

HIGH SPEED RAIL MAPPING

AERIAL CARTOGRAPHICS OF AMERICA, INC.

"Going Beyond all Maps and Boundaries"



Orlando to Tampa, Orlando to Miami



Corridor Surveying & Mapping

ACA is the leader in High Speed Rail mapping in the USA and is also one of the leading mapping companies for Multimodal and Light Rail networks. Our technical approach includes LAMP Helicopter and Fixed Wing aircraft utilizing Film, Large Format Digital Mapping Cameras, and 3D LiDAR acquisition using the latest 400Khz Full Waveform technology. Applications can be individual technologies and/or simultaneous to obtain the most comprehensive & cost effective 3D

corridor mapping results. All of ACA's precision mapping products incorporate ground survey, including traditional or tripod laser scan. Signed and sealed by Licensed Professional Surveyors and Mappers, ACA is the trusted company to integrate aerial imagery / LiDAR with ground survey, and bridge/tunnel laser scan data into accurate 3D Digital Terrain Models for Rails of all types and their multi-modal interconnects.

PROJECT SOLUTIONS

- Rail Corridor Mapping
- Intermodal Connector Mapping: Roads, Airports & Ports
- Transmission Line Mapping
- Intersections / Crossings / Bridges / Tunnel Mapping
- Environmental / Vegetation / Watershed Mapping
- Data Acquisition
 - Digital Aerial Imagery
 - LiDAR
 - Simultaneous Acquisition

QUALITY CONTROL

ACA is known for delivering precision and accurate rail corridor mapping data for planning and design. ACA has accomplished comprehensive photogrammetric mapping from Commuter Rail to High Speed Rail and Freight Rail Corridors with all mapping and surveying meeting or exceeding the National FRA and State DOT specifications and requirements. ACA is experienced in survey data integration with rigorous QA/QC at each phase of the mapping project.



RELEVANT EXPERIENCE

High Speed Rail: Orlando to Tampa/ Orlando to Miami Mapping

ACA was contracted for the two largest High Speed Rail projects in the USA to provide 3D mapping products to support planning and design. These major corridors will connect the major cities and Orlando & Tampa International Airports, and Orlando & the Miami Intermodal Center near MIA. For the 85 mile corridor of Orlando to Tampa, mapping products are being created from Fixed Wing and LAMP Helicopter imagery incorporating ground survey to produce the 3D Digital Terrain Model with vertical accuracies better than .05 ft. For Orlando to Miami, Fixed Wing ortho rectified imagery will be used to determine the preliminary alignment and environmental assessment for the 230+ mile corridor down the major interstates & turnpike. These advanced rail networks will have speeds exceeding 200+ MPH.

SFRTA: Tri-Rail Commuter Rail Survey and Mapping Project (CRT)

This 72 mile rail mapping project from Miami Airport to West Palm Beach Airport included multiple mapping segments throughout Palm Beach, Broward and Dade Counties. CRT uses existing Double Tracking CSX rails. ACA acquired Fixed Wing Imagery and created new 3D Digital Terrain Models with 1 ft contours and 3D breaklines and 3D Planimetric Maps of all Right of Way Assets with a +/- 1 ft location accuracy. Digital Ortho Imagery was provided for the project corridor. CRT is an important link for the overall South Florida Regional Transit Authority's overall vision of Intermodal Connectivity.



SunRail: Central Florida Commuter Rail Mapping Project. This 61 mile rail project from Deland to Poinciana Industrial Park, Florida has three Intermodal Centers in the Orlando area uses existing CSXT freight rails. Sun Rail at speeds of 79 MPH will eventually connect commuters north of Orlando to the Florida HSR. ACA acquired Fixed Wing imagery for the 200ft wide corridor and cross road intersections 1200ft across. Ten station sites were also mapped. Merging the ground survey, ACA developed new 3D Digital Terrain Models with 1 ft contours and 3D breaklines. Planimetric maps were created showing all ROW assets, intersection details, and tree locations within +/- 0.5 foot



ABOUT US

Aerial Cartographics of America, Inc. (ACA) is a full service professional aerial mapping firm located in Orlando, FL. Established in 1973, ACA has built a reputation as one of the premier mapping firms excelling at precision mapping products. With a large staff of professionally licensed surveying and mapping associates, ACA has the extensive experience and knowledge providing a full range of high quality products and services.

SERVICES

Imaging & Elevation Data Acquisition

- Aerial Photography
- Digital Aerial Imaging
- LiDAR Services
- Low Altitude Mapping Photography (LAMP)
- ABGPS Processing

Photogrammetric Mapping

- Digital Mapping
- Digital Terrain Mapping/LiDAR Processing
- Digital Orthophoto Processing
- Impervious Surface Auto Calculation
- Intelligent Surface Models, Bare Earth, Structures, Vegetation

Project Management

- Multi-Team Management
- Scope and Schedule
- QA/QC

GIS

- Data Capture/ Conversion
- Application Development

WE ARE THE FULL DIGITAL SOLUTION FOR YOUR MAPPING AND GIS NEEDS



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