of Directors on June 24, 2014.

### **1) Projects not requiring a traffic impact study/analysis**

- a) This section does not apply to any project formally submitted before or after July 1, 2014, in which it was determined by a lead agency that a traffic impact study/analysis was not required.

### **2) Existing projects**

- a) Projects before July 1, 2013
  - i) Existing projects formally submitted and in which a traffic impact study/analysis was determined to be necessary, may elect to continue with the use of the 4-step travel model, (Shasta Model v1110), for purposes of said study. Consultation shall be made with the lead agency before making a final determination.
- b) Projects between July 1, 2013 and June 30, 2014
  - i) Existing projects formally submitted, which were required to conduct a traffic impact study/analysis may continue to use Shasta Model v1110 if any of the following apply:
    - (1) No substantial changes have been made to the project as determined by the lead agency;
    - (2) Reapplication for a previously approved project which completed its environmental review within the last 5 years; or
    - (3) The lead agency determines that use of the 4-step model is necessary to ensure consistency with traffic modeling and resultant mitigation measures imposed on projects within a geographic area determined appropriate by said agency.
  - ii) Existing projects formally submitted, which were required to conduct a traffic impact study/analysis may be required to use the new activity-based model if any of the following apply:
    - (1) Project has not completed its environmental review and is more than 5 years old; or
    - (2) Project has not started its environmental review or traffic impact study/analysis.
- c) Local agency discretion
  - i) Final decisions regarding the use of the 4-step or activity-based travel model by project applicants is left up to the lead agency with whom the project was submitted.

### **3) New projects**

- a) New projects formally submitted to a lead agency after July 1, 2014 shall utilize the activity-based travel demand model.
- b) New projects do not have the option of using the 4-step travel demand model.

# RESOLUTION



<b>RESOLUTION NUMBER:</b>	<b>14-06</b>
<b>SUBJECT:</b>	<b>Adoption of a New Shasta County Regional Activity-Based Travel Demand Model</b>

**WHEREAS**, the Shasta Regional Transportation Agency (SRTA) is the federally designated Metropolitan Planning Organization (MPO) for the Shasta County region; and

**WHEREAS**, Title 23 CFR Part 450 states:

1. It is the responsibility of the MPO [SRTA] to carry out a continuing, cooperative, and comprehensive multimodal transportation planning process...that encourages and promotes the safe and efficient development, management, and operation of surface transportation systems to serve the mobility needs of people and freight and foster economic growth and development, while minimizing transportation-related fuel consumption and air pollution (§450.300); and
2. The metropolitan transportation planning process shall include the development of a transportation plan addressing no less than a 20-year planning horizon (§450.322(a)); and
3. The transportation plan shall include both long-range and short-range strategies/actions that lead to the development of an integrated multimodal transportation system to facilitate the safe and efficient movement of people and goods in addressing current and future transportation demand (§450.322(b)); and
4. In updating the transportation plan, the MPO shall base the update on the latest available estimates and assumptions for population, land use, travel, employment, congestion and economic activity (§450.322(e)); and
5. The transportation plan shall include the projected transportation demand of persons and goods in the metropolitan planning area over the period of the transportation plan (§450.322(f)(1)); and

**WHEREAS**, recent federal and state requirements emphasize a more performance measures-based approach to transportation planning that requires expanded reporting requirements; and

**WHEREAS**, the Shasta County Regional Travel Demand Model is the technical tool used to meet the aforementioned requirements and assist in the updating of the transportation plan; and

**WHEREAS**, SRTA is responsible for updating and maintaining the region's travel demand model; and

**WHEREAS**, the Shasta Model Users Group (SMUG), which is made up of local, regional and state transportation and land use planning professionals, provide technical support and review of travel model updates ; and

**WHEREAS**, SRTA and SMUG realized the need to upgrade the region's travel modeling capabilities in order to assist in the developing current and future regional transportation plans that implement the "Three C's" of transportation planning and are Title 23 compliant; and

**WHEREAS**, SRTA and SMUG desired to upgrade the current traditional 4-step travel model to an activity-based travel model to respond to new federal and state requirements; and

**WHEREAS**, a new activity-based travel demand model has been developed and updated with the most current population, land use, housing, employment, travel, congestion, transportation network and economic data available, to meet the region's transportation planning needs; and

**WHEREAS**, SMUG asked SRTA to provide direction regarding transitioning from the current 4-step travel demand model to the activity-based travel demand model; and

**WHEREAS**, SRTA has developed a policy that clarifies the purpose and use of the regional travel demand model; the responsibilities of partner agencies and SRTA; how the travel model may be used by consultants or other interested parties; and establishes a process for transitioning to the regional activity-based model for use in Shasta County; and

**WHEREAS**, SMUG reviewed the activity-based model and associated documentation and the new SRTA travel demand model policies and procedures, and recommends them for adoption; and

**WHEREAS**, the cities of Anderson, Redding and Shasta Lake, Shasta County, and Caltrans District 2 agree to abide by the SRTA Travel Demand Model Policies and Procedures;

**NOW, THEREFORE, BE IT RESOLVED** that the Shasta Regional Transportation Agency:

1. Approves the population, housing and employment forecasts for years 2015 through 2035; and
2. Declares that the Shasta County Regional Activity-based Travel Demand Model is the region's accepted model for use in all travel modeling activities in the Shasta County region, as of July 1, 2014; and
3. Adopts new Travel Demand Model Policies and Procedures to assist the region in transitioning from the current 4-step model to the newly adopted activity-based model; and
4. Authorizes the executive director to make changes to the model and related documentation, as necessary, for approved projects in the region.

**PASSED AND ADOPTED** this 24th day of June, 2014, by the Shasta Regional Transportation Agency.

  
\_\_\_\_\_  
**Susie Baugh, Chair**

Shasta Regional Transportation Agency



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**Daniel S. Little, Executive Director**

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## Shasta Regional Transportation Agency

### Travel Model Data Request Form

**Firm/Organization:** \_\_\_\_\_

**Requested by, Name and Date:** \_\_\_\_\_

**Address:**                      **Street:** \_\_\_\_\_

**City/State/Zip:** \_\_\_\_\_

**Phone/Fax:** \_\_\_\_\_

**E-mail:** \_\_\_\_\_

**Model to be used:**

**Project/Application:** \_\_\_\_\_

**Purpose/Use of requested data:** \_\_\_\_\_

**I understand and agree to the following terms related to the use of the requested data:**

Travel model files prepared by SRTA in cooperation with the Shasta Model Users Group (SMUG), including the associated input and prescribed output files, were developed for use by SMUG members exclusively. SRTA assumes no responsibility for the usage of the files, their state, or suitability for use, outside the agency. The files are provided "as is" and in no event shall SRTA or the regional partners be held liable for any damages arising from their use. The accuracy, validity, or reliability of the files is not guaranteed in any way. SRTA and

the regional partners disclaim all warranties, express or implied, including but not limited to liability for quality and fitness for a particular purpose arising out of the use of or inability to use the files. SRTA and SMUG welcome verifiable proposed modifications necessary to enhance the integrity of the travel model.

The requested data is released by SRTA with the condition that it shall only be used for the specific project and purposes as stated on this form. Any subsequent projects by any local jurisdiction, consultant or other entity must submit a new data request form to SRTA as specified in the SRTA Travel Demand Model Policies and Procedures.

We remind all consultants working on studies involving the use of the model, that all results of modeling work and related analyses should be submitted to the lead agency and SRTA for review and concurrence before release of the results to any other parties. SRTA and the lead agency's standards of review must include the option to re-run any of the consultant's, or jurisdictions, models to verify proper use of the travel model assumptions. Consultants shall provide the lead agency, or SRTA by request, with a CD/DVD of all modeling work (whether or not it is a contract deliverable) the same way the model was made available to their organization representative. Specifically the lead agency will need to obtain copies of the final model streams for their records, including but not limited to, all input files, executables, intermediate files, and output files. Users shall provide, to the lead agency or by request of SRTA, on CD/DVD, the identification of all files edited by hand (including step-by-step documentation) by the consultant, including a description of how and why the files were modified, as well as any and all supporting files used to make such modification to the model. Information should be provided in such a manner that the lead agency, or SRTA, is able to reproduce and replicate the results using only the information on those disks. It is in the consultants' best interest to remain in close coordination with the lead agency.

SRTA, in cooperation with SMUG, will communicate to whomever signs this form any model updates going forward. It is expected that SMUG will meet bi-annually to discuss completed or new projects, decide if new information is necessary for incorporation into the model, discuss the need for a new release, and review other model related items as necessary. SMUG may meet more frequently if a material discrepancy is communicated to SMUG that requires more immediate action. All model requestors will be informed of any updates to the model and, if warranted, will automatically be sent the updated model. The normal model update process is every five years.

**By signing this document I acknowledge that I agree to these terms and have read and agree to SRTA's Travel Demand Model Policies and Procedures document.**

Signed \_\_\_\_\_

Date: \_\_\_\_\_

**Mail to:** Attn: Sean Tiedgen - Associate Transportation Planner/SMUG coordinator  
Shasta Regional Transportation Agency  
1255 East Street, Suite 202  
Redding, CA 96001  
Phone: (530) 262-6190  
Email: stiedgen@srta.ca.gov