Using GIS Tools During a Child Abduction

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Jacksonville Sheriff’s Office (Florida)
Jacksonville (Florida)

• Largest US city in Lower 48 (by Land Area)
  • 747 square miles

• Population of 913,000 (2017 estimate)

• Jacksonville Sheriff’s Office (JSO)
  – Over 3,000 employees, 1,600 sworn
  – Crime Analysis Unit
    • Manager, 3 Supervisors, 14 Analysts
    • GIS Mapping
Comparing Jacksonville to six other major cities

- **PORTLAND**
  - Population: 583,776
  - Square-mile area: 134.3

- **MILWAUKEE**
  - Population: 594,833
  - Square-mile area: 96.1

- **DETROIT**
  - Population: 713,777
  - Square-mile area: 138.8

- **PHILADELPHIA**
  - Population: 1,526,006
  - Square-mile area: 135.1

- **LAS VEGAS**
  - Population: 583,756
  - Square-mile area: 131.2

- **MIAMI**
  - Population: 399,457
  - Square-mile area: 35.7

Detroit, Las Vegas, Miami, Milwaukee, Philadelphia, Portland TOTALS
- Population: 4,401,605
- Square-mile area: 671.2

**JACKSONVILLE**
- Population: 821,784
- Square-mile area: 767
What We’ll Discuss

• Jacksonville’s Lonzie Barton Case (July 2015)
  – Incident Command System (ICS)
• Esri Web Mapping Application
• Esri Survey123
• Esri Operations Dashboard
AMBER ALERT

LONZIE BARTON

MISSING: 7/24/2015
AGE MISSING: 1 year
AGE NOW: 1 year
SEX: Male  RACE: White
HAIR: Blonde  EYES: Blue
HEIGHT: 2'06"  WEIGHT: 020
FROM: Jacksonville, FL
COUNTY: Duval

NARRATIVE: A Florida AMBER Alert has been issued for Lonzie Barton, a white male, 1 years old, blonde hair, blue eyes, approximately 2 feet, six inches tall, and approximately 20 pounds, last seen in the area of 8000th block of Old Kings Road in Jacksonville, wearing diaper. If you have any information on the whereabouts of this child please contact the Jacksonville Sheriff's Office at 904-630-0500 or 911.
Crime Analysis Response

• Investigative Assistance
• Grid Search Mapping & Printing
• Pulling addresses for canvass interviews
• Data Entry
• Data Analysis
  – Re-canvassing
Materials Used

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Materials Used

Would you mind checking your property (pools, sheds, etc.) for a child or would you allow us to check it?

shed, Playhouse

do you see anything disturbed on your property?

No

Have you identified any body of water in the grid?

Ditch behind

What businesses are in the grid and do they have video?

No

What dumpsters are in the grid?

No
GIS Trailer
Result of Investigation

Inmate Population Information Detail

DC Number: J45381
Name: EBRON, WILLIAM R JR
Race: BLACK
Sex: MALE
Hair Color: BLACK
Eye Color: BROWN
Height: 5'09"
Weight: 168 lbs
Birth Date: 04/07/1983
Initial Receipt Date: 02/11/2016
DNA Drawn: 08/15/2011
Current Facility: DESOTO ANNEX
Current Classification Status: NOT APPLICABLE
Current Custody: CLOSE
Current Release Date: 01/18/2040

(Release Date subject to change pending gain time award, gain time forfeiture, or review. A TO BE SET Release Date is to be established pending review.)

Send money to this inmate.
After Action Review

• Involve Analysts as early as possible to start developing search areas for disbursement
• Use US National Grid 1000 Meter Layer
• Develop an electronic application that can be deployed in the field
• Have a way to track which search areas have been completed and which still need to be done
Web Mapping Application

• Original Shapefile/Geodatabase created in Desktop ArcMap
  – Data is Published to ArcGIS Online
  – US National Grid

• ArcGIS Online

• USNG Application
Web Mapping Application: USNG
Web Mapping Application: USNG
Web Mapping Application: Editing
Survey123

• Survey123 allows custom-made questionnaires that can be used for canvass interviews during searches
• Surveys are developed in an excel spreadsheet and are deployed via a smart phone or tablet application that can be used in the field
• Real-time data and analytics
• Addresses used in application come from City parcels and are matched with USNG
Survey123
**Survey123**

**My Survey**

**Person:**

- **First Name:** John
- **Last Name:** Doe
- **Date of Birth:** January 1, 1980
- **Phone Number:**
  - 9040000000
  - 9041234567
- **Email:** John.doe@gmail.com

**Have you seen this individual?**

- Yes
- No
Survey123
Survey123

- Results Link: [https://survey123.arcgis.com/](https://survey123.arcgis.com/)
### Survey123

#### Excel Spreadsheet

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- **Date**: Use date in Excel's format (e.g., `=TODAY()`)
- **Type**: User ID
- **Name**: Address
- **Label**: US National Grid Number
- **Hint**: Yes
- **Required**: Yes
- **Default**: Autocomplete
- **Appearance**: Maximal
- **Bold**: Yes
- **Italic**: Yes
- **Underline**: Yes
- **Strike**: Yes
- **Color**: Red
- **Font Size**: 12
- **Font Style**: Normal

#### Additional Data

- **Phone Number**: 5040300000
- **Email**: Email
- **Comments**: Multiline
- **Description**: Yes
- **Video Property**: Yes
- **Water Property**: Yes
- **Dumbster Property**: Yes
- **Person Search**: Yes
- **Repeat**: Yes
- **End Repeat**: Yes
Esri Operations Dashboard

• Provides a way to display all information in one platform
• Desktop or Browser-based
  – Browser-based actually a little better (Labels)
• Does not work on smart phones
• Link to browser-based:
  http://jsomaps.maps.arcgis.com/apps/dashboard/index.html#/6769f366ad8a40cf9b9e008998d62905
Summary

• Everything becomes electronic and data can be analyzed on the fly

• Command/Officers can be told immediately which areas need to be re-canvassed
  – Areas with video recording
  – Areas with water bodies
  – Areas with large dumpsters
Still Needs Improvement

• Need a dedicated GIS server that can be used by internal and external parties
  – Jacksonville Sheriff’s Office
  – Fire Department
  – Other agencies

• Need an ability to marry addresses (parcels) and USNG and keep updated and also eliminate addresses as they’re being canvassed
  – Apartments are also a problem

• Use of Esri’s Collector for ArcGIS
Any questions?

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