The purpose of this project is to create a set of tools to assist transit service providers in conducting a variety of analyses related to social equity issues, including:

**Title VI Equity**
- Programs receiving federal funding must not discriminate on the basis of race, color, or national origin.
- All people should be able to access/receive the benefits of publicly funded services.
- USDOT and FTA require all federally funded transportation projects to conduct a Title VI Equity Analysis.

**Environmental Justice**
- Low income communities, minority communities, and other vulnerable populations should not receive an unfair proportion of the negative side effects of projects.
- All neighborhoods should have equal access to public services.

In 2012-2013, we held a series of workshops with regional planners and transit service providers to receive feedback on the types of analytical tools they would like to see in our application.

**Limited English Proficiency (LEP)**
- Need to identify and locate LEP populations and their primary languages.

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**t-HUB GIS Based Tools**

**Input Parameters:**
- Type of Analysis
- Transit System
- Threshold
- Unit of Analysis
- Access threshold
- Temporal Period

**Advanced Analytics:**

**Transit Opportunity Index**: A comprehensive measure of access.

**Transit Gini Coefficient**: A measure of equitable transit service distribution.

**Output and Results:**
- Summary tables
- GIS data
- Maps and graphs

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**t-HUB Database Building**

**t-HUB as a Big-Data Service:**

Spatiotemporal-Demographic-Transit Analytics

American Census Survey (ACS) Data is combined with Longitudinal Employer-Household Dynamics (LEHD) Data and Transportation Provider generated route information (GTFS) via spatiotemporal keys linked to a GIS interface.

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Web, GIS and SQL server services are combined to store, manipulate, analyze and export GTFS files in a spatiotemporal-demographic context.

**t-HUB Tools** is a set of libraries, programs and scripts that are used by Automated Services or explicitly by researchers.