

- Practical Localized Transit Demand Modeling for Existing Corridors - Calculating CTA Red and Purple Modernization Travel Benefits (*Steve Hands - Chicago Transit Authority*)

The Red and Purple Modernization (RPM) project is a multi-billion dollar initiative to bring the existing CTA Red and Purple lines into a state of good repair, while producing travel benefits. The RPM project runs through dense Chicago, Evanston and Wilmette communities. Stations in the RPM corridor are currently especially close, sometimes only two blocks apart. There are currently four alternatives for the RPM project, one of which would reduce the number of station stops, while increasing the entrances per station. These slight geographic station adjustments require a specialized localized modeling effort.

Standard regional travel demand models need to be regional in scale. The Chicago New Starts forecasting model, for example, utilizes traffic analysis zones (TAZs) that are generally  $\frac{1}{4}$  mile squared. TAZs in the RPM corridor sometimes include multiple stations, making localized benefits or impacts difficult to ascertain.

In order to determine the travel benefits for the RPM alternatives, a series of spreadsheet models and geographic analyses were developed that determine expected travel patterns, calculate expected travel time savings for customers and determine service costs. Widely available data sources, including CTA Origin-Destination data, CMAP projections, and US Census data, were utilized to identify ridership growth potential as well as travel time savings. This analysis provides a model for capturing slight changes in service provision, while also providing a more flexible analysis tool to quickly test a multitude of service options.