



# WHAT IS TRAVEL DEMAND MODELING?

## What is travel demand modeling?

Transportation projects are planned years in advance of their construction. How do we know where people will live and work in the future? Or how they will choose to get there?

A travel demand model is a planning tool that utilizes computer programs to replicate real-world travel patterns and forecast future travel needs. It uses population and employment forecasts, as well as land use data to estimate where people will go in the future and how they will get there. Models are compared and validated against real-world traffic counts and various travel surveys.

Traditionally, a travel demand model undergoes a four-step process: Trip Generation examines where trips will originate based on household, employment and land use data. Trip Distribution determines where trips will end. Mode Choice indicates how the trips will be distributed across modes of transportation (car, transit, non-motorized travel) and Trip Assignment allocates which path the trip will occur between the origin and destination.

## Why is travel demand modeling important?

Travel demand models help planners anticipate where transportation services will be in the future in developing plans. By simulating the current roadway conditions and the demand for those facilities, the model can predict future travel patterns and demands based on changes in the transportation system. Such changes include the addition of new roads or widening of roads, new transit, changes in land uses such as higher density development, and changing demographics through increased population and employment growth.

By understanding where future trips will be, planners can identify future needs and use the model to test future improvements to the transportation network.

Model output plays a key role in analyzing and demonstrating the impacts and benefits of potential transportation investments.

Results from the travel demand model give policy makers the information they need in order to make transportation investments that address future needs and bring the highest benefit to the public.

## WHAT IS PLAN 2040?

**PLAN 2040** is metro Atlanta's long-range planning process for land development and transportation needs through the year 2040. It will guide growth by addressing not only land use and transportation issues, but economic, environmental, housing and human services challenges, as well.



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## How is the travel demand model used to create future plans?

The travel demand model incorporates extensive social and economic forecasts developed for the Atlanta region. These forecasts predict where people will live and work for the next 30 years. This information is used to project traffic volumes, congestion levels, travel times, and transit usage. Analysts can then better understand travel behavior and project recommendations.

All projects proposed as part of a **Regional Transportation Plan** are analyzed to ensure they conform with Federal air quality requirements through a process known as **Conformity Determination**. Outputs from the regional travel demand model are a key part of the conformity review process.

Currently under development is an activity-based model incorporating the most advanced principles of modeling individual travel choices. It addresses both household-level and person-level travel choices.

## How can someone participate in developing Plan 2040?

Metro Atlanta residents can participate in ARC's Plan 2040 activities in several ways:

- Regularly visit the Plan 2040 Web site at [www.atlantaregional.com/plan2040](http://www.atlantaregional.com/plan2040) for the latest information about the planning process. Check the "Get Involved" section of the site for discussions, meetings and other ways to share thoughts and ideas.
- Email comments to ARC at [plan2040@atlantaregional.com](mailto:plan2040@atlantaregional.com)
- Share ideas at ARC's group page on LENS on Atlanta at [www.lensonatlanta.org](http://www.lensonatlanta.org)
- Call ARC with comments or questions:
  - 404. 463. 3272
  - TTY number is 404. 463. 3272

## Helpful links for more info

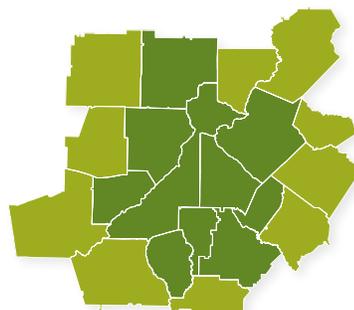
- [ARC Travel Demand Modeling](#)
- [ARC Activity-Based Model](#)
- [FHWA Travel Demand Forecasting](#)
- [TRB Special Report No. 288: Metropolitan Travel Forecasting: Current Practice and Future Direction](#)
- [TRB Committee on Transportation Demand and Forecasting](#)
- [ARC Modeling Channel](#)

This document can be found on ARC's Web site at [www.atlantaregional.com/plan2040](http://www.atlantaregional.com/plan2040). For assistance in viewing this document, contact [plan2040@atlantaregional.com](mailto:plan2040@atlantaregional.com) or 404.463.3272.



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## WHAT IS THE ATLANTA REGIONAL COMMISSION?

ARC is the regional planning and intergovernmental coordination agency for the **10-county** metropolitan area. For transportation planning, ARC's area of responsibility includes all or parts of **20 counties** and the City of Atlanta.