

# **Texting While Driving: A Case Study, Best Practices, and GPS Demonstrations of Mobile Devices and the Cloud**

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**John J. Carney**  
Carney Forensics  
Scandia

**Bruce N. Ringstrom**  
Ringstrom Law  
Moorhead

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# **Texting While Driving Criminal Case Checklist**

## **Bruce Ringstrom Jr.**

- **Build the right team**
  - An investigator who understands criminal vehicular operation cases
    - A forensic photographer (ideally the same investigator)
  - A mobile device digital forensics expert
  - Depending on your case, an accident reconstructionist
  - Assistance in forming an optimal juror profile (this is crucial, whether you are retained, appointed, or prosecuting)
- **Undertake an exhaustive investigation**
  - Mechanics of the accident
    - Accident reconstruction
    - Shape of the actual scene
      - You—the lawyer—need to visit the scene
      - What are all the possible causal factors of the accident?
        - Your client/defendant's behavior
        - Other driver's/person's behavior: car, motorcycle, bicycle, pedestrian? Did they have mobile digital devices?
        - Animals?
        - Weather?
        - Signs?
  - Find all witnesses
  - Consider all possible mobile digital devices
    - Phone
    - Second phone/passenger phone
    - Built-in GPS
    - Portable GPS
    - Smartwatch/other devices linked to a phone
    - Airbag control module/event data recorder (so-called “black box”)
      - What about the other driver's airbag control module?
    - Any other devices gathering data?
- **Client interaction**
  - Get the whole story as early as possible
    - You and client must understand the sequence second by second
  - Be careful to not overprepare your client (don't strip your client of emotion)
- **Construct the case/the defense**
  - The lawyer should understand the science
    - Take full advantage of your expert to understand how the science works in your case
  - What is gross negligence? How does it differ from negligence?

## **Texting While Driving Criminal Case Checklist**

### **Bruce Ringstrom Jr.**

- Comparative negligence? Be careful. Being able to raise it doesn't mean you should.
  - Did AV's actions make accident unavoidable? (*State v. Kline*, 209 N.W. 881 (Minn. 1926))
  - AV's behavior is relevant, and defendant entitled to causation instruction (*State v. Nelson*, 806 N.W.2d 558 (Minn. App. 2012))
- Expert report/findings
  - Keep it within the bounds of that which is supported by the facts
  - What purpose do you have in offering it (resolution, or trial)?
- **Have a juror questionnaire**
- **Pre-trial/Motions in limine**
  - Argue what digital data are relevant
  - Are the proposed exhibits consistent with the uncontested data?
    - *State v. Stewart*, 643 N.W.2d 281 (Minn. 2002)
- **Trial**
  - As usual, jury selection is likely dispositive
    - Accidents, loss of family members, civil cases
    - Prospective juror constitutionally opposed to using digital devices in cars?
    - Someone on the jury needs to be able to deeply understand the JIGs
  - In a no-drug and no-alcohol criminal vehicular case, gross negligence is the contested issue
  - Should your client testify? What is the function?
  - Make use of a direct examination outline provided by the expert
    - Rehearse the direct; think from a juror's perspective
    - Prepare your expert for cross examination
  - Your expert should observe the testimony of the opposing expert
  - Consider lower-tech exhibits (charts and photographs shown on a projector)
  - Memorize the numbers (times down to the second)
  - Motion for judgment of acquittal
    - Circumstantial evidence (A district court is required to apply the *Al-Naseer/Silvernail* analysis when presented with a motion for judgment of acquittal when the state's case rests largely or entirely on circumstantial evidence. *State v. Sam*, 859 N.W.2d 825, 831 (Minn App. 2015)) See also *State v. Harris*, 895 N.W.2d 592, (Minn. 2017), reaffirming Minnesota's circumstantial evidence standard
  - Motion for lesser included offense
    - Should you forgo this? Be careful
    - Juxtaposing gross negligence and negligence helps the jury understand the standard





Digital Forensics Checklist  
Johny J. Carney

## **CHECK LIST**

### **Collect relevant, material evidence**

- Consider ALL possible mobile devices related to collision
- Consider ALL possible cellular services related to collision
- Move to compel production of mobile devices and provide expert witness testimony
- Defeat ineffective arguments by opposing party
  - Forensic incompetence
  - Convenience
  - Past practice

### **Consider all transportation modalities of collision with defendant vehicle**

- Pedestrian
- Bicycle
- Motorcycle
- Automobile
- Truck or Semi-Tractor Trailer

### **Conduct independent examination of all relevant mobile devices**

- Defendant's mobile devices
  - Smart phone
    - SMS, MMS, iMessages
    - Mobile messaging apps
    - Navigation apps
  - GPS unit
    - Track points
    - Date and time stamps
- Defendant's correspondent's mobile device, if relevant
- Victim's mobile devices
  - Smart phone
  - GPS watch
- Victim's correspondent's mobile device, if relevant

### **Examine mobile device immediately for successful evidence recovery**

- Messages, calls, GPS can be deleted, overwritten, and lost forever
- Continued device usage after collision results in deletion and overwriting
- Beware failure to seize and isolate mobile device at earliest opportunity

### **Examine mobile devices with multiple, upgraded tools**

- Cross validate your mobile evidence (wisdom in multitude of counselors)
- Re-examine mobile device with upgraded tools not available many months earlier

### **What about text messages marked as “open”?**

- Role of read or unread message status flag
- Role of read receipt
- Neither proves driver physically read the text message

# Digital Forensics Checklist

## Johny J. Carney

### What about text messages marked as “open”?

- Messaging app behavior when conversation or thread is already open
- Complex behavior of messaging app in use on lock screen
- Use of other apps on lock screen while messaging app is in use
- Smart phone settings control lock screen behavior (document during exam)
- Smart phone settings control messaging app behavior (document during exam)

### Consider possibility of spoliation of mobile device evidence

- Spoliation by wiping phone remotely or resetting to factory conditions
- Spoliation by using third party “cleaner” apps

### Examine online cloud accounts for GPS locations

- Google Location History tracked from mobile device
  - Passive GPS locations tracked every few minutes for past few years
  - More GPS locations are sampled when tracked mobile device is moving
  - Time stamps of GPS locations are precise to the second
  - Google Location History shows GPS location maps

### Always request and persist in obtaining cell phone service provider business records

- Request defendant’s and victim’s business records
- Request Call Detail Records (CDRs) for voice calls
  - Date and time stamps to the second are critical
- Request Text Message Logs (SMS Logs)
  - Date and time stamps to the second are critical
  - Message content is not available
- Can request 3G/4G Data Records for mobile app activity
- Can request cell tower site data for approximate locations
  - Switch
  - Tower
  - Sector (Usually three antennas per tower)

### Always request E-911 call records to determine outside limit of collision event time

- Request from local E-911 center
- Request all E-911 calls placed to center (usually defendant and eye witnesses)
- Date and time stamps to the second for all E-911 reports are critical

### Consider vehicle forensics examination

- Infotainment evidence
  - Communications like incoming and outgoing text messages and phone calls
  - Internet or phone enabled content like traffic, sports, and weather forecasts
  - Audio content, movies, games, and social networking
- Telematics evidence
  - Tracking, navigation, favorite locations, safety communications and warnings
  - Logs for vehicle lights, vehicle doors, Bluetooth connections, etc.

**Digital Forensics Checklist**  
Johny J. Carney

**Oppose prejudicial evidence**

Consider how precise evidence may be improperly applied by opposing party

For example, Google Earth Flyover Video

Challenge arbitrary movie making choices like animation speed

Challenge margin of error inherent in civilian GPS devices

Challenge “ghost” vehicle images in satellite imagery

**Ask expert to draft a direct examination outline for attorney**

Provided by expert witness to attorney conducting direct examination

Purpose is to eliminate any oversights of important evidence and scientific arguments

Expert can assist attorney to internalize the outline and the science behind it

Results in better flow of a more compelling direct examination

**Offer expert cross examination assistance**

Attorney can help expert anticipate and prepare for questions on cross examination

**Use pictorial demonstrative exhibits**

Eases jury comprehension of complex scientific forensic evidence

Let the demonstrative exhibits tell the story

Make court testimony a show and tell session

**Show combined evidence from relevant mobile devices, cloud accounts, and cell services**

Correlate and integrate them to get the true picture

Synchronize evidence using time stamps

Device text message timeline with GPS locations for vehicle path

Online cloud account timeline with tracked GPS locations for vehicle path

Cell service provider SMS log timeline with GPS locations for vehicle path

E-911 calls at the end of timeline

**Show GPS locations prior to collision**

Defendant

Victim

Tie in with accident reconstruction analysis presented by independent expert

**Counsel experts to avoid opinions and findings outside subject matter expertise**

Digital forensics

Accident reconstruction

Psychology of distraction







## JUROR QUESTIONNAIRE

The purpose of this questionnaire is to assist the lawyers and the court in the selection of a fair, impartial, and neutral jury in a jury trial. Your answers will allow the jury selection process to proceed more efficiently.

Jury selection takes place in the courtroom and is open to the public. Similarly, the answers you give on this questionnaire are accessible to the public. If a question is asked either on this questionnaire or in court that you would not feel comfortable answering in public, please state so. The judge will then assess and determine whether you must answer in the courtroom (in public) or be allowed to answer the question in the judge's chambers, in the presence of the judge, attorneys, parties, and court reporter, who will make a record of the questions and answers. If your answer reflects a legitimate privacy interest, it will be kept confidential and sealed from access by the public.

Please answer all of the questions as completely and honestly as you can. Remember, you are under oath. Keep in mind that there are no right and wrong answers. If you do not understand a question, please write, "I do not understand," and the question will be explained to you in court.

Please use **blue or black ink** to write your answers. To make any additional comments, please use the additional blank page attached to the end of the questionnaire. (DON'T WRITE ON THE BACK of any page.)

NAME: \_\_\_\_\_

Occupation \_\_\_\_\_

Have you previously served on a jury? \_\_\_\_\_ YES \_\_\_\_\_ NO

If yes, what type of case? \_\_\_\_\_

Were you the foreperson? \_\_\_\_\_ YES \_\_\_\_\_ NO

Have you or anyone close to you ever been accused of or charged with a crime, such as assault, theft, DWI, reckless driving, or any other crime? \_\_\_\_\_ YES \_\_\_\_\_ NO

If YES, please describe: \_\_\_\_\_

Have you or anyone close to you ever been the victim of a crime? \_\_\_\_\_ YES \_\_\_\_\_ NO

If YES, please describe: \_\_\_\_\_

Have you ever been a witness to a crime, or been questioned by a police officer about a crime? \_\_\_\_\_ YES  
\_\_\_\_\_ NO

If YES, please describe: \_\_\_\_\_

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Do you follow crime stories or criminal cases in the news? \_\_\_\_ YES \_\_\_\_ NO

If yes, what cases or stories? \_\_\_\_\_

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Have you or anyone close to you ever been employed in law enforcement? \_\_\_\_ YES \_\_\_\_ NO

If YES, please describe: \_\_\_\_\_

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Have you or anyone close to you ever been employed in the legal profession or courts? \_\_\_\_ YES \_\_\_\_ NO

If YES, please describe: \_\_\_\_\_

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What groups or organizations do you belong to? \_\_\_\_\_

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Do you hold positions of leadership in any of these groups? Please describe: \_\_\_\_\_

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What are three words you would use to describe yourself? \_\_\_\_\_

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Do you have any philosophical, religious, moral, or other beliefs that would prevent you from sitting in judgment on a criminal case? \_\_\_\_ YES \_\_\_\_ NO Please describe: \_\_\_\_\_

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Do you have any disabilities (physical or mental) or other problems that would make it difficult for you to sit for several days as a juror? \_\_\_\_ YES \_\_\_\_ NO

If YES, please describe: \_\_\_\_\_

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How stressful, right now, are the demands of your job and the separate demands of your personal life? Extraordinarily stressful, highly stressful, some stress, or no stress at all? Please explain. \_\_\_\_\_

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Are there any pressing matters that would distract you or prevent you from giving jury service your complete attention?  YES  NO

If YES, please describe: \_\_\_\_\_

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Have you or anyone close to you ever been involved in an accident of any kind that resulted in severe injuries or death?  YES  NO    If yes, was it a vehicle accident?  YES  NO

If YES to either question, (a) please describe the general nature of the accident and injuries: \_\_\_\_\_

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(b) Did you or they suffer any lasting psychological, emotional, physical, or material damage from the accident? Please describe. \_\_\_\_\_

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(c) Was anyone charged criminally? Please describe: \_\_\_\_\_

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(d) To your knowledge, was any civil lawsuit brought in relation to the accident? Please describe: \_\_\_\_\_

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(e) Were you satisfied with the outcome of any criminal or civil proceedings? Why or why not?

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Have you ever driven or ridden a motorcycle, snowmobile, or ATV?  YES  NO

If YES, please describe: \_\_\_\_\_

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Do you or anyone close to you ever use a mobile phone at any time while in a vehicle?  YES  NO

If YES, please describe: \_\_\_\_\_

Do you or anyone close to you ever use GPS or navigation systems at any time while in a vehicle?  YES  
 NO

If YES, please describe: \_\_\_\_\_

Use the remaining space to explain any answers you did not have room for earlier or to outline any concerns you may have about serving as a juror. (Please indicate which question you are answering.)