

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UBER TECHNOLOGIES, INC.
Petitioner,

v.

ENOVSYSLLC,
Patent Owner.

Case IPR2024-00827
Patent 6,756,918

EXPERT DECLARATION OF JOSEPH C. M^cALEXANDER, III
IN SUPPORT OF RESPONSE TO PETITION OF
***INTER PARTES* REVIEW of U.S. PATENT NO. 6,756,918**

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I. INTRODUCTION

1. I, Joseph C. McAlexander ^{III}, submit this Declaration in support of the Patent Owner's Preliminary response to the Petition filed by Patent Owner Enovsys LLC ("Patent Owner" or "Enovsys").

2. I have been retained on behalf of Enovsys for the above-captioned *inter partes* review (IPR) proceeding. I am being compensated for my time in connection with this IPR at my standard hourly consulting rate. I understand that this proceeding involves U.S. Patent No. 6,756,918 ("the '918 Patent") titled "Method and Apparatus For Locating Mobile Units Tracking Another Or Within A Prescribed Geographic Boundary" by Mundi Fomukong, and that the '918 Patent is currently assigned to Enovsys.

3. I have reviewed and am familiar with the specification of the '918 Patent filed July 19, 2002, and having an undisputed priority date of December 30, 2000. I understand that the '918 Patent has been provided as Ex-1001.

4. I have reviewed and am familiar with the file history of the '918 Patent. I understand that the file history has been provided as Ex-1005.

5. As part of this engagement, I have been retained to review and evaluate specific claims of the '918 Patent. In particular, I have been asked to provide my opinion regarding the meaning of certain claim terms, as well as whether a person

of ordinary skill in the art (“POSA”) in the subject matter of the claims would find them anticipated or obvious over certain publications that Uber Technologies, Inc. used as their bases for the grounds set forth in their Petition for *Inter Partes* Review of the ’918 Patent in this proceeding.

6. In the preparation of this declaration, I have reviewed the relevant papers submitted in this proceeding and the ’918 Patent and its file history.

7. In forming my opinions expressed below, I have considered the documents listed above, and my knowledge, education, and experience based upon my work in this area as described below.

8. My experience and education are detailed in my curriculum vitae (“CV”), which I understand has been submitted into the record of this proceeding as Ex-2002. My CV also lists publications on which I am a named author and identifies parties on behalf of whom I have previously provided expert testimony.

9. I have technical experience in a number of areas, with specialized expertise in electronics, security systems, and related technologies. My background includes work on wireless communication systems and object locating technologies, such as GPS tracking. This expertise is directly relevant to cell phone networks and location-related technologies similar to the ’918 Patent. For example, as CEO of MDFHoldings, Inc., I oversaw the development of IP related to GPS tracking systems. Additionally, my work with Guardian Technologies, LLC involved

managing patents related to RFID tracking, underscoring my proficiency in technologies that underpin modern cell phone networks and location services.

II. QUALIFICATIONS

10. In formulating my opinions, I have relied upon my training, knowledge, and experience in the relevant art.

11. I am the Founder and President of M^cAlexander Sound, formerly the IP Director of CCI and Vice President of EPI Technologies and have 52 years of experience in microcircuit and semiconductor technologies, including device design, fabrication, assembly, testing, and marketing, and control system design, analysis, quality, reliability, and defect/failure analysis at Texas Instruments.

12. I am a technical expert in the subject matter areas relevant to this *inter partes* review, including design and testing of circuits and systems related to control systems, including wireless communication protocols and operation, information storage and transfer, user interfaces, information signal processing, applications and operating systems, and electronic device hardware and firmware design and control.

13. I am a Registered Professional Engineer (#79454) in the State of Texas and hold a Bachelor of Science degree in Electrical Engineering from North Carolina State University.

14. I am an inventor on 31 U.S. patents and a number of foreign patents, and I am familiar with the patent process. Five of the 31 patents (3 U.S. and 2 EP)

are directed to MEMs technology used as sensors for conditions may require, *e.g.*, vehicle air bag sensor deployment. Nineteen of the 31 patents (18 U.S. and 1 EP) are directed to mobile device tracking, such as is used to track vehicles.

15. I have been an expert witness and technical consultant for the past 35 years in IP matters related to product/process analysis and investigation.

16. All the opinions included herein are based on my personal knowledge, my education, and my professional experience and judgment in consideration of the documents submitted in this IPR proceeding, the papers and exhibits submitted by both parties, the documents discussed in the body of this Declaration, including the Declaration of Petitioner's expert witness Mr. Scott Andrews. I have also reviewed certain documents filed in connection with the ongoing IPRs in the underlying Uber litigation.

17. I am qualified to reach the opinions and conclusions stated in this report.

III. LEGAL STANDARDS

18. The paragraphs in this section present an overview of some basic legal principles that counsel has explained to me, and which I have applied in arriving at my conclusions. I am not an attorney or a legal expert, and I offer no opinions on the law.

A. Person Of Ordinary Skill In The Art (POSA)

19. I have been informed that patents are not written to be understandable by experts or by the general public. Instead, they are written to be understandable to a person having ordinary skill in the appropriate art. I understand that factors that may be considered in determining the ordinary level of skill in the art include: 1) the types of problems encountered in the art, 2) the prior art solutions to those problems, 3) the rapidity with which innovations are made, 4) the sophistication of the technology, and 5) the educational level of active workers in the field.

20. In determining the characteristics of a hypothetical person of ordinary skill in the art of the patents-at-issue at the time of the claimed inventions, I considered these factors. It is my understanding that not all such factors may be present in every case, and one or more of them may predominate.

B. Anticipation

21. I have been informed that in order for prior art to anticipate a claim under 35 U.S.C. § 102, the reference must disclose every element of the claim, either explicitly or inherently (*i.e.*, necessarily present or implied).

C. Obviousness

22. I have been informed that a claimed invention is not patentable under 35 U.S.C. § 103 if the differences between the invention and the prior art are such that the subject matter as a whole would have been obvious to a POSA at the time

the invention was made. I also understand that the obviousness analysis takes into account factual inquiries including the level of ordinary skill in the art, the scope and content of the prior art, the differences between the prior art and the claimed subject matter, and any secondary considerations which may suggest the claimed invention was not obvious.

23. I have been informed that a claim can be obvious in light of a single prior art reference or a combination of references that either expressly or inherently (*i.e.*, necessarily present or implied) disclose all limitations of the claimed invention. I understand that, where a prior art does not identically disclose all of the limitations of a given patent claim, that patent claim is invalid if the differences between the claimed subject matter and the prior art are such that the claimed subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.

24. I have been informed by legal counsel that the Supreme Court has recognized several rationales for combining references or modifying a reference to show obviousness of claimed subject matter. I understand some of these rationales include the following: combining prior art elements according to known methods to yield predictable results; simple substitution of one known element for another to obtain predictable results; use of a known technique to improve a similar device, method, or product in the same way; applying a known technique to a known device,

method, or product ready for improvement to yield predictable results; choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; and some teaching, suggestion, or motivation in the prior art that would have led a person of ordinary skill to modify the prior art reference, or to combine prior art reference teachings to arrive at the claimed invention.

25. It is my understanding that the question of obviousness is to be determined based on:

- The scope and content of the prior art;
- The difference or differences between the subject matter of the claim and the prior art (whereby in assessing the possibility of obviousness one should consider the manner in which a patentee and/or a Court has construed the scope of a claim);
- The level of ordinary skill in the art at the time of the alleged invention of the subject matter of the claim; and
- Any relevant objective factors (the “secondary indicia”) indicating non-obviousness, including evidence of any of the following: commercial success of the products or methods covered by the patent claims; a long-felt need for the alleged invention; failed attempts by others to make the alleged invention; copying of the alleged invention by others in the field; unexpected results achieved by the alleged invention; praise of the

alleged invention by the alleged infringer or others in the field; the taking of licenses under the patent by others and the nature of those licenses; expressions of surprise by experts and those skilled in the art at the subject matter of the claim; and whether the patentee proceeded contrary to accepted wisdom of the prior art.

26. It is further my understanding that, for purposes of an obviousness determination, it is impermissible to rely on 20/20 hindsight reconstruction.

27. And still further, it is my understanding that a patent claim composed of several elements is not proved obvious merely by demonstrating that each of its elements was independently known in the prior art. There must be an apparent reason why it would have been obvious to modify the prior art to arrive at the claimed invention. I understand that, in order to avoid impermissibly applying hindsight, it is helpful to determine whether there is a teaching, suggestion, or motivation in the prior art that would lead one of ordinary skill in the art to combine the elements. When there is no suggestion, teaching, or motivation for the proposed combination, or when the prior art suggests something other than the combination, this weighs against a finding of obviousness. The patent challenger has the burden to show that a person of ordinary skill in the relevant field had a reason to combine the elements in the manner claimed when asserting obviousness in view of a combination of references.

28. It is my understanding that evidence of secondary considerations must be considered when determining obviousness and cannot be discounted, as they play a critical role in the obviousness analysis. Evidence of secondary considerations can weigh against a finding of obviousness and are often relied upon to provide guides against the forbidden use of hindsight.

D. Claim Construction

29. I have been informed that the terms of a patent-at-issue should be construed under the same claim construction standard that would be used to construe the claim in a civil action. I have also been informed that the meaning of a term may be evidenced by a variety of sources, including the words of the claims, the specification, drawings, file history, and prior art.

30. I understand that extrinsic evidence may be consulted for the meaning of a claim term as long as it is not used to contradict claim meaning that is unambiguous in light of the patent's intrinsic evidence.

IV. LEVEL OF SKILL IN THE ART

31. I understand that Petitioner contends that a POSA would have had a bachelor's degree in electrical engineering, computer engineering, computer science, or a related field, and at least two years of experience in the research, design, development, and/or testing of GPS and related location tracking techniques, or the equivalent, with additional education substituting for experience and vice versa."

(Paper 2, p. 6). For the purposes of this declaration, I do not dispute this contention because it would not affect my analysis. I reserve the right to render a further opinion if and when it would have any substantive impact on my opinion.

V. SUMMARY OF OPINIONS

32. My opinions are set forth in the body of this Report. Without intending to limit in any way the opinions expressed in this Report, the following is a summary of my opinions.

33. The Challenged Claims are not invalid for any of the reasons asserted by Mr. Scott Andrews and the Petition. Specifically:

Ground 1: Claim 15 is not rendered obvious over *Layson* '757 in view of *Layson* '213.

Ground 2: Claims 1 and 22 are not rendered obvious by *Layson* '757 and *Layson* '213 in view of *IllinoisLaw*

Ground 3: Claim 2 is not rendered obvious by *Layson* '757, *Layson* '213, *IllinoisLaw*, and *Wang*.

Ground 4: Claim 15 is not rendered obvious by *Taylor* in view of *Fast*.

Ground 5: Claims 1, 2, and 22 are not rendered obvious by *Taylor* and *Fast* in view of *IllinoisLaw*.

34. None of the asserted systems disclose a network that provides location-based services to participating wireless customers that report their cell phone

location to the system whereby one participating wireless customer can specify a pollable geographic boundary within the coverage area of the network for the system to query for the cell phone location of another participating wireless customer within that pollable boundary.

35. Moreover, none of the references disclose a system that applies a tracking algorithm that determines whether two cell phones within the same pollable geographic boundary of the network are both moving within a pre-defined distance of each other over a pre-specified tracking distance during a pre-specified tracking time period.

36. In sum, none of the prior art reference alone or together provide systems and methods wherein only PRUs within a specific geographic boundary of the network are polled in making proximity and tracking determinations so that location-based services can be scalably and efficiently be provided in wireless communication networks that may have tens of millions of customers across the nation and even internationally.

VI. OVERVIEW OF THE '918 PATENT

37. The '918 Patent was filed on July 19, 2002 and is titled "Method and Apparatus for Locating Mobile Units Tracking Another or Within A Prescribed Geographic Boundary." The '918 Patent relates generally to systems and methods to be used by the wireless telecommunication industry, and particularly systems and

methods to be used in providing location-based services using the cellular infrastructure of that industry. In such system and methods, the network includes cells that can be polled for the location information only of mobile phones (or other hand carried wireless communication devices using such cellular infrastructure in the industry (“PRUs”)) that are currently located within that particular network geographic boundary. In this manner, only the small set of subscribed PRUs currently located in the geographic boundary are queried for location while subscribed PRUs in other pollable geographic boundaries are not part of the request. A source can request and receive the location of mobile targets within a specific geographic boundary and send notices to such mobile targets. The system includes features for detecting if a target is tracking the source by monitoring proximity and for polling only units in specific geographic areas. The system ensures safety and efficient use of network resources for making proximity and tracking determinations.

38. More particularly, the '918 Patent recognizes that “[t]he wireless industry is currently gearing towards the provision of a wide range of location-based services [that] will include utilizing the location of a subscriber’s portable remote unit to channel a wide range of location-based services to the subscriber.” (Ex-1001, 1:17-21). It also recognizes that “[f]or such a service to be successful the remote unit must be able to obtain and relay its location information to other communication

targets of the network requesting such information.” (*Id.*, 1:21-25). The ’918 Patent observes that, while such services could be “quite beneficial to the general public if safely implemented,” a potential problem exists in the wireless industry because the mobile phones are “small, compact and lightweight” such devices “could easily be concealed to reveal the location of a mobile user without the user knowing or authorizing the disclosure of their location” (*Id.*, 1:59-66), causing safety and privacy issues.

39. For example, the location of a wireless consumer could be tracked by a “clandestine unit concealed in an object such as a car or luggage” without their knowledge and against their wishes. (*Id.*, 1:65-2:2). Therefore, a need exists for “location reporting devices in a specific geographic region to reveal their location upon request” so that “[i]n situations where a user is being tracked, the network would be able to determine which units are tracking the user by querying for the location of remoted units within a specified radius of the user or tracked unit” according to the described techniques. (*Id.*, 2:9-16).

40. The ’918 Patent also recognizes that a need can exist for a mobile user to know of and get help from another mobile party “at that geographic location” where the latter is “not too far away.” (*Id.*, 2:17-19). In such situations, the network can “pag[e] for locations of portable remote units (PRU) within the stranded area” or the “network may split that geographic area” and send pages to “specific areas in

order to obtain the location of portable remote units in that geographic area” where “[t]he location of any mobile location-reporting unit” that is “closest to the user will be revealed to the user.” (*Id.*, 2:21-30). The patent also teaches that a pollable geographic area is associated with one or more ground servers that processes a request for the location of portable remote units within that geographic boundary:

As shown in FIG. 3, a distressed mobile user M1 may need to find where another party might exist in that geographic region. The user could initiate a page from their PRU for the closest available PRUs *that could be found in that geographic jurisdiction*. Looking at FIG. 3, mobile user M1 will provide its location, latitude and longitude (X_o, Y_o) to the closest available ground station serving area C1 or grid G1. *As stated earlier, appropriate terrestrial technology will be scattered in that region to serve the PRUs in that area as shown in FIG. 1*. Once a ground station picks up this signal, it sends a page for all location reporting devices in the specified boundary surrounding mobile unit M1, FIG. 3 to disclose their location. Such boundary information could simply be specified by the latitude and longitude of unit M1 and appropriate radii information.

(*Id.*, 7:47-61) (emphasis added).

41. The '918 Patent further observes that such services may be “lucrative to a service provider” because “users of the system may be charged a fee each time the location of another PRU at the requested geographic boundary is provided to the user” or each time a subscriber’s “location is provided to a distressed individual.” (*Id.*, 2:30-39). The '918 Patent also recognized that industry standards could be set to define clandestine tracking based upon “both units have traveled a certain distance

over a pre-specified period of time with the tracking unit maintaining a proximity to the source during that period.” (*Id.*, 2:41-48).

42. With the purpose of “preventing unnecessary overloading of shared network resources” the network “determines where and how a search for relevant communication targets should be initiated” so that targets in a specified geographic boundary are “interrogated for location disclosure.” (*Id.*, 3:56-62). The ’918 Patent, therefore, proposes to divide the network into “standard geographic areas”, *e.g.*, 201-204 that may have present one or more portable mobile users 501-509 as shown in Fig. 1, wherein the boundary of each of the geographic regions may be defined by a longitude, latitude, and radius or by specific latitude/longitude points as shown in Fig. 3. (*Id.*, 4:24-33). To accomplish this, the system takes advantage of the existing cell phone network infrastructure, including for “determining which transmitters to employ to compete a call and how to prevent portable remote units from receiving calls when they are out of jurisdiction.” (*Id.*, 4:44-54). The system also takes advantage of “general internal circuitry of a portable remote unit or PRU” including its “antenna 20 and transceiver circuitry” which is used to receive and transmit to the network information processed by a “control unit 22” of the PRU. (*Id.*, 4:61-5:3).

43. For example, as the ’918 Patent explains, a distressed wireless customer may wish to have another wireless customer who is nearby pick them up. The network can send a message only to those wireless customers that are serviced by

the same or adjacent cell phone towers. *See, e.g., id.*, 7:47:59 (“As shown in FIG.3, a distressed mobile user M may need to find where another party might exist in that geographic region. The user could initiate a page from their PRU **for the closest available PRUs that could be found in that geographic jurisdiction**. Looking at FIG. 3, mobile user M will provide its location, latitude and longitude (X_o , Y_o) to the closest available ground station serving area C or grid G. As stated earlier, appropriate terrestrial technology will be scattered in that region **to serve the PRUs in that area** as shown in FIG. 1. Once a ground station picks up this signal, it sends a page for all location reporting devices in the specified boundary surrounding mobile unit M, FIG. 3 to disclose their location.”); 7:59-8:2 (“Such boundary information could simply be specified by the latitude and longitude of unit M and appropriate radii information. For the very first request, such radii information would be the distance R as shown in FIG. 3. **A PRU within that area will pick up the signal and determine if it is within the specified radii**. Also, if the ground station specifies grid information for the first cell, G_1 , a PRU will have to determine if it lies within the grid GI (sic) boundary, P_1 , P_2 , P_3 and P_4 . According to FIG. 3, **when a ground station sends a page for the location of PRUs in cell C1 or grid G1 only mobile unit M1 may respond.**”); 8:26-37 (“Considering that mobile unit M is initiating a search for possible portable remote units in its immediate area, a relevant ground control station will send three pages. The first page will cover cell

C₁ or grid G₁. As no units are available in the area a second page will be sent to cover cell C₂, or grid G₂. **Examining FIG. 3, the next PRUs exist only in cell C₃ or grid G₃. Once a page is sent out for cell C₃. PRU, M₂, and M₃ will respond. If grid G₄ is specified PRU M₂, M₃, M₄, and M₅ will respond. The ground control station will next select the unit closest to PRU M₁, which is M₂, in this instance. The location of PRU M₂ will then be forwarded to PRU M₁.**”); 10:45-58 (“A PRU may choose to instruct the network to relay certain information to mobile units in a specific geographic region. That information would then be appended to the geographic boundary information and beamed in the specified geographic region. The target PRUs would determine if they are in the specified boundary before alerting a subscriber as to the content of the message. In circumstances where a subscriber in possession of the PRU is in motion and a request is received for the location of the PRU if within a specified region, the PRU may provide this information and also provide additional information such as its velocity to the network. This might help a party seeking help to establish if they would be able to catch up with another subscriber in the region which help was sought.”) (emphasis added in all instances).

44. In implementing the tracking mode, several parameters are used to determine whether tracking exists such as tracking radii, minimum distance travelled and elapsed time, which could be “set as a standard by the industry.” (*Id.*, 5:42-53).

First, “the geographic location of the tracked unit, FIG. 1, 501, is utilized to determine the geographic boundary where a search for possible tracking units 510 could be initiated.” (*Id.*, 5:49-51). Then, “[o]ver a period of pre-determined time intervals a page is sent to the geographic location 201 where the tracked unit 501 resides for all location-reporting units within that geographic boundary to disclose their location.” (*Id.*, 5:51-55). Thereafter the tracking parameters are applied to determine whether any tracking unit exists within that geographic boundary such those “within a 5 meter radius of the tracked unit over a 1 mile stretch.” (*Id.*, 5:57-59). The steps of an exemplary process are shown in in FIG. 5 and described as including timing information to help eliminate errors whereby the tracking process is “done at fixed time intervals and over a pre-determined time period” whereby a list is generated of possible tracking units that were not eliminated as false positives using the tracking parameters. (*Id.*, 5:67-6:20).

45. The '918 Patent sometimes refers to a “tracking boundary” or “geographic boundary required to establish tracking.” A POSA reading the entire specification of the '918 Patent would understand that that these two terms refer to the “pre-specified radius of the tracked PRU” or the “tracking radii” used to identify tracking units and not refer to the wireless network geographic boundary being polled for the location of possible tracking units. This is important because, upon receiving a request to search for a PRU in a geographic area, the wireless network

polls one or more network boundaries to make further determinations regarding the locations of PRUs currently within that boundary and within a specified distance of a given PRU. *See, e.g., id.*, 7:14-18 (“By specifying the required location and further information such as radii information, the network may provide a portable remote unit with the location portable remote targets that are closest to the PRU **and** in the geographic areas specified by the PRU”); 7:19-22 (“For a simple search where the geographic region does not exceed a pre-specified limit, a page may simply be sent to the required region for all units in the region to disclose their location); Fig. 6; *generally* 7:19-9:32 and *specifically* 7:51-8:2, 8:26-56, 8:66-9:4, 10:52-11:16) (the system queries individually pollable geographic boundaries of the network, such as within the range of a ground station serving the boundary). By limiting its search in this manner, the system thus gains efficiency as all the portable units associated with the system are not polled, just those in individual geographic boundaries of the network that are specifically searched. From the reported locations of the set of units within the polled network boundaries, the network can make additional determinations according to various additional parameters such as proximity, direction of travel and velocity (*Id.*, 10:8-11, 55-56; 11:37-40).

46. Furthermore, the '918 Patent teaches that all actions that a PRU cannot perform may be performed by the network (*Id.*, 11:1-6).

47. In sum, the '918 Patent recognized that the wireless telecommunication industry would soon support the ability for third parties to provide location-based services to sought to provide technical solutions in making proximity and tracking determination at such scales. These solutions include dividing the network into individually pollable geographic areas and limiting algorithms used to making tracking and proximity determinations to only units currently located within a relevant one or more of such individually pollable boundaries to provide improvements in making tracking and proximity determinations involving mobile phone users to reduce the amount of processing needed to make these determinations with specific algorithms.

VII. CLAIM CONSTRUCTION

48. I understand that, in *inter partes* review, the U.S. Patent and Trademark Office applies the plain and ordinary meaning of claim terms, in view of the specification, as would have been understood by a POSA.

A. “portable mobile remote unit”/“mobile remote unit”/“portable communication unit”/“remote unit”/“communication unit” (Claims 1, 2, 15, 22)

49. Petitioner offers no constructions for these terms. A POSA would understand from the claims and specification that these terms are used interchangeably in the claims. For example, Claim 1 refers to “portable mobile remote units” interchangeably with “communication units” and “mobile remote units” *Compare,*

e.g., Ex-1001, 11:57 (“a portable remote unit”) *with* 11:58 (“a network of communication units”) *and* 11:64-67 (“means to provide the location of the *portable mobile remote unit* to the network upon determination that the *portable mobile remote unit* is within the geographic boundary obtained at the network”) *with* 12:1-4 (“means to determine and report to the system upon request that, another *mobile remote unit* of the network has tracked *the portable mobile remote unit* over a period of time.”). Claim 2 depends from Claim 1 and refers to the same things as a “remote unit”. *Id.*, 12:5-8 (“means to further determine if location disclosure for the *remote unit* is prohibited at a specific geographic boundary before sending its location to the network”). Claim 15, likewise, uses “portable remote unit” interchangeably with “portable communication unit.” *Compare*, 14:3-7 (“A method for method for determining that a *first portable remote unit* of a wireless consumer associated with a network is being tracked by at least a *second portable remote unit* that is in motion with the first portable remote unit over a tracking period”) *with* 14:8-19 (steps (i), (ii) and (iii) interchangeably using “portable remote unit” with “portable communication unit”). *See also*, Claim 22, 15:25-37 (“communication units that provide location information to the network for a time while in motion”).

50. A POSA reading the '918 patent understands that each of these terms refer to one and the same thing in the specification, “cell phones or other hand-carried wireless telecommunication devices to communicate via cellular

telecommunication networks available to the general public.” Ex-1001, Figure 1 (depicting the portable remote units 501-508 of the '918 patent are cell phones using cellular infrastructure with wireless consumer subscribers 701-709 with their cell phones 501-509 located in different cells 201-204 of the cellular network serviced by different cell towers 401-404 and other cellular telecommunication infrastructure 802 (as also described 4:24-43).

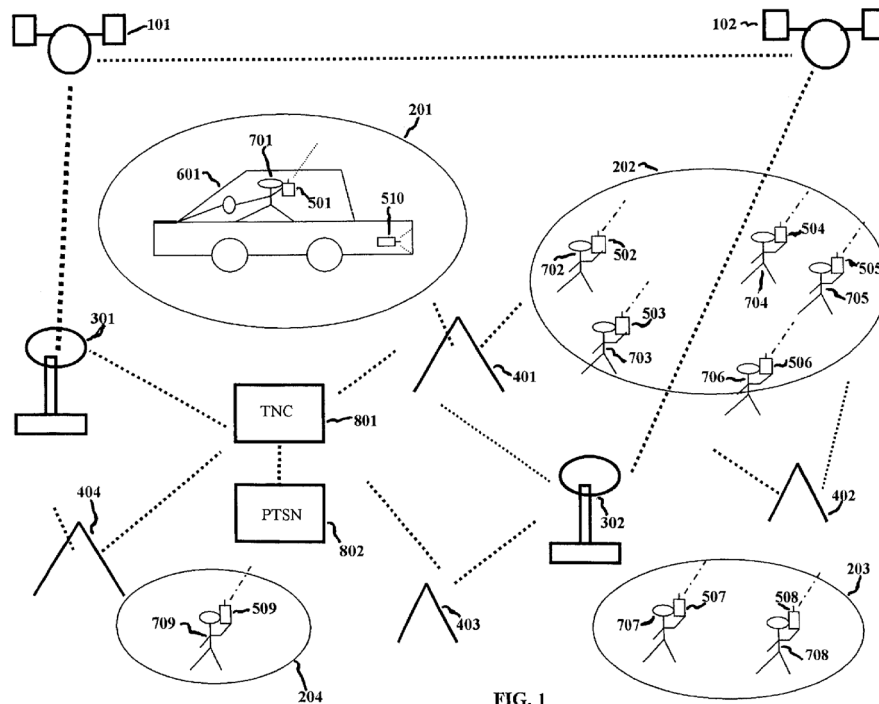


FIG. 1

See also, 1:14-19 (describing the system is directed to “telecommunication services and systems” in the “wireless industry”), 1:66-2:5 (referring to “wireless consumers”), 2:17-23 (referring to “mobile users”), 2:31-48 (referring to “wireless subscribers”); 3:4-22 (referring to a “mobile telecommunication system”).

51. The '918 patent specifically states that the “wireless industry is currently gearing towards the provision of a wide range of location based services...utilizing the location of a subscriber’s portable remote unit” (*Id.*, 1:17-20). It explains further that “in today’s market, such mobile units are usually small, compact and lightweight” and “could easily be concealed to reveal the location of a mobile user” (*Id.*, 1:62-66). Giving the example of someone placing their mobile phone into someone else’s car or luggage to surreptitiously track the individual’s location, the specification observes “[t]he risk of abuse clearly exists and must be handled appropriately by wireless vendors” (*Id.*, 2:4-5). Likewise, the specification gives an example how the methods and systems can be used to provide assistance to a subscribed mobile phone user by using the location of their PRU to page PRU in the same geographic area of the network to locate another subscriber’s PRU who can help and provide their location. (*Id.*, 2:17-30).

B. “geographic region of a wireless network” (Claim 1)

52. Petitioner offers no construction of this term. However, a POSA would understand this term to refer to “a specific coverage area of a wireless network that may be individually queried for PRU information, such as location.” This is consistent with the specification. As the '918 Patent explains, for example, “[a] PRU may choose to instruct the network to relay certain information to mobile units in a specific geographic region. That information would then be appended to the

geographic boundary information and beamed in the specified geographic region.” (*Id.*, 10:45-49). A POSA reading the ’918 Patent would understand that “beamed in the specified geographic region” refers to the message being transmitted for consumption within a specific coverage area of the network, such as the area within the range of a specific cell tower utilized by the network. *See also* section V(A)(5) for specification support showing, in an exemplary embodiment, that location requests for proximity and tracking determinations and other messages are directed to specific geographic areas within the coverage area of the network such that locations from the PRUs currently within those areas are involved in making tracking or proximity determinations and/or only PRUs currently within those areas receive the message.

C. **“means to obtain the location of the portable mobile remote unit”**
(Claim 1)

53. The function of this claim element is “to obtain the location of the portable remote unit.” A POSA would understand that the minimum structure for performing the recited function is “a control unit programmed to collect location data of a portable remote unit, and equivalents thereof.” Such an interpretation is supported by the ’918 Patent’s specification and a POSA reading the ’918 Patent’s specification would understand that the required function being performed at a control unit of the network. As shown in Fig. 5 (reference 3) and Fig. 6 (reference

2); 4:14-17, 10:21-38 (the PRU may obtain location information and report it to network); 4:61-5:4 (control unit controls the action of the PRU and interacts with transceiver and antenna); 11:2-6 (the network may perform any function of the PRU).

54. The basic function to obtain the location of a portable remote unit is carried out by the programmed control unit. The PRU itself already includes an antenna that could be used to receive GPS and cell tower signals as well as operating system programming to determine its current location (*e.g.*, longitude and latitude coordinates) from such signals and also the hardware to store the GPS coordinates, and a transceiver. *See* Ex-1001, Fig. 2 (showing receiver circuitry 21 and memory means 26 used by control unit 22) and 4:61-5:1 (explaining that the control unit 22 processes the information whereas the transceiver 21 receives and transmits information to the network via the PRU's antenna 20); Fig. 7 (showing the programming algorithm used by a control unit to query specific geographic boundaries of the network). The specification is also very clear that the PRU can obtain its location from "whatever technique" (6:4-7), which may or may not require an antenna, and the basic function of obtaining a location by a network control unit does not require an antenna. Therefore, to implement the means-plus-function claim elements in the '918 Patent's claims, including this claim element, a POSA would understand that they only need to add a control unit programmed to perform the

function according to the algorithms described in the '918 specification. A transceiver is not needed because the control unit at the PRU or at the network can obtain the stored location information via a wired line.

D. “means to obtain geographic boundary information in order to disclose a global location at the network” (Claim 1)

55. The function of this claim element is “to obtain geographic boundary information in order to disclose a global location to the network.” A POSA would understand that the minimum structure for performing the recited function is “a control unit programmed to receive information that identifies a contiguous area on earth, within the coverage area of the network, that can be individually queried to disclose a PRU’s global location located within that coverage area of the network, and equivalents thereof.” Ex-1001, Fig 6, reference 1, Fig. reference 1 shows a basic function to obtain geographic boundary information by a control unit that is programmed to do so. (*Id.*, 6:65-7:1). Also Fig. 7, at reference 1, shows such support as well.

56. Such an interpretation is supported by the '918 Patent’s specification, which describes that the network is divided into individually pollable areas so that query or search only involves the PRUs currently located in such areas and not all the PRUs participating in the network wherever they may be located. For example, as the '918 Patent explains, a distressed wireless customer may wish to have another

wireless customer who is nearby pick them up. The network can send a message only to those wireless customers that are serviced by the same or adjacent cell phone towers. *See, e.g.*, Ex-1001, 7:47:59 (“As shown in FIG.3, a distressed mobile user M may need to find where another party might exist in that geographic region. The user could initiate a page from their PRU **for the closest available PRUs that could be found in that geographic jurisdiction.** Looking at FIG. 3, mobile user M will provide its location, latitude and longitude (X_o , Y_o) to the closest available ground station serving area C or grid G. As stated earlier, appropriate terrestrial technology will be scattered in that region **to serve the PRUs in that area** as shown in FIG. 1. Once a ground station picks up this signal, it sends a page for all location reporting devices in the specified boundary surrounding mobile unit M, FIG. 3 to disclose their location.”); 7:59-8:2 (“Such boundary information could simply be specified by the latitude and longitude of unit M and appropriate radii information. For the very first request, such radii information would be the distance R as shown in FIG. 3. **A PRU within that area will pick up the signal and determine if it is within the specified radii.** Also, if the ground station specifies grid information for the first cell, G_1 , a PRU will have to determine if it lies within the grid GI (sic) boundary, P_1 , P_2 , P_3 and P_4 . According to FIG. 3, **when a ground station sends a page for the location of PRUs in cell C1 or grid G1 only mobile unit M1 may respond.**”); 8:26-37 (“Considering that mobile unit M is initiating a search for possible portable remote

units in its immediate area, a relevant ground control station will send three pages. The first page will cover cell C_1 or grid G_1 . As no units are available in the area a second page will be sent to cover cell C_2 , or grid G_2 . **Examining FIG. 3, the next PRUs exist only in cell C_3 or grid G_3 . Once a page is sent out for cell C_3 . PRU, M_2 , and M_3 will respond. If grid G_4 is specified PRU M_2 , M_3 , M_4 , and M_5 will respond. The ground control station will next select the unit closest to PRU M_1 , which is M_2 , in this instance. The location of PRU M_2 will then be forwarded to PRU M_1 .**"); 10:45-58 ("A PRU may choose to instruct the network to relay certain information to mobile units in a specific geographic region. That information would then be appended to the geographic boundary information and beamed in the specified geographic region. The target PRUs would determine if they are in the specified boundary before alerting a subscriber as to the content of the message. In circumstances where a subscriber in possession of the PRU is in motion and a request is received for the location of the PRU if within a specified region, the PRU may provide this information and also additional information such as its velocity to the network. This might help a party seeking help to establish if they would be able to catch up with another subscriber in the region which help was sought.") (emphasis added in all instances).

57. Furthermore, a POSA reading the '918 Patent's specification would understand that the required function may be performed at a control unit of the

system. *Id.*, 11:2-6 (“In situations where a PRU cannot perform any of the tasks described herein, the network may obtain its location information and the required functions [are] performed at the network and forwarded to the appropriate communication target on completion.”).

58. The claimed function is not “to transmit location information,” but to obtain information that identifies a geographic boundary which can be individually polled to disclose a PRU’s location, which does not necessitate transmitting the location information. Therefore, this claim element does not require “transceiver circuitry” since that circuitry is used for another purpose, to receive or send wireless signals.

E. **“means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network” (Claim 1)**

59. The function of this claim element is “to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network.”

60. A POSA would understand that the minimum necessary structure for performing the recited function is “a control unit programmed to determine whether the location of a portable remote unit is within a specified contiguous area on earth and, upon such determination, provide the location of the portable remote unit to

another network component, and equivalents thereof.” Such an interpretation is supported by the ’918 Patent’s specification. A programmed control unit in the system perform this basic function. *See*, Ex-1001, Fig 7 at ref 4 and 8:57-9:12, esp. 9:4-6, and Fig. 6 at reference 1,3,7. A POSA reading the ’918 Patent’s specification would thus understand that the required function may be performed at a control unit. Moreover, nothing in this claim element requires there to be “transceiver circuitry” because a POSA would understand that this claim element does not require a limitation that is drawn to the structure used for communication of the position information. Additionally, a POSA understands that one control unit can provide the location to another control unit, which can utilize, for example, a hardwire connection between the two control units. This claim element does not distinguish between the two forms of transmissions or the location which constitutes the source of the information to the network. Moreover, that the claim requires “the geographic boundary” is “obtained at the network” further suggests to the POSA that this element may be entirely performed by a control unit at the control station.

F. “means to determine and report to the system upon request that, another mobile remote unit of the network has tracked the portable mobile remote over a period of time” (Claim 1)

61. The function of this claim element is to “to determine and report to the system upon request that, [sic] another mobile remote unit of the network has tracked the portable mobile remote over a period of time.” A POSA would understand, after

having read the '918 Patent specification, that the minimum necessary structure to perform the recited function is “a control unit programmed to identify and report to another control unit of the system that another PRU within the same network boundary as the PRU has moved together with the PRU over a pre-specified distance while maintaining a pre-specified radius of it over a pre-defined time period, and equivalents thereof.” A control unit of the network is programmed to perform this function. (*Id.*, Fig. 5 at ref 10, 11, and 12 with 6:1-6:19). This is consistent with the algorithm described in the '918 Patent's specification. *See, e.g.*, Ex-1001, Fig. 5 (reproduced below) and at 5:37-64 (“In tracking mode, a tracked PRU, FIG. 1,501, may simply alert a user in possession of the tracked PRU with the location information of any tracking device PRU 510 that has resided within a pre-specified radius of the tracked PRU, with both units having traveled a minimum distance. Parameters such as elapse time, minimum distance traveled and tracking radii could be set as a standard by the industry. The tracking feature could be invoked by the tracked PRU or a request could simply be forwarded to the closest ground control station so that the operation is performed for the tracked PRU. In tracking mode, the geographic location of the tracked unit, FIG. 1, 501, is utilized to determine the geographic boundary where a search for possible tracking units 510 could be initiated. Over a period of time and at pre-determined time intervals a page is sent to the geographic location 201 where the tracked unit 501 resides for all location-

reporting units within that geographic boundary to disclose their location. The geographic boundary required to establish tracking could be set as a standard by the industry. For instance, it could [be] agreed upon that a unit could be deemed as tracking another if it stays within a 5 meter radius of the tracked unit over a 1 mile stretch. As the tracked unit 501 is moving, that unit or an appropriate network unit, may page for the location of other communication units within the tracking boundary of the tracked unit to disclose their location. Only communication units within that geographic boundary would disclose their location.”) *See also, id.*, 6:1-47 (reiterating that any tracking PRUs are within the set of PRU units whose locations were polled in a specific geographic boundary of the wireless network).

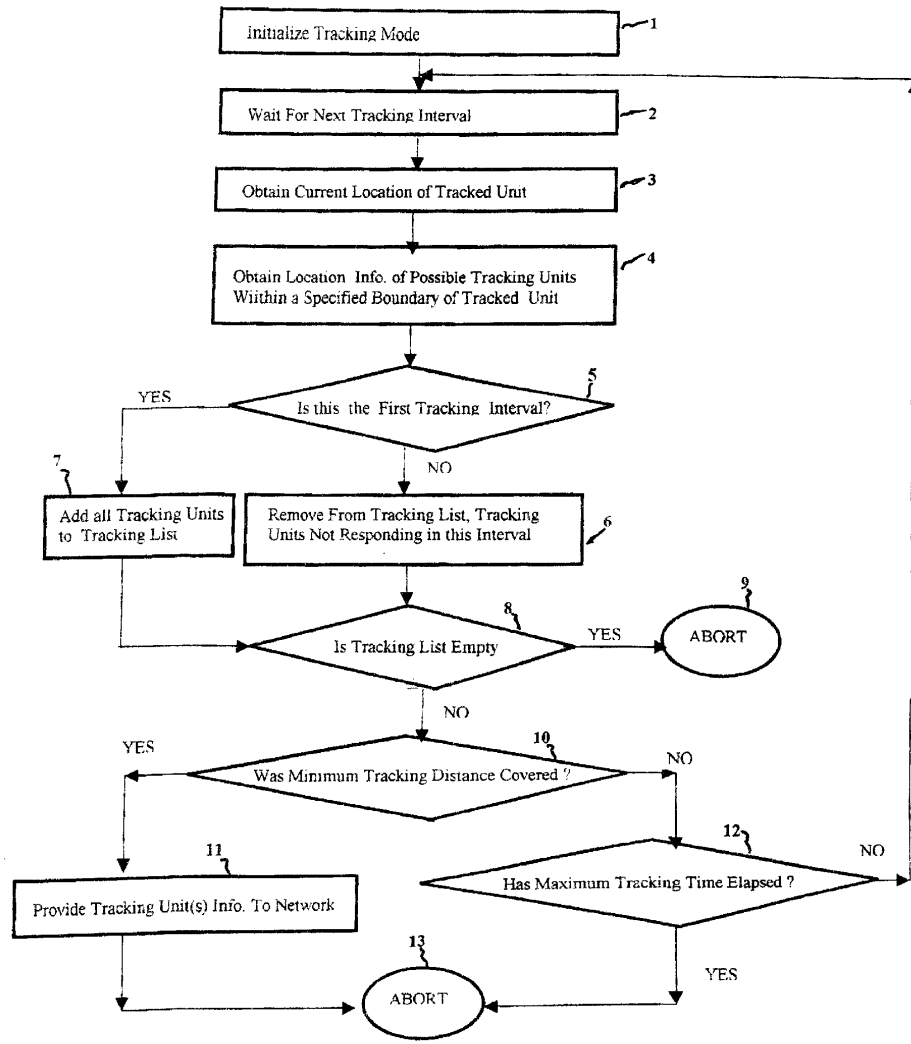


FIG. 5

62. Mr. Andrews' step (3) (Ex-1002, ¶ 243) appears to improperly conflate the network boundary that is being polled with the tracking radius that is used to make the tracking determination. This is contrary to the specification and is not logical because one PRU simply being located within the same polled network boundary as another PRU, so that the former can be considered by the network as a

possible tracking candidate, does not in itself establish that the former is tracking the latter. Rather, a POSA would understand from the '918 specification that first the page is directed to a specific region of the network for possible candidates and from that set of candidates determinations are made as to whether one PRU within that network boundary is also maintaining a tracking radius of the tracked PRU over a pre-defined period of time while both are in motion over a pre-defined distance.

63. I also disagree that the minimum necessary structure requires a transmitter to the extent that such a term implies wireless transmission because a POSA would understand that determining and reporting to the system, upon request that another mobile remote unit of the network has tracked the portable mobile remote over a period of time, takes place at the network control center and that the claimed reporting may be from one control unit at the network control center to another control unit located therein. Therefore, the minimum required structure does not require a “transmitter.”

G. “means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network” (Claim 2)

64. The function of this claim element is “to determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.” A POSA would understand, after having read the '918 Patent specification, that the minimum necessary structure to perform the

recited function is a control unit programmed to: prior to sending a location of a remote unit to another network component, determining if the location of the remote unit is within a specified contiguous area on earth where disclosure of the remote unit's location is prohibited, and equivalents thereof. (*Id.*, Fig. 6 and 10:21-36, especially references 3, 4, 5, 6, and 7).

H. “means to request whether the at least second communication unit is tracking the at least first communication unit” (Claim 22)

65. The function of this claim element is to “request whether the at least second communication unit is tracking the at least first communication unit.” A POSA would understand, after having read the '918 Patent specification, that the minimum necessary structure to perform the recited function is “a control unit programmed to make a tracking request, and equivalents thereof.” This is consistent with the algorithm described in the '918 Patent's specification. *See, e.g.*, Ex-1001, Fig. 5 (element 1) and at 5:37-64 (“In tracking mode, a tracked PRU, FIG. 1,501, may simply alert a user in possession of the tracked PRU with the location information of any tracking device PRU 510 that has resided within a pre-specified radius of the tracked PRU, with both units having traveled a minimum distance. Parameters such as elapse time, minimum distance traveled and tracking radii could be set as a standard by the industry. The tracking feature could be invoked by the

tracked PRU or a request could simply be forwarded to the closest ground control station so that the operation is performed for the tracked PRU.”)

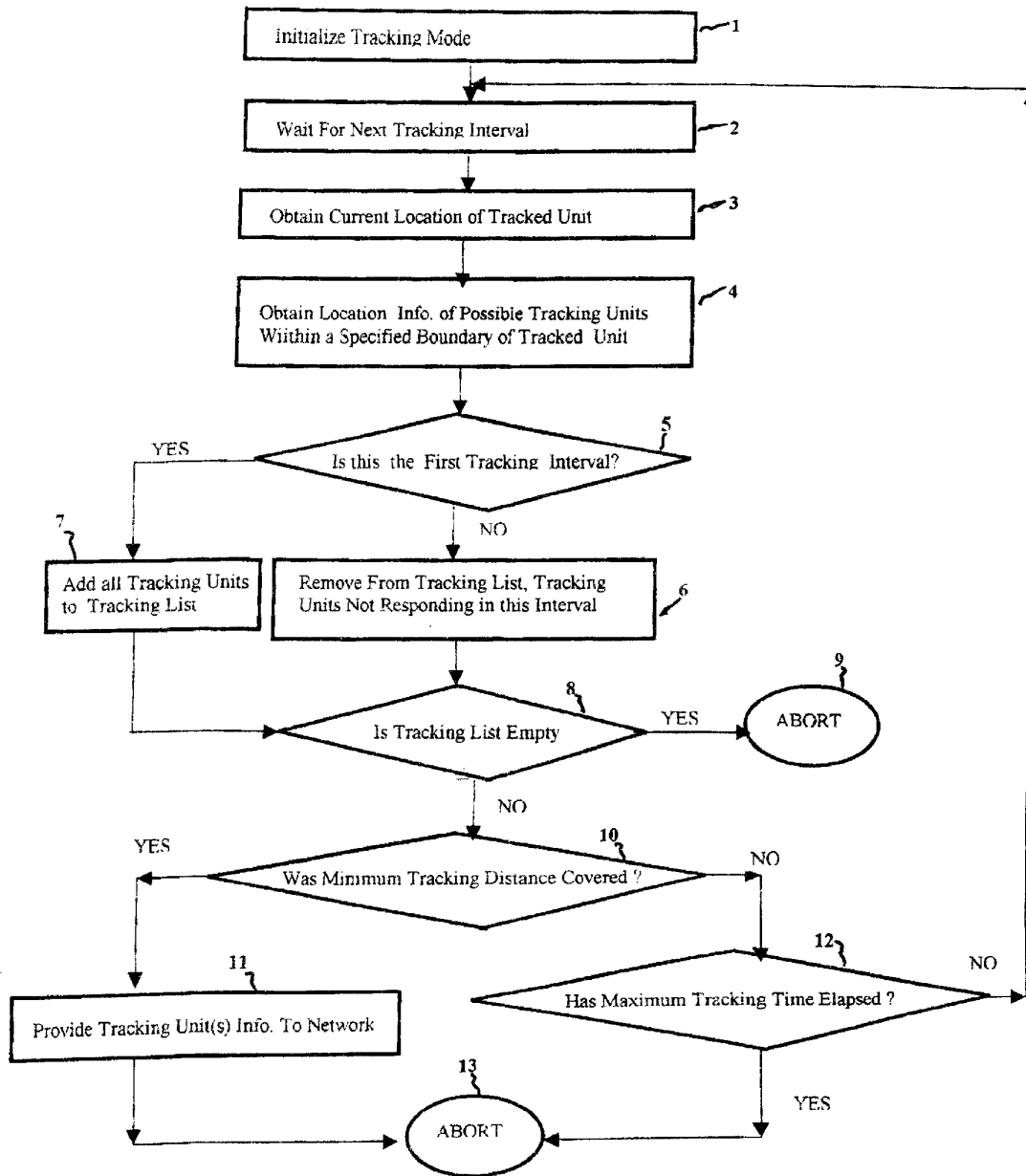


FIG. 5

66. As with the other “means” claim terms, and for the same reasons, I also disagree that this claim element requires a transmitter configured to transmit a message identifying such a PRU because the specification explains that this function may be performed by a control unit at the control station. Therefore, a POSA would understand the control unit at the network may be requesting the tracking determination from another control unit at the network, such as though a hardwire connection. A POSA would also understand that the control unit at the PRU may be reporting to another control unit (via a hardwire connection) prior to transmission to the control station. Therefore, the minimum required structure does not require a “transmitter.”

I. **“means to determine from said location provided (ii) that the at least first and second communication unit maintained proximity while in motion during said time” (Claim 22)**

67. The function of this claim element is to “determine from said location provided (ii) that the at least first and second communication unit maintained proximity while in motion during said time.” A POSA would understand, after having read the ’918 Patent specification, that the minimum necessary structure to perform the recited function is “a control unit programmed to identify that a second PRU has moved together with the first PRU within a pre-defined tracking radius of it over a pre-defined time period, and equivalents thereof.” Again, a control unit of the system is programmed to provide this function. See Ex-1001, Fig. 5, references

10-12 and 6:1-47. This is consistent with the algorithm described in the '918 Patent's specification. *See, e.g., id.*, 5:37-64 ("In tracking mode, a tracked PRU, FIG. 1, 501, may simply alert a user in possession of the tracked PRU with the location information of any tracking device PRU 510 that has resided within a pre-specified radius of the tracked PRU, with both units having traveled a minimum distance. Parameters such as elapse time, minimum distance traveled and tracking radii could be set as a standard by the industry. The tracking feature could be invoked by the tracked PRU, or a request could simply be forwarded to the closest ground control station so that the operation is performed for the tracked PRU. In tracking mode, the geographic location of the tracked unit, FIG. 1, 501, is utilized to determine the geographic boundary where a search for possible tracking units 510 could be initiated. Over a period of time and at pre-determined time intervals a page is sent to the geographic location 201 where the tracked unit 501 resides for all location-reporting units within that geographic boundary to disclose their location. The geographic boundary required to establish tracking could be set as a standard by the industry. For instance, it could [be] agreed upon that a unit could be deemed as tracking another it stays within a 5 meter radius of the tracked unit over a 1 mile stretch. As the tracked unit 501 is moving, that unit or an appropriate network unit, may page for the location of other communication units within the tracking boundary of the tracked unit to disclose their location. Only communication units within that

geographic boundary would disclose their location.”) *See also, id.*, 6:1-47 (reiterating that any tracking PRUs are within the set of PRU units whose locations were polled in a specific geographic boundary of the wireless network). Therefore, I do not agree with Mr. Andrews’ step (3) because it improperly conflates the network boundary that is being polled with the tracking radius that is used to make the tracking determination. This is contrary to the specification and is not logical because one PRU simply being located within the same polled network boundary as another PRU, so that the former can be considered by the network as a possible tracking candidate, does not in itself establish that the former is tracking the latter. Rather, a POSA would understand from the ’918 specification that, first, the page is directed to a specific region of the network for possible candidates and, second, from that set of candidates determinations are made as to whether one PRU within that network boundary is also maintaining a tracking radius of the tracked PRU over a pre-defined period of time while both are in motion over a pre-defined distance.

J. “means to provide result of the determination (iv) to the requestor of (iii)” (Claim 22)

68. The function of this claim element is to “provide the result of the determination (iv) to the requestor of (iii).” A POSA would understand, after having read the ’918 Patent specification, that the minimum necessary structure to perform the recited function is “a control unit programmed to provide the result of the

determination (iv) to the requestor of (iii).” This is consistent with the ’918 Patent’s specification. *See, e.g.*, Ex-1001, Fig. 5 (reproduced below), especially reference 11, 6:48-64 and 11:2-6.

69. I also disagree that the minimum necessary structure requires a transmitter to the extent that such a term implies wireless transmission because a POSA would understand that requesting may take place at the network control center and that the claimed reporting may be from one control unit at the network control center to another control unit located therein. Therefore, the minimum required structure does not require a “transmitter.”

VIII. TECHNOLOGY BACKGROUND PRESENTED BY MR. ANDREWS

70. Mr. Andrews provides a technology background at Ex-1002, Section VIII. I will not presently offer any separate opinions regarding the background because it is largely not asserted or relied upon by Petitioner in the Grounds 1-5 and generally does not affect my opinions. To the extent any of this technology is relied upon in Grounds 1-5, I will address it specifically in my opinions regarding the same.

IX. OVERALL OBSERVATIONS REGARDING PRIOR ART

71. The patented technology requires requesting the location of a cellular phone or pager (“PRU”) within a specific pollable geographic boundary of telecommunication networks in the wireless industry to make proximity and tracking determinations amongst such devices so that location-based services can be scalably

and efficiently provided in networks that may have tens of millions of customers across the nation and even internationally.

72. Participating wireless customers reporting their cell phone locations to the system specify a **pollable** geographic boundary within the coverage area of the network, which send a query **within that pollable boundary** for the location of cell phones of another participating wireless customer currently within the boundary. In this manner, the network efficiently facilitates the identification of the location of nearby wireless customer's cell phones. The system also applies a specific tracking algorithm that determines that two cell phones within the same **pollable** geographic boundary of the network are moving in tandem with each other within a pre-defined distance of each other over a pre-specified tracking distance during a pre-specified tracking time period.

73. In contrast, each of the asserted references either poll only individual units or poll all units and instruct them to report their location back to the network when they meet a location criterion. Additionally, none disclose the specific tracking methodology of the '918 Patent, which is directed to determining whether two cell phones are moving in tandem during a tracking period.

74. Additionally, at the time of the invention, the ability to request the location of a wireless customer's cellular phone or pager from a carrier's network was not readily or uniformly available. In 1996, the FCC mandated that all US

wireless telecommunication carriers to enable requests for the location of a cellular phone or pager from their networks for at least emergency purposes by 2001.¹ Further, the Location Interoperability Forum was created in 2000 by the world's 12 largest telecom operators to provide standards to make such requests possible.²

75. Uber asserts that a POSITA, with only *a bachelor's degree in electrical engineering, computer engineering, computer science, or a related field, and at least two years of experience in the research, design, development, and/or testing of GPS and related location tracking techniques, or the equivalent*" would have found obvious the claimed inventions obvious based upon references that did not and could not have used the systems and methods of the Challenged Patents and had no

¹ On July 26, 1996, the FCC issued a Report and Order and Further Notice of Proposed Rulemaking. 11 FCC Rcd 18676, 18678, 1996 FCC LEXIS 3966, *1, 3 Comm. Reg. (P & F) 967. Accessible at: <https://transition.fcc.gov/Bureaus/Wireless/Orders/1996/fcc96264.txt> ("Report & Order"). The Report & Order recognized that, at the time, wireless carriers did not yet have the equipment or infrastructure that would allow them to reliably determine the precise location of a mobile device within their networks and report that location to emergency services. The Report & Order required covered carriers to achieve the capability to identify and accommodate requests for the latitude and longitude of a mobile unit making a 911 call, within a radius of no more than 125 meters in 67 percent of all cases.

² See <https://www.zdnet.com/article/forum-sets-standards-for-location-based-services/>

description of how individual polling of network boundaries or cells could be implemented. I disagree. The asserted references did not teach a POSA the methods and systems of the Challenged Claims given the state of the art and the fact that these systems did not use cellular infrastructure in the manner disclosed in the Challenged Patents.

X. BRIEF OVERVIEW OF ASSERTED PRIOR ART

A. U.S. Patent No. 5,731,757 (“*Layson*’757”) (Ex-1007)

76. *Layson*’757, in contrast, is directed to an offender/victim correlation system directed to preventing crimes by alerting victims, offenders and law enforcement when an associated offender is within a certain perimeter of a specific victim. This system enhances traditional electronic monitoring, which was previously limited to fixed locations such as residences. (Ex-1007, Abstract).

77. FIG. 1 illustrates an overall system 10 incorporating a portable tracking device 12 which receives communication signals from a global position satellite (GPS) 14 to determine the location of the subject (offender 16 or victim 18). When continuous location of the offender 16 is desired, the offender 16 is fitted with a body-worn device 20 which is non-removable by the offender 16 and provides tamper detection to generate alarms should the offender 16 attempt to remove the body-worn device 20. When the continuous location for the victim 18 is desired, the

victim 18 can be provided a portable tracking device 12 and the body-worn device 20 can be a garment clip-on version or an actual body-worn device. (*Id.*, 2:45-57).

78. The communication from the subject's portable tracking device 12 is routed to the central data-base system 22 where response decisions for notification to parole and probation 30, victims 18 and law enforcement 32 are made based on schedule rules and location constraints provided by the supervising agency such as parole and probation 30. The central database system 22 communicates to the subject's portable tracking device 12 via the wireless communication link 24 to load updated schedule rules and location constraints. Data and voice messages can be sent to the subject based either on a schedule from the central data-base system 22, in response to central data-base system data fusion (such as encounters based on the dynamic movements of offenders and victims) or direct input from probation and parole 30 and law enforcement 32. At any time, the central data-base system 22 may be commanded by law enforcement 32 or other agencies, such as parole and probation 30, to query the portable tracking device 12 to ascertain the immediate status of the portable tracking device 12 and the location of the offender 16 or victim 18. Queries for location history data can be performed by law enforcement 32 and parole and probation 30 to identify offenders 16 in the vicinity at the time a crime was committed. (*Id.*, 3:3-27).

79. Once the status of the body-worn device has been established 138, the current location is compared [by the portable tracking device 12] to the schedule rules and location constraints 140 of the subject. If the current location complies with the schedule rules and the location constraints 142 for the subject, then the location and status data is stored 144 in the portable tracking apparatus to be transmitted to the central data-base system on the next scheduled communication 146. If the current location violates the schedule rules and location constraints of the subject, then the subject is notified 148 and the response to the central data-base system is evaluated against the schedule rules and location constraints 150 for the subject. (*Id.*, 7:3-14).

80. The central database system examines the present and past locations of subject 212 since the previous data transfer. If any of the locations are violations, the central database system examines the profile of subject 213 to determine if any further violation notification is required. An offender's current position relative to any associated victim's current position is analyzed by data fusion 215 to determine if any alarms to law enforcement or corrections, commands to the offender and warnings to the victim are required based on the dynamic movements of the offender and victim. The central database system then builds reports based on the data received. (*Id.*, 8:9-20).

81. Thus, *Layson* '757 introduces a portable tracking device that processes scheduling rules and location constraints for an offender including processing intelligence relative to an associated victim.

B. U.S. Patent No. 6,405,213 (“*Layson* ’213”) (Ex-1008)

82. *Layson* '213 is a crime/offender location correlation system that correlates the locations and times of crimes to identify possible offender suspects. The system includes a computer to correlate crime incident data with the locations of subjects. By inputting information about the location and time of crimes and the locations of various offenders at different times into a correlation database, the system can determine if any of the offenders are likely suspects. This determination is based on whether an offender was near the crime scene at the time the crime occurred. (Ex-1008, Abstract).

83. More specifically, the invention involves recording the movements of offenders under court-ordered supervision using a body-worn, tamper-resistant location recording device. Integrated with a communications network, law enforcement, and criminal justice systems, it correlates crime incident data with the offenders' location histories to determine if any of them were near a crime scene at the time of the incident. The system supports investigative queries by matching location histories with crime data. The device transfers movement data to a central

database via a residence interface unit connected to a landline at the subject's residence or other locations in the community. (*Id.*, 1:20-42).

84. *Layson* '213 addresses creating a cost-effective, body-worn location recording device for subjects under supervision. (*Id.*, 6:40-67). It also addresses power consumption and wireless transfer costs by using low-power infrared communication to transfer data to a nearby residence interface unit, which then connects to a low-cost communications network. (*Id.*, 7:01-25).

85. FIG. 1 depicts the end-to-end crime incident/offender location correlation system and component subsystems. The crime incident/offender location correlation database 1 is a relational database that receives crime incident data 2 and offender location data 3 on a continuous basis. (*Id.*, 8:27-31). Crime incident data 2 is comprised of crime incident dispatch data 7 obtained from computer aided dispatch (CAD) 6 systems and crime incident investigative data 9 from record management systems (RMS) 8 within law enforcement agencies. (*Id.*, 8:39-43).

86. Each offender's data from an offender location monitoring system 220 is correlated against any violations of exclusion zone criteria 221 from offender sentencing data in IMS 34 and exclusion zone violations reported by the offender location monitoring system 220. (*Id.*, 19:45-50). Each offender's data from an offender location monitoring system 220 is correlated against any crime incidents 225 from CAD 6 and RMS 8 systems. (*Id.*, 19:61-63). Law enforcement and

corrections/community supervision agency personnel use the query terminal 37, 39 for structured queries. (*Id.*, 20:40-42).

C. U.S. Patent No. 5,365,451 (“Wang”) (Ex-1009)

87. *Wang* teaches a fleet tracking system in which a remote vehicle reports its current location to a central network station and, based thereupon, the central station sends to each vehicle a “border” that defines a fixed perimeter. When the vehicle has moved outside of that fixed perimeter, it again reports its location to the central station. The size of the “border” depends upon how far the vehicle’s currently reported location is to a jurisdictional line separating one region from another, *e.g.*, a state line. The further away the vehicle is from the state line, the larger the border; the closer the vehicle is the smaller the border. In this manner, the system more precisely knows the vehicle’s location the closer the vehicle is to the state line so that the central station can determine precisely when the vehicle has crossed the state line where new regulations or tariffs may apply. This conserves power and network resources. (*See*, Ex-1009, 1:38-52, 3:50-56, 6:20-24).

D. 720 Ill. Comp. Stat. Ann. 5/12-7.3, As Amended By 1995 Ill. Legis. Serv. P.A. 89-377 (H.B. 1792), Eff. Aug. 18, 1995 (“IllinoisLaw”) (Ex-1010)

88. *IllinoisLaw* is a portion of a legal code that defines criminal conduct. I do not consider this a technical reference for which a POSA would have knowledge. Of interest here, it defines “places a person under surveillance” as “remaining

present outside the person's school, place of employment, vehicle, other place occupied by the person, or residence other than the residence of the defendant." It also defines "follows another person" as (i) to move in relative proximity to a person as that person moves from place to place or (ii) to remain in relative proximity to a person who is stationary or whose movements are confined to a small area. It also exempts from the definition "following within the residence of the defendant."

E. U.S. Patent No. 6,160,481 ("*Taylor*") (Ex-1011)

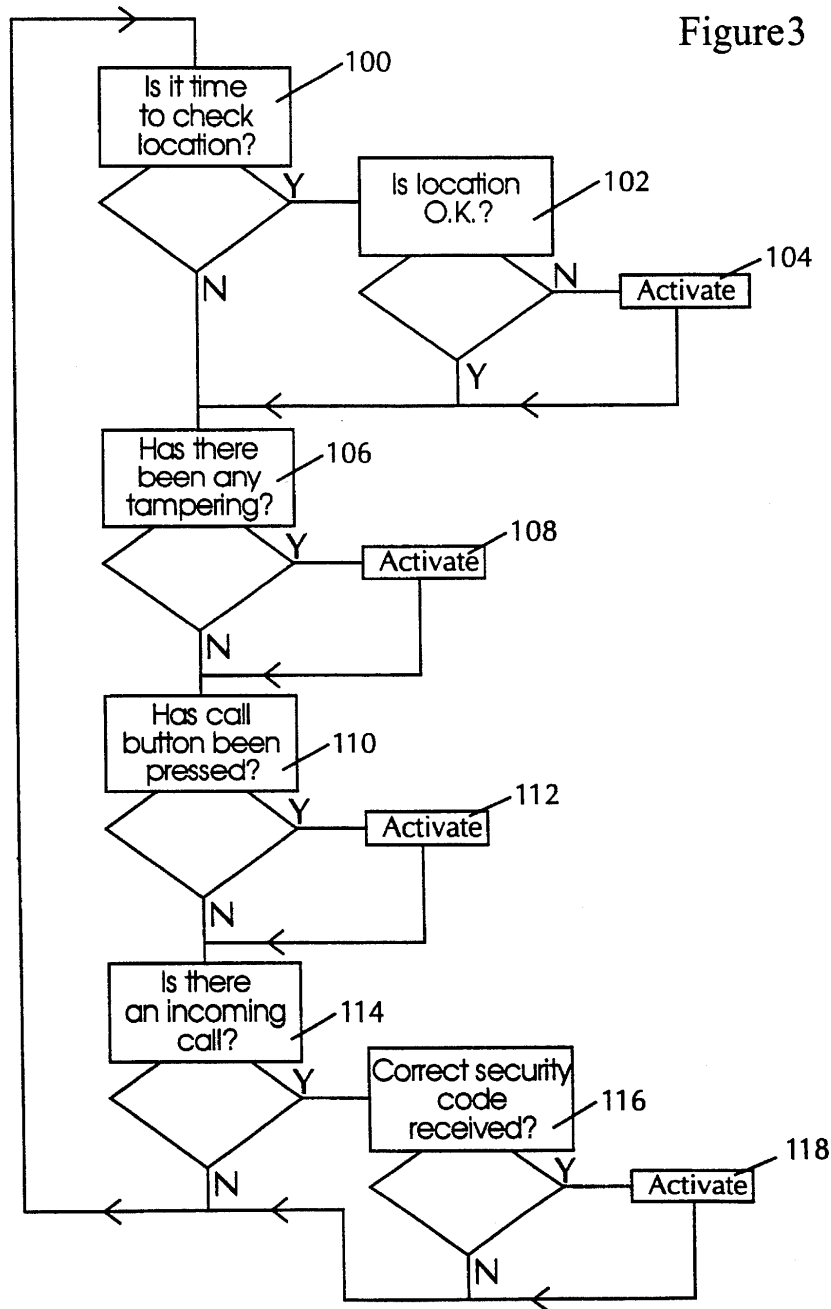
89. *Taylor* teaches a monitoring system that includes a portable monitoring device 30, a central location 32, a transmission tower 34 and a receiving tower 36 that forms the monitoring system 38. (Ex-1011, Fig. 1 and 5:32-34). The system can intervene to dissuade certain behaviors, either by delivering medication or an electrical shock. The device can detect tampering and transmit data to a central system for monitoring. When bodily signals fall outside normal ranges, it alerts a central station, such as a nursing station, for possible medical intervention. Additionally, it can notify authorities if a person moves outside a set perimeter, enabling remote monitoring without requiring confinement to a single location. The system also compares the positions of multiple monitored persons to ensure they remain at an appropriate distance from one another, thus assisting in scenarios like crime deterrence or medical monitoring. (*Id.*, Abstract).

90. More particularly, the portable device communicates with a secondary transportable device 48. The latter has a long-range antennas, 70,72 to communicate with the central location. (*Id.*, 8:1-15). The portable device may monitor bodily functions such as blood pressure, heart rate, respiration, temperature blood alcohol and blood oxygen. (*Id.*, 12:15-21). The portable device also has mechanisms to obtain and report its global coordinates to the central location. Like the *Layson* '757 system, this system may include an offender ("restrictor") portable monitoring device 310 and an associated victim ("restrictor") portable device 312, whereby a perimeter may be established around the restrictor device such that an intervention may be activated to disable the restrictee in the event of a perimeter violation (*Id.*, 16:39-60). The restrictee may have fixed boundaries representing allowed and excluded areas whereby the portable device will report an exclusion area violation when it determines its location in an excluded area. (*Id.*, 18:67-19:16).

F. U.S. Patent No. 5,497,149 ("*Fast*") (Ex-1012)

91. *Fast* teaches a global security system that sends location messages to a monitoring message center at predetermined times or under an alert condition, such as when it is outside an allowed safe zone for more than a defined time period. (Ex-1012, Abstract). *Fast*'s fundamental algorithm is shown in Fig. 3, in particular reference 102 where it checks "is location O.K.?":

Figure 3



92. *Fast's* system protects individuals by allowing them to "wear" a device that locates its own position independent of a monitoring terminal and will transmit

that information to the monitoring terminal when activated. The device may be activated manually, by pressing a button, or can happen automatically if the wearer is leaving a predefined zone. Anti tampering circuitry activates if removal or destruction of the device is attempted. The same technology can also be applied to detect theft of vehicles and other mobile or stationary valuable property. The fact that the protected person or item's location can be tracked allows a rapid rescue or recovery. (*Id.*, 1:36-49).

G. General Observations Regarding *Layson*'757, *Layson*'213, *IllinoisLaw*, *Wang*, *Taylor & Fast*

93. None of the asserted systems disclose a network that provides location-based services to participating wireless customers that report their cell phone location to the system whereby one participating wireless customer can specify a geographic boundary within the coverage area of the network for the system to query for the cell phone location of another participating wireless customer. None of the asserted references divide the network into individually pollable geographic boundaries to facilitate the identification of the location of nearby wireless customer's cell phones. None of the references disclose a system that applies a tracking algorithm that determines whether two cell phones within the same geographic boundary of the network are both moving within a pre-defined distance of each other over a pre-specified tracking distance during a pre-specified tracking

time period. In sum, none of the prior art references alone or together provide systems and methods wherein only PRUs within a specific geographic boundary of the network are polled in making proximity and tracking determinations so that location-based services can be scalably and efficiently be provided in wireless communication networks that may have tens of millions of customers across the nation and even internationally.

XI. OPINIONS REGARDING PETITION

A. GROUND 1: Claim 15 is not rendered obvious over *Layson*'757 in view of *Layson*'213

94. *Layson*'757 is directed to an offender/victim correlation system to prevent crimes by alerting victims, offenders and law enforcement when an associated offender is within a certain perimeter of a victim. *Layson*'213 is a crime/offender location correlation system that correlates the locations and times of crimes to identify possible offender suspects. I see no reason provided by Mr. Andrews why a POSA would attempt to use victim location in a crime/offender correlation database in *Layson*'213's system, because a crime has to first occur and be reported before its details are logged in the database. In contrast, a perimeter violation in *Layson*'757 is reported before any crime has occurred and is intended to prevent a crime from occurring.

95. Also, as discussed further below, Uber injects its own purported loiter time functionality, wherein two or more “loiter time” violations must occur for both the victim’s and offender’s PRU before any location violation alert is reported to the system and law enforcement. *See*, Ex-1002, ¶¶ 196, 198 (“In particular, a POSITA implementing *Layson*’757’s system would have been motivated to include *Layson*’213’s loiter time as part of *Layson*’757’s ‘guidelines’ for reporting a violation described above, such that *Layson*’757’s central database only sends reports to law enforcement/victims indicating that the offender’s tracking device is in violation of the buffer/exclusion zone around the victim’s tracking device after determining that the offender device has maintained close proximity to the victim’s tracking device for a duration of a loitering time period.”).

96. But modifying *Layson*’757 to wait for a “loiter time” before reporting perimeter violations violates its own teaching that calls for “immediate” alerts. Ex-1007, 9: 48-54 (“The portable tracking apparatus notifies the subject and the central data-base system immediately when a violation occurs.”). Depending on the amount of loiter time, this modification puts the victim in potential danger. For example, a victim may be in their office and have already reported their location as being in the office. Under Uber’s new proposed rules, because the location is a place that the victim may be for a while, there may be no reporting of its location for the duration that the victim remains in that location. Furthermore, an offender can be at the

victim's location for some time before both devices perform another location update. Therefore, Uber does not demonstrate how a POSA would have been motivated to make this modification or, if so, how the POSA would balance reporting, non-reporting, and loiter time. Furthermore, Uber does not address how a POSA would produce a workable system without undue experimentation given making each victim's location a crime event (and each time it is updated) would likely require orders of magnitude of additional processing if comparisons were to be made against offender locations, including offenders that are not associated with the victim. Nor does Uber explain what good it would do after the fact. Uber's proposal, therefore, not only violates the teachings of *Layson*, but requires substantial modifications not disclosed in either *Layson* patent for this modification to even potentially work.

97. The proposed modification also makes little sense because there are other simpler ways to solve Uber's purported loiter time problem. For example, loiter time in *Layson*'213 is simply a minimum time period that can be used as a search criteria to check for location violations. Because simpler ways exist to solve Uber's purported loiter problem without attempting to recreate the invention, I do not agree with Mr. Andrews' arguments about combining *Layson*'757 with *Layson*'213.

98. Claim 15 is not rendered obvious over *Layson*'757 in view of *Layson*'213 because the combined *Layson* system does not allow a victim in a

geographic region of the network to request the location of offender units in that geographic region of the network that are maintaining close proximity to that victim, and it does not provide the location of such offenders. Nor does the combined *Layson* system disclose the claimed steps as explained element-by-element below.

1. Independent Claim 15

99. Independent Claim 15 recites:

15. A method for determining that a first portable remote unit of a wireless consumer associated with a network is being tracked by at least a second portable remote unit that is in motion with the first portable remote unit over a tracking period comprising:

i) obtaining the location information of the first portable mobile remote unit, said location information provided at intervals during said tracking period;

ii) obtaining the location information of the at least second portable communication unit that is within a specified geographic boundary of the first portable remote unit, said location information provided at intervals during said tracking period;

iii) using the location obtained according to step (i) and (ii) to verify whether the first portable remote unit and second portable remote unit have maintained relative proximity during the tracking period;

iv) forwarding the result of the verification to a network requestor at the end of the tracking period.

- a. Element 15[pre]: A method for determining that a first portable remote unit of a wireless consumer associated with a network is being tracked by at least a second portable remote unit that is in motion with the first portable remote unit over a tracking period comprising:**

100. Petitioner does not take a position whether the preamble of claim 15 is limiting and I would suggest that it is limiting because a POSA would find the preamble provides structure or steps that are necessary to give the claim life, meaning and vitality. For example, the preamble explains to a POSA that the claimed method determines that *a first portable remote unit of a wireless consumer associated with a network is being tracked by at least a second portable remote unit that is in motion with the first portable remote unit over a tracking period.*

101. First, a POSA reading the '918 Patent understands that this claim is directed to cell phones or other hand-carried wireless telecommunication devices used to communicate via cellular telecommunication networks available to the general public. *Layson '757-Layson '213*, in contrast, is directed to law enforcement systems utilizing specialized offender/victim portable tracking devices “that communicates with body-worn device 20” which has “tamper detection” and has a “panic button 86” that generates an alarm in a specialized victim/criminal offender tracking system. *See* Ex-1007, 2:46-65 and generally 3:29-6:52 (describing the specifications of the portable tracking devices and their associated body-worn devices for the law enforcement system).

102. Second, a POSA reading the '918 Patent understands that it teaches that one unit is considered to “track” another when it moves in tandem with the other unit while maintaining a distance within a pre-specified radius of the other unit over a pre-specified distance during a tracking period. *Layson '757-Layson '213* does not teach such a method of tracking that requires an algorithm in which the tracking unit is in motion with the tracked unit over a tracking period while the two maintain a pre-specified proximity. Rather, there is only the disclosure of a location constraint that is provided to an offender’s portable tracking device that is used to immediately report an alert to the network if and when the location constraint is violated. (*Id.*, 7:3-14, 8:28-30, 9:45-50).

103. While I agree with Mr. Andrews (Ex-1002, ¶ 169) that the network may send to the offender’s device a dynamically updated location constraint based upon an updated associated victim’s location, this is different from the tracking of the '918 Patent because there is no requirement for the offender and the victim to be moving together within a pre-specified proximity over a pre-specified distance during a tracking period. Indeed, there is no “tracking period” of any kind disclosed by either of *Layson*’s systems. Moreover, the “loiter time” Mr. Andrews discusses regarding Element 15[C] is not a tracking period, as will be discussed in connection with element.

b. Element 15[A]: i) obtaining the location information of the first portable mobile remote unit, said location information provided at intervals during said tracking period;

104. *Layson* '757-*Layson* '213 does not disclose this element. First, as explained regarding the Element 15[pre], the portable tracking devices in the combined *Layson* system are not the claimed portable mobile remote units. Second, while the continuous periodic location reporting of both the offender and victim devices is indisputable, there is no disclosure of location reporting during a tracking period because there is no disclosure of "said tracking period." The tracking period, as the preamble informs us, is the period in which the first unit is being "tracked" by at least a second portable remote *unit that is in motion with the first portable remote unit*. Further, as explained in connection with Element 15[pre], the '918 addressed the problem of one wireless customer tracking another wireless customer by placing the former's PRU into the car (*e.g.*, trunk) of the latter. It explains that this is addressed by determining that the two PRUs are in motion together within a pre-specified tracking radius during a tracking period by comparing their reported locations at time intervals during that period. Ex-1001, Fig. 5, elements 1, 3, 5, 10, 12, 11 and 5:37-64; *see also*, 6:21-47 ("According to FIG. 5, once the tracking mode is invoked at a search unit, tracking is initialized, FIG. 5, 1. Note that the search unit could be any relevant mobile communication unit trying to identify possible mobile

communication units that are tracking another. The search unit then operates repeatedly over pre-defined time intervals 2 until the end of the tracking period 9, 13. At each tracking interval 2, the location of the tracked unit is obtained 3. Possible tracking units within a specified geographic boundary of the tracked unit are paged to reveal their location 4. For the first tracking interval 5, all tracking units that provided their location at that interval are stored in a list 7. At subsequent tracking intervals, a tracking unit that responded in the first tracking interval and not responding in a subsequent tracking interval is eliminated 6 as a possible tracking unit. If the tracking list is empty at any tracking interval 8, the tracking process is aborted 9. A test 10 is next performed to verify that the tracking units in the list traveled the minimum pre-defined distance. If it is determined that the tracking units traveled the minimum distance 10, they are reported as tracking units to the network 11. If it is determined that the tracking units have not yet traveled the minimum distance 10, a check is done to establish if the maximum tracking time has elapsed 12. If no time is left to establish tracking 12, the process is aborted, 13, otherwise it is repeated 2. A maximum time must be set for the tracking process to ensure that a PRU is not in tracking mode indefinitely.”)

In contrast, *Layson*’757 only discloses the victim’s device will report its location to the central database system, which in turn uses that location to update the location constraint of an associated offender and sends the updated location

constraint to the offender's device. The offender's device then compares its location to the updated location constraint and immediately alerts the system if and when it detects a location constraint violation. (*Id.*, 7:3-14, 8:28-30, 9:45-50).

105. Therefore, the proposed combination does not disclose the central database obtaining the victim device's location at intervals during "a tracking period."

c. Element 15[B]: ii) obtaining the location information of the at least second portable communication unit that is within a specified geographic boundary of the first portable remote unit, said location information provided at intervals during said tracking period;

106. *Layson*'757-*Layson*'213 does not teach Element 15[B].

107. In *Layson*'757, the offender's device also continuously reports its location to the network at fixed intervals. However, there is no "tracking period" as for Elements 15[pre] and 15[A].

108. Additionally, the offender's device also sends an alert to the central database system of the network when there is a location constraint violation, there is no disclosure in *Layson*'757 that the alert includes a location, nor would there be any need for such because the offender's device already continuously reporting its location to the network. However, even if offender's device sends it location when altering the system of a location constraint violation, there is no disclosure of it continuing to send an alert at time intervals during the "tracking period."

109. *Layson* '757 discloses that the system may dynamically update the offender's location constraint based upon an updated location of the victim. However, it does not show a tracking period whereby the system compares the respective time interval reported locations of two units during a tracking period and determines therefrom that the two were in the same geographic boundary over that tracking period.

110. Rather, assuming the offender unit continues to violate each updated location constraint, *Layson* '757 only discloses that the offender's device will continue to alert to the system for the system to make further determinations. Ex-1007, 9:48-54 ("The portable tracking apparatus notifies the subject and the central data-base system immediately when a violation occurs. The central data-base system contains guidelines in the schedule rules for each offender regarding the notification response to corrections, law enforcement and victims based on the nature of the offender's violation.") For example, there is no determination that the victim remained within their buffer zone. Indeed, the superiority of the '918 Patent system is demonstrated by the fact that *Layson* '757 system is cumbersome because of its very different approach. In *Layson* '757 the data path followed is:

(1) Victim Device Updated Location → (2) Central Database System → (3) Updated Buffer Zone → (4) Associated Offender Device → (5) Alert → (6) Central Database System

111. Because the central database system does not engage in the claimed tracking determination, the victim's device could easily report an updated location to the system (1, 2) and the system send an updated buffer zone to the associated offender device (3,4). However, since the offender's device need not be in the old or updated buffer zone at the time it receives it, by the time that the offender's device ends up within that buffer zone (if ever) and reports an alert to the system (5,6) victim may have actually moved out of that buffer zone.

112. Mr. Andrews also hypothesizes that an offender unit would keep reporting a buffer zone violation and that this would meet the "at intervals" limitation. But this also makes no sense because, under his theory, the offender device would be receiving a new updated buffer zone each time and would be reporting a new alert. Therefore, there would be no reporting at intervals in a specified geographic boundary but rather in a series of different geographic boundaries.

113. In sum, *Layson '757-Layson '213* does not teach obtaining the location information of the at least second portable communication unit that is within a specified geographic boundary of the first portable remote unit wherein said location information is provided at intervals during a tracking period.

d. Element 15[C]: iii) using the location obtained according to step (i) and (ii) to verify whether the first portable remote unit and second portable remote unit have maintained relative proximity during the tracking period;

114. *Layson '757-Layson '213-IllinoisLaw* does not teach Element 15[C].

The claim requires two distinct determinations; that the two units (1) are with the same geographic boundary and (2) have maintained relative proximity during the tracking period. This is consistent with the extensively addressed teaching of the '918 patent that the network is divided into individually pollable boundaries and the tracking determination is made only with regard to one or more units with that network boundary.

115. *Layson '757-Layson '213* has no such disclosure and Mr. Andrews has no analysis that it does. His analysis relies upon “determining that the offender device remained in the victim’s buffer zone.” (Ex-1002, ¶ 191). But, at best, such can only meet the prior limitation. There is no disclosure or analysis of any separate determination of the victim unit and associated offender unit having “maintained relative proximity during the tracking period” within the same buffer zone. Adding a “loiter time” to allow the offender device to be in a buffer zone for some minimum period of time does not result in any comparison of the offender and victim unit somehow moving together within the same buffer zone, and there is no analysis presented by Mr. Andrews that it does. All his analysis shows is that “the use of

loiter time helps to ensure that the offender's presence in the exclusion [buffer] zone is reported as a violation when it is intentional as opposed to transient and potentially inadvertent." (Ex-1002, ¶ 193). Even if correct that a POSA would be motivated to add a "loiter time" the victim need not be in motion nor is there any claimed determination.

116. Therefore, the proposed combination does not disclose this claim element.

e. Element 15[D]: iv) forwarding the result of the verification to a network requestor at the end of the tracking period.

117. *Layson '757-Layson '213* does not disclose forwarding the result of the verification to the network requestor at the end of the tracking period as required by Element 15[D].

118. Mr. Andrews asserts this element is met because "each transmission of location coordinates by the victim's portable tracking devices corresponds to a request to be alerted to be alerted to the presence of any nearby offenders." (*Id.*, ¶ 197). I disagree. First, there is no system in *Layson '757* that alerts the victim to "any nearby offenders." The only offender to which any victim would be notified of if there was a buffer zone violation is an associated offender because only the associated offender would have any location constraint relative to that victim. Second, there is a difference between being alerted to the presence of the associated

offender and actually making tracking request. Here again, Mr. Andrews conflates the separate requirements of 15[B] and 15[C].

119. Mr. Andrews also asserted this element because the alert could also be sent to law enforcement officials or *Layson* '213's crime-offender correlational database. (*Id.*, ¶ 198). First, sending the alert to either of these entities rather than to the victim does not address the fundamental problem that is merely a geographic boundary alert and not the resulting of the claimed tracking determination. Second, even had there been the claimed tracking determination (and there is not), Mr. Andrews does not explain how his modified combined *Layson* system would forward a report of result of tracking verification after the tracking period has ended. The report would be generated after a network operator has made a query to the database. But the time that a database query is performed is not a tracking period. For example, the database query may be made on Monday at 9 am and the query may be made for all potential stalking from midnight Saturday to 6 am Sunday. Thus, the time of the query is not clearly the tracking period required by the claim. Moreover, even if the query resulted in finding a series of updated location constraint violations, such would still not result in the claimed method as explained in connection with the prior elements.

120. In sum, *Layson* '757-*Layson* '213 does not disclose Claim 15 of the '918 Patent, nor render it obvious, Mr. Andrews' suppositions notwithstanding.

B. GROUND 2: Claims 1 and 22 are not rendered obvious by Layson'757, Layson'213 in view of IllinoisLaw

1. A POSA has No Motivation to Combine Layson'757-Layson'213-IllinoisLaw With a Reasonable Expectation of Success in Arriving at the Claimed Systems and Methods

121. *Layson'213* does suggest that *Layson'757*'s offender location data could be ported to the correlation database, as could exclusion zone violations alerts that constitute crimes. However, Mr. Andrews and I part company in his reasoning that a POSA would have entered victim location data into the correlation database so that the combined system “could be used to identify potential stalkers from the set of offenders for whom the system stores location data, by providing the system with victim’s location(s), as ‘crime incidents’” and “identify that an offender previously arrested for stalking a first victim, is now potentially stalking a second victim but correlating the second victim’s location with the offender’s location.” Ex-1002, ¶ 202.

122. This is far-fetched and there are many reasons a POSA would not make this combination. As an initial matter, *Layson'213* does not describe its correlation database storing victim’s locations. Rather, *Layson'213*'s correlation database correlates reported crimes with offender’s locations. *Layson'213* clearly describes that the crime incident data 2 is comprised of crime incident dispatch data 7 obtained from computer aided dispatch (CAD) 6 systems and crime incident investigative

data 9 from record management systems (RMS) 8 within law enforcement agencies. *Layson* '213, 8:39-43. It correlates these reported crimes with offenders' locations to determine whether any offenders are possible suspects. *See, e.g., Ex-1008* at 20:63-21:4.

123. A victim's location is not a "crime." The amount of complexity that would be added to the system if it had to compare every offender location with every victim location to identify potential stalking is not realistic. It is not even realistic that a victim would release their location data simply to compare it with any offender data or to be notified when any offender is in their vicinity. A victim is concerned with an offender who has been restrained by law enforcement from being within their vicinity. The offender's device in *Layson* '757 therefore alerts the system when there has been a location constraint violation relative to an associated victim. *Ex.1007*, 3:3-27, 7:3-14, 8:9-20.

124. There is simply no reasonable basis for a POSA to expend many orders of magnitude more in power and processing to report each victim location update from *Layson* '757 into *Layson* '213's correlation database to compare locations of totally unrelated offenders. Such a modification would contradict *Layson* '757 teachings (and common sense) that the offender's location constraints are provided by a "supervising agency such as parole and probation." *Ex-1007*, 3:3-8; *see also id.*, 9:50-54 (the central database system contains guidelines for each offender when

a location constraint violation notice is received from an offender's device); 8:9-20 (explaining that data fusion process at the central database examines past and current positions of offender's device relative to that of an associated victim). Therefore, Uber's proposed modification is contrary to *Layson's* teachings that the location of a victim is only examined relative to that of an associated offender. Uber's proposed modification is also contrary to *Layson's* goal of cost reduction and to distribute as much processing as possible to the PRU and away from the network. *Id.*, 8:50-59. It would simply not be feasible to track the location of every offender and compare the location of each victim, regardless of whether or not the offender was associated with the victim or even located near the victim.

125. At a minimum, to be feasible, the system would have to limit the location data it obtained to that from a PRU within a specified radius of the victim, as required by the claim. Mr. Andrews does not even make any suggestion that his proposed combined system teaches limiting the data in this manner. Rather, he posits quite the opposite, that the combined system: "could be used to identify potential stalkers from the set of offenders for whom the system stores location data." (Ex-1002, ¶ 202).

126. Mr. Andrews, I believe with good reason, does not address the feasibility of such a modification because it would not be feasible. The correlation database is designed to receive reported actual crime incidents from local authorities

and compare them with offender locations to identify possible suspects in such reported crimes. It is not built to detect potential crime, such as suspected or potential stalking as Uber posits. For the system to run a cross comparison against the victim's location, even just on the basis of user queries, would magnify the required processing by orders of magnitude if any (let alone every) victim's location is treated as a crime incident as the victim "moves from place to place", as Mr. Andrews suggests. (Ex-1002, ¶¶ 202, 204). Therefore, a POSA would not be motivated to make such a modification to the *Layson* combined system or have a reasonable expectation of success in doing so.

127. Even were the POSA motivated to make the proposed modification with a reasonable expectation of success (and they are not), it would not lead to the practice of the claimed invention because *IllinoisLaw* does not teach the tracking algorithm of the '918 Patent, *i.e.*, that both units are in the same geographic boundary of the network and are moving together within a pre-specified distance of each other over a tracking period within that geographic boundary over a pre-specified minimum distance. To the contrary, merely adding the victim's location to the correlation database as the location of a crime incident would still result in the network making a comparison of the victim's location to all offender locations, over open-ended distances and over open-ended periods of time.

128. I have carefully examined Mr. Andrews' motivational analysis spanning Ex-1002, ¶¶ 202-212. and find it speculative, at best, because it applies teachings in the '918 Patent but not found in the prior art, even taking into consideration *IllinoisLaw*. The '918 Patent is not directed to stalking or law enforcement systems such as *Layson*'757's offender/victim system or *Layson*'213's crime/offender system. Rather, it seeks a technical solution to the technical problem of a wireless customer using their cell phone to track the location of another wireless customer such as by the former placing their cell phone in the trunk of the latter's car. It solves the problem through a technical solution in which the system determines both are moving together in the same geographic area of the network and have maintained relative proximity over a pre-specified distance at various location reporting intervals during the tracking period. Stalking, however, does not require that the victim and the offender move together over a pre-specified distance at various location reporting intervals during the tracking period. Therefore, even when combined with *IllinoisLaw*, the combined system does not disclose the claimed system. And further illustrating the combination is improbable, Uber's proposed combined system does not have individually pollable geographic boundaries. The only boundaries disclosed in *Layson*'757 are buffer zones around a particular victim that are imposed on an associated offender. By Uber's logic, each offender would have in their device a buffer zone of every victim as a location constraint, contrary

to *Layson*'s teachings and common sense. Or the correlation database would have to run a continuous comparison by making a separate query for *each* victim for multiple tracking time periods *covering the whole day every day* by setting a perimeter around *each* victim and comparing *each* offender's location during that time period to see which offender was in the boundary. And then the system would have to make the '918 tracking determination, which is more specific than and is not taught by *IllinoisLaw*. Mr. Andrews' analysis does not and cannot demonstrate *IllinoisLaw*, which is a legal definition that is applied to cover a much broader situation than the '918 Patent's tracking determination of whether two cell phones in the same geographic boundary of the network are moving in tandem.

2. Claim 1

129. Claim 1 recites as follows:

- (1) Element 1[pre]: A communication system comprising:
- (2) Element 1[A]: a portable mobile remote unit;
- (3) Element 1[B]: a network of communication units;
- (4) Element 1[C]: means to obtain the location of the portable mobile remote unit;
- (5) Element 1[D]: means to obtain geographic boundary information in order to disclose a global location at the network;
- (6) Element 1[E]: means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network;

7) Element 1[F]: means to determine and report to the system upon request that, another mobile remote unit of the network has tracked the portable mobile remote over a period of time.

a. Element 1[pre]: A communication system comprising:

130. I do not dispute that *Layson '757-Layson '213-IllinoisLaw* teaches a communication system.

b. Element 1[A]: a portable mobile remote unit;

A POSA reading the '918 patent understands that the portable remote units are cell phones or other hand-carried devices used to communicate via the cellular infrastructure in the wireless industry available to the general public. Ex-1001, Figure 1 (showing the portable remote units 501-508 of the '918 patent are cell phones using cellular infrastructure; 1:14-19 (describing the system is directed to “telecommunication services and systems” in the “wireless industry”), 1:66-2:5 (referring to “wireless consumers”), 2:17-23 (referring to “mobile users”), 2:31-48 (referring to “wireless subscribers”); 3:4-22 (referring to a “mobile telecommunication system”).

131. In contrast, *Layson '757*'s offender and victim portable tracking devices are not cell phones or other hand-carried wireless telecommunication devices used to communicate via cellular telecommunication networks available to the general public. Rather, these are specialized offender/victim portable tracking devices for law enforcement systems using specialized tracking devices “that communicates

with body-worn device 20” which has “tamper detection” and has a “panic button 86” that generates an alarm in a specialized victim/criminal offender tracking system. *See* Ex-1007, 2:46-65 and generally 3:29-6:52, 9:10-28; (describing the specifications of the portable tracking devices and their associated body-worn devices for the law enforcement system).

c. Element 1[B]: a network of communication units;

132. I dispute that *Layson '757-Layson '213-IllinoisLaw* discloses Element [1][B] for the same reason as it does not disclose Element 1[A].

d. Element 1[C]: means to obtain the location of the portable mobile remote unit;

133. *Layson '757-Layson '213-IllinoisLaw* does not discloses Element 1[C] because the tracking devices in *Layson* are not “portable remote units” as that term would be understood by a POSA in light of the '918 Patent’s specification as discussed with regard to element 1[A]. For this reason, the claim element is not met even though the network includes control units programmed to obtain the locations of the offender and victim devices.

e. Element 1[D]: means to obtain geographic boundary information in order to disclose a global location at the network;

134. *Layson '757-Layson '213-IllinoisLaw* does not teach Element 1[D]. The '918 Patent discloses individually pollable network boundaries to which notice can be sent and that can be queried for the location of devices therewithin, as extensively

discussed. Moreover, properly interpreted this element reads on “a control unit programmed to receive information that identifies a contiguous area on earth, within the coverage area of the network, that can be individually queried to disclose a PRU’s global location located within that coverage area of the network, and equivalents thereof.” There is no such disclosure in the asserted combination, and the Petition does not even assert to the contrary.

135. At Ex-1002, ¶¶ 231-235, Mr. Andrews attempts to show that a victim’s device receives location constraints about an offender and checks its location against those constraints to report an alert to the central database. However, *Layson* discusses only offender location constraints because it is “supervising agenc[ies] such as parole and probation” (Ex-1007, 3:3-8) that set guidelines for any geographic boundary violations of the offender to be reported back to them. *See also id.*, 4:14-22 (explaining that maximum distance between the offender’s portable tracking unit and their body-worn device is set by the “supervisory agency”); 5:32-35(offender’s body-worn device is an ankle bracelet fitted by the supervising agency); 8:9-20 (offender’s current position relative to victim’s analyzed for location constraint violations). Mr. Andrews cites Ex-1007 at 1:17-18, but that passage does not describe a victim receiving a buffer zone around an offender’s location. There are no agency rules described in *Layson* to support this function. Rather, this only states

what is confirmed in the rest of the specification, that victims who choose to report their location can do so through their own tracking device.

136. There is no suggestion in *Layson* that a victim's PRU has any location constraints, and such would be inconsistent with the fact that the victim has not had their freedom limited. Therefore, Mr. Andrews' assertion that "the victim device would receive the associated offender's location and 'buffer zone' around the that location" (Ex.-1002, ¶ 234) is unfounded.

137. It is undisputed that *Layson*'757 places a buffer zone around the victim that the offender cannot violate without alerting the system and that this buffer zone is dynamically updated based upon the victim's location. *See* Ex-1007, 8:40-43 (explaining buffer zone provides "advanced notification to victims..."); 9:41-54 (explaining that buffer zone is around a victim to provide notification to law enforcement and victim).

138. Mr. Andrews envisions a scenario that is essentially an error condition or a contradiction of the specification. Either way I disagree it provides motivation. Specifically, he asserts a situation "in which the victim's device has not updated the central database with its new location" but the victim has moved closer to the offender. (Ex-1002, ¶ 233). As a purported justification to impose a location constraint on the victim this hypothetical makes little sense because *Layson*'757 describes that the location reporting of both the offender and victim's device is

“continuous” (Ex-1007, Abstract, Title, 2:50, 54-55) and the buffer zone is dynamically updated in the case of a moving victim (*Id.*, 9:44-55). Therefore, the scenario is not realistic or one that a POSA would be motivated to address.

139. *Layson* includes no disclosure of either the offender being notified of the victim’s location (or vice versa) for good reason: because such information could allow either party to escalate the situation. Mr. Andrews provides no good reason for a POSA to be motivated to modify the combined *Layson* system to place a location constraint on the victim based upon the offender’s location, particularly since the scenario is either an error condition or could be addressed with more frequent victim location updates--if actually a problem worthy of addressing.

140. Moreover, it is not clear that a location constraint violation alert sent by the offender’s device actually provides a location. There is nothing expressly in *Layson* that states such. Rather, *Layson*’757 explains that the victim’s and associated offender’s respective locations are routinely provided to the network and that the alert is to give advance notice of a location violation for the network to decide how to act upon it. *See* Ex.-1007, 8:1-20.

141. I, therefore, do not agree that a POSA would have been motivated to add additional complexity to the system because of this concocted edge case to an unnecessary proposed modification.

f. Element 1[E]: means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network;

142. *Layson*’757-*Layson*’213-*IllinoisLaw* does not teach a system that includes means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network, as required by Element 1[E].

143. At ¶¶ 239-241, Mr. Andrews relies on the same imagined theories as under Claim Element 1[D] to recreate the above limitation. As discussed regarding Claim Element 1[D], there is no disclosure of *Layson* including “location constraints provided to the victim’s portable tracking device” let alone those that “include the [associated offender’s] location” and there would be no need for such constraints given that there already is a buffer zone around the victim’s location provided continuously by the system to the offender’s device so that the system is instantly alerted of a buffer zone violation. Ex-1007, 8:28-29 (“The portable tracking apparatus makes an instant determination when violations occur.”); 9:48-50 (“The portable tracking apparatus notifies the subject and the central data-base system immediately when a violation occurs.”).

144. Moreover, there is no suggestion that any location constraint violation notice is sent twice, even by the offender’s device. Once the system has been alerted

by the offender's device of a buffer zone violation, it has its own procedure to determine what to do next. *Id.*, 9:50-54 (The central data-base system contains guidelines in the schedule rules for each offender regarding the notification response to corrections, law enforcement and victims based on the nature of the offender's violation.") Therefore, for this additional reason, there no genuine basis for Mr. Andrews' statement that "the victim's device provides it location to the central database [system] at intervals when the offender and victim are in proximity." Ex-1002, ¶ 240. To the contrary, the only interval reporting of victim location taught by *Layson* '757 is not dependent on the location of the associated offender's device. Nor is the time interval reporting of the offender's device dependent upon the location of the associate victim's device. There is simply an alert provided by the offender's device of the buffer zone violation.

145. Therefore, this element is not taught or rendered obvious over the asserted combination.

g. Element 1[F]: means to determine and report to the system upon request that, another mobile remote unit of the network has tracked the portable mobile remote over a period of time.

146. *Layson* '757-*Layson* '213-*IllinoisLaw* does not teach means to determine and report to the system upon request that another mobile remote unit of

the network has tracked the portable mobile remote over a period of time as required by Element 1[F].

147. The function of this claim element is to “to determine and report to the system upon request that, [sic] another mobile remote unit of the network has tracked the portable mobile remote over a period of time.” A POSA would understand, after having read the ’918 Patent specification, that the minimum necessary structure to perform the recited function is “a control unit programmed to identify and report to another control unit of the system that another PRU within the same network boundary as the PRU has moved together with the PRU over a pre-specified distance while maintaining a pre-specified radius of it over a pre-defined time period, and equivalents thereof.” Mr. Andrews’ step (3) appears to improperly conflate the network boundary that is being polled to locate the candidate device with the tracking radius used to make the tracking determination.

148. I agree *Layson*’757’s central database system is a control unit of the network and continuously receives at intervals the respective locations of participating offender and victim PRUs. However, it does not “receive the location of the victim portable tracking device (‘tracked’ unit) at intervals when an offender device is in proximity of the victim device.” (Ex-1002, ¶ 244). Nor does it receive “the locations of offender tracking devices (‘other’ mobile units) during such intervals.” *Id.* Nor does *Layson*’757 disclose that its “central database maintains a

list of offenders tracking devices (such ‘other’ units) located within a buffer region surrounding the victim tracking device.” *Id.* Nor does the asserted combination disclose that the central database determines “that such offender devices maintained close proximity to the victim device while the devices traveled a minimum distance threshold, for a period of time, to identify and report potential stalking behavior.” *Id.* All of this is fiction. All *Layson* ’757 discloses is that an offender device receives a buffer zone, which can be dynamically updated based upon the victim’s current location, compares its location with the updated buffer zone, and alerts the system when and if located therewithin.

149. It is also a fiction to say that victim location “would be provided to *Layson* ’213 correlation database for correlation and reporting” (Ex-1002, ¶ 246) because there is no such disclosure whatsoever in either *Layson* ’757 or *Layson* ’213. Rather, only the offender device locations are reported for correlation to reported crime incidents. Ex-1008, Fig. 9A, element 1 (showing database includes crime incidents and offender locations), 8:28-31 (“The crime incident/offender location correlation database 1 is a relational data base that receives crime incident data 2 and offender location data 3 on a continuous basis.”) Furthermore, any offender exclusion zone violations are from a structured database query applied to that offender’s data. *Id.*, 23:39-41 (“The offender’s data from an offender location monitoring system 220 is correlated against the structured offender exclusion zone

violation query criteria 298.”) The “loiter time” described in the *Layson* ’213 is a structured query parameter so that the query does not result in an exclusion zone violation being reported when the offender only briefly enters in the exclusion zone. *See, e.g., id.*, Fig. 13 and 23:9-41 (explaining that the operator enters an offender identification, exclusion location and buffer distance and loiter time as search criteria for the database to determine whether that offender was in the exclusion zone for more than the loiter time.) (Similar, Fig. 14, Fig. 15, Fig. 16.)

150. There is simply no evidence of victim’s location being part of the correlation database. There would be no reason to import that data from the *Layson* ’757 system for all the reasons previously discussed. Rather, the *Layson* ’757 system uses the advance notification of a buffer zone violation to prevent crime whereas the *Layson* ’213 system is there to help solve a crime after it has occurred by identifying offenders who were located near a reported crime incident when it happened as per their location history.

151. *Layson* ’213’s disclosure of loiter time does not teach this claim element. The loiter time is only a minimum time period used to search the crime incident-offender location database used to determine whether an offender was in a restricted area for an unacceptable amount of time. This does not teach that the offender and victim moved together during the same time period for a minimum amount of time over a minimum distance. Moreover, *IllinoisLaw* does not specify

this claim element because stalking can take place with the stalker following the victim whereby the victim first moves to one place and the stalker moves to that same place a short time later, *i.e.*, the stalker moves at different time intervals than the victim so that they are not moving together during the same pre-specified time period over a pre-specified distance.

152. Mr. Andrews asserts, “as explained in Section XIII.B.1, the central database may determine that such offender devices maintained close proximity to the victim device while the devices traveled a minimum distance threshold, for a period of time, to identify and report potential stalking behavior, thus performing the recited function.” (Ex1002, ¶ 247). But that section, spanning ¶¶ 199-212 has the infirmities previously discussed and does not support that a continuous flow of victim location would be put into the correlational database for comparison against offender location. Rather, at best, the *Layson*’757 system would report to the *Layson*’213 database that a particular offender previously committed an exclusion zone violation relative to an associated victim. This does not support a continuous flow of victim location much less any of the suggested comparisons between unrelated victims and offenders. Nor does it suggest a modification to provide a location constraint on the victim, for the reasons previously discussed.

153. Therefore, *Layson*’757-*Layson*’213-*IllinoisLaw* does not teach Element 1[F].

3. Independent Claim 22

a. Element 22[pre]: A communication system comprising:

154. I do not dispute that posited *Layson'757-Layson'213-IllinoisLaw* teaches a communication system. I dispute only that it discloses the claimed communication system, as set forth in the element-by-element below.

b. Element 22[A]: (i) a network of communication units;

155. I only dispute that *Layson'757-Layson'213-IllinoisLaw* teaches Element 22[A] for the same reasons as I dispute that it teaches the claimed portable remote units.

c. Element 22[B]: (ii) at least a first communication unit and at least a second communication unit able to provide location information to the network for a time while in motion;

156. I only dispute that *Layson'757-Layson'213-IllinoisLaw* teaches Element 22[B] for the reasons as I dispute it teaches the claimed portable remote units.

d. Element 22[C]: (iii) means to request whether the at least second communication unit is tracking the at least first communication unit;

157. *Layson'757-Layson'213-IllinoisLaw* does not teach a system that includes at least a first communication unit and at least a second communication unit able to provide location information to the network for a time while in motion, as required by Element 22[B]. The function of this claim element is to “request whether

the at least second communication unit is tracking the at least first communication unit.” A POSA would understand, after having read the ’918 Patent specification, that the minimum necessary structure to perform the recited function is “a control unit programmed to make a tracking request, and equivalents thereof.” Moreover, the tracking request is to determine whether two PRUs within the same geographic boundary of the network are both moving together within a pre-defined radius of each other over a pre-specified distance during a pre-specified time period.

158. There is no disclosure in either *Layson* system including such a means. There is no such query shown in *Layson*’213 and there is no disclosure in *Layson*’757 of any such a request being made to either the offender’s device or at the central database system.

159. First, there is no request whatsoever at all from the victim’s device (or the offender’s device) described in *Layson*’757. To the extent that the victim’s device reporting its location could be interpreted as a request, such a request is not a tracking request that meets this claim element because the result of the victim’s location reporting is at best an alert that associated offender’s device came within a buffer zone of the victim. There is no tracking determination made by *Layson*’757 at all and there is no basis for Mr. Andrews’ conclusion that “such locations are used to determine that the offender is tracking the victim” and, therefore, “each transmission of location coordinates by the victim’s racking device corresponds to a

request for the central database to track any proximately-located offenders.” Ex-1002, ¶ 254. There is only the reporting back to the victim of the location constraint violation of an associated offender that was provided a location constraint based upon the victim’s location.

160. Second, there is no tracking criteria or operation that is described in *Layson*’213 that even compares any arbitrary offender’s location with any arbitrary victim’s location “to identify potential stalkers tracking the victim,” let alone makes any actual tracking determinations. As previously discussed not only would there be no motivation to enter victim locations as crime incidents in a crime/offender correlation database, but there would be no realistic reason to add the undue complexity to compare arbitrary offenders with arbitrary victim locations. This is particularly so since the *Layson*’757 system already prevents any “stalking” by alerting the system of buffer zone violations so that the system and law enforcement can prevent any “stalking” opportunity before it can happen. The combination therefore makes no sense.

161. Therefore, the asserted combination does not teach this claim element or render it obvious.

e. Element 22[D]: (iv) means to determine from said location provided (ii) that the at least first and second communication unit maintained proximity while in motion during said time;

162. *Layson '757-Layson '213-IllinoisLaw* does not teach Element 1[F].

163. The function of this claim element is to “determine from said location provided (ii) that the at least first and second communication unit maintained proximity while in motion during said time.” A POSA would understand, after having read the '918 Patent specification, that the minimum necessary structure to perform the recited function is, “a control unit programmed to identify that a second PRU has moved together with the first PRU within a pre-defined tracking radius of it over a pre-defined time period, and equivalents thereof.”

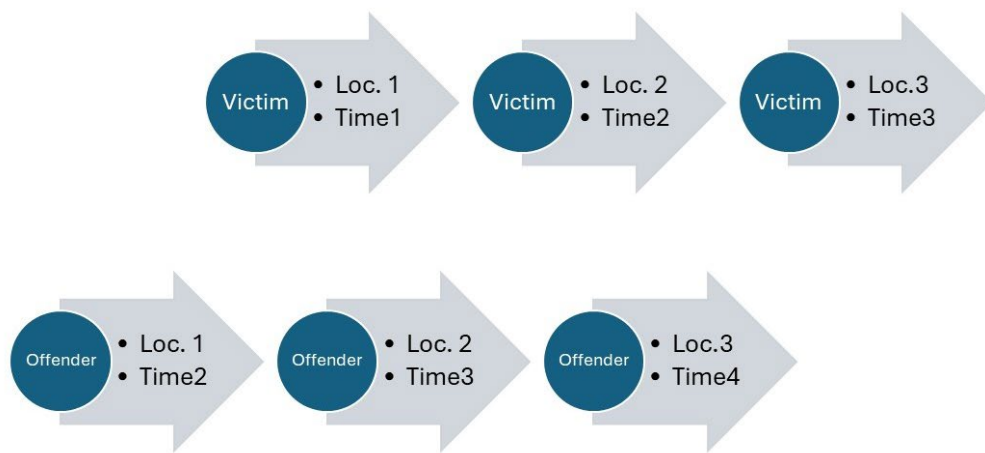
164. Neither *Layson* system discloses any such means. *Layson '757* does not disclose polling a specific boundary of the network to maintain a list of offender tracking devices within that boundary. Rather, *Layson '757* sends a location constraint (buffer zone around a specific victim's location) to a specific offender device associated with that victim. The offender device may not be located in the buffer zone when it receives the location constraint. If and when the offender device enters the buffer zone, it will send an alert. If the victim's current location changes, a new location constraint is sent to the associated offender's device. Again, if and when the offender device enters it (before it is next updated) it will send an alert.

Therefore, even if the alert included the offender's device's location, there is no "interval" location reporting from offender's device based upon it being within a geographic boundary of the network. Moreover, even if there were successive violations, each violation is of a different buffer zone because the system is constantly updating the buffer zone as the victim's device is moving.

165. Second, as previously discussed, there is no teaching in *Layson '213* of "a series of victim locations captured over a tracking time [] used in [the] correlation database query to identify those offenders who were located within a buffer distance of the victim over time (i.e., those offenders whose locations correlated with those of the victim, and thus would be potentially stalking the victim." (Ex-1002, ¶ 259). Nor would there be any motivation to do so, as also previously discussed, to the extent that is what Mr. Andrews is arguing, since there is no reason to compare all offender locations with all victim locations because most offenders have no location constraints that would prohibit them from being near most victims and there is no legal violation thereby.

166. Nor does *IllinoisLaw* solve the problem, because its broad definition of stalking would not lead a POSA to the specific tracking algorithm of the '918 Patent, which addresses a very specific problem in providing location-based services to wireless customers in the wireless industry, as previously discussed. In particular, stalking does not require the victim and the offender to be moving in tandem together

over a pre-defined distance over a pre-defined time period while maintaining a tracking radius (while in the same network boundary). Numerous examples abound. For example, a stalker could be camped outside of the victim's home for a large period of time, where neither is moving. Or the stalker can be following the victim from place to place but not moving in tandem with them during a tracking period. For example, at a mall, the stalker could be outside of the tracking distance and eyeing the victim as they go inside of a store, then watch them going into another store before moving a few minutes later to a closer vantage point from which to see them exit and watch them go into another store. This is depicted below:



167. *IllinoisLaw* does not teach the specific tracking algorithm of the '918 Patent because following a victim “from place to place” does not require that the offender move in tandem with the victim within a certain radius of the victim during

the tracking period. In contrast, the '918 Patent tracking algorithm determines whether a PRU in the same network boundary as the subject PRU remains also within a pre-specified radius of the subject PRU while both are moving at certain sampled time intervals over the tracking period. *IllinoisLaw* does not teach this specific technique.

168. Therefore, the proposed combination does not disclose this claim element in any manner.

f. Element 22[E]: (vi) means to provide result of the determination (iv) to the requestor of (iii).

169. *Layson '757-Layson '213-IllinoisLaw* does not provide the result of the determination to the requestor at the end of the tracking period as required by Element 22[E].

170. Here again, Mr. Andrews asserts that *Layson '757's* system reports “potential stalking behavior to the victim and law enforcement, in the same manner as explained for Element 15[D] for reporting buffer zone violations.” Ex-1002, ¶ 262. But for the same reason previously addressed in connection with Element 15[D], reporting buffer zone violation is not determining and reporting the claimed tracking. There is no disclosure of any determination made by *Layson '757* utilizing the tracking algorithm of the '918 patent.

171. Mr. Andrews also asserts that “*Layson ’213*’s correlation database may be used to generate a report of suspect offenders who maintained proximity with the victim while in motion.” But again, no support for such a function exists and no motivation is established for all the reasons previously discussed. For this reason additionally, *Layson ’757-Layson ’213-IllinoisLaw* does not teach Claim 22, which is directed to an efficient method of determining whether two PRUs are moving in tandem over a pre-defined period and distance.

C. GROUND 3: Claim 2 is not rendered obvious by *Layson ’757, Layson ’213, IllinoisLaw, and Wang.*

1. A POSA Would Not Have Been Motivated to Combine *Layson ’757-Layson ’213-IllinoisLaw-Wang* or Had a Reasonable Expectation of Success

172. Mr. Andrews suggests that a POSA would have been motivated to incorporate *Wang*’s “borders” to stop location reporting if the offender is within an “allowed region,” such as their home or work. I disagree. First, there is no evidence that the offender/victim system would benefit from complete non-reporting of a location. Even if the offender was at home or work, and a POSA wanted to reduce the amount of data being transmitted to the central database system for the sake of efficiency, a POSA could simply program the system to have a different time interval for location reporting when they were in an allowed location. Moreover, *Wang* does not teach a zone in which there is no location reporting because in *Wang* the location

is reported once in each zone. *Wang* is also not analogous art to either *Layson* system. The latter are law enforcement systems whereas *Wang* is a fleet management system and the two have completely different requirements and designs. Whereas the *Layson* offender/victim and offender/crime are law enforcement systems that continuous location reporting, *Wang*'s fleet management system wishes to minimize fleet vehicle reporting the further away the fleet vehicle is to a state line. *Wang* is not compatible.

2. The Combination of *Layson*'757-*Layson*'213-*IllinoisLaw-Wang* Does Not Disclose Claim 2

173. Claim 2 recites:

The portable mobile remote according to claim 1, having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location information to the network.

174. Adding *Wang* does not result in the practice of the claim. Rather, *Wang*'s system introduces a "border" that is sent to a remote device in a fleet vehicle when it has reported a current location to a central station. The central station determines the size of the "border" based upon how far the reported location is from a state line. The further the reported location is from the state line, the larger the size of the "border" returned to the remote device. When the vehicle has been driven to a location outside of the "border," it again reports its location to the central station. The central station will then send either a larger or smaller border depending on

whether the vehicle is closer to or further away from the state line, with the process iterating so that the vehicle more frequently reports its location as it is getting closer and closer to the state line. The border is simply a circle with a defined radius from the remote unit's reported position. The unit is therefore located within the border when time it has reported its position. Therefore, introducing *Wang* does not result in the non-reporting of a location when the remote device is within the border because the unit is in the border at the time it reports its location.

175. Mr. Andrews here again asserts that “*Layson*’757 states that both the offender and victim would be assigned location constraints” and that “victim’s location constraints would include static prohibited areas corresponding to the offender’s allowed areas” so that “the victim’s device would alert the victim when he/she was located near the offender’s home or work.” Ex-1002, ¶ 274. All of this is conjecture as none of this is disclosed in *Layson*’757. Moreover, all the reasons that a POSA would not have imposed location constraints on the victim have been previously addressed, including that there is no legal basis to restrain a victim’s location and good reason not to reveal the offender’s address or work location to the victim (or vice versa).

176. Mr. Andrews cites to two lines from *Layson*’757 (Ex-1007, 9:35-37) in support of the proposition that the victim’s tracking device includes location constraints, because those lines use the word “subject” in discussing the “subject’s

schedule rules and location constraints.” But a POSA would not glean from the use of the term “subject” that this is referring to the victim. Rather, later in the same paragraph (*Id.*, 9:50-54), it specifically states that the subject’s being referring to are “offenders.”

177. A POSA who was motivated to reduce transmission bandwidth in *Layson* ’757 could do so simply by programming the offender’s device to perform less frequent location reporting when in an inclusion zone. *Wang*’s single location reporting would probably not suffice.

178. In sum, none of the prior art in the combination asserted against claims 1 and 2 are designed to address the large-scale problems in providing location-based services to millions wireless consumers across the country through their cell phone and cellular networks. None of them are designed to efficiently make tracking determinations in such an environment between units that are not associated with each other. None of these teach dividing the network into individually pollable network boundaries so that the tracking determinations can be made only within the set of devices within the individually pollable boundary at the time of the tracking determination. And none teaches the tracking algorithm used in the ’918 Patent.

D. GROUND 4: Claim 15 is not rendered obvious by *Taylor* in view of *Fast*.

1. Independent Claim 15

179. Claim 15 is not rendered obvious by *Taylor* in view of *Fast*. Neither of these references are substantively different from *Layson*’757 and *Layson*’213 with regard to not meeting claim 15. *Taylor* discloses that an offender is provided one or more perimeters relative to a victim and notifies the system when they are within a given perimeter. Depending upon which perimeter they are located, the system provides an escalating response to “disable” the offender. *Fast* adds the now familiar “loiter time” to notify a system when two units are in proximity for a certain time to enforce restraining orders. Even if a POSA was motivated to add *Fast*’s loiter time to *Taylor*, the combined system would not disclose Claim 15 for the reasons set forth below because it would not result in the tracking algorithm of Claim 15.

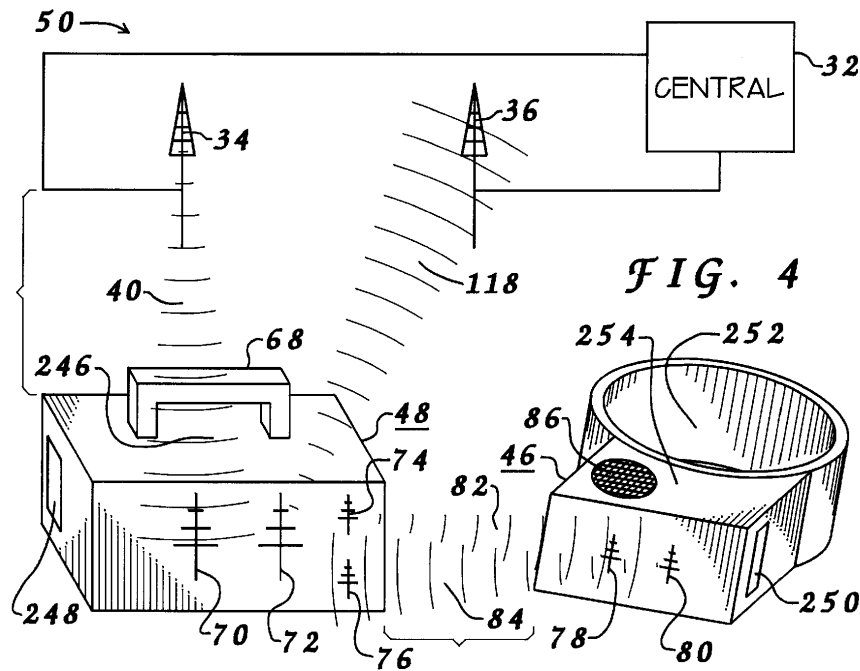
a. Element 15[pre]: A method for determining that a first portable remote unit of a wireless consumer associated with a network is being tracked by at least a second portable remote unit that is in motion with the first portable remote unit over a tracking period comprising:

180. Petitioner does not assert that the preamble of claim 15 is not limiting and I would suggest that it is limiting because a POSA would find the preamble provides structure or steps that are necessary to give the claim life, meaning and vitality. For example, the preamble explains to a POSA that the claimed method determines that *a first portable remote unit of a wireless consumer* associated with

a network is being tracked by at least a second portable remote unit that is in motion with the first portable remote unit over a tracking period.

181. First, a POSA reading the '918 Patent understands that is directed to providing location-based services to wireless consumers using portable cell phones to communicate with the network via wireless service providers' cellular infrastructure. Ex-1001, Figure 1 (showing the portable remote units 501-508 of the '918 patent are cell phones using cellular infrastructure; ; 1:14-19 (describing the system is directed to "telecommunication services and systems" in the "wireless industry"); 1:66-2:5 (referring to "wireless consumers"); 2:17-23 (referring to "mobile users"); 2:31-48 (referring to "wireless subscribers"); 3:4-22 (referring to a "mobile telecommunication system").

182. *Taylor's* restrictee/restrictor monitoring devices in contrast, are specialized devices designed for *Taylor's* system that are "attached to the person which includes mechanisms to provide for an intervention to dissuade the person from the course of action. The intervention may be in the form of delivery of either a medication or an electrical shock to the person." Ex-1011, Abstract. *See also*, Figs. 1 & 2, element 30 and Fig. 4, element 48 (reproduced below) and Figs. 1 & 2, element 30 and Fig. 4, element 48 (reproduced below) and accompanying description:



183. Therefore, the “restrictees” or “monitored persons” are not members of the “general public” that consume location-based services provided on cellular networks in the “wireless industry,” but rather people subject to both physical restrictions on their freedom of movement and physical interventions to their bodies, such as convicted criminals. And the devices are not cell phones or other telecommunication devices using cellular networks of the wireless industry.

184. Second, a POSA reading the ’918 Patent understands that it teaches that one unit is considered to “track” another when it moves in tandem with another unit while maintaining a distance within a pre-specified radius of the other unit over a

pre-specified distance during a tracking period. While in *Taylor* the network may send to the restrictee's device a dynamically updated location constraint based upon an updated associated victim's location, this is different from the tracking of the '918 Patent because there is no requirement for the offender and the victim to be moving in tandem within a pre-specified proximity over a pre-specified distance during a tracking period (in a specified network boundary). Indeed, there is no "tracking period" of any kind disclosed by *Taylor's* system. Rather, there is only the disclosure of the system providing restrictee device with perimeters, based upon the restrictor's reported location, whereby the restrictee's device reports an alert to the network when it is within the perimeter so that the system may respond with appropriate intervention methods. *See, e.g., id.*, 20:13-21:15.

185. Moreover, the "predetermined time limit" Mr. Andrews discusses regarding Element 15[C] is not a tracking period, as will be discussed in connection with element.

b. Element 15[A]: i) obtaining the location information of the first portable mobile remote unit, said location information provided at intervals during said tracking period;

186. *Taylor-Fast* does not disclose this element.

187. First, as explained regarding Element 15[pre], the portable tracking devices are not the claimed portable mobile remote units. Second, while there may

be location reporting of both the restrictor and restrictee devices at various time intervals, there is no location reporting during a tracking period because there is no disclosure of “said tracking period.” The tracking period, as the preamble informs us, is the period in which the first unit is being “tracked” by at least a second portable remote *unit that is in motion with the first portable remote unit*. Further, as explained in connection with Element 15[pre], the ’918 addressed the problem of one wireless customer tracking another wireless customer by placing the former’s PRU into the car (*e.g.*, trunk) of the latter. It explains that this is addressed by determining that the two PRUs are in motion together within a pre-specified tracking radius during a tracking period by comparing their reported locations at time intervals during that period.

188. There is no such disclosure in *Taylor*, even if one adds *Fast*’s “pre-determined time limit,” there is still no tracking interval and tracking determination, just a delay in when the system is notified of the perimeter violation. Simply having the two units report their locations to the system two or more times before the restrictee unit alerts the authorities does not comprise “a tracking period.”

189. There is another problem with Mr. Andrews’ proposed combination. Whereas *Taylor* discloses periodically reporting the restrictor and restrictee location, *Fast* discloses the opposite: the “beacons” report a location to the system only when they are they determine themselves to be in unpermitted area and go into an

emergency mode for a minimum time. *See* Ex-1012, 4:1-10 (zones where the wearer is permitted and not permitted are downloaded to the beacon device) and 6:1-16 (when in an unpermitted location, beacon goes into emergency status and transmits its location information to the monitoring terminal).

190. This is incompatible with *Taylor*. *Taylor* requires continuous reporting so that the system can determine whether restrictee is located in an unpermitted area and, when needed, create records of the perimeter violations. *See*, Ex-1011, Figs. 17, 18 and 17: 43-64 (positional databases system uses to determine whether restrictee in an unpermitted area); 20:9-12, 20:43-44 (system creates location records for legal proceedings). A POSA would not have been motivated to make this combination.

191. Therefore, the proposed combination does not disclose or render obvious this claim element.

c. Element 15[B]: ii) obtaining the location information of the at least second portable communication unit that is within a specified geographic boundary of the first portable remote unit, said location information provided at intervals during said tracking period;

192. *Taylor-Fast* does not teach obtaining the location of the at offender's unit (a second portable communication unit) at intervals within the tracking period and is within a specified geographic boundary of the tracked unit as required by Element 15[B].

193. In *Taylor*, the restrictee device continuously reports its location to the network at fixed intervals. However, because there is no “tracking period” (as for Elements 15[pre] and 15[A]) this element is not met.

194. *Taylor* discloses that the system may dynamically update perimeter provided to the restrictee’s device based upon an updated reported location from the restrictor’s device. However, it does not show a tracking period whereby the system compares the respective time interval reported locations of two units during a tracking period and determines therefrom that the two were in the same geographic boundary over that tracking period.

195. Rather, *Taylor* only discloses that the restrictee’s device will receive one or more perimeters to compare its location against and alert the system if and when there is a perimeter violation. Neither the restrictee’s device nor the system confirms at the time of the alert whether the restrictor unit is still within the same perimeter(s). Indeed, the superiority of the ’918 Patent system is demonstrated by the fact that *Taylor*’s system is cumbersome because of its very different approach. *Taylor*’s data path is:

(1) Restrictor Device → Updated Location → (2) Network Central System → (3) Updated Perimeter → (4) Restrictee Device → (5) Alert → (6) Network Central System

196. Because *Taylor*'s system does not engage in the claimed tracking determination, and has no claimed tracking period, the restrictor's device could report an updated location to the system (1, 2) and the system send an updated perimeter to the restrictee device (3,4). However, since the restrictee device need not be in one of the perimeters at the time it receives the perimeter information, by the time that the restrictee's device ends up within that perimeter zone (if ever) and reports an alert to the system (5,6) restrictor device may have moved out of that perimeter.

197. Mr. Andrews asserts that a POSA would be motivated to modify *Taylor* to incorporate *Fast*'s reporting of location data from restrictee's device only when it is within the perimeter, but that would be incompatible with *Taylor*'s purposes, as previously discussed, so I disagree that a POSA would be motivated to make that modification.

198. In sum, *Taylor-Fast* does not teach obtaining the location information of the at least second portable communication unit that is within a specified geographic boundary of the first portable remote unit wherein said location information is provided at intervals during a tracking period.

d. Element 15[C]: iii) using the location obtained according to step (i) and (ii) to verify whether the first portable remote unit and second portable remote unit have maintained relative proximity during the tracking period;

199. *Taylor-Fast* does not teach Element 15[C]. The claim requires two distinct determinations; that the two units (1) are with the same geographic boundary and (2) have maintained relative proximity during the tracking period. This is consistent with the extensively addressed teaching of the '918 Patent that the network is divided into individually pollable boundaries and the tracking determination is made only with regard to one or more units with that network boundary.

200. *Taylor-Fast* has no such disclosure and Mr. Andrews presents no analysis that it does. A POSA would not implement *Fast*'s "predetermined time limit" because doing so would run contrary to *Taylor*'s need for continuous location reporting, for example, to update the perimeter and to determine exclusion zone violations and create records for legal proceedings, because in *Fast* there is no location reporting until there is a perimeter violation.

201. However, even if a POSA would be motivated to incorporate *Fast*'s time delay before *Taylor*'s restrictee's device reported a perimeter violation, such a time delay does not disclose determining that the two units maintained relative proximity during a tracking period while in motion. At best, such would only meet

the prior limitation that the two were in the same perimeter. There is no disclosure or analysis of any separate determination of the restrictor and restrictee units moving in tandem while in motion so that they “maintained relative proximity during the tracking period.” Adding the “predetermined time limit” to allow the restrictee device to be in a perimeter before reporting the violation to the system does not result in any comparison of the two units moving together within perimeter while maintaining relative proximity, as the claim requires and there is no analysis presented by Mr. Andrews that it does. His analysis only shows that adding the predetermined time limit would result in the restrictee device not reporting the perimeter violation until has been in the perimeter for the predetermined time period to avoid altering the system when there was “a transient and inadvertent violation.” (Ex-1002, ¶ 312). There is no requirement that either device keep moving for an accidental or inadvertent violation to be avoided. (And the restrictor device may not be within the perimeter at the time that the restrictor device has reported the violation.) So even if a POSA was motivated to add the predetermined time limit to *Taylor*, this does not lead to making a determination that both the restrictee device and restrictor devices were moving in tandem together within a pre-defined radius over a predefined distance during a predefined tracking period.

202. Therefore, the proposed combination does not disclose this claim element.

e. Element 15[D]: iv) forwarding the result of the verification to a network requestor at the end of the tracking period.

203. *Taylor-Fast* does not disclose forwarding the result of the verification to the network requestor at the end of the tracking period as required by Element 15[D].

204. Mr. Andrews asserts this element is met because “the restrictor’s voluntary enrollment in the monitoring system and transmission of their location coordinates to the central location. Similarly, a POSITA would have understood that *Taylor*’s central location notifies the oversight authority of violations at its request, based on its use of *Taylor*’s system.” (Ex-1002, ¶ 315) I disagree. First, there is no system in *Taylor* that “tracks proximately-located restrictees” and “alerts the restrictor to their presence.” (*Id.*) The system only determines whether the restrictee was in the perimeter of the associated restrictor, not whether the two also maintained proximity while moving together over a tracking period. Here again, Mr. Andrews conflates the separate requirements of 15[B] and 15[C].

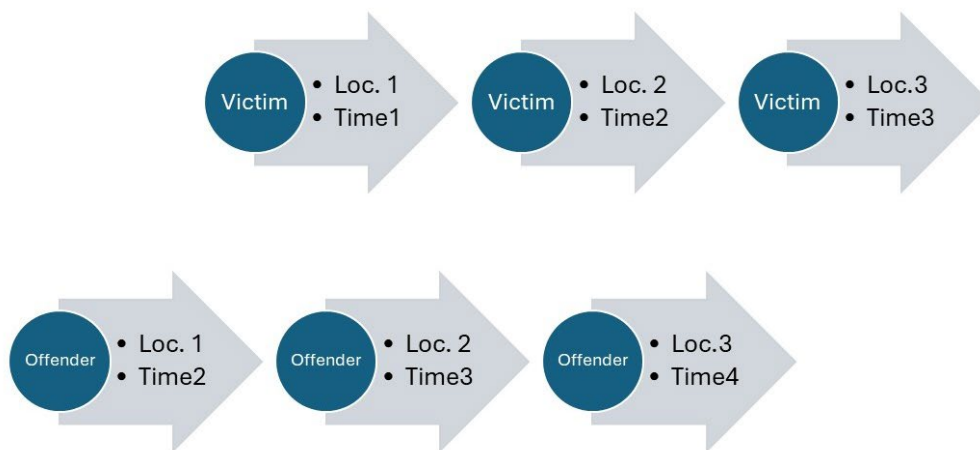
205. In sum, *Taylor-Fast* does not disclose Claim 15 of the ’918 Patent, nor render it obvious.

E. GROUND 5: Claims 1, 2 and 22 are not rendered obvious by Taylor, and Fast in view of IllinoisLaw.

1. A POSA has No Motivation to Combine Taylor-Fast-IllinoisLaw With a Reasonable Expectation of Success In Arriving at the Claimed Systems and Methods

206. As previously explained, a POSA would not have been motivated to combine *Taylor* and *Fast* because *Taylor* requires continuous location updates regardless of whether there is a perimeter violation whereas *Fast* only provides location updates when and if there is a perimeter violation. Therefore, the two are incompatible and a POSA would not be motivated to combine them. However, even if a POSA were motivated to add *Fast*'s "predetermined time limit" to the *Taylor*, such would not lead to a "tracking period" or the tracking determination required by the claims. Adding *IllinoisLaw* fails to lead a POSA to the claimed tracking determination either for generally the same reasons previously discussed regarding the *Layson*'757-*Layson*'213-*IllinoisLaw* combination because its broad definition of stalking in *IllinoisLaw* does not lead a POSA to the specific tracking algorithm disclosed and claimed in the '918 Patent meant to determine whether the cell phone of a wireless customer was being used to track the location of another wireless customer by determining whether the two cell phones were in the same geographic network boundary and were moving together in tandem (within a certain proximity of each other) during a tracking period over a pre-defined minimum distance.

207. In particular, stalking does not require the victim and the offender to move in tandem together over a pre-defined distance within a pre-defined radius over a pre-defined time period while maintaining a tracking radius (while in the same network boundary). Numerous examples abound. For example, a stalker could be camped outside of the victim's home for a large period of time, while neither are moving. Or the stalker can be following the victim from place to place but not be moving in tandem with them during a tracking period. For example, at a mall, the stalker could be outside of the tracking distance and eyeing the victim as they go inside of a store, then watch them going into another store before moving a few minutes later to a closer vantage point from which to see them exit and watch them go into another store. This is depicted below:



208. Following a victim “from place to place” does not require that the offender move together with the victim within a certain radius of the victim during the tracking period.

2. Claim 1

a. Element 1[pre]: A communication system comprising:

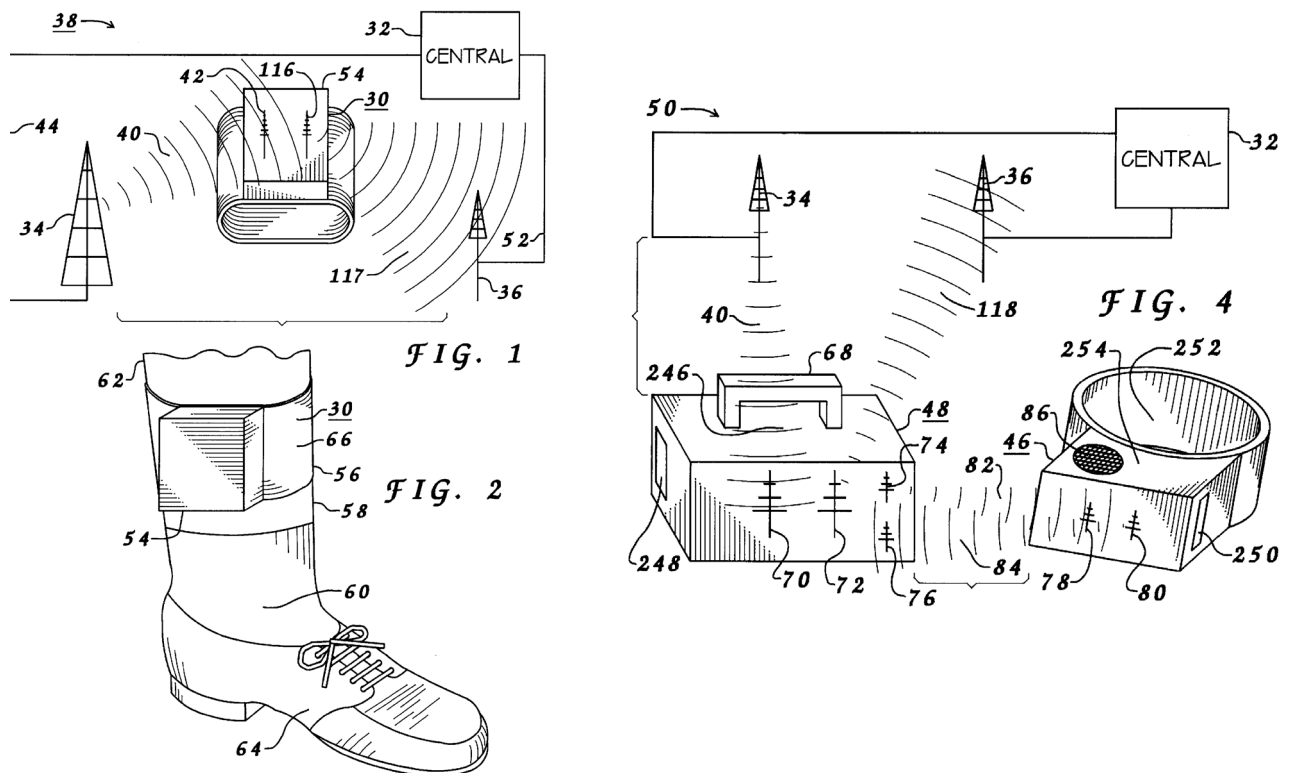
209. I do not dispute that *Taylor-Fast-IllinoisLaw* teaches a communication system.

b. Element 1[A]: a portable mobile remote unit;

210. A POSA reading the '918 patent understands that the portable remote units are cell phones or other hand-carried devices to communicate via the cellular infrastructure in the wireless industry available to the general public. Ex-1001, Figure 1 (showing the portable remote units 501-508 of the '918 patent are cell phones using cellular infrastructure; 1:14-19 (describing the system is directed to “telecommunication services and systems” in the “wireless industry”), 1:66-2:5 (referring to “wireless consumers”), 2:17-23 (referring to “mobile users”), 2:31-48 (referring to “wireless subscribers”); 3:4-22 (referring to a “mobile telecommunication system”).

211. In contrast, *Taylor's* restrictee/restrictor monitoring devices in contrast, are specialized devices designed for *Taylor's* system that are “attached to the person which includes mechanisms to provide for an intervention to dissuade the person

from the course of action. The intervention may be in the form of delivery of either a medication or an electrical shock to the person.” Ex-1011, Abstract. *See also*, Figs. 1 & 2, element 30 and Fig. 4, element 48 (reproduced below) and accompanying description:



212. Therefore, Taylor’s devices are not cell phones (or other telecommunication devices used in cellular networks in the “wireless industry” available to the general public, but rather are specialized devices used by people subject to both physical restrictions on their freedom of movement and physical interventions to their bodies, such as convicted criminals.

c. Element 1[B]: a network of communication units;

213. I dispute that *Taylor-Fast-IllinoisLaw* discloses Element 1[B] for the same reason as it does not disclose Element 1[A].

d. Element 1[C]: means to obtain the location of the portable mobile remote unit;

214. *Taylor-Fast-IllinoisLaw* does not disclose Element 1[C] because the tracking devices in *Taylor* and *Fast* are not “portable remote units” as that term would be understood by a POSA in light of the ’918 Patent’s specification as discussed with regard to element 1[A]. For this reason, the claim element is not met even though the network includes control units programmed to obtain the locations of the restrictee and restrictor devices.

e. Element 1[D]: means to obtain geographic boundary information in order to disclose a global location at the network;

215. *Taylor-Fast-IllinoisLaw* does not teach Element 1[D].

216. The ’918 Patent discloses individually pollable network boundaries to which notice can be sent and that can be queried for the location of devices therewithin, as extensively discussed. Properly interpreted this element reads on “a control unit programmed to receive information that identifies a contiguous area on earth, within the coverage area of the network, that can be individually queried to disclose a PRU’s global location located within that coverage area of the network,

and equivalents thereof.” There is no such disclosure in the asserted combination, and Mr. Andrews does not even assert to the contrary.

217. Mr. Andrews asserts that “*Taylor*’s restrictor and restrictee devices would communicate geographic boundary information needed to identify dynamic perimeter violations to one another...in order to report any identified violations in real-time to the central location.” Ex-1002, ¶ 339. This makes little sense, and I disagree that a POSA reading these two references would be motivated to make the proposed combination. Much like *Layson*’757, *Taylor* has continuous reporting of the restrictor and restrictee location. The restrictor location data is needed so the system can dynamically update perimeters. A POSA would therefore not be motivated to eliminate it. Second, *Taylor* has continuous location of restrictee location so that it can be compared with other exclusion zone information and for record keep purposes. A POSA would therefore not be motivated to eliminate it.

218. In contrast, *Fast* is a system that is meant primarily a system that can locate persons or things when they are not where they are supposed to be. Ex-1012; 1:36-49 (explain that the system reports its location when it leaves a predefined zone to protect persons or things). Almost the entirety of the specification is directed to persons and objects protection. See, e.g., *id.*, Section A titled “The Person Protection System” (spanning 2:46-7:7) and Section C tile “Object Protection System” (spanning 8:8-11:2).

219. Therefore, there would be no motivation to combine in the manner Mr. Andrews suggests, since such a combination would eliminate the necessary location reporting *Taylor* needs.

220. Second, a POSA would not be motivated for the restrictor device and the restrictee device to be in direct communication, or to provide each other with their respective current location information, as Mr. Andrews suggests (Ex-1002, ¶ 339), since such exchanges could lead to criminal incidents that the system is meant to avoid by risking that the restrictee learns the location of the restrictor (or vice versa). The portion cited by Mr. Andrews (Ex-1012, 7:62-8:7) is under the section titled “Other Applications” and spans a total of one paragraph. It is contrary to system functionality and operation described throughout the rest of the specification and seems ill considered.

221. Third, there is simply no improvement Mr. Andrews identifies in motivating the POSA to make such a modification. Mr. Andrews identifies no problem in *Taylor* that is solved by making the proposed modifications. Therefore, I do not agree that a POSA would have been motivated to modify *Taylor* in the manner Mr. Andrews suggests. It is an unnecessary modification to the system and potentially risks the safety of the restrictor.

222. Finally, even if one were motivated to combine the two with any reasonable expectation of success, it would still not disclose this claim element since

it would not disclose a “control unit programmed to receive information that identifies a contiguous area on earth, within the coverage area of the network, that can be individually queried to disclose a PRU’s global location located within that coverage area of the network, and equivalents thereof.” This is simply not present (or even asserted to be present) in the proposed combination.

f. Element 1[E]: means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network;

223. *Taylor-Fast-IllinoisLaw* does not teach a system that includes means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network, as required by Element 1[E].

224. The function of this claim element is “to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network.”

225. A POSA would understand that the minimum necessary structure for performing the recited function is “a control unit programmed to determine whether the location of a portable remote unit is within a specified contiguous area on earth and, upon such determination, provide the location of the portable remote unit to another network component, and equivalents thereof.” .

226. At ¶¶ 341-343, Mr. Andrews relies on the same theories as under Claim Element 1[D]. As discussed regarding Claim Element 1[D], a POSA would not be motivated to modify *Taylor* to have the restrictor and restrictee devices communicate geographic boundary information to each other to trigger location reporting as per *Fast* for the reasons previously discussed.

227. Therefore, this element is not taught or rendered obvious by the asserted combination.

g. Element 1[F]: means to determine and report to the system upon request that, another mobile remote unit of the network has tracked the portable mobile remote over a period of time.

228. *Taylor-Fast-IllinoisLaw* does not teach means to determine and report to the system upon request that another mobile remote unit of the network has tracked the portable mobile remote over a period of time as required by Element 1[F].

229. The function of this claim element is to “to determine and report to the system upon request that, [sic] another mobile remote unit of the network has tracked the portable mobile remote over a period of time.” A POSA would understand, after having read the ’918 Patent specification, that the minimum necessary structure to perform the recited function is “a control unit programmed to identify and report to another control unit of the system that another PRU within the same network

boundary as the PRU has moved together with the PRU over a pre-specified distance while maintaining a pre-specified radius of it over a pre-defined time period, and equivalents thereof.”

230. I agree with Mr. Andrews (Ex-1002, ¶ 346) that *Taylor*’s central location includes a control unit of the network that receives the locations of the restrictor and restrictee devices transmitted to it at intervals. But I do not agree that *Taylor* discloses a control unit programmed as required by this claim element to perform the function of this element, nor does Mr. Andrews show to the contrary.

231. In particular, Mr. Andrews relies on his analysis provided in Section Ex-1001, Section XIII.E.1. for support for his statement that “the central location may determine that such restrictee devices maintained close proximity to the restrictor devices while the devices traveled a minimum distance threshold.” (Ex-1002, ¶ 349).

232. But that section, as previously addressed, only provides a series of hindsight driven speculations that rely upon the improper combination of *Taylor* and *Fast*. First, as I have already discussed, a POSA would not have been motivated to combine *Taylor* and *Fast* and, even were a POSA motivated to add *Fast*’s “predetermined time limit” before sending an alert, this would not result in any independent determination that the restrictor was still in the perimeter during the

predetermined time limit—it would just confirm that the restrictee was in the perimeter for the predetermined time limit.

233. Second, combining *Taylor-Fast* with *IllinoisLaw*'s definition of stalking as following or maintaining surveillance of a person as they move from place to place does not disclose the specific tracking algorithm of the claim for the reasons previously explained because stalking does not require the stalker and victim to be moving in tandem over a predefined distance during a tracking period.

234. Therefore, *Taylor-Fast-IllinoisLaw* does not teach Element 1[F].

3. The Combination of *Taylor-Fast-IllinoisLaw* Does Not Disclose Claim 2

235. Claim 2 recites:

The portable mobile remote according to claim 1, having means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location information to the network.

236. Here again, Mr. Andrews relies upon combining the two disparate approaches of *Taylor* and *Fast*, by having *Taylor*'s device only report locations only when there is a perimeter violation, contrary to *Taylor*'s requirements. For the reasons previously explained, a POSA would not have been motivated to make the asserted modification to *Taylor*.

237. The asserted combination does not render Claim 2 obvious.

4. Independent Claim 22

a. Element 22[pre]: A communication system comprising:

238. I do not dispute that *Taylor-Fast-IllinoisLaw* teaches Element 22[pre].

b. Element 22[A]: (i) a network of communication units;

239. *Taylor-Fast-IllinoisLaw* does not teach Element 22[A] for the same reason it does not disclose Element [1][A] because “communication units” are synonymous with “portable remote units” in the ‘918 patent, as previously discussed.

c. Element 22[B]: (ii) at least a first communication unit and at least a second communication unit able to provide location information to the network for a time while in motion;

240. *Taylor-Fast-IllinoisLaw* does not teach Element 22[B] for the same reason it does not disclose Element [1][A] because “communication units” are synonymous with “portable remote units” in the ‘918 patent, as previously discussed.

d. Element 22[C]: (iii) means to request whether the at least second communication unit is tracking the at least first communication unit;

241. *Taylor-Fast-IllinoisLaw* does not teach Element 22[C]. The function of this claim element is to “request whether the at least second communication unit is tracking the at least first communication unit.” A POSA would understand, after having read the ‘918 Patent specification, that the minimum necessary structure to

perform the recited function is “a control unit programmed to make a tracking request, and equivalents thereof.” Moreover, the requested tracking is to determine whether two PRUs within the same geographic boundary of the network are moving together within a pre-defined radius of each other over a pre-specified distance during a pre-specified time period. There is no disclosure in the asserted combination of such a means in the asserted combination.

242. Here again, Mr. Andrews asserts that “a POSITA would have understood that each transmission of location coordinates by the restrictor portable monitoring device corresponds to a request for the central location to track any proximately located restrictees.” (Ex-1002, ¶ 362)

243. I disagree. The transmission of location coordinates from the restrictee device is not treated by *Taylor* by a tracking request because it does not trigger any tracking determination, let alone the specific claimed tracking determination. Rather, it is only used to update the location constraint perimeter of the restrictee device so that the restrictee device notifies the system when and if it becomes located within the perimeter.

244. There is no reasonable basis to conclude that in *Taylor* “such locations are used to determine and report to the restrictor that he/she is being tracked by the restrictee” (*Id.*) in the specific manner of tracking required by the claim because even if there were a series of dynamically updated perimeter violations it does not require

both the restrictor and restrictee moving in tandem over a pre-specified distance during a tracking period. Moreover, I disagree with the conclusion that the system would pick up any proximately located restrictees because restrictees will only receive perimeter data of a related restrictors for the same reason that offenders in *Layson* '757 will only receive location constraints of associated victims.

245. Therefore, the asserted combination does not teach this claim element or render it obvious.

e. Element 22[D]: (iv) means to determine from said location provided (ii) that the at least first and second communication unit maintained proximity while in motion during said time;

246. *Taylor-Fast-IllinoisLaw* does not teach Element 22[D].

247. The function of this claim element is to “determine from said location provided (ii) that the at least first and second communication unit maintained proximity while in motion during said time.” A POSA would understand, after having read the '918 Patent specification, that the minimum necessary structure to perform the recited function is “a control unit programmed to identify that another PRU within the same network boundary as the PRU has moved with the PRU over a pre-specified distance while within the network boundary or pre-specified radius over a pre-defined time period, and equivalents thereof.”

248. *Taylor-Fast-IllinoisLaw* does not teach the required means for the same reason discussed for Element 1[F] of Ground 2.

f. Element 22[E]: (vi) means to provide result of the determination (iv) to the requestor of (iii).

249. *Layson '757-Layson '213-IllinoisLaw* does not teach Element 22[E] because it does not provide the result of the determination to the requestor at the end of the tracking period as required by Element 22[E].

250. The function of this claim element is to “provide the result of the determination (iv) to the requestor of (iii).” A POSA would understand, after having read the '918 Patent specification, that the minimum necessary structure to perform the recited function is “a control unit programmed to provide the result of the determination (iv) to the requestor of (iii).”

251. There is no disclosure of such means in *Taylor* because there are no means for the determination (iv) to the requestor (iii) for the reasons discussed for the prior elements.

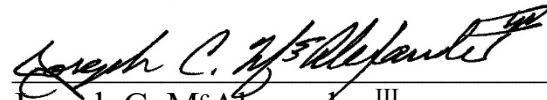
XII. CONCLUSION

252. It is thus my opinion that Claims 1, 2, 15, 22 of the '918 Patent would not have been obvious and should not be canceled as unpatentable over the prior art and grounds raised by the Petitioner.

253. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed this August 26, 2024.

Respectfully submitted,



Joseph C. McAlexander III