Travel Simulation

April 5, 2017
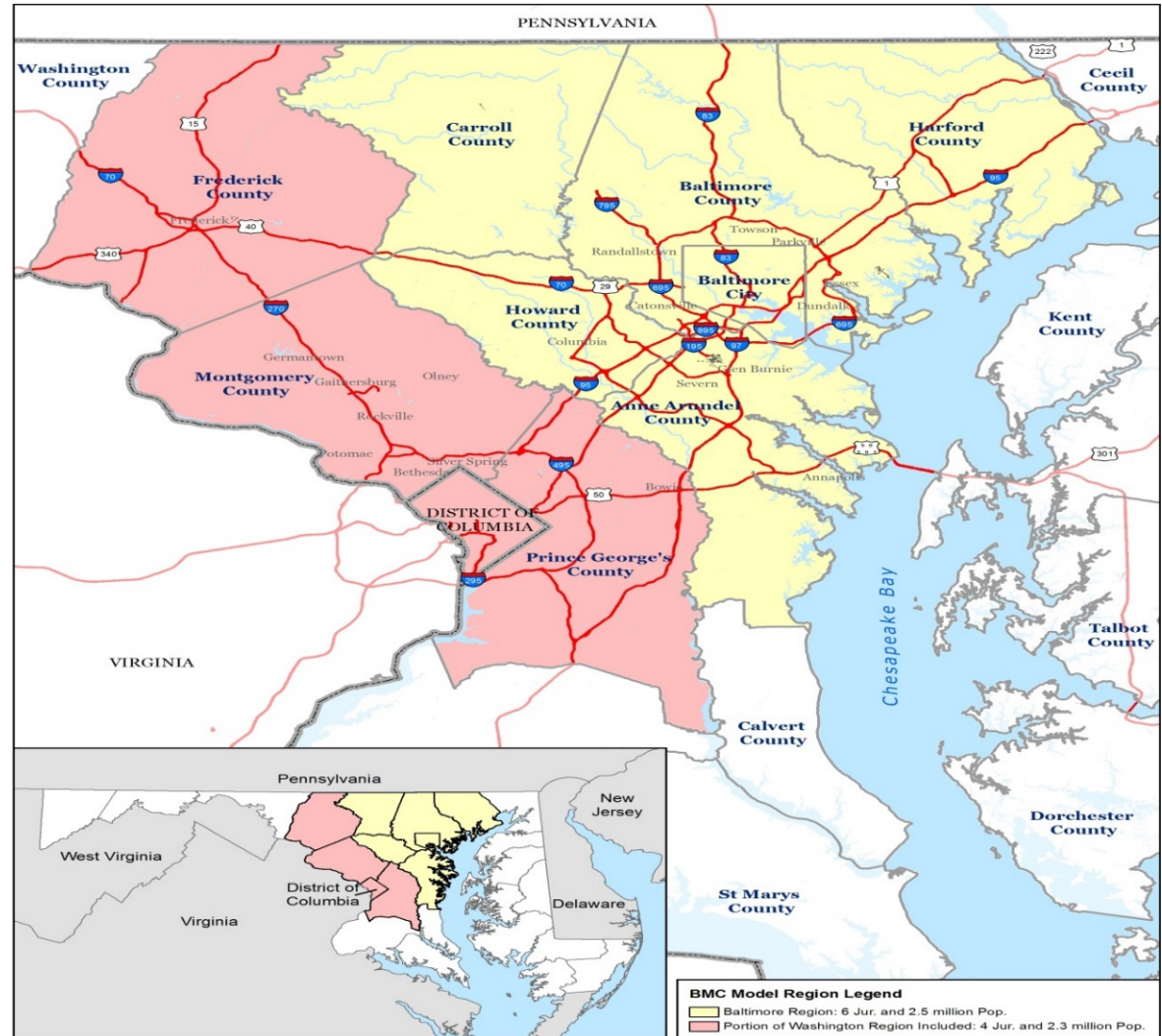
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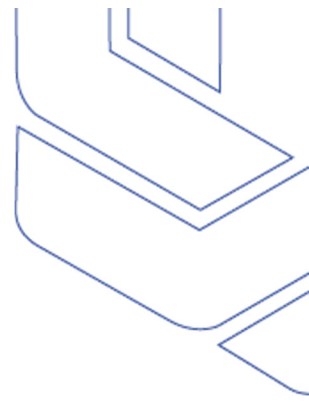
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Model Area - BRTB

- ## BRTB Area
  - 2.6 million population
  - 1.5 million employment

- ## MWCOG Area
  - 2.3 million population
  - 1.7 million employment

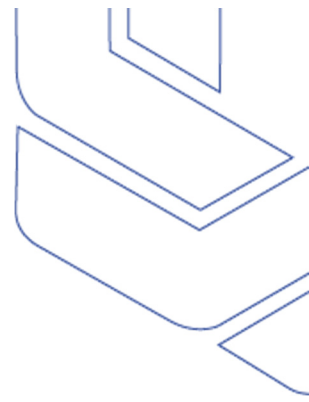
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Model Inputs

- Transportation Network
  - Highway – 25,000+ Roadway Links
    - Functional Type, Distance, Capacity, Number of Lanes
  - Transit – MTA, RTA, Harford, Annapolis, Carroll, and Circulator
    - Route/stops, Headways
  - Costs
    - Auto Operating, Parking, Transit Fare

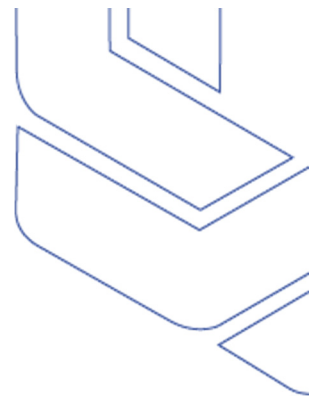Baltimore Metropolitan Council

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Model Inputs

- Land Use
- Cooperative Forecast Group
  - BRTB Subcommittee of Local Jurisdiction and State Demographers
- Small Area Forecasts – 1,392 Transportation Analysis Zones
  - Number of Households, Total Population, Group Quarter Population, Retail and Non-Retail Employment
- Base Year – 2010 Census and 2010 Master Establishment File
- Forecast – County Comprehensive Plan, Buildable Land Inventory, Use and Occupancy

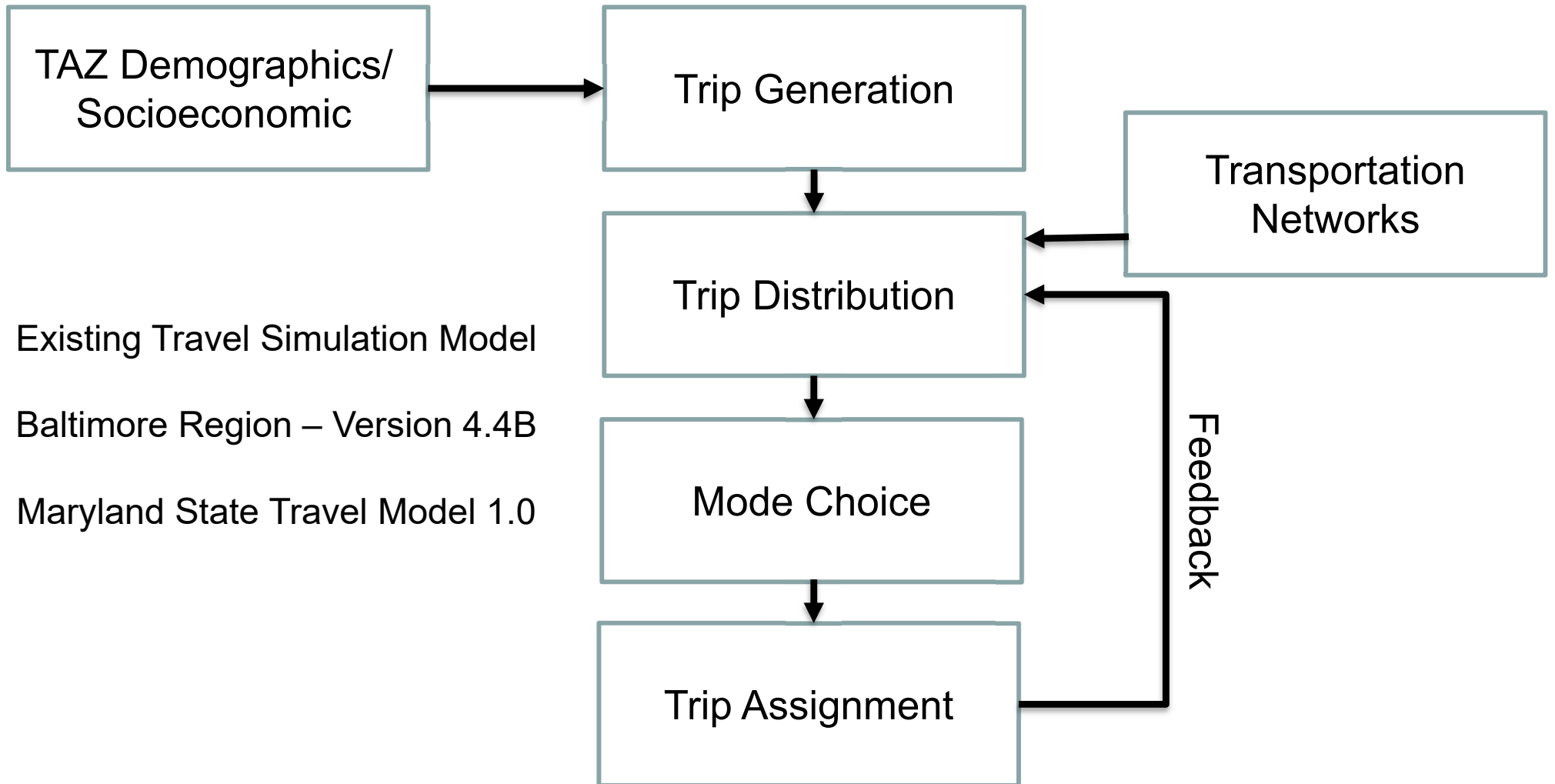Baltimore Metropolitan Council

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Model Inputs

- Equations
  - Number/Purpose of Trips per Household
  - Travel Time (Length – Minutes)
  - Mode – Auto/Transit
  - Time Period (AM, Midday, PM, Overnight)

- 2008 Household Travel Survey
  - One Day Travel Dairy
    - Captures Travel – Where, When, Why, and How- for All Household Members
  - 4,800 Completes – All Members

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Aggregate 4-Step Trip Based Model

| TAZ Demographics/ Socioeconomic | → | Trip Generation |

Existing Travel Simulation Model

Baltimore Region – Version 4.4B

Maryland State Travel Model 1.0

Trip Generation
↓
Trip Distribution ← Transportation Networks
↓
Mode Choice
↓
Trip Assignment → Feedback → Trip Distribution

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