

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

CARMA TECHNOLOGY, CORP.,
CARMA TECHNOLOGY, LTD.

Plaintiffs,

v.

UBER TECHNOLOGIES, INC.,

Defendant.

Case No. 2:25-cv-29-JRG-RSP

JURY TRIAL DEMANDED

DEFENDANT UBER TECHNOLOGIES, INC.'S INVALIDITY CONTENTIONS

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Pursuant to the Local Patent Rule 3-3, Defendant Uber Technologies, Inc. (“Uber” or “Defendant”) provides these Invalidity Contentions (“Invalidity Contentions”).

I. INTRODUCTION

On May 14, 2025, Plaintiffs Carma Technology, Corp. and Carma Technology, Ltd. (collectively, “Plaintiffs” or “Carma”) served its Disclosure of Asserted Claims and Infringement Contentions (“Infringement Contentions”) and asserted the following claims:

- Claims 1, 3, 4, 11, and 15 of U.S. Patent No. 7,840,427 (“the ’427 patent”);
- Claims 1–2, 12–15, 19, and 20 of U.S. Patent No. 10,741,071 (“the ’071 patent”);
- Claims 1–4, 9–13, and 18 of U.S. Patent No. 10,916,138 (“the ’138 patent”);
- Claims 1, 2, 4, 5, 8, 10, 12, 13, 15, 16, 19, and 20 of U.S. Patent No. 11,017,668 (“the ’668 patent”); and
- Claims 1–5, 7, 10–15, 19 and 20 of U.S. Patent No. 11,164,456 (“the ’456 patent”)

(collectively, the “Asserted Patents” and the “Asserted Claims”). Defendant contends that each of the Asserted Claims is invalid under at least 35 U.S.C. §§ 102, 103, and/or 112.

These Invalidity Contentions address the claims identified in Carma’s Infringement Contentions. Defendant reserves the right to modify, amend, or supplement these Invalidity Contentions to the extent the Court permits Carma to amend, supplement, or otherwise modify its Infringement Contentions, including by modifying the claims asserted, and to the full extent permitted by the Local Patent Rules.

Further, Carma’s Infringement Contentions are deficient, and fail to always provide allegations as to how the accused products infringe each and every claim limitation; rather, they simply parrot the claim language and then cite various documents—and in many circumstances, point to no evidence at all. Carma therefore has prejudiced Defendant’s ability to understand, for purposes of preparing these Invalidity Contentions, what Carma alleges to be the scope of the

Asserted Claims. Defendant reserves the right to amend these Invalidity Contentions if and when Carma provides proper infringement contentions as to each Asserted Claim.

A. Priority Date

These Invalidity Contentions are based on the earliest priority dates as identified by Carma in its Infringement Contentions, which is February 12, 2007 for all Asserted Patents. In particular, Carma states, “The patents-in-suit are entitled to a priority date no later than the filing date of the earliest application to which they claim priority. As such, the asserted claims of the patents-in-suit are entitled to a priority date at least as early as February 12, 2007.” With its Infringement Contentions, Carma did not produce documents evidencing or supporting earlier conception and reduction to practice. Nothing in these Invalidity Contentions shall be understood as an agreement that any Asserted Patent is entitled to claim priority to the date identified by Carma. Defendant reserves the right to amend these Invalidity Contentions and identify additional prior art references if Carma is permitted by the Court to later assert an earlier priority date or to later produce documents purporting to evidence earlier conception and reduction to practice.

Any reference to an “asserted priority date” in these Invalidity Contentions refers to the priority dates identified in Carma’s Infringement Contentions. Reference to a “priority date” or an “asserted priority date” should not be construed to mean that Defendant agrees that any of the Asserted Patents are in fact entitled to such priority date, or that Carma has provided proper notice as to its contentions for a priority date. To the extent Carma alleges that any prior art relied on in these Invalidity Contentions does not actually qualify as prior art to an Asserted Patent, Defendant reserves the right to rebut those allegations (*e.g.*, by demonstrating an earlier critical date for the challenged prior art and/or a later priority date for a particular Asserted Patent and/or Asserted Claim). Likewise, to the extent Carma successfully establishes an invention date before any of the

prior art references relied on by Defendant, then those references serve as evidence of secondary considerations of obviousness, particularly, contemporaneous invention by others.

Defendant disagrees that the Asserted Patents are entitled to claim priority to the provisional application no. 60/900,808, filed February 12, 2007. Below is a non-exhaustive list of limitations that Defendant may contend are not supported in provisional appl. no. 60/900,808. Defendant reserves the right to identify additional and different limitations not supported in provisional appl. no. 60/900,808, including in view of claim construction and how Plaintiffs interpret the claims for purposes of alleging infringement.

'427 Patent

- “abstracting a geographic representation of a predetermined transport vehicle journey by calculating places where said predetermined transport vehicle journey intersects said nodes and representing said predetermined transport vehicle journey in the format of a set of said nodes” ('427 patent, cls. 1, 15);
- “a display system for displaying a network of nodes in said computer network representing a plurality of pick-up points and a plurality of drop-off points” ('427 patent, cl. 15).

'071 Patent

- “generating, by the proxy messaging system, a second message, wherein the second message comprises contents of the first message and a first unique identifier associated with the sender” ('071 patent, cls. 1, 14, 20).

'138 Patent

- “receiving, by the shared transport system, a first transport request from a first transport user device for delivery of a first good, wherein the first transport request includes a first pick-up location, a first drop-off location and a first needed space or capacity for the first good” ('138 patent, cls. 1, 10, 18);
- “determining, by the shared transport system, that the transport provider has picked up the first good” ('138 patent, cls. 1, 10, 18);
- “determining, by the shared transport system, progress of the delivery of the first good based on determining a location of the transport provider device” ('138 patent, cls. 1, 10, 18);

- “receiving, by the shared transport system, a second transport request from a second transport user device for delivery of a second good, wherein the second transport request includes a second pick-up location, a second drop-off location, and a second needed space or capacity for the second good” (’138 patent, cls. 1, 10, 18);
- “determining, by the shared transport system, that the transport provider is available for the delivery of the second good based on comparing the updated provider characteristics associated with the transport provider with the second transport request” (’138 patent, cls. 1, 10, 18).

’668 Patent

- “determining, by the shared transport system, an anomalous condition associated with the transport using at least one of the transport provider device and the transport user device” (’668 patent, cls. 1, 12, 20);
- “transmitting, by the shared transport system, a notification to one or more of the transport user device, the transport provider device, and security personnel based on the determined anomalous condition” (’668 patent, cls. 1, 12, 20).

’456 Patent

- “causing the transport provider device to display, via the transport provider application, one or more of the pick-up location or a transport user rating score associated with the transport user” (’456 patent, cls. 1, 11, 19);
- “causing the transport provider device to display, via the transport provider application, at least: (1) navigation instructions from a location of the transport provider to the pick-up location, the location determined based on GPS position data of the transport provider device; and (2) information descriptive of the at least one person or item” (’456 patent, cls. 1, 11, 19);
- causing the transport user device to display, via the transport user application: information descriptive of one or more of the transport provider, a transport provider vehicle associated with the transport provider, or a transport provider rating score associated with the transport provider; an estimated cost associated with servicing the pick-up request; an estimated time associated with arrival of the at least one person or item at the drop-off location; and location information of the transport provider based on the GPS position data of the transport provider device” (’456 patent, cls. 1, 11, 19);
- “causing the transport provider device, via the transport provider application, to display navigation directions to the drop-off location based on the GPS position data of the transport provider device” (’456 patent, cls. 1, 11, 19);
- “causing the transport user device, via the transport user application, to display one or more of an estimated time associated with arrival of the at least one person or item at the drop-

off location or the location information of the transport provider based on the GPS position data of the transport provider device” (’456 patent, cls. 1, 11, 19);

- “causing the cost for servicing the pick-up request to be charged to a payment method associated with the transport user” (’456 patent, cls. 1, 11, 19);
- “causing at least one of the transport user device or the transport provider device to display, via the transport user application or the transport provider application, respectively, an interface configured to generate, transmit, and receive messages to and from an other of the at least one of the transport user device or the transport provider device, wherein contact information of the transport user and of the transport provider are anonymized” (cls. 5, 14);
- “monitoring the progress of travel of the transport provider along the route from the pick-up location to the drop-off location for anomalies, wherein the shared transport system is configured to transmit an anomaly notification to one or more of the transport user device, the transport provider device, or one or more devices associated with safety personnel in response to detection of an anomaly in the progress of the travel of the transport provider” (cl. 7).

Defendant further contends that some of the Asserted Claims are not entitled to claim priority back to application no. 12/069,656 (“the ’656 application”), which issued as the ’427 patent, because one or more limitations is not supported in ’656 application. For these Asserted Claims (and their dependents), the correct priority date is no earlier than the date on which their respective applications were filed. Below is a non-exhaustive list of limitations for the ’138 and ’456 patents that Defendant may contend are not supported in the ’656 application. Defendant reserves the right to identify additional and different limitations not supported in the ’656 application, including in view of claim construction and how Plaintiffs interpret the claims for purposes of alleging infringement.

’138 Patent

- “receiving, by the shared transport system, a first transport request from a first transport user device for delivery of a first good, wherein the first transport request includes a first pick-up location, a first drop-off location and a first needed space or capacity for the first good” (’138 patent, cls. 1, 10, 18);
- “determining, by the shared transport system, that the transport provider has picked up the first good” (’138 patent, cls. 1, 10, 18);

- “determining, by the shared transport system, progress of the delivery of the first good based on determining a location of the transport provider device” (’138 patent, cls. 1, 10, 18);
- “receiving, by the shared transport system, a second transport request from a second transport user device for delivery of a second good, wherein the second transport request includes a second pick-up location, a second drop-off location, and a second needed space or capacity for the second good” (’138 patent, cls. 1, 10, 18);
- “determining, by the shared transport system, that the transport provider is available for the delivery of the second good based on comparing the updated provider characteristics associated with the transport provider with the second transport request” (’138 patent, cls. 1, 10, 18).

’456 Patent

- “causing the transport provider device to display, via the transport provider application, one or more of the pick-up location or a transport user rating score associated with the transport user” (’456 patent, cls. 1, 11, 19);
- “causing the transport provider device to display, via the transport provider application, at least: (1) navigation instructions from a location of the transport provider to the pick-up location, the location determined based on GPS position data of the transport provider device; and (2) information descriptive of the at least one person or item” (’456 patent, cls. 1, 11, 19);
- causing the transport user device to display, via the transport user application: information descriptive of one or more of the transport provider, a transport provider vehicle associated with the transport provider, or a transport provider rating score associated with the transport provider; an estimated cost associated with servicing the pick-up request; an estimated time associated with arrival of the at least one person or item at the drop-off location; and location information of the transport provider based on the GPS position data of the transport provider device” (’456 patent, cls. 1, 11, 19);
- “causing the transport provider device, via the transport provider application, to display navigation directions to the drop-off location based on the GPS position data of the transport provider device” (’456 patent, cls. 1, 11, 19);
- “causing the transport user device, via the transport user application, to display one or more of an estimated time associated with arrival of the at least one person or item at the drop-off location or the location information of the transport provider based on the GPS position data of the transport provider device” (’456 patent, cls. 1, 11, 19);
- “causing the cost for servicing the pick-up request to be charged to a payment method associated with the transport user” (’456 patent, cls. 1, 11, 19);

- “causing at least one of the transport user device or the transport provider device to display, via the transport user application or the transport provider application, respectively, an interface configured to generate, transmit, and receive messages to and from an other of the at least one of the transport user device or the transport provider device, wherein contact information of the transport user and of the transport provider are anonymized” (cls. 5, 14);
- “monitoring the progress of travel of the transport provider along the route from the pick-up location to the drop-off location for anomalies, wherein the shared transport system is configured to transmit an anomaly notification to one or more of the transport user device, the transport provider device, or one or more devices associated with safety personnel in response to detection of an anomaly in the progress of the travel of the transport provider” (cl. 7).

Defendant served an interrogatory seeking Carma’s “legal and factual bases for contenting that [the ’656 application] provides written description support for the Asserted Claims of the . . . ’138 . . . and ’456 Patents, including by identifying all written description support by page and line number in the ’656 application for” some of the limitations above. Carma did not respond, contending that “Defendant bears the burden of proving lack of written description, which it has not done, and so it is premature for Carma to respond to this interrogatory.” Defendant reserves the right to amend or supplement its arguments with respect to the priority dates of the Asserted Patents in view of any future discovery from Carma regarding its positions on priority.

B. Claim Construction

Defendant’s Invalidity Contentions are based on (1) Defendant’s present understanding of the Asserted Claims, and (2) the claim constructions Carma appears to be using based on the Infringement Contentions, all without regard to whether Defendant agrees with Carma’s apparent or expressed claim constructions. Defendant reserves the right to supplement or otherwise amend these Invalidity Contentions in response to any court-ordered clarifications on claim constructions, any report from any expert witness for Carma regarding the scope of the claims, any briefing filed by Carma relating to the scope of the claims, and any positions taken by Carma concerning claim scope, infringement, or invalidity.

Defendant takes no position on any matter of claim construction in these Invalidity Contentions. If Defendant's disclosures herein are consistent with any explicit, apparent, or implied claim constructions in Carma's Infringement Contentions, no inference is intended and no inference should be drawn that Defendant agrees with any of Carma's claim constructions. Any statement herein describing or tending to describe any claim element is provided solely for the purpose of understanding and/or applying the cited prior art. In addition, to the extent that these Invalidity Contentions rely on or otherwise embody a particular order in which the steps of method claims are performed, Defendant does not necessarily propose that the method claims must be limited to such order, although Defendant may later propose such an order.

Nothing herein should be read to suggest that Defendant agrees that any particular claim term is sufficiently definite, enabled or supported by the written description to meet the requirements of 35 U.S.C. § 112. Likewise, nothing herein should be read to suggest that Defendant agrees that the preamble of any claim is or is not limiting.

Because any positions taken in these disclosures are based on the claim scope apparently asserted by Carma in its Infringement Contentions, with which Defendant may disagree, Defendant may take positions with respect to claim construction issues that are inconsistent with, or even contradictory to, positions expressed or implied in these Invalidity Contentions.

Prior art not included in these Invalidity Contentions, whether or not now known to Defendant, might become relevant depending on the claim constructions proposed by Defendant and/or the Court's claim construction rulings. Defendant reserves all rights to supplement or modify the positions and information in these Invalidity Contentions, including, without limitation, the prior art and grounds of invalidity set forth herein, after the Court has construed any term of the Asserted Claims.

C. Ongoing Discovery and Supplementation

Defendant bases these Invalidity Contentions on its current knowledge and understanding of the Asserted Patents, Carma's Infringement Contentions, and other facts and information available as of the date of these contentions. Defendant's investigation into prior art—including prior art identified in these disclosures, third-party prior art (including system art and related evidence), documents, and knowledgeable witnesses—is ongoing.¹ Furthermore, Defendant anticipates seeking and obtaining discovery, including third-party discovery, that further evidences and supports the invalidity of the Asserted Claims. Thus, Defendant expect to present additional information and evidence in support of its Invalidity Contentions, and to revise, amend, and/or supplement these Invalidity Contentions accordingly in a manner consistent with the Federal Rules of Civil Procedure and the Court's rules and applicable orders.

Defendant further reserves the right to rely on statements or admissions from those owing a duty of candor, such as named inventors, prosecution counsel, and others involved in the prosecution of the patent applications or related applications, concerning the scope of the prior art relevant to the Asserted Patents found in, *inter alia*, the following: the respective prosecution histories of the Asserted Patents and related patent applications; any deposition testimony of the named inventors; and the papers filed and any evidence submitted by Carma in connection with this litigation or any other litigation or invalidity proceeding involving the Asserted Patents.

Defendant reserves the right to modify and/or supplement these Invalidity Contentions with an explanation of why the Asserted Claims are invalid under 35 U.S.C. § 102(f)–(g) in the event

¹ Defendant's current and future efforts include but are not limited to: serving subpoenas on prior artists and inventors regarding prior art, seeking additional information related to the references and systems disclosed in these Invalidity Contentions, and seeking additional information related to available prior art systems.

Defendant obtain additional evidence that the named inventor did not invent (either alone or in conjunction with others) the subject matter claimed or that the claimed subject matter was invented by others. Should Defendant obtain such evidence, it will provide the name of the person(s) from whom and the circumstances under which the invention or any part of it was derived or the name of the person(s) that invented such subject matter and the circumstances of such invention.

Prior art not identified in this disclosure, whether known or not known to Defendant, may become relevant, including prior art concerning the state of the art at the time of invention, as well as simultaneous or near-simultaneous independent invention by others. For instance, Defendant currently is unaware of the extent, if any, to which Carma will contend that limitations of the Asserted Claims are not disclosed in the prior art identified by Defendant. To the extent that such an issue arises, Defendant reserves the right to identify other references that would disclose, practice, or render obvious the allegedly missing limitation(s) of the disclosed subject matter.

D. Prior Art Identification and Citations Thereto

In these Invalidity Contentions, Defendant identifies specific, exemplary portions of prior art references that disclose the elements of the Asserted Claims. While Defendant has identified exemplary prior art references for each element, it does not necessarily identify every disclosure of the same element in each prior art reference. A person of ordinary skill in the art would read a prior art reference as a whole and in the context of other publications, literature, and general knowledge in the field and would rely upon other information including other publications and general scientific or engineering knowledge. Defendant therefore reserves the right to rely upon other unidentified portions of the prior art references and on other publications and prior art products and expert testimony to provide context and to aid in the understanding and interpretation of the identified portions of the prior art.

Defendant also reserves the right to rely upon (1) other portions of the cited prior art references, other publications, prior art products, and the testimony of experts to establish that the alleged inventions would have been obvious to a person of ordinary skill in the art, including on the basis of modifying or combining certain cited references; (2) admissions relating to prior art in the Asserted Patents or related patents, the prosecution histories of the Asserted Patents or related patents; (3) counterparts of any U.S. or foreign patents identified in Defendant's Invalidity Contentions; and (4) any prior art references, other publications, prior art products, and the testimony of experts to establish that the alleged inventions would have been obvious to a person of ordinary skill in the art used during any proceeding at the Patent Office involving the Asserted Patents. Where a prior art reference includes citations to other references, those other references are considered incorporated by reference for context.

The references discussed in the claim charts may disclose the elements of the Asserted Claims explicitly and/or inherently, and/or they may be relied upon to show the state of the art in the relevant time frame. The suggested obviousness combinations are provided in the alternative to Defendant's anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not by itself anticipatory.

Where Defendant identifies in the claim charts a particular figure in a prior art reference, the identification should be understood to encompass the caption and description of the figure as well as any text relating to the figure in the specification and prosecution history in addition to the figure itself. Similarly, where an identified portion of text refers to a figure or other material, the identification should be understood to include the referenced figure or other material as well.

E. No Patentable Weight

Defendant reserves the right to argue that various portions of the Asserted Claims, such as an intended use or result, nonfunctional descriptive material, and certain preamble language, are

entitled to no patentable weight. Mapping of a portion of an Asserted Claim to a prior art reference does not represent that such portion of the claim is entitled to patentable weight when comparing the claimed subject matter to the prior art.

II. INVALIDITY UNDER 35 U.S.C. §§ 102 AND 103

Defendant contends that the Asserted Claims are invalid as anticipated by the prior art under 35 U.S.C. § 102 and/or as obvious in view of the prior art, the knowledge of a person having ordinary skill in the art, and/or secondary factors of obviousness under 35 U.S.C. § 103.

The obviousness combinations of references provided in Defendant's invalidity claim charts under 35 U.S.C. § 103 are exemplary and are not intended to be exhaustive. In particular, Defendant is currently unaware of the extent, if any, to which Carma will contend that limitations of the Asserted Claims are not disclosed in the art identified by Defendant as anticipatory. To the extent an issue arises with any such limitation, Defendant reserves the right to identify other obviousness combinations and/or other references that would have made obvious the addition of the allegedly missing limitation to the disclosed device, system, or method of operation.

A patentee bears the burden of production with respect to evidence of secondary considerations of nonobviousness. *ZUP, LLC v. Nash Mfg., Inc.*, 896 F.3d 1365, 1373 (Fed. Cir. 2018). As of the date of these Invalidity Contentions, Carma has not identified any evidence of secondary considerations. As shown in these Invalidity Contentions, other companies and individuals described, built, and/or patented the exact same concepts in the Asserted Patents before Carma ever did—often many years before. Even where others' invention(s) occurred around the same time as the Asserted Patents, such simultaneous invention demonstrates the obviousness of the Asserted Patents.

Potentially relevant evidence includes any prior art reference cited herein that was known or available before or around the alleged inventions claimed in the Asserted Patents. This also

includes any prior art asserted in these Invalidity Contentions that Carma is able to pre-date by proving, *inter alia*, corroborated conception and diligent reduction to practice.

Defendant reserves all rights to further respond to any secondary considerations of nonobviousness raised by Carma. Defendant is not aware of any unexpected results (none is mentioned in the Asserted Patents or their file histories), long-felt need, commercial success (or any nexus to any allegedly successful commercial embodiment), or awards for the alleged inventions of the Asserted Patents.

A. State of the Art

The subject matter of the Asserted Claims was well understood to those of skill in the art as of the respective priority dates of the Asserted Patents. To describe the state of the art in that time frame, Defendant may rely on any of the references identified in Exhibits A-1–A-19, B-1–B-21, C-1–C-24, D-1–D-20, and E-1–E-36 and Appendices A–E, any references listed on the face of the Asserted Patents, any admitted prior art discussed in the Asserted Patents and file histories, and any references produced in Defendant’s P.R. 3-4 document production.

B. P.R. 3-3(a): Identification of Prior Art

Defendant identifies the following prior art now known to Defendant that either anticipate or (individually or in combination) render obvious one or more of the Asserted Claims. Each of the following patents, publications, systems, and products is prior art under at least one or more of 35 U.S.C. § 102(a), (b), (e), (f), or (g) (pre-AIA) or § 102(a) (AIA), as applicable. Defendant’s reliance on each prior art reference identified throughout these Invalidity Contentions includes the reference itself, anything incorporated by the reference, and any testimony by those with

knowledge of the reference, such as named authors and inventors. On information and belief, each listed document or item became prior art at least as early as the dates specified.

To the extent any limitation of any of the Asserted Claims is construed to have a similar meaning, or to encompass similar feature(s) and/or function(s), with any other claim limitation, and to the extent at least one claim chart in Exhibits A-1–A-19, B-1–B-21, C-1–C-24, D-1–D-20, and E-1–E-36 and Appendices A–E hereto identifies any prior art reference as disclosing or teaching such similarly construed claim limitation, such identified prior art reference and Defendant’s contentions with respect to same are incorporated by reference. Priority dates identified for the prior art references are based on information currently available to Defendant, and Defendant will amend this disclosure to the extent additional information becomes available.

To the extent that they are prior art, Defendant reserves the right to rely upon (1) foreign counterparts of the U.S. patents identified in Defendant’s Invalidity Contentions, (2) U.S. counterparts of foreign patents and foreign patent applications identified in Defendant’s Invalidity Contentions, and (3) U.S. and foreign patents and patent applications corresponding to articles and publications identified in Defendant’s Invalidity Contentions.

The prior art identified below is exemplary; the claimed features are similarly described or disclosed in additional prior art. Thus, Defendant reserves the right to rely on other evidence of the prior art beyond the example references identified.

The primary references identified in these Invalidity Contentions, and as further described in Exhibits A-1–A-19, B-1–B-21, C-1–C-24, D-1–D-20, and E-1–E-31, each discloses, either expressly or inherently, every element of the Asserted Claims, thereby anticipating those claims. To the extent Carma contends that any primary reference does not anticipate the Asserted Claims, it would have been obvious to combine or modify the primary references with concepts from other

prior art, including other primary and secondary references, as explained in Exhibits A-1–A-19, B-1–B-21, C-1–C-24, D-1–D-20, and E-1–E-36 and in Appendices A–E.

In particular, for each limitation of the Asserted Claims that Carma contends is not met by a particular primary reference, Defendant contends that the limitation (and claim as a whole) is obvious based on a combination of that particular primary reference with (1) any other primary reference disclosing that limitation, (2) any admitted prior art, as explained in the background of each Asserted Patent or discussed in the file history, (3) any reference identified in these Invalidity Contentions (including Appendices A–E) as disclosing that limitation, and/or (4) the knowledge of a person of ordinary skill in the art and/or any of the references and concepts discussed herein regarding the relevant background and state of the art. The specific combinations of prior art that Defendant contends render the Asserted Claims obvious are readily determinable as described herein. Defendant’s obviousness grounds for each dependent claim incorporate the obviousness grounds for the claim(s) from which the dependent claim depends in addition to any obviousness grounds identified in the charts for the dependent claim.

1. U.S. Patent No. 7,840,427

a. Prior Art Patents / Patent Publications

Patent / Publication No.	Country of Origin	Date of Issue / Publication
GB 2,397,683 (“Olmi”)	United Kingdom	July 28, 2004
U.S. 10,520,325 (“Lewinson”)	United States	November 29, 2007
U.S. 5,799,263 (“Culbertson”)	United States	August 25, 1998
U.S. 6,374,176 (“Schmier”)	United States	April 16, 2002
U.S. 6,411,897 (“Gaspard”)	United States	June 25, 2002
U.S. 6,925,381 (“Adamczyk381”)	United States	August 2, 2005
U.S. 7,627,422 (“Adamczyk”)	United States	December 1, 2009
U.S. 7,957,871 (“Echeruo”)	United States	June 7, 2011
WO 2005104059 (“Bhushan”)	International (WIPO)	November 3, 2005

b. Prior Art Publications

Author(s) and Publication	Date of Publication
Roberto Wolfler Calvo et al., <i>A Distributed Geographic Information System for the Daily Car Pooling Problem</i> , 31 Computers & Operations Research 2263 (2004) (“Calvo”)	November 2004

c. Prior Art Systems

Defendant identifies the following systems—including constituent software, hardware, methods, and processes—as prior art that anticipate or render obvious the Asserted Claims of these patents. Each system (1) was known or used in this country before the alleged invention of the claimed subject matter of the patent-in-suit; (2) was in public use and/or on sale in this country more than one year before the filing date of the application for the patent-in-suit; and/or (3) was invented and not abandoned, suppressed, or concealed prior to the alleged invention of the Asserted Patents. Discovery is ongoing and Defendant will supplement as discovery continues.

System / Product	Person(s) / Entities Involved	Date of Availability
CarpoolConnect.com	CarpoolConnect.com; TouchBase Consulting	2006 or earlier
CarpoolWorld.com	CarpoolWorld.com, Inc.; Datasphere; Isabelle Boulard; Max Fox	2000
Carticipate	Carticipate, Inc.; Steffen Frost; Twiller; Teletracker	2008
Commuter Register	Two Plus, Inc.	1996
eCommuter	Whenwherewhy.com, Inc.	2001
eRideShare	eRideShare, Inc.; Steven Schoeffler	2000
FBCB2	Neil Seigel	2006 or earlier
Go Loco	GoLoco, Inc.; Robin Chase	2007
MyCasualCarpool	MyCasualCarpool.com	2007
Piggyback Mobile/Piggyback	Piggyback Mobile; Christophe Petit; Sebastian Petit; Raphael Arzberger; Jean-Michel Therault	2008

System / Product	Person(s) / Entities Involved	Date of Availability
RidePro	Trapeze Software Group; Multisystems, Inc.	2002 or earlier
RideshareOnline	Washington State Department of Transportation	2006 or earlier
SharetheDrive.org / RM 21	Chicago Area Transportation Study; Jose Rodriguez	2005 or earlier
Zimride	Zimride; Enterprise; Lyft	2006 or earlier

2. U.S. Patent No. 10,741,071

a. Prior Art Patents / Patent Publications

Patent / Publication No.	Country of Origin	Date of Issue / Publication
GB 2,397,683 (“Olmi”)	United Kingdom	July 28, 2004
JP 2003281692 (“Takahiro”)	Japan	October 3, 2003
U.S. 2001/0037174 (“Dickerson”)	United States	November 1, 2001
U.S. 2001/0056363 (“Gantz”)	United States	December 27, 2001
U.S. 2003/0040944 (“Hileman”)	United States	February 27, 2003
U.S. 2006/0074755 (“Juetten”)	United States	April 6, 2006
U.S. 2007/0165813 (“Dean”)	United States	July 19, 2007
U.S. 2008/0021723 (“Devarakonda”)	United States	January 24, 2008
U.S. 2009/0182818 (“Krywaniuk”)	United States	July 16, 2009
U.S. 2009/0712009 (“Schmith”)	United States	July 2, 2009
U.S. 4,360,875 (“Behnke”)	United States	November 23, 1982
U.S. 6,807,566 (“Bates”)	United States	October 19, 2004
U.S. 6,353,661 (“Bailey”)	United States	March 5, 2002
U.S. 7,627,422 (“Adamczyk”)	United States	December 1, 2009
U.S. 8,190,878 (“Stern”)	United States	May 29, 2012
U.S. 8,635,690 (“Alperovitch”)	United States	January 21, 2014
U.S. 8,712,397 (“Feng”)	United States	April 29, 2014
WO 00/76231 (“Jarvinen”)	International (WIPO)	December 14, 2000

Patent / Publication No.	Country of Origin	Date of Issue / Publication
WO 02/06994 (“Paul”)	International (WIPO)	January 24, 2002
WO 2004/081833 (“Poykko”)	International (WIPO)	September 23, 2004
WO 2005022426 (“Poykko426”)	International (WIPO)	March 10, 2005

b. Prior Art Publications

Author(s) and Publication	Date of Publication
Agile FleetCommander User’s Guide 4.3 (“Agile”)	September 2007
Roberto Wolfler Calvo et al., <i>A Distributed Geographic Information System for the Daily Car Pooling Problem</i> , 31 Computers & Operations Research 2263 (2004) (“Calvo”)	November 2004

c. Prior Art Systems

Defendant identifies the following systems—including constituent software, hardware, methods, and processes—as prior art that anticipate or render obvious the Asserted Claims of these patents. Each system (1) was known or used in this country before the alleged invention of the claimed subject matter of the patent-in-suit; (2) was in public use and/or on sale in this country more than one year before the filing date of the application for the patent-in-suit; and/or (3) was invented and not abandoned, suppressed, or concealed prior to the alleged invention of the Asserted Patents. Discovery is ongoing and Defendant will supplement as discovery continues.

System / Product	Person(s) / Entities Involved	Date of Availability
CarpoolConnect.com	CarpoolConnect.com; TouchBase Consulting	2006 or earlier
CarpoolWorld.com	CarpoolWorld.com, Inc.; Datasphere; Isabelle Boulard; Max Fox	2000
Carticipate	Carticipate, Inc.; Steffen Frost; Twiller; Teletracker	2008
eCommuter	Whenwherewhy.com, Inc.	2001
eRideShare	eRideShare, Inc.; Steven Schoeffler	2000
FBCB2	Neil Seigel	2006 or earlier
Go Loco	GoLoco, Inc.; Robin Chase	2007

System / Product	Person(s) / Entities Involved	Date of Availability
RidePro	Trapeze Software Group; Multisystems, Inc.	2002 or earlier
Zimride	Zimride; Enterprise; Lyft	2006 or earlier

3. U.S. Patent No. 10,916,138

a. Prior Art Patents / Patent Publications

Patent / Publication No.	Country of Origin	Date of Issue / Publication
DE 102005051130 ("Tuchscherer")	Germany	May 3, 2007
EP 1,804,226 ("Hinrichs")	Europe (Germany)	July 4, 2007
GB 2397683A ("Olmi")	United Kingdom	July 28, 2004
JP 2002041853 ("Toru")	Japan	February 8, 2002
JP 2003281692 ("Takahiro")	Japan	October 3, 2003
KR 2007/0042263 ("Won")	South Korea	April 23, 2007
U.S. 10,190,886 ("Droege '866")	United States	January 29, 2019
U.S. 11,392,881 ("Driegert")	United States	July 19, 2022
U.S. 11,416,792 ("Zhou")	United States	August 16, 2022
U.S. 2006/0059023 ("Mashinsky")	United States	March 16, 2006
U.S. 2008/0195428 ("O'Sullivan")	United States	August 14, 2008
U.S. 2016/0328669 ("Droege '669")	United States	November 10, 2016
U.S. 2019/0132702 ("Ehsani")	United States	May 2, 2019
U.S. 2019/266690 ("Mandeno")	United States	August 29, 2019
U.S. 5,168,451 ("Bolger")	United States	December 1, 1992
U.S. 6,411,897 ("Gaspard")	United States	June 25, 2002
U.S. 7,627,422 ("Adamczyk")	United States	December 1, 2009
WO 2005/022426 ("Poykko246")	International (WIPO)	March 10, 2005
WO 2007/139375 ("Tangemann")	International (WIPO)	December 6, 2007

b. Prior Art Publications

Author(s) and Publication	Date of Publication
Roberto Wolfler Calvo et al., <i>A Distributed Geographic Information System for the Daily Car Pooling Problem</i> , 31 Computers & Operations Research 2263 (2004) (“Calvo”)	November 2004

c. Prior Art Systems

Defendant identifies the following systems—including constituent software, hardware, methods, and processes—as prior art that anticipate or render obvious the Asserted Claims of these patents. Each system (1) was known or used in this country before the alleged invention of the claimed subject matter of the patent-in-suit; (2) was in public use and/or on sale in this country more than one year before the filing date of the application for the patent-in-suit; and/or (3) was invented and not abandoned, suppressed, or concealed prior to the alleged invention of the Asserted Patents. Discovery is ongoing and Defendant will supplement as discovery continues.

System / Product	Person(s) / Entities Involved	Date of Availability
FBCB2	Neil Seigel	2006 or earlier
Peapod	Peapod, Inc.	1996 or earlier
Pizza.net	Pizza Hut of America, LLC	1999 or earlier
Uber Eats	Uber Technologies, Inc.	2019 or earlier
UberRUSH	Uber Technologies, Inc.	2015
Webvan	Webvan, Inc.; Louis Borders; George Sheehan	1999 or earlier
World Wide Waiter	Waiter.com, Inc.	2006 or earlier

4. U.S. Patent No. 11,017,668

a. Prior Art Patents / Patent Publications

Patent / Publication No.	Country of Origin	Date of Issue / Publication
EP 1,251,475 (“Peer”)	Europe (Germany)	December 23, 2002
EP 1,519,288 (“Wenger”)	Europe (Germany)	March 30, 2005
FR 2,880,975 (“Segarra”)	France	July 21, 2006
GB 2,397,683 (“Olm”)	United Kingdom	July 28, 2004

Patent / Publication No.	Country of Origin	Date of Issue / Publication
KR 20060107894 (“Jeon”)	South Korea	October 16, 2006
TW I258,592 (“Wang”)	Taiwan	July 21, 2006
U.S. 7,627,422 (“Adamczyk”)	United States	December 1, 2006
U.S. 2003/0040944 (“Hileman”)	United States	February 27, 2003
WO 2004008799 (“Lee”)	International (WIPO)	January 22, 2004
WO 2004081833 (“Poykko”)	International (WIPO)	September 23, 2004
WO 2005022426 (“Poykko426”)	International (WIPO)	March 10, 2005

b. Prior Art Publications

Author(s) and Publication	Date of Publication
Robert Dial, <i>Autonomous Dial-a-Ride Transit Introductory Overview</i> , 3 Transportation Research Part C: Emerging Technologies 261 (Oct. 1995) (“Dial”)	October 1995
Roberto Wolfler Calvo et al., <i>A Distributed Geographic Information System for the Daily Car Pooling Problem</i> , 31 Computers & Operations Research 2263 (2004) (“Calvo”)	November 2004

c. Prior Art Systems

Defendant identifies the following systems—including constituent software, hardware, methods, and processes—as prior art that anticipate or render obvious the Asserted Claims of these patents. Each system (1) was known or used in this country before the alleged invention of the claimed subject matter of the patent-in-suit; (2) was in public use and/or on sale in this country more than one year before the filing date of the application for the patent-in-suit; and/or (3) was invented and not abandoned, suppressed, or concealed prior to the alleged invention of the Asserted Patents. Discovery is ongoing and Defendant will supplement as discovery continues.

System / Product	Person(s) / Entities Involved	Date of Availability
CarpoolConnect.com	CarpoolConnect.com; TouchBase Consulting	2006 or earlier

System / Product	Person(s) / Entities Involved	Date of Availability
CarpoolWorld.com	CarpoolWorld.com, Inc.; Datasphere; Isabelle Boulard; Max Fox	2000
Carticipate	Carticipate, Inc.; Steffen Frost; Twiller; Teletracker	2008
eCommuter	Whenwherewhy.com, Inc.	2001
eRideShare	eRideShare, Inc.; Steven Schoeffler	2000
FBCB2	Neil Seigel	2006 or earlier
Go Loco	GoLoco, Inc.; Robin Chase	2007
MyCasualCarpool	MyCasualCarpool.com	2007
Piggyback Mobile/Piggyback	Piggyback Mobile; Christophe Petit; Sebastian Petit; Raphael Arzberger; Jean-Michel Theriault	2008
RidePro	Trapeze Software Group; Multisystems, Inc.	2002 or earlier
RideshareOnline	Washington State Department of Transportation	2006 or earlier
SharetheDrive.org / RM 21	Chicago Area Transportation Study; Jose Rodriguez	2005 or earlier
Zimride	Zimride; Enterprise; Lyft	2006 or earlier

5. U.S. Patent No. 11,164,456

a. Prior Art Patents / Patent Publications

Patent / Publication No.	Country of Origin	Date of Issue / Publication
DE 202005016720U1 (“Druffel”)	Germany	October 12, 2006
EP 1251475A2 (“Peer”)	Europe	January 7, 2009
EP 1519288A1 (“Wenger”)	Europe	March 30, 2005
FR Pub. No. 2,880,975 (“Segarra”)	France	July 21, 2006
GB 2,397,683 (“Olm”)	United Kingdom	July 28, 2004
JP 2003030788A (“Nagatsuma”)	Japan	January 31, 2003
JP 2003151083A (“Nimura”)	Japan	May 23, 2003
JP 2003217091A (“Asada”)	Japan	July 31, 2003
JP 2003281692 (“Takahiro”)	Japan	October 3, 2003
KR 100408931B1 (“Woo”)	South Korea	December 11, 2003

Patent / Publication No.	Country of Origin	Date of Issue / Publication
KR 20060107894 (“Jeon”)	South Korea	October 16, 2006
TW I258,592 (“Wang”)	Taiwan	July 21, 2006
U.S. 10,024,683 (“Moore”)	United States	July 17, 2018
U.S. 10,198,700 (“Farrelly”)	United States	February 5, 2019
U.S. 10,466,059 (“O’Hare”)	United States	November 5, 2019
U.S. 10,502,582 (“Yamashita”)	United States	December 10, 2019
U.S. 10,671,649 (“Nguyen”)	United States	June 2, 2020
U.S. 10,890,458 (“Zhao”)	United States	January 12, 2021
U.S. 11,010,693 (“Sarawgi”)	United States	May 18, 2021
U.S. 2001/0037174 (“Dickerson”)	United States	November 1, 2001
U.S. 2001/0056363 (“Gantz”)	United States	December 27, 2001
U.S. 2003/0040944 (“Hileman”)	United States	February 27, 2003
U.S. 20030137435A1 (“Haddad”)	United States	July 24, 2003
U.S. 20040093280A1 (“Yamaguchi”)	United States	May 13, 2004
U.S. 2006/0074755 (“Juetten”)	United States	April 6, 2006
U.S. 20060059023A1 (“Mashinsky”)	United States	March 16, 2006
U.S. 2008/0021723 (“Devarakonda”)	United States	January 24, 2008
U.S. 20080189207A1 (“Wurster”)	United States	August 7, 2008
U.S. 20080195428A1 (“O’Sullivan”)	United States	November 23, 2010
U.S. 2009/0182818 (“Krywaniuk”)	United States	July 16, 2009
U.S. 2009/0712009 (“Schmith”)	United States	July 2, 2009
U.S. 20130132246A1 (“Amin”)	United States	May 23, 2013
U.S. 20130246301A1 (“Radhakrishnan”)	United States	September 19, 2013
U.S. 20160344777A1 (“Fahlgren”)	United States	November 24, 2016
U.S. 4,360,875 (“Behnke”)	United States	November 23, 1982
U.S. 6,807,566 (“Bates”)	United States	October 19, 2004
U.S. 7,627,422 (“Adamczyk”)	United States	December 1, 2009
U.S. 8,190,878 (“Stern”)	United States	May 29, 2012
U.S. 8,635,690 (“Alperovitch”)	United States	January 21, 2014
U.S. 8,712,397 (“Feng”)	United States	April 29, 2014
U.S. 9,762,601 (“Truong”)	United States	September 12, 2017
U.S. 9,939,279 (“Pan”)	United States	April 10, 2018
U.S. 9,959,512 (“Camp”)	United States	May 1, 2018

Patent / Publication No.	Country of Origin	Date of Issue / Publication
WO 00/76231 (“Jarvinen”)	International (WIPO)	December 14, 2000
WO 2002006994A2 (“Paul”)	International (WIPO)	January 24, 2002
WO 2002101683A1 (“Thomsen”)	International (WIPO)	December 19, 2002
WO 2004008799 (“Lee”)	International (WIPO)	January 22, 2004
WO 2004081833 (“Poykko”)	International (WIPO)	September 23, 2004
WO 2005022426 (“Poykko426”)	International (WIPO)	March 10, 2005

b. Prior Art Publications

Author(s) and Publication	Date of Publication
Lorena Truett et al., <i>Bus 54 Where are you A School Bus Intelligent Information System</i> , Rural Advanced Technology & Transportation Systems 1998 International Conference (“Truett”)	September 2, 1998
<i>Consolidated Code of Transportation Rules and General Instructions</i> (1939 e.d.), Northern Pacific Railway Company (“TrainRules”)	April 1, 1939
<i>Real Time Taxi Dispatching Using Global Positioning Systems</i> (“Liao”)	May 31, 2003
Roberto Wolfler Calvo et al., <i>A Distributed Geographic Information System for the Daily Car Pooling Problem</i> , 31 Computers & Operations Research 2263 (2004) (“Calvo”)	November 2004

c. Prior Art Systems

Defendant identifies the following systems—including constituent software, hardware, methods, and processes—as prior art that anticipate or render obvious the Asserted Claims of these patents. Each system (1) was known or used in this country before the alleged invention of the claimed subject matter of the patent-in-suit; (2) was in public use and/or on sale in this country more than one year before the filing date of the application for the patent-in-suit; and/or (3) was

invented and not abandoned, suppressed, or concealed prior to the alleged invention of the Asserted Patents. Discovery is ongoing and Defendant will supplement as discovery continues.

System / Product	Person(s) / Entities Involved	Date of Availability
CarpoolConnect.com	CarpoolConnect.com; TouchBase Consulting	2006 or earlier
CarpoolWorld.com	CarpoolWorld.com, Inc.; Datasphere; Isabelle Boulard; Max Fox	2000
Carticipate	Carticipate, Inc.; Steffen Frost; Twiller; Teletracker	2008
eCommuter	Whenwherewhy.com, Inc.	2001
eRideShare	eRideShare, Inc.; Steven Schoeffler	2000
FBCB2	Neil Seigel	2006 or earlier
Garmin StreetPilot 2820	Garmin	2007
Garmin StreetPilot 7500	Garmin	2007
Go Loco	GoLoco, Inc.; Robin Chase	2007
MyCasualCarpool	MyCasualCarpool.com	2007
Piggyback Mobile/Piggyback	Piggyback Mobile; Christophe Petit; Sebastian Petit; Raphael Arzberger; Jean-Michel Theriault	2008
RidePro	Trapeze Software Group; Multisystems, Inc.	2002 or earlier
RideshareOnline	Washington State Department of Transportation	2006 or earlier
SharetheDrive.org / RM 21	Chicago Area Transportation Study; Jose Rodriguez	2005 or earlier
Uber Prior Art System	Uber	2020 or earlier
United States Postal Service	United States Postal Service	2006 or earlier
Zimride	Zimride; Enterprise; Lyft	2006 or earlier

C. P.R. 3-3(b): Motivations to Combine Prior Art

Defendant believes that no showing of a specific motivation to combine prior art is required to combine the references disclosed in the attached charts; there was a reason to make each combination, each combination of art would have produced no unexpected results, and each combination at most would simply represent a known alternative to one of ordinary skill in the art.

See KSR Int'l Co. v. Teleflex, Inc., 550 U.S. 398, 414–18 (2007) (rejecting the Federal Circuit’s “rigid” application of the teaching, suggestion, or motivation to combine test instead espousing an “expansive and flexible” approach). Indeed, the Supreme Court held that a person of ordinary skill in the art is “a person of ordinary creativity, not an automaton” and “in many cases a person of ordinary skill in the art will be able to fit the teachings of multiple patents together like a pieces of a puzzle.” *Id.* at 420–21.

In view of *KSR*, the PTO issued a set of new Examination Guidelines. *See* Examination Guidelines for Determining Obviousness Under 35 U.S.C. § 103 in View of the Supreme Court Decision in *KSR International Co. v. Teleflex Inc.*, 72 Fed. Reg. 57,526 (Oct. 10, 2007). Those Guidelines identified various rationales for finding a claim obvious, including:

- a) Combining prior art elements according to known methods to yield predictable results;
- b) Simple substitution of one known element for another to obtain predictable results;
- c) Use of known technique to improve similar devices (methods, or products) in the same way;
- d) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- e) “Obvious to try”—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- f) Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art;
- g) Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

Id. at 57,529.

In addition, the motivation to combine or modify prior art references is significantly stronger when, as here, the references seek to solve the same problem, come from the same field,

and correspond well. *In re Inland Steel Co.*, 265 F.3d 1354, 1362 (Fed. Cir. 2001) (allowing two references to be combined as invalidating art under similar circumstances where the art “focus[ed] on the same problem . . . [,] c[a]me from the same field of art [and] . . . the identified problem found in the two references correspond[ed] well”).

Defendant has identified several exemplary motivations and reasons to combine the various references cited herein, and those motivations would have been supported, in part, by a reasonable expectation of success. The various teachings, suggestions, and/or reasons to modify any of the references and/or to combine any two or more of the references in Exhibits A-1–A-19, B-1–B-21, C-1–C-24, D-1–D-20, and E-1–E-36 and Appendices A–E come from various sources, including the prior art (specific and as a whole), common knowledge, common sense, predictability, expectations, industry trends, design incentives or need, market demand or pressure, market forces, the nature of the problem faced, and/or the knowledge possessed by one of ordinary skill in the art. In addition, it would have been obvious to try combining the prior art references identified, including because they come from the field of ridesharing and transportation.

These exemplary combinations demonstrate that there were only a finite number of predictable solutions to known problems addressed by the Asserted Patents. Furthermore, known work in one field or endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. The combination of features found in the prior art references identified in these contentions would have been obvious because the claimed combinations represent the known potential options, with each such option having a reasonable expectation of success. Additionally, one of ordinary skill in the art would have been motivated to create combinations identified in these contentions using: known methods to yield predictable results; known techniques in the same way; a simple substitution of one known, equivalent element

for another to obtain predictable results; and/or teaching, suggestion, or motivation in the prior art generally. Also, market forces in the industry, and the desire to improve features and performance, would motivate the addition of features to systems as they become available, become less expensive, become more commonly used, provide better performance and reliability, reduce costs, or predictably achieve other clearly desirable results.

To the extent Carma alleges that any other claimed limitation or limitations are not disclosed in any primary reference, it would have been obvious to combine the teachings of the reference with the background knowledge of a person of ordinary skill in the art and/or it would have been obvious to incorporate the missing limitation(s), including as disclosed in Exhibits A-1–A-19, B-1–B-21, C-1–C-24, D-1–D-20, and E-1–E-36 and Appendices A–E, into the primary reference for the reasons disclosed herein. For example, one of ordinary skill in the art would have found substantial motivation to combine one or more of the primary references with one more of each other or the secondary references in order to disclose the alleged inventions recited in the Asserted Claims. Each of the references disclosed herein as invalidating an Asserted Patent was directed at the same or similar field of technology and the same or similar problem as that Asserted Patent. To the extent Carma alleges that any particular claim limitation is not disclosed or inherent in the charted references, it would have been obvious to combine the charted reference with one or more of the references identified herein for the particular claim limitations. Also, as Defendant are currently unaware of the extent, if any, to which Carma will contend that limitations of the Asserted Claims are not disclosed in the art identified herein as anticipatory, Defendant reserves the right to identify other references and combinations that may render an allegedly missing limitation obvious. In addition, if and to the extent that Carma challenges the relevance of any of these references with respect to particular limitations of the Asserted Claims of the Asserted

Patents, Defendant reserve its right to identify further motivation to combine particular references with additional particularity.

1. U.S. Patent No. 7,840,427 – Exemplary Motivations to Combine

The following chart contains exemplary combinations of references which render the Asserted Claims of the '427 patent obvious. A person of ordinary skill in the art would have been motivated to combine each primary reference with any other reference listed (including any reference identified in Section II.A or the subsection below on motivations to combine) to arrive at the claimed invention. For each proposed combination, Defendant may rely on additional references in connection with combinations to show the state of the art, general knowledge of a person of ordinary skill in the art at the time of the alleged invention, or additional motivations to make such combinations.

Primary Reference	In Combination with One of More of the Following References
Calvo	• Olmi • Bhushan • Lewinson • Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Schmier

Primary Reference	In Combination with One of More of the Following References
	• Culbertson • Gaspard • Echeruo
Olmi	• Calvo • Bhushan • Lewinson • Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Schmier • Culbertson • Gaspard • Echeruo
Bhushan	• Calvo • Olmi • Lewinson • Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool

Primary Reference	In Combination with One of More of the Following References
	• Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Schmier • Culbertson • Gaspard • Echeruo
Lewinson	• Calvo • Olmi • Bhushan • Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Schmier • Culbertson • Gaspard • Echeruo
Adamczyk381/ Adamczyk	• Calvo • Olmi • Bhushan • Lewinson • CarpoolConnect.com • CarpoolWorld.com

Primary Reference	In Combination with One of More of the Following References
	• Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Schmier • Culbertson • Gaspard • Echeruo
CarpoolConnect.com	• Calvo • Olmi • Bhushan • Lewinson • Adamczyk381 • Adamczyk • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Schmier • Culbertson • Gaspard • Echeruo

Primary Reference	In Combination with One of More of the Following References
CarpoolWorld.com	• Calvo • Olmi • Bhushan • Lewinson • Adamczyk381 • Adamczyk • CarpoolConnect.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Schmier • Culbertson • Gaspard • Echeruo
Carticipate	• Calvo • Olmi • Bhushan • Lewinson • Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline

Primary Reference	In Combination with One of More of the Following References
	• SharetheDrive.org • Zimride • FBCB2 • Schmier • Culbertson • Gaspard • Echeruo
Commuter Register	• Calvo • Olmi • Bhushan • Lewinson • Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Schmier • Culbertson • Gaspard • Echeruo
eCommuter	• Calvo • Olmi • Bhushan • Lewinson • Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate

Primary Reference	In Combination with One of More of the Following References
	• Commuter Register • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Schmier • Culbertson • Gaspard • Echeruo
eRideShare	• Calvo • Olmi • Bhushan • Lewinson • Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Schmier • Culbertson • Gaspard • Echeruo
Go Loco	• Calvo • Olmi

Primary Reference	In Combination with One of More of the Following References
	• Bhushan • Lewinson • Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Schmier • Culbertson • Gaspard • Echeruo
MyCasualCarpool	• Calvo • Olmi • Bhushan • Lewinson • Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride

Primary Reference	In Combination with One of More of the Following References
	• FBCB2 • Schmier • Culbertson • Gaspard • Echeruo
Piggyback Mobile	• Calvo • Olmi • Bhushan • Lewinson • Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Schmier • Culbertson • Gaspard • Echeruo
RidePro	• Calvo • Olmi • Bhushan • Lewinson • Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter

Primary Reference	In Combination with One of More of the Following References
	• eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Schmier • Culbertson • Gaspard • Echeruo
RideshareOnline	• Calvo • Olmi • Bhushan • Lewinson • Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • SharetheDrive.org • Zimride • FBCB2 • Schmier • Culbertson • Gaspard • Echeruo
SharetheDrive.org	• Calvo • Olmi • Bhushan • Lewinson

Primary Reference	In Combination with One of More of the Following References
	• Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • Zimride • FBCB2 • Schmier • Culbertson • Gaspard • Echeruo
Zimride	• Calvo • Olmi • Bhushan • Lewinson • Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • FBCB2 • Schmier

Primary Reference	In Combination with One of More of the Following References
	• Culbertson • Gaspard • Echeruo
FBCB2	• Calvo • Olmi • Bhushan • Lewinson • Adamczyk381 • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • ZimRide • Schmier • Culbertson • Gaspard • Echeruo

The background state of the art includes that which is set forth in the patent, the file history and the prior art references disclosed herein. For example, the '427 patent admits that transportation systems exist which “use a central assigning system and communications devices . . . with[in] vehicles for transmitting information from the vehicles to the central assigning system.” ’456 patent at 1:31–36. The specification also references the existence of shared transportation systems with limited stops, such as buses, and direct point-to-point service, such as taxis. *Id.* at 3:41–46 (bus routes), 8:8–14 (“direct point-topoint service by taxi”). The specification

recognized attempts to match an “individual driver on their personal daily commute,” with other passengers, with the driver’s route typically characterized by a start and end address. *Id.* at 14:33–48. The specification alleges that even the arrival of in-car GPS systems and computers for managing passenger and vehicular trips did not solve the known need but that such systems “often just reduce an address down to its geographic co-ordinates (latitude/longitude), or represent a drivers’ route as a stream of latitude/longitude points.” *Id.* According to the specification, “[t]raditional transport networks have known [about using a network of nodes] for a long time, of course, and so maps of network capacity have long been available on public transport systems, although they have not yet been applied usefully to carpooling systems.” *Id.* at 15:31–50. The problems with “carpooling systems [are] due primarily to the difficulty of co-ordination and lack of computing and communications capabilities.” *Id.* at 4:28–32. Defendant incorporates by reference any of the prior art documents discussed in the background of the ’427 patent.

Defendant has identified several exemplary motivations and reasons to combine the various references cited herein. For any limitation of any reference, including for which there is a claim element that does not have a corresponding citation in that reference, it would have been obvious to combine with the knowledge of a person of ordinary skill in the art and/or any other reference in the primary or secondary charts for which there is a citation for that element. These combinations would have been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field.

Overall, multiple teachings, suggestions, and/or reasons to modify any of the above references come from many sources, including the prior art (specific and as a whole), common knowledge, logic and common sense, predictability, expectations, industry trends, design

incentives or need, market demand or pressure, market forces, the nature of the problem faced, and/or knowledge possessed by one of ordinary skill. Indeed, there were only a finite number of predictable solutions to known problems addressed by the '427 patent. For example, the automation of shared transportation systems was well known in the art at the time of the '427 patent, and there were a finite number of ways to implement the various features to manage riders and drivers—all of which are disclosed throughout the prior art. It would thus have been obvious for a person of ordinary skill in the art to consider these options and to look to related references discussing shared transportation when seeking to solve problems in the art. Often, known work in one field or endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. Here, for example, a person of ordinary skill in the art would have generally been motivated to combine the cited references because the references are all in related fields (*e.g.*, shared transportation systems) and incorporate various combinations of features from related fields such as billing, communication, or logistics management.

For the Asserted Claims of the '427 patent, to the extent the references charted in any of Exhibits A-1 to A-19 do not disclose the limitations related to receiving and processing pickup/drop-off requests and identifying and assigning available transport providers (*e.g.*, 1.b, 1.e, 1.f), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix A. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the '427 patent to receive and process pickup/drop-off requests and identify and assign available transport providers. *E.g.*, Calvo at 2266; Olmi at 35–37; Bhushan at 5–6. A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the

same general field, and they all provide solutions in the area of receiving and processing pickup and drop-off requests and identifying and assigning available transport providers. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems processed pickup and drop-off requests and identified and assigned available transport providers in various combinations and mimic those same techniques. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

For the Asserted Claims of the '427 patent, to the extent the references charted in any of Exhibits A-1 to A-19 do not disclose the limitations related to establishing a set of nodes representing pickup and drop-off points and representing a predetermined transport vehicle journey in the format of a set of said nodes (*e.g.*, 1.c, 1.d, 3), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix A. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the '427 patent to establish a set of nodes representing pickup and drop-off points and represent a predetermined transport vehicle journey in the format of a set of said nodes. *E.g.*, Calvo at 2271–72; Olmi at 17, 88, Figs. 1–3. A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of establishing a

set of nodes representing pickup and drop-off points and representing a predetermined transport vehicle journey in the format of a set of said nodes. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems processed pickup and drop-off requests and identified and assigned available transport providers in various combinations and mimic those same techniques. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

2. U.S. Patent No. 10,741,071 – Exemplary Motivations to Combine

The following chart contains exemplary combinations of references which render the Asserted Claims of the '071 patent obvious. A person of ordinary skill in the art would have been motivated to combine each primary reference with any other reference listed (including any reference identified in Section II.A or the subsection below on motivations to combine) to arrive at the claimed invention. For each proposed combination, Defendant may rely on additional references in connection with combinations to show the state of the art, general knowledge of a person of ordinary skill in the art at the time of the alleged invention, or additional motivations to make such combinations.

Primary Reference	In Combination with One of More of the Following References
Paul	• Adamczyk • Agile • Alperovitch • Bailey

Primary Reference	In Combination with One of More of the Following References
	• Bates • Behnke • Calvo • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson • eCommuter • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride
Adamczyk	• Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson

Primary Reference	In Combination with One of More of the Following References
	• eCommuter • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride
Poykko	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson • eCommuter • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman

Primary Reference	In Combination with One of More of the Following References
	• Jarvinen • Juetten • Krywaniuk • Olmi • Paul • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride
Schmith	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson • eCommuter • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi • Paul • Poykko • Poykko426 • RidePro

Primary Reference	In Combination with One of More of the Following References
	• Stern • Takahiro • Zimride
Dickerson	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • eCommuter • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride
Behnke	• Adamczyk • Agile • Alperovitch • Bailey • Bates

Primary Reference	In Combination with One of More of the Following References
	• Calvo • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson • eCommuter • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride
Gantz	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson

Primary Reference	In Combination with One of More of the Following References
	• eCommuter • eRideShare • FBCB2 • Feng • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride
Agile	• Adamczyk • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson • eCommuter • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten

Primary Reference	In Combination with One of More of the Following References
	• Krywaniuk • Olmi • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride
Krywaniuk	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson • eCommuter • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Olmi • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern

Primary Reference	In Combination with One of More of the Following References
	• Takahiro • Zimride
Devarakanda	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Dickerson • eCommuter • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride
Alperovitch	• Adamczyk • Agile • Bailey • Bates • Behnke • Calvo

Primary Reference	In Combination with One of More of the Following References
	• CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson • eCommuter • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride
Olmi	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson • eCommuter

Primary Reference	In Combination with One of More of the Following References
	• eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride
CarpoolConnect.com	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson • eCommuter • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk

Primary Reference	In Combination with One of More of the Following References
	• Olmi • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride
CarpoolWorld.com	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com • Carticipate • Dean • Devarakonda • Dickerson • eCommuter • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro

Primary Reference	In Combination with One of More of the Following References
	• Zimride
Carticipate	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com • CarpoolWorld.com • Dean • Devarakonda • Dickerson • eCommuter • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride
eCommuter	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo

Primary Reference	In Combination with One of More of the Following References
	• CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride
eRideShare	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson • eCommuter • FBCB2

Primary Reference	In Combination with One of More of the Following References
	• Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride
Go Loco	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson • eCommuter • eRideShare • FBCB2 • Feng • Gantz • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi

Primary Reference	In Combination with One of More of the Following References
	• Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride
RidePro	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson • eCommuter • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi • Paul • Poykko • Poykko426 • Schmith • Stern • Takahiro • Zimride

Primary Reference	In Combination with One of More of the Following References
Zimride	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson • eCommuter • eRideShare • FBCB2 • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro
FBCB2	• Adamczyk • Agile • Alperovitch • Bailey • Bates • Behnke • Calvo • CarpoolConnect.com

Primary Reference	In Combination with One of More of the Following References
	• CarpoolWorld.com • Carticipate • Dean • Devarakonda • Dickerson • eCommuter • eRideShare • Feng • Gantz • Go Loco • Hileman • Jarvinen • Juetten • Krywaniuk • Olmi • Paul • Poykko • Poykko426 • RidePro • Schmith • Stern • Takahiro • Zimride

The background state of the art includes that which is set forth in the patent, the file history and the prior art references disclosed herein. For example, the '071 patent admits that transportation systems exist which “use a central assigning system and communications devices . . . with[in] vehicles for transmitting information from the vehicles to the central assigning system.” ’071 patent at 1:40–45. The specification recognized attempts to match an “individual driver on their personal daily commute,” with other passengers, with the driver’s route typically characterized by a start and end address. *Id.* at 14:45–67. The problems with “carpooling systems [are] due primarily to the difficulty of co-ordination and lack of computing and communications capabilities.” *Id.* at 4:37–42. Prior art references make clear that shared transport systems existed

that involved communications between a provider (e.g., driver) and a user (*e.g.*, passenger), including before pickup. Defendant incorporates by reference any of the prior art documents discussed in the background of the '071 patent.

Defendant has identified several exemplary motivations and reasons to combine the various references cited herein. For any limitation of any reference, including for which there is a claim element that does not have a corresponding citation in that reference, it would have been obvious to combine with the knowledge of a person of ordinary skill in the art and/or any other reference in the primary or secondary charts for which there is a citation for that element. These combinations would have been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field.

Overall, multiple teachings, suggestions, and/or reasons to modify any of the above references come from many sources, including the prior art (specific and as a whole), common knowledge, logic and common sense, predictability, expectations, industry trends, design incentives or need, market demand or pressure, market forces, the nature of the problem faced, and/or knowledge possessed by one of ordinary skill. Indeed, there were only a finite number of predictable solutions to known problems addressed by the '071 patent. For example, the automation of shared transportation systems was well known in the art at the time of the '071 patent, and there were a finite number of ways to implement the various features to allow effective communications between drivers and passengers. It would thus have been obvious for a person of ordinary skill in the art to consider these options and to look to related references discussing either shared transportation or even communications more generally when seeking to solve problems in the art. Often, known work in one field or endeavor prompted variations based

on predictable design incentives and/or market forces either in the same field or a different one. Here, for example, a person of ordinary skill in the art would have generally been motivated to combine the cited references because the references are all in related fields (*e.g.*, shared transportation, commuting, and/or communications systems) and incorporate various combinations of features from related fields such as communications.

For the Asserted Claims of the '071 patent, to the extent the references charted in any of Exhibits B-1 to B-21 do not disclose the limitations related to receiving ride requests and matching transport providers, including based on proximity (*e.g.*, 1.a, 1.b, 1.c, 14.c, 14.d, 14.e, 20.b, 20.c), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix B. As evidenced by the references in these Invalidity Contentions, it was well known in the prior art to the '071 patent to implement systems for receiving transport or service requests via devices, including computers, mobile, or other electronic devices, and to organize or match, for example algorithmically, those requests with available service providers based on factors such as location, availability, route, and estimated arrival time. *E.g.*, Poykko at 3:5–24; Adamczyk at 2:58–3:22; Paul at 3–6. Technologies enabling GPS-based location tracking, mobile communications, and real-time data processing were widely adopted by the time of the '071 patent, particularly in fleet management, taxi dispatch, and logistics platforms. These capabilities made it straightforward for a person of ordinary skill in the art to design a shared transport system that dynamically paired riders with nearby drivers. Accordingly, any differences between the asserted claims and the cited references would have been obvious to bridge using routine engineering skill. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution

with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

For the Asserted Claims of the '071 patent, to the extent the references charted in any of Exhibits B-1 to B-21 do not disclose the limitations related to communicating through a proxy messaging system, including without providing private information (*e.g.*, 1.d, 1.e, 1.f, 1.g, 2, 12, 13, 14.g, 14.h, 14.i, 15, 19, 20.d, 20.e, 20.f, 20.g), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix B. As evidenced by the references in these Invalidity Contentions, it was well known in the prior art to the '071 patent to facilitate communication between service users and providers—such as riders and drivers—through messaging systems that enabled coordination of logistics like pick-up locations. *E.g.*, Adamczyk at 9:50–10:3; Paul at 8–9. By the time of the '071 patent, it was also common in various mobile and web-based platforms to facilitate communication, preserve user anonymity, and protect personal contact information using proxy systems, including systems using temporary phone numbers, unique identifiers, user names, or in-app messaging, to preserve user anonymity and protect personal contact information. These privacy-preserving communication techniques were prevalent in many areas, including classified ad services, online marketplaces, and customer service platforms. Integrating such messaging functionality into a shared transport system would have been a routine and predictable application of known technologies, and would have provided the benefit of anonymity, privacy, and security. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations

would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

Finally, to the extent the Asserted Claims of the '071 patent are interpreted as requiring establishing pick-up locations based on existing supply routes (*e.g.*, where a set of nodes represents pick-up and drop-off points of a predetermined transport vehicle journey), this limitation would have been obvious to a person of ordinary skill in the art, including in view of Calvo and Olmi. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to establish a set of nodes representing pickup and drop-off points and use those nodes for determining pick-up and drop-off points for a predetermined transport vehicle journey. *E.g.*, Calvo at 2271–72; Olmi at 17, 88, Figs. 1–3. A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of establishing pickup and drop-off points for a shared transport. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems processed pickup and drop-off requests and identified and assigned available transport providers in various combinations and mimic those same techniques. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

Defendant incorporates by reference its contentions with respect to limitations 1.c, 1.d, and 3 of the '427 patent.

3. U.S. Patent No. 10,916,138 – Exemplary Motivations to Combine

The following chart contains exemplary combinations of references which render the Asserted Claims of the '138 patent obvious. A person of ordinary skill in the art would have been motivated to combine each primary reference with any other reference listed (including any reference identified in Section II.A or the subsection below on motivations to combine) to arrive at the claimed invention. For each proposed combination, Defendant may rely on additional references in connection with combinations to show the state of the art, general knowledge of a person of ordinary skill in the art at the time of the alleged invention, or additional motivations to make such combinations.

Primary Reference	In Combination with One of More of the Following References
Gaspard	• Hinrichs • Tangemann • Bolger • Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Hinrichs	• Gaspard

Primary Reference	In Combination with One of More of the Following References
	• Tangemann • Bolger • Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Tangemann	• Gaspard • Hinrichs • Bolger • Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Bolger	• Gaspard • Hinrichs

Primary Reference	In Combination with One of More of the Following References
	• Tangemann • Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Poykko	• Gaspard • Hinrichs • Tangemann • Bolger • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Won	• Gaspard • Hinrichs • Tangemann

Primary Reference	In Combination with One of More of the Following References
	• Bolger • Poykko • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Tuchscherer	• Gaspard • Hinrichs • Tangemann • Bolger • Poykko • Won • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Mashinsky	• Gaspard • Hinrichs • Tangemann • Bolger

Primary Reference	In Combination with One of More of the Following References
	• Poykko • Won • Tuchscherer • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Mandeno	• Gaspard • Hinrichs • Tangemann • Bolger • Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Adamczyk	• Gaspard • Hinrichs • Tangemann • Bolger

Primary Reference	In Combination with One of More of the Following References
	• Poykko • Won • Tuchscherer • Mashinsky • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Droege '866	• Gaspard • Hinrichs • Tangemann • Bolger • Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Zhou	• Gaspard • Hinrichs • Tangemann • Bolger

Primary Reference	In Combination with One of More of the Following References
	• Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Driegert	• Gaspard • Hinrichs • Tangemann • Bolger • Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Droege '669	• Gaspard • Hinrichs • Tangemann

Primary Reference	In Combination with One of More of the Following References
	• Bolger • Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Ehsani	• Gaspard • Hinrichs • Tangemann • Bolger • Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
O'Sullivan	• Gaspard • Hinrichs

Primary Reference	In Combination with One of More of the Following References
	• Tangemann • Bolger • Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Peapod	• Gaspard • Hinrichs • Tangemann • Bolger • Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Pizza.net	• Gaspard • Hinrichs • Tangemann

Primary Reference	In Combination with One of More of the Following References
	• Bolger • Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Webvan • World Wide Waiter • FBCB2 • UberRUSH
Webvan	• Gaspard • Hinrichs • Tangemann • Bolger • Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • World Wide Waiter • FBCB2 • UberRUSH
World Wide Waiter	• Gaspard • Hinrichs • Tangemann • Bolger

Primary Reference	In Combination with One of More of the Following References
	• Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • FBCB2 • UberRUSH
FBCB2	• Gaspard • Hinrichs • Tangemann • Bolger • Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • UberRUSH
Uber Eats	• Gaspard • Hinrichs • Tangemann • Bolger • Poykko

Primary Reference	In Combination with One of More of the Following References
	• Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH
UberRUSH	• Gaspard • Hinrichs • Tangemann • Bolger • Poykko • Won • Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Olmi • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2
Olmi	• Hinrichs • Tangemann • Bolger • Poykko • Won

Primary Reference	In Combination with One of More of the Following References
	• Tuchscherer • Mashinsky • Adamczyk • O'Sullivan • Toru • Takahiro • Gaspard • Calvo • Peapod • Pizza.net • Webvan • World Wide Waiter • FBCB2 • UberRUSH

The background state of the art includes that which is set forth in the patent, the file history and the prior art references disclosed herein. For example, the '138 patent admits that transportation systems exist which “use a central assigning system and communications devices . . . with[in] vehicles for transmitting information from the vehicles to the central assigning system.” ’138 patent at 1:43–48. The specification references the existence of “freight transport providers” and related delivery services that allow the pickup and delivery of a package, including “private package transport companies,” *id.* at Fig. 4; “national postal carriers,” *id.*; “independent operators,” *id.*; and ad-hoc consumer” services, *id.* The specification also references the existence of shared transportation systems with limited stops, such as buses, and direct point-to-point service, such as taxis. *Id.* at 3:62–63 (bus routes), 8:16–17 (“direct point-to-point service by taxi”). The specification referenced that the process of implementing a passenger transportation system and system to transport “goods and merchandise” were similar. *Id.* at 21:19–20. Thus, the specification recognized attempts to match an “individual driver on their personal daily commute,” with other passengers, with the driver’s route typically characterized by a start and end address.

Id. at 14:48–56. The specification alleges that even the arrival of in-car GPS systems and computers for managing passenger and vehicular trips did not solve the known need but that such systems “often just reduce an address down to its geographic co-ordinates (latitude/longitude), or represent a drivers’ route as a stream of latitude/longitude points.” *Id.* According to the specification, “[t]raditional transport networks have known [about using a network of nodes] for a long time, of course, and so maps of network capacity have long been available on public transport systems, although they have not yet been applied usefully to carpooling systems.” *Id.* at 15:55–16:5. The alleged problems with “carpooling systems [are] due primarily to the difficulty of coordination and lack of computing and communications capabilities.” *Id.* at 4:42–46. The assortment of features claimed in the ’138 patent were individually known and assembled in various combinations, as demonstrated in the references cited herein.

Defendant has identified several exemplary motivations and reasons to combine the various references cited herein. For any limitation of any reference, including for which there is a claim element that does not have a corresponding citation in that reference, it would have been obvious to combine with the knowledge of a person of ordinary skill in the art and/or any other reference in the primary or secondary charts for which there is a citation for that element. These combinations would have been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field.

Overall, multiple teachings, suggestions, and/or reasons to modify any of the above references come from many sources, including the prior art (specific and as a whole), common knowledge, logic and common sense, predictability, expectations, industry trends, design incentives or need, market demand or pressure, market forces, the nature of the problem faced,

and/or knowledge possessed by one of ordinary skill. Indeed, there were only a finite number of predictable solutions to known problems addressed by the '138 patent. For example, the automation of shared transportation systems was well known in the art at the time of the '138 patent, and there were a finite number of ways to implement the various features to manage shippers and transporters of goods—all of which are disclosed throughout the prior art. It would thus have been obvious for a person of ordinary skill in the art to consider these options and to look to related references discussing shared transportation when seeking to solve problems in the art. Often, known work in one field or endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. Here, for example, a person of ordinary skill in the art would have generally been motivated to combine the cited references because the references are all in related fields (*e.g.*, shared transportation systems) and incorporate various combinations of features from related fields such as tracking and route selection.

For the Asserted Claims of the '138 patent, to the extent the references charted in any of Exhibits C-1 to C-24 do not disclose the limitations related to the transport of goods (*e.g.*, 1.a, 1.e, 1.f, 1.g, 1.i), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix C. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the '138 patent to receive and transport goods, packages, cargo, and related deliveries within a shared transportation system. *E.g.*, Gaspard at 3:40–60; Mashinsky ¶ 47; Won at 6–8. A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared a shared transportation system in the same general field, and they all provide solutions in the area of receiving and transporting by connecting those in need of transport with available transport

providers. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems received and transported passengers in addition to goods, packages, cargo, and related deliveries within a shared transportation system in various combinations and mimic those same techniques. Providing efficient systems for the transport of goods by connecting those in need of transport with available transport providers promotes a better user and transport provider experience. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

For the Asserted Claims of the '138 patent, to the extent the references charted in any of Exhibits C-1 to C-24 do not disclose the limitations related to receiving and processing pickup/drop-off requests and identifying and assigning available transport providers (*e.g.*, 1.a, 1.b, 1.c, 1.d, 1.e, 1.f, 1.g., 1.h, 1.i, 1.j, 9), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix C. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the '138 patent to receive and process pickup/drop-off requests and identify and assign available transport providers. *E.g.*, Bolger at Abstract; Gaspard at 3:40–60; Mashinsky ¶ 47; Won at 6–8. A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of receiving and processing pickup and drop-off requests and

identifying and assigning available transport providers. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems processed pickup and drop-off requests and identified and assigned available transport providers in various combinations and mimic those same techniques, including by looking at the teachings of Japanese Patent Publ. No. 2003281692 (“Takahiro”) or Japanese Patent Publ. No. 2002041853 (“Toru”) regarding receiving a confirmation from the transport provider device or user device that the delivery was completed. Providing efficient and practical matching, including identifying appropriate transport providers to users and providing relevant notifications, promotes a better user and driver experience. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

For the Asserted Claims of the ’138 patent, to the extent the references charted in any of Exhibits C-1 to C-24 do not disclose the limitations related to using location tracking like GPS-based navigation for trip tracking and navigation instructions (*e.g.*, 1.b, 1.e, 1.f, 1.i, 2, 3, 4), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix C. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the ’138 patent to use systems providing navigation instructions, including when traveling to particular locations by vehicle. *See e.g.*, ’138 patent at 7:26–31 (“all vehicles that wish to provide transportation services which are in

transit ('Transport Capacity') have a navigation device, typically using GPS or other location finding technology, with built-in or external data communication capability, typically using cellular phone or wide area wireless data networks"); Mashinsky ¶¶ 21, 24; Won at 6–9. A person of ordinary skill in the art would have been motivated to combine these references because they each disclose vehicle tracking and navigation in the same general field, and they all provide solutions in the area of location tracking like GPS tracking and providing a driver navigation directions to a particular destination. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems provided vehicle navigation using location tracking like GPS in various combinations and mimic those same techniques. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

Finally, to the extent the Asserted Claims of the '138 patent are interpreted as requiring establishing pick-up locations based on existing supply routes (*e.g.*, where a set of nodes represents pick-up and drop-off points of a predetermined transport vehicle journey), this limitation would have been obvious to a person of ordinary skill in the art, including in view of Calvo and Olmi. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to establish a set of nodes representing pickup and drop-off points and use those nodes for determining pick-up and drop-off points for a predetermined transport vehicle journey. *E.g.*, Calvo

at 2271–72; Olmi at 17, 88, Figs. 1–3. A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of establishing pickup and drop-off points for a shared transport. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems processed pickup and drop-off requests and identified and assigned available transport providers in various combinations and mimic those same techniques. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results. Defendant incorporates by reference its contentions with respect to limitations 1.c, 1.d, and 3 of the '427 patent.

4. U.S. Patent No. 11,017,668 – Exemplary Motivations to Combine

The following chart contains exemplary combinations of references which render the Asserted Claims of the '668 patent obvious. A person of ordinary skill in the art would have been motivated to combine each primary reference with any other reference listed (including any reference identified in Section II.A or the subsection below on motivations to combine) to arrive at the claimed invention. For each proposed combination, Defendant may rely on additional references in connection with combinations to show the state of the art, general knowledge of a person of ordinary skill in the art at the time of the alleged invention, or additional motivations to make such combinations.

Primary Reference	In Combination with One of More of the Following References
Peer	• Lee • Olmi • Poykko • Wang • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
Lee	• Peer • Olmi • Poykko • Wang • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool

Primary Reference	In Combination with One of More of the Following References
	• Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
Olmi	• Peer • Lee • Poykko • Wang • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
Poykko	• Peer • Lee • Olmi

Primary Reference	In Combination with One of More of the Following References
	• Wang • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
Wang	• Peer • Lee • Olmi • Poykko • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline

Primary Reference	In Combination with One of More of the Following References
	• SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
Segarra	• Peer • Lee • Olmi • Poykko • Wang • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
Adamczyk	• Peer • Lee • Olmi • Poykko • Wang • Segarra

Primary Reference	In Combination with One of More of the Following References
	• CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
CarpoolConnect.com	• Peer • Lee • Olmi • Poykko • Wang • Segarra • Adamczyk • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2

Primary Reference	In Combination with One of More of the Following References
	• Dial • Wenger • Jeon • Poykko426 • Hileman
CarpoolWorld.com	• Peer • Lee • Olmi • Poykko • Wang • Segarra • Adamczyk • CarpoolConnect.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
Carticipate	• Peer • Lee • Olmi • Poykko • Wang • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com

Primary Reference	In Combination with One of More of the Following References
	• Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
Commuter Register	• Peer • Lee • Olmi • Poykko • Wang • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon

Primary Reference	In Combination with One of More of the Following References
	• Poykko426 • Hileman
eCommuter	• Peer • Lee • Olmi • Poykko • Wang • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
eRideShare	• Peer • Lee • Olmi • Poykko • Wang • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter

Primary Reference	In Combination with One of More of the Following References
	• Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
Go Loco	• Peer • Lee • Olmi • Poykko • Wang • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • MyCasualCarpool • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
MyCasualCarpool	• Peer

Primary Reference	In Combination with One of More of the Following References
	• Lee • Olmi • Poykko • Wang • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
Piggyback Mobile	• Peer • Lee • Olmi • Poykko • Wang • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool

Primary Reference	In Combination with One of More of the Following References
	• RidePro • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
RidePro	• Peer • Lee • Olmi • Poykko • Wang • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RideshareOnline • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
RideshareOnline	• Peer • Lee • Olmi • Poykko

Primary Reference	In Combination with One of More of the Following References
	• Wang • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • SharetheDrive.org • Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
SharetheDrive.org	• Peer • Lee • Olmi • Poykko • Wang • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideShare Online

Primary Reference	In Combination with One of More of the Following References
	• Zimride • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
Zimride	• Peer • Lee • Olmi • Poykko • Wang • Segarra • Adamczyk • CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideShare Online • SharetheRide.org • FBCB2 • Dial • Wenger • Jeon • Poykko426 • Hileman
FBCB2	• Peer • Lee • Olmi • Poykko • Wang • Segarra • Adamczyk

Primary Reference	In Combination with One of More of the Following References
	• CarpoolConnect.com • CarpoolWorld.com • Carticipate • Commuter Register • eCommuter • eRideShare • Go Loco • MyCasualCarpool • Piggyback Mobile • RidePro • RideShare Online • SharetheRide.org • ZimRide • Dial • Wenger • Jeon • Poykko426 • Hileman

The background state of the art includes that which is set forth in the patent, the file history and the prior art references disclosed herein. For example, the '668 patent admits that transportation systems exist which “use a central assigning system and communications devices . . . with[in] vehicles for transmitting information from the vehicles to the central assigning system.” '668 patent at 1:43–48. The specification recognized attempts to match an “individual driver on their personal daily commute,” with other passengers, with the driver’s route typically characterized by a start and end address. *Id.* 14:45–60. The problems with “carpooling systems [are] due primarily to the difficulty of co-ordination and lack of computing and communications capabilities.” *Id.* at 4:42–46. Prior art references make clear that shared transport systems existed that involved “monitoring a schedule during the trip or the safety of the person wishing to travel and/or the party wishing to transport during the trip.” *E.g.*, Peer ¶ 7. Defendant incorporates by reference any of the prior art documents discussed in the background of the '668 patent.

Defendant has identified several exemplary motivations and reasons to combine the various references cited herein. For any limitation of any reference, including for which there is a claim element that does not have a corresponding citation in that reference, it would have been obvious to combine with the knowledge of a person of ordinary skill in the art and/or any other reference in the primary or secondary charts for which there is a citation for that element. These combinations would have been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field.

Overall, multiple teachings, suggestions, and/or reasons to modify any of the above references come from many sources, including the prior art (specific and as a whole), common knowledge, logic and common sense, predictability, expectations, industry trends, design incentives or need, market demand or pressure, market forces, the nature of the problem faced, and/or knowledge possessed by one of ordinary skill. Indeed, there were only a finite number of predictable solutions to known problems addressed by the '668 patent. For example, the automation of shared transportation systems was well known in the art at the time of the '668 patent, and there were a finite number of ways to implement the various features to manage riders and drivers—all of which are disclosed throughout the prior art. It would thus have been obvious for a person of ordinary skill in the art to consider these options and to look to related references discussing shared transportation when seeking to solve problems in the art. Often, known work in one field or endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. Here, for example, a person of ordinary skill in the art would have generally been motivated to combine the cited references because the references are all in related fields (*e.g.*, shared transportation systems) and incorporate

various combinations of features from related fields such as computer networking and logistics management.

For the Asserted Claims of the '668 patent, to the extent the references charted in any of Exhibits D-1 to D-20 do not disclose the limitations related to receiving and processing pickup/drop-off requests and identifying and assigning available transport providers (*e.g.*, 1.a, 1.b), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix D. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the '668 patent to receive and process pickup/drop-off requests and identify and assign available transport providers. *E.g.*, Peer ¶¶ 13–14; Olmi at 42–43. A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of receiving and processing pickup and drop-off requests and identifying and assigning available transport providers. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems processed pickup and drop-off requests and identified and assigned available transport providers in various combinations and mimic those same techniques. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

For the Asserted Claims of the '668 patent, to the extent the references charted in any of Exhibits D-1 to D-20 do not disclose the limitations related to handling anomalies during a trip (*e.g.*, 1d, 1e, 4, 5, 8, 10), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix D. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the '668 patent to handle anomalies during a trip. *E.g.*, Peer ¶¶ 34–37; Olmi at 83–84; Poykko at 13:5-12. A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of handling anomalies during a trip. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems handle anomalies during a trip in various combinations and mimic those same techniques. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

Finally, to the extent the Asserted Claims of the '668 patent are interpreted as requiring establishing pick-up locations based on existing supply routes (*e.g.*, where a set of nodes represents pick-up and drop-off points of a predetermined transport vehicle journey), this limitation would have been obvious to a person of ordinary skill in the art, including in view of Calvo and Olmi. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior

to establish a set of nodes representing pickup and drop-off points and use those nodes for determining pick-up and drop-off points for a predetermined transport vehicle journey. *E.g.*, Calvo at 2271–72; Olmi at 17, 88, Figs. 1–3. A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of establishing pickup and drop-off points for a shared transport. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems processed pickup and drop-off requests and identified and assigned available transport providers in various combinations and mimic those same techniques. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results. Defendant incorporates by reference its contentions with respect to limitations 1.c, 1.d, and 3 of the '427 patent.

5. U.S. Patent No. 11,164,456 – Exemplary Motivations to Combine

The following chart contains exemplary combinations of references which render the Asserted Claims of the '456 patent obvious. A person of ordinary skill in the art would have been motivated to combine each primary reference with any other reference listed (including any reference identified in Section II.A or the subsection below on motivations to combine) to arrive at the claimed invention. For each proposed combination, Defendant may rely on additional references in connection with combinations to show the state of the art, general knowledge of a

person of ordinary skill in the art at the time of the alleged invention, or additional motivations to make such combinations.²

Primary Reference	In Combination with One of More of the Following References
Adamczyk	• Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org

² In addition to the references listed below, for claims 5 and 14 of the '456 patent, Defendant reserves the right to include in a combination any references charted for the limitations of the '071 patent relating to using a proxy messaging system to communicate between a sender and receiver (*e.g.*, '171 claims 1.e, 1.f, 1.g, 2, 19), and for claim 7 of the '456 patent, Defendant reserves the right to include in a combination any references charted for the limitations of the '668 patent relating to anomalous conditions (*e.g.*, '668 claims 1.pre, 1.d, 1.e, 4, 5, 8).

Primary Reference	In Combination with One of More of the Following References
	• Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Asada	• Adamczyk • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500

Primary Reference	In Combination with One of More of the Following References
	Garmin StreetPilot 2820
Druffel	- Adamczyk - Asada - Haddad - Liao - Mashinsky - Nagatsuma - Nimura - Olmi - Paul - Peer - Poykko246 - Thomsen - Truett - Wenger - Woo - Wurster - Yamaguchi - Truett - Liao - CarpoolConnect.com - CarpoolWorld.com - Carticipate - eCommuter - eRideShare - Go Loco - Piggyback Mobile - RidePro - RideShareOnline - SharetheDrive.org - Zimride - FBCB2 - United States Postal Service - Garmin StreetPilot 7500 - Garmin StreetPilot 2820
Liao	- Adamczyk - Asada

Primary Reference	In Combination with One of More of the Following References
	• Druffel • Haddad • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Mashinsky	• Adamczyk • Asada • Druffel • Haddad • Liao • Nagatsuma

Primary Reference	In Combination with One of More of the Following References
	• Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Nimura	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Olmi • Paul • Peer

Primary Reference	In Combination with One of More of the Following References
	• Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Peer	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Poykko246 • Thomsen • Truett • Wenger

Primary Reference	In Combination with One of More of the Following References
	• Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Poykko246	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett

Primary Reference	In Combination with One of More of the Following References
	• Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Wenger	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate

Primary Reference	In Combination with One of More of the Following References
	• eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Wurster	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile

Primary Reference	In Combination with One of More of the Following References
	• RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Yamaguchi	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride

Primary Reference	In Combination with One of More of the Following References
	• FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Olmi	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820

Primary Reference	In Combination with One of More of the Following References
CarpoolConnect.com	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
CarpoolWorld.com	• Adamczyk • Asada • Druffel • Haddad

Primary Reference	In Combination with One of More of the Following References
	• Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Carticipate	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura

Primary Reference	In Combination with One of More of the Following References
	• Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
eCommuter	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246

Primary Reference	In Combination with One of More of the Following References
	• Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
eRideShare	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo

Primary Reference	In Combination with One of More of the Following References
	• Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Go Loco	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao

Primary Reference	In Combination with One of More of the Following References
	• CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Piggyback Mobile	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter

Primary Reference	In Combination with One of More of the Following References
	• eRideShare • Go Loco • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
RidePro	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RideShareOnline

Primary Reference	In Combination with One of More of the Following References
	• SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
RideShareOnline	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service

Primary Reference	In Combination with One of More of the Following References
	• Garmin StreetPilot 7500 • Garmin StreetPilot 2820
SharetheDrive.org	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Zimride	• Adamczyk

Primary Reference	In Combination with One of More of the Following References
	• Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
FBCB2	• Adamczyk • Asada • Druffel • Haddad • Liao

Primary Reference	In Combination with One of More of the Following References
	• Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
United States Postal Service	• Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi

Primary Reference	In Combination with One of More of the Following References
	• Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Uber Prior Art System	• Amin • Camp • Fahlgren • Farrelly • Moore • Nguyen • O'Hare • O'Sullivan • Pan • Radhakrishnan • Sarawgi • Truong • Yamashita

Primary Reference	In Combination with One of More of the Following References
	• Zhao • Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Camp	• Amin • Fahlgren

Primary Reference	In Combination with One of More of the Following References
	• Farrelly • Moore • Nguyen • O'Hare • O'Sullivan • Pan • Radhakrishnan • Sarawgi • Truong • Yamashita • Zhao • Uber Prior Art System • Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro

Primary Reference	In Combination with One of More of the Following References
	• RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Farrelly	• Amin • Camp • Fahlgren • Moore • Nguyen • O'Hare • O'Sullivan • Pan • Radhakrishnan • Sarawgi • Truong • Yamashita • Zhao • Uber Prior Art System • Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster

Primary Reference	In Combination with One of More of the Following References
	• Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Zhao	• Amin • Camp • Fahlgren • Farrelly • Moore • Nguyen • O'Hare • O'Sullivan • Pan • Radhakrishnan • Sarawgi • Truong • Yamashita • Uber Prior Art System • Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky

Primary Reference	In Combination with One of More of the Following References
	• Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
Amin	• Camp • Fahlgren • Farrelly • Moore • Nguyen • O'Hare • O'Sullivan • Pan • Radhakrishnan

Primary Reference	In Combination with One of More of the Following References
	• Sarawgi • Truong • Yamashita • Zhao • Uber Prior Art System • Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820

Primary Reference	In Combination with One of More of the Following References
Radhakrishnan	• Amin • Camp • Fahlgren • Farrelly • Moore • Nguyen • O'Hare • O'Sullivan • Pan • Sarawgi • Truong • Yamashita • Zhao • Uber Prior Art System • Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen • Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter

Primary Reference	In Combination with One of More of the Following References
	• eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820
O'Sullivan	• Amin • Camp • Fahlgren • Farrelly • Moore • Nguyen • O'Hare • Pan • Radhakrishnan • Sarawgi • Truong • Yamashita • Zhao • Uber Prior Art System • Adamczyk • Asada • Druffel • Haddad • Liao • Mashinsky • Nagatsuma • Nimura • Olmi • Paul • Peer • Poykko246 • Thomsen

Primary Reference	In Combination with One of More of the Following References
	• Truett • Wenger • Woo • Wurster • Yamaguchi • Truett • Liao • CarpoolConnect.com • CarpoolWorld.com • Carticipate • eCommuter • eRideShare • Go Loco • Piggyback Mobile • RidePro • RideShareOnline • SharetheDrive.org • Zimride • FBCB2 • United States Postal Service • Garmin StreetPilot 7500 • Garmin StreetPilot 2820

The background state of the art includes that which is set forth in the patent, the file history and the prior art references disclosed herein. For example, the '456 patent admits that transportation systems exist which “use a central assigning system and communications devices . . . with[in] vehicles for transmitting information from the vehicles to the central assigning system.” ’456 patent at 1:47–52. The specification also references the existence of shared transportation systems with limited stops, such as buses, and direct point-to-point service, such as taxis. *Id.* at 3:53–65 (bus routes), 8:15–22 (“direct point-to-point service by taxi”). The specification recognized attempts to match an “individual driver on their personal daily commute,” with other passengers, with the driver’s route typically characterized by a start and end address.

Id. at 14:50–65. The specification alleges that even the arrival of in-car GPS systems and computers for managing passenger and vehicular trips did not solve the known need but that such systems “often just reduce an address down to its geographic co-ordinates (latitude/longitude), or represent a drivers’ route as a stream of latitude/longitude points.” *Id.* According to the specification, “[t]raditional transport networks have known [about using a network of nodes] for a long time, of course, and so maps of network capacity have long been available on public transport systems, although they have not yet been applied usefully to carpooling systems.” *Id.* at 15:63–67. The alleged problems with “carpooling systems [are] due primarily to the difficulty of coordination and lack of computing and communications capabilities.” *Id.* at 4:44–48. The assortment of features claimed in the ’456 Patent were individually known and assembled in various combinations, as demonstrated in the references cited herein.

Defendant has identified several exemplary motivations and reasons to combine the various references cited herein. For any limitation of any reference, including for which there is a claim element that does not have a corresponding citation in that reference, it would have been obvious to combine with the knowledge of a person of ordinary skill in the art and/or any other reference in the primary or secondary charts for which there is a citation for that element. These combinations would have been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field.

Overall, multiple teachings, suggestions, and/or reasons to modify any of the above references come from many sources, including the prior art (specific and as a whole), common knowledge, logic and common sense, predictability, expectations, industry trends, design incentives or need, market demand or pressure, market forces, the nature of the problem faced,

and/or knowledge possessed by one of ordinary skill. Indeed, there were only a finite number of predictable solutions to known problems addressed by the '456 patent. For example, the automation of shared transportation systems was well known in the art at the time of the '456 patent, and there were a finite number of ways to implement the various features to manage riders and drivers—all of which are disclosed throughout the prior art. It would thus have been obvious for a person of ordinary skill in the art to consider these options and to look to related references discussing shared transportation when seeking to solve problems in the art. Often, known work in one field or endeavor prompted variations based on predictable design incentives and/or market forces either in the same field or a different one. Here, for example, a person of ordinary skill in the art would have generally been motivated to combine the cited references because the references are all in related fields (*e.g.*, shared transportation systems) and incorporate various combinations of features from related fields such as billing, communication, or logistics management.

For the Asserted Claims of the '456 patent, to the extent the references charted in any of Exhibits E-1 to E-36 do not disclose the limitations related to receiving and processing pickup/drop-off requests and identifying and assigning available transport providers (*e.g.*, 1.a, 1.b, 1.c, 1.d, 1.e), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix E. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the '456 patent to receive and process pickup/drop-off requests and identify and assign available transport providers. A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of receiving and processing pickup and drop-off requests and identifying and

assigning available transport providers. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems processed pickup and drop-off requests and identified and assigned available transport providers in various combinations and mimic those same techniques. Providing efficient and practical matching, including identifying appropriate transport providers to users, promotes a better user and driver experience. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

For the Asserted Claims of the '456 patent, to the extent the references charted in any of Exhibits E-1 to E-36 do not disclose the limitations related to using GPS-based navigation for trip tracking and navigation instructions (*e.g.*, 1.f, 1.j, 1.k, 1.l, 1.p, 1.q), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix E. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the '456 patent to use systems providing navigation instructions, including when traveling to particular locations by vehicle. *See e.g.*, '456 patent at 7:29–34 (“all vehicles that wish to provide transportation services which are in transit (‘Transport Capacity’) have a navigation device, typically using GPS or other location finding technology, with built-in or external data communication capability, typically using cellular phone or wide area wireless data networks”);

Garmin StreetPilot 7500³ (“intuitive navigation with automatic route calculation; voice-prompted, turn-by-turn directions; 2D or 3D map view; and automatic rerouting if a motorist strays off course.”). A person of ordinary skill in the art would have been motivated to combine these references because they each disclose vehicle tracking and navigation in the same general field, and they all provide solutions in the area of GPS tracking and providing a driver navigation directions to a particular destination. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems provided vehicle navigation using GPS in various combinations and mimic those same techniques. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

For the Asserted Claims of the '456 patent, to the extent the references charted in any of Exhibits E-1 to E-36 do not disclose the limitations related to billing, such as showing estimated costs, calculating and charging trip costs (including tolls/fees), and sending trip summaries and receipts (*e.g.*, 1.i, 1.s, 1.v), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix E. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the '456 patent to estimate, and bill for, the cost of shared transportation services. *E.g.*, Poykko246 at 6:16–32. A

³ <https://web.archive.org/web/20070206093016/http://www.garmin.com/products/sp7500/>.

person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of billing. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems billed users of shared transportation services, including showing estimated costs, calculating and charging trip costs (including tolls/fees), and sending trip summaries and receipts and to mimic those same techniques. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

For the Asserted Claims of the '456 patent, to the extent the references charted in any of Exhibits E-1 to E-36 do not disclose the limitations related to travel logistics, including detecting proximity to a pickup location and providing notifications of an approaching driver and providing estimated travel or arrival times (*e.g.*, 1.j, 1.l, 1.m, 1.n, 1.p, 1.q, 1.r, 2.d, 4), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix E. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the '456 patent to provide notice of an approaching transportation provider and provide estimated travel or arrival times. *E.g.*, Consolidated Code of Transportation Rules and General Instructions⁴ (1939 ed.) at 17 (proscribing a single long whistle

⁴ <https://research.nprha.org/NPConsolidatedCodes/Forms/AllItems.aspx>.

to notify of a train approaching a station); Poykko246 at cl. 4 (claiming “calculating an estimated time of arrival using a measured or estimated location of the transportation vehicle”). A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of notifying passengers regarding the timing of pickups and drop-offs. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems detect and notify passengers regarding the timing of pickups and drop-offs in various combinations and mimic those same techniques. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

For the Asserted Claims of the '456 patent, to the extent the references charted in any of Exhibits E-1 to E-36 do not disclose the limitations related to suggesting or modifying pickup locations based on user proximity (*e.g.*, 2.c, 2.d), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix E. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the '456 patent to pick up a passenger at an alternate location to the location requested. *E.g.*, Wenger ¶ 26 (“the meeting point is not necessarily the passenger’s current location, but that the passenger may have to travel to the starting point of the journey”); Nimura ¶ 33 (“the relay station 10 may guide the user 20 to a landmark that is located in the nearest location from the current

location of the user 20 and that is easy for the taxi driver to find”). A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of receiving and processing pickup and drop-off requests and identifying and assigning available transport providers. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems processed pickup and drop-off requests and identified and assigned available transport providers in various combinations and mimic those same techniques. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

For the Asserted Claims of the '456 patent, to the extent the references charted in any of Exhibits E-1 to E-36 do not disclose the limitations related to confirming pickup and drop-off events (*e.g.*, 1.e, 1.n, 1.r), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix E. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the '456 patent to confirm pickups and drop-offs. *E.g.*, Wenger ¶ 35 (“When a driver has picked up a passenger . . . they send a message to the management center When the passenger has arrived at their destination, the driver or passenger sends another message indicating the vehicle’s location and that the passenger has completed their journey.”); Wurster ¶ 73 (“the dispatch info tab . . . has

fields for . . . actual pick-up time, actual drop-off time”). A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of confirming pickups and drop-offs. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems confirmed pickups and drop-offs in various combinations and mimic those same techniques. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

For the Asserted Claims of the '456 patent, to the extent the references charted in any of Exhibits E-1 to E-36 do not disclose the limitations related to collecting, updating, and publicizing information regarding and ratings for both riders and drivers (*e.g.*, 1.d, 1.f, 1.h, 1.s, 1.t, 1.u, 10.a, 10.b, 10.c), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix E. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the '456 patent to collect, update, and publicize information and ratings for both riders and drivers. *E.g.*, Druffel ¶¶ 13, 16 (“the driver of the motor vehicle can rate a passenger just as a passenger can rate the driver” and each party can consider the other’s rating when choosing who to ride with). A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of

collecting, updating, and publicizing information and ratings for both riders and drivers. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems collect, update, and publicize information regarding and ratings for both riders and drivers in various combinations and mimic those same techniques. Such features have the benefit of providing security and comfort for both riders and drivers. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

For the Asserted Claims of the '456 patent, to the extent the references charted in any of Exhibits E-1 to E-36 do not disclose the limitations related to communicating between driver and user with anonymized contact details (*e.g.*, 5), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix B or E. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the '456 patent to communicate between driver and user with anonymized contact details. *See supra* Section II.C.2 above. Uber incorporates by reference the discussion of communications for the '071 patent, including all references and exhibits disclosing such communications. A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of communicating between driver and user with anonymized contact details.

It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems facilitate communicating between driver and user with anonymized contact details in various combinations and mimic those same techniques. For example, anonymizing communications has the benefits of promoting security and privacy for both riders and drivers. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

For the Asserted Claims of the '456 patent, to the extent the references charted in any of Exhibits E-1 to E-36 do not disclose the limitations related to handling anomalies during a trip (*e.g.*, 7), it would have been obvious to combine any of these charted references with any of the other charted references or those detailed in Appendix D or E. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to the '456 patent to handle anomalies during a trip. *See supra* Section II.C.4 above. Uber incorporates by reference the discussion of handling trip anomalies for the '668 patent, including all references and exhibits disclosing such feature. A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of handling anomalies during a trip. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill

in the art would have been motivated to look at how other products and systems handle anomalies during a trip in various combinations and mimic those same techniques. These combinations would have also been obvious to try given that there were a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results.

Finally, to the extent the Asserted Claims of the '456 patent are interpreted as requiring establishing pick-up locations based on existing supply routes (*e.g.*, where a set of nodes represents pick-up and drop-off points of a predetermined transport vehicle journey), this limitation would have been obvious to a person of ordinary skill in the art, including in view of Calvo and Olmi. As evidenced by the references in these Invalidity Contentions, it was well known in the art prior to establish a set of nodes representing pickup and drop-off points and use those nodes for determining pick-up and drop-off points for a predetermined transport vehicle journey. *E.g.*, Calvo at 2271–72; Olmi at 17, 88, Figs. 1–3. A person of ordinary skill in the art would have been motivated to combine these references because they each disclose shared transportation management in the same general field, and they all provide solutions in the area of establishing pickup and drop-off points for a shared transport. It is the nature of those of skill in the art of shared transportation management to monitor developments in competing products and combine relevant features and functionalities. A person of ordinary skill in the art would have been motivated to look at how other products and systems processed pickup and drop-off requests and identified and assigned available transport providers in various combinations and mimic those same techniques. These combinations would have also been obvious to try given that there were

a finite number of identified, predictable solutions in the prior art, and there would have been a reasonable expectation of success to simply implement one prior art solution with concepts from prior art in the same field. Moreover, these combinations would have been the result of applying known techniques to a known method that was ready for improvement to yield predictable results. Defendant incorporates by reference its contentions with respect to limitations 1.c, 1.d, and 3 of the '427 patent.

D. P.R. 3-3(c): Claim Charts

Charts specifically identifying where each element of each Asserted Claim is found in the prior art, either expressly or inherently, are found in Exhibits A-1–A-19, B-1–B-21, C-1–C-24, D-1–D-20, and E-1–E-36 and Appendices A–E. However, this prior art is exemplary; the claimed features are similarly described or disclosed in other prior art.

In the claim charts included in this disclosure, Defendant identifies specific portions of prior art references that disclose or render obvious the elements of the Asserted Claims. Although Defendant has identified at least one citation per element, each and every disclosure of the same element in a given reference is not necessarily identified. That Defendant did not identify each similar disclosure should not be construed as a concession by Defendant that such disclosure is not relevant. It should be recognized that a person of ordinary skill in the art would generally read a prior art reference as a whole and in the context of other publications, literature, and general knowledge in the field. To understand and interpret any specific statement or disclosure in a prior art reference, a person of ordinary skill in the art would rely upon other information including other publications and general scientific or engineering knowledge.

Where Defendant identifies a particular figure in a prior art reference, the identification should be understood to encompass the caption and description of the figure as well as any text relating to the figure in the specification and prosecution history in addition to the figure itself.

Similarly, where an identified portion of text refers to a figure or other material, the identification should be understood to include the referenced figure or other material as well.

Certain pieces of identified prior art disclose features of the Asserted Claims inherently. Defendant may rely on any evidence, including expert testimony, to establish the inherency of certain features of the prior art to invalidate the Asserted Claims.

III. P.R. 3-3(d): INVALIDITY UNDER 35 U.S.C. § 112

Defendant alleges that the Asserted Claims are invalid under 35 U.S.C. § 112 as indefinite (Section 112, ¶ 2) and for failing to satisfy the written description and enablement requirements (Section 112, ¶ 1). Defendant reserves all rights to amend its Invalidity Contentions under 35 U.S.C. § 112, including after the Asserted Claims are ultimately construed by the Court, in response to any interpretation of the Asserted Claims embodied in Carma's infringement positions, and/or to account for any changes in the law concerning invalidity under 35 U.S.C. § 112. Defendant also reserves the right to provide additional explanation and/or argument for its Invalidity Contentions under Section 112, including, for example, based on expert testimony. Defendant's contentions that the Asserted Claims are invalid under Section 112 are not admissions regarding the construction or scope of the claims of the Asserted Patents, or that any of the claims of the Asserted Patents are not anticipated or rendered obvious by any prior art. All of the below statements are by way of example only. Any item disclosed below with respect to any patent or claim may, as appropriate, be asserted as a defense against any other patent or claim that has a similar claim limitation and patent disclosure.

A. Invalidity Under pre-AIA 35 U.S.C. § 112 ¶ 1 or 35 U.S.C. § 112(a)

Pre-AIA 35 U.S.C. § 112 ¶ 1 or 35 U.S.C. § 112(a) requires that the specification contain a written description of the invention. "[T]he hallmark of written description is disclosure." *Boston Sci. Corp. v. Johnson & Johnson*, 647 F.3d 1353, 1361–62 (Fed. Cir. 2011) (citation

omitted). The test for whether a specification adequately describes an invention is “whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date. . . . [T]he test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art [It] is a question of fact.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc); *Boston Sci.*, 647 F.3d at 1362.

The enablement requirement of Section 112 demands that the patent specification enable “those skilled in the art to make and use the full scope of the claimed invention without ‘undue experimentation.’” *Genentech, Inc. v. Novo Nordisk A/S*, 108 F.3d 1361, 1365 (Fed. Cir. 1997) (quoting *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993)). “[T]he scope of the claims must be less than or equal to the scope of the enablement.” *Nat’l Recovery Tech., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1196 (Fed. Cir. 1999). In other words, the claims must be enabled over their entire claimed range. *See id.* (finding lack of enablement because the “claim [] [was] broader than the enablement as taught in the specification”).

Defendant contends that the following Asserted Claims are invalid under pre-AIA 35 U.S.C. § 112 ¶ 1 or 35 U.S.C. § 112(a). Each Asserted Claim identified below (and each Asserted Claim that depends therefrom) is invalid under Section 112 ¶ 1 because the specification of the Asserted Patent fails to provide a sufficient written description and/or enabling disclosure, including because Carma is interpreting the claims for purposes of infringement more broadly than supported by the specification. For each listed term or phrase, Defendant believes the term or phrase is invalid under pre-AIA 35 U.S.C. § 112 ¶ 1 or 35 U.S.C. § 112(a), as is any limitation including such terms or phrases, for the same reason(s).

Defendant further contends that Carma's apparent claim constructions render the asserted claims extremely broad in scope and well beyond the purported inventions described in the Asserted Patents. Based on a review of Carma's Infringement Contentions, Carma is attempting to construe the Asserted Patents in an idiosyncratic manner that is entirely inconsistent with the written specifications and prosecution histories of the Asserted Patents as well as with the understanding of one of ordinary skill in the art at the time the applications that issued as the Asserted Patents were filed. These interpretations are inconsistent with the plain language of the claims, the supporting description, and the prosecution history, and therefore render the claims invalid under Section 112, ¶ 1. *See, e.g., Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473, 1478–80 (Fed. Cir. 1998) (holding claims invalid under Section 112, ¶ 1 because an applicant cannot “broaden his claims to the extent that they are effectively bounded only by the prior art. Rather, [the cases] make clear that claims may be no broader than the supporting disclosure, and therefore that a narrow disclosure will limit claim breadth.”).

The Asserted Claims are invalid because the specification of the Asserted Patents do not include sufficient written description of the purported inventions allegedly claimed in the Asserted Patents, and the manner and process of making and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use any of the allegedly claimed inventions, pre-AIA 35 U.S.C. § 112 ¶ 1 or 35 U.S.C. § 112(a).

Moreover, the patent applications that issued as the Asserted Patents did not contain a written description of the purported invention sufficiently clear and complete to enable one of ordinary skill in the art to which the purported invention pertains to make and use the invention as claimed without undue experimentation. To the extent any of the Asserted Claims are found to

cover one or more of the accused products identified in Carma's Infringement Contentions, such Asserted Claims are also invalid under pre-AIA 35 U.S.C. § 112 ¶ 1 or 35 U.S.C. § 112(a) because their full scope is not enabled by the specifications of the relevant Asserted Patents.

1. U.S. Patent No. 7,840,427

Defendant contends that the full scope of each Asserted Claim of the '427 patent was not described with particularity in the specification to which priority is sought (including in view of Plaintiffs' assertions of infringement), so as not to set forth enough detail to allow a person of ordinary skill in the art to understand what is claimed and to recognize that the inventor invented what is claimed. Accordingly, each Asserted Claim of the '427 patent is invalid for lack of adequate written description and/or enablement under pre-AIA 35 U.S.C. § 112 ¶ 1, based at least on the following claim terms/phrases (and the broader claim limitations in which they appear):

- “establishing an electronic registry in said computer network of capacity containing an indication of the spare transport capacity and location of a plurality of transport vehicles” (cls. 1, 15);
- “establishing a network of nodes in said computer network representing a plurality of pick-up points and a plurality of drop-off points” (cl. 1);
- “abstracting a geographic representation of a predetermined transport vehicle journey by calculating places where said predetermined transport vehicle journey intersects said nodes and representing said predetermined transport vehicle journey in the format of a set of said nodes” (cls. 1, 15);
- “effecting a match in a match engine in said computer network of said transport capacity of at least one transport vehicle in said electronic registry of capacity with said transport demand for a journey of at least one transport user in said electronic registry of demand for transport between at least two of said nodes” (cl. 1);
- “a display system for displaying a network of nodes in said computer network representing a plurality of pick-up points and a plurality of drop-off points” (cl. 15);
- “a matching engine in said computer network to effect a match of said transport capacity of at least one transport vehicle in said electronic registry of capacity with said transport demand for a journey of at least one transport user in said electronic registry of demand” (cl. 15);

- “a processor in said computer network for abstracting a geographic representation of said transport demand for a journey relative to said nodes by calculating places where a predetermined journey of a transport vehicle intersects said nodes and representing said predetermined journey in the format of a set of said intersected nodes” (cl. 15);
- “generating transport user displays of real time transport information according to the stored capacity and to real time vehicle monitoring” (cl. 11).

2. U.S. Patent No. 10,741,071

Defendant contends that the full scope of each Asserted Claim of the '071 patent was not described with particularity in the specification to which priority is sought (including in view of Plaintiffs' assertions of infringement), so as not to set forth enough detail to allow a person of ordinary skill in the art to understand what is claimed and to recognize that the inventor invented what is claimed. Accordingly, each Asserted Claim of the '071 patent is invalid for lack of adequate written description and/or enablement under pre-AIA 35 U.S.C. § 112 ¶ 1, based at least on the following claim terms/phrases (and the broader claim limitations in which they appear):

- “shared transport system” (cls. 1, 14, 20);
- “share transport system” (cls. 1, 14, 20);
- “pick-up location” (cls. 1, 14, 20);
- “identifying, by the share transport system, a transport user and a transport provider based on” (cls. 1, 14, 20);
- “receiving, by the shared transport system, a transport request from a transport user device of a transport user, wherein the transport request includes a pick-up location” (cls. 1, 14, 20);
- “determining, by the shared transport system, a transport provider device of a transport provider in proximity to the pick-up location received in the transport request” (cls. 1, 14, 20);
- “receiving, by a proxy messaging system, a first message from a sender device of a sender, wherein the sender is one of the transport user and the transport provider, and the proxy messaging system is part of the shared transport system” (cls. 1, 14, 20);

- “generating, by the proxy messaging system, a second message, wherein the second message comprises contents of the first message and a first unique identifier associated with the sender” (cls. 1, 14, 20);
- “upon identifying, by the shared transport system, the transport user and the transport provider, and at a time before or after transport of the transport user by the transport provider: . . . receiving, by a proxy messaging system, a first message from a sender device of a sender . . . generating, by the proxy messaging system, a second message . . . and transmitting, by the proxy messaging system, the second message to a recipient device of a recipient, wherein the recipient is the other of the transport user and the transport provider” (cls. 1, 14, 20);
- “the second message is transmitted to the recipient device via at least one of a short messaging service, an e-mail service, a voice messaging service, and a phone call service” (cl. 13).

3. U.S. Patent No. 10,916,138

Defendant contends that the full scope of each Asserted Claim of the '138 patent was not described with particularity in the specification to which priority is sought (including in view of Plaintiffs' assertions of infringement), so as not to set forth enough detail to allow a person of ordinary skill in the art to understand what is claimed and to recognize that the inventor invented what is claimed. Accordingly, each Asserted Claim of the '138 patent is invalid for lack of adequate written description and/or enablement under pre-AIA 35 U.S.C. § 112 ¶ 1, based at least on the following claim terms/phrases (and the broader claim limitations in which they appear):

- “shared transport system” (cls. 1, 10, 18);
- “pick-up location” (cls. 1, 10, 18);
- “drop-off location” (cls. 1, 10, 18);
- “receiving, by the shared transport system, a first transport request from a first transport user device for delivery of a first good, wherein the first transport request includes a first pick-up location, a first drop-off location and a first needed space or capacity for the first good” (cls. 1, 10, 18);
- “identifying, by the shared transport system, a transport provider based on comparing provider characteristics of the transport provider with the first transport request, the provider characteristics including a current location or planned route and an available space

or capacity of the transport provider, the provider characteristics being received from a transport provider device of the transport provider” (cls. 1, 10, 18);

- “sending, by the shared transport system, first transport instructions to the transport provider device upon determining that the transport provider has accepted the first transport request” (cls. 1, 10, 18);
- “determining, by the shared transport system, that the transport provider has picked up the first good” (cls. 1, 10, 18);
- “determining, by the shared transport system, progress of the delivery of the first good based on determining a location of the transport provider device” (cls. 1, 10, 18);
- “receiving, by the shared transport system, a second transport request from a second transport user device for delivery of a second good, wherein the second transport request includes a second pick-up location, a second drop-off location, and a second needed space or capacity for the second good” (cls. 1, 10, 18);
- “determining, by the shared transport system, that the transport provider is available for the delivery of the second good based on comparing the updated provider characteristics associated with the transport provider with the second transport request” (cls. 1, 10, 18);
- “updating, by the shared transport system, the provider characteristics associated with the transport provider upon determining that the transport provider has accepted the first transport request” (cls. 1, 10, 18);
- “sending, by the shared transport system, the second transport request to the transport provider device” (cls. 1, 10, 18);
- “determining the location of the transport provider device comprises periodically polling location information associated with the transport provider device” (cls. 4, 13);
- “determining, by the shared transport system, that the transport provider has delivered the first good based on one of i) receiving a confirmation from the transport provider device or the transport user device and ii) determining that a coordinated proximity between the first good and the transport provider device no longer exists” (cl. 9).

4. U.S. Patent No. 11,017,668

Defendant contends that the full scope of each Asserted Claim of the '668 patent was not described with particularity in the specification to which priority is sought (including in view of Plaintiffs' assertions of infringement), so as not to set forth enough detail to allow a person of ordinary skill in the art to understand what is claimed and to recognize that the inventor invented

what is claimed. Accordingly, each Asserted Claim of the '668 patent is invalid for lack of adequate written description and/or enablement under pre-AIA 35 U.S.C. § 112 ¶ 1, based at least on the following claim terms/phrases (and the broader claim limitations in which they appear):

- “shared transport system” (cls. 1, 12, 20);
- “pick-up location” (cls. 1, 12, 20);
- “destination” (cls. 1, 12, 20);
- “receiving, by the shared transport system, a transport request from a transport user device of a transport user, the transport request including a pick-up location and a destination” (cls. 1, 12, 20);
- “transmitting, by the shared transport system, the transport request to a transport provider device of a transport provider” (cls. 1, 12, 20);
- “determining, by the shared transport system, an anomalous condition associated with the transport using at least one of the transport provider device and the transport user device” (cls. 1, 12, 20);
- “transmitting, by the shared transport system, a notification to one or more of the transport user device, the transport provider device, and security personnel based on the determined anomalous condition” (cls. 1, 12, 20);
- “determining that the transport provider device and the transport user device are within a predetermined proximity using Global Positioning System (GPS) technology enabled at the transport provider device and the transport user device” (cls. 2, 13);
- “determining the transport is off-route by comparing a location of the transport provider device with the destination or a route” (cls. 4, 15);
- “determining the transport has terminated before reaching the destination” (cls. 5, 16);
- “determining the transport has terminated at a location different from the destination” (cls. 8, 19).

5. U.S. Patent No. 11,164,456

Defendant contends that the full scope of each Asserted Claim of the '456 patent was not described with particularity in the specification to which priority is sought (including in view of Plaintiffs' assertions of infringement), so as not to set forth enough detail to allow a person of

ordinary skill in the art to understand what is claimed and to recognize that the inventor invented what is claimed. Accordingly, each Asserted Claim of the '456 patent is invalid for lack of adequate written description and/or enablement under pre-AIA 35 U.S.C. § 112 ¶ 1, based at least on the following claim terms/phrases (and the broader claim limitations in which they appear):

- “pick-up location” (cls. 1, 11, 19);
- “drop-off location” (cls. 1, 11, 19);
- “receiving, from a transport user application operating on a transport user device corresponding to a transport user, a pick-up request for at least one person or item, the pick-up request identifying a pick-up location and a drop-off location for the at least one person or item;” (cls. 1, 11, 19);
- “identifying one or more transport providers available to service the pick-up request, based on information from a transport provider application operating on one or more transport provider devices corresponding to the identified one or more transport providers;” (cls. 1, 11, 19);
- “causing the transport provider device to display, via the transport provider application, one or more of the pick-up location or a transport user rating score associated with the transport user” (cls. 1, 11, 19);
- “causing the transport provider device to display, via the transport provider application, at least: (1) navigation instructions from a location of the transport provider to the pick-up location, the location determined based on GPS position data of the transport provider device; and (2) information descriptive of the at least one person or item” (cls. 1, 11, 19);
- “causing the transport user device to display, via the transport user application: information descriptive of one or more of the transport provider, a transport provider vehicle associated with the transport provider, or a transport provider rating score associated with the transport provider; an estimated cost associated with servicing the pick-up request; an estimated time associated with arrival of the at least one person or item at the drop-off location; and location information of the transport provider based on the GPS position data of the transport provider device” (cls. 1, 11, 19);
- “causing the transport provider device, via the transport provider application, to display navigation directions to the drop-off location based on the GPS position data of the transport provider device” (cls. 1, 11, 19);
- “causing the transport user device, via the transport user application, to display one or more of an estimated time associated with arrival of the at least one person or item at the drop-off location or the location information of the transport provider based on the GPS position data of the transport provider device” (cls. 1, 11, 19);

- “tracking progress of travel of the transport provider along a route from the pick-up location to the drop-off location based on one or more of the GPS position data of the transport provider device or GPS position data of the transport user device” (cls. 1, 11, 19);
- “receiving an indication that the transport provider has delivered the at least one person or item to the drop-off location from at least one of the transport provider device or the transport user device” (cls. 1, 11, 19);
- “causing the cost for servicing the pick-up request to be charged to a payment method associated with the transport user” (cls. 1, 11, 19);
- “transmitting trip summary data associated with the pick-up request to the transport user device, the trip summary data displayable via the transport user application and including a cost for servicing the pick-up request and a transport provider rating prompt soliciting the transport user to provide a rating value for the transport provider” (cls. 1, 11, 19);
- “receiving the rating value for the transport provider from the transport user device via the transport user application . . . updating the transport provider rating score” (cls. 1, 11, 19);
- “determining one or more of (i) whether the at least one person is remote from the pick-up location or (ii) whether an alternative pick-up location is located near the pick-up location . . .” (cls. 2, 12);
- “causing at least one of the transport user device or the transport provider device to display, via the transport user application or the transport provider application, respectively, an interface configured to generate, transmit, and receive messages to and from an other of the at least one of the transport user device or the transport provider device, wherein contact information of the transport user and of the transport provider are anonymized” (cls. 5, 14);
- “monitoring the progress of travel of the transport provider along the route from the pick-up location to the drop-off location for anomalies, wherein the shared transport system is configured to transmit an anomaly notification to one or more of the transport user device, the transport provider device, or one or more devices associated with safety personnel in response to detection of an anomaly in the progress of the travel of the transport provider” (cl. 7).

B. Invalidity Under 35 U.S.C. § 112 ¶ 2

Claims are indefinite under pre-AIA 35 U.S.C. § 112 ¶ 2 or 35 U.S.C. § 112(b) when they “fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 898–99 (2014). For example, to the extent an asserted apparatus claim includes both apparatus and method limitations, that claim is invalid for indefiniteness under pre-AIA Section 112 ¶ 2 or Section 112(b) because it fails to identify or

notify the public of what constitutes direct infringement. See *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377 (Fed. Cir. 2005). Similarly, a claim that uses means-plus function claiming is indefinite “[i]f the patentee fails to disclose adequate corresponding structure.” *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1352 (Fed. Cir. 2015). A claim can also be found indefinite if it uses terms of degree. See *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014). As the Federal Circuit has “explained, a term of degree fails to provide sufficient notice of its scope if it depends ‘on the unpredictable vagaries of any one person’s opinion.’” *Id.* (citation omitted). In addition, “a claim term that lacks an antecedent basis may . . . render a claim indefinite.” *In re Downing*, 754 F. App’x 988, 996 (Fed. Cir. 2018).

Defendant contends that the following Asserted Claims are invalid under pre-AIA 35 U.S.C. Section 112 ¶ 2 or Section 112(b). Each Asserted Claim identified below (and each Asserted Claim that depends therefrom) is invalid under pre-AIA Section 112 ¶ 2 or Section 112(b) because they fail to inform, with reasonable certainty, those skilled in the art about the scope of the claimed invention. For each listed term or phrase, Defendant believes the term or phrase is invalid under pre-AIA Section 112 ¶ 2 or Section 112(b), and any limitation including such term or phrase is also indefinite. Therefore, identification of a term or phrase below necessarily identifies any broad term/phrase or claim limitation in which the identified term or phrase appears.

1. U.S. Patent No. 7,840,427

- “match engine” / “matching engine” (cls. 1, 15);
- “establishing a network of nodes in said computer network representing a plurality of pick-up points and a plurality of drop-off points” (cl. 1);
- “establishing an electronic registry in said computer network of capacity containing an indication of the spare transport capacity and location of a plurality of transport vehicles” (cls. 1, 15);
- “abstracting a geographic representation of a predetermined transport vehicle journey by calculating places where said predetermined transport vehicle journey intersects said nodes

and representing said predetermined transport vehicle journey in the format of a set of said nodes” (cls. 1, 4, 15);

- “effecting a match in a match engine in said computer network of said transport capacity of at least one transport vehicle in said electronic registry of capacity with said transport demand for a journey of at least one transport user in said electronic registry of demand for transport between at least two of said nodes” (cl. 1);
- “a display system for displaying a network of nodes in said computer network representing a plurality of pick-up points and a plurality of drop-off points” (cl. 15);
- “a matching engine in said computer network to effect a match of said transport capacity of at least one transport vehicle in said electronic registry of capacity with said transport demand for a journey of at least one transport user in said electronic registry of demand” (cl. 15);
- “the step of establishing said network of nodes is determined by creating an in-vehicle system” (cl. 3);
- “generating transport user displays of real time transport information according to the stored capacity and to real time vehicle monitoring” (cl. 11).

2. U.S. Patent No. 10,741,071

- “shared transport system” (cls. 1, 14, 20);
- “share transport system” (cls. 1, 14, 20);
- “proxy messaging system” (cls. 1, 14, 20);
- “pick-up location” (cls. 1, 14, 20);
- “receiving, by the shared transport system, a transport request from a transport user device of a transport user, wherein the transport request includes a pick-up location” (cls. 1, 14, 20);
- “determining, by the shared transport system, a transport provider device of a transport provider in proximity to the pick-up location received in the transport request” (cls. 1, 14, 20);
- “receiving, by a proxy messaging system, a first message from a sender device of a sender, wherein the sender is one of the transport user and the transport provider, and the proxy messaging system is part of the shared transport system” (cls. 1, 14, 20);
- “generating, by the proxy messaging system, a second message, wherein the second message comprises contents of the first message and a first unique identifier associated with the sender” (cls. 1, 14, 20);

- “transmitting, by the proxy messaging system, the second message to a recipient device of a recipient” (cls. 1, 14, 20);
- “without private information associated with the sender, the private information being a name and/or contact information of the sender” (cls. 2, 15);
- “the second message is transmitted to the recipient device via at least one of a short messaging service, an e-mail service, a voice messaging service, and a phone call service” (cl. 13).

3. U.S. Patent No. 10,916,138

- “shared transport system” (cls. 1, 10, 18);
- “pick-up location” (cls. 1, 10, 18);
- “drop-off location” (cls. 1, 10, 18);
- “sending, by the shared transport system, first transport instructions to the transport provider device upon determining that the transport provider has accepted the first transport request” (cls. 1, 10, 18);
- “first needed space or capacity for the first good” / “second needed space or capacity for the second good” (cls. 1, 10, 18);
- “receiving, by the shared transport system, a first transport request from a first transport user device for delivery of a first good, wherein the first transport request includes a first pick-up location, a first drop-off location and a first needed space or capacity for the first good” (cls. 1, 10, 18);
- “determining, by the shared transport system, that the transport provider has picked up the first good” (cls. 1, 10, 18);
- “determining, by the shared transport system, progress of the delivery of the first good based on determining a location of the transport provider device” (cls. 1, 10, 18);
- “receiving, by the shared transport system, a second transport request from a second transport user device for delivery of a second good, wherein the second transport request includes a second pick-up location, a second drop-off location, and a second needed space or capacity for the second good” (cls. 1, 10, 18);
- “determining, by the shared transport system, that the transport provider is available for the delivery of the second good based on comparing the updated provider characteristics associated with the transport provider with the second transport request” (cls. 1, 10, 18);
- “determining the location of the transport provider device comprises periodically polling location information associated with the transport provider device” (cls. 4, 13);

- “determining, by the shared transport system, that the transport provider has delivered the first good based on one of i) receiving a confirmation from the transport provider device or the transport user device and ii) determining that a coordinated proximity between the first good and the transport provider device no longer exists” (cl. 9).

4. U.S. Patent No. 11,017,668

- “anomalous condition associated with the transport” (cls. 1, 12, 20);
- “shared transport system” (cls. 1, 12, 20);
- “pick-up location” (cls. 1, 12, 20);
- “destination” (cls. 1, 12, 20);
- “transmitting, by the shared transport system, the transport request to a transport provider device of a transport provider” (cls. 1, 12, 20);
- “determining, by the shared transport system, an anomalous condition associated with the transport using at least one of the transport provider device and the transport user device” (cls. 1, 12, 20);
- “transmitting, by the shared transport system, a notification to one or more of the transport user device, the transport provider device, and security personnel based on the determined anomalous condition” (cls. 1, 12, 20);
- “determining that the transport provider device and the transport user device are within a predetermined proximity using Global Positioning System (GPS) technology enabled at the transport provider device and the transport user device” (cls. 2, 13);
- “determining the transport is off-route by comparing a location of the transport provider device with the destination or a route” (cls. 4, 15);
- “determining the transport has terminated before reaching the destination” (cls. 5, 16);
- “determining the transport has terminated at a location different from the destination” (cls. 8, 19).

5. U.S. Patent No. 11,164,456

- “location information of the transport provider” (cls. 1, 11, 19);
- “pick-up location” (cls. 1, 11, 19);
- “drop-off location” (cls. 1, 11, 19);

- “causing the transport provider device to display, via the transport provider application, one or more of the pick-up location or a transport user rating score associated with the transport user” (cls. 1, 11, 19);
- “causing the transport provider device to display, via the transport provider application, at least: (1) navigation instructions from a location of the transport provider to the pick-up location, the location determined based on GPS position data of the transport provider device; and (2) information descriptive of the at least one person or item” (cls. 1, 11, 19);
- “receiving an indication, based on the GPS position data of the transport provider device, that the transport provider is approaching the pick-up location” (cls. 1, 11, 19);
- “in response to receiving the indication that the transport provider is approaching the pick-up location, causing the transport user device, via the transport user application, to display a notification indicative of the approaching transport provider” (cls. 1, 11, 19);
- “causing the transport user device to display, via the transport user application: information descriptive of one or more of the transport provider, a transport provider vehicle associated with the transport provider, or a transport provider rating score associated with the transport provider; an estimated cost associated with servicing the pick-up request; an estimated time associated with arrival of the at least one person or item at the drop-off location; and location information of the transport provider based on the GPS position data of the transport provider device” (cls. 1, 11, 19);
- “causing the transport provider device, via the transport provider application, to display navigation directions to the drop-off location based on the GPS position data of the transport provider device” (cls. 1, 11, 19);
- “causing the transport user device, via the transport user application, to display one or more of an estimated time associated with arrival of the at least one person or item at the drop-off location or the location information of the transport provider based on the GPS position data of the transport provider device” (cls. 1, 11, 19);
- “causing the cost for servicing the pick-up request to be charged to a payment method associated with the transport user” (cls. 1, 11, 19);
- “causing the transport provider device, via the transport provider application, to display navigation directions to the drop-off location based on the GPS position data of the transport provider device” (cls. 1, 11, 19);
- “transmitting trip summary data associated with the pick-up request to the transport user device, the trip summary data displayable via the transport user application and including a cost for servicing the pick-up request and a transport provider rating prompt soliciting the transport user to provide a rating value for the transport provider” (cls. 1, 11, 19);

- “receiving the rating value for the transport provider from the transport user device via the transport user application . . . updating the transport provider rating score of the transport provider based on the received rating value for the transport provider” (cls. 1, 11, 19);
- “determining one or more of (i) whether the at least one person is remote from the pick-up location or (ii) whether an alternative pick-up location is located near the pick-up location . . .” (cls. 2, 12);
- “causing at least one of the transport user device or the transport provider device to display, via the transport user application or the transport provider application, respectively, an interface configured to generate, transmit, and receive messages to and from an other of the at least one of the transport user device or the transport provider device, wherein contact information of the transport user and of the transport provider are anonymized” (cls. 5, 14);
- “monitoring the progress of travel of the transport provider along the route from the pick-up location to the drop-off location for anomalies, wherein the shared transport system is configured to transmit an anomaly notification to one or more of the transport user device, the transport provider device, or one or more devices associated with safety personnel in response to detection of an anomaly in the progress of the travel of the transport provider” (cl. 7).

Additionally, a claim is invalid if it fails to recite “the subject matter which the applicant regards as his invention.” *Allen Eng’g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1349 (Fed. Cir. 2002). “Where it would be apparent to one of skill in the art, based on the specification, that the invention set forth in a claim is not what the patentee regarded as his invention,” courts hold that the claims are invalid under 35 U.S.C. § 112 ¶ 2. *Id.* Defendant additionally contends that the asserted claims of U.S. Patent Nos. 10,741,071, 10,916,138, 11,017,668, and 11,164,456 are invalid because they do not claim the subject matter which the applicant regards as his invention. *See, e.g.*, ’427 patent at 16:65–17:19.

C. Terms Governed by 35 U.S.C. § 112 ¶ 6

Defendant reserve the right to contend that the following terms in the Asserted Claims are governed 35 U.S.C. § 112 ¶ 6:

1. U.S. Patent No. 7,840,427

- “effecting a match in a match engine” (cl. 1)

- “a matching engine in said computer network to effect a match” (cl. 15)

2. U.S. Patent No. 10,741,071

- “shared transport system” (cls. 1, 14, 20)

3. U.S. Patent No. 10,916,138

- “shared transport system” (cls. 1, 10, 18)

4. U.S. Patent No. 11,017,668

- “shared transport system” (cls. 1, 12, 20)

5. U.S. Patent No. 11,164,456

- “shared transport system” (cls. 1, 11, 19)

IV. ACCOMPANYING DOCUMENT PRODUCTION

Pursuant to Local Patent Rules 3-3 and 3-4, Defendant has produced or will contemporaneously produce the prior art referenced in these Invalidity Contentions as well as source code, specifications, schematics, flow charts, artwork, formulas, or other documentation sufficient to show the operation of any aspects or elements of the Accused Instrumentalities made, sold, or offered for sale by Defendant. Defendant will produce any additional documents uncovered during discovery, including through third-party subpoenas.

Dated: July 30, 2025

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CERTIFICATE OF SERVICE

I certify that the foregoing document was served electronically on July 30, 2025, on all counsel who have consented to electronic service.

/s/ Mark N. Reiter