



AMAZING
ALABAMA

Building the Economic Development Geospatial Engine

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Alabama Power Company

ALABAMA 
POWER
A SOUTHERN COMPANY

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99.97
RELIABILITY RATING

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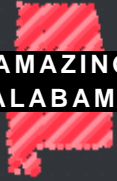
1.4 Million
CUSTOMERS



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POWER
A **SOUTHERN COMPANY**

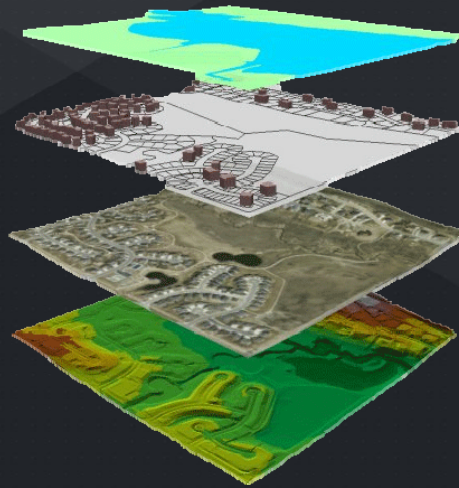
5,750
INDUSTRIAL CUSTOMERS



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GIS In Alabama Power

Distribution
Corporate Real Estate
Transmission
Environmental
Economic Development



Functions

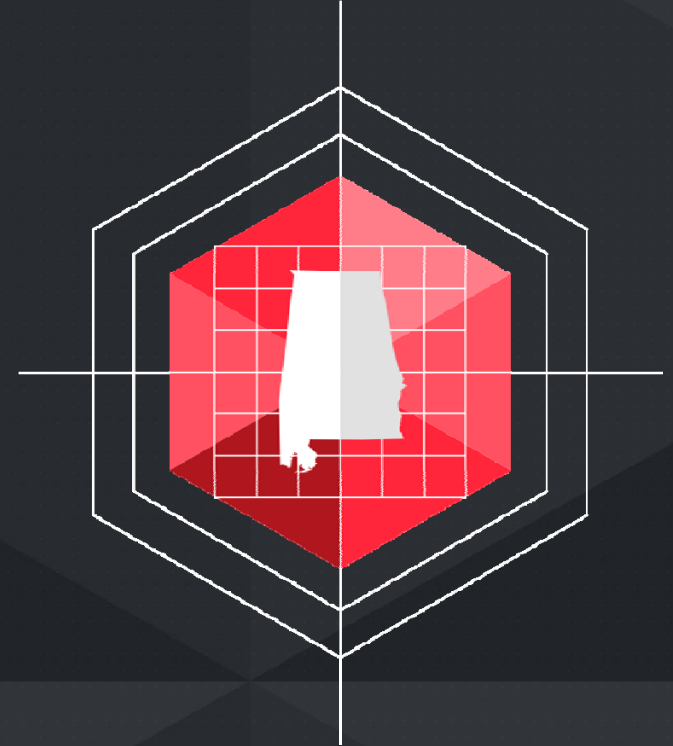
Maintenance Inspections
Engineering/Routing
Operations/Outage Management
Navigation/Routing
Imagery & Terrain
Analysis/Reporting
Site Design
Storm Restoration



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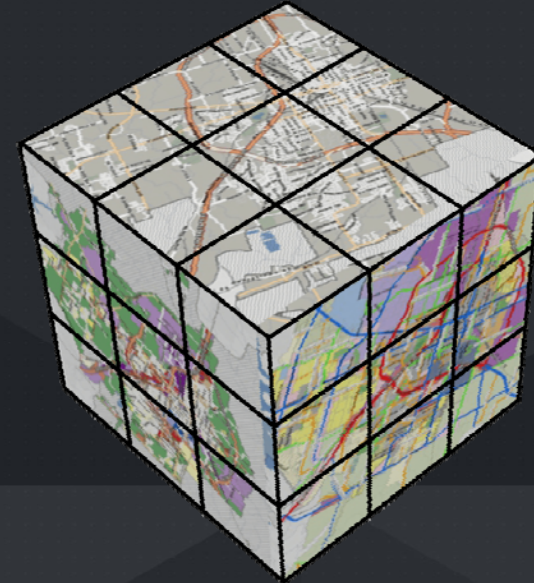
SPATIAL ANALYTICS

- + Operations/Feeder management
- + Engineering/Design Support
- + Maintenance & Work plan
- + Load planning
- + Improving Outage Response



EXPANDING GIS INTO ECONOMIC DEVELOPMENT

- Real Time Response for RFI/RFP
- Custom Designed Solutions
- Leverage history and data from T&D
- Provide better data for load planning
- Stepping off point for 3-D and Animation

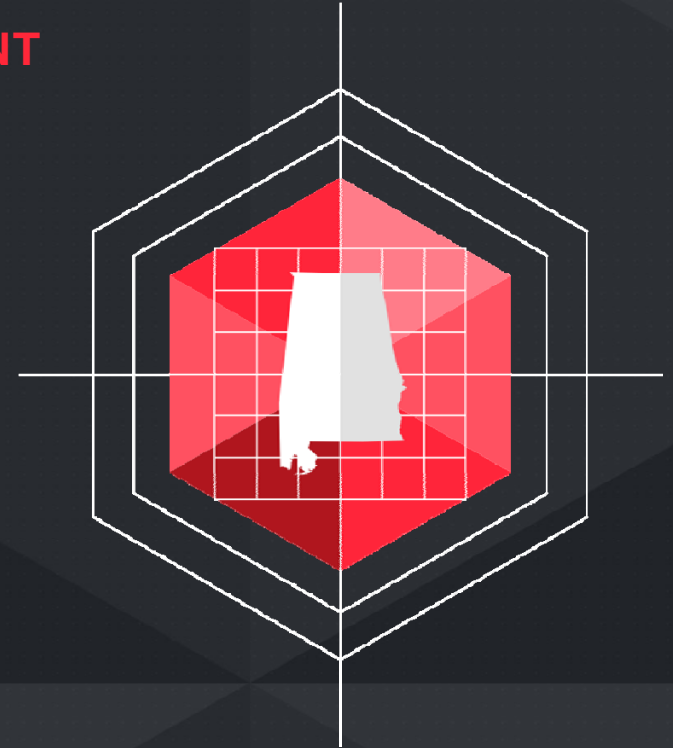




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SPATIAL ANALYTICS FOR ECONOMIC DEVELOPMENT

- + Site Location and Identification
- + Workforce analysis
- + Demographics
- + Terrain & Infrastructure
- + Supply Chain Opportunities



CHALLENGES IN GIS DEVELOPMENT

- Doing more with less
- Budget Constraints
- Data Configuration
- Security/Compliance
- User Expectations



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ETL



**Reports &
Formatting**



**Site & Location
Analysis**



Tool Configuration



**Labeling &
Symbols**



Compliance & Security



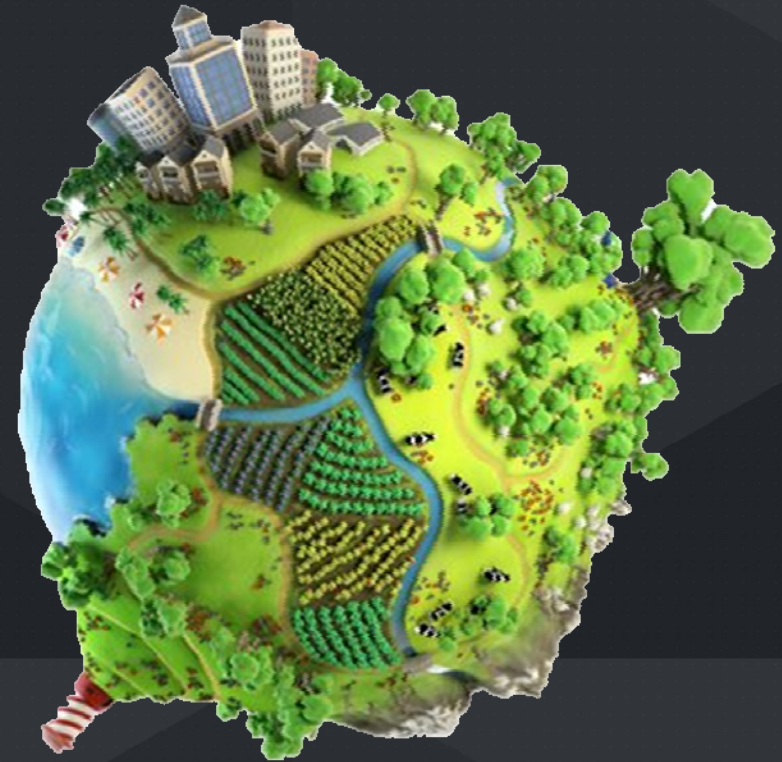
**Training and
Development**



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ECONOMIC DEVELOPMENT GEOSPATIAL ENGINE

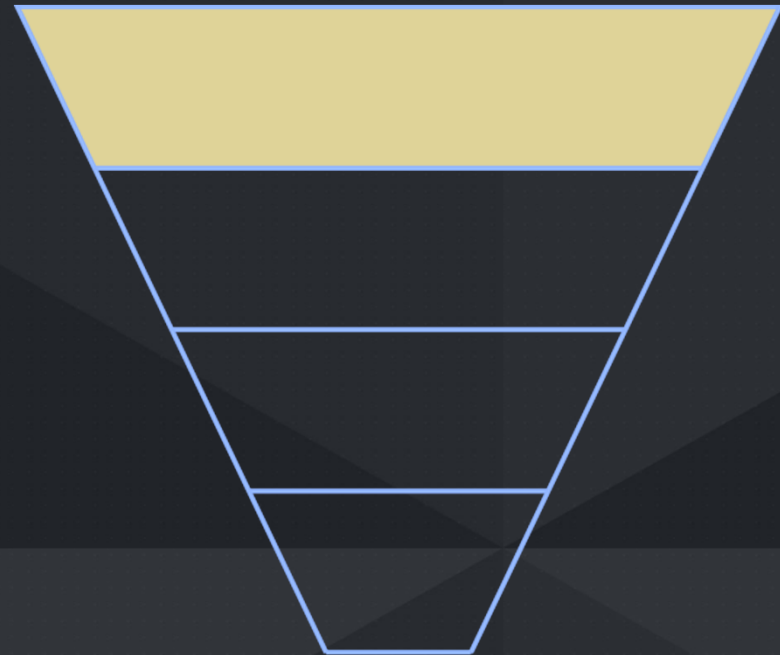
- Infrastructure
- Real Estate
- Terrain
- Environmental
- Workforce
- Companies



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Data Acquisition



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EDGE SITE ANALYSIS

- Data Models - sites
- Attribute calculation (Acres, Proximity)
- Demographics
- Workforce



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CHALLENGES

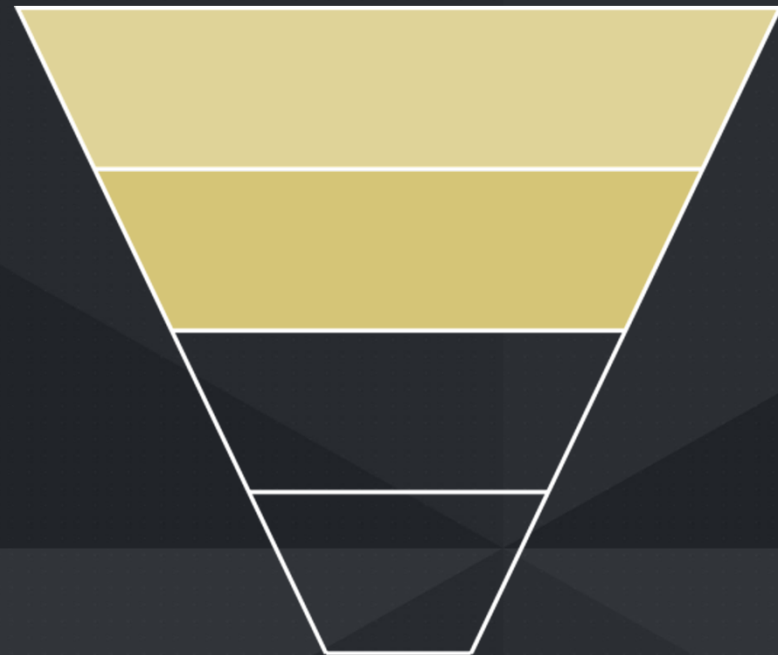
- Data Models - sites
- Attribute calculation (Acres, Proximity)
- Graphic Behaviors
- Outcome Reporting





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- .01 Data Acquisition
- .02 Map Formatting & Workflow**
- .03
- .04



EDGE MAP FORMATTING

- Needs consistent look
- Rest Service driven for standard data
- Data Drives Toolbuilding
- Must tell proper story
- Must be intuitive



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CHALLENGES

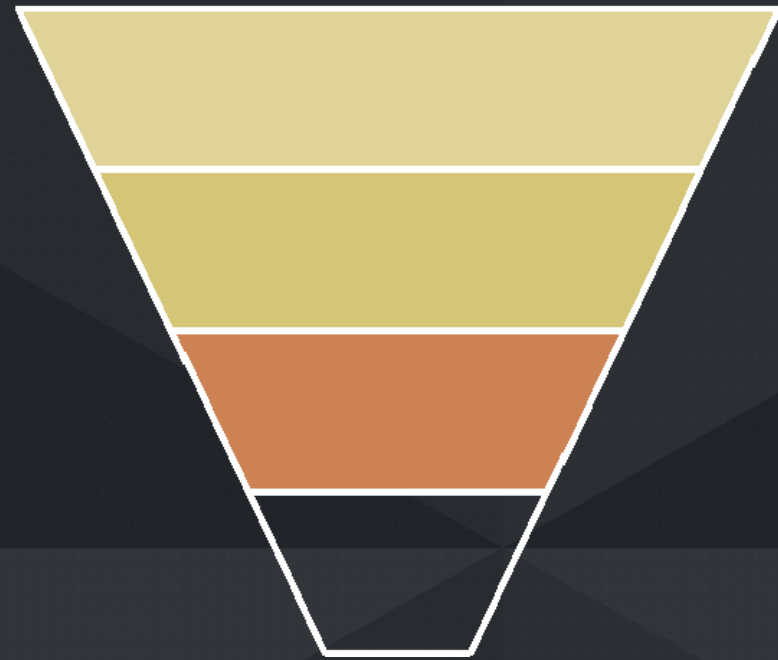
- Data Complexities
- Scale
- Graphics & Labeling
- Outcome Reporting





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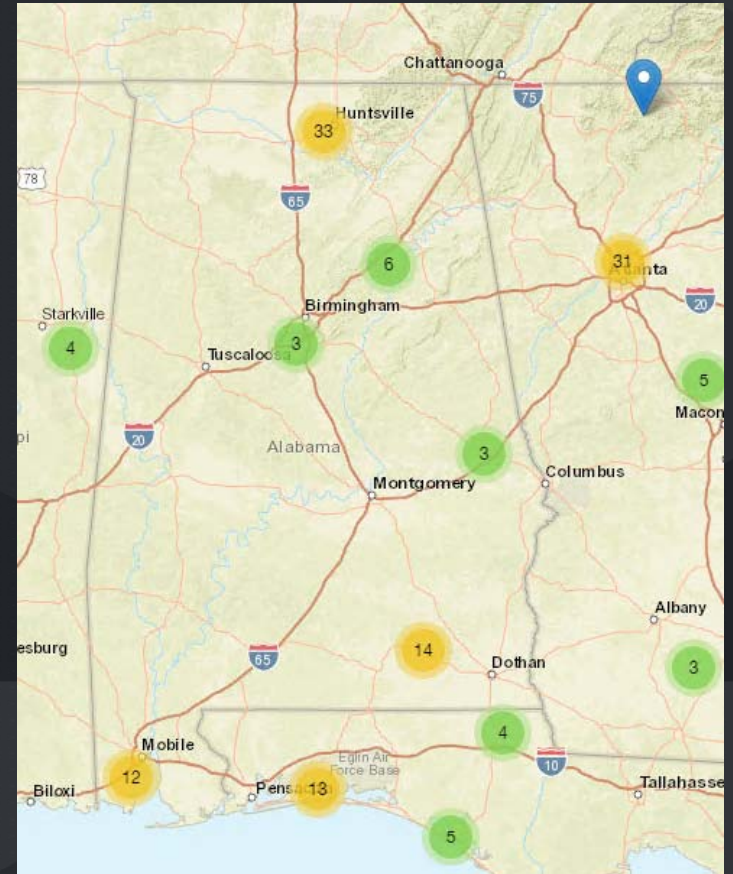
- .01 Data Acquisition
- .02 Map Formatting & Workflow
- .03 Webmap Solutions & 3-D Products**
- .04



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BUILDING WEB SOLUTIONS

- Must be HTML5 for All Platforms
- Lightweight/Intuitive/Reliable
- High Performance of Large Data
- Easy to Customize
- Widget Library Growing



CHALLENGES

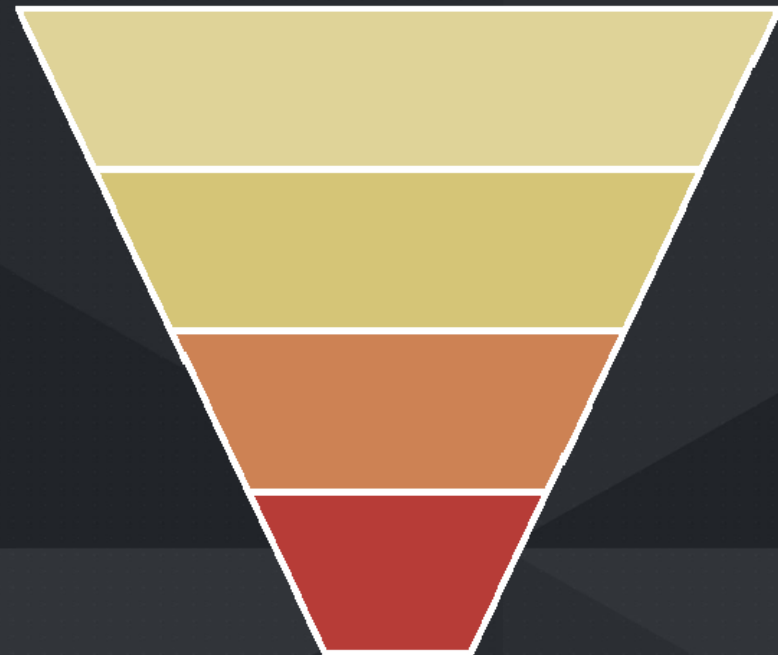
- GIS Analyst, not Developer
- Web Appbuilder Customizations
- User Expectations
- Data and Scale/Cartographic Styling





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- .01 Data Acquisition
- .02 Map Formatting & Workflow
- .03 Webmap Solutions & 3-D Products
- .04 Future Capabilities**



DRONE UTILIZATION IN ECONOMIC DEVELOPMENT

- Low cost & rapid response method of aerial imagery collection
- Very low altitude with high resolution cameras
- Adaptable to Geospatial Solutions
- Next Generation Imagery/Terrain Analysis
- Beta test of Drone2Map Functionality

CHALLENGES OF DRONE UTILIZATION

- Flight Obstructions and Restricted Areas
- Landowner privacy concerns
- Accuracy and Precision
- Scale & Data size

DEMONSTRATION - SPRINGVILLE, ALABAMA

Demonstrated Ability to take off and land from very small location

Captured Images at 100' above ground level

Mapped Flight and Image acquisition

Generated Orthophoto & Elevation model

Draped Into 3-d viewer

Generated Ground Terrain model

LAUNCH SITE



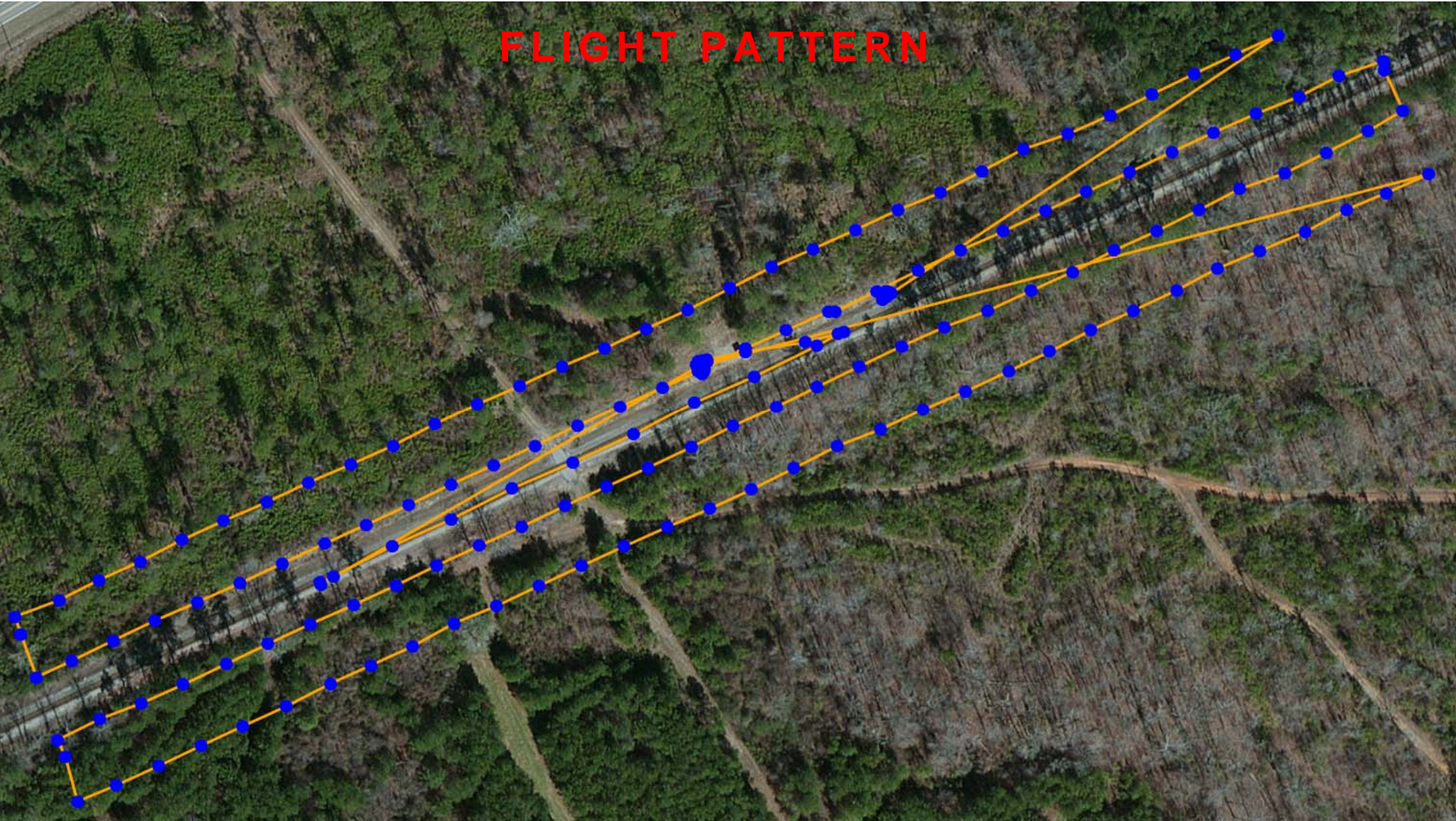
100'ELEVATION LOOKING NORTH



100' ELEVATION LOOKING SOUTH



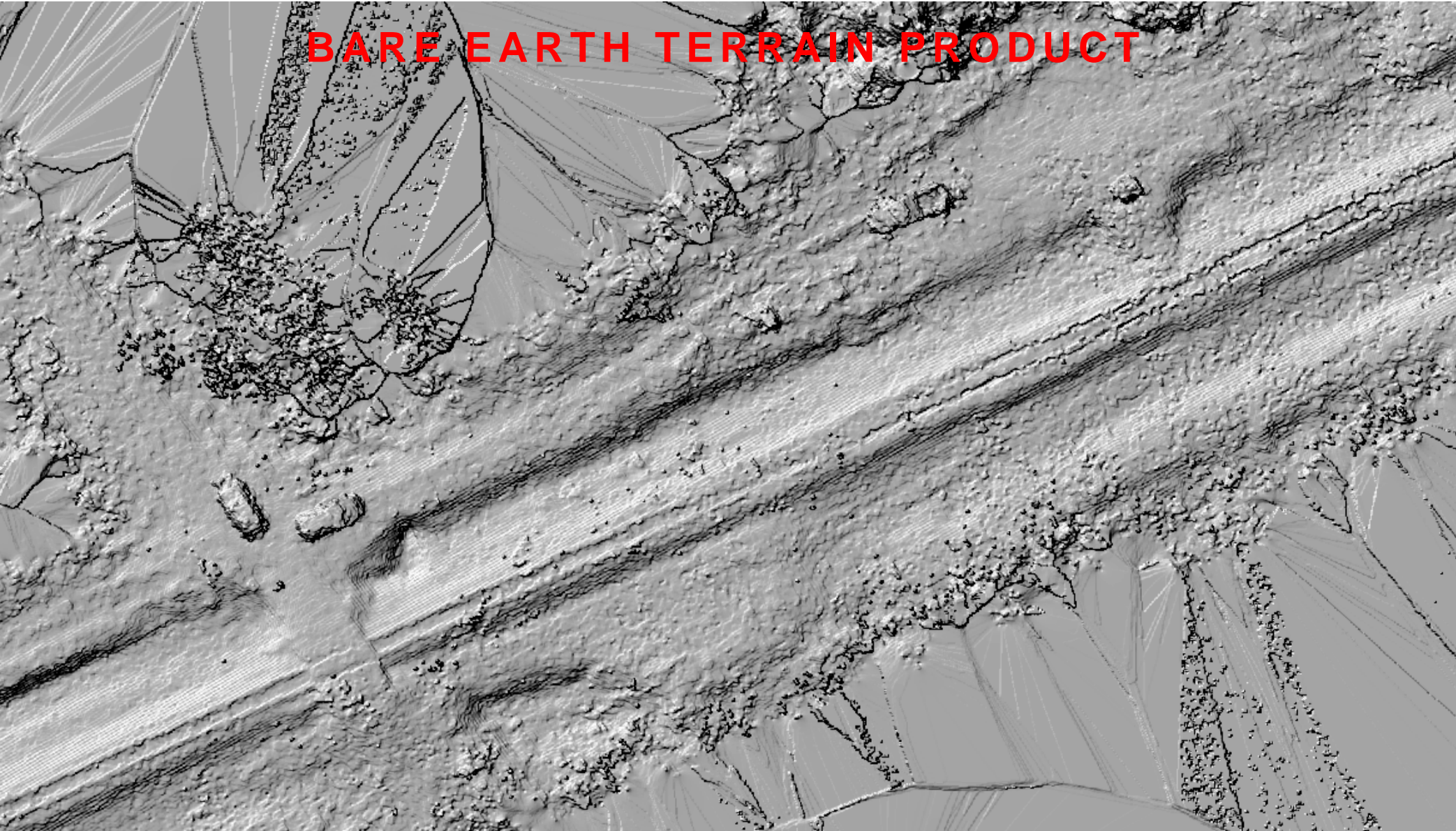
FLIGHT PATTERN



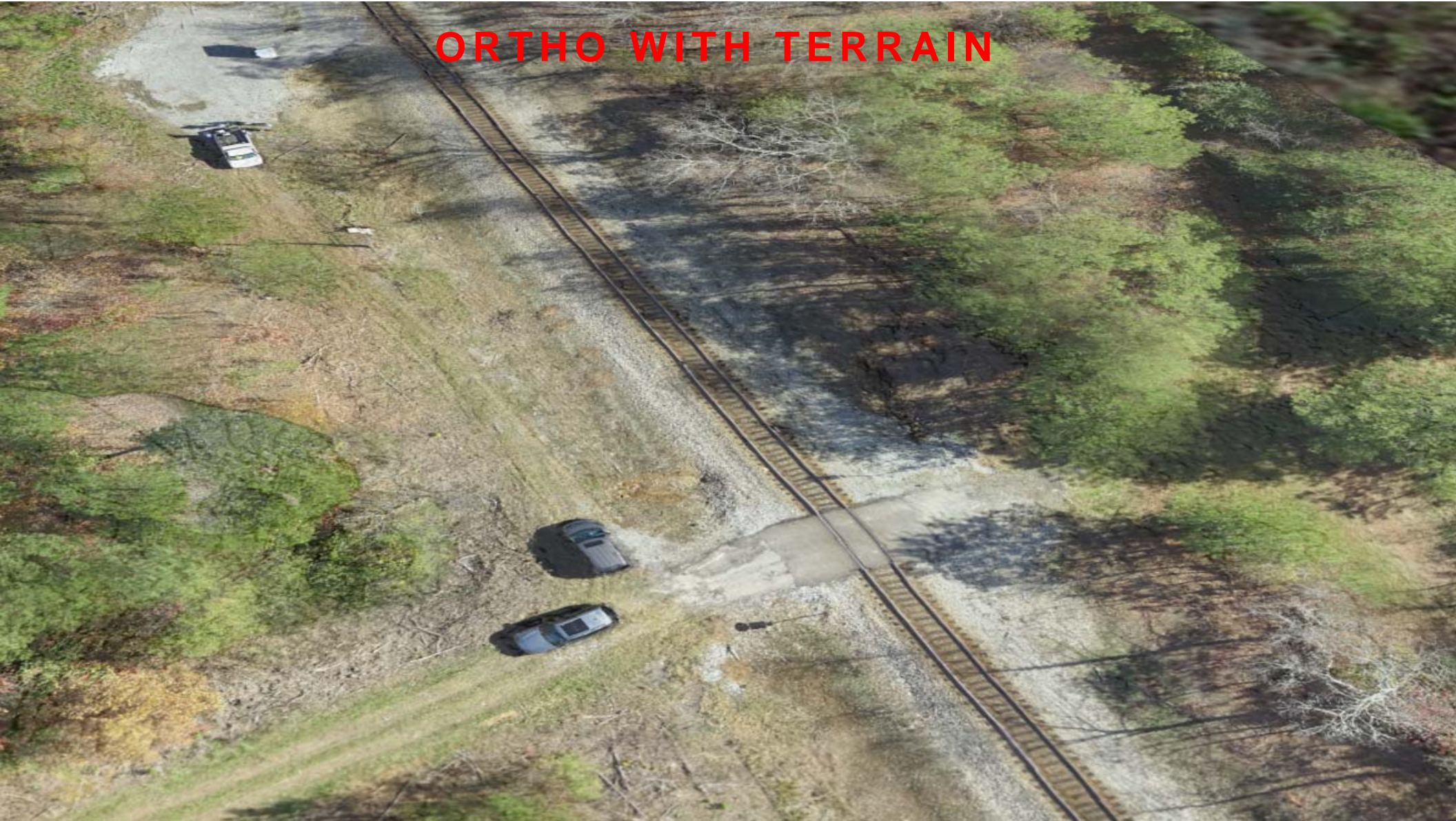
ORTHOGRAPHIC PRODUCT



BARE EARTH TERRAIN PRODUCT



ORTHO WITH TERRAIN



BARE EARTH ANALYSIS



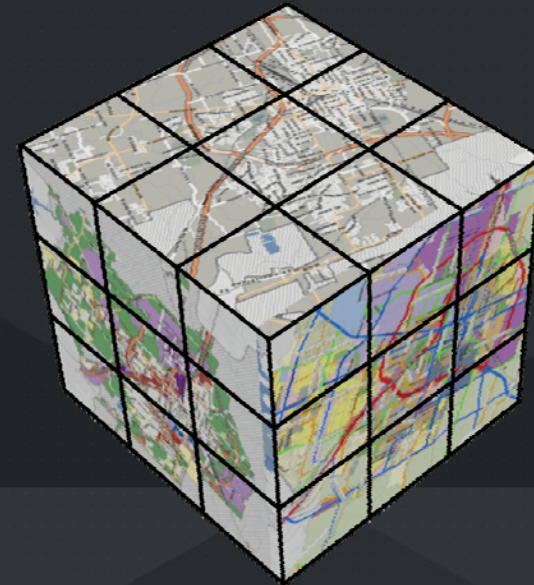
FUTURE R&D STUDY

- Change Detection Analysis
- LiDAR/Imagery/Other Remote Sensing
- Drone Effectiveness Study
- Vegetation Analysis
- Shoreline Evaluations



EXPANDING GIS INTO ECONOMIC DEVELOPMENT

- Opportunity for Rapid Cartographic Response
- Need Additional Tool & Workflow development
- Not Big Data, but it's a lot, ETL is a challenge
- Intuitive Product is a must
- One map needs to sell the project



Questions?