



# Now I see it!

## Wading through the big data to discover what matters for trial – it often starts with the cell phone

BY MORGAN SMITH

I first started practicing law in San Francisco in the early 1990s. Back then, my first Apple laptop weighed about 10 pounds, and my mobile phone was only *slightly* smaller. Not only is it funny to look back at the technology we all used a few years back, but it’s indicative of how changes in technology have affected all aspects of litigation.

When I first started out as a litigator, law offices were barely on the cusp of changing from typewriters to computers. In fact, at my first law job, I had to buy my own computer. At the time, the head of the firm believed it was beneath an attorney to do any of their own typing. Fortunately, we have evolved as a profession and, lawyers are now keen on embracing technology, and the benefits it offers both in, and out of the courtroom.

Of the many changes in litigation, perhaps the biggest across the board, has been the influx of big data. I have been an active observer of this transition and

have been witnessing this firsthand over the last 35 years. Most people are familiar with the term “big data,” which basically means taking large, to potentially unimaginably large, sets of data and doing two things: (1) working with the data to obtain useful information, and (2) being able to visualize the data in a simple, and understandable fashion. This provides a means for others to interpret all of that information.

We have continuously seen seismic shifts in the amount of data filtering into all forms of litigation, with varying forms of large data now available to litigators; think surveillance cameras, black box recorders, GPS data, cell phone tower “pings,” and forensically collected documents, just to name a few. The challenge with all of this data is figuring out how to present it, with ease to a jury. This is now amongst the more critically important things you can do in preparing your cases.

Whether you undertake this task yourself, delegate it to someone inside

your firm, or hire an outside vendor, the thought process and goal is thinking beyond collecting and/or processing this data. You must focus on how to present it to a jury.

### Where is all this data coming from?

Cell phones of course provide the biggest source of data, as it is linked to the individuals who use them. Smart phones track a person’s movement, how much they exercise, how much time they spend interacting with their phone, where they go, their likes and dislikes, and much more. Given all this information, the data regularly finding its way into cases is GPS data (Global Positioning Data). A person’s location at a specific time might be relevant in all manners of cases. About half the apps people have installed on their phones track the user’s specific location over time and can be obtained by discovery request from your opponent.

However, as a threshold matter, be aware of the Stored Communication’s Act, 18 U.S.C. § 2701, which prohibits “providers” of communication services “from disclosing the contents of an account to any non-governmental entity pursuant to a subpoena or court order.” In short, trying to subpoena data directly from companies such as Facebook, WhatsApp, Instagram, or the like will not generally result in receiving any of the requested data. Rather, asking the opposing party to provide the data by request, and filing a motion to compel if they fail to do so, is the best way to obtain the information. Secondly, many companies have their own software, which tracks the locations of employees, and their equipment, so a simple request for that GPS data may be all you need.

We recently helped a client with a case against one of the ride-sharing companies. The driver was using Google Maps to direct him to the pickup point

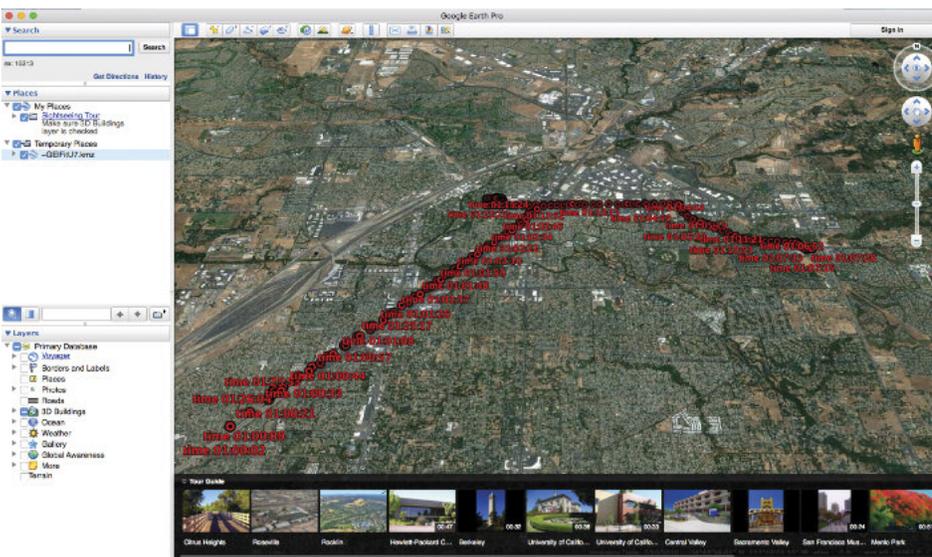


Image 1 - GPS



and then the destination. The attorney requested all the data from the app, and it came back as a "KMZ File," which basically points out locations using Google Earth and provides data about those points, such as time and precise coordinates. You can import a KMZ File into Google Earth and it will look something like the following (Image 1). This is just one example of how GPS data can be introduced in litigation.

You can also take this raw data and use it to create something more visibly appealing, and understandable. This case involved a claim of wrongful death/personal injury of the ride-share car passengers, when the driver lost control and slammed into a tree by the side of the road. Plaintiffs claimed the driver was driving at a high rate of speed, on wet and rainy road conditions. Such claims were denied by the defendant driver.

Using the raw data on the vehicle's location(s) as well as the time provided by the GPS, and doing simple calculations to determine speed, we presented the data in a powerful manner. This was used in order to understand the speeds involved at the time of the incident (Image 2).

Another example is the Ethiopian Air crash. In this case we were hired to develop images showing the similarity of the Ethiopian Air crash to the earlier Lion Air crash. Various newspaper outlets created similar graphics, but none were detailed enough to satisfy the lawyers working on this case. Luckily, the U.S. government is an amazing source of free data, including the data available from both of these flights. (see [www.faa.gov/data\\_research](http://www.faa.gov/data_research)). We downloaded and opened these data sets in a spreadsheet, which is a good place to start. However, wise attorneys will want to avoid putting raw data like this on a screen. This example is the end result of utilizing large quantities of data. We created a graphic that works within the context of litigation by showing the similarities of the rollercoaster patterns of both jets prior to crashing (Image 3).

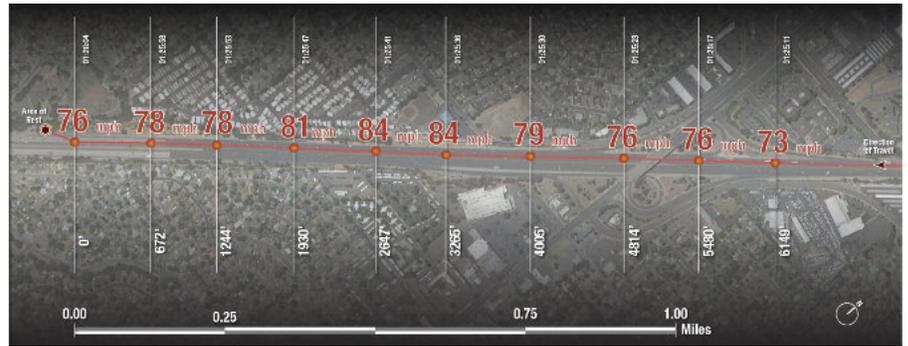


Image 2 - GPS

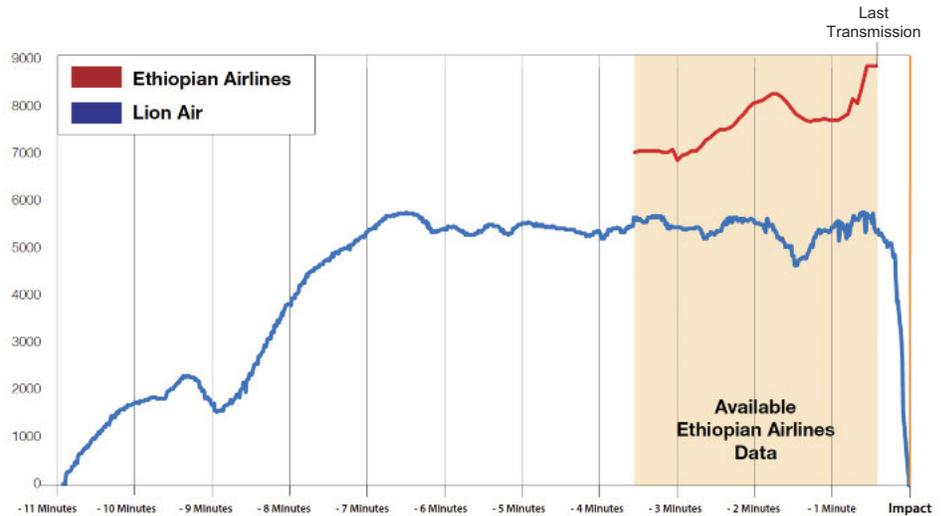


Image 3 - Altitude Comparison of Ethiopian Airlines and Lion Air



Image 4 - Heat Map

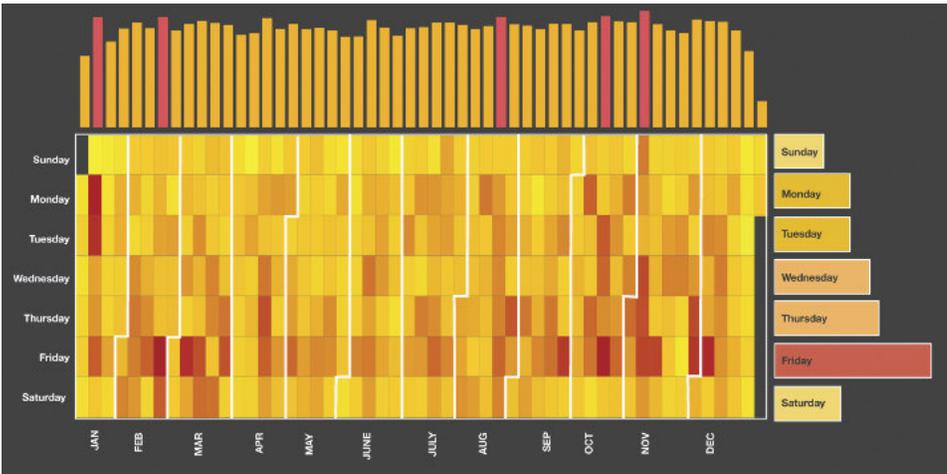


Image 5 - Heat Map

Once in Excel, the data becomes a valuable tool helping to develop and identify patterns. After you have found the data relationships you want to show, we recommend exporting it out of Excel, and into programs like Adobe Illustrator. As you will see, the images are overwhelmingly powerful. The software yields a more sophisticated-looking graphic when compared to the original spreadsheet.

By importing this data set into Illustrator, we created a map showing colorations of the days of the week, and months that were more prone to accidents. Typically, we would “build” an image like the one below in PowerPoint. This way, you can show select pieces of the chart until the entire document is revealed (Image 5).

Employment cases nowadays often involve a great deal of metric data. Think: when and where an employee is not at all times. Employers will often have data on when employees enter a garage, swipe a fob to get into the door, or log onto their networks. If you want a quick way to show *the entire history* of whether an employee is on time or not, consider something like the following (Image 6).

Once all that data is compiled into one easy-to-understand graphic, it is undeniably effective. It is also superior to having your witness read through monotonous time entries where someone was late to work, while on the stand. You will bore your jury, and a judge is likely to cut you off quickly.

Since a data set like the one above is admissible evidence, you may also seek to have the exhibit admitted into evidence. This can be done as a summary of voluminous evidence. It will also afford the jury the opportunity to enjoy the graphic(s) in the jury room as well!

The key to dealing with any data set is to first make sure you ask for the data, and then obtain it! You simply cannot use what you do not have. Secondly, your challenge is to determine what the story of that data is, and how it relates to your

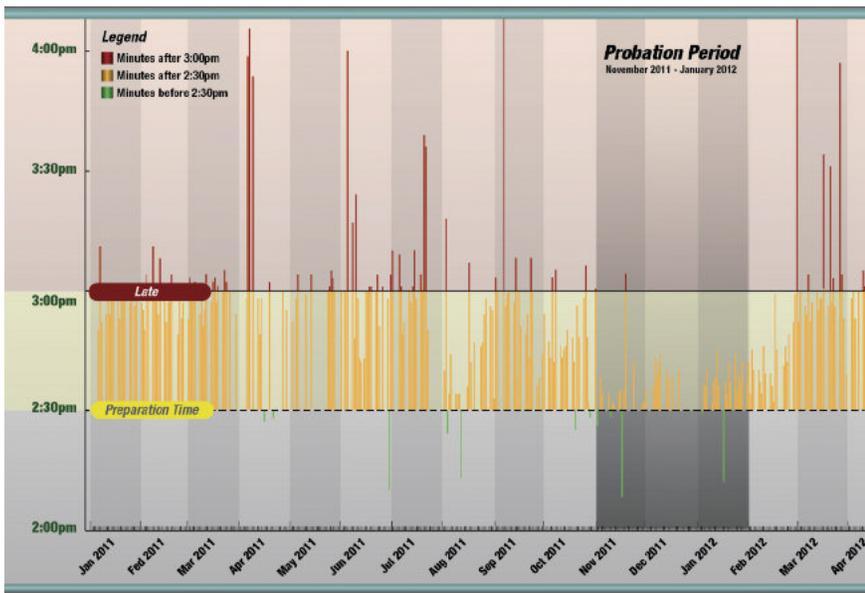


Image 6 - Employee Data  
John Doe Garage Arrival Times Chart January 2011-April 2012

If you are contemplating using graphics, there is a trove of online data available. Automobile incident data for example, can be found on state, city, and county websites. The City of Los Angeles keeps all collision data for Los Angeles from 2010 to present. See ([\[www.data.lac.org\]\(http://www.data.lac.org\)\). Native tools allow you to create a “heat map” identifying the areas of most accidents over a set period time \(Image 4\).](http://www.data.lac-</a></p></div>
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There are numerous other tools online as well. This data is searchable, and can be downloaded into a spreadsheet.



case. The last, crucial step is developing a visual way to present such data that is both accurate and compelling. There is no question that the amount of available data (in all types of cases) will continue to increase. This means that attorneys must continue to grow their understanding of what to do with it.



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