

GIS of Routable Maps

Challenge

For creation of routable maps for handheld navigation devices, the project objectives were as following:

Objective 1: Creation of base/detailed maps.

Objective 2: Development of raster maps for higher-end models of handheld GPS units: referencing and calibration of custom raster maps with a very fine scanning resolution.

Objective 3: Maintenance of network topology.

Objective 4: POI database update and maintenance.

Solution

Implementation of this work consisted of three parts:

1. Data processing was required in order to create routable maps. The team implemented interpretation of aerial photography, land records, engineering drawings and processing of non-spatial data.
2. The findings were compiled: existing maps were scanned, rectified, and digitized; topology was built; data attributes were entered.
3. Finally geospatial database was created and maintained in the actual state..

Technologies Utilized

ArcGIS Software (+ Network analyst); GlobalMapper; GSPMapEdit

Additionally: Photoshop, Corel Draw/Designer, AI - basic

Results

Navigation maps were created through data interpretation, processing of existing maps, and maintenance of database. They have different levels of detail and use raster maps for devices supporting this capability.