

The logo graphic consists of three overlapping, slanted rectangular shapes. The top shape is green, the middle one is blue, and the bottom one is purple. They are arranged in a way that they appear to be part of a larger, abstract geometric design.

CAMBRIDGE
SYSTEMATICS

Think  Forward

MARC Model Expansion

presented to
MARC Model User's Group

presented by
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September 12, 2024

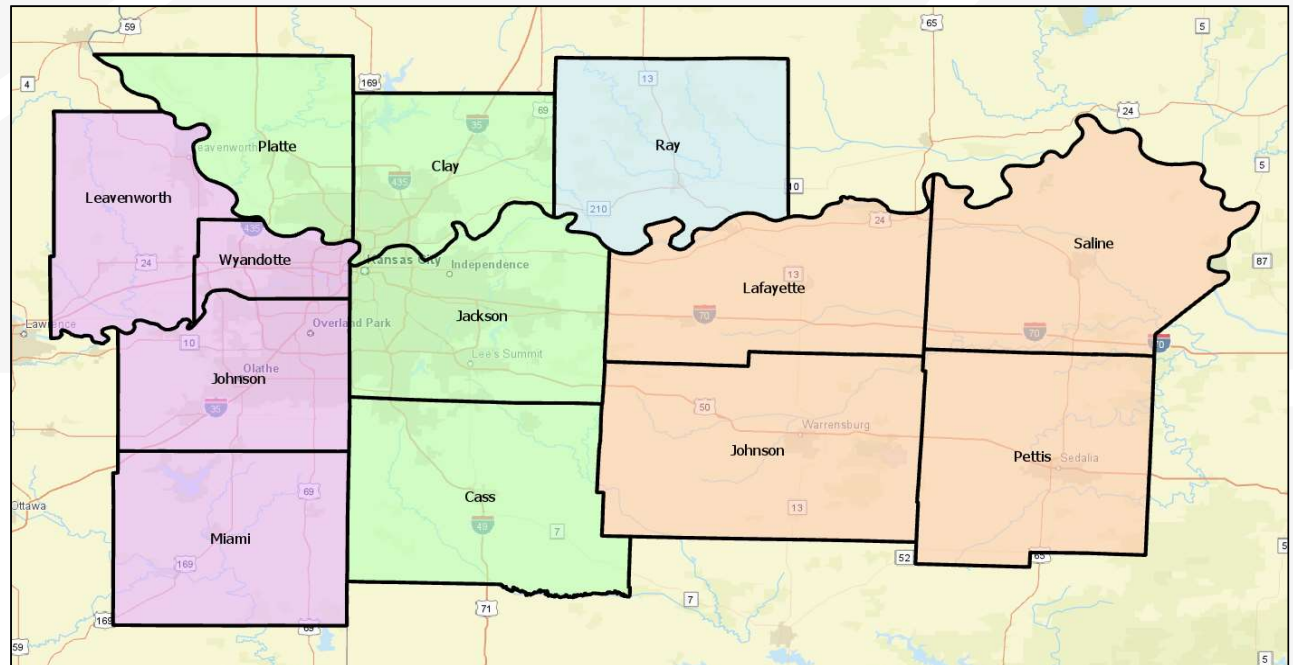
Project Objectives

- Expand the model coverage area
 - » Validate to expanded area counts
 - » Re-locate external stations
- User Improvements
 - » Master network system
 - » Faster run times
 - » Model dashboard
 - » New software package

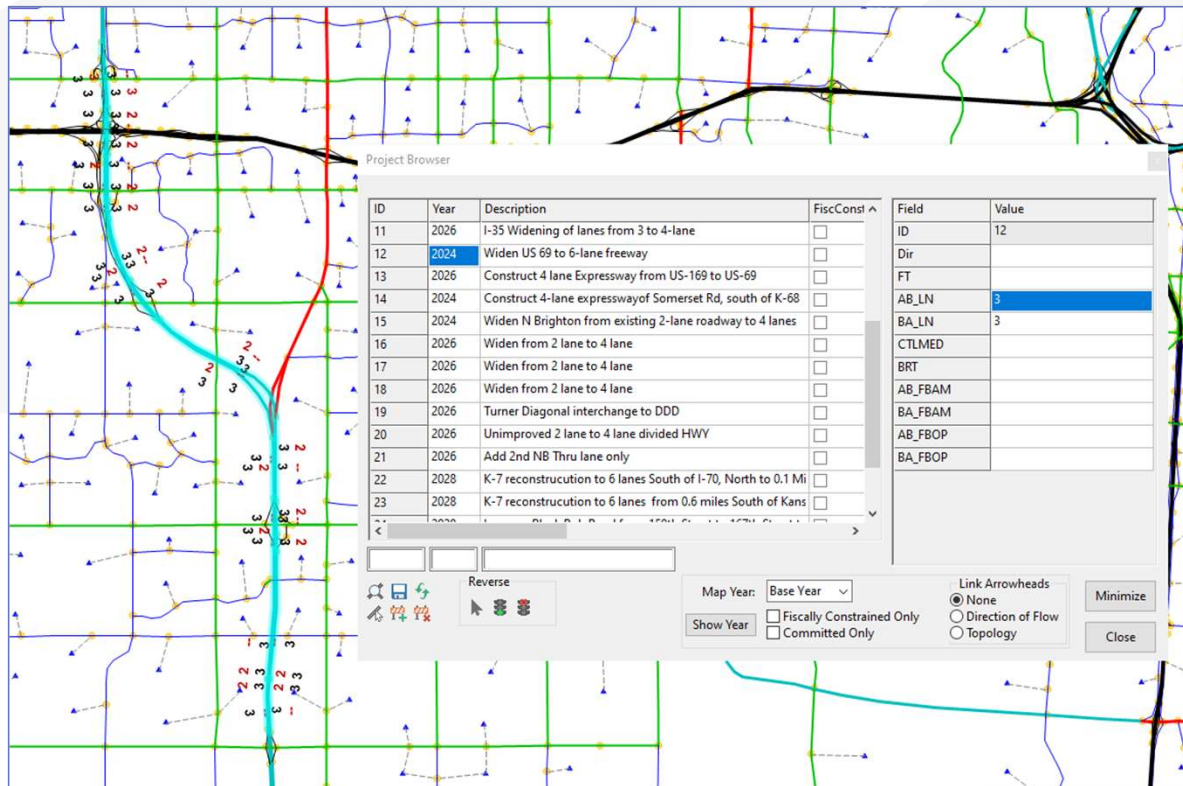


Model Expansion

- Add 5 new counties to the model
 - » Highway network,
 - » TAZs
 - » counts
 - » external stations
- Updated scripts and calibration



Master Network



- Each highway project is coded individually
- Mix and match projects – or just select a year
- Efficient scenario testing

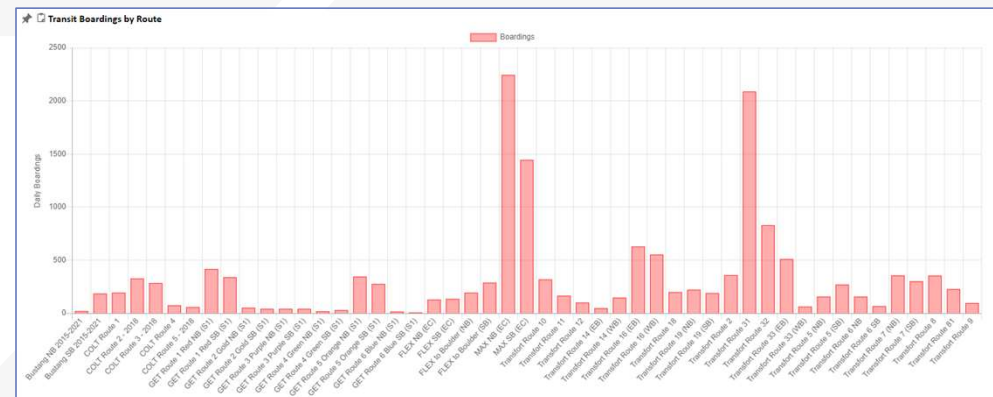
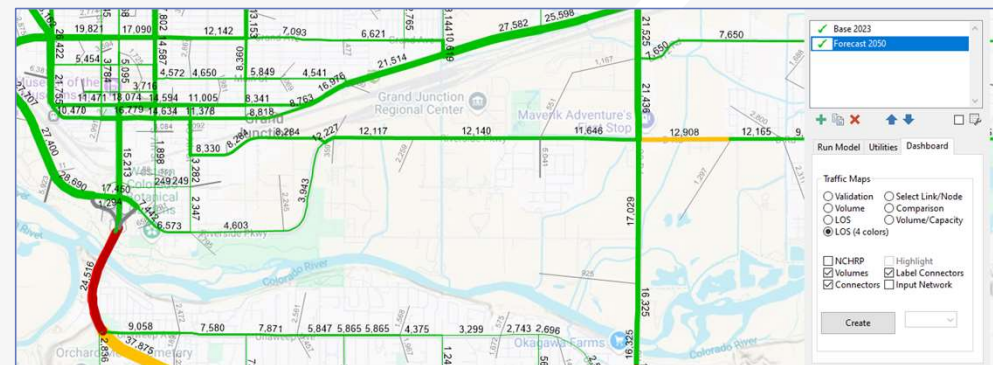


Fast Run Times

- Fully multi-threaded destination and mode choice
 - » *Beta Testing: GPU acceleration for 1-minute mode choice*
- Uses multiprocessing to make full use of resources in traffic assignment
- Targeting 30 minutes or less for a single loop
 - » Run times tested on a recent Core 7 laptop

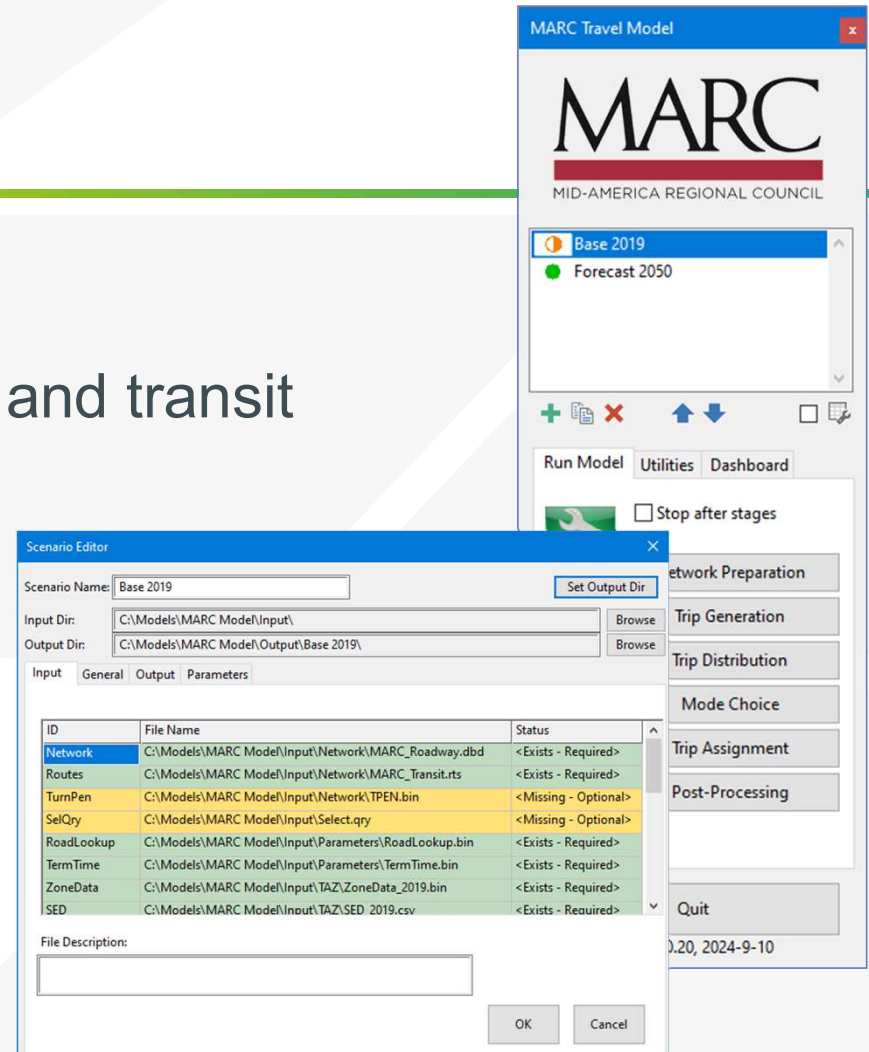
Model Dashboard

- Quick access to maps, charts, and tables with model results
- Easily view select link/zone results, calibration statistics, etc.
- Maps accessed from the model software
- Tables and charts viewable from a web browser



Software Package

- Implemented in TransCAD 10
- TransCAD GIS-based highway and transit networks
- User friendly run control and scenario management



Status and Schedule

Task	Status / Schedule
Expanded Database Development	Complete
External Station Revision	Complete
Count Data Processing	Complete
Big Data Processing / Review	Complete
Expanded Model Implementation	Complete
Model Calibration and Validation	In Progress – Target Date 10/4
Testing by MARC Staff	Target Date 10/31
Initial Release	Target Date Mid/Late November



Questions?