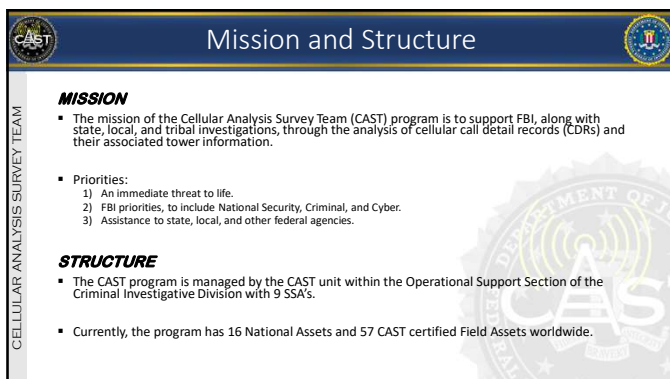




1



2



3



4

Products and Services

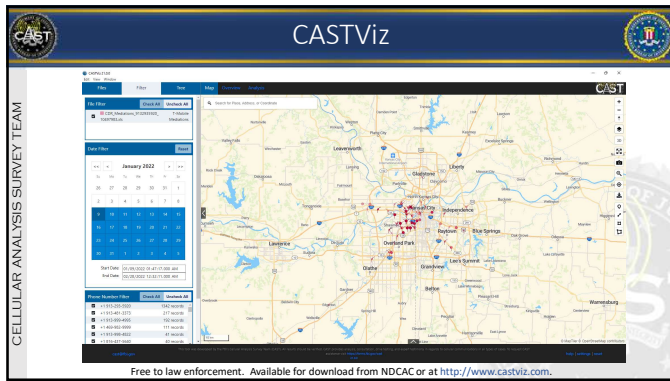
CELLULAR ANALYSIS SURVEY TEAM

- Obtaining, collating, and analyzing cellular communication data.
- Historical CDR analysis and geospatial mapping.
- Common device analysis and comparisons to establish links between significant locations/persons and cellular site data.
- Drive tests to aid in verifying and measuring the actual coverage area of a cell tower.
- Target acquisition through the analysis of CDRs facilitates the deployment of a Wireless Identification and Direction-finding Team (WIDT).
- Expert witness testimony in support of cellular analysis.

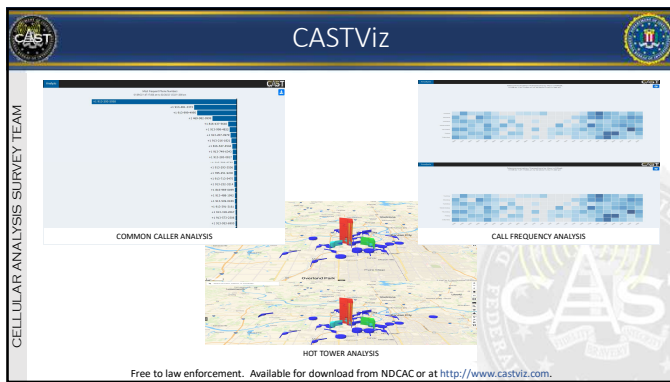
5



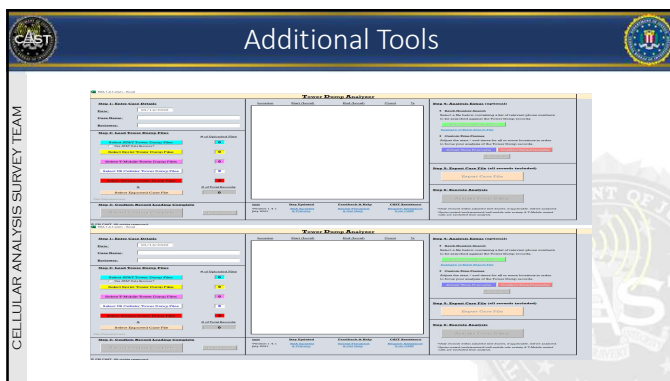
6



7



8



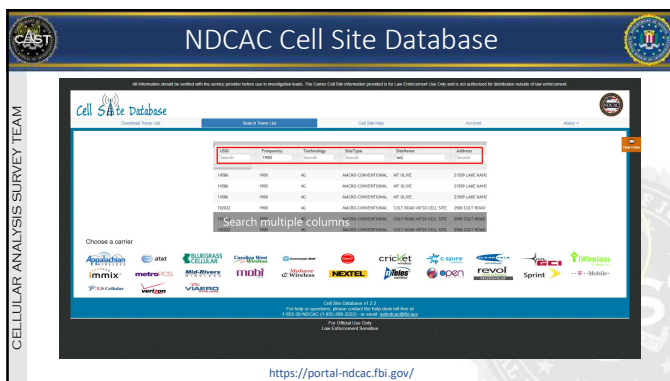
9



10



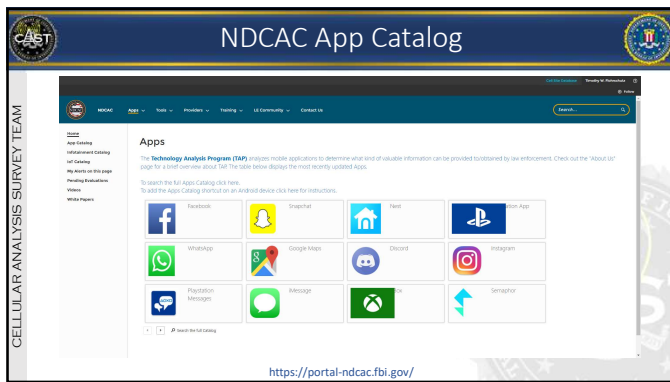
11



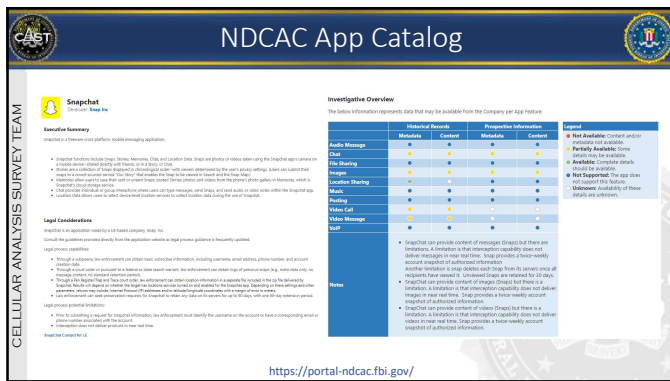
12



13



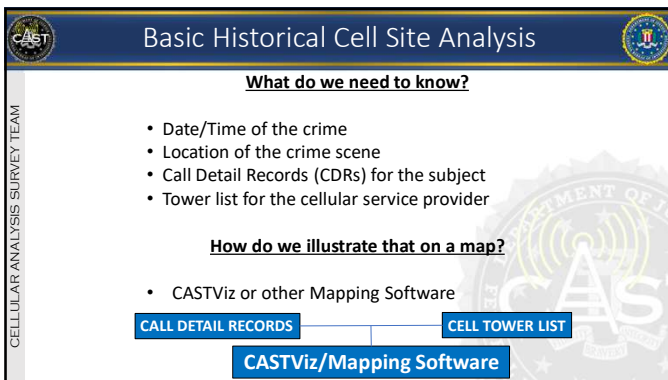
14



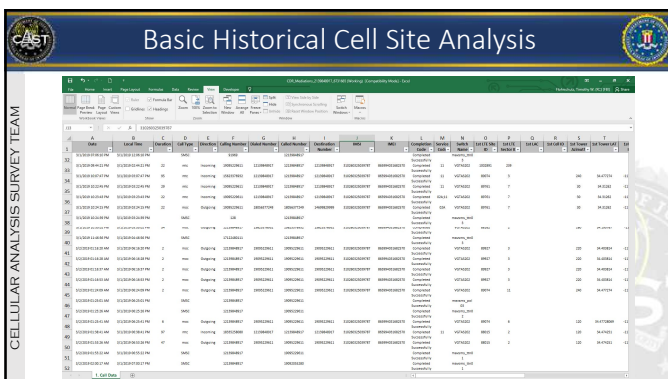
15



16



17



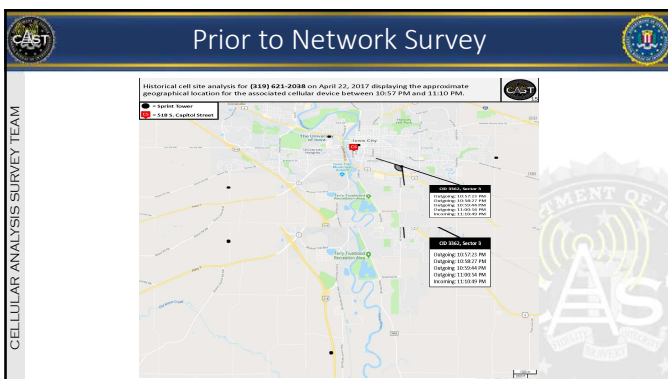
18



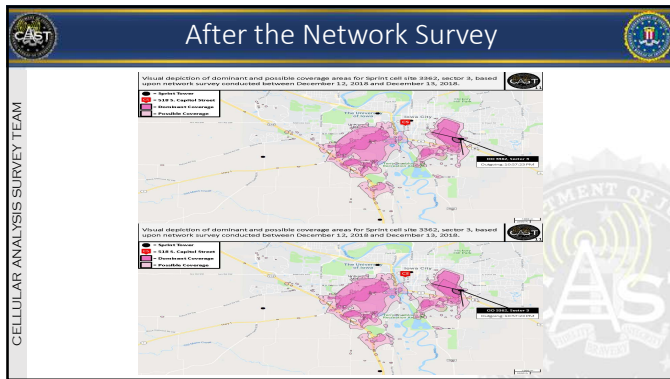
22



23



24



25



26

Tower Dumps

Most common uses:

- 1) Related crimes separated by time and distance:
 - Robbery or burglary strings, serial killings, etc.
 - Isolate numbers common to multiple locations.
- 2) Single location where a phone is being used at a specific time:
 - Boston Marathon - surveillance camera or witness information.
 - Isolate numbers based upon known time/activity.
- 3) Single location with separation in time:
 - No known event.
 - Isolate numbers unique to date/time of crime.
- 4) Preserve evidence:
 - Homicide with no suspects.

CELLULAR ANALYSIS SURVEY TEAM

DEPARTMENT OF JUSTICE

CAST

27



28

CELLULAR ANALYSIS SURVEY TEAM

Third-Party Location Information

Google

- Google knows where you are via:
 - Global Positioning System (GPS)
 - WiFi
 - Cellular
- Provided with a latitude and longitude and a radius (very important to look at the radius).
- Can combine Google Location Information and cellular information to paint a complete picture. They can compliment each other.

29

CELLULAR ANALYSIS SURVEY TEAM

Not Phone but Still “Phones”

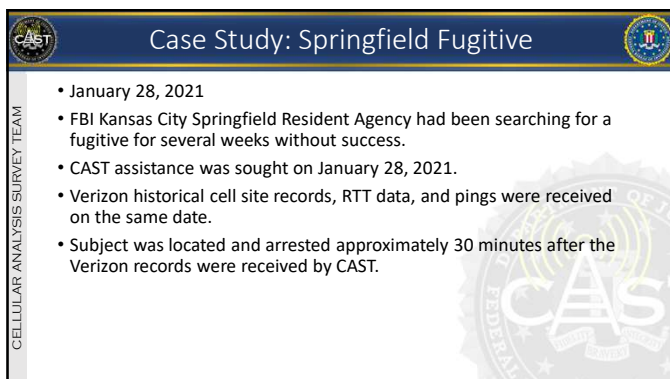
30




31





32





33

<p align="center">FBI CELLULAR ANALYSIS SURVEY TEAM</p> <p align="center">HISTORICAL MOBILE DEVICE LOCATION ANALYSIS</p> <div align="center">  </div> <p align="center">SA Timothy Flohrschutz FBI Kansas City</p> <p align="center">Case #: 176-KC-3369901</p> <p align="center">Telephone Number Analyzed (417) 689-4394</p> <p align="center">January 28, 2021</p> <p align="center"><small>Property of the FBI Cellular Analysis Survey Team. Reproduction in whole or in part is prohibited.</small></p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
--	---

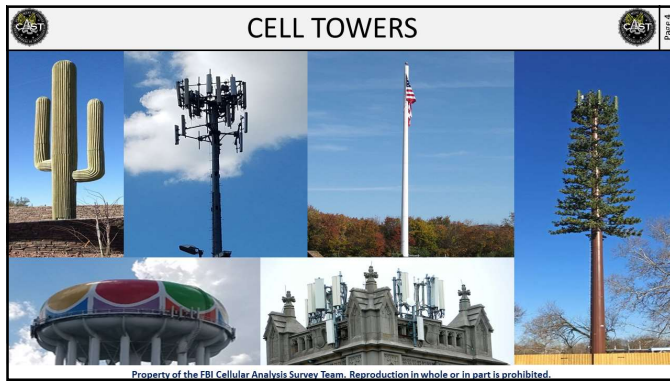
34

<div align="center">  DRAFT ANALYSIS  </div> <p align="center">THE FOLLOWING REPORT CONTAINS A DRAFT ANALYSIS OF HISTORICAL CALL DETAIL RECORDS WITH CELL SITE LOCATION INFORMATION, AND ANY OTHER AVAILABLE HISTORICAL LOCATION DATA, OBTAINED FOR DEVICE(S) DETERMINED BY THE PRIMARY INVESTIGATING AGENCY TO BE ASSOCIATED WITH THE CAPTIONED MATTER.</p> <p align="center">THE ANALYSIS CONTAINED HEREIN IS PRESENTED IN DRAFT FORMAT WHICH LACKS A PEER-REVIEW AND OTHER QUALITY CONTROL MEASURES REQUIRED FOR COURTROOM PRESENTATION. THE ANALYSIS MAY BE USED FOR LEAD PURPOSES BUT SHOULD NOT BE INTRODUCED INTO DISCOVERY PRIOR TO OBTAINING THE FINAL PEER-REVIEWED TRIAL REPORT.</p> <p align="center">Refer to FRCP Rule 26(b)(3)(A) and (B)</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
---	---

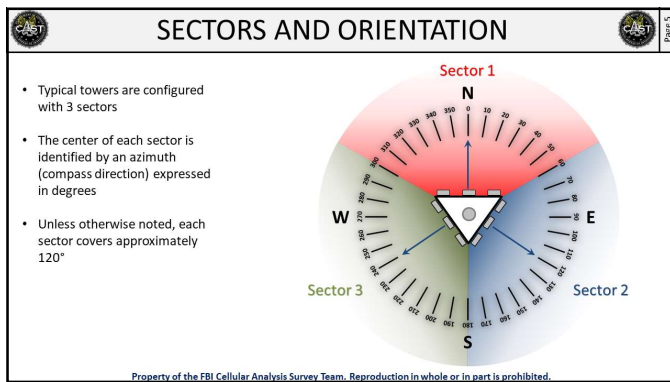
35

<div align="center">  INTRODUCTION  </div> <p>1. Background The Federal Bureau of Investigation (FBI) Cellular Analysis Survey Team (CAST) was requested by Special Agent Isaac McPheeters of the Springfield Resident Agency to analyze cell phone records for (417) 689-4394 ("target cell phone"). The target cell phone was believed to be associated with Zachary Haynes Martin, a subject wanted on a federal arrest warrant issued in the District of Columbia for violations associated with the Capitol Riot on January 6, 2021.</p> <p>2. Methodology An analysis was performed on the call detail records obtained for the target cell phone. The call detail records documented the network interaction to and from the target cell phone. Additionally, the records documented the cell tower and cell sector ("cell site") which served the cell phone during this activity. Used in conjunction, the call detail records and a list of cell site locations illustrate an approximate location of the target cell phone when it initiated contact with the network.</p> <p>2.1 Cell Site Locations Cell sites in existence during the time of the incident were input into mapping software using latitude/longitude coordinates of the cell sites provided by the service provider. The cell sites associated with the target cell phone(s), were located utilizing the mapping software and the plotted cell site data.</p> <p>3. Conclusions A historical cell site analysis was performed on the call detail records for the target cell phone. The methods detailed in Sections 2 and 2.1 were used to produce the attached historical cell site analysis maps.</p> <p align="center"><small>Property of the FBI Cellular Analysis Survey Team. Reproduction in whole or in part is prohibited.</small></p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
---	---

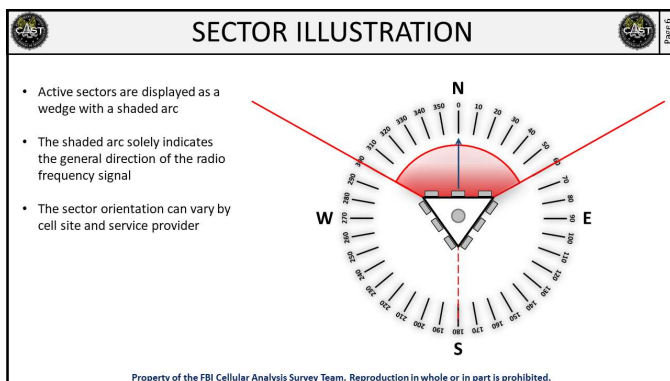
36



37



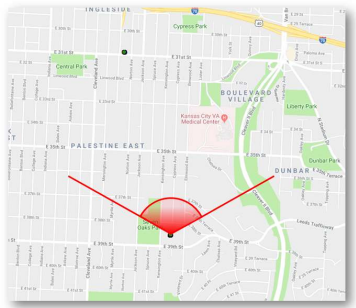
38



39

SECTOR MAPPING ILLUSTRATION

- When displayed on a map, a sector illustration shows the general area of coverage as it relates to a specific geographic area and indicates incoming or outgoing call activity

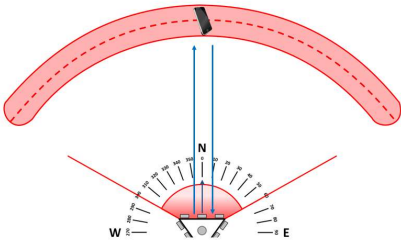


Property of the FBI Cellular Analysis Survey Team. Reproduction in whole or in part is prohibited.

40

RTT EXPLANATION

- Round Trip Tool
- A roundtrip network measurement from tower to device and back referred to as a Timing Advance
- The device will be located no further than the outside edge of the shaded arc but may be located inside

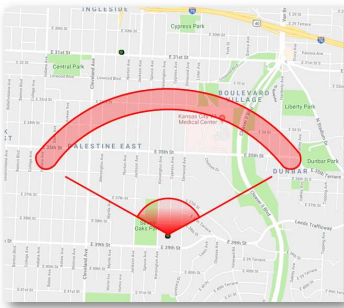


Property of the FBI Cellular Analysis Survey Team. Reproduction in whole or in part is prohibited.

41

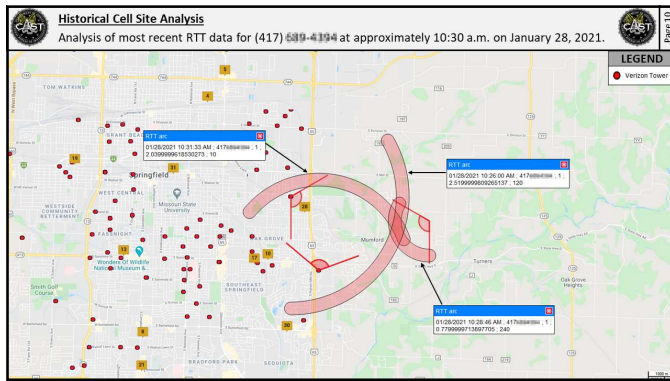
RTT ILLUSTRATION

- When displayed on a map, an RTT illustration shows the area of coverage as it relates to a specific geographic area for a measurement taken during a call or data session

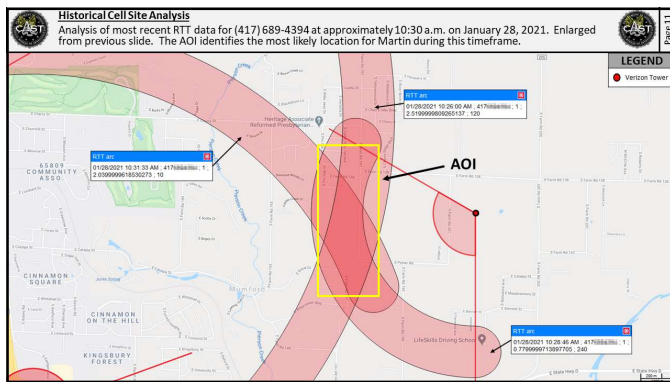


Property of the FBI Cellular Analysis Survey Team. Reproduction in whole or in part is prohibited.

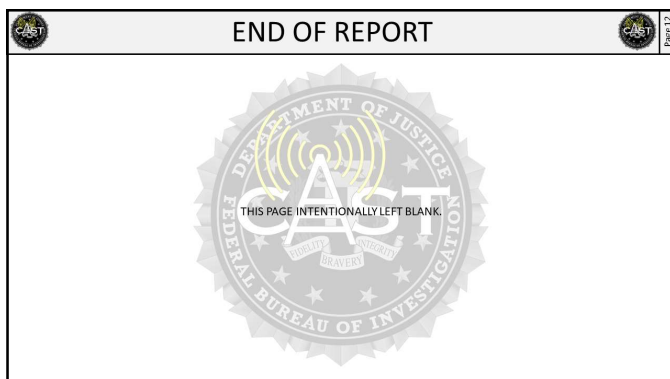
42



43




44




45



46




Case Study: Baby Sophia Kidnapping



CELLULAR ANALYSIS SURVEY TEAM


- November 16, 2017
- Boyfriend returns home from work to find victim had been executed and infant daughter missing.
- CAST analysis was critical to the location and recovery of the child alive and well.
 - Cellebrite extraction of victim's phone.
 - Historical cell site analysis.
 - Prospective surveillance of subject phone.

Regional alert goes out for baby kidnapped in Wichita



47

FBI CELLULAR ANALYSIS SURVEY TEAM



TFO Joseph M. Daneff
 FBI Kansas City
 Case# 7C-KC-2102851
 (316) 689-1026
 May 3, 2017

Intellectual property of the FBI Cellular Analysis Survey Team, reproduction in whole or in part is prohibited

48

1. Background
The Federal Bureau of Investigation (FBI) Cellular Analysis Survey Team (CAST) was requested by Detective Michelle Tennyson of the Wichita Police Department to analyze cell phone records for (316) 689-1026 ("target cell phone"). The target cell phone was believed to be associated with a homicide that occurred on November 17, 2016.

2. Methodology
An analysis was performed on the call detail records obtained for the target cell phone. The call detail records documented the network interaction to and from the target cell phone. Additionally, the records documented the cell site and cell sector ("cell site"), which served the target cell phone during the activity. Used in conjunction, the call detail records and a list of cell site locations illustrate an approximate location of the target cell phone when they initiated contact with the network.

2.1 Cell Site Locations
Cell sites in existence during the time of the incident were input into mapping software using latitude/longitude coordinates of the cell sites provided by the service provider(s). The cell sites associated with the target cell phone were located utilizing the mapping software and the plotted cell site data.

3. Conclusions
A historical cell site analysis was performed on the call detail records for the target cell phone. The methods detailed in Sections 2 and 2.1 were used to produce the attached historical cell site analysis maps.

CAST

2

49

Sector Orientations
EXAMPLE ONLY
EACH CELL SITE ORIENTATION CAN VARY

CAST

3

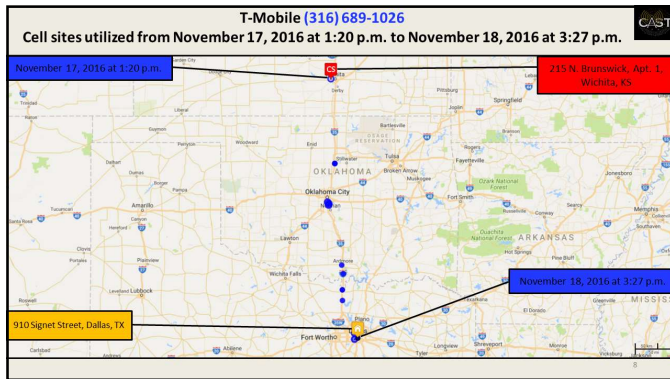
50

If the orientation points at 30 degrees (1:00), the coverage can be approximated to be 60 degrees in either direction; (every 30 degrees is one hour on a clock).

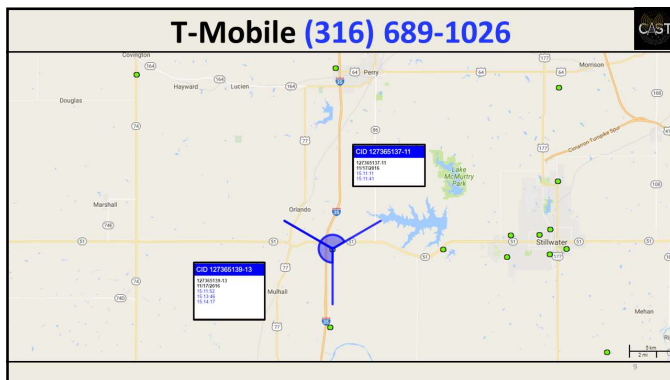
CAST

4

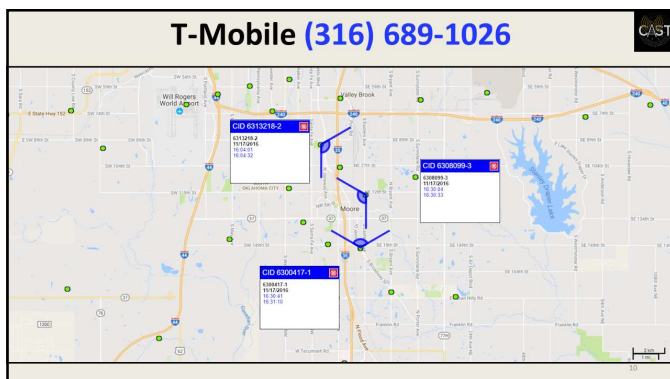
51



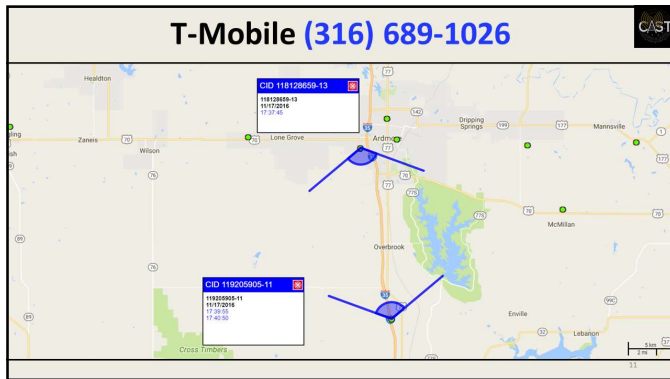
55



56



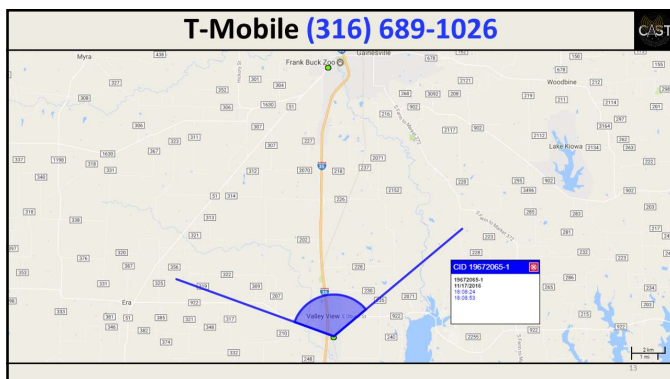
57



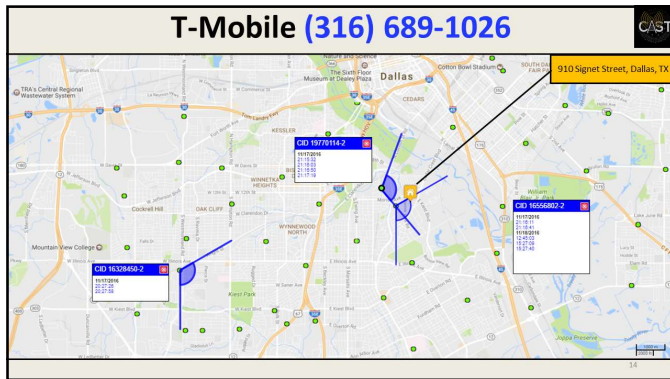
58



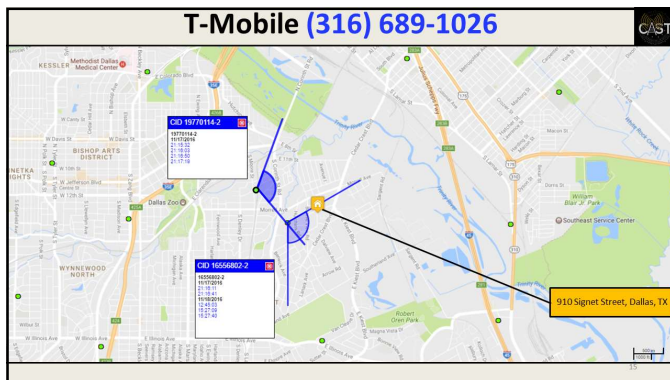
59



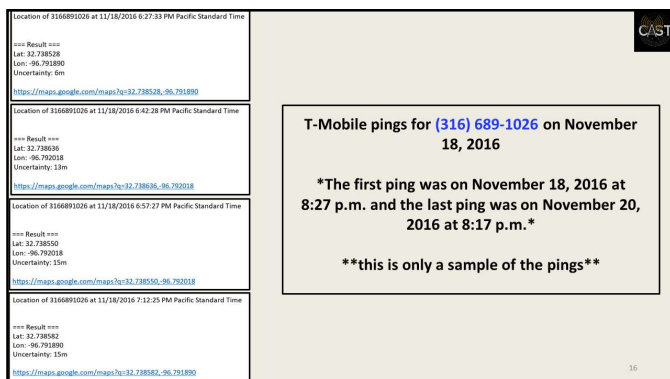
60



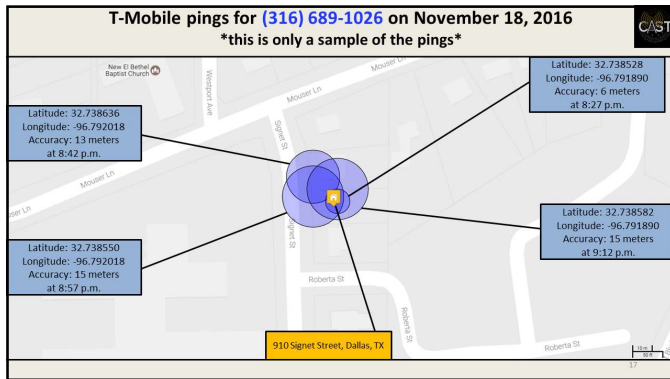
61



62



63




64




65



66



Case Study: Missing Person Toni Anderson




CELLULAR ANALYSIS SURVEY TEAM

- January 15, 2017
- Toni Anderson was stopped by a North Kansas City police officer at 4:30 a.m.
- Following the stop, Anderson pulled into a local QuikTrip and sent a text message at 4:42 a.m.
- Anderson was never seen again.
- CAST personnel conducted a network survey to narrow the search area for Anderson based upon cellular data records.
- Using the data provided by CAST, search and rescue crews located Anderson and her vehicle in the Missouri River.

67

FBI CELLULAR ANALYSIS SURVEY TEAM



TFO Joseph M. Daneff
 FBI Kansas City
 FBI # 343A-KC-2125706
 KCPD CRN 17-3720
 T-Mobile (316) 516-0970
 January 24, 2017

Intellectual property of the FBI Cellular Analysis Survey Team reproduction in whole or in part is prohibited

68

T-Mobile Data Session Records for target telephone number 316-516-0970. The T-Mobile Call Detail Records (CDRs) indicate the target telephone last connected to a cell site and sector was on January 14, 2017 at 20:49:56 hours.

start_date	Adj Start Time	end_date	Adj End Time	cell_sector_tracking_area_code	cell_sector_ensemble
1/15/2017 12:08	1/15/2017 6:08	1/15/2017 12:11	1/15/2017 6:11	42241	20133
1/15/2017 12:01	1/15/2017 6:01	1/15/2017 12:12	1/15/2017 6:12	42241	20133
1/15/2017 11:46	1/15/2017 5:46	1/15/2017 12:01	1/15/2017 6:01	42241	20133
1/15/2017 11:31	1/15/2017 5:31	1/15/2017 11:46	1/15/2017 5:46	42241	20133
1/15/2017 11:16	1/15/2017 5:16	1/15/2017 11:31	1/15/2017 5:31	42241	20133
1/15/2017 11:01	1/15/2017 5:01	1/15/2017 11:16	1/15/2017 5:16	42241	20133
1/15/2017 10:46	1/15/2017 4:46	1/15/2017 11:01	1/15/2017 5:01	42243	20024
1/15/2017 10:31	1/15/2017 4:31	1/15/2017 10:46	1/15/2017 4:46	42243	20024
1/15/2017 10:16	1/15/2017 4:16	1/15/2017 10:31	1/15/2017 4:31	42243	20024
1/15/2017 10:08	1/15/2017 4:08	1/15/2017 10:16	1/15/2017 4:16	42243	20024
1/15/2017 10:00	1/15/2017 4:00	1/15/2017 10:08	1/15/2017 4:08	42244	20026
1/15/2017 10:01	1/15/2017 4:01	1/15/2017 10:16	1/15/2017 4:16	42244	20026
1/15/2017 10:00	1/15/2017 4:00	1/15/2017 10:08	1/15/2017 4:08	42244	20026
1/15/2017 9:46	1/15/2017 3:46	1/15/2017 10:01	1/15/2017 4:01	42244	20026
1/15/2017 9:37	1/15/2017 3:37	1/15/2017 10:00	1/15/2017 4:00	42244	20026
1/15/2017 9:31	1/15/2017 3:31	1/15/2017 9:46	1/15/2017 3:46	42244	20026
1/15/2017 9:16	1/15/2017 3:16	1/15/2017 9:31	1/15/2017 3:31	42244	20026
1/15/2017 9:01	1/15/2017 3:01	1/15/2017 9:16	1/15/2017 3:16	42244	20026
1/15/2017 8:46	1/15/2017 2:46	1/15/2017 9:01	1/15/2017 3:01	42244	20026
1/15/2017 8:33	1/15/2017 2:33	1/15/2017 8:46	1/15/2017 2:46	42244	20026
1/15/2017 8:32	1/15/2017 2:32	1/15/2017 8:46	1/15/2017 2:46	42244	20026
1/15/2017 8:16	1/15/2017 2:16	1/15/2017 8:31	1/15/2017 2:31	42244	20026
1/15/2017 8:01	1/15/2017 2:01	1/15/2017 8:16	1/15/2017 2:16	42244	20026
1/15/2017 7:46	1/15/2017 1:46	1/15/2017 8:01	1/15/2017 2:01	42244	20026

Tower 20133 is located at 39.15080, 94.65596

Tower 20024 is located at 39.13858, 94.58008

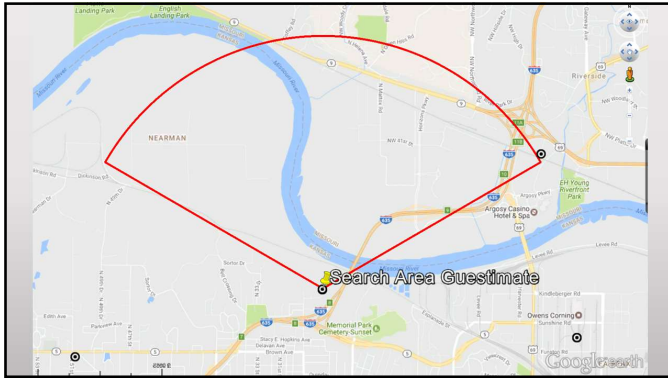
Tower 20026 is located at 39.13860, 94.56014

Tower 20219 is located at 39.07189, 94.48939

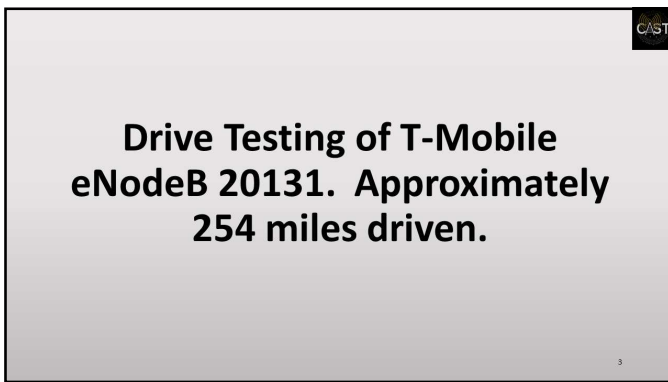
Tower 20137 is located at 39.05599, 94.48130

Tower 20688 is located at 39.05640, 94.49410

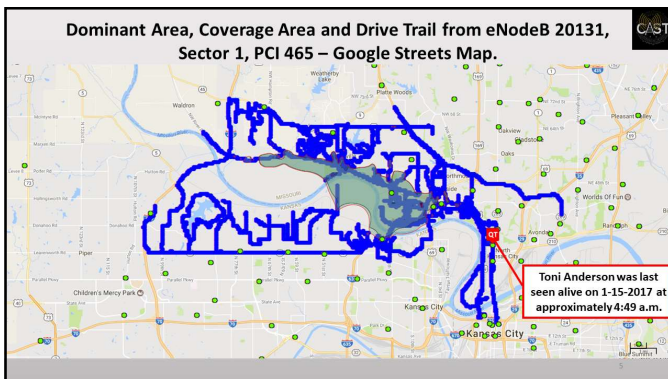
69



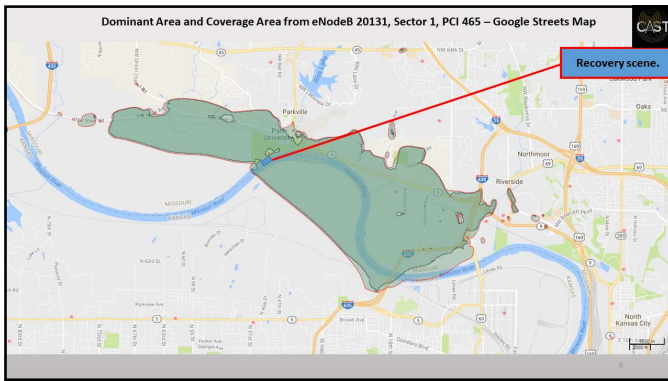
70



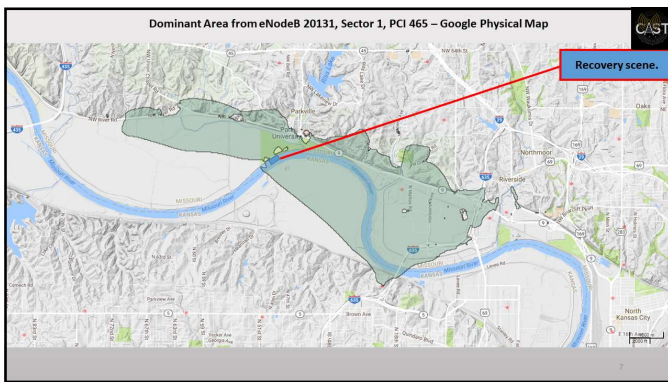
71



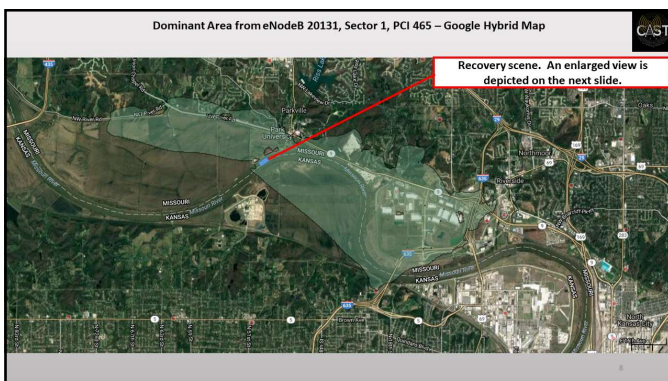
72



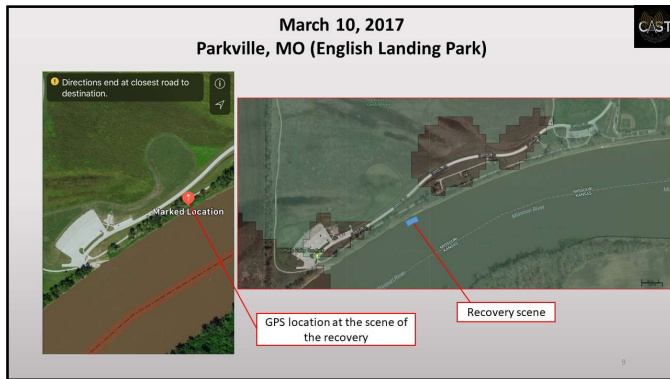
73



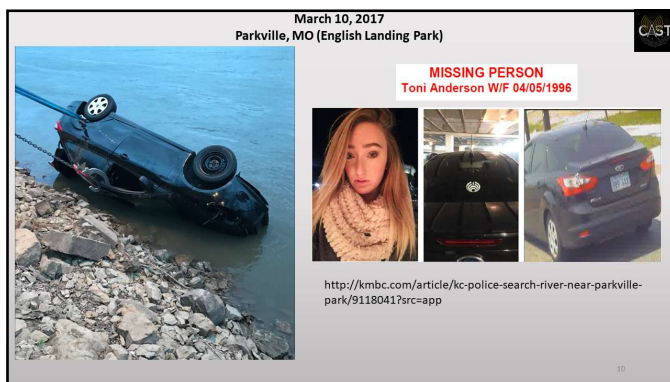
74



75



76



77



78

CAST Intake Request

CELLULAR ANALYSIS SURVEY TEAM

CAST Intake Form

Personal Information

First Name *

Last Name *

Email Address *

Cell Phone *

Home Address *

Agency Information

Agency Name *

Address *

City *

State *

ZIP Code *

<https://forms.fbi.gov/cast-intake-form>

79

CAST

Contacting CAST

CAST@fbi.gov (General Questions)

CASTVIZ@fbi.gov (CASTViz Questions)

SA Timothy Flohrschutz | twflohrschutz@fbi.gov | (816) 206-3863 (cell) | Kansas City

TFO Joseph Daneff | jmdaneff@fbi.gov | (816) 719-8381 (cell) | Kansas City

SA Bastian Freund | bfrend@fbi.gov | (314) 230-6553 (cell) | St. Louis

80
