IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

MAKOR ISSUES & RIGHTS LTD., Plaintiff, v. GOOGLE, INC. and WAZE, INC., Defendants.	C.A. No. _____ **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Makor Issues & Rights Ltd. ("Makor" or "Plaintiff"), as and for its complaint of patent infringement in this matter, hereby alleges through its attorneys as follows:

NATURE OF THE ACTION

This is an action for patent infringement of United States Patent Nos. 6,480,783 (the "'783 Patent") and 6,615,130 (the "'130 Patent") under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, seeking damages and other relief under 35 U.S.C. § 281 *et seq.* Copies of said patents are attached hereto as Exhibits A and B.

THE PARTIES

1.   Plaintiff Makor is a company organized under the laws of the Israel having a principal place of business at 17 Balfour Street, Jerusalem, Israel 9210224.

2.   Upon information and belief, Defendant Google, Inc. ("Google") is a Delaware corporation with its principal place of business located at 1600 Amphitheatre Parkway, Mountain View, California 94043. Google may be served with process through its registered agent, the Corporation Service Company, 2711 Centerville Road, Suite 400, Wilmington, Delaware 19808.

3.   Upon information and belief, Defendant Waze, Inc. ("Waze") is a Delaware corporation with its principal place of business located at 1600 Amphitheatre Parkway, Mountain View, California 94043. Waze may be served with process through its registered agent, the Corporation Service Company, 2711 Centerville Road, Suite 400, Wilmington, Delaware 19808. On June 11, 2013, it was announced that Google had purchased Waze, reportedly for approximately $1.3 Billion.

4.   Upon information and belief, joinder of Google and Waze in this action is proper under 35 U.S.C. § 299 because Waze is a wholly-owned subsidiary of Google and because Google incorporates data from Waze into the Google Maps mobile application, as alleged further below in paragraphs 23 and 46, the

combination of which is alleged to infringe herein, which allegations arise, at least in part, out of the same series of transactions or occurrences relating to Google's manufacture, use, sale, offer for sale, and/or importation of one or more of the accused products, services, and / or processes, and questions of fact common to both Google and Waze will arise in the action, including at least questions relating to Waze's collection of real time traffic data and its use in Google Maps.

JURISDICTION AND VENUE

5.   This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331, 1338(a) and 1367.

6.   Both Google and Waze are subject to this Court's specific and general personal jurisdiction pursuant to due process and/or the Delaware Long Arm Statute (10 *Del. C.* § 3104), due to having availed themselves of the rights and benefits of Delaware law, by incorporating under Delaware law, and by conducting substantial business in this forum, including: (i) a portion of the infringements alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct, and/or deriving substantial revenue from goods and services provided to individuals in Delaware and in this Judicial District.

7.   Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(b), (c), and (d) and 1400(b). Google and Waze are incorporated in this

District, and on information and belief, have transacted business in this District and

have committed and/or induced acts of patent infringement in this District.

COUNT I

DIRECT INFRINGEMENT OF
U.S. PATENT NO. 6,480,783 BY GOOGLE

8.   Makor realleges and incorporates paragraphs 1-7 above by reference.

9.   Makor is, and from the date of issue has been, the owner of the '783

Patent, entitled Real Time Vehicle Guidance and Forecasting System Under

Traffic Jam Conditions, which was duly and legally issued by the United States

Patent and Trademark Office ("USPTO") on November 12, 2002. Makor's

ownership of the '783 Patent is based on an assignment to Makor by the inventor,

David Myr, of the application for the '783 Patent, which was duly recorded in the

USPTO on March 17, 2000.

10.   Google provides a product and service known as Google Maps™.

11.   Google Maps infringes at least claim 12 of the '783 Patent.

12.   On information and belief, Google Maps began as a desktop web

mapping service and related in-browser application and was later also released as a

mobile application for download. The Google Maps mobile application currently

and for some time has been pre-installed with most Android® devices sold

worldwide, including the United States.

13.   As per claim 12 of the '783 Patent, Google Maps currently provides

turn-by-turn directions to its users incorporating real time and statistical traffic data

into its algorithms. According to Google:

> The Google Maps app for iPhone and iPad makes navigating your world
> faster and easier. Find the best spots in town and the information you need to
> get there.
>
> • Comprehensive, accurate maps in 220 countries and territories
> • Voice-guided GPS navigation for driving, biking, and walking
> • Transit directions and maps for over 15,000 cities and towns
> • Live traffic conditions, incident reports, and automatic rerouting to
> find the best route. . .

Source: ITunes Google Maps App description
(https://itunes.apple.com/us/app/google-
maps/https://itunes.apple.com/us/app/google-maps/id585027354).

> best_guess (default) indicates that the returned duration_in_traffic should be
> the best estimate of travel time given what is known about both historical
> traffic conditions and live traffic. Live traffic becomes more important the
> closer the departure_time is to now.
>
> . . .
>
> duration_in_traffic indicates the total duration of this leg. This value is an
> estimate of the time in traffic based on current and historical traffic
> conditions.

Source: Google Maps API Documentation
(https://developers.google.com/maps/documentation/directions/intro).

14.   As per claim 12 of the '783 Patent, Google Maps provides for

collecting GPS data at predetermined time intervals from sample vehicles moving

within a predefined geographical region. As stated by Google:

5

> If you use Google Maps for mobile with GPS enabled on your phone, that's exactly what you can do. When you choose to enable Google Maps with My Location, your phone sends anonymous bits of data back to Google describing how fast you're moving. When we combine your speed with the speed of other phones on the road, across thousands of phones moving around a city at any given time, we can get a pretty good picture of live traffic conditions.

Source: Google Official Blog (https://googleblog.blogspot.com/2009/08/bright-side-of-sitting-in-traffic.html).

On information and belief, mobile devices that use Google Maps send updates on a schedule. On information and belief, the Google Maps mobile application is programmed to poll the GPS subsystem of the mobile device at predetermined times. A related product, Google Maps Coordinate, has location sent once a minute.

> By default, the mobile app sends a location update to your web console once a minute, so dispatchers can locate mobile workers accurately.

Source: Google Maps Coordinate Help (Deprecated) (https://support.google.com/coordinate/answer/2603287?hl=en&ref_topic=2554535).

15.   As per claim 12 of the '783 Patent, Google Maps provides for providing a map database containing digital road maps of a predefined geographical region together with predetermined relevant data on road factors. Google Maps includes a map database containing digital road maps along with relevant data on road factors (one-way roads, speed limits, etc.). This is necessary to create turn-by-turn directions. According to Google, Google Maps provides:

   • Comprehensive, accurate maps in 220 countries and territories

   . . .

   • Live traffic conditions, incident reports, and automatic rerouting to find the best route

Source: ITunes Google Maps App description (https://itunes.apple.com/us/app/google-maps/https://itunes.apple.com/us/app/google-maps/id585027354).

16.   As per claim 12 of the '783 Patent, Google Maps performs the function of processing in real time the GPS data and transforming them into appropriately structured data suitable for being stored on using a computer system operatively connected to a communications system. Google Maps performs the functions of storing and updating statistical data on traffic loads on individual roads. Google Maps is able to predict how traffic will change during the course of driving a route. This must entail storing and updating statistical data on traffic loads on individual roads:

> "It's not just what [traffic] is right now, but how do we expect it to change over the next hour or two hours." - Amanda Leicht Moore, the lead product manager for Google Maps.

Source: http://www.techinsider.io/how-google-maps-knows-about-traffic-2015-11.

> duration_in_traffic indicates the total duration of this leg. This value is an estimate of the time in traffic based on current and historical traffic conditions.

Source: Google Maps API Documentation (https://developers.google.com/maps/documentation/directions/intro).

7

17.   Furthermore, as per claim 12 of the '783 Patent, Google Maps subdivides the statistical data it collects into subdivisions according to time factors. Google Maps is able to predict how traffic will change during the course of driving a route (see above). On information and belief, this entails subdividing statistical data into subdivisions according to time factors as the statistical traffic data will differ at different times of the day:

> Using these new traffic features is super simple—just add the departure_time parameter to Directions API or Distance Matrix API queries, and the results will contain the travel time estimate given the predicted traffic conditions at that time.

Source: Google Geo Developers Blog (http://googlegeodevelopers.blogspot.com/2015/11/predicting-future-with-google-maps-apis.html).

18.   As per claim 12 of the '783 Patent, Google Maps collects GPS data and computes individual statistical travel time estimates (regular times) for predetermined roads, and storing the results according to said subdivisions. Google Maps collects real time GPS data and also stores statistical travel time estimates for routes to be combined with real time data and separately for use in predicting future travel conditions (see above).

19.   As per claim 12 of the '783 Patent, Google Maps provides periodical updates of the statistical data using statistical criteria for determining volumes of data necessary for obtaining valid and reliable estimates. Google Maps is able to

8

predict how traffic will change during the course of driving a route (see above), this must involve periodical updating of statistical data:

> [W]e're happy to announce that Google Maps Navigation (Beta) will now automatically route you around traffic. With more than 35 million miles driven by Navigation users every day, this should add up to quite a bit of time saved!

Source: Google Mobile Blog (http://googlemobile.blogspot.com/2011/03/youve-got-better-things-to-do-than-wait.html).

20.   As per claim 12 of the '783 Patent, Google Maps computes real time traffic jam identification at various locations of the individual roads by utilizing the sample vehicles for measuring time delays. Google Maps automatically routes around traffic based on such computation.

21.   As per claim 12 of the '783 Patent, Google Maps transmits real time traffic load updates, using the above-described capabilities.

22.   The foregoing features of Google Maps, and Google's provision thereof, reflect past and ongoing direct infringement by Google of at least claim 12 of the '783 Patent, under 35 U.S.C. § 271(a), literally and/or under the doctrine of equivalents, by practicing each and every method step recited in said claim, thereby constituting use of the claimed subject matter, without Makor's authorization, in the United States, during the term of the '783 Patent.

23.   On information and belief, Google further has been and is currently directly infringing at least claim 12 of the '783 Patent under 35 U.S.C. § 271(a),

9

literally and/or under the doctrine of equivalents by practicing each and every

method step recited in said claim by collecting live data from users of the Google-

owned Waze mobile application (described further below in Count IV) and using

this data in conjunction with data collected by the Google Maps mobile application

to provide real time vehicle guidance to users of the Google Maps mobile

application.

24.   The foregoing specifically alleges facts showing that Google, through

its provision of Google Maps, has been and continues to infringe at least one claim

of the '783 Patent. Makor reserves the right to assert other claims of the '783

Patent herein and to pursue related discovery and infringement allegations against

Google.

25.   Makor has suffered and will continue to suffer damages as a result of

Google's infringement of the '783 Patent, in an amount to be proven at trial.

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COUNT II

**DIRECT INFRINGEMENT OF
U.S. PATENT NO. 6,615,130 BY GOOGLE**

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26.   Makor realleges and incorporates paragraphs 1-25 above by reference.

27.   Makor is, and from the date of issue has been, the owner of the '130

Patent, entitled Real Time Vehicle Guidance and Traffic Forecasting System,

which was duly and legally issued by the USPTO on September 2, 2003. Makor's

ownership of the '130 Patent is based on an assignment to Makor by the inventor,

David Myr, of the application for the '130 Patent, which was duly recorded in the

USPTO on May 23, 2001.

28.   As alleged above with regard to the '783 Patent, Google Maps for

some time has and currently does provide turn-by-turn directions to its users

incorporating real time and statistical traffic data into its algorithms.

29.   As per claim 1 of the '130 Patent, Google Maps uses a central traffic

unit, mobile guidance units, and communication system. As stated by Google:

> If you use Google Maps for mobile with GPS enabled on your phone, that's
> exactly what you can do. When you choose to enable Google Maps with My
> Location, your phone sends anonymous bits of data back to Google
> describing how fast you're moving. When we combine your speed with the
> speed of other phones on the road, across thousands of phones moving
> around a city at any given time, we can get a pretty good picture of live
> traffic conditions.

Source: Google Official Blog (https://googleblog.blogspot.com/2009/08/bright-
side-of-sitting-in-traffic.html).

30.   As per claim 1 of the '130 Patent, the communication service provides

wireless communications for communicating with client vehicles. On information

and belief, Google Maps users on mobile phones in vehicles communicate with

Google through the Internet and/or wireless carrier systems.

31.   As per claim 1 of the '130 Patent, the central traffic unit is operatively

connected to the communications system, and the central traffic unit performs a

computed route search based on current and statistical section data. Google Maps

automatically routes users around traffic and is able to predict how traffic will

change during the course of driving a route, which must entail a route search based

on current and statistical data. As stated by Google:

> "It's not just what [traffic] is right now, but how do we expect it to change
> over the next hour or two hours." - Amanda Leicht Moore, the lead product
> manager for Google Maps.

Source: http://www.techinsider.io/how-google-maps-knows-about-traffic-2015-11.

> best_guess (default) indicates that the returned duration_in_traffic should be
> the best estimate of travel time given what is known about both historical
> traffic conditions and live traffic. Live traffic becomes more important the
> closer the departure_time is to now.
>
> . . .
>
> duration_in_traffic indicates the total duration of this leg. This value is an
> estimate of the time in traffic based on current and historical traffic
> conditions.

Source: Google Maps API Documentation
(https://developers.google.com/maps/documentation/directions/intro).

32.   As per claim 1 of the '130 Patent, Google Maps uses a receiving

device for collecting GPS data at predetermined time intervals from sample

vehicles moving within the predetermined travel region, and operatively connected

to the central traffic unit. As alleged above, Google Maps collects GPS data from

users' mobile phones. On information and belief, the Google Maps mobile

application is programmed to poll the GPS subsystem of the mobile device at

predetermined times. A related product, Google Maps Coordinate, has location

sent once a minute.

By default, the mobile app sends a location update to your web console once a minute, so dispatchers can locate mobile workers accurately.

Source: Google Maps Coordinate Help (Deprecated) (https://support.google.com/coordinate/answer/2603287?hl=en&ref_topic=2554535).

33.   As per claim 1 of the '130 Patent, Google Maps uses a central traffic unit operatively connected to the communications system and capable of processing the GPS data in real time and transforming it into appropriately structured data. Google maps collects real time GPS data and must process and transform this data for storage and use.

34.   As per claim 1 of the '130 Patent, Google Maps uses a database suitable for storing and updating statistical data on traffic parameters on at least a limited number of individual roads as sensed by the sample vehicles. Google Maps is able to predict how traffic will change during the course of driving a route, which must entail storing and updating statistical data on traffic loads on individual roads.

35.   As per claim 1 of the '130 Patent, Google Maps uses computational tools for automatic identification of real time traffic jam conditions at various locations of the individual roads by utilizing the sample vehicles for measuring time delays. Google Maps can automatically route around real time traffic, which must entail using the data from vehicles and automatic identification of real time traffic jam conditions.

36.   As per claim 1 of the '130 Patent, the Google Maps central traffic unit further includes a map database containing digital road maps of a predetermined geographical region together with predetermined relevant data on road factors, including data on speed limits, road capacity, road intersections, and street directional designations. Google Maps includes a map database containing digital road maps along with relevant data on road factors (one-way roads, speed limits, etc.). This is necessary to create turn-by-turn directions. According to Google, Google Maps provides:

> • Comprehensive, accurate maps in 220 countries and territories
> . . .
> • Live traffic conditions, incident reports, and automatic rerouting to find the best route

Source: ITunes Google Maps App description (https://itunes.apple.com/us/app/google-maps/https://itunes.apple.com/us/app/google-maps/id585027354).

37.   As per claim 1 of the '130 Patent, the Google Maps central traffic unit further includes a server for processing the location data received from mobile guidance units and transforming them into structured data suitable for storage. Google Maps collects real time GPS data and must process and transform this data for storage and use.

38.   As per claim 1 of the '130 Patent, the Google Maps central traffic unit further includes a database suitable for storing and updating statistical data on traffic parameters on at least a limited number of individual roads as sensed by the

sample vehicles. Google Maps collects real time GPS data and must process and transform this data for storage and use.

39.   As per claim 1 of the '130 Patent, the Google Maps central traffic unit further includes a table of administrator wherein said statistical data is further subdivided according to time into subdivisions. Google Maps is able to predict how traffic will change during the course of driving a route (see above). On information and belief, this entails subdividing statistical data into subdivisions according to time factors as the statistical traffic data will differ at different times of the day:

> Using these new traffic features is super simple—just add the departure_time parameter to Directions API or Distance Matrix API queries, and the results will contain the travel time estimate given the predicted traffic conditions at that time.

Source: Google Geo Developers Blog (http://googlegeodevelopers.blogspot.com/2015/11/predicting-future-with-google-maps-apis.html).

40.   As per claim 1 of the '130 Patent, the Google Maps central traffic unit further includes a statistical application for collecting structured data, computing individual statistical travel time estimates for at least the limited number of individual roads, and storing the results in the table of administrator according to said subdivisions. Google Maps collects structured data, computes individual statistical travel time estimates and stores results according to subdivisions, as evidence by the above-quoted Google Maps API documentation.

41.   As per claim 1 of the '130 Patent, the Google Maps central traffic unit further includes a statistical application for collecting structured GPS data, computing individual statistical travel time estimates (regular times) for predetermined roads, and storing the results, the statistical application periodically updating the statistical data using statistical criteria for determining volumes of data necessary for obtaining valid and reliable estimates, the estimates having a predetermined validity. Google Maps' ability to predict how traffic will change during the course of driving a route includes periodical updating of statistical data and the statistical application is further evidenced by the above-quoted Google Maps API documentation.

42.   As per claim 1 of the '130 Patent, the Google Maps central traffic unit further includes computational tools for dividing said geographical region into a number of smaller geographical zones for reducing volumes of traffic parameter data broadcast to client vehicles. Google Maps divides data by geographical regions in order to predict traffic changes over a course of a route. On information and belief, these divisions are used to send the most relevant (closest proximity) traffic data to mobile users.

43.   As per claim 1 of the '130 Patent, the Google Maps central traffic unit further includes software for calculating the current travel times in traffic congestion based on the travel time traffic updates, thereby minimizing reliance on

16

vehicle speed estimates, thereby increasing the reliability and stability of resulting statistical estimates. Google Maps automatically routes users around traffic (see above).

44.   As per claim 1 of the '130 Patent, the Google Maps central traffic unit further includes software for calculating the fastest travel routes using the current travel time estimates in the zones contiguous to the vehicle while using statistical travel times in the zones situated further from the vehicle. Google Maps is able to predict how traffic will change during the course of driving a route, which entails using estimates of current travel time for closer areas and at least some statistical information for areas farther away.

45.   The foregoing features of Google Maps, and the facilities used by Google to provide Google Maps to consumers, reflect past and ongoing direct infringement by Google of at least claim 1 of the '130 Patent, under 35 U.S.C. § 271(a), literally and/or under the doctrine of equivalents, by using the system recited in said claim to deliver the Google Maps service, thereby constituting use of the claimed subject matter, without Makor's authorization, in the United States, during the term of the '130 Patent.

46.   On information and belief, Google further has been and is currently directly infringing at least claim 1 of the '130 Patent under 35 U.S.C. § 271(a), literally and/or under the doctrine of equivalents by using the system recited in said

17

claim, which collects live data from users of the Google-owned Waze mobile

application (described further below in Count IV) and using this data in

conjunction with data collected by the Google Maps mobile application to provide

real time vehicle guidance to users of the Google Maps mobile application.

47.   The foregoing specifically alleges facts showing that Google, through

its provision of Google Maps, infringes at least one claim of the '130 Patent.

Makor reserves the right to assert other claims of the '130 Patent herein and pursue

related discovery and infringement allegations against Google.

48.   Makor has suffered and will continue to suffer damages as a result of

Google's infringement of the '130 Patent, in an amount to be proven at trial.

COUNT III

INDUCED INFRINGEMENT BY
GOOGLE OF U.S. PATENT NO. 6,615,130

49.   Makor realleges and incorporates paragraphs 1-48 above by reference.

50.   Google Maps users have used and continue to use Google Maps and

Waze during the term of the '130 Patent, in this judicial district and elsewhere in

the United States, without Makor's authority.

51.   Users of Google Maps (as discussed above in Count II) and/or Waze

(as discussed below in Count V) have and continue to directly infringe claim 1 of

the '130 Patent, literally and/or under the doctrine of equivalents, by using the

claimed system, wherein said users enter requests for routing and traffic information, so as to put into service the entire system recited in claim 1.

52.   Google has and continues to actively induce the aforesaid acts of direct infringement by Google Maps and Waze users, and is liable for inducing infringement under 35 U.S.C. § 271(b), by acts including, among others, incorporating elements into Google Maps that render it infringing when used by Google Maps users on their mobile devices; having added Waze such that Waze has been and continues to be a part of Google's pre-installation options for devices that run Google's Android operating system; providing downloads of the Google Maps and Waze mobile applications to Google Maps and Waze users; encouraging Google Maps and Waze users to use the Google Maps and/or Waze mobile applications for traffic monitoring and routing; and instructing those Google Maps and/or Waze users in the use of the infringing systems by providing, among other information, "Help" and "tips" for use of Google Maps and/or Waze.

53.   Since at least the date of this Complaint, Google has engaged in such induced infringement with knowledge of the '130 Patent.

54.   Google knew or should have known, at least from the date of this Complaint, how Google Maps and Waze users directly infringe the '130 Patent when they use the Google Maps and/or Waze mobile applications and how Google induces such infringement. In continuing its inducement, as alleged above, after at

least the date of this Complaint, Google induced said acts by Google Maps and

Waze users knowing and intending that the same would infringe the '130 Patent.

55.   Makor has suffered damages as a result of Google's induced

infringement as alleged herein, from at least, and after, the date of this Complaint,

in an amount to be determined at trial.

COUNT IV

DIRECT INFRINGEMENT OF
U.S. PATENT NO. 6,480,783 BY WAZE

56.   Makor realleges and incorporates paragraphs 1-55 above by reference.

57.   Waze provides and for some time has provided a mobile application

("app"), known as Waze™, which "connect[s] drivers to one another" and, among

other things, helps drivers "avoid the frustration of sitting in traffic, cluing them in

to a police trap or shaving five minutes off of their regular commute by showing

them new routes they never even knew about." "After typing in their destination

address, users just drive with the app open on their phone to passively contribute

traffic and other road data" and users can also affirmatively enter data on

"accidents, police traps, or any other hazards." Source:

https://www.waze.com/about. Waze provides turn-by-turn directions to its users

incorporating real time and statistical traffic data into its algorithms.

58.   As per claim 12 of the '783 Patent, Waze provides for collecting GPS

data at predetermined time intervals from sample vehicles moving within a

predefined geographical region. As stated by Waze:

> Whenever you use the Services, Waze will collect:
> detailed location and route information, for example in the form of GPS
> signals and other information sent by your mobile device on which the
> Application is installed and activated. Waze uses this location and route
> information to create a detailed location history of all of the journeys you
> have made while using the Application; . . .

Source: https://www.waze.com/legal/privacy.

> You will need an active cellular or wifi network connection to connect to
> Waze servers to calculate a route. A weak signal or slow data speeds (2G
> speeds) can often cause [errors].

Source: https://wiki.waze.com/wiki/FAQ.

On information and belief, the Waze mobile application is programmed to poll the

GPS subsystem of the mobile device at predetermined times.

59.   As per claim 12 of the '783 Patent, Waze provides for providing a

map database containing digital road maps of a predefined geographical region

together with predetermined relevant data on road factors.

> Waze knows the average speed of every confirmed road between you and
> your destination. The Waze server can calculate which list of roads to take to
> minimize the total travel time.

Source: https://wiki.waze.com/wiki/How_Waze_calculates_routes.

60.   As per claim 12 of the '783 Patent, Waze performs the function of

processing in real time the GPS data and transforming them into appropriately

21

structured data suitable for being stored on using a computer system operatively

connected to a communications system. Waze collects real time GPS data and must

store this data to combine multiple users' data for use in determining real time

traffic conditions and separately for statistical uses for future predictions.

> When using the Waze application, Waze servers use routing algorithms to determine the best path for a given route at that particular time. . . . The requests for routing vary according to the settings you have chosen on your client device. Under Navigation you can choose:
>
> • Fastest or shortest route
>
> • Whether to allow or avoid toll roads

Source: https://wiki.waze.com/wiki/How_Waze_calculates_routes. This page is a compendium of third-party generated content.

> The [Waze] routing server uses real-time road speeds (from recent Waze app users if available) and combines the historical speed of the segment broken down into 10-15 minute chunks. . . . It is known that Waze uses real-time reports of current road speeds by preference over historical average road speeds. Waze also uses traffic congestion reports to reroute around slow traffic.

Source: https://wiki.waze.com/wiki/How_Waze_calculates_routes.

61.   As per claim 12 of the '783 Patent, Waze performs the functions of

storing and updating statistical data on traffic loads on individual roads.

> Since Waze uses the time you expect to be at a road segment to calculate the expected speed on that segment, it cannot use real time data when your trip time moves into a future time slot. So trips of more than 30 minutes (and on average more than 15 minutes) will include future time slots where current traffic data is not available when initially calculated. When you enter a new time slot, any real-time traffic data that is available causes your client to recalculate your ETA and reroute you at that point.

Source: https://wiki.waze.com/wiki/How_Waze_calculates_routes.

62.   Furthermore, as per claim 12 of the '783 Patent, Waze subdivides the

statistical data it collects into subdivisions according to time factors. Waze uses the

time you expect to be at a road segment and uses "time slots" for storage of data

(see above). This is subdivision of statistical data according to time factors.

> Waze uses the speed of each road segment (in both directions) in intervals as
> small as 30 minutes. So a two-way road might have up to 96 average road
> speeds. We can assume that when there are insufficient records for an
> individual time slot, a wider time range is used (up to a full day). As the road
> is driven more, the time slot shrinks down to 30 minutes.

Source: https://wiki.waze.com/wiki/How_Waze_calculates_routes.

> We can speculate that there is additional information used that is based
> upon the day of the week. There is some observational evidence that a
> road that is busy on weekdays and not used for routing is chosen as the
> optimal route on weekends. . . . Waze suggests different routes at
> different times of day. This is dependent on how many times are recorded
> on the roads along the route.

Source: https://wiki.waze.com/wiki/How_Waze_calculates_routes.

63.   As per claim 12 of the '783 Patent, Waze collects GPS data and

computes individual statistical travel time estimates (regular times) for

predetermined roads, and storing the results according to the subdivisions. Waze

uses the speed of individual road segments and uses the time you expect to be at a

road segment (see above).

64.   As per claim 12 of the '783 Patent, Waze provides periodical updates

of the statistical data using statistical criteria for determining volumes of data

necessary for obtaining valid and reliable estimates. Waze provides real time

traffic based on current and historical / statistical data, which is updated

periodically based on data received from users (see above).

65.   As per claim 12 of the '783 Patent, Waze computes real time traffic

jam identification at various locations of the individual roads by utilizing the

sample vehicles for measuring time delays. Waze automatically routes around

traffic based on such computation.

> The traffic reports on the client show traffic alerts and user-posted hazards
> within the Event Radius you have set in the Waze app. This event radius
> includes your route if you are in navigation mode. Waze only actively shows
> you the traffic reports within a certain radius of your location (using a pop-
> up). At this time, the minimum distance from your location or route for
> alerts is 5mi/km.

Source: https://wiki.waze.com/wiki/FAQ.

66.   As per claim 12 of the '783 Patent, Waze transmits real time traffic

load updates, using the above-described capabilities.

67.   The foregoing features of Waze, and Waze's provision thereof, reflect

past and ongoing direct infringement by Waze of at least claim 12 of the '783

Patent, under 35 U.S.C. § 271(a), literally and/or under the doctrine of equivalents,

by practicing each and every method step recited in said claim, thereby constituting

use of the claimed subject matter, without Makor's authorization, in the United

States, during the term of the '783 Patent.

68.   The foregoing specifically alleges facts showing that Waze, through

its provision of the Waze mobile application, has infringed and continues to

infringe at least one claim of the '783 Patent. Makor reserves the right to assert

other claims of the '783 Patent herein and pursue related discovery and

infringement allegations against Waze.

69.   Makor has suffered and will continue to suffer damages as a result of

Waze's infringement of the '783 Patent, in an amount to be proven at trial.

COUNT V

DIRECT INFRINGEMENT OF
U.S. PATENT NO. 6,615,130 BY WAZE

70.   Makor realleges and incorporates paragraphs 1-69 above by reference.

71.   As per claim 1 of the '130 Patent, Waze uses a central traffic unit,

mobile guidance units, and communication system.

> Whenever you use the Services, Waze will collect:
> detailed location and route information, for example in the form of GPS
> signals and other information sent by your mobile device on which the
> Application is installed and activated. Waze uses this location and route
> information to create a detailed location history of all of the journeys you
> have made while using the Application; . . .

Source: https://www.waze.com/legal/privacy.

72.   As per claim 1 of the '130 Patent, the communication service provides

wireless communications for communicating with client vehicles. On information

and belief, Waze users on mobile phones in vehicles communicate with Waze

through the Internet and/or wireless carrier systems.

> You will need an active cellular or wifi network connection to connect to
> Waze servers to calculate a route. A weak signal or slow data speeds (2G
> speeds) can often cause [errors].

Source: https://wiki.waze.com/wiki/FAQ.

73.   As per claim 1 of the '130 Patent, the central traffic unit is operatively

connected to the communications system, and the central traffic unit performs a

computed route search based on current and statistical section data.

> When using the Waze application, Waze servers use routing algorithms to
> determine the best path for a given route at that particular time. . . . The
> requests for routing vary according to the settings you have chosen on your
> client device. Under Navigation you can choose:
>
> •   Fastest or shortest route
>
> •   Whether to allow or avoid toll roads

Source: https://wiki.waze.com/wiki/How_Waze_calculates_routes. This page is a
compendium of third-party generated content.

> The [Waze] routing server uses real-time road speeds (from recent Waze app
> users if available) and combines the historical speed of the segment broken
> down into 10-15 minute chunks. . . . It is known that Waze uses real-time
> reports of current road speeds by preference over historical average road
> speeds. Waze also uses traffic congestion reports to reroute around slow
> traffic.

Source: https://wiki.waze.com/wiki/How_Waze_calculates_routes.

74.   As per claim 1 of the '130 Patent, Waze uses a receiving device for

collecting GPS data at predetermined time intervals from sample vehicles moving

within the predetermined travel region, and operatively connected to the central

26

traffic unit. Waze collects real time GPS data from users (see above). On information and belief, the Waze mobile application is programmed to poll the GPS subsystem of the mobile device at predetermined times.

75.   As per claim 1 of the '130 Patent, Waze uses a central traffic unit operatively connected to the communications system and capable of processing the GPS data in real time and transforming it into appropriately structured data. Waze collects real time GPS data and must store this data to combine multiple users' data for use in determining real time traffic conditions and separately for statistical uses for future predictions.

76.   As per claim 1 of the '130 Patent, Waze uses a database suitable for storing and updating statistical data on traffic parameters on at least a limited number of individual roads as sensed by the sample vehicles.

> Since Waze uses the time you expect to be at a road segment to calculate the expected speed on that segment, it cannot use real time data when your trip time moves into a future time slot. So trips of more than 30 minutes (and on average more than 15 minutes) will include future time slots where current traffic data is not available when initially calculated. When you enter a new time slot, any real-time traffic data that is available causes your client to recalculate your ETA and reroute you at that point.

Source: https://wiki.waze.com/wiki/How_Waze_calculates_routes.

77.   As per claim 1 of the '130 Patent, Waze uses computational tools for automatic identification of real time traffic jam conditions at various locations of the individual roads by utilizing the sample vehicles for measuring time delays.

> The traffic reports on the client show traffic alerts and user-posted hazards within the Event Radius you have set in the Waze app. This event radius includes your route if you are in navigation mode. Waze only actively shows you the traffic reports within a certain radius of your location (using a pop-up). At this time, the minimum distance from your location or route for alerts is 5mi/km.

Source: https://wiki.waze.com/wiki/FAQ.

78.   As per claim 1 of the '130 Patent, the Waze central traffic unit further includes a map database containing digital road maps of a predetermined geographical region together with predetermined relevant data on road factors, including data on speed limits, road capacity, road intersections, and street directional designations.

> Waze knows the average speed of every confirmed road between you and your destination. The Waze server can calculate which list of roads to take to minimize the total travel time.

Source: https://wiki.waze.com/wiki/How_Waze_calculates_routes.

79.   As per claim 1 of the '130 Patent, the Waze central traffic unit further includes a server for processing the location data received from mobile guidance units and transforming them into structured data suitable for storage. Waze collects real time GPS data (see above) and must process and store this data to combine multiple users' data for use in determining real time traffic conditions and separately for statistical uses for future predictions.

80.   As per claim 1 of the '130 Patent, the Waze central traffic unit further includes a database suitable for storing and updating statistical data on traffic

parameters on at least a limited number of individual roads as sensed by the sample

vehicles. Waze collects real time GPS data (see above) and must process and store

this data to combine multiple users' data for use in determining real time traffic

conditions and separately for statistical uses for future predictions.

81.   As per claim 1 of the '130 Patent, the Waze central traffic unit further

includes a table of administrator wherein said statistical data is further subdivided

according to time into subdivisions. Waze uses the speed of individual road

segments and uses the time you expect to be at a road segment (see above).

82.   As per claim 1 of the '130 Patent, the Waze central traffic unit further

includes a statistical application for collecting said structured data, computing

individual statistical travel time estimates for at least the limited number of

individual roads, and storing the results in the table of administrator according to

said subdivisions. Waze collects real time GPS data and uses the speed of

individual road segments and uses the time the user expects to be at a road segment

(see above).

83.   As per claim 1 of the '130 Patent, the Waze central traffic unit further

includes a statistical application for collecting structured GPS data, computing

individual statistical travel time estimates (regular times) for predetermined roads,

and storing the results, the statistical application periodically updating the

statistical data using statistical criteria for determining volumes of data necessary

for obtaining valid and reliable estimates, the estimates having a predetermined

validity. Waze provides real time traffic based on current and statistical data,

which is updated periodically based on data received from users (see above).

84.   As per claim 1 of the '130 Patent, the Waze central traffic unit further

includes computational tools for dividing said geographical region into a number

of smaller geographical zones for reducing volumes of traffic parameter data

broadcast to client vehicles.

> The traffic reports on the client show traffic alerts and user-posted hazards
> within the Event Radius you have set in the Waze app. This event radius
> includes your route if you are in navigation mode. Waze only actively shows
> you the traffic reports within a certain radius of your location (using a pop-
> up). At this time, the minimum distance from your location or route for
> alerts is 5mi/km.

Source: https://wiki.waze.com/wiki/FAQ.

85.   As per claim 1 of the '130 Patent, the Waze central traffic unit further

includes software for calculating current travel times in traffic congestion based on

the travel time traffic updates, thereby minimizing reliance on vehicle speed

estimates, thereby increasing the reliability and stability of resulting statistical

estimates.

> When using the Waze application, Waze servers use routing algorithms to
> determine the best path for a given route at that particular time. . . . The
> requests for routing vary according to the settings you have chosen on your
> client device. Under Navigation you can choose:
>
> • Fastest or shortest route
>
> • Whether to allow or avoid toll roads

Source: https://wiki.waze.com/wiki/How_Waze_calculates_routes.

86.   As per claim 1 of the '130 Patent, the Waze central traffic unit further includes software for calculating the fastest travel routes using the current travel time estimates in the zones contiguous to the vehicle while using statistical travel times in the zones situated further from the vehicle. Waze is able to predict how traffic will change during the course of driving a route (see above), which entails using estimates of current travel time for closer areas and at least some statistical information for areas farther away.

87.   The foregoing features of Waze, and the facilities used by Waze to provide the Waze mobile application to consumers, reflect past and ongoing direct infringement by Waze of at least claim 1 of the '130 Patent, under 35 U.S.C. § 271(a), literally and/or under the doctrine of equivalents, by using the system recited in said claim to deliver the Waze service, thereby constituting use of the claimed subject matter, without Makor's authorization, in the United States, during the term of the '130 Patent.

88.   The foregoing specifically alleges facts showing that Waze, through its provision of the Waze Mobile application, has and continues to infringe at least one claim of the '130 Patent. Makor reserves the right to assert other claims of the '130 Patent herein and pursue related discovery and infringement allegations against Waze.

89.   Makor has suffered and will continue to suffer damages as a result of

Waze's infringement of the '130 Patent, in an amount to be proven at trial.

COUNT VI

INDUCED INFRINGEMENT
BY WAZE OF U.S. PATENT NO. 6,615,130

90.   Makor realleges and incorporates paragraphs 1-89 above by reference.

91.   Waze users have used and continue to use Waze during the term of

the '130 Patent, in this judicial district and elsewhere in the United States, without

Makor's authority.

92.   Users of Waze have and continue to directly infringe claim 1 of the

'130 Patent, literally and/or under the doctrine of equivalents, by using the claimed

system, wherein said Waze users enter requests for routing and traffic information,

so as to put into service the entire system recited in claim 1.

93.   Waze has and continues to actively induce the aforesaid acts of direct

infringement by Waze users, and is liable for inducing infringement under 35

U.S.C. § 271(b), by acts including, among others, incorporating elements into

Waze that render it infringing when used by Waze users on their mobile devices;

providing downloads of the Waze mobile application to Waze users; encouraging

Waze users to use the Waze mobile application for traffic monitoring and routing;

and instructing those Waze users in the use of the infringing systems by providing,

among other information, "Help" for use of Waze.

94.   Since at least the date of this Complaint, Waze has engaged in such induced infringement with knowledge of the '130 Patent.

95.   Waze knew or should have known, at least from the date of this Complaint, how Waze users directly infringe the '130 Patent when they use the Waze mobile application and how Waze induces such infringement. In continuing its inducement, as alleged above, after at least the date of this Complaint, Waze induced said acts by Waze users knowing and intending that the same would infringe the '130 Patent.

96.   Makor has suffered damages as a result of Waze's induced infringement as alleged herein, from at least, and after, the date of this Complaint.

PRAYER FOR RELIEF

97.   Makor requests that the Court enter judgment against Google and Waze as follows:

(A)   that Google has infringed the '783 and '130 Patents;

(B)   that Waze has infringed the '783 and '130 Patents;

(C)   awarding Makor its damages suffered as a result of Google's infringement of the '783 and '130 Patents pursuant to 35 U.S.C. § 284;

(D)   awarding Makor its damages suffered as a result of Waze's infringement of the '783 and '130 Patents pursuant to 35 U.S.C. § 284;

33

(E)   pursuant to 35 U.S.C. § 285, awarding Makor its costs, attorneys'

fees, expenses and interest (including without limitation pre-judgment interest),

and

(F)   granting Makor such other and further relief as the Court may deem

just and proper.

DEMAND FOR JURY TRIAL

98.   Makor hereby demands trial by jury on all issues so triable pursuant to

Fed. R. Civ. P. 38.

Dated: February 19, 2016.   BAYARD, P.A.

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