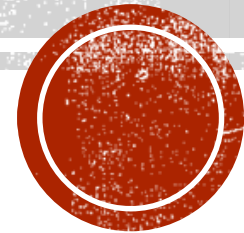


WELCOME TO THE TRM USER FORUM

OCTOBER 11, 2021

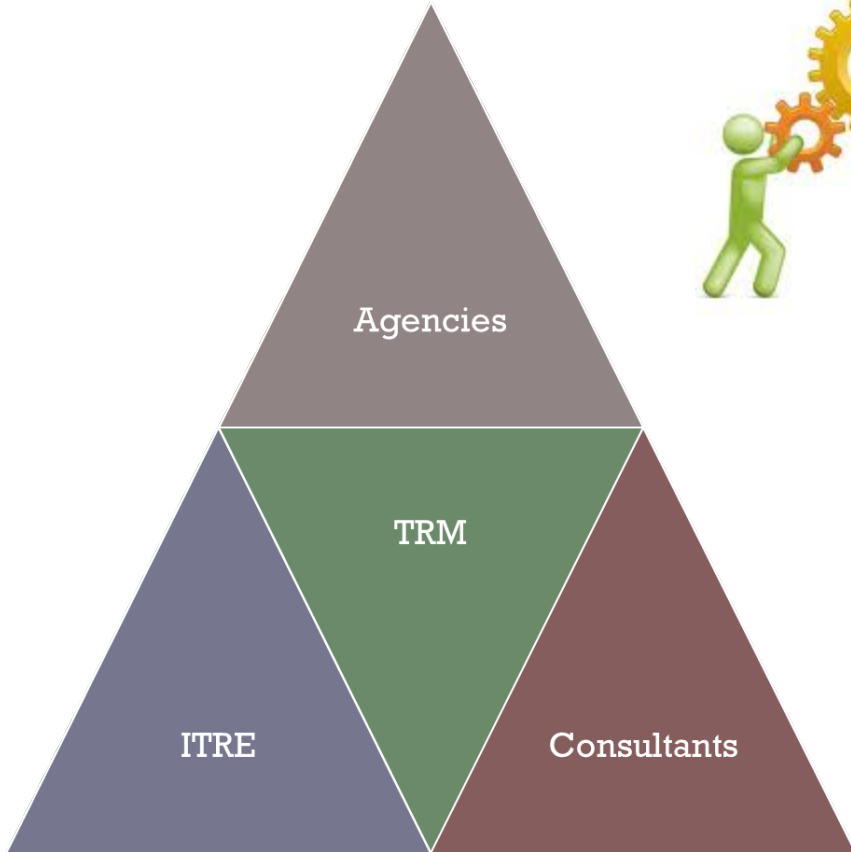
AGENDA:

- WELCOME
- TRM SERVICE BUREAU UPDATES
- TRMG2 (CALIPER)
- TOLL MODELING WITH G2
- SMALL GROUP DISCUSSION/REPORT OUT
- NEXT MEETING — SPRING 2022



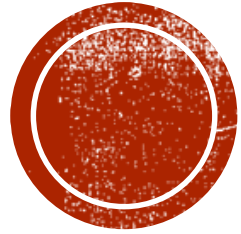
Open Dialog

Share Ideas



**Advance
the TRM**







TRM TEAM UPDATES



WELCOME NEW TEAM MEMBERS!

<p>ITRE</p> <hr/> <p>Research Training Technical Services</p>	<p>Welcome to</p>  <p>Nita Bhawe</p> 
<p>Nita Bhawe Team Lead, Triangle Transportation Modeling and Analytics</p>	

<p>ITRE</p> <hr/> <p>Research Training Technical Services</p>	<p>Welcome to</p>  <p>Si Shi</p> 
<p>Si Shi Senior Research Associate/Lead Modeler, Triangle Transportation Modeling and Analytics</p>	



NEW TRM WEBSITE

<https://itre.ncsu.edu/focus/modeling-and-computation/trm/>

Triangle Regional Model (TRM)


The Triangle Regional Model (TRM) is a state of the practice regional transportation planning model, also known as a regional travel demand model. The TRM is developed and maintained by the Triangle Regional Model Service Bureau (TRMSB) within the Systems Planning and Analysis Group at ITRE and four stakeholder sponsors: NC Department of Transportation, Durham-Chapel Hill-Carrboro Metropolitan Planning Organization, Capital Area Metropolitan Planning Organization, and GoTriangle. In addition to ITRE TRMSB team members, travel modelers from the sponsoring agencies also support work activities related to the TRM. Together this group forms the TRM Team.




Official Model Triangle Regional Model

The current official model is the **TRMv6 2045 MTP 2nd Amendment**.

Requests for the official model to support work conducted for one of the TRM sponsoring agencies can be made by sending an email request to leta_huntsinger@ncsu.edu.

[TRM v6 Technical Documentation](#) 

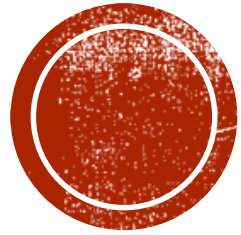
[TRM v6 User Guide](#) 



FY22 WORK IN PROGRESS

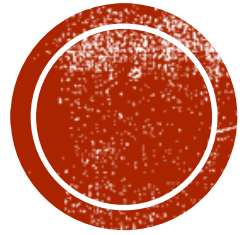
- **Model Development**
 - TRMG2 underway, slightly behind schedule but still tracking well
- **Model Enhancements**
 - CommunityViz and TRMG2 Integration
 - Graduate Student Research: Freight Modeling Improvements
 - Investigations into Mesoscopic/Microscopic Model Integration
- **Data Tools and Analytics**
 - Exploring Trip Productions & Attractions
 - Travel Behavior and Trips Statistics
 - Transit Travel Profile
 - Interactive Tool for Key Highway Metrics
- **STOPS Modeling**





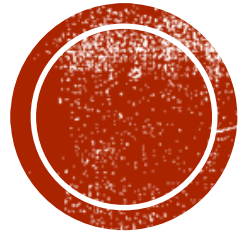
TRMG2

Caliper



TOLL MODELING WITH G2

Caliper



SMALL GROUPS

Planners Guidebook

- Facilitators: Nita Bhawe & Si Shi
- **Focused conversation designed to support the development of a TransCAD for Planners guidebook for non-modelers.**

Model Application Guidelines

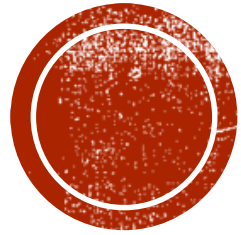
- Facilitators: Gerald Daniel & Jake Ford
- **Focused conversation designed to support the development of Model Application Guidelines for users of the TRM.**

Open Forum

- Facilitators: Leta Huntsinger and Xin Wang
- **How can the TRMSB provide better support and customer service to the TRM community.**

Smaller groups so we encourage folks to come on camera as you are able so the groups can have more of a dialog





REPORT OUT

PLANNERS GUIDEBOOK

- What should the guidebook include or accomplish?
 - Help planners get comfortable with or understand the range and uncertainty of the model outputs. Acknowledge that model results cannot be precise. Instead of giving precise values, provide rounded outputs or ranges. Modelers should not be defensive about the model and be upfront that the results may vary significantly. Models do not provide single correct answers. They can only help inform decisions.
 - Consider providing a dictionary or term-translator for language like logsum, district, screenline, cutline, validation, calibration, TAZ, and others. Offer definitions that use plain English as opposed to industry lingo.
 - Guidance on preparing model outputs to inform planning analysis, e.g. the results and be used directly.
- What types of exploratory and mapping analyses can be done within TransCAD using built-in mapping and analysis tools and outputs from the TRM?
 - Any modeling tools that can help decision makers inform policy decisions could be helpful. For example, if a given model input is adjusted (for example parking or transit fares), how might model outputs be impacted (for example, trip rates, lengths or travel speeds).
 - Modelers are only available at ITRE and MPOs; municipalities don't have staff that use TDMs. However, encourage planners to ask MPO staff to assist them with analyses (like for SPOT or LAPP).
- To identify planning analysis needs that may benefit from such guidelines, what past experiences can you share?
 - An experience with a model in South Carolina where small localized adjustments were made and no regional impacts were observed. Articulate to planners that regional models may not be the best tool for localized projects. If projects have regional significance, the model could be an excellent tool.
 - Another experience studying a model adding a parallel facility yet model flows didn't reflect intuitive traffic diversion. Explain to planners that models will not perform as anticipated on a link-level, but regionally and holistically, results are likely very reasonable.
 - TransCAD only considers time and money - but real people do not. It's much messier and somehow conveying this to planners is important. Models are helpful, but no model is perfect or without mistakes.



MODEL APPLICATION GUIDELINES

- **What types of analysis is the model well suited for / not well suited for?**
 - Air quality post processors that develop emission rates using MOVES.
 - Environmental justice requirements, like for tolling projects. Accessibility is measured in multiple ways like changes in travel times, trips, etc.
 - NCSTM income based bin for assignment. Assess whether higher income vehicles are benefiting more from toll facilities and what degree of benefit is there to low income travelers.
- **How can we best handle certain off-model analyses such as a demand analysis for roadways with on-street parking, auxiliary lanes, ramp metering, etc?**
 - Mainly sketch-level, off-model spreadsheet work – takes in changes in models, and applies off model calculations or HCM inputs, equations, to model volumes. This can be implemented in TransCAD, as a post-processor via a GISDK program.
 - Anything in the spreadsheet, can be implemented in TransCAD, as a post-processor via a GISDK program.
 - Or, if we invest in a region-wide TransModeler model, we can expand our modeling capabilities.
- **What other off-model analyses to support various projects have you performed?**
 - Traffic or microsimulation analyses – extracting a subarea, entering trip rates/O-D into TransModeler.
 - Transit analyses, for example STOPS; cross validate with the demand model to see if the ridership is consistent.
 - Guidelines for when is it better to use STOPS vs TRM would be helpful.
- **Any other model applications/final thoughts on model applications inclusions for TRMG2?**
 - VDOT recently developed model guidelines (chapter on the model application including subarea application, different performance metrics) – visiting this may be helpful.



OPEN FORUM

- What exploratory investigations and/or applications of modern travel modeling trends should we be considering?
 - Scenario planning:
 - Resiliency planning; climate destabilization; changes in types of housing; equity measurements, etc.
 - Use models to help inform decision making; short term and near term testing of alternatives.
 - Dynamic traffic assignment
 - Planning level DTA that doesn't require the heavy data lift as microsimulation.
 - Consider bringing microsimulation into our toolbox which could give better information than the aggregate models.
 - TRM SB could get more involved in the SPOT process and better leverage macro and micro level models.
 - Other ideas
 - Wiki page for how to test different elements.
- What can the Service Bureau do to serve you better?
 - Consider looking at equity and other elements policy makers and the public care about; even though the MPOs may be responsible for this, we all could focus more on this.
 - Generally, utilize technical expertise better; brainstorming *how* to do this is the next step.
 - Map model data, both inputs and outputs, in interactive and creative ways; being able to explore the data can help tell stories of the region or a specific project.
 - Consider Caliper online GIS alternative; explore the challenges to get from ESRI to Caliper and back and see if tools can simplify this.
- What model enhancements should we consider?
 - Streetlight data
 - This data is very heavily used in the SPOT OD matrix process and other external models / processes. The TRM SB could make better use of this data. NCDOT has a statewide license that may support better applications.
 - Move towards integration of TransCAD, TransModeler, and ActivitySim. This is really the best way to get at equity and other policy issues.



Thanks for your time!

