

# North Carolina Statewide Model

Recent and Upcoming Enhancements

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**CDM  
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 **RSG**  
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# Agenda

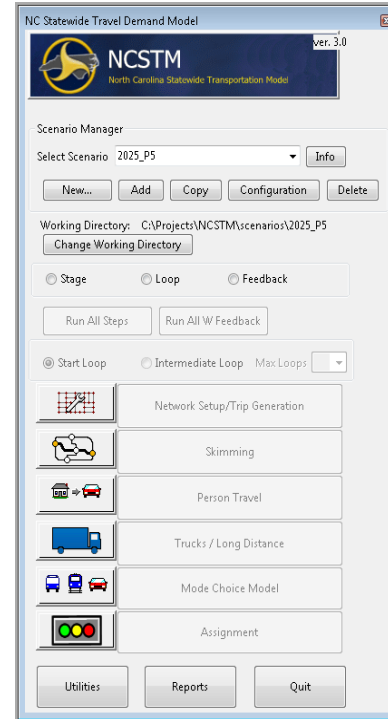
- Introduction to the NCSTM
- Current Model Update
- Use of NCSTM for Prioritization
- Q & A / Discussion



# Introduction to the NCSTM

# NCSTM Overview

- North Carolina Statewide Travel Demand Model (NCSTM)
- Development history:
  - Gen 1.0 – 2011 to 2014
  - Gen 2.0 – 2014 to 2017 (P4)
  - Gen 3.0 – 2017 to Current (P5)
  - Gen 4.0 – Under Development (P6)





# Current Model Update

# Tasks

- Update Base Year
  - 2017 Base Year
  - Split existing TAZs
  - Additional network detail
  - New base and future SE data (2045 horizon)
  - Updated traffic counts
  - 2017 AADTs and truck counts
  - Update free flow speeds using HERE data from I-95 Corridor Coalition
  - Update E+C network

# Tasks (cont.)

- Leverage Passive Data
  - Acquire disaggregate ping data for trucks and passengers
  - Analyze passive data to develop trip tables
  - Expand passive data to represent full population
  - Collect PoI data
  - Use PoI data and passive data to identify special generators

# Tasks (cont.)

- Short Distance Model
  - Process 2017 NHTS and TRM Household Travel Survey
  - New linear models for trip generation
  - New multinomial mode choice model
  - Re-estimated destination choice model based on recent household travel surveys
  - Updated toll rates



# Tasks (cont.)

- Long Distance Passenger Model
  - Updated models written in GISDK
  - New visitor trip generation and distribution models
- Long Distance Truck Model
  - Update FAF disaggregation in GISDK
  - Update freight to FAF4
  - Identify and incorporate ports into model
  - Update payload factors
  - Develop pivot model to leverage ATRI data

# Tasks (cont.)

- System Validation
  - Calibrate model components
  - Validate assignment to 2017 base year
- Documentation
  - User's Guide
  - Development tech memo



# Using the NCSTM for Prioritization

# Prioritization

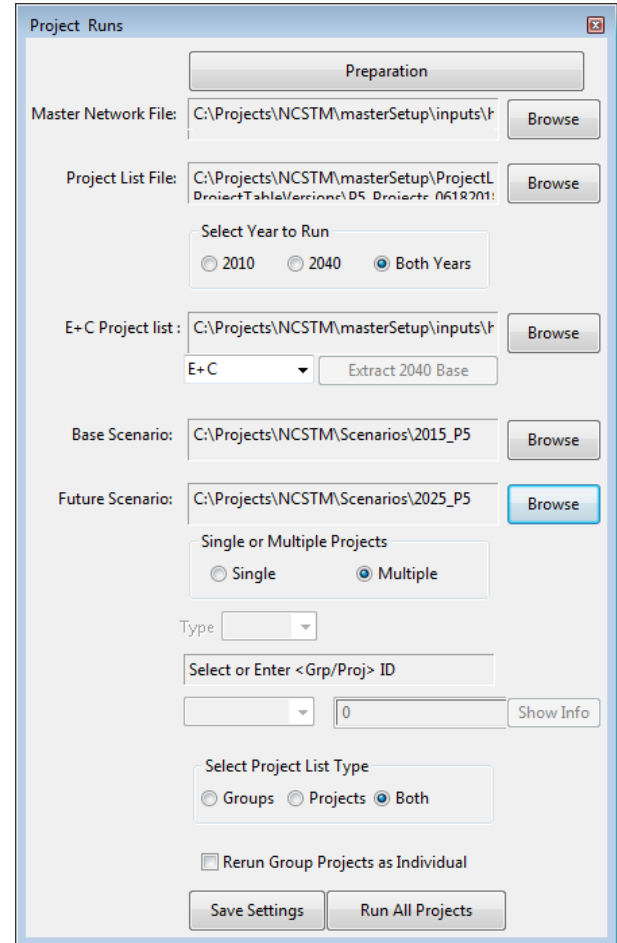
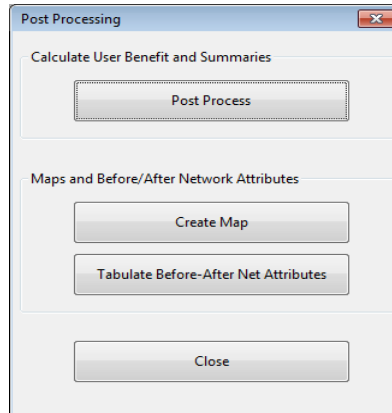
- Formula Based
  - Collaborative development through working group sessions
  - Quantifies benefits
  - Even playing field
- NCSTM Contribution
  - Travel time benefits
  - TREDIS inputs
  - Only one part of the equation
  - Even playing field

# Project Analysis

- NCSTM has Project Analysis Tool
  - Build / No-build
  - Fixed trip tables
  - Near year / horizon year (10-year horizon)
  - Assignment only
  - Summarizing of benefits

# Project Analysis (cont.)

- Step 1 – Generate No-build Trip Tables
- Step 2 – Create Project Table
- Step 3 – Run Projects
- Step 4 – Post-Process Projects





## Questions/Discussion

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