



## Metropolitan Transit Authority of Harris County, Texas (METRO)

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### Business Needs and Objectives

To better respond to public requests for bus route and scheduling information, METRO decided to implement a Computerized Telephone Information System (CTIS). Implementation of this itinerary planning application, developed by Megadyne Information Systems, required the merging, integration, and transfer of data from METRO's existing databases to the CTIS. The existing databases consisted of a commercial scheduling database (Trapeze FX), a bus stop inventory maintained in ArcView, and a street centerline database from the Houston-Galveston Area Council-Geographic Data-sharing Committee. A goal of the project was to develop procedures and programs for merging and integrating data from the existing databases and alter the databases to better meet the system needs.

### Business Impact

The database developed by Idea Integration consultants is essential to the deployment of the agency's CTIS. CTIS uses the database values for public itinerary planning between departure and destination location, including walking directions to nearest bus stop, options on bus routes, transfers, nearest bus stop to destination, and walking directions from nearest bus stop to destination.

### Business Solution

METRO contracted Idea Integration to design an enterprise-wide GIS solution and to build the required tools for converting Trapeze scheduling information into Megadyne's CTIS application.

Idea Integration designed an ArcInfo dynamic segmentation data model for a system that includes 134 routes with multiple inbound and outbound patterns (numbering over 760 total patterns), route time points, bus stops, turn points, landmarks, bus pass stores, scheduled stop times, and bus identification numbers. The data model includes relationships between the graphic features and the Trapeze scheduling database that allow for the transfer of database values to the CTIS application.

ArcInfo and ArcView were the geographic information systems (GIS) of choice for storing and maintaining the geographic data. Tools were developed in Arc Macro Language (AML), Avenue, and Microsoft Visual Basic programming languages. The result was the creation of a Microsoft Access database, which produced ASCII files that were loaded in the development database using the SQL\*Loader utility for Oracle. The development database was loaded, checked for quality, and then moved to the production database for implementation.

### Practice Area:

Application Development, Database Design & Development, System Integration, System Migration, GIS

### Intervention s:

AML, ArcInfo, ArcView, Avenue, Microsoft Visual Basic, Microsoft Word, Oracle, SQL