

Criminal Investigations Using Cellular Technologies

8 Hour Course

June 23, 2017 at 0800 Hours

Hosted by:

Arizona Homicide Investigators Association

This ZetX 8 hour training course is a fast paced general overview of what can be done with cell phone records as it pertains to criminal investigations. The current world of cellular data is too expansive to cover in 8 hours, so the objective of this course is preservation of data and what is possible. The entire course has been designed around case studies to show real world examples of how the data can be used. There are a total of 8 case studies that will be covered. These case studies include homicides, murder for hire, kidnapping, ransom, and poaching cases. These are all current/recent cases that cover the most current data law enforcement is seeing from cellular providers. In addition to case studies, court examples will also be provided. There will be a brief overview of what ZetX offers through training, the ZetX Suite, and case support.

Learning Objectives:

1. Identify what type of records are generally available
2. Identify record retention periods
3. Identify the process of submitting preservation requests
4. Basic understanding of what geolocation data is and where it is derived from
5. Basic understanding of how geolocation data can be used to further investigations
6. Basic understanding of what CDR analytics are used for
7. Basic understanding of presentation techniques of CDRs in court

Below is a detailed schedule and what the class will cover. Given the amount of information we will be presenting and the large group that will be attending, this schedule will be strictly followed. This is the best way we can ensure all of the different topics are covered. ZetX staff will make themselves available after the course to answer any questions and/or provide case assistance as needed.

Prior to the training, everyone who is registered to attend will receive an email with a downloadable link to the PowerPoint that will be used for this presentation.

The training will start promptly at 8:00AM. This is a law enforcement restricted/only course that will require registration of all attendees. Given the number of registered students (300+), please allow time for parking and registration. It is recommended to car pool if possible.

Course Syllabus

1. **8:00 – 8:15 - Introduction – Case Study #1**
 - a. Very brief background and company overview

- b. SC Kidnapping Case Study (Importance of current and relevant training)
- 2. 8:15 – 8:45 - Overview of what geolocation data is**
 - a. Cell tower data (sector/omni)
 - b. PCMD data
 - c. NELOS
 - d. Estimated GPS
 - e. Tower density and tower characteristics – relation to accuracy
- 3. 8:45 – 9:00 - Understanding accuracy – Case Study #2**
 - a. Estimations (accuracy and inaccuracies)
 - b. More data, more accuracy – Quick case study (Example of big data sets – Big Data Case Study)
 - c. Drive testing – (Drive test samples)
- 4. 9:00 – 9:10 - Break**
- 5. 9:10 – 10:00 - Cell tower data - Case Study #3**
 - a. Quick explanation of handoffs
 - b. Why handoffs occur – signal values and what they mean
 - c. Importance of understanding multiple towers servicing an area – mesh network
 - d. AT&T Overview of handoffs and records
 - e. Case Overview – Girl with the Red Shoes
 - f. Summary of a drive test
- 6. 10:00 – 10:10 - Break**
- 7. 10:10 – 11:00 - PCMD - Case Studies #4 & #5**
 - a. Overview of PCMD data as it relates to Verizon
 - b. Explaining accuracy (Verizon)
 - c. Case overview (Desert Party Homicide Case Study #4– Verizon PCMD)
 - d. Overview of Sprint PCMD
 - e. Explaining accuracy (Sprint)
 - f. Case overview (Kidnapping/Ransom Case Study #5– Sprint PCMD)
- 8. 11:00 – 11:10 - Break**
- 9. 11:10 – 12:00 - NELOS Case Studies #6 & #7**
 - a. What NELOS looks like
 - b. Recognizing accuracy and inaccuracies
 - c. Poaching Case #6(Tower Dump w/ NELOS)
 - d. Swamp Homicide #7(Estimating the inaccuracies)
- 10. 12:00 – 13:00 - Lunch**
- 11. 13:00 – 14:00 - Google Explained – Case Study #8 (Part 1 of 2)**
 - a. Overview of Google Location
 - b. How Google works
 - c. Overview of Google Locations mapped
 - d. Accuracy of inaccuracy – Court example
- 12. 14:00 – 14:10 - Break**
- 13. 14:10 – 15:00 - Call Progression – Case Study #8 (Part 2 of 2)**
 - a. What is call progression, why is it important
 - b. Running basic analytical reports (what are we looking for)

- c. Murder for Hire Case Presentation – Court Issues (Frye Challenge)

14. 15:00 – 15:10 - Break

15. 15:10 – 16:00 - Court Testimony and Presentations –Case Study #9

- a. Common court issues seen
- b. Overcoming common suppression motions
- c. Court Presentations – Educating the jury
 - i. The importance of using video
 - ii. Known data/control samples
- d. Rural Area Murder Case Study and Court Presentation #9
 - i. Example of accuracy in rural areas with low tower density

16. 16:00 – 16:10 - Break

17. 16:10 – 16:50 – ZetX Suite Overview

- a. What is TraX
- b. What does it do
- c. What is LinX
- d. What does it do
- e. What is the Scan Suite
- f. What does it do
- g. What is Detex
- h. What does it do
- i. Case Support

18. 16:50 – 17:00 - Questions