



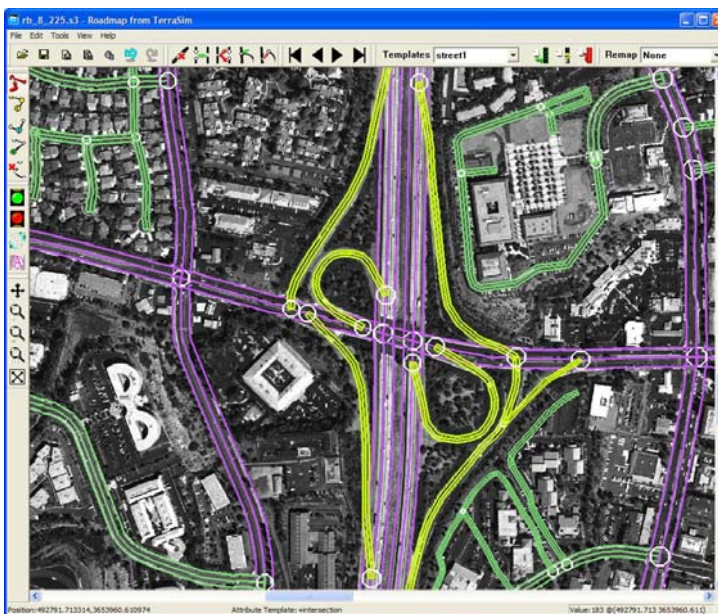
Source Data Preparation Extract | Compile | Simulate

Extract paved and unpaved roads, railroads, and canals
from remotely sensed source data

RoadMAP from TerraSim® is a powerful **road network extraction system** utilizing advanced image understanding technology to automate the linear feature extraction process. Based upon cutting-edge research in image processing, photo-interpretation, and computer vision, RoadMAP seamlessly combines automated, semi-automated, and manual methods for detecting, delineating, and attributing road networks and other linear features.

RoadMAP 2.1 is a highly **flexible and interactive** image analysis system that provides a full range of automated linear feature extraction activities including semi- and **fully-automated road finding, automated road extraction**, integrated manual editing, and system and user-level performance monitoring. RoadMAP supports rapid and accurate **extraction and update of complex transportation networks** using a single panchromatic or color orthophoto.

RoadMAP has been tested on a wide variety of aerial, satellite, and remotely sensed imagery, including processed RADAR and LIDAR data. Using **cooperative methods**, RoadMAP automatically adapts to the scene content allowing a user to track complex multi-lane paved roads as well as desert cart tracks without any prior training, rule set generation, or complex parameter tuning. A **"one click" road detection tool** initiates fully automated road tracking, which instantly computes local road centerline, width, and orientation. The interface simplifies manual inspection of extracted roads by providing center point navigation using a scroll-wheel mouse.



RoadMAP 2.1 Graphical User Interface

RoadMAP 2.1 Highlights:

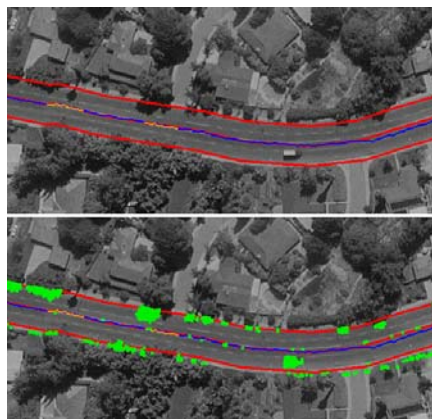
- Powerful and easy to use linear feature extraction and attribution solution
- Advanced graphical user interface seamlessly integrates automated and semi-automated extraction methods
- Automated road start and intersection detection
- Interactive road width and centerline adjustment
- Scroll-wheel point navigation facilitates easy linear feature inspection
- Generates road centerline, road width, and full network topology with standard attribution
- XML-based attribution implements NGA FACC codings and supports user-configurable attribution tables
- Imports large area tiled GeoTIFF imagery
- Exports results directly to ESRI shapefiles

RoadMAP 2.1 is the latest addition to the TerraSim Source Data Preparation (SDP) product line to support rapid and accurate geospatial data collection tailored for demanding geointelligence, modeling and simulation, and commercial mapping applications.

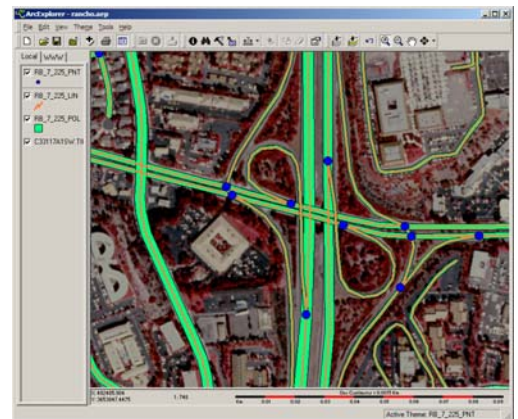




RoadMAP Maintains Topology

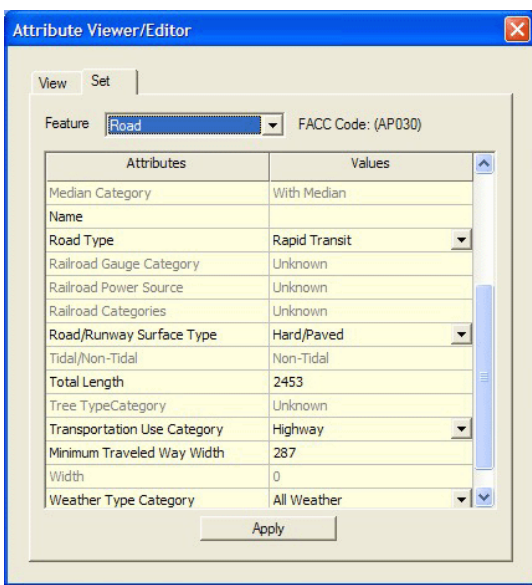


RoadMAP Detects Road Anomalies



RoadMAP Exports to ESRI ArcGIS

This new Source Data Preparation (SDP) productivity tool from TerraSim supports semi-autonomous extraction of transportation networks - including paved and unpaved roads, railroads, and canals - from remotely sensed imagery. RoadMAP produces a complete network topology during compilation, removing the need for time consuming post-processing.



Attribute Query and Collection Dialog

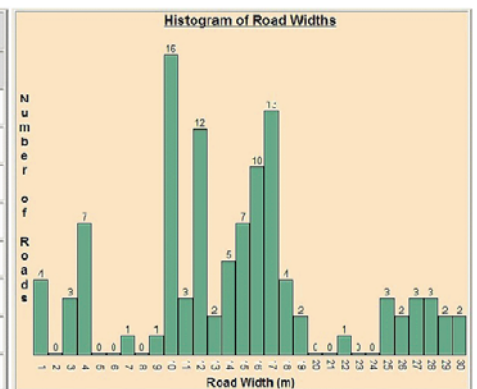
RoadMAP integrates a full featured attribute editor to speed feature attribution during compilation. The editor supports both NGA FACC and USGS DLG transportation layer codings using an underlying XML database that can be easily customized for your data collection specifications. Colors associated with each attribute category allow easy visual identification of which features are assigned to each category.

Road surface appearance models are maintained and updated during extraction, allowing for detection of road surface anomalies due to material changes, obstructions, and vehicles.

RoadMAP exports roads as polyline vectors (centerlines), boundary polygons (road surface areals), and road intersection points into ESRI ArcGIS and TerraTools® for the type of direct data ingest that demanding modeling and simulation applications require. Previously extracted vector data can be imported to support multiple extraction sessions or to share feature extraction processing workflow.

Road topology is automatically created when an extracted road is found to cross an existing road in the extracted road network.

Object Counts	
Objects	Count
Roads Extracted	70
Manual Extractions	0
Automated Extractions	195
Roads Merged/Deleted	125
Automated Start Points	190
Manual Start Points	11
Intersections Extracted	86
Points Extracted	965



RoadMAP Supports Data Content Monitoring

RoadMAP interactions are instrumented to collect dataset statistics, allowing monitoring of your production process. Object counts, session times, and road feature histograms are gathered and presented in a succinct web-based report.

System Requirements

- Windows XP/Vista/7 with 2.5GHz processor
- 2GB of RAM (4GB or more recommended)
- 300MB of available hard-drive space
- OpenGL graphics accelerator with 512MB of VRAM



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