Event Management & First Response: Powered by Web Mobile GIS

Ross Brewer, City of Marietta, GA & Kevin Stewart, GISi

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Agenda

- Introduction
- Challenge
- Solution
- Benefits

Introduction

Site & Situation

- 23+ Square Miles
- 56,000+ Citizens
- ~260 Fire/Police Personnel
- ~100 GPS-Tracked Vehicles
- 2 Full-Time GIS Employees
- 1 Crisis Management Center (CMC)

Introduction

Existing GIS Architecture

- GISi's Custom-Built Applications

  #1 Fire Mobile

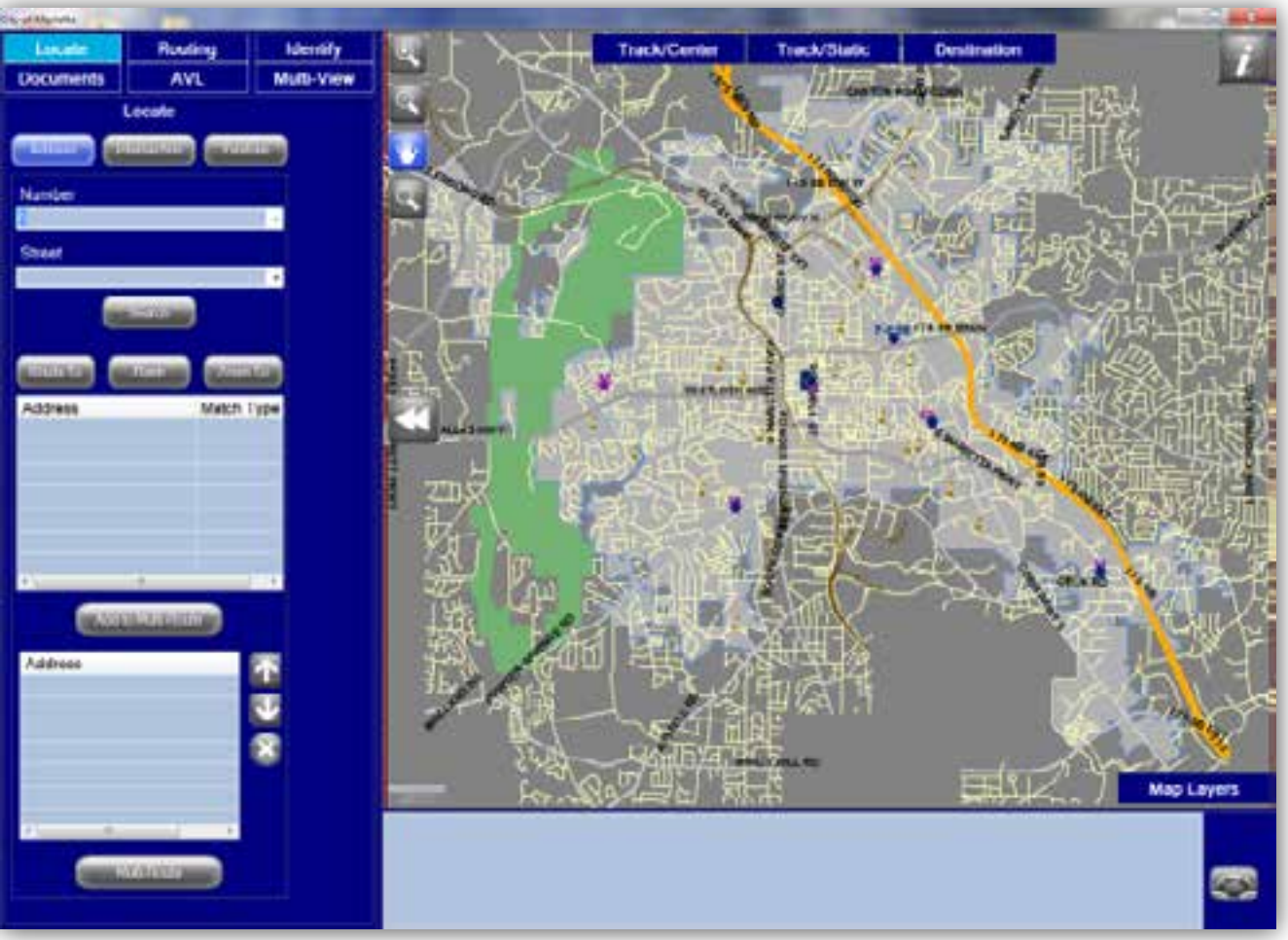
  #2 Crisis Management

- Esri's ArcGIS 10.1 for Desktop, Server & ArcSDE 10.0
- Utility Products' Rocket System: Rugged, High-Speed Air Cards

http://www.utilityproducts.com/articles/print/volume-8/issue-7/feature-stories/2011-new-products-guide/vehicles-accessories.html

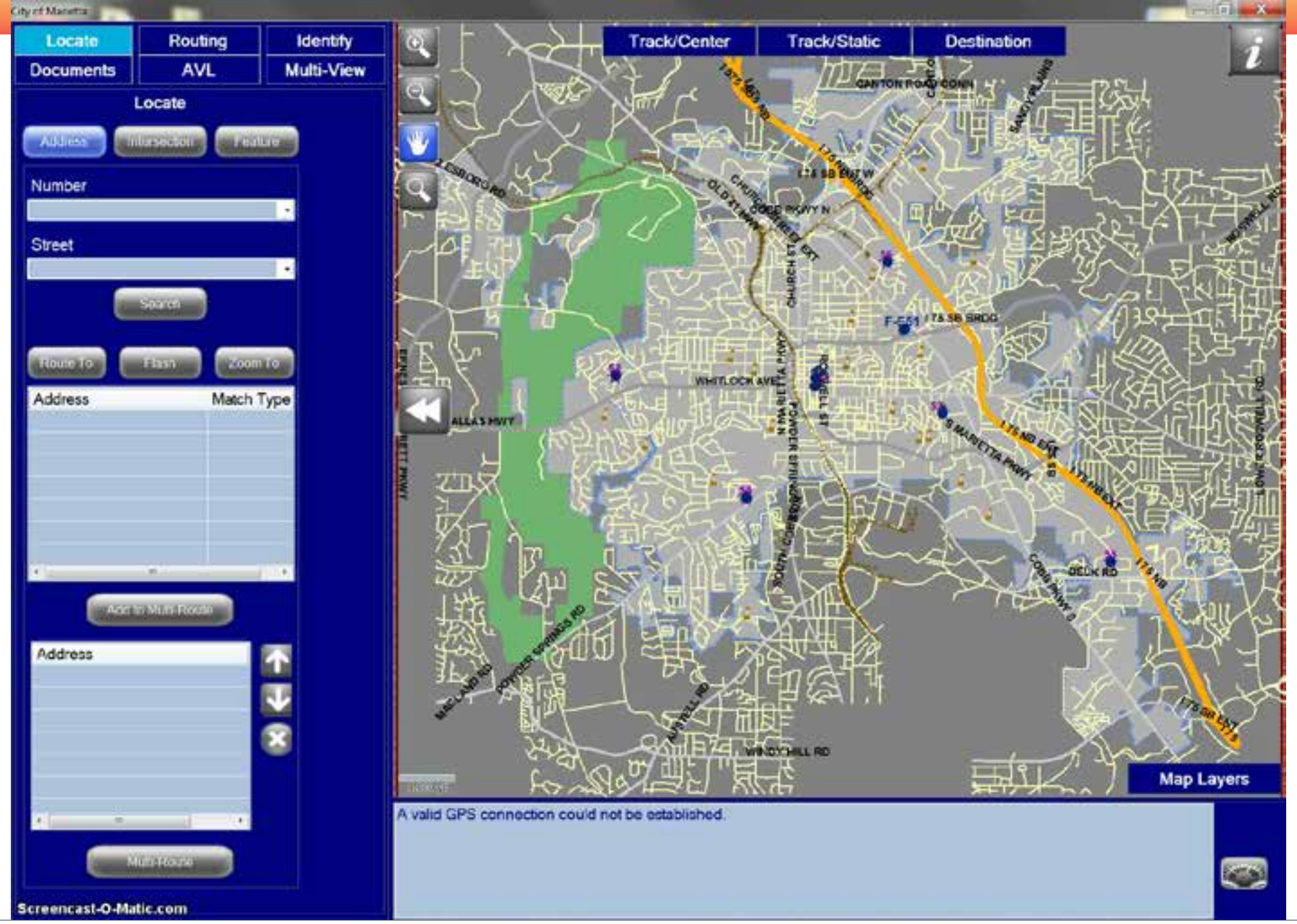
Introduction

Existing Application #1



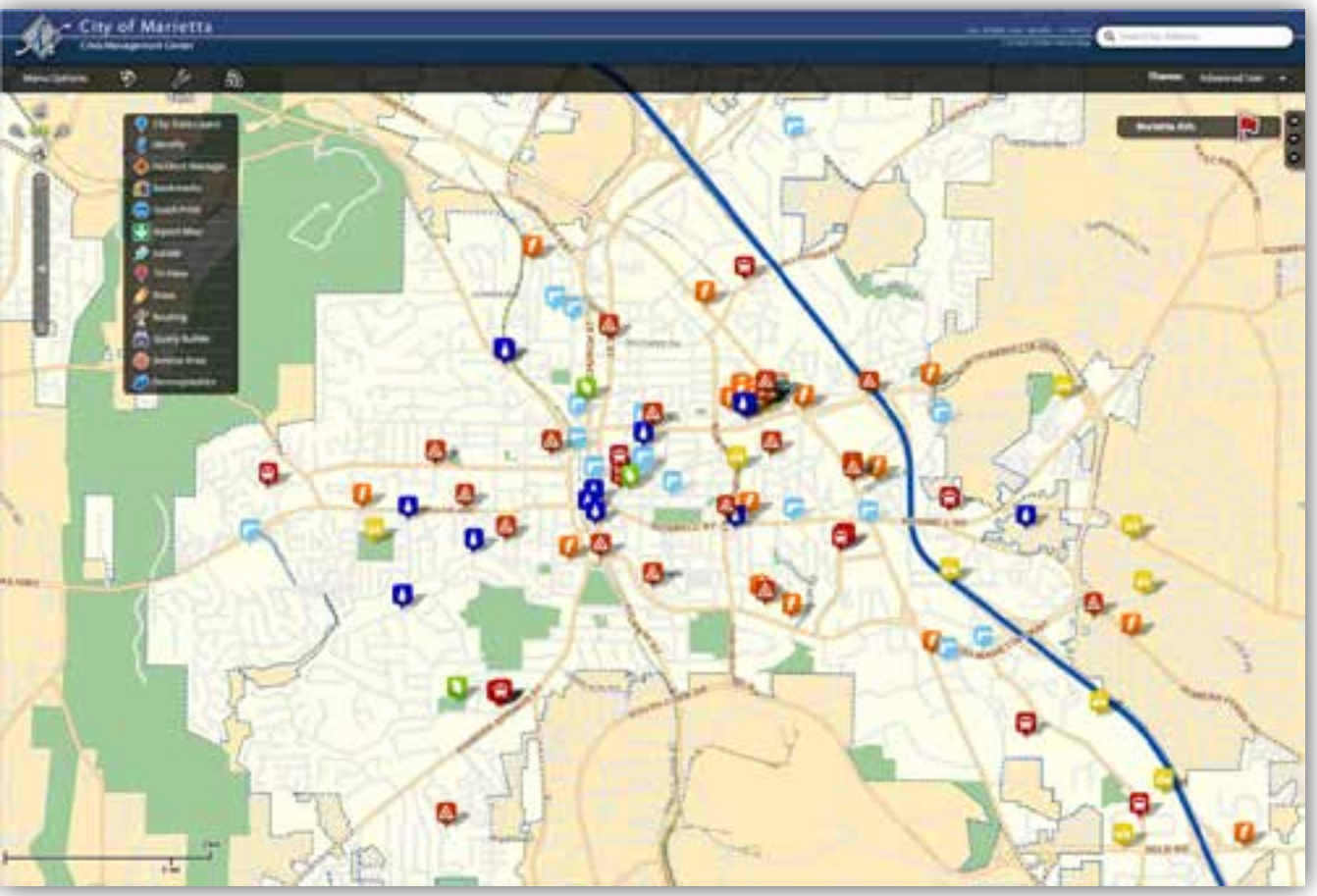
Fire Mobile

- Result of needs assessment
- Implemented in 2010
- Mobile application
- Intro'd GIS to Fire Dept
- Standalone installation = high maintenance
- Required ArcGIS 9.3.1 (Generate Mobile Service Cache Tool)


Locate
Routing
Identify
Documents
AVL
Multi-View
Locate
Address
Intersection
Feature
Number
Street
Search
Route To
Flash
Zoom To
Address
Match Type
Add to Multi-Route
Address
Multi-Route
Screencast-O-Matic.com
Track/Center
Track/Static
Destination
Map Layers
A valid GPS connection could not be established.

Introduction

Existing Application #2

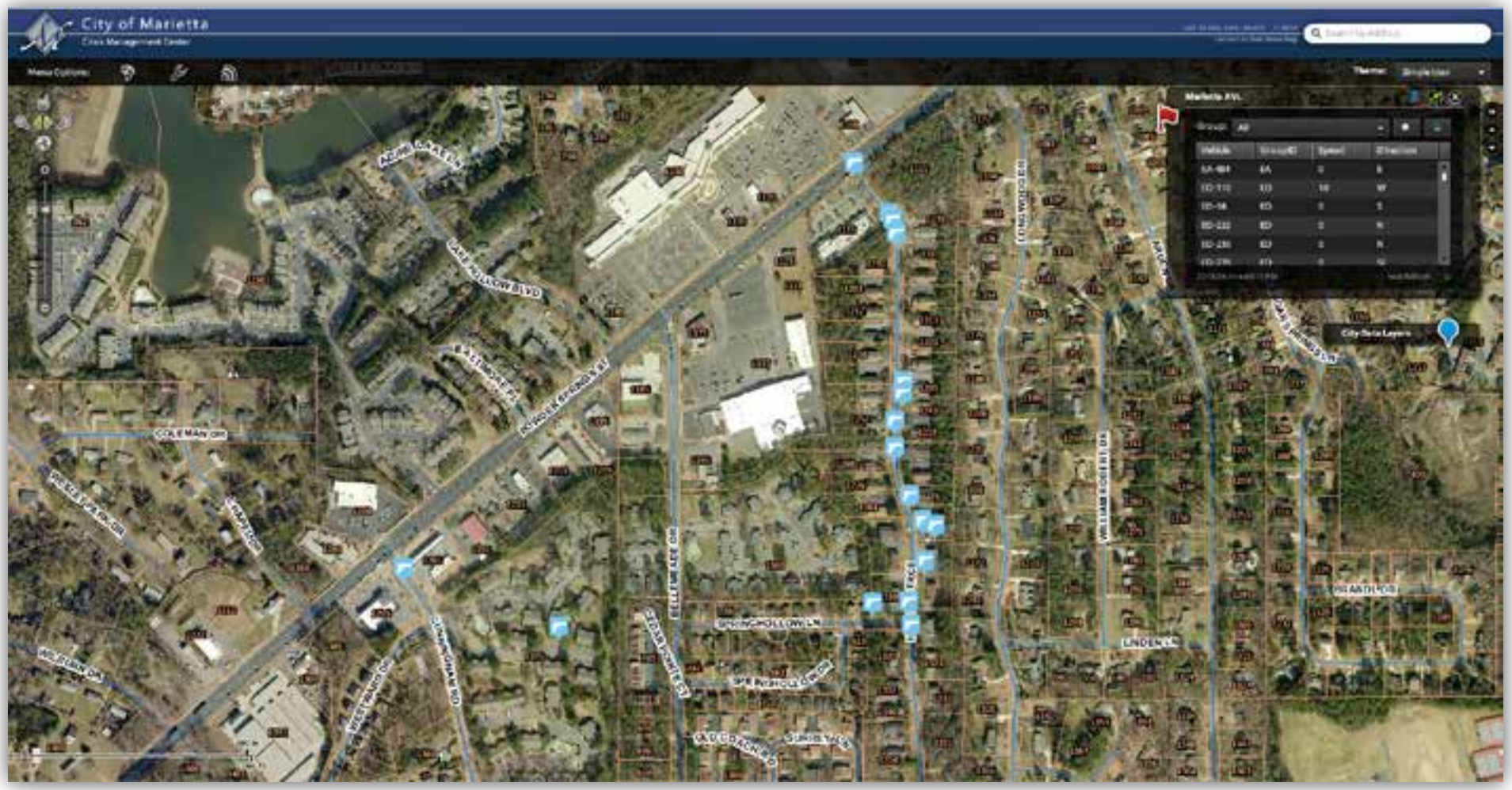


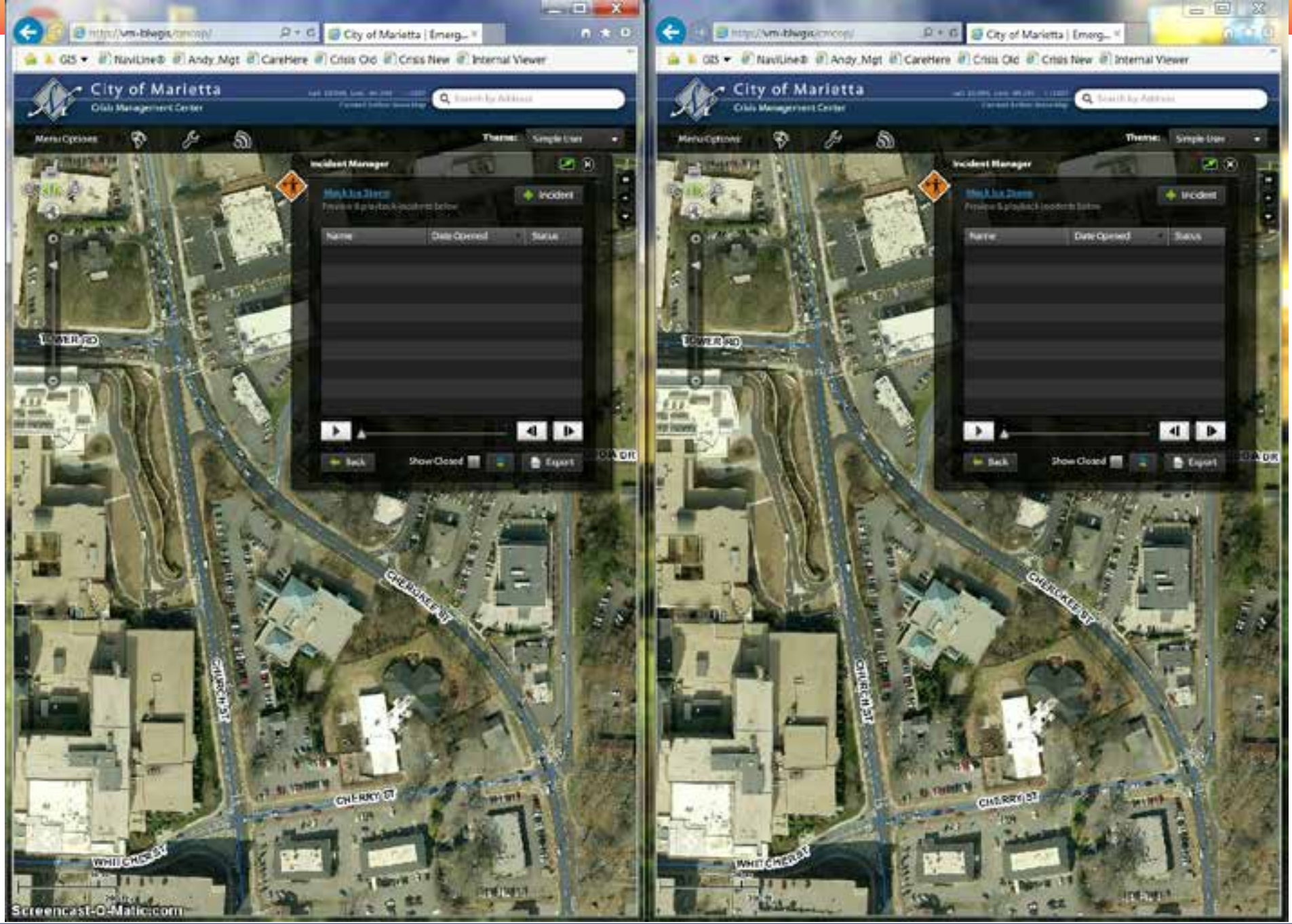
Crisis Management

- Implemented in 2011
- Web-based, Flex API
- Used during planned & unplanned events
  - Ice Storms (Jan/Feb 2014)
  - 4th of July Parades/Fireworks
- Pivotal to CMC function
- Utilized ArcGIS Desktop & Server 10.0

Introduction

Existing Application #2




City of Marietta
Crisis Management Center
Incident Manager
Incident
Name
Date Opened
Status
Back
Show Closed
Export
POWER RD
CHEROKEE ST
CHURCH ST
CHERRY ST
WHITEHEAD ST
Screencast-O-Matic.com

Challenge

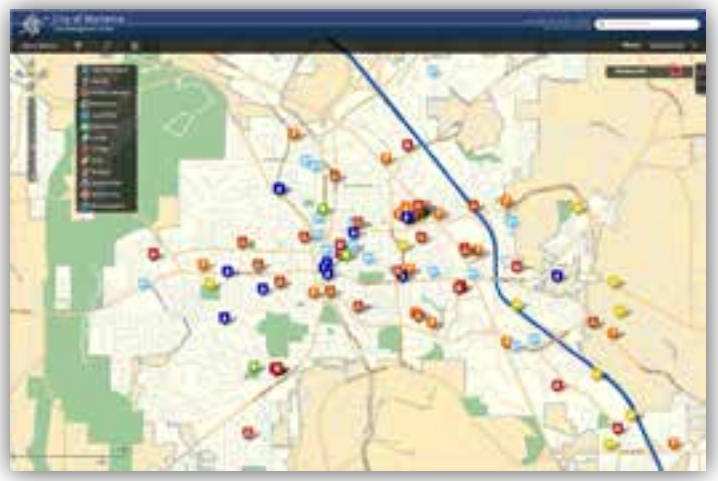
Improve Existing Architecture

- Increase Support for First Responders
  - Reduce technical load
    - Eliminate standalone aspect
    - Less logins
  - Enhance situational awareness
    - Bring CMC perspective to Fire
- Strengthen Decision-Making of Admin in CMC
  - Incorporate Fire Department in COP
  - Simplify application interface
    - Less tools
    - Views based on strategic perspective

Challenge

Combine Existing Applications

+



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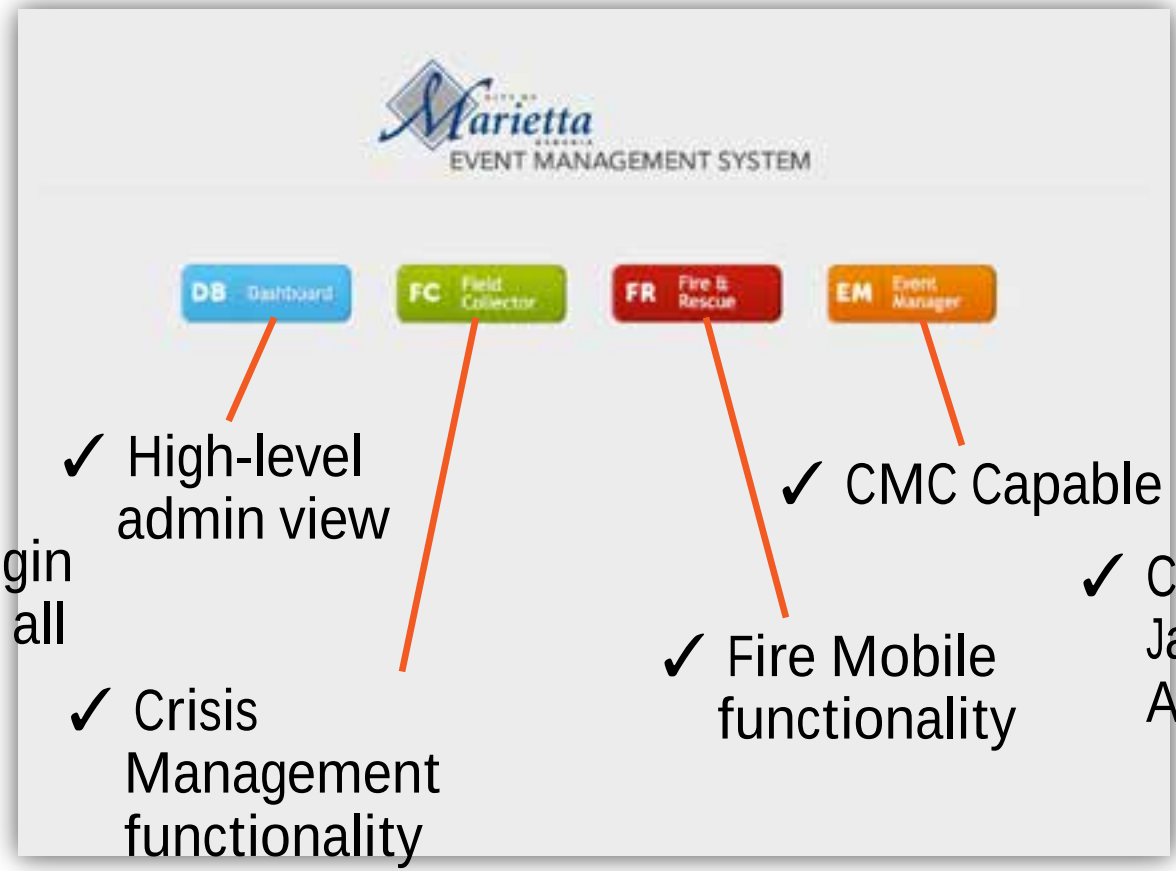
Solution

Crisis Management 2.0



✓ Users login once for all views

✓ High-level admin view

✓ Crisis Management functionality

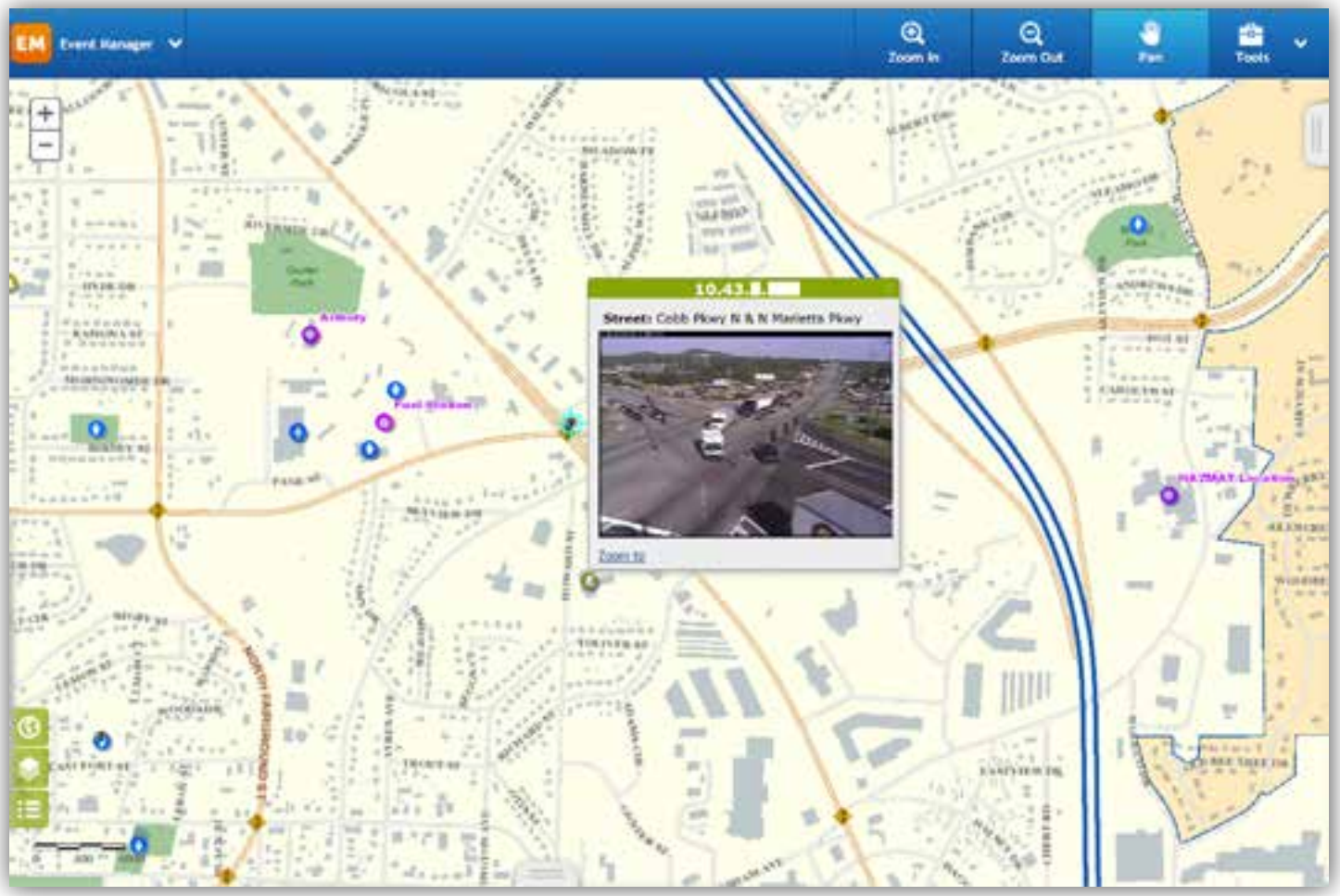
✓ Fire Mobile functionality

✓ CMC Capable

✓ Customized Javascript API

Solution

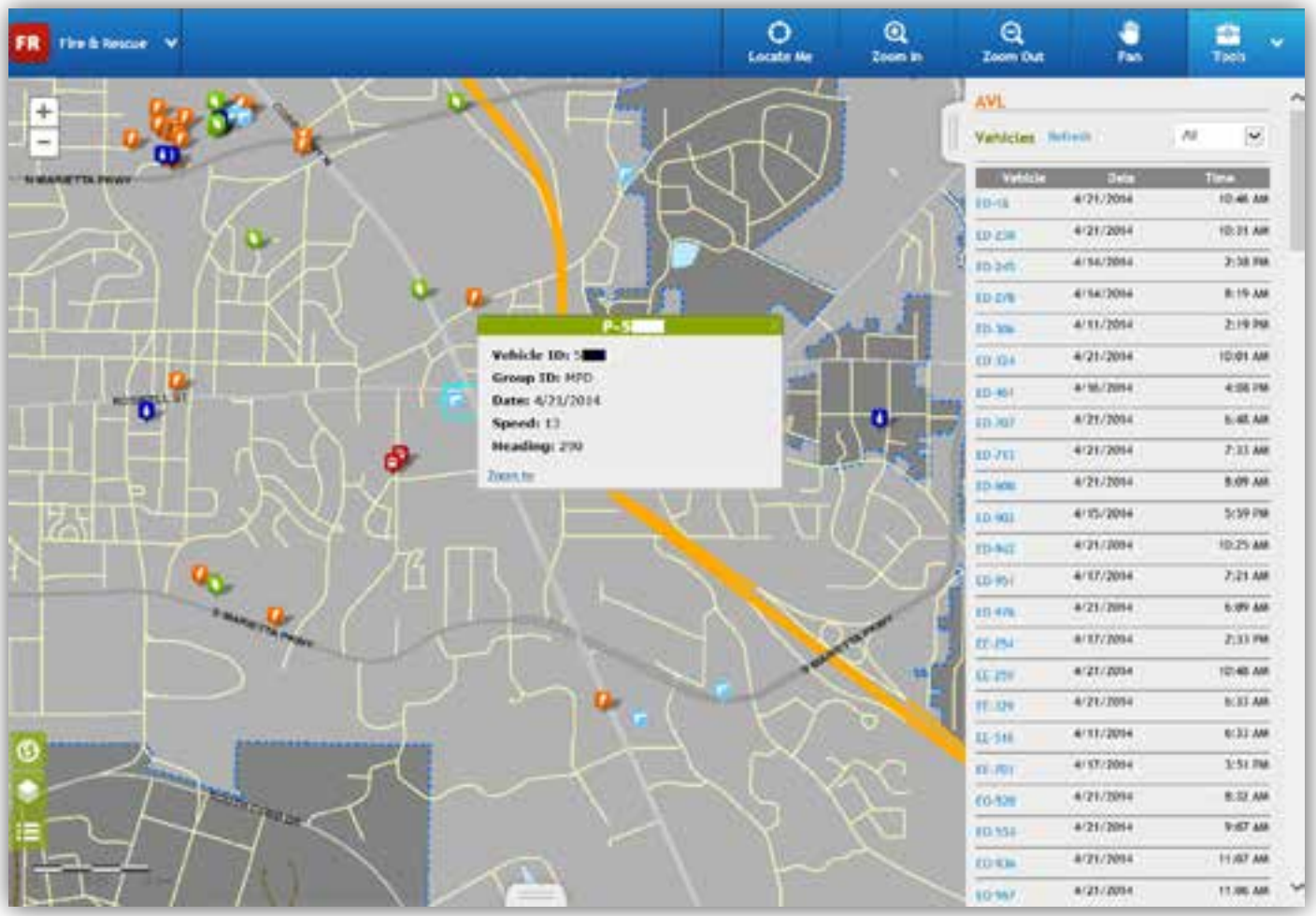
Features (Cameras)



- ✓ 35 live traffic cameras throughout city
- ✓ Each camera exports jpegs every 5 minutes that are accessed by the application

Solution

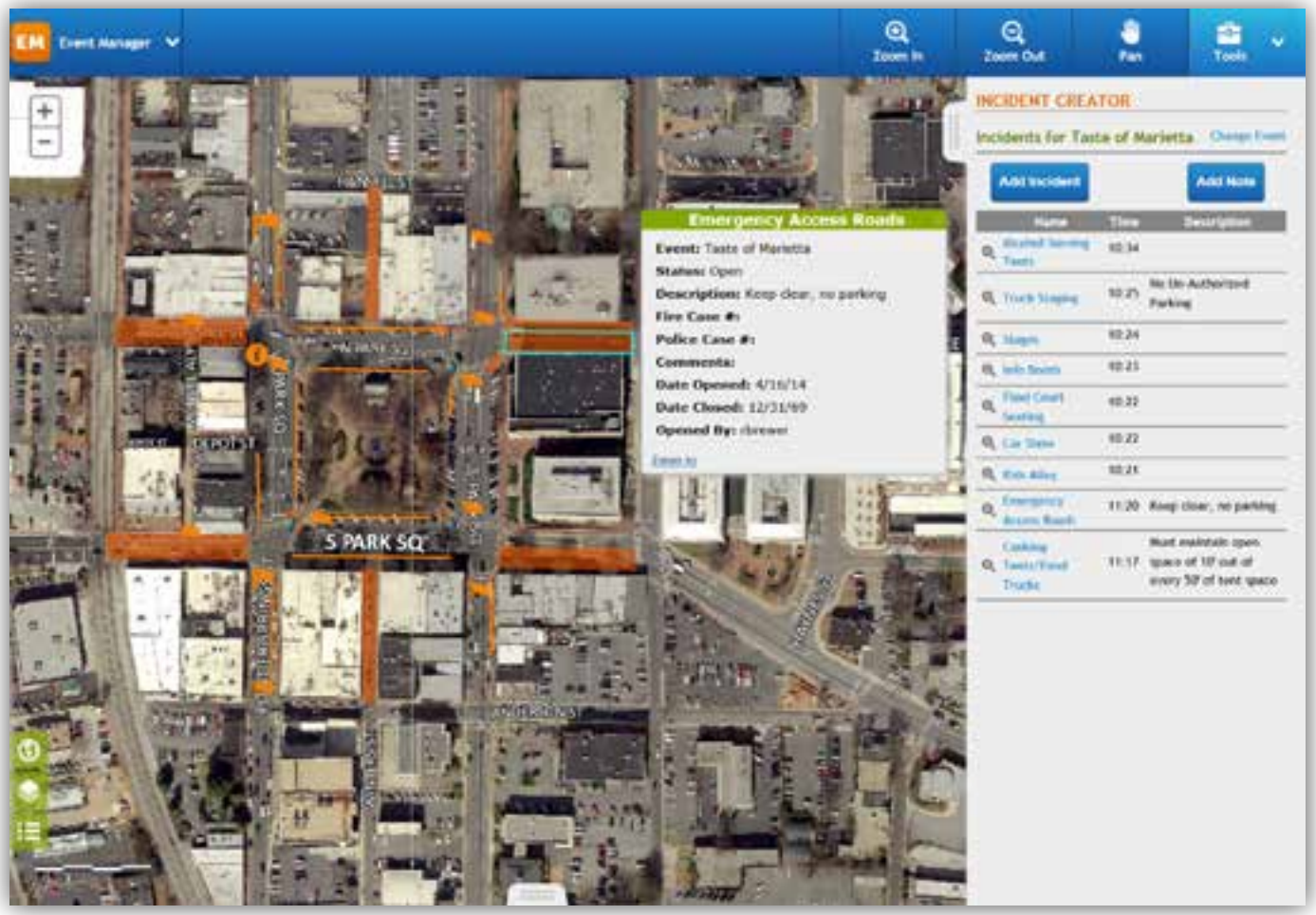
Features (AVL)



- ✓ Automatic Vehicle Location (AVL) available
- ✓ Night-based basemap cached to accommodate bright screens/ red light washout in fire trucks

Solution

Features (Event Management)



- ✓ Event Management functionality showcased via Incident Creator tool
- ✓ Markups seen by all Crisis 2.0 users

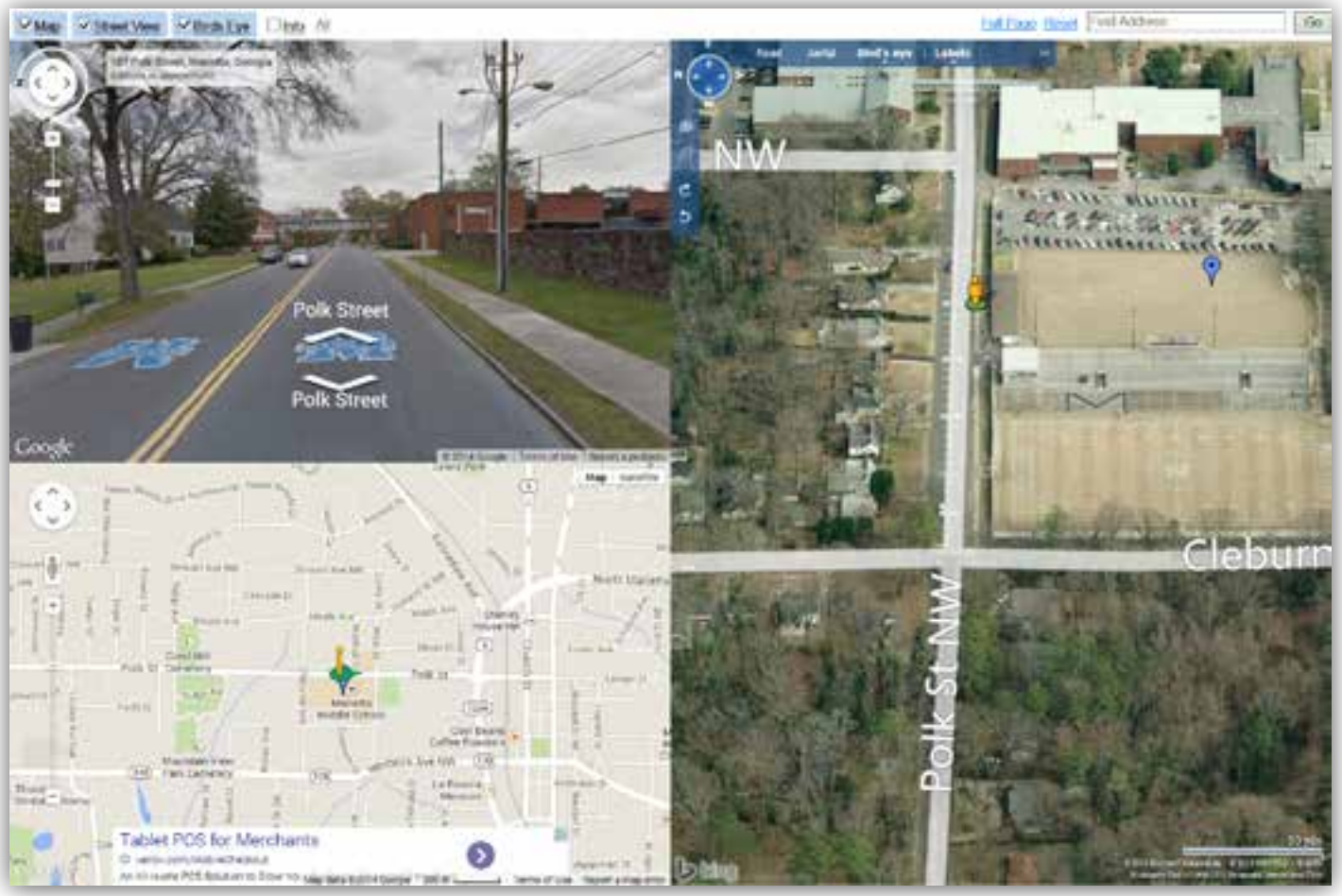
Solution

Features (Pre-Plans)

- ✓ Fire Mobile's pre-plan functionality available, embedded in the Identify tool

Solution

Features (Tri-View)

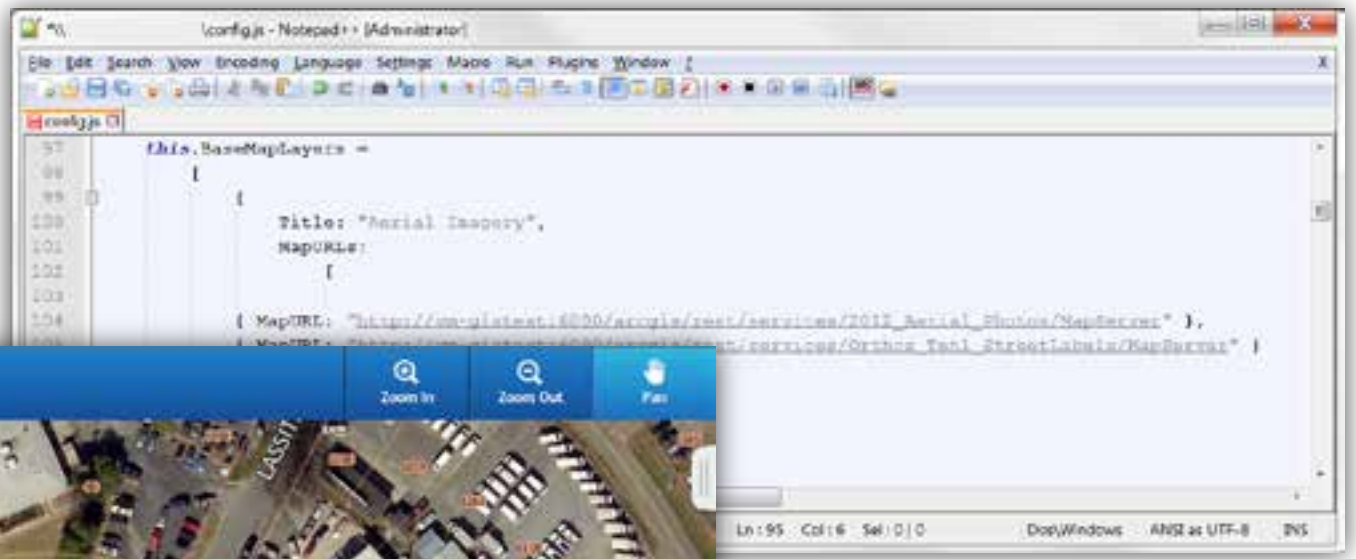


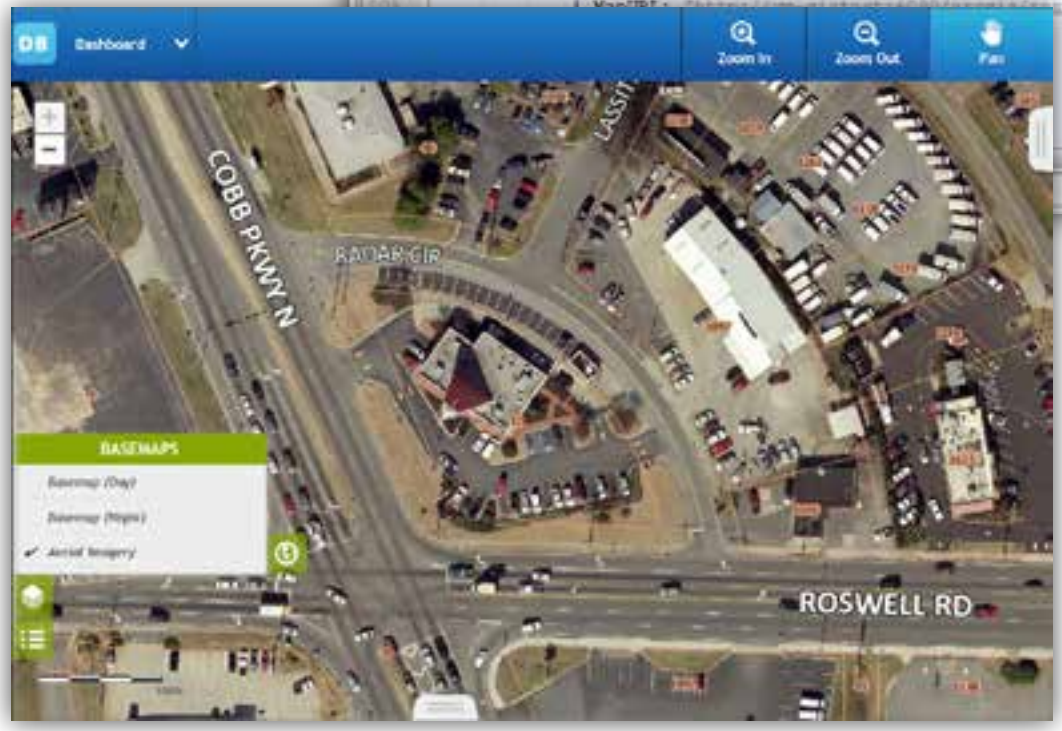
- ✓ Fire Mobile's Tri-View functionality remains, also embedded in the Identify tool

Solution

Features (Miscellaneous)

- ✓ Two ArcServer 10.1 cached services referenced in code

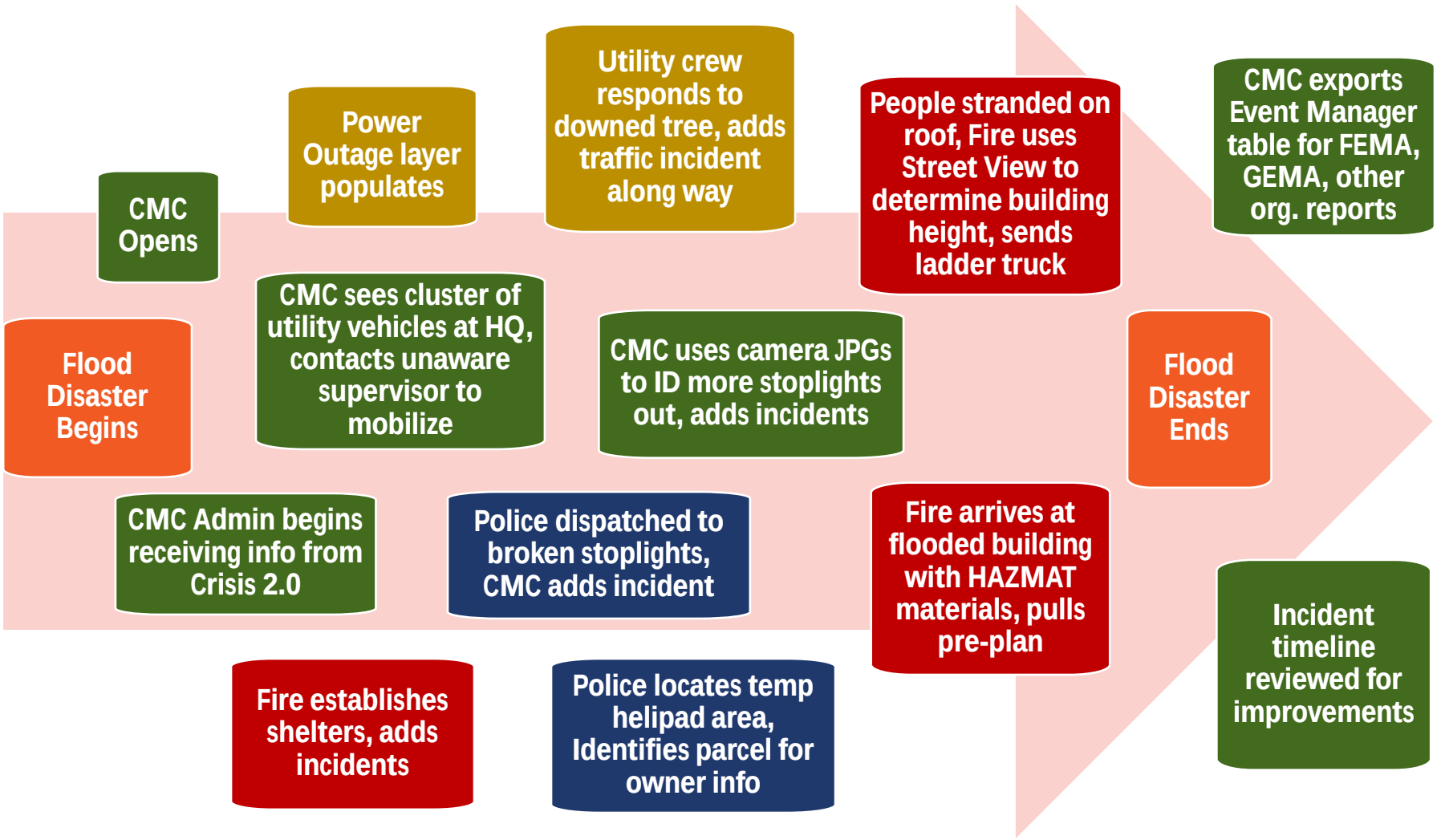




- ✓ Both services appear in application as single basemap option
- ✓ No need for dynamic street labels

Solution

Mock Flood Event



Benefits

Challenges Met

- First Responders have a reduced technical load and greater situational awareness

- Admin in CMC can make more informed decisions using a more efficient application

Benefits

Improvements from IT Perspective

- Went from 2 applications to 1
- JavaScript = desktop & mobiles
- Web-based solution
  - More efficient maintenance
- GIS group can fully migrate to ArcGIS 10.1
- GISi made development process quick, simple, and tailored to our needs

Acknowledgements

- City of Marietta, GA GIS Group
  - Ross Brewer

    (770) 794 - 5549

    rbrewer@mariettaga.gov

    mariettaga.gov
- Geographic Information Services, Inc.
  - Kevin Stewart

    (205) 941-0442 ext 135

    kstewart@gisinc.com

    gisinc.com