

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UBER TECHNOLOGIES, INC.,
Petitioner,

v.

ENOVSYS LLC,
Patent Owner.

Case IPR2024-00826
Patent 6,441,752

**PATENT OWNER ENOVSYS LLC'S
PRELIMINARY RESPONSE PURSUANT TO 37 C.F.R. § 42.107(a)**

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I. INTRODUCTION

Patent Owner, Enovsys, LLC (“Enovsys”), submits this Preliminary Response (“POPR”) pursuant to 37 C.F.R. § 42.107(a) to the *Inter Partes* Review (“IPR”) petition (“Petition”) filed by Uber Technologies, Inc. (“Petitioner” or “Uber”) for Claims 1, 4, 6, 9, 14, and 15 of U.S. Patent 6,441,752 (the “’752 Patent”).

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.

Participating wireless customers reporting their cell phone locations to the system specify a **pollable** geographic boundary within the coverage area of the network, and 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.

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 if and when they meet a location criterion and none disclose the specific tracking methodology of the '752 Patent, which is directed to determining whether two cell phones are moving in tandem during a tracking period.

The Petition contains numerous additional flaws.

First, the Petition fails to construe key claim terms such as “portable remote unit” (and other terms used interchangeably therewith), “wireless consumer” and “geographic region of the network” that further distinguish the claims from the asserted art.

Second, the Petition relies on references that describe different networks than the network claimed in the '752 Patent with fundamental structural differences—both from the claimed invention of the '752 Patent as well as each other. The '752 Patent improves the provision of location-based services in wireless cellular telecommunication networks. In contrast, the main prior art systems are radio based offender/victim or crime/offender law enforcement systems (*Layson*'757/*Layson*'213) or fleet management systems

(Suarez/Mintz/Wang).

Third, the Petition mischaracterizes the disclosures of certain references. For example, contrary to Uber's assertions, none of the references limit polling to only those units currently within a specified boundary.

Fourth, the Petition fails to provide a reasonable motivation for modifying the reference in the manner proposed, which the Petition admits is a necessary step in making its combination. For example, neither of the *Layson* systems requires proximity or tracking determinations between unrelated offenders and victims because offenders do not have location constraints imposed upon them relative to the locations of unrelated victims. Likewise, Uber cannot establish a need to modify *Layson* to completely eliminate location reporting in an exclusion zone.

Fifth, the Petitions fails to show that the proposed combination arrives at the claimed invention without undue experimentation. For example, Uber proposes that the combined *Layson* system could be further combined with *IllinoisLaw* to arrive at the specific tracking algorithm taught and claimed in the '752 Patent but fails to show how *IllinoisLaw* teaches that algorithm.

Sixth, the Petition does not provide adequate support and illogical motivations for combining systems. For example, Uber asserts an unnecessary modification of *Layson*'757 without supporting why a POSITA would go through

the effort to make the system more complex in light of the concocted edge case. Accordingly, Uber does not establish that a POSITA would be motivated to modify *Layson*’757 in such a manner without improper reliance on hindsight.

In short, the Petition asserts fundamentally different references and proposes modifications contrary to their purposes and teachings that no POSITA would have pursued. Making matters worse, the Petition then relies upon teachings from prior art references not actually part of any Ground of unpatentability, without performing any obviousness analysis, a practice that is at odds with the rules governing this proceeding. See 37 CFR 42.104(b)(2) (the Petition must identify “[t]he specific statutory grounds under 35 U.S.C. 102 or 103 on which the challenge to the claim is based and ***the patents or printed publications relied upon for each ground***”). This tortured combination is the epitome of improper hindsight.

Accordingly, the Petition should be denied.

II. SUMMARY OF THE ’752 PATENT

A. Specification of the ’752 Patent

The ’752 Patent discloses and claims systems and methods for providing efficient and scalable location-based services using the cellular infrastructure in the wireless telecommunication industry, recognizing there will be a “wide range”

of such services and in order 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.” Ex-1001, 1:15-19. In such systems and methods, the network is divided into “standard geographic areas”, *e.g.* 201-204, that may be individually queried for the locations of PRUs therein to prevent overloading of shared network resources. *See id.*, Fig. 3 and 2:12-16; 3:22-42; 4:4-13; 4:38-48, 4:61-5:3, 7:22:34; 8:1-12; 10:19-32; *see also*, Declaration of Joseph C. McAlexander ^{III}, Ex.2001, ¶¶34-44. Thus, for instance, if a distressed wireless customer wishes to have another wireless customer who is nearby help them, the network polls a nearby boundary for the locations of nearby wireless customers within proximity of the distressed wireless customer.

The '752 Patent also observes that with the provision of location-based services in cellular communication networks, a problem exists because the mobile phones are “small, compact and lightweight” and “could easily be concealed to reveal the location of a mobile user without the user knowing or authorizing the disclosure of their location” (1:54-60), causing safety and privacy issues. The '752 Patent teaches a system that identifies the geographic location of a first unit to determine which network geographic boundary to query and applies certain tracking parameters to determine whether a PRU within that boundary has

reported a location at fixed time intervals over the tracking period showing that it has traveled a minimum distance while remaining within a specific tracking radius of the first unit while both are in motion. *See* Ex-1001, 2:37-44; 5:11-62, 6:56-64, 7:26-44, 8:1:31, 8:41-46, 10:25-44; Ex.2001, ¶¶38, 41-44. Furthermore, all actions that a PRU cannot perform may be performed by the network. *Id.*, 6:23-39, 10:43-47; Ex.2001, ¶¶43.

B. Level of Ordinary Skill in the Pertinent Art

For purposes of this proceeding only, Patent Owner does not dispute the proffered definition for a POSITA. Pet. at 8.

C. Claim Construction

Patent Owner submits the following proposed constructions:

1. ***“portable mobile remote unit”/“mobile remote unit”/“communication unit”/“remote unit”/ (Claim 1, 4, 6, 9, 15)***

Petitioner offers no constructions for these terms, which are used interchangeably in the claims. For example, Claim 1 refers to “portable mobile remote units” interchangeably with “mobile remote units.” *Compare, e.g.*, Ex-1001, 10:48-52 (“providing the location of a portable remote unit to a wireless consumer requesting the location of *portable remote units* that are maintaining close proximity to the wireless consumer in the geographic area”) with 10:62-65 (“forwarding the

location of at least a *mobile remote unit* to the mobile consumer upon determination that the remote unit maintained close proximity to the mobile consumer”). Claim 4 depends from Claim 1 and refers again to the same things as a “remote unit”. *Id.*, 11:34-35 (“determining that the *remote unit* is not in the exclusion region before providing the location of the remote unit”). Claim 6 likewise uses “portable remote units” interchangeably with “remote units”. *Compare*, 11:50-53 (“A method for providing the location of *portable remote units* that exist within a prescribed geographic boundary to a wireless consumer requesting that information”) with 11:53-55 (“receiving at the network a wider than normal prescribed geographic boundary to query for *mobile remote units* from the wireless consumer”) and 12:01-03 (“providing to the network and from the list of (v) the location of at least a *remote unit* that revealed its location in the sub region.”). Claim 9 refers interchangeably to “portable remote unit” and “communication unit”. *Compare*, 12:21-23 (“A method for determining that a first *portable remote unit* associated with a network is being tracked by at least a *second portable remote unit* over a tracking period”) with 12:27-29 (“obtaining the location of *the at least a second communication unit* or tracking unit that is within proximity ore a pre-specified radius of the tracked unit”). Claim 15, dependent from Claim 14, similarly refers to “remote unit” interchangeably with “portable mobile remote unit.”

A POSITA reading the '752 patent understands that each of these terms refer to the same thing: "cell phones or other hand-carried wireless telecommunication devices used to communicate via the cellular telecommunication networks available to the general public." Ex-1001, Figure 1 (depicting the portable remote units 501-508 of the '752 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 801 (as also described 3:67-4:35); Ex.2001, ¶47.

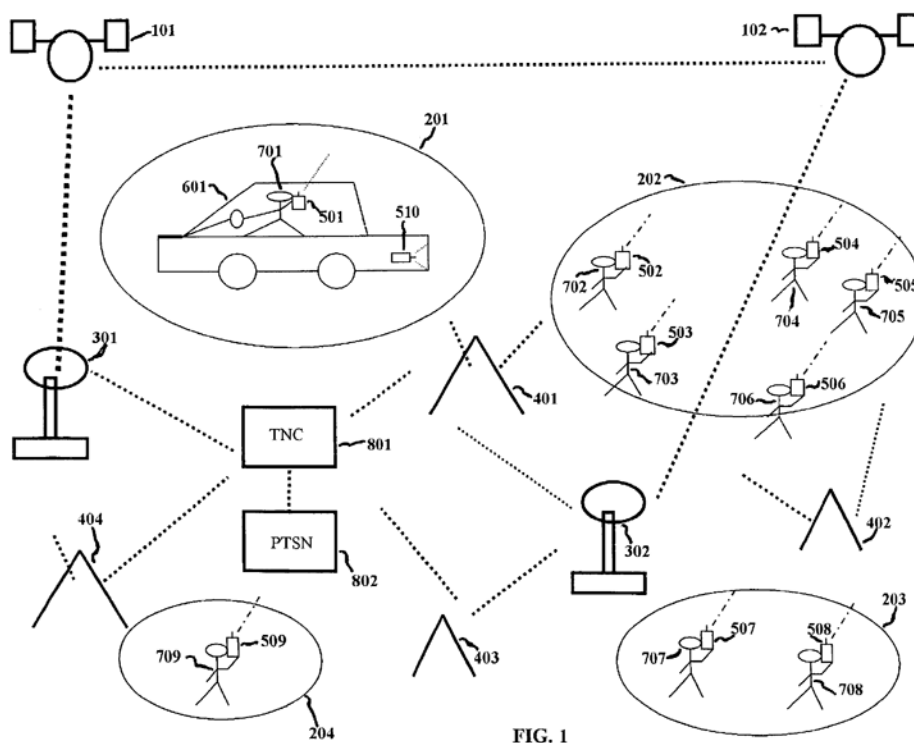


FIG. 1

See also, 1:7-12 (describing the system is directed to “telecommunication services and systems” in the “wireless industry”), 1:60-66 (referring to “wireless consumers”), 2:12-18 (referring to “mobile users”), 2:26-44 (referring to “wireless subscribers”); 2:54-3:7 (referring to a “mobile telecommunication system”).

The '752 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” (1:11-14). 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” (1:56-60). 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.” (1:65-66). 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.*, 2:12-25; *see also* Ex.2001, ¶48.

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

Petitioner offers no construction of this term. A POSITA would understand this term to refer to a specific coverage area of a wireless network that may be individually polled or queried for PRU information, such as location. As the '752 Patent explains, specific geographic regions of the network are polled for the locations of PRU. 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.” Ex-1001, 10:19-23. A POSITA reading the '752 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. Ex.2001, ¶49; *see also* section II(C)(3) and II(C)(4) 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.

**3. “means to obtain the location of the portable mobile remote unit”
(Claim 14)**

The function of this claim element is “to obtain the location of the portable remote unit.” 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.” Ex.2001, ¶50. Such an interpretation is supported by the ’752 Patent’s specification and a POSITA reading the ’752 Patent’s specification would understand that the required function is being performed at a control unit of the network. *Id.* As shown in Fig. 5 (reference 3) and Fig. 6 (reference 2); 3:57-59, 9:63-10:11 (the PRU may obtain location information and report it to network); 4:36-4:45 (control unit controls the action of the PRU and interacts with transceiver and antenna) 10:43-47 (the network may perform any function of the PRU).

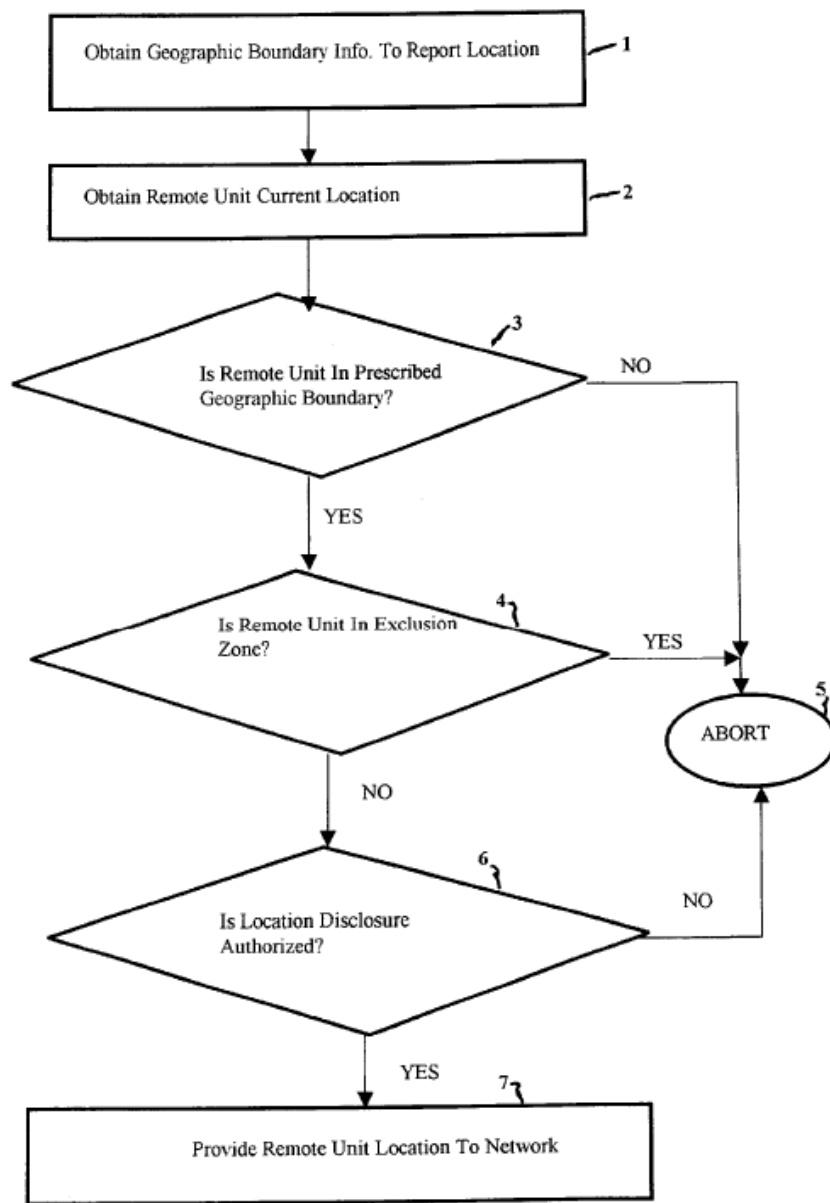


FIG. 6

As shown in Fig. 5 (reference 3, 6:2-3) and Fig. 6 (reference 2), 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: 65-5:3 (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 portable remote unit (PRU) can obtain its location from "whatever technique" (6:46-49), 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; Ex.2001, ¶51. Therefore, to implement the means-plus-function claim elements in the '752 Patent's claims, including this claim element, a POSITA would understand that they only need to add a control unit programmed to perform the function according to the algorithms described in the '752 specification. *Id.* 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. *Id.*

4. "means to obtain geographic boundary information in order to disclose a global location at the network" (Claim 14)

This element functions "to obtain geographic boundary information in order to disclose a global location to the network." The minimum structure for performing

the recited function is “a network 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.2001, ¶52. Ex-1001, Fig 6, reference 1 (and 6:40-42), shows a control unit is programmed to obtain geographic boundary information. *Id.* Also Fig. 7, at reference 1, shows the same. *Id.* Such an interpretation is supported by the ’752 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. Ex.2001, ¶53; *see, e.g.*, Ex-1001, 7:22:34 (“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**) (emphasis added).

The required function may be performed at a control unit of the system. Ex.2001, ¶54; Ex-1001, 10:43-47 (“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.”).

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. Ex.2001, ¶55.

5. “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 14)

This element functions “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.” The minimum necessary structure for performing the recited function is “a controller 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.” Ex.2001, ¶57. The ’752 Patent’s specification shows this element is a control unit programmed to perform this basic function. See, Ex-1001, Fig 7 at ref 4 and 5 and 8:32-54, esp. 8:46-48, and Fig. 6 at reference 1,3,7; Ex.2001, ¶57. Moreover, nothing in this claim element requires there to be “transceiver circuitry” because a

POSITA would understand that this claim element does not require a limitation that is drawn to the structure used for communication of the position information. Ex.2001, ¶57. Additionally, a POSITA would understand 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. *Id.* 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. *Id.* Moreover, that the claim requires “the geographic boundary” is “obtained at the network” further suggests to the POSITA that this element may be entirely performed by a control unit at the control station. Ex.2001, ¶¶51, 52, 57, 193, 196.

6. “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 14)

This element functions “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.” 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 together with the PRU over a pre-specified distance while remaining within a pre-specified radius of it over a pre-defined time period, and equivalents thereof.” Ex.2001, ¶58. A control unit of the

patent is programmed to perform this function (Fig. 5 at ref 10, 11, and 12 with 5:43-6:22). *Id.* This is consistent with the algorithm described in the '752 Patent's specification. *See, e.g.,* Ex-1001, Fig. 5 (reproduced below) and at 5:12-39 (explaining both units have “resided within a pre-specified radius” and “traveled a minimum distance” during the tracking period; that the tracking time, minimum distance traveled and tracking radii could be set as a standard by the industry; that the network can perform the function, using the “geographic location of the tracked unit” to “search for possible tracking units” by paging that geographic boundary of the network, which could also be set as a standard, and “only communication units within that geographic boundary would disclose their location.”); *see also, id.*, 5:43-6:38 (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); Ex.2001, ¶58.

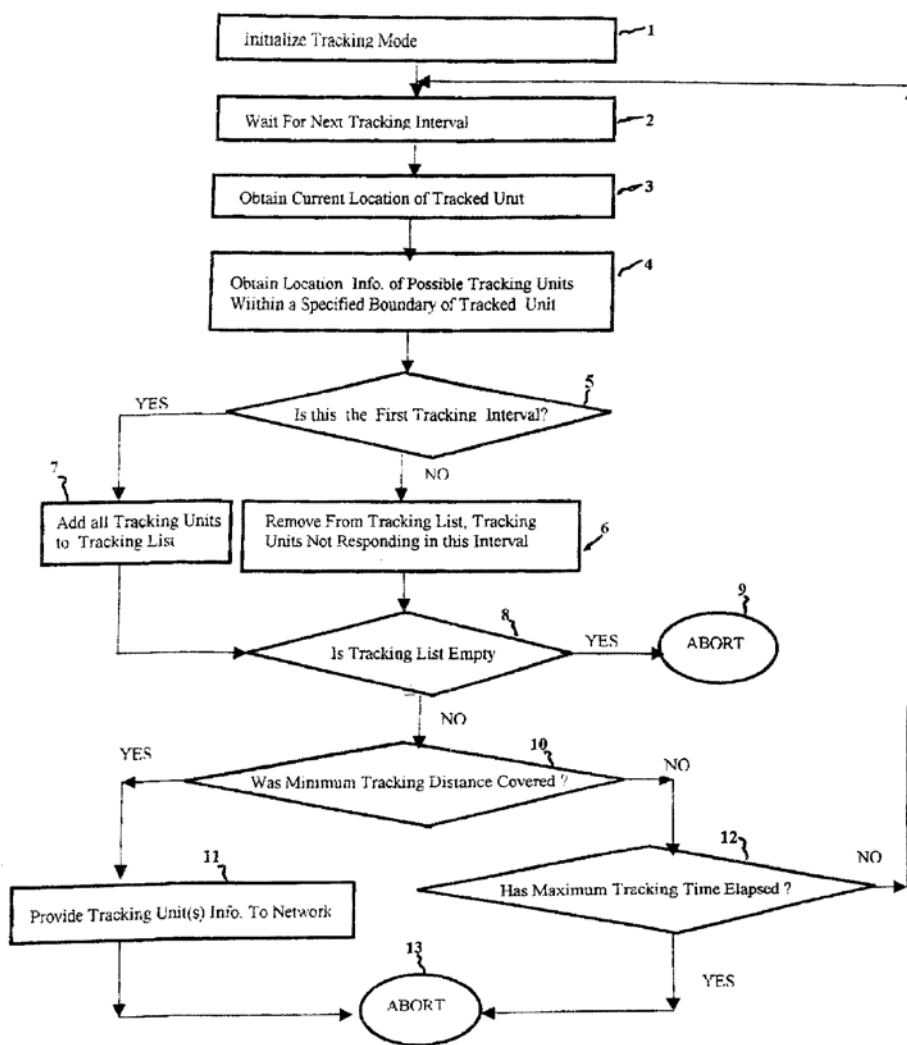


FIG. 5

The minimum necessary structure does not require a “transmitter” because a POSITA would understand that determining and reporting to the system 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. Ex.2001, ¶60.

7. “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)

This element’s function is “to determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.” 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. (Ex-1001, Fig. 6 and 9:63-10:11, especially references 3, 4, 5, 6, and 7). Ex.2001, ¶61.

III. SUMMARY OF THE PRIOR ART

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

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 specific victim. This system enhances traditional electronic monitoring, which was previously limited to fixed locations such as residences. Ex.1007, Abstract. A portable tracking device 12 receives communication signals from a global position satellite (GPS) 14 to determine the location of the subject (offender 16 or victim 18). The offender 16 is fitted with a

non-removable body-worn device 20. An associated victim 18 who wishes to report their location to the system is provided a portable tracking device 12 and a garment clip-on version of the body-worn device 20. Ex.1007, 2:45-57; Ex.2001, ¶69.

Both offender and victim device continuously report their location at periodic intervals. The offender's device is also provided with schedule rules and location constraints, which may be dynamically updated based upon reported victim location. The offender's device is programmed to compare its GPS coordinates with the location constraints and notifies the network when a location constraint is violated. The central database system also analyzes the offender's current position relative to the associated victim's position to determine if any alarms to law enforcement, corrections or commands to the offender, or warnings to the victim are required. Ex.1007, 3:3-27, 7:3-14, 8:9-20; Ex.2001, ¶¶70-72.

Layson'757's network differs significantly from the network of the '752 Patent. Unlike the '752 Patent, *Layson*'757 describes a system in which a parameter is sent to a specific device, which notifies the network when that parameter is violated. *Layson*'757 does not describe a network that polls specific geographic areas of the network's coverage area for the location information of PRUs currently located therein. Ex.2001, ¶¶65, 94.

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

Layson’213 is a crime/offender location correlation system that correlates the locations and times of crimes with the locations of offenders whose location is being tracked by the system to identify possible suspects based on whether an offender was near the crime scene at the time the crime occurred. The system supports investigative queries by matching location histories with crime data in a crime incident/offender location correlation database 1 that receives crime incident data 2 from computer aided dispatch (CAD) 6 systems and crime incident investigative data 9 from record management systems (RMS) 8 within law enforcement agencies and offender location data 3 on a continuous basis. *Id.*, Abstract, 1:20-42, 8:27-31; Ex.2001, ¶¶75-76. Each offender’s violations of exclusion zone criteria 221 from offender sentencing data 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.*, 19:45-50, 61-63; Ex.2001, ¶77. Law enforcement and corrections/community supervision agency personnel use the query terminal 37, 39 for structured queries. *Id.* 20:40-42; Ex.2001, ¶¶77-78.

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

Wang teaches a location monitoring system wherein the fleet vehicle provides its location to the central station more frequently the closer the vehicle is to a 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 and 3:50-56, 6:20-24; Ex.2001, ¶79.

Wang's network differs significantly from the network of the '726 Patent. The vehicle reports its current location to a central network. Based upon how far that location is to a state line, the central station sends the vehicle a fixed perimeter "border." The farther away the vehicle is from the state line, the larger the new border; the closer the vehicle is to the state line, the smaller the border. Ex.2001, ¶79. When the vehicle has moved outside of that "border," it again reports its location to the central station and receives a new border. *Id.*

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)

IllinoisLaw is a portion of a legal code that defines criminal conduct. It is not a technical reference for which a POSITA would have knowledge. Ex.2001, ¶80. 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." Ex.1010. 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. *Id.* It also exempts from the definition “following within the residence of the defendant.” *Id.*

E. U.S. Patent No. 6,212,393 (“Suarez”) (Ex.1013)

Suarez teaches a fleet dispatch system for vehicles, such as taxicabs. *See* Ex.1013, FIG 1 & 2:65-66; Ex.1002, ¶¶137-139. Upon receiving a ride request, the dispatch center searches for a vehicle to assign by transmitting an assignment message to **all** the vehicles 14 in the system. *Id.*, FIGS 1 & 15, 3:1-33; 5:7-17, 9:10, 10:21-28. The assignment message includes location criteria comprising the pick-up address and a perimeter. A device in the vehicle is programmed to compare its current location with the location criteria and respond if there is a match. If no vehicle responds, the system sets a larger perimeter for the search and again sends the assignment message out to the entire fleet until a response is received. *Id.* 5:35-54, 9:45-10:25-28; Ex.2001, ¶81. By placing the decision within the vehicle, the dispatch center is alleviated of the task of tracking each vehicle in the fleet, greatly simplifying the operation of the dispatch center and at the same time reducing traffic congestion on the communication channels. *Id.*, 5:23-35; Ex.2001, ¶84.

Saurez’s network differs significantly from the network of the ’726 Patent. Unlike the ’726 Patent, *Suarez* describes a system in which a parameter is sent to all

of the fleet vehicles regardless of where they are located in order to determine which vehicle meets a location criteria. *Suarez* does not describe a network that individually polls specific geographic areas of the network's coverage area for the location information of PRUs currently located therein. Ex.2001, ¶¶65, 94.

F. U.S. Patent No. 5,532,702 (“Mintz”) (Ex.1014)

Mintz is also a fleet vehicle dispatch system that saves communication resources by using time and frequency slots to indicate how closely a vehicle in the fleet meets a location criteria. See Ex.1014, Abstract; Ex.2001, ¶73. Like *Suarez*, the system in *Mintz* sends the location criteria message to all vehicles in the fleet, which respond using the appropriate time or frequency slot to indicate how well each meets the location criteria. *Mintz* then sends broadcasts to all vehicles further messages with further refined criteria to identify one to dispatch. See Ex.1014, 3:31-40, 7:12-15, 8:18-24, 8:31-37, 9:16-24;10:16-25; 10:57-67 and 11:01-23; Ex.2001, ¶¶74-81.

Like *Suarez*'s network, *Mintz*'s network also differs significantly from the network of the '752 Patent. Unlike the '752 Patent, *Mintz* describes a system in which a parameter is sent to all of the fleet vehicles regardless of where they are located in order to determine which vehicle meets a location criteria. *Mintz* does not describe a network that individually polls specific geographic areas of the network's

coverage area for the location information of PRUs currently located therein.
Ex.2001, ¶¶65, 94.

IV. THE PETITION FAILS TO SHOW THAT THERE IS A REASONABLE LIKELIHOOD THAT THE PETITION WILL PREVAIL ON ANY CLAIM

A. Standard For Granting *Inter Partes* Review

The Board may only grant institution on a petition for *Inter Partes* Review where “the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a); 37 C.F.R. § 42.108(c). The Petitioners bear the burden of showing that this statutory threshold is met. *See* Trial Practice Guide, 77 Fed. Reg. 48,756 (Aug. 14, 2012).

“It is impermissible to use the claimed invention as an instruction manual or ‘template’ to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that ‘[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.’” *In re Fritch*, 972 F.2d 1260, 1266 (Fed. Cir. 1992) (quoting *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988)).

As shown below, Petitioner concocts Frankenstein’s monster with a patchwork of references whose sole motivation to combine is the hindsight

reconstruction of the patented inventions. Moreover, even the concocted combinations do not arrive at the claimed inventions. Denial of institution is warranted for all asserted Grounds.

B. A POSITA Would Not Have Arrived at the Claimed Inventions Given the State of the Art

The patented technology requires requesting the location of a cellular phone or pager within a specific pollable geographic boundary of a wireless carrier's telecommunication network to make proximity and tracking determinations amongst such devices so that location-based services can be efficiently provided to wireless consumers of such networks. Ex.2001, ¶63.

However, 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 Ex.2001, ¶66

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

& n.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 *Id.*, ¶66 & n.2.

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 description of how individual polling of network boundaries could be implemented. Ex.2001, ¶67. 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. *Id.*

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/>

C. Claim 1 is not rendered obvious over *Layson*’757 in view of *Layson*’213 (Ground 1)

Petitioner argues that Independent Claim 1 is rendered obvious by *Layson*’757 in view of *Layson*’213. Patent Owner disagrees for the reasons below.

1. There is no Motivation to Combine *Layson*’757 with *Layson*’213 or Reasonable Expectation of Success In Doing So

There is no reason, and Petitioner provides none, why a POSITA would add *Layson*’757’s victim locations into *Layson*’213’s crime/offender correlation database because a crime has to occur first and be reported before its details are logged in that database. *See* Ex.2001, ¶95. A victim’s location is not a crime. *Id.* In contrast, a perimeter violation in *Layson*’757 is reported before any crime has occurred and is intended to prevent a crime from occurring. *Id.*

Furthermore, Petitioner’s proposal to modify *Layson*’757 to wait for a “loiter time” before reporting perimeter violations violates its own teaching that calls for “immediate” alerts. *See* Ex.1007, 9:48-54 (“The portable tracking apparatus notifies the subject and the central data-base system immediately when a violation occurs.”); *see* Ex.2001, ¶¶96-97. This loiter time modification could put the victim in potential danger by not reporting, for example, that a victim is in their office after that location has already been reported while an offender can actually be at the victim’s location for some time before both devices perform another location update. *See* Ex.2001,

¶97. Therefore, Petitioner does not demonstrate how a POSITA would have been motivated to make this modification or, if so, how the POSITA would balance reporting, non-reporting, and loiter time and how a POSITA would produce a workable system without undue experimentation, particularly as making each victim's location a crime event 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. *Id.*

Modifying *Layson*'757 to provide location constraints on the victim also makes no sense. First, unlike an offender, there are no law enforcement-imposed constraints on the victim's movement. Ex.2001, ¶198. Second, the edge case Uber hypothesizes, whereby a victim has moved closer to an offender, but the offender's device has not received an updated buffer zone, provides no motivation because it is either an error condition or can be simply dealt with by making a more frequent updates to the victim's location reporting. Ex.2001, ¶¶135-141. Uber provides no analysis of how frequent such an edge case would occur that would justify such a modification. *Id.* The existence of error condition or an edge case, particularly if there are simpler ways to solve Petitioner's purported problem weighs against a motivation to combine *Layson*'757 with *Layson*'213.

Adding a “loiter time” to *Layson*’757 does not result in the claimed tracking. It is simply a minimum time period that the offender can be in the buffer zone without reporting the alert to the system and does not provide the claimed “tracking” determination. *Id.*, ¶136

2. The Combination of Layson’757-Layson’213 Does Not Teach Claim 1

Claim 1 is not rendered obvious over *Layson*’757 in view of *Layson*’213 because the combined *Layson* system does not disclose the claimed method, as explained element-by-element below.

1. Element 1[pre]: A method for providing the location of a portable mobile remote unit in a geographic region of a wireless network to a wireless consumer requesting the location of portable mobile remote units that are maintaining close proximity to the wireless consumer in the geographic region comprising;

Petitioner does not take a position whether the preamble is limiting. It is because it provides structure or steps that give life, meaning and vitality to the claims: the claimed method is performed in response to a request by a wireless consumer in a specific geographic region of a wireless network for the location of portable mobile remote units in that geographic region that are maintaining close proximity to the wireless consumer. Ex.2001, ¶101.

Layson’757-*Layson*’213 does not disclose the preamble. Both *Layson* systems are designed to be used by law enforcement and federal/state authorities and

there is no support for either a victim or offender requesting the location of any device. Ex.2001, ¶105. Rather, the offender's device receives schedule rules and location constraints to compare against its location and notify the system if there is a violation. Ex.1002, ¶¶70-71. There is no disclosure in *Layson*'757 of a victim requesting or being provided with the location of an associated offender, let alone an unrelated offender in the victim's area. Nor is there any reasonable explanation of why a POSITA would have been motivated to allow either the offender or victim to know each other's locations, particularly since that could lead to unintended consequences such a vigilantism. Ex.2001, ¶141.

The '752 Patent discloses a system that provides the location to a requesting PRU because there is good reason to do so, a wireless consumer participating in the network may need help from a nearby wireless consumer and the network accommodates such requests by polling the network region of the requesting wireless customer. See Ex-1001, 2:12-15, 4:1-6, 7:22-44, 9:8-23; Ex.2001, ¶37. Petitioner does not (and cannot) show that *Layson*'757-*Layson*'213 includes pollable geographic regions such that a victim in a geographic region of the network can request the location of other portable mobile remote units that are maintaining close proximity to the requesting wireless consumer's PRU in that geographic region of the network. Ex.2001, ¶107. Even if the victim's portable tracking device in

Layson'757 is located "in a geographic region served by the network cell cite 26" (Ex.1002, ¶157), that does not mean that the victim can request the location of offender's located in the same region, nor does Petitioner explain how a POSITA would have been motivated to allow such requests or have had reasonable expectation of success in arriving at the claimed method without the teachings of the '752 Patent. *Id.* Petitioner argues that because some victims elect to use a device to report their location to the network, this inherently constitutes a request for any offender's location. But nothing in the disclosure of combined *Layson* system demonstrates that the system treats receiving a location reporting message from a victim's device as a location request or provides the victim with any offender locations. See Ex.2001, ¶108.

Unlike the '752 Patent's system, *Layson*'s combined victim-offender systems are not intended to consider the locations of all offenders' PRUs located within the same "geographic region served by the network cell cite" as the victim as required by claimed steps. Ex.2001, ¶109. Rather, *Layson*'757's network is only designed to alert the central database system when an offender's location is within a buffer zone of an associated victim, not to report to the victim any offender's location within the buffer zone. See, Ex.1007, 1:45-49, 8:13-19; Ex.2001, ¶109. Accord, Ex.1002, ¶146.

2. Element 1[A]: i) obtaining the location of the wireless consumer at intervals over a period of time;

Layson’757-*Layson*’213 does not disclose this claim element. While a victim participating in *Layson*’757’s system can elect to continuously report their location at intervals, there is no tracking “period of time” as required by the other claim elements. See Ex.2001, ¶110; accord Ex.1002, ¶149. Petitioner tries to shoehorn a “loiter time” from *Layson*’213 into *Layson*’757, but that does not provide the tracking “period of time” the claim requires, as further discussed below. Additionally, a victim is not a “wireless consumer” because the *Layson* system is not a cellular telecommunication network of the wireless industry and the tracking devices are not available to the general public as part of that industry. See Ex.2001, ¶111-115.

3. Element 1[B]: ii) requesting at each interval, at the network, that all mobile remote units within close proximity of the wireless consumer disclose their location to the network.

The claimed step requires the network requesting at each interval that all mobile remote units within close proximity of the wireless consumer disclose their location to the network. Petitioner recognizes that this element requires, at a minimum, that all the devices within the geographic boundary of the victim’s portable disclose their location. See EX.1002, ¶170. But neither *Layson*’757 or *Layson*’213 discloses any such thing. See Ex.2001, ¶117.

Petitioner without support asserts (Ex.1002, ¶¶172-175) that the victim's unit requests the location of "each of *Layson*'757's offender portable tracking devices" within a geographic boundary of the victim. There is no basis for any such statements nor is there any mechanism in either *Layson* system for polling an individual boundary for the location of any arbitrary offender near any arbitrary location reporting victim nor would there be any need for the system to operate in such a manner because it is only intended to prevent an offender who is legally restrained from being within a buffer zone of an associated victim. Ex-1007, *e.g.*, 1: 45-49 ("There exists a need to improve known house arrest systems to locate subjects such as criminal offenders and monitor their movements with respect to any associated victims or off-limit areas at all times.")

Nor would it be feasible for a POSITA to modify *Layson*'757 to require each offender to receive multiple location constraint updates, one for every victim, including each unrelated one. Finally, even if there were such a modification, it would not result in the practice of this claim because a location constraint is not a request for the location of *all* offender devices in proximity to the victim, as required by the claim. See Ex.2001, ¶¶119-120. At best, *Layson*'757's offender device only reports its location when scheduled to do so and when a location constraint is violated. Ex.1002, ¶¶147, 186; Ex.1007 at 7:5-29; 9: 48-50. Therefore, all offender

devices in close proximity to an unrelated victim, will still not be reporting their location, as they have no location constraint relative to that victim. Ex.2001, ¶¶120-121.

Rather, the consistent teaching of *Layson*'757 is that the only proximity analysis is between a victim's PRU and an associated offender's PRU. Ex.1002, 1:45-48, 8:9-21, 9:41-44. Ex.2001, ¶122. Second, nothing in *Layson*'757 suggests sending an offender's PRU an updated location constraint based upon the victim's reported location would result in the network obtaining the offender's location in the same intervals as the victim. And adding a "loiter time" only makes the situation worse as that will result in even a greater delay in the time period between the victim's and the associated offender's device reporting their responsive location to the system. See Ex.2001, ¶123.

Finally, even if a victim had more than one associated offender, or *vice versa*, the *Layson*'757-*Layson*'213 network still does not disclose any means to query for the location of all offenders (including the unassociated ones) in proximity to the victim and such would be contrary to either *Layson*'s systems teachings that the system is only interested in the location of offenders relative to associated victims. Ex.2001, ¶124; Ex.1007 at 1:46-49, 8:13-16; accord Ex.1008 at 19:29 (referencing

“associated victim information” for the offender).³ Because *Layson* is a law enforcement tool, its purposes is not served and would be frustrated by the system having to query for the location of all nearby offenders to any arbitrary victim, rather than only an associated offender. See Ex.2001, ¶125.

In sum, *Layson*’757-*Layson*’213 does not teach requesting at each interval, at the network, that all mobile remote units within close proximity of the wireless consumer disclose their location to the network. Ex.2001, ¶127.

4. Element 1[C]: iii) maintaining a list of mobile remote units that provided their location at each interval after the request of (ii);

Because *Layson*’757-*Layson*’213 does not teach step (ii), it also does not teach step (iii) because there is no teaching of maintaining a list of all offender devices within proximity to an arbitrary victim device. There is no network request of any kind in *Layson*’757-*Layson*’213 for the location of all offender PRUs within close proximity to a requesting victim’s PRU or any request for an offender’s location from a victim’s device. Therefore, there is no such list maintained by the network for all offenders’ PRUs reporting a location within close proximity to the victim’s PRU at time intervals after any such network request. Ex.2001, ¶¶128-130.

³ Uber’s citations to Taylor (Ex.1011) are unavailing. First, Taylor is not part of the asserted combination of Ground 1. Second, a victim having more than one associated offender does not result in a mechanism by which the system queries for all offenders’ device locations in a specific geographic area.

The exclusion zone violations reported into *Layson*'213's crime-offender correlation database do not result the network requesting the locations of all offenders' PRUs within close proximity to a victim's device at each interval for a time period because those are only past violations and the victim and offender may be reporting locations at completely different times. Moreover, the loiter time only leads to a further differential in the respective location reporting time periods between the victim and associated offender. Ex.2001, ¶131.

5. Element 1[D]: iv) from the list of (iii), forwarding the location of at least a mobile remote unit to the mobile consumer upon determination that the remote unit maintained close proximity to the mobile consumer over the period of time of (i).

Because there is no step (ii) or (iii) in *Layson*'757-*Layson*'213, the combination also does not teach step (iv). The combined system does not send an offender's location to a victim and Petitioner does not show otherwise. Ex.2001, ¶132.

Petitioner argues (Ex.1002, ¶¶191-198) that a POSITA would be motivated to have the offender and victim report their location to the network over two intervals during the "loitering" time period to prevent a false positive and due to an edge case (¶196). But the loiter time already addresses eliminating a false positive where the offender is only passing quickly through a buffer zone. And a POSITA would not be motivated to modify the entire system due to a hypothetical edge case built upon

Petitioner's proposed modification to the system whereby the system takes into account the offender's location in placing a location constraint upon a victim, contrary to common sense and nowhere disclosed.

First, there is no need for victim to have a location constraint because there is already a buffer zone that would provide a timely alert to prevent the victim and offender from being co-located. Second, even if a POSITA would have been motivated to make this unnecessary modification to the system, such an occurrence would still not meet the limitations of claim 1 because it does not disclose generating the required list of step (iii) from the query of step (ii). Finally, even there was a reason for the victim to have a location constraint based upon the offender's location, that would not result in the victim having the offender's location; rather, there would be reason not to disclose the offender's location. See Ex.2001, ¶¶132-141.

In sum, *Layson*'757-*Layson*'213 does not disclose Claim 1 of the '752 Patent, nor render it obvious.

* * *

For all the foregoing reasons, Petitioner's Ground 1 is not likely to succeed and the Petition should be denied.

G. Claim 4 is not rendered obvious by *Layson*'757, *Layson*'213 in view of *Wang* (Ground 2)

**1. A POSA has No Motivation to Combine *Layson*'757-
Layson'213 with *Wang* With a Reasonable Expectation of
Success In Arriving at the Claimed Method**

Wang does not reasonably combine with the purported *Layson*'757-
Layson'213 combined system because it renders both solutions unworkable.

Wang's vehicle discloses its location once and only once for each "border" in which it is located. But *Layson* requires a continuous update of offender and victim location to provide immediate updates of location perimeter violations and for the reporting of offender data into the correlation database. Therefore, a POSA would not be motivated to incorporate *Wang*'s "once per border" system into either *Layson* system. See Ex.2001, ¶¶143-150.

2. The Proposed Combination Does Not Disclose Claim 4

Furthermore, *Layson*'757-*Layson*'213-*Wang* does not result in the practice of Claim 4 because *Wang* does not alleviate any of the deficiencies of *Layson*'757-*Layson*'213.

a. Element 4[pre]: A method according to claim 1 utilized to further limit the provision of remote unit location to the network comprising:

Petitioner does not take a position whether the preamble is limiting. The preamble of claim 4 breathes life into the claim limitations by explaining the provision of remote unit location to the network is being limited by the claimed steps. . *Layson*'757-*Layson*'213 does not disclose Claim 1[pre] because its devices are not cell phones or other handheld mobile telecommunication devices that use cellular telecommunication networks available to the general public. Rather, as previously discussed, these are specialized devices used in law enforcement systems. *See also*, Ex.2001, ¶152

b. Element 4[A]: obtaining at the network, exclusion region information within which the remote unit should not provide its location [to] the network;

The proposed combination does not disclose this element. Because *Wang*'s vehicle always reports its location once for each "border." Therefore, *Wang* does not provide an exclusion region whereby the mobile unit does not provide its location to the network at all. Ex.2001¶153. As previously noted, a POSITA be not be motivated to add *Wang*'s "border" to *Layson*'757's system because reporting the victim or offender's location only once in any given area would cause the systems to fail, because the network could not dynamically update the buffer zone around a

victim and such would leave gaps in offender location reporting that may be important later; for example, in knowing the offender's location with certainty when being compared to known crime events in the correlation database of *Layson*'213 so as to be able to confirm or eliminate the offender as a suspect of a nearby crime.

Petitioner's arguments require a series of speculative assumptions nowhere found in *Layson*'757-*Layson*'213 that are clearly motivated by hindsight. Nothing is described therein for example regarding the overlap of "permitted and prohibited regions" nor is there any teaching that "notifying the authorities of the offender's presence in such an overlapping area would correspond to a false alarm." Ex.1002, ¶206. It does not make any sense that the offender would be in violation of their location constraints simply because the victim happened to be near the offender's home or workplace, since the offender is always permitted to be within those places. See Ex.2001, ¶155. Additionally, the location constraints in *Layson*'757-*Layson*'213 are exclusively described with regard to an offender and *Layson*'757 refers at times to only the offender as the "subject." See, e.g., Ex.1007 at 5:47-49 (describing body-worn device housing 88 being formed to conform to the shape of the subject's leg); 6:6-11 (describing body-worn device as having tamper logic that generates alarms). Petitioner's supposition that a victim would have location constraints, let alone

dynamically updated ones based upon an offender's movements, has no basis in the *Layson*'757-*Layson*'213 or *Wang* references. Ex.2001, ¶144-146, 156.

Therefore, a POSITA would not be motivated to combined *Layson*'757-*Layson*'213 with *Wang* and the asserted combination would not result in the practice of this element.

c. Element 4[B]: determining that the remote unit is not in the exclusion region before providing the location of the remote unit to the network

Wang does not disclose an exclusion region, as previously discussed, because the remote unit in *Wang* does report its location once in each "border." Ex.1009, 146; Ex.2001, ¶153. Moreover, a POSITA would not be motivated to completely eliminate the offender or victim location reporting in any area because such would result in the network not knowing the offender or victim's location for potentially large swaths of time. Therefore, a POSITA would not be motivated to modify *Layson*'757-*Layson*'213 to incorporate this claim element. Even were the POSITA motivated to reduce network communication, they could simply reduce the intervals at which location updates were made in inclusion regions instead of adding *Wang*'s different sized "borders." *Id.*, ¶154-156.

Petitioner's proposed combination (Ex.1002, ¶216) also does not make sense because if an offender is always permitted in the inclusion region (like their home

or workplace), then there is never a location constraint violation and there would be no overlap between the inclusion region and a victim's "buffer region." Ex.2001, ¶155. Therefore, Mr. Andrews' assertion that it would be beneficial to alert the victim when they are near the offender's home or work also makes little sense. Even if a POSITA would impose location constraints on a victim (which they would not, as discussed above), this does not provide any motivation to completely eliminate the offender's PRU reporting their location. Indeed, Petitioner's scenario only would make sense if the victim were to have location constraints near the offender's home or work when the offender was located there, which would require the reporting of the offender's location, not the blocking of such reporting. *Id.*

For all of the foregoing reasons, *Layson*'757-*Layson*'213-*Wang* provides no reasonable basis to conclude this element of Claim 4 was obvious because a POSITA would not be motivated to combine *Layson*'757-*Layson*'213 with *Wang* and doing so would not result in the practice of Claim 4. .

* * *

For all the foregoing reasons, Petitioner's Ground 2 is not likely to succeed, and the Petition should be denied.

H. Claims 9 and 14 are not rendered obvious by *Layson*'757 and *Layson*'213 in view of *IllinoisLaw* (Ground 3)

Claims 9 and 14 provide specific methods of determining whether a PRU is tracking another PRU by obtaining the location of a first portable remote unit, obtaining the location of at least a second portable remote unit within the same geographic boundary as the first unit and verifying that the two maintained a pre-specified radius of each other over a pre-specified distance during a tracking period. The proposed combination does not disclose the elements of these claims or render them obvious.

IllinoisLaw does not fill the gap. Rather, as Petitioner acknowledges (Ex.1002, ¶234) *IllinoisLaw* only defines stalking generally in terms of “following and maintaining surveillance as the victim moves from place to place.” This does not teach the claimed tracking, as discussed below. Ex.2001, ¶¶173-177.

1. Claim 9 Is Not Taught

a. Element 9[pre]: A method for determining that a first portable remote unit associated with a network is being tracked by at least a second portable remote unit over a tracking period comprising:

The preamble of claim 9 is limiting because it explains to a POSITA that the claimed method determines whether one PRU associated with the network is being tracked by at least another PRU. *Layson*’757-*Layson*’213-*IllinoisLaw* does not disclose this element because it does not teach a method for determining that a victim’s portable tracking device (first portable remote unit) is being tracked by one

or more offender portable tracking devices (at least a second portable remote unit) over a tracking period in the manner required by the claim.

b. Element 9[A]: obtaining the location of the first portable remote unit or tracked unit

Layson'757-*Layson*'213-*IllinoisLaw* does not disclose this element because *Layson*'213 does not disclose that the correlation database contains the victim's unit's location (first portable remote unit or tracked unit). Nor would it make sense for the correlation database to do so because it exists to compare reported crimes to offender's locations, not victim's locations, to determine whether any offender whose location is reported to the system is a possible suspect. Ex.1008, 8:39-43, 20:63-21:4; Ex.2001, ¶174

Petitioner proposes modifying *Layson*'213's correlation database to include victim locations. See Ex.1002, ¶¶229-230. But a victim's location is not a crime, even if the victim suspects they are being stalked. A POSITA would also not be motivated to modify the correlation database to perform a continuous comparison of each offender location, including the locations of offenders that are not associated with the victim, because unassociated offenders do not have an exclusion zone (location constraint) relative to each victim. Such a modification is also contrary to *Layson*'s goal of power and cost reduction and to distribute as much processing as possible to the PRU and away from the network because it would unnecessarily

increase processing at the correlation database by orders of magnitude if any (let alone every) victim's location is treated as a separate crime incident in the system each time its location is updated. See Ex.2001, ¶157-170. Therefore, a POSITA would not be motivated to make such a modification. *Id.*

c. Element 9[B]: obtaining the location of the at least a second communication unit or tracking unit that is within proximity or a pre specified radius of the tracked unit

Petitioner's proposed combination does not disclose this element. *Layson*'213's 175 because, as previously discussed, under the proposed combination each offender location would be considered and their location compared in making the purported stalking determinations, not only the offender's devices that are in proximity or a pre specified radius of the victim's unit. Therefore, the proposed combination does not disclose this claim element. *Id.*, 175.

d. Element 9[C]: verifying whether the tracking and tracked unit(s) have traveled a minimum pre-specified distance over the tracking period;

Petitioner submits that the victim's device in *Layson*'757 is the tracked/first unit, the offender's PRU is the tracking/second unit, and that "the tracking period" could be a time period where an offender's location is identified within a victim's buffer distance. Ex.1002, ¶¶241-244. But a "loiter time" is different from a tracking period. A loiter time is the maximum time that the offender may be located in an

exclusion zone without the system reporting a violation. A tracking period is a time period over which the two units that are within a pre-specified radius of each other have traveled a minimum pre-specified distance together. Therefore, Petitioner incorrectly submits (Ex.1002, ¶248) that all that is missing is “verifying whether the tracking and tracked unit(s) have traveled a minimum pre-specified distance over the tracking period.”

This is not a trivial task and Petitioner ignores how many orders of magnitude the amount of data stored by the database would increase by its proposed modification and how much more processing it would entail to run comparisons between all offenders’ locations and all victims’ locations (or even one). See Ex.2001, ¶176-184 Nor does Petitioner explain how a POSITA could reasonably expect to successfully implement such a system without undue experimentation. *Id.* Nor does Petitioner offer any reasonable explanation as to why a POSITA would modify a database designed to correlate reported crimes with offender’s location data to add the victim’s location—particularly when such a location is not in any sense considered a crime. *Id.*

Furthermore, Petitioner does not explain how a POSITA would then be further motivated to modify the database to implement “an additional check for a minimum pre-specified distance of joint travel over that period of time,” particularly as an

offender could “move from place to place” following a victim without ever moving at the same time as victim, let alone simultaneously over a pre-specified distance. See Ex.2001, ¶178.

IllinoisLaw does not teach verifying whether the tracking and tracked unit(s) have traveled a minimum pre-specified distance over the tracking period as required by Element 9[C]. Here a POSITA would understand that this analysis is made on the locations only of units in proximity to the subject obtained from the prior step to verify whether both it and the tracked unit have travelled a pre-specified distance over a tracking period, such as when someone has placed their PRU associated with the network in the trunk of the car of another person having a PRU associated with the network. See Ex.2001, ¶179. *IllinoisLaw* does not require the stalker and the victim maintain a pre-specified radius over a pre-specified distance while moving together during a tracking period. *Id.*

Therefore, in addition to the fact that every offender location is considered in making the determination, contrary to the teachings of the '752 Patent and to the requirements of Claim 9, a POSITA would be faced with no reasonable expectation of success without undue experimentation to make a modification of *Layson*'757-*Layson*'213 to address stalking. See Ex.2001, ¶180. In particular, a POSITA would not know how to determine what pre-specified spacing, pre-specified distance or

tracking period to use to determine stalking, which is a much more complex goal than merely efficiently determining whether two devices have moved together without breaking proximity over a pre-specified distance for a pre-specified tracking period. *Id.* Moreover, a query involving “correlating ‘multiple crime incidents with offender(s) locations’” (Ex.1002, ¶246) does not teach these parameters. Ex.2001, ¶180.

Even if a POSITA could have come up with parameters without undue experimentation, the claim element would still not be met because this analysis is done on the tracking unit locations obtained in the prior step, *i.e.*, those only in close proximity to the tracked unit. Therefore, the modified *Layson*’757-*Layson*’213 system would not meet this step in any event because it does not perform this verification only on the offender PRU locations in proximity to the victim as required by Claim 9. *Id.* See Ex.2001, ¶181.

Finally, Petitioner’s explanation (Ex.1002, ¶247) that “where an offender and victim remain relatively stationary over time, their locations may correlate with one another, even though the offender is not stalking the victim” only underscores that Claim 9 is directed to different problems/solutions than those facing a POSITA trying to apply the *Layson*’757-*Layson*’213-*IllinoisLaw* system to stalking because a potential stalker and potential victim may indeed be stationary over a large period

of time. See Ex.2001, ¶¶182-184. The stalker also may not be moving at the same time as the victim, such as when the victim moves from one store to another in a mall and the stalker waits a few minutes before updating their location. Conversely, the '752 Patent teaches a system that requires that the two units both move over a pre-specified distance during the tracking period while within proximity or a pre-specified radius of each other. Likewise, the stalker could get within a pre-specified distance of the victim to observe them, and then quickly move outside of that pre-specified distance to avoid detection by violating loiter time. A stalker can therefore follow a victim from place to place without moving together over a pre-specified distance at the same time as the victim and without breaking proximity. *Id.*

e. Element 9[D]: forwarding the result of the verification to the network at the end of the tracking period.

Layson'757-Layson'213-IllinoisLaw does disclose forwarding the result of the verification to the network at the end of the tracking period as required by Element 9[D]. See Ex.2001, ¶186. The time that a database query is made is not a tracking period. *Id.* For example, a database query may be made on Monday at 9 am for all potential stalking from midnight Saturday to 6 am Sunday. *Id.* Thus, the time of the query is clearly not the tracking period required by the claim. *Id.* Indeed, the fact that an operator can enter any selected tracking period shows how unworkable Petitioner's posited system is because it would require the conditions

for stalking to change based upon how long of a “tracking period” was selected. *Id.*
n.3. For example, if a four-hour period was selected that would necessarily entail
different stalking criteria than if a one hour period was selected. *Id.*

* * *

Layson’757-*Layson*’213-*IllinoisLaw* does not teach Claim 9, which in essence
is directed to an efficient method of determining whether two PRUs are substantially
co-located while moving together over a pre-specified distance during a tracking
time period, and not merely whether a location constraint was violated beyond a
loiter time.

2. **Claim 14**

a. Element 14[C]: means to obtain the location of the portable mobile remote unit;

Petitioner’s construction of this term is flawed. A POSITA would understand
that the claimed “means” is a “control unit” programmed to obtain the location of a
portable remote unit. *See* Ex.2001, ¶190. For example, the central database 22 of
Layson’757 is a control unit that obtains the locations of offender’s PRUs as well as
the PRUs of each victim that has agreed to report their location to the network for
the “data fusion” procedure. The central database does not require a GPS antenna
or GPS receiver to carry out this function. This is consistent with the ’752 Patent
specification, which explains that the network can perform any function that the

PRU cannot and refers to network components as control units. *Id.* The network control units do not require GPS antenna or GPS receivers to acquire GPS signals because the portable remote units already have them and do the job of determining their GPS coordinates. *Id.* The PRU is already in a cellular network and is able to use it to communicate the GPS coordinates to control units at the network. *Id.*

Although Petitioner's proposed construction is flawed, the requisite means exists in *Layson*'757's system because central database system obtains offender and victim location data. *See* Ex.2001, ¶191

b. Element 14[D]: means to obtain geographic boundary information in order to disclose a global location at the network;

Layson'757-*Layson*'213-*IllinoisLaw* does not teach Element 14[D]. There is no disclosure in the *Layson*'757-*Layson*'213-*IllinoisLaw* system in which the network includes a control unit in the victim's device, as Petitioner posits, that receives a geographic boundary in order to disclose the location of a PRU. *See* Ex.2001, ¶194-197. There is no suggestion in either *Layson* reference that a *victim*'s PRU has any location constraints imposed upon it, and such would be inconsistent with the fact that the victim has not has his freedom limited. Therefore, Uber's assertion that a "buffer zone" location constraint is sent to the victim (Ex.1002, ¶268) is unfounded. *Id.*

Petitioner cites Ex.1007 at 8:36-43 in support of this statement but that passage only states that the offender may have a buffer zone around the location constraint on it so that a notification can be sent to the victim earlier. It does not state that the offender's location and "buffer zone" are sent to the victim. *Id.* Rather, *Layson*'757 states the network only receives an alert from the offender's PRU and determines what, if anything, to report to the victim. Ex.1007 at 8:14-20.

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. Therefore, a POSITA would not have been motivated to modify *Layson*'757-*Layson*'213 in the manner Mr. Andrews posits. See Ex.2001, ¶198-201.

Moreover, even if there had been motivation for the victim's device to have location constraints and a buffer zone around the offender's location, such would not be a geographic boundary for the victim to report their location to the system. Indeed, *Layson* explains that both the victim's location and associated offender's location are routinely provided to the network regardless of where they are located relative to each other. The location constraints are provided to the offender's device in order to offload real-time location constraint violation determinations from the central database system to the offender's device so that the latter immediately

provides the system with immediate notice of a location violation. *See* Ex.1007 at 8:1-20; Ex.2001, ¶204.

A POSITA would not have been motivated to modify the system to place a location constraint on the victim because the system will already be alerted if an offender is within the victim's buffer zone. Petitioner attempts to drum up a motivation based upon a hypothetical edge of its proposed modification. Petitioner does not attempt to in any manner quantify how big of a problem that edge case would be or why the edge case would not be better addressed by a more frequent update of the victim's location to the network so that the network would more frequently update the buffer zone sent to the offender's PRU. A POSITA would not have been motivated to add additional complexity to the system because of this edge case and the Board should reject it.

c. Element 14[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

Layson'757-Layson'213-IllinoisLaw does not disclose Element 14[E] as Petitioner posits because, as a factual matter, it does not describe a system in which the victim's device is provided a location constraint and provides its location to the network upon a determination that it has violated the location constraint. Petitioner relies upon the same imagined theories (Ex.1002, ¶¶280-282) as under 14[D] to

recreate the above limitation. Ex.2001, ¶¶203-206. There would be no motivation for Petitioner’s proposed modification of *Layson*’757’s system because a buffer zone is already placed around the victim’s location precisely to alert law enforcement before any crime takes place and. Therefore, there is no reason to believe that a POSITA would have been motivated to modify *Layson*’757’s system in the manner Petitioner asserts. *Layson*’757 teaches that the victim’s unit continuously provides its location at scheduled intervals and for that additional reason a POSITA has no need to modify the system for the victim’s device to report its location only when it is a specific area. Because a POSITA has no genuine reason to impose location constraints on a victim, Petitioner does not demonstrate that an actual motivation exists that is not motivated by hindsight to make the proposed modification.

d. Element 14[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;

Layson’757-*Layson*’213-*IllinoisLaw* does not disclose Element 14[F]. See Ex.2001, ¶208-212. Although *Layson*’757’s central database continuously receives at intervals both the locations of participating offender and victim PRUs, 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” as Petitioner asserts. Ex.1002, ¶281. Nor does it receive “the locations of offender tracking

devices (‘other’ mobile units) during such intervals.” *Id.* Nor does any database 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.” *Id.* All of this is unsupported fiction because (a) the victim’s device continuously periodically reports its location to the network regardless of its relative proximity to an associated offender’s device; (b) the offender’s device continuously periodically reports its location to the network regardless of proximity to an associated victim’s device; and (c) no database determines that the two devices maintained a pre-specified proximity while moving together over a pre-specified distance over a tracking period. *Id.*

Layson’213’s disclosure of loiter time does not fill this gap. The loiter time is only a minimum time period used to search the crime incident-offender location database to determine whether an offender was in a restricted area for an unacceptable amount of time. It is not a period of time the offender and victim moved together over a minimum distance while maintaining a pre-defined tracking radius. *Id.* *IllinoisLaw* likewise does not specify the ’752 Patent’s tracking algorithm because stalking encompasses the offender and associated victim moving at different time intervals and does not require that they maintained a pre-defined tracking radius over a pre-specified minimum distance. *Id.*

* * *

For all the foregoing reasons, Petitioner's Ground 3 is not likely to succeed and the Petition should be denied.

I. Claim 15 is not rendered obvious by *Layson*'757, *Layson*'213, *IllinoisLaw*, and *Wang* (Ground 4)

Claim 15 of the '752 Patent is not disclosed or rendered obvious by the proposed combination of *Layson*'757-*Layson*'213-*IllinoisLaw*-*Wang*. A POSITA would not be motivated to modify *Layson*'757 by "combining aspects of Figures 6A and 6B of *Layson*'757, with step 78 of *Wang*'s Figure 6" as Petitioner suggests (Ex.1002, ¶286) because the two situations are diametrically opposed. See Ex.2001, ¶214-216. In *Layson*'757, an offender's device immediately sends an alert to the system when it determines a location violation has occurred. In *Wang*, there are no location constraints—only "borders" around its current location in which location reporting occurs once. After the vehicle moves outside of "border", it again reports its location once and is provided with the new border around its new current location through which it must travel before again reporting its location. A POSITA would not have been motivated to incorporate *Wang* because it would contradict and override the continuous periodic location reporting of the offender device's location taught by *Layson*'757. *Id.*

Petitioner asserts that a POSITA would have been motivated to suspend offender reporting if the offender was in a permitted area. Ex.1002, ¶222. But *Layson*’757 teaches that the network is designed to keep a continuous record of the offender’s (and any participating victim’s) reported location so that it can perform data fusion and to allow *Layson*’213’s correlation database to correlate the offender’s location with reported crimes. See Ex.2001, ¶216. A POSITA would not have been motivated to stop the offender’s location reporting, even when in a permitted area, because it would result in potentially large swaths of time in which offender location data is missing and the correlation database cannot eliminate the offender as a suspect. *Id.* Rather, any concerns about reducing data traffic could be addressed by programming the offender unit to report location less frequently when in a permitted area without completely losing location data for any large period of time. *Id.*

* * *

For all the foregoing reasons, Petitioner’s Ground 4 is not likely to succeed and the Petition should be denied.

J. Claim 6 is not rendered obvious by *Suarez* in view of *Mintz* (Ground 5)

Claim 6 is not rendered obvious by *Suarez* in view of *Mintz*. First, a POSITA would not have been motivated to combine *Suarez* with *Mintz* and would not have

had a reasonable expectation of success in doing so, for the reasons set forth below. Moreover, the combined system would not disclose Claim 6 for the reasons also set forth below.

1. Element 6[pre]: A method for providing the location of portable remote units that exist within a prescribed geographic boundary to a wireless consumer requesting that information comprising:

The preamble of claim 6 is limiting because it provides the POSITA with essential context that the claimed method is responding to (1) a request (2) from a wireless consumer (3) for the location of portable remote units (4) within a prescribed geographic boundary by (5) providing the locations of such portable remote units, using the recited steps. *See* Ex.2001, ¶¶218-223.

Suarez is directed to a dispatch system for traditional fleets such as taxicabs. There is no request from a wireless consumer for the location of portable remote units that exist within a prescribed boundary. A taxicab customer requests the dispatch of a taxicab through the message input device. This is not a request for the location of portable remote units that exist within a prescribed boundary and there is no disclosure that *Suarez* provides such locations to the taxicab customer. Rather, dispatch center 16 receives the dispatch request 28 and generates an assignment message 32 that is sent to each vehicle in the network, regardless of geographic

boundary. *See* Ex.1002, ¶288 (citing Ex.1013, Abstract, 3:20-25, 7:19-26, 10:21-25).

There is no explanation or citation to *Suarez* supporting Mr. Andrews' singular statement that "the wireless consumer who submitted the request for dispatch would be provided with the appropriate nearby service provider's location by the dispatch center." Ex.1002, ¶293. Back in 1999, calling for a cab was just that: calling for a cab and hoping it would show up. There was no reporting of the cab's location back to the customer. *See* Ex.2001, ¶221.

2. Element 6[A]: i) receiving at the network a wider than normal prescribed geographic boundary to query for mobile remote units from the wireless consumer;

Suarez's wireless communication device 36 parsing an assignment message does not disclose this limitation. First, contrary to Petitioner's assertions (*see* Ex.1002, ¶295), a customer in 1999 would not have typically specified a search region, let alone a wider than normal search region, when requesting a cab. Requesting a cab does not require the customer providing a search region or a wider than normal search region and *Suarez* does not disclose otherwise. *See* Ex.2001, ¶¶224-236.

Also, a POSITA would not understand "receiving at the network" to mean "receiving at the PRU" because the '752 Patent distinguishes between actions

performed at a control station or control unit of the network versus a control unit of the PRU.

Nor is there any disclosure in *Suarez* that the request for dispatch includes any request for the location of multiple PRUs in a geographic boundary, let alone a wider than normal geographic boundary. Rather, the dispatch center receives a request for dispatch with a pickup location and generates an assignment message with search parameters that is sent to all vehicles in the fleet. Therefore, *Suarez* does not disclose any control unit of the dispatch center receiving any prescribed geographic boundary from the customer.

Furthermore, despite Petitioner's assertion to the contrary, a maximum radius from a pickup location is not "the same type of 'geographic boundary' envisioned by the '752 Patent." Ex.1002, ¶303. The '752 Patent divides the network into cells or grids that can be individually queried for only the locations of PRUs currently located therein. See Ex-1001, 7:22-34; Ex.2001, ¶228. There is no similar teaching in *Suarez* because all the vehicles in the fleet are polled in *Suarez*, regardless of their location. *Id.*, ¶229. Because *Suarez* does not receive at the network any geographic boundary, let alone a wider than normal prescribed geographic boundary, to individually query for mobile remote units, it does not disclose this claim element.

This deficiency of *Suarez* is not rectified by *Mintz*. Like *Suarez*, *Mintz* also does not divide its network into pollable geographic boundaries. Rather, as Petitioner acknowledges, in *Mintz* “each participating taxi determines its location relative to ‘the customer and within the maximum radius $R_{\max}$.’” Ex.1002, ¶304 (emphasis added); Ex.1014, 8:14-38; Ex.2001, ¶230

Mintz iteratively using a narrower or broader search radius does not help Petitioner’s argument. Regardless of the search radius, every vehicle in the *Mintz* system is still polled, just fewer respond. This is an important distinction because the ’752 Patent’s contemplated location-based networks provided on top of the wireless industry’s cellular networks may include tens of millions of users across the country, so polling each participating mobile device as in *Suarez* or *Mintz* would not be efficient or feasible. Therefore, even if “a POSITA would have been motivated to include *Mintz*’s maximum radius $R_{\max}$ when implementing *Suarez*’s third ($N=3$) or highest criteria parameter” this would not result in the practice of this claim element. Ex.2001, ¶231-235.

Petitioner argues that because *Mintz* requests for taxis that are closest in range to the requester before requesting for other taxis farther away, it could be deemed as the network receiving a wider boundary. Ex.1002, ¶304. But neither *Suarez* nor

Mintz identify a wider than normal region received that is received at the network to be split as required by the claim. Ex.2001, ¶236.

3. Element 6[B]: ii) splitting the geographic boundary of (i) into sub geographic regions to constitute the prescribed geographic boundary:

Suarez and *Mintz* receive a taxi request from a customer and generate a message sent to every taxi in the network to respond if they meet certain location criteria to search the fleet for a vehicle to assign to the customer. See Ex.1002, ¶306-308. But this is different from splitting the geographic boundary into individually pollable sub areas. See Ex.2001, ¶237. Accordingly, neither *Suarez* nor *Mintz* disclose or render obvious this element.

4. Element 6[C]: iii) requesting in the sub geographic region(s), the location of remote units that are present in each sub region;

Petitioner cannot dispute that *Suarez* polls all remote units in the fleet, regardless of their location in the network. See Ex.1002, ¶309. This does not disclose requesting *in* the sub geographic region(s), the location of remote units that are present *in* each sub region, as required and taught. Ex.2001, ¶¶239-244.

Petitioner egregiously asserts that individual boundaries are somehow polled in *Suarez*, because the assignment message is “seen only by the vehicles 14 within the fleet 12 that meet the specified criteria.” See, Ex-1002, ¶ 310. But this single

statement in *Suarez* does not change the fact that all vehicles are polled, just that the driver is not notified of the assignment message unless the criteria are met. Ex.2001, ¶244.

In conclusion neither *Suarez* nor *Mintz*, individually or when combined, teaches breaking the network into individually pollable regions in which requests may be directed.

5. Element 6[D]: iv) verifying after each request of (iii) in a sub region whether at least a portable remote unit disclosed a global location in the region;

As discussed above, because *Suarez-Mintz* does not divide its network into individually pollable regions or sub regions and cannot make requests “in a subregion,” it also does not disclose verifying after each such request “whether at least a portable remote unit disclosed a global location in the region.”

6. Element 6[E]: v) maintaining a list of all remote units that disclosed their location after each request from the verification of step (iv);

Suarez-Mintz does not meet this claim element because it does not perform steps (iii) and (iv). Consequently, there is no list as required by this step (v).

7. Element 6[F]: vi) providing to the network and from the list of (v) the location of at least a remote unit that revealed its location in the sub region.

This claim element is not met for the same reasons as steps (iii)-(v). Additionally, there is no disclosure in *Suarez-Mintz* of the dispatch center reporting a location of an identified vehicle to another component of the network. See Ex.2001, ¶249. Petitioner turns this claim element on its head by arguing that “once each wireless communication device in *Suarez* verifies that it is in the specified geographic location (*i.e.*, the claimed sub region), it will reply to the dispatch center with an ‘affirmative indication’ with its vehicle’s identification, current location, and estimated travel time in order to fulfill the assignment.” Ex.1002, ¶314. But this would require the remote unit to make the list. But there is no disclosure in *Suarez-Mintz* of a remote unit making a list of other units in the same network region or sub region. Ex.2001, ¶249. Also, a POSITA would understand that this claim element is directed to acts at a network control center because that is where any list of matching remote units would be maintained--not at a remote unit. See Ex.2001, ¶250

* * *

For all the foregoing reasons, Petitioner’s Ground 5 is not likely to succeed, and the Petition should be denied.

V. CONCLUSION

The Board should therefore deny institution of trial in this matter.

Dated: August 26, 2024

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

Patent Owner certifies that Patent Owner's Preliminary Response contains [13794] words exclusive of a table of contents, a table of authorities, mandatory notices under § 42.8, a certificate of service or word count, or appendix of exhibits or claim listing, according to Microsoft Word.

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CERTIFICATE OF SERVICE

Petitioner has consented to electronic service by email in this proceeding. Pursuant to 37 C.F.R. § 42.6(e)(1), the undersigned certifies that on August 26, 2024, a copy of the foregoing document was served via electronic mail upon the following counsel for Petitioner at the below email addresses:

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