

Triangle Regional Model

Version 6

The TRM Version 6 model update was completed and the new version contains the following major improvements:

- new commercial vehicle model,
- new university student models to better represent on and off campus student travel,
- New and improved highway network procedures for free flow speeds and capacities based on the Highway Capacity Manual,
- new and improved employment types based on travel behavior analysis



TRM v6 Update

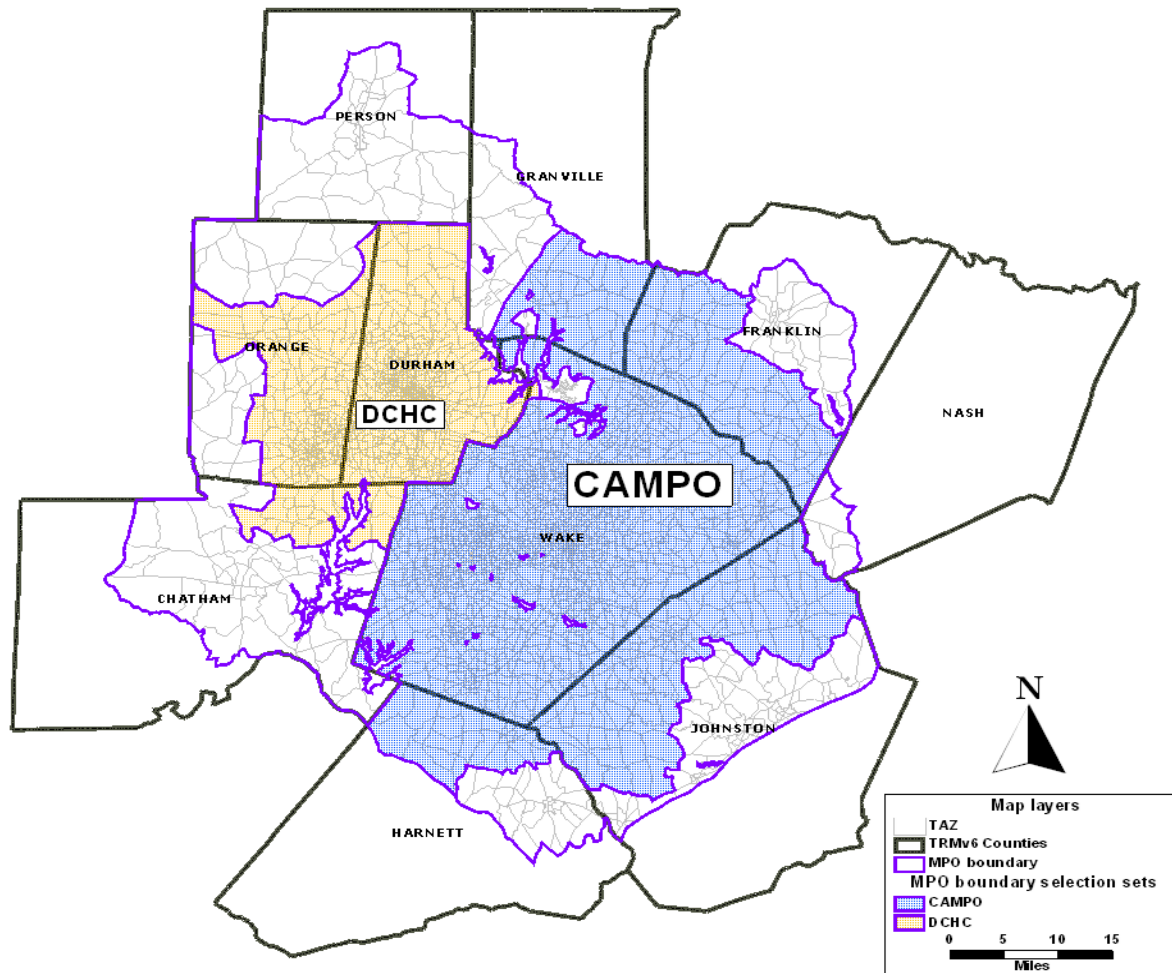
Introduction – TRMv6

- Components were added to TRMv5 model, and many enhancements were made
- Produces performance metrics such as congestion and travel time, etc.
- Results used to determine the most effective long range plans
- Advanced trip based model in which all major steps are discrete choice models



TRM v6 Update

TRMv6 Study Area





TRM v6 Update

Key Enhancements & Improvements

- New commercial vehicle model
- New university student models to better represent on and off campus student travel
- New and improved highway network procedures for free flow speeds and capacities based on the Highway Capacity Manual
- New and improved employment types based on travel behavior analysis



TRM v6 Update

Key Enhancements & Improvements (contd.)

- All sub models re-estimated with local survey data and validated to 2013 traffic counts & transit ridership
- Mid day and night now separate off peak periods
- External passenger & commercial vehicle travel now integrated with NC Statewide model
- Integrated with CommunityViz for households & employment



TRM v6 Update

More Information/Details

- New commercial vehicle model has 3 trip purposes: deliver goods, deliver services, other
- New university student models have four trip purposes for on and off campus students
- New employment categories combines employer establishment type and worker earning level to address difference in travel behavior
- Various sensitivity tests performed using 2040 scenarios
 - ✓ Model responded reasonably
 - ✓ Capable of performing policy tests



TRM v6 Update

TRMv6 2013 Performance

Model estimated volumes compared to traffic counts

Functional Class	Observed	Modeled	Target %Deviation	Modeled %Deviation
Freeway	10,329,000	10,431,000	5%	1.0%
Principal Arterial	12,222,000	11,369,000	8%	-7.0%
Minor Arterial	10,826,000	10,407,000	10%	-3.9%
Collector	4,361,000	4,200,000	15%	-3.7%
Local	2,844,000	2,808,000	15%	-1.3%
Total	40,582,000	39,219,000	5%	-3.0%