

# Utilizing Geospatial Resources for Regional Collaboration during UCI World Championships



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# Race Background

- 3<sup>rd</sup> Leg Cycling Triple Crown
  - Tour de France
  - Giro D'Italia
  - UCI World Championships
- 9 Days
- 4 Courses
- 450,000 Spectators predicted\*

\*645,000 actually attended!!!

## Crowd Estimates

Over nine days, hundreds of thousands of spectators from the region and around the world are expected to gather in Richmond to witness the world's best cyclists compete for the title of World Champion.

Spectators will come from all over: around the world, around the Commonwealth and around the block!

The crowds will ebb and flow during the week and build to the final weekend.



# Regional Challenges

- **Multi-Jurisdictional**

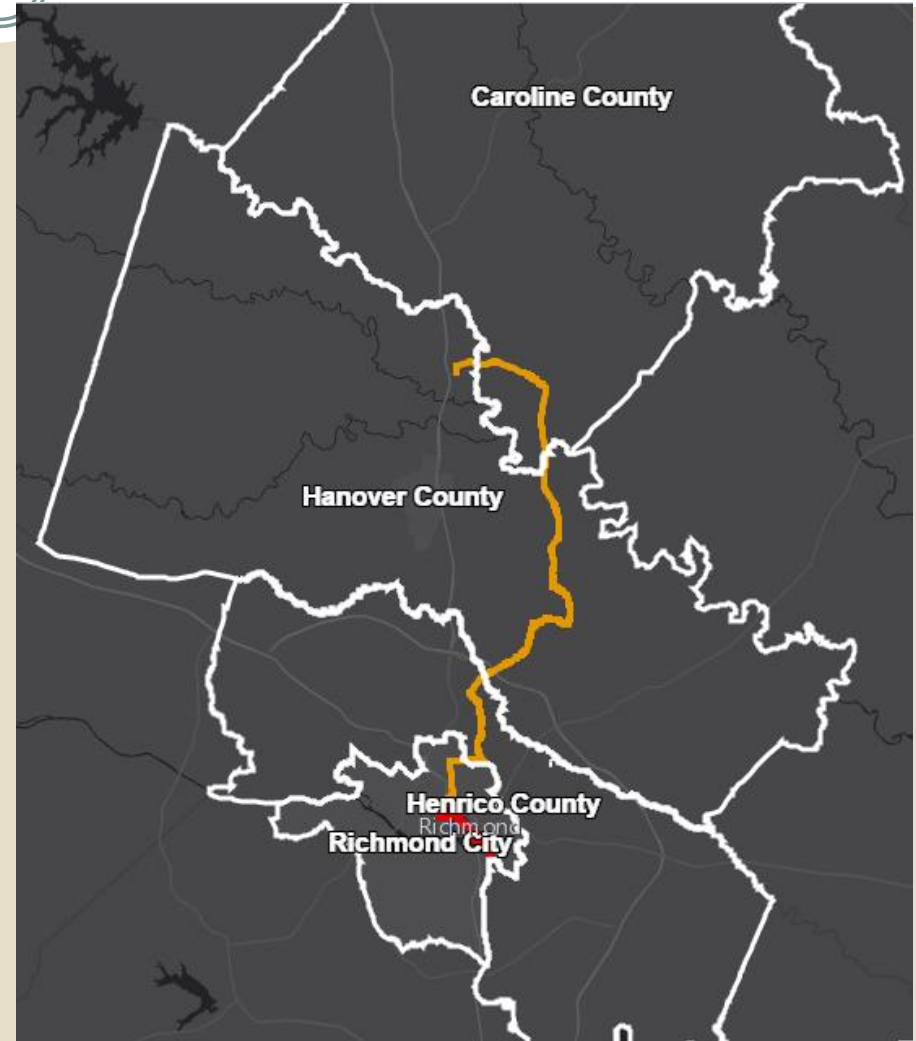
- City of Richmond
- Henrico County
- Hanover County
- Caroline County

- **Multi-Agency**

- State – VDEM, VSP
- Federal – FBI, EPA, DHS
- Local Jurisdictions

- **Resource Tracking**

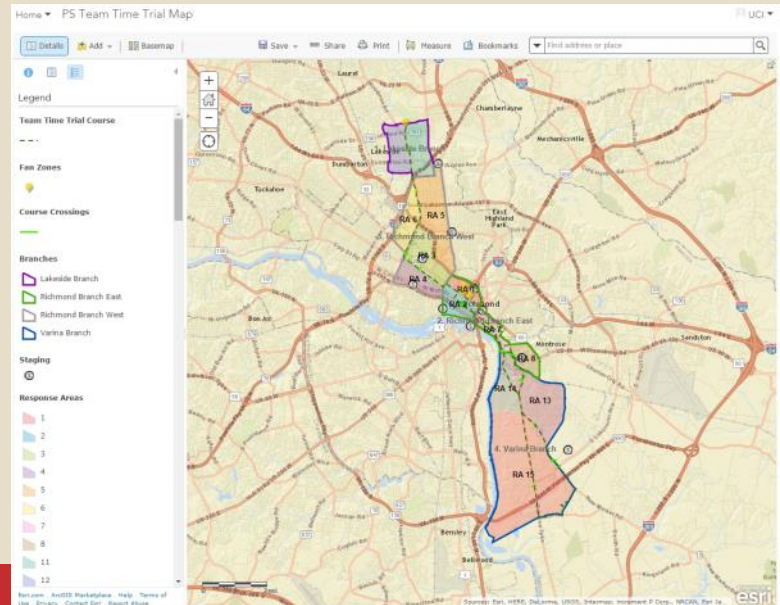
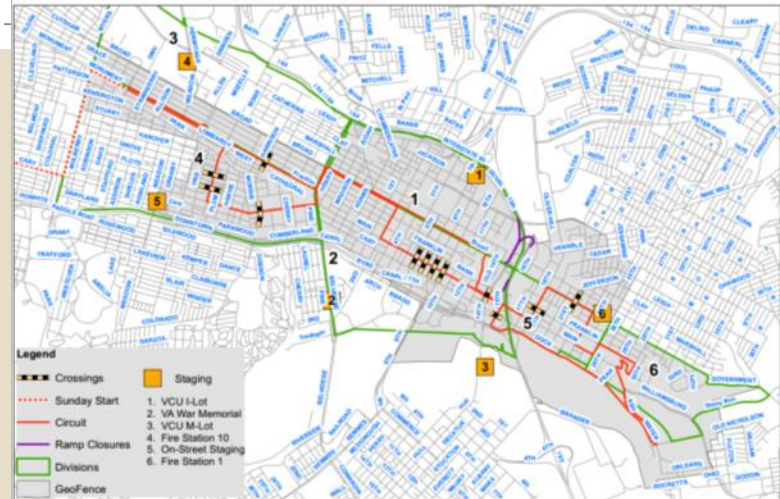
- Response Personnel
- Incidents
- Field Observations



# GIS Implementation

- Desktop/Static Maps unable to provide realtime situational awareness
  - Additional resources required
- ArcGIS Online (AGOL)
  - Provide operational view
  - Excellent for planning
  - **Without dynamic feeds, data is static**

Road Race Circuit, September 24-27

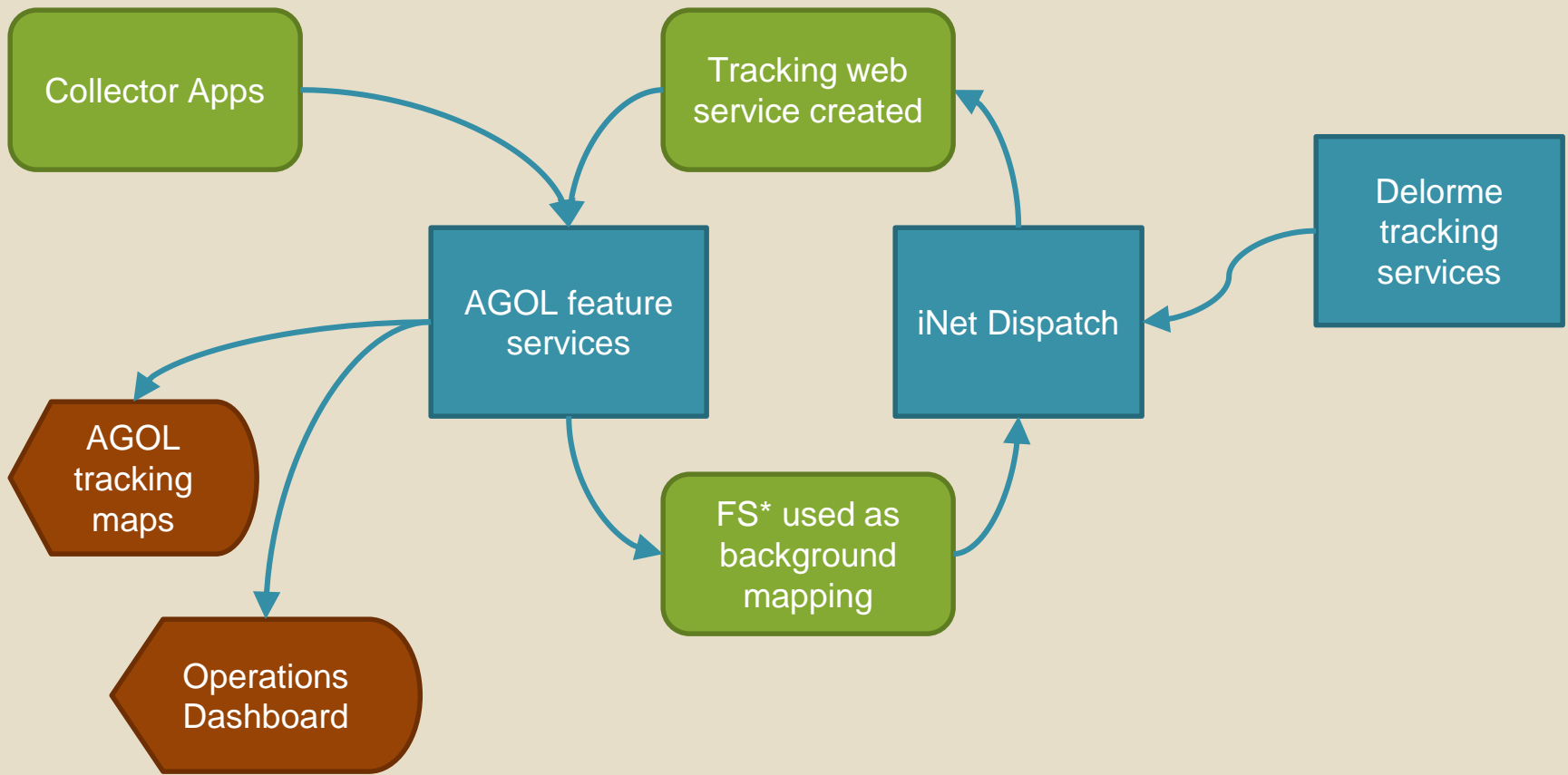


# Geospatial Resources



- **ArcGIS Online**
  - Map source
  - Backbone
- **iNet Dispatch**
  - CAD System
  - Feeds AGOL event information
- **Delorme Devices**
  - GPS tracking device
  - Feeds live services
- **ArcGIS Collector App**
  - Reporting tool for field
  - Provides current observations
- **Operations Dashboard for ArcGIS**
  - Monitors Resources
  - Presents all the information in sharable package

# Geospatial Architecture



# ArcGIS Online



- **Basis for all mapping products**
  - **Features Services created**
    - Drag and drop ability for desktop
    - Simplified Editing
  - **Shared Data Development**
    - Non-GIS users participated and provided feedback
    - Engagement invested responders in product development

# ArcGIS Online Challenges



- **Sharing across organizations**
  - Feature services would not display on different orgs.' maps
  - Minor changes resulted in data disappearance
- **Data Governance**
  - Creating multiple versions of maps and features
  - Caused by sharing between organizations
  - Determining the authoritative source
- **Non-GIS personnel use**
  - AGOL organization's potential for confusion
  - Using 'map notes' for publishing
- **Information Security**
  - Event staff sharing without public access
  - Law Enforcement tracking limited access



# ArcGIS Online Solutions

- **Creation of Super-User Accounts**

- GIS Personnel upload to single account
- Multi-tiered accounts for product management

- **Bulk Account Creation**

- Simplified the account assignment
- Temporary
- Generic

Members

Viewing:

▲Name	Username	Last Login	Role	Action
<a href="#">uci eodst9</a>	ucieodst9	<u>Not yet</u>	<input type="text" value="Read Only"/>	
<a href="#">uci fob1</a>	ucifob1	Sep 5, 2015	<input type="text" value="User"/>	
<a href="#">uci fob10</a>	ucifob10	Sep 27, 2015	<input type="text" value="User"/>	
<a href="#">uci fob2</a>	ucifob2	Sep 27, 2015	<input type="text" value="User"/>	
<a href="#">uci fob3</a>	ucifob3	Sep 27, 2015	<input type="text" value="User"/>	
<a href="#">uci fob4</a>	ucifob4	Sep 24, 2015	<input type="text" value="User"/>	
<a href="#">uci fob5</a>	ucifob5	Oct 29, 2015	<input type="text" value="User"/>	
<a href="#">uci fob6</a>	ucifob6	Sep 27, 2015	<input type="text" value="User"/>	

# AGOL Tracking Maps

- Displayed live services
  - Active CAD incidents
  - Dispatchable units
  - Collector applications (JHAT & Field Reports)

HOME Time Trial Circuit Map SUPER COP New Map

Details Add Edit Basemap Analysis Save Share Directions Measure Bookmarks

Contents

- Active Incidents
- UCI Dispatchable Units
- UCI2015 Field Reports
- Time Trial - Jr Men/Women, Elite Women, U23 Men Course
- Fan Zones
- Branches
- Course Crossings
- Traffic Groups
- UCI Special Event Point
- Staging
- UCI Special Event Line
- UCI Special Event Area
- UCI Special Event
- Access Hazard Points
- Process Notes
- Response Assets
- Response Routes
- Response Areas (Staging / Pickup)

Dispatchable Units: RPD-BT99

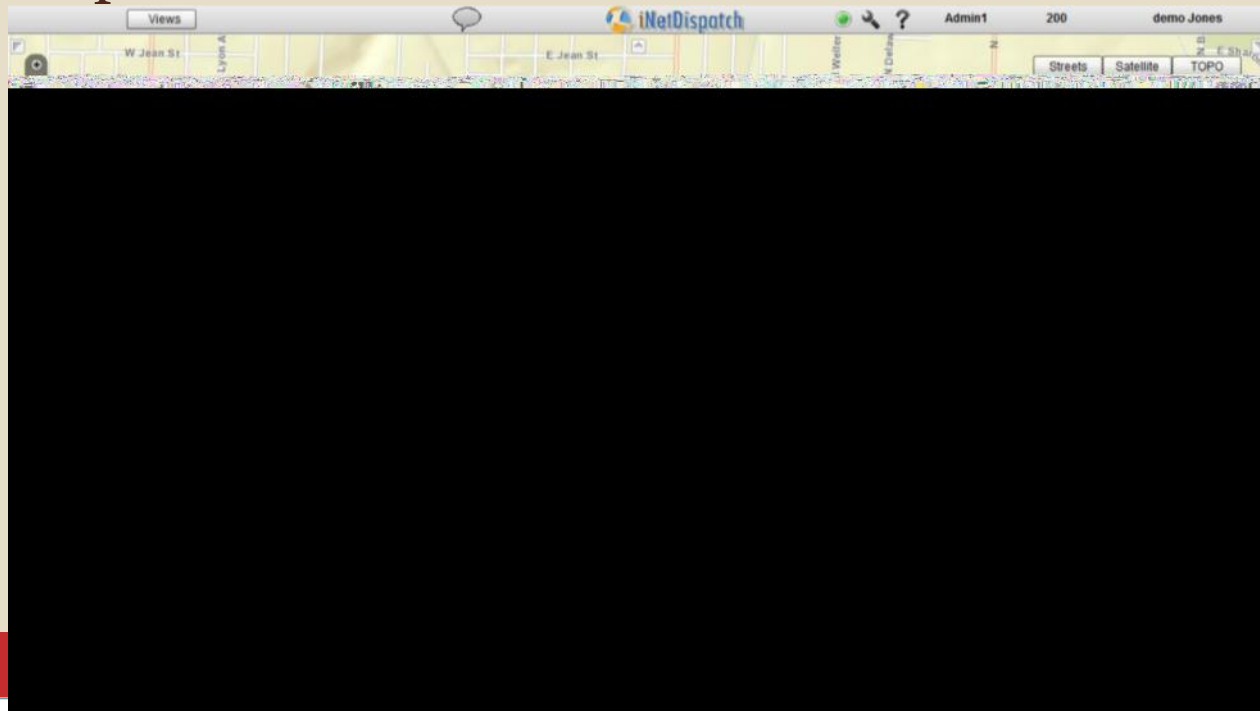
Zoom to Get Directions

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# iNet Dispatch



- iNet Dispatch
  - Web based Computer Aided Dispatch (CAD)
  - Flexible deployment (just need an internet connection)
  - Base maps and feature services created in AGOL



# iNet Challenges



- Geofence matching of response areas between special event and normal operations dispatching
- Creating searchable common places
- Call type designations differed between jurisdictions
- Any changes to AGOL background feeds during the live event could cause the iNet feed to break

# iNet Solutions

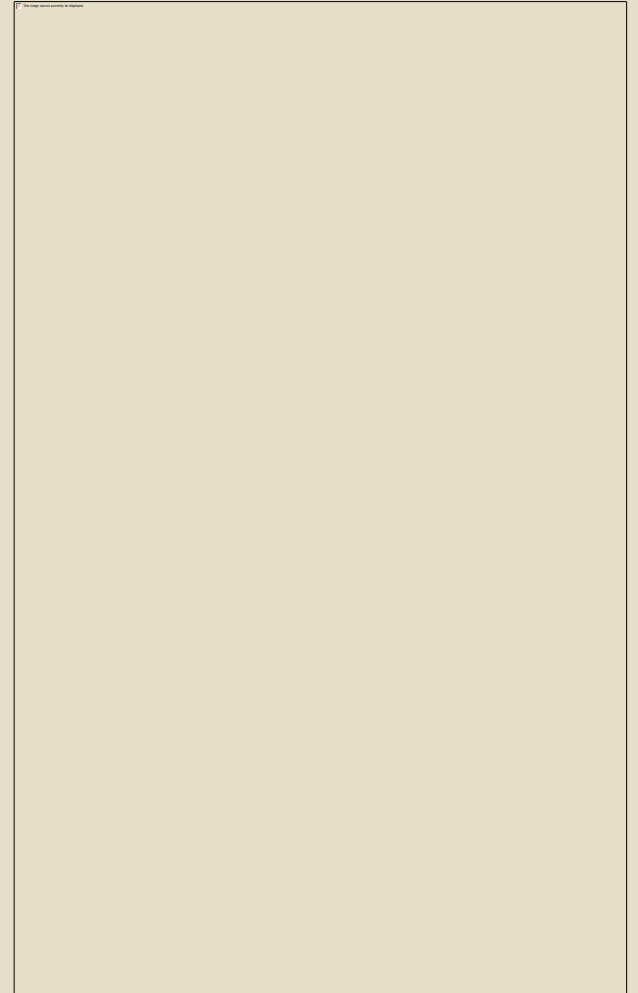


- Including both Richmond CAD and iNet special event geofences in iNet dispatching basemap
- Export CAD common places name and import into iNet
- Used standardized (APCO) call types
- Feed secured by multi-tiered AGOL accounts preventing accidental access or changes

# Delorme Tracking Devices



- Provided to response units
- Realtime trackers
- Unique identifiers for assigning units
- Delorme location information consumed through iNet creating web services



# Delorme Challenges



- 120 devices across 4 organizations
- Devices administered by single group
- Different settings due to variable programming
- Poor placement on personnel and in vehicles caused signal issues

# Delorme Lessons Learned



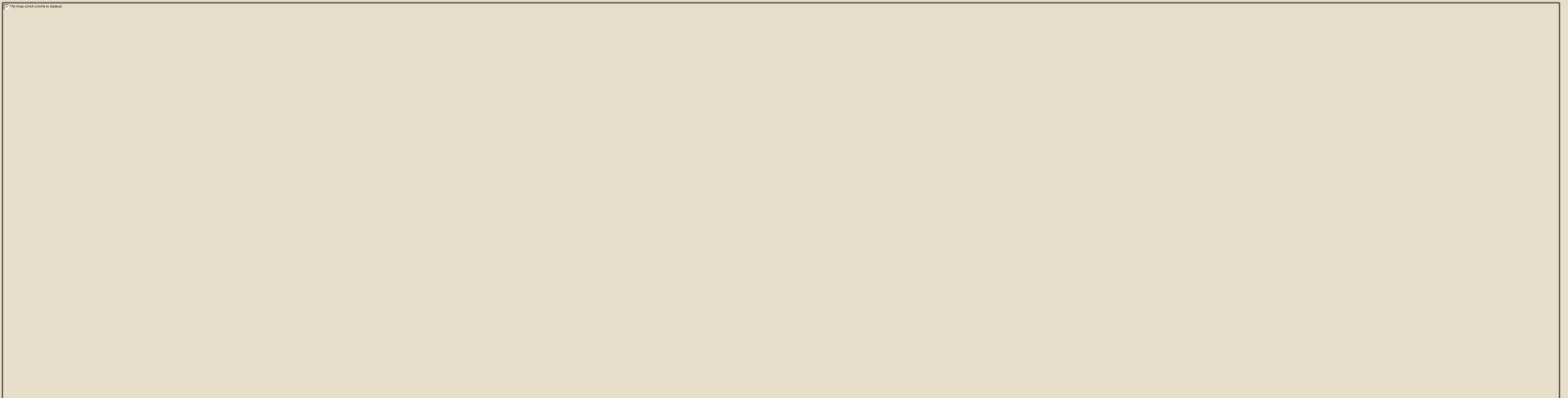
- All settings verified prior to use
- All organizations must play in same sandbox
- Simple training with end users
  - turning on/off
  - tracking on
  - placement



# ArcGIS Collector



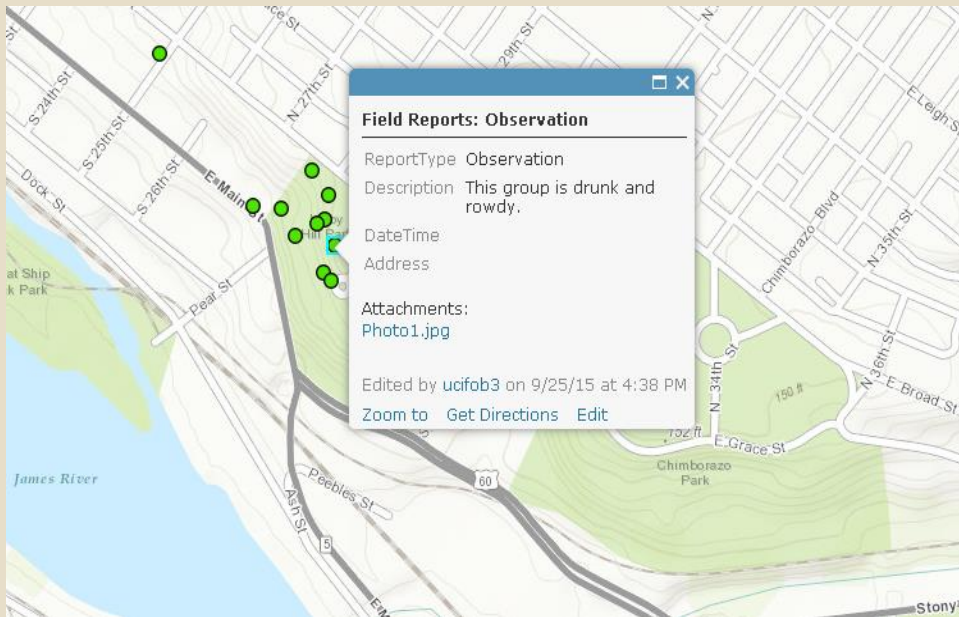
- Compatible with iOS and Android
- Multimedia capable
- Populates points of interest and potential hazards
- Reporting tool for Operation Command Staff (e.g crowd estimates on Libby Hill)



# Collector in Action



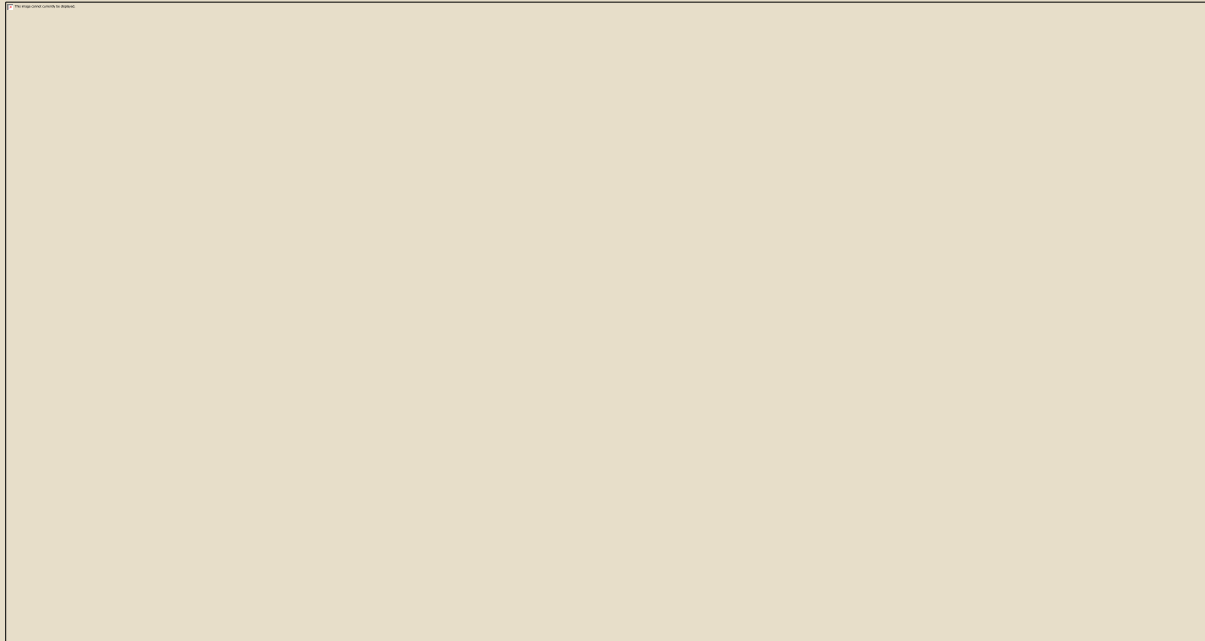
- Field observers notice inebriated patrons
- Point Entered in Collector
- Police advised to be aware



# Collector Issues & Solutions



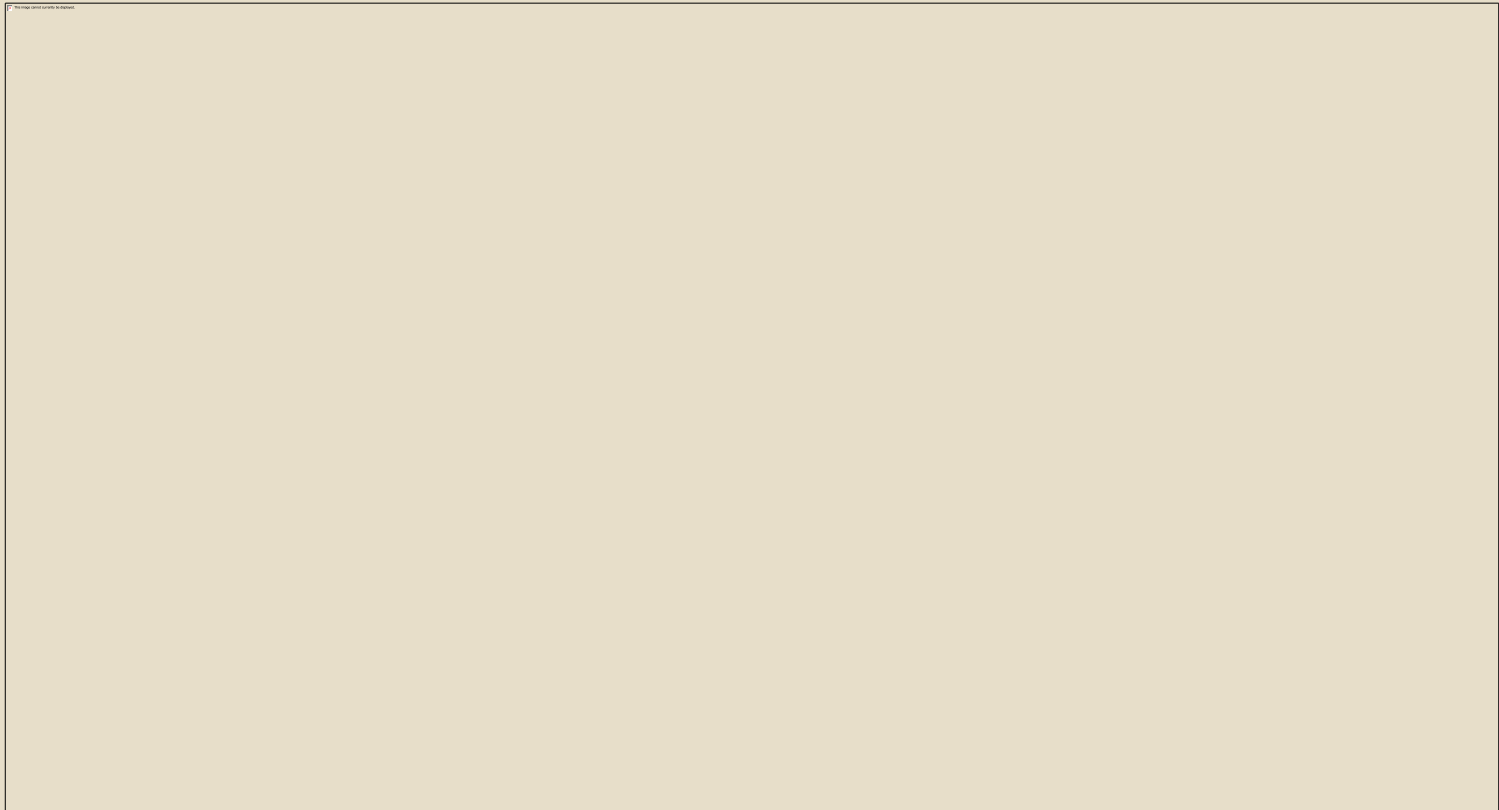
- Cell network overwhelmed during popular events
  - Inability to attach photos to collector and be seen AGOL
- Hardware availability
  - VDEM provided iPhones and iPads



# Operations Dashboard



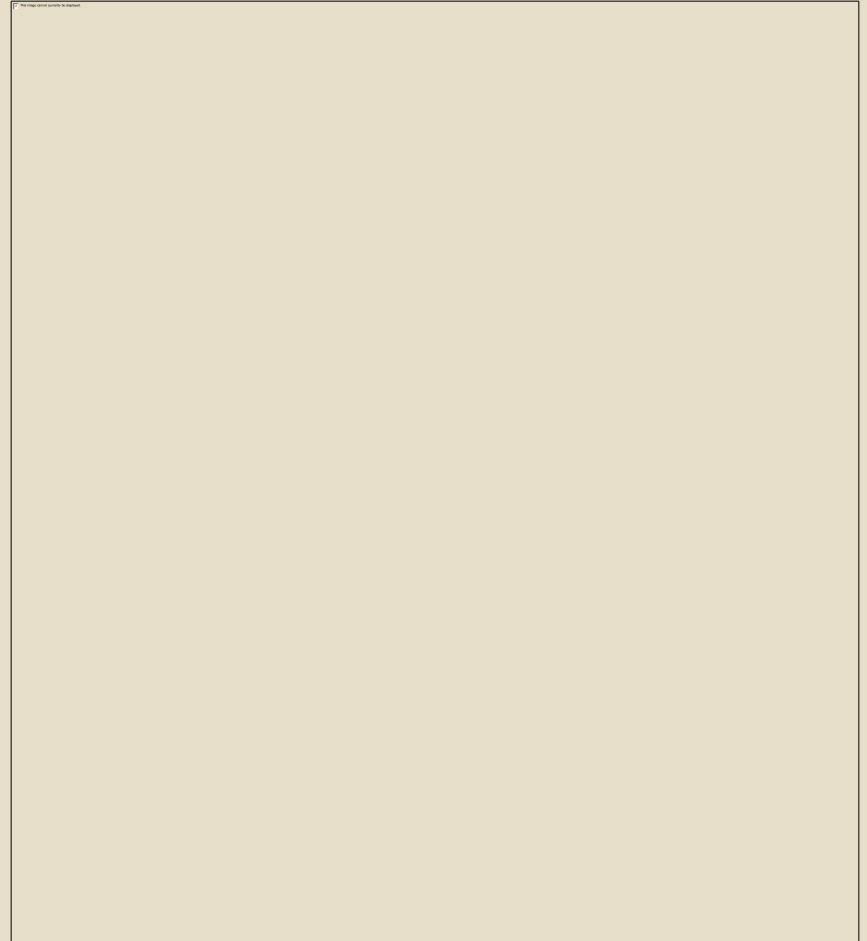
- Usable, easily disseminated format
- Available on both desktop and web



# Operations Dashboard



- Provides situational awareness at a glance
- Non-Spatial Supplemental information
  - Event counts
  - Active incidents
  - Call types and details



# Dashboard Issues & Solutions



- **Issues**
  - Desktop installation issues
  - Refresh issues
- **Solutions**
  - Switched from desktop to web operations dashboard
  - Changed refresh rate on features services in web maps that fed the dashboards

# Conclusions



- Restricting access to AGOL feature services that were consumed by iNet (if changed broke iNet feed)
- Desktop Operations Dashboard shows promise but technical issues limited its use
- Delorme user training extremely important
- First time an event of this magnitude was hosted in our region – proven possible with lots of collaboration!

# Questions



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