

# iTRAM Presentation to TRB SWM Subcommittee



Rob Schiffer, Metro Analytics January 6, 2021



## Study Team

Metro Analytics – prime, overseeing model refinements, leading validation, base year socioeconomic data and network updates

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- Alliance Transportation Group sub, led update of trip generation, trip distribution, adding auto occupancy, time-of-day assignment
- Michael Baker sub, leading update of traffic counts and 2018 conditions, conversion to TransCAD 8, and updating model GUI
- Quetica sub, leading disaggregation of FAF trip tables for base and future year conditions



### Study Components

- Phase I: SWOT Workshop
  - Identified priorities relative to budget
  - Key decisions made (e.g., base year, future year, zone system)

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Phase II: Implementation of Model Update

- GROUP I. Model Algorithm & Software Refinements
- GROUP II. Network, Demographic, Zonal Input Development
- GROUP III. Freight/Truck Model Refinements
- GROUP IV. Calibration, Validation, and Post Processing
- GROUP V. GUI and Enhanced User Applications
- GROUP VI. Documentation and Project Management



#### Current Status of Model Update Metro analytics

- Networks reviewed each centroid connector, added Nationwide FAF Interstates, updated counts and road widenings from 2010 to 2018
- Trucks replaced QRFM approach with disaggregated FAF matrices
- Externals removed through trips except those from FAF flows
- *Trip Generation* rates updated to reflect NHTS 2017 Midwest Region
- *Trip Distribution* updated trip attraction rates per NCHRP 716
- Auto Occupancy new step converting person trips to vehicle trips
- Trip Assignment added 4-period time-of-day assignments
- Post Processing added metrics not previously included for validation
- Model Validation in progress; 19 runs completed to date



#### Plans for Model Application

- Participation in NCHRP 20-44 Right-Sizing Implementation
  - Task RS-1. Sensitivity to Alternative Economic Futures/Growth Rates
    - Use existing iTRAM to test alternative employment scenarios
  - Task RS-2: Computation and Mapping of User Benefits
    - Quantify and map benefits of network investment scenarios
  - Task RS-3: Incorporation of Highway and Bridge Condition Variables
    - Include anticipated pavement and bridge conditions in network attributes
  - Task RS-4: Post-Processors for Exploratory Right-Sizing Applications
    - Tools for trip length assessment, high-cost/low volume road assessment, and capacity threshold assessment
- Work on statewide plan anticipated in late Spring 2021 using iTRAM



#### Current Schedule

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Revised Project Schedule - iTRAM Update																							
PROJECT ACTIVITIES		Jul '19	Aug '19	Sep '19	Oct '19	Nov '19	Dec '19	Jan '20	Feb '20	Mar '20	Apr '20	May '20	Jun '20	Jul '20	Aug '20	Sep '20	Oct '20	Nov '20	Dec'20	Jan '21	Feb '21	Mar '21	Apr '21
GROUP I.	Model Algorithm & Software Refinements																						
	Existing iTRAM Evaluation & Recommended Improvements				complete	2																	
	Software Platform and Compatibility																						
	Trip Generation																						
	Trip Distribution																						
	Mode Split																						
	Traffic Assignment																						
GROUP II. Network, Demographic, Zonal Input Development																							
	Base, Interim and Forecast Years																						
	Highway Network																						
	Rail																						
	Traffic Analysis Zones (TAZ)																						
	External Networks and Stations																						
	Socioeconomic Data Collection and Forecasting																						
GROUP III. Freight/Truck Model Refinements																							
GROUP IV. Calibration, Validation, and Post Processing																							
GROUP V. GUI and Enhanced User Applications																							
GROUP VI. Documentation and Project Management																							
POTENTIAL MEETINGS & PRESENTATIONS		•																					
	Draft Technical Memoranda Final Report & User Guide Potential Briefings to Project Steering Committee Phase 1 Project Kickoff/SWOT Meeting Phase 2 Project Kickoff Right Sizing Workshop (#1- Focus on Asset Managemen	Critical Path Activities Continuous Activities Review Periods Right-Sizing Development Right-Sizing Testing & Refinement * Number & schedule of meetings TBD during contract negotiations. ment. Safety Data & Archietecture)																					
$\star$	Storyboard Presetnaton Prototype Presentation																						
	Right-Sizing Completion																						



#### Questions/Comments

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