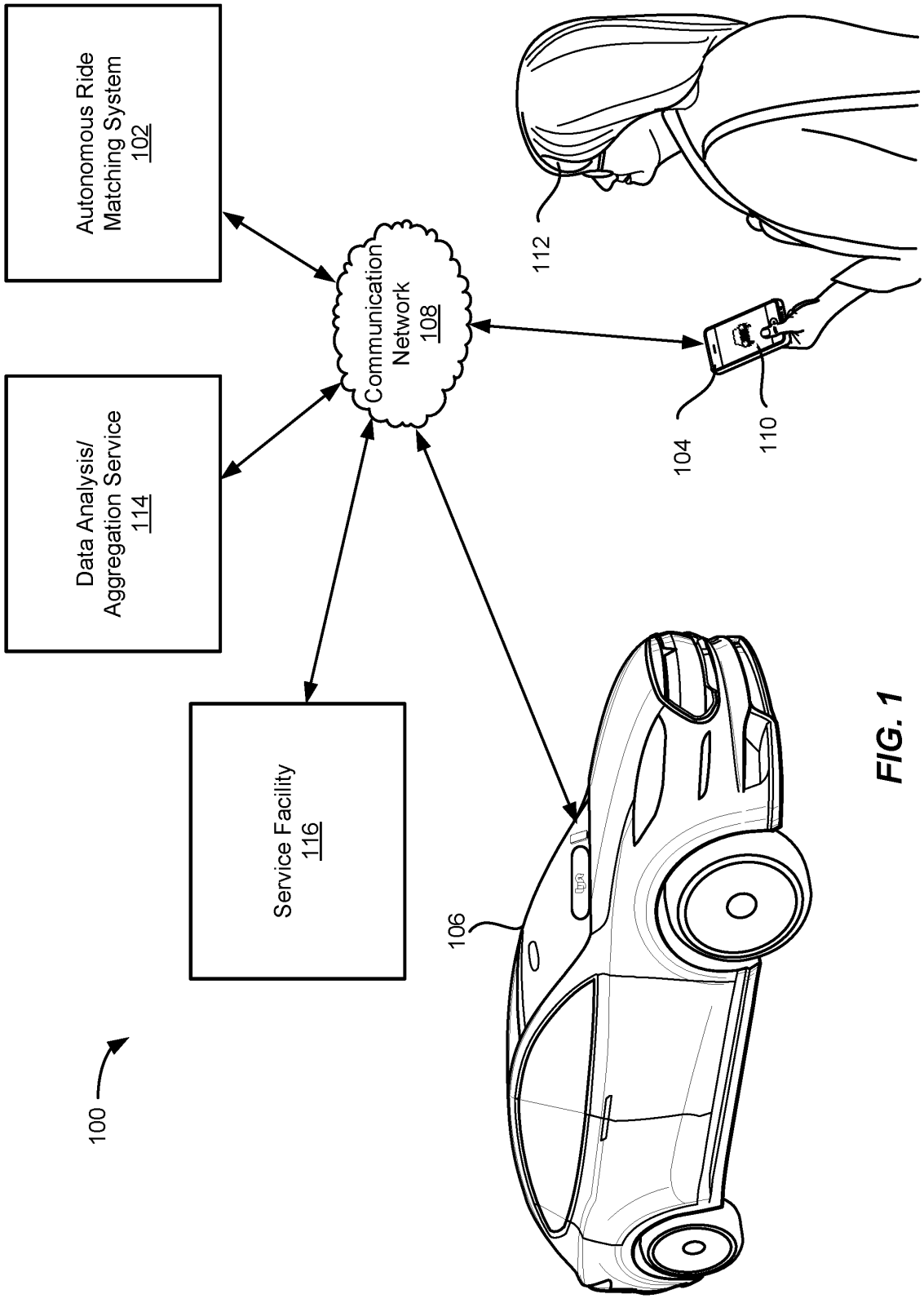

Autonomous Ride Matching System 102
Data Analysis/ Aggregation Service 114
Service Facility 116
Communication Network 108
100
106
104
110
112

FIG. 1

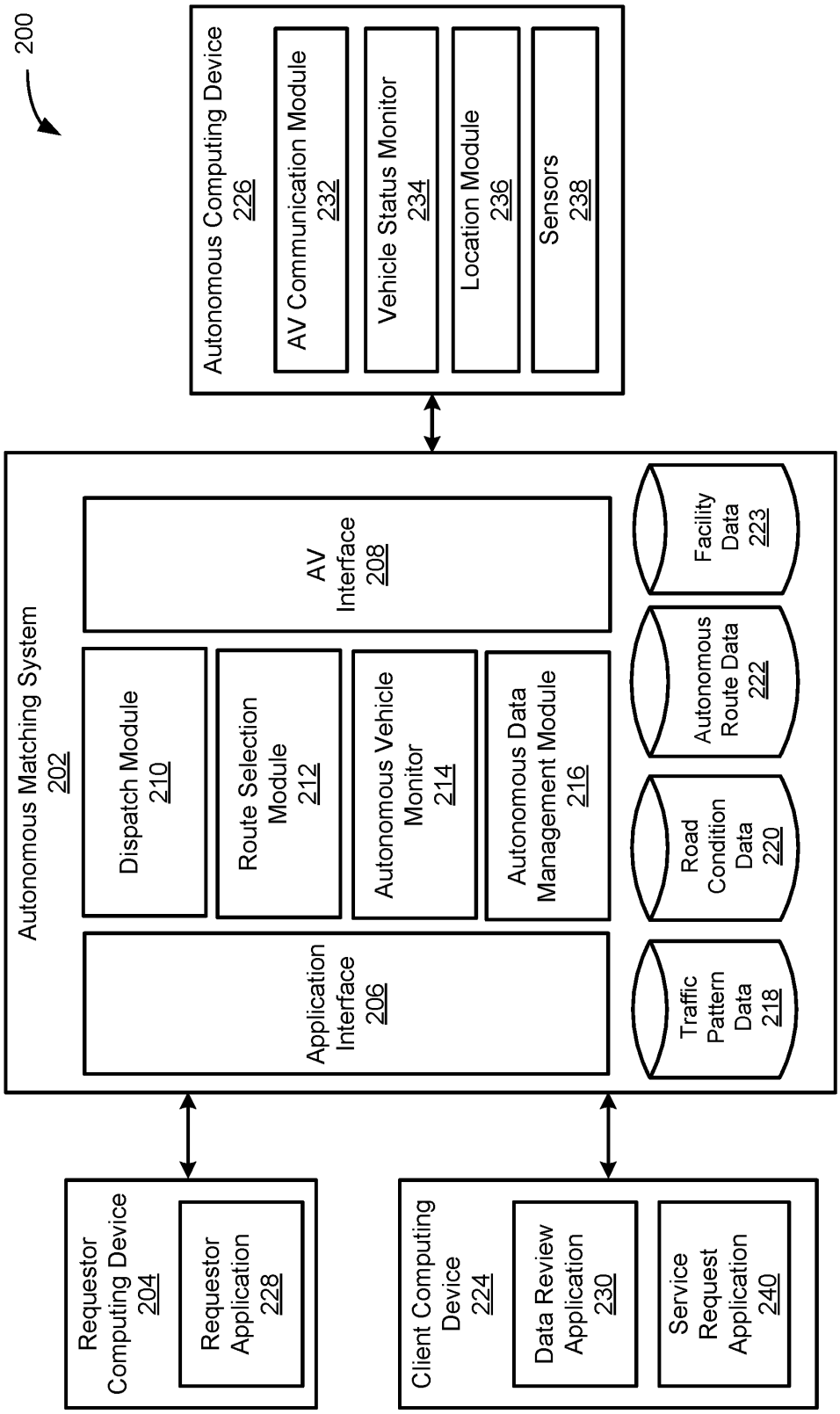

200
Autonomous Computing Device 226
AV Communication Module 232
Vehicle Status Monitor 234
Location Module 236
Sensors 238
Autonomous Matching System 202
AV Interface 208
Dispatch Module 210
Route Selection Module 212
Autonomous Vehicle Monitor 214
Autonomous Data Management Module 216
Application Interface 206
Facility Data 223
Autonomous Route Data 222
Road Condition Data 220
Traffic Pattern Data 218
Requestor Computing Device 204
Requestor Application 228
Client Computing Device 224
Data Review Application 230
Service Request Application 240

FIG. 2

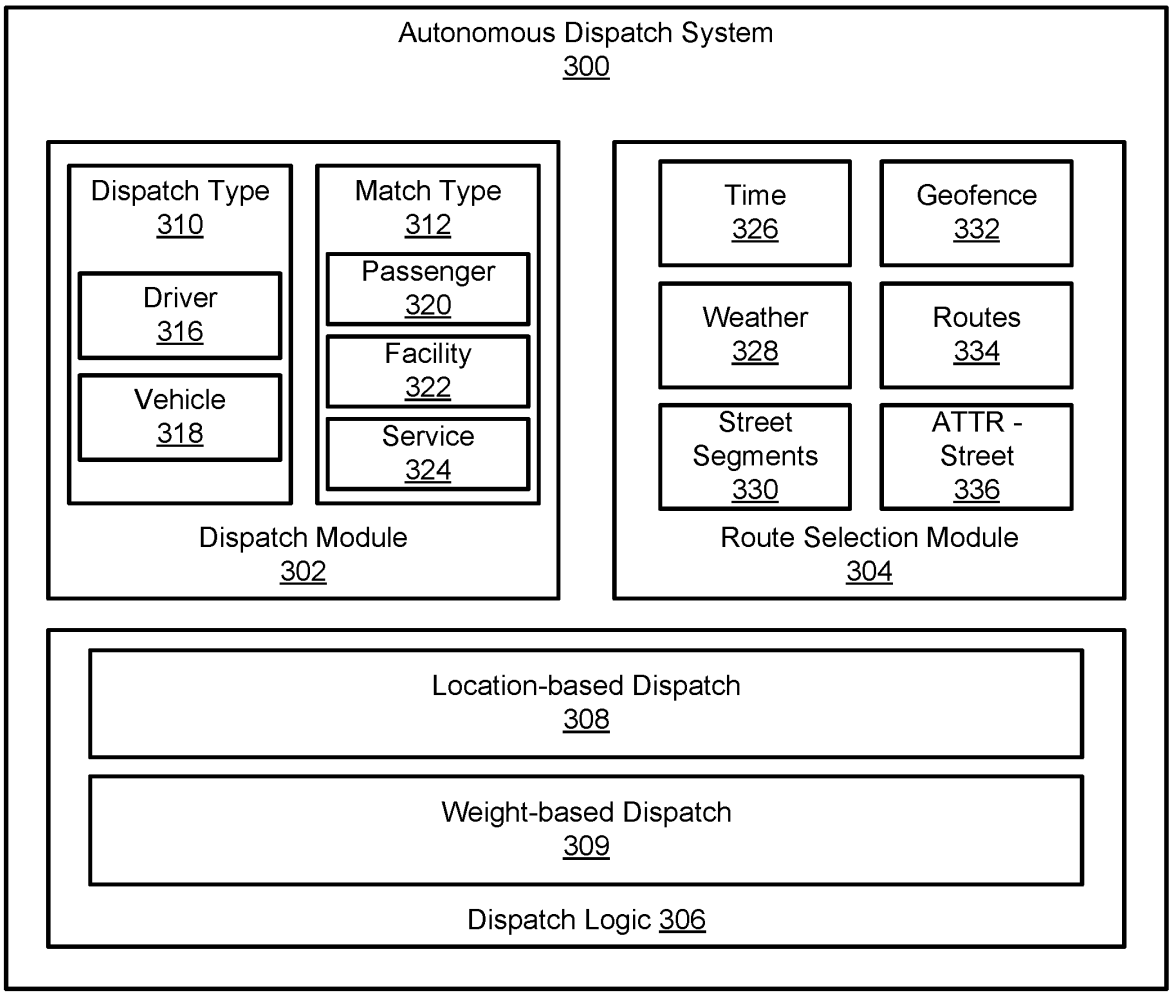

Autonomous Dispatch System
300
Dispatch Type
310
Driver
316
Vehicle
318
Match Type
312
Passenger
320
Facility
322
Service
324
Dispatch Module
302
Time
326
Geofence
332
Weather
328
Routes
334
Street Segments
330
ATTR - Street
336
Route Selection Module
304
Location-based Dispatch
308
Weight-based Dispatch
309
Dispatch Logic 306

FIG. 3

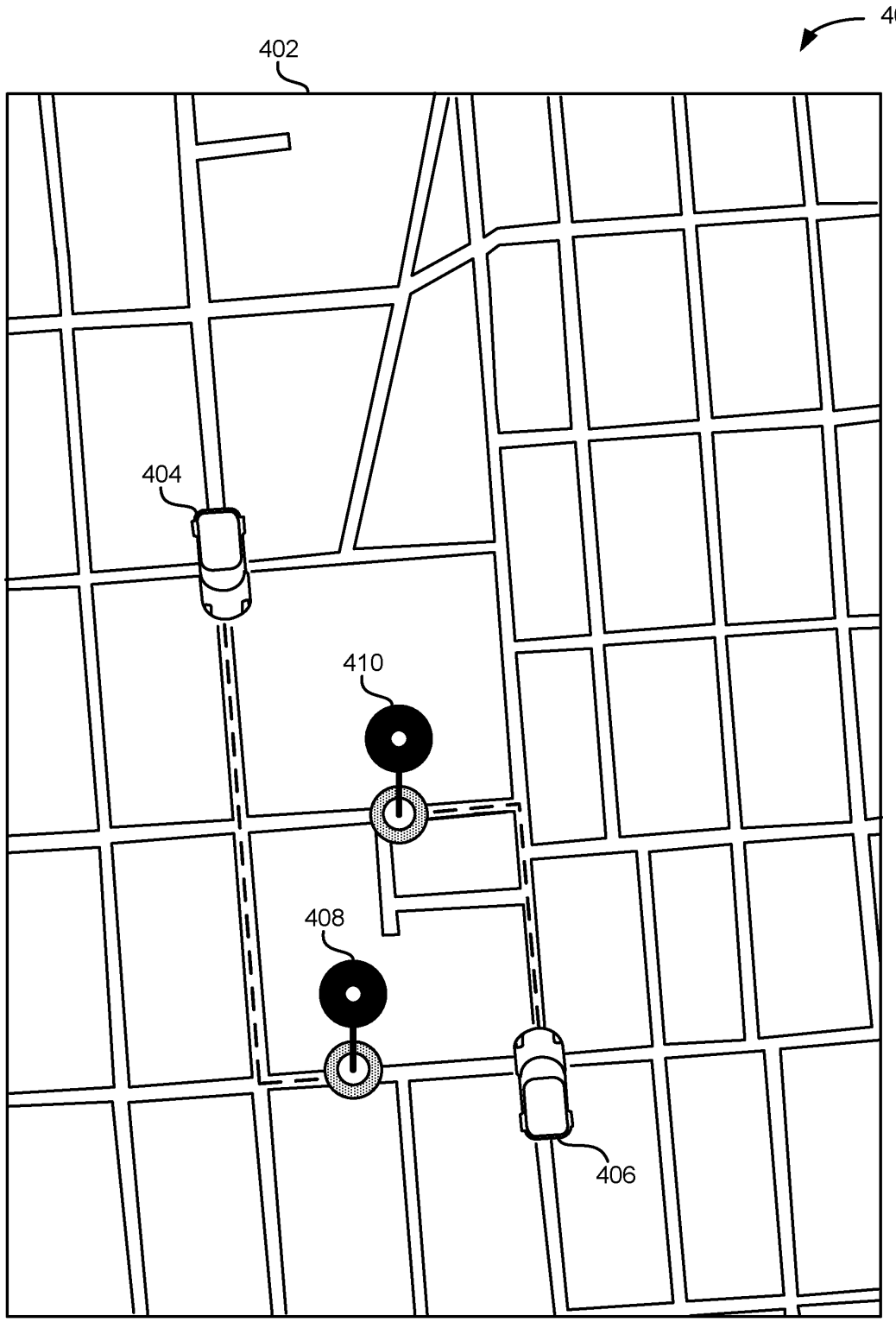


FIG. 4

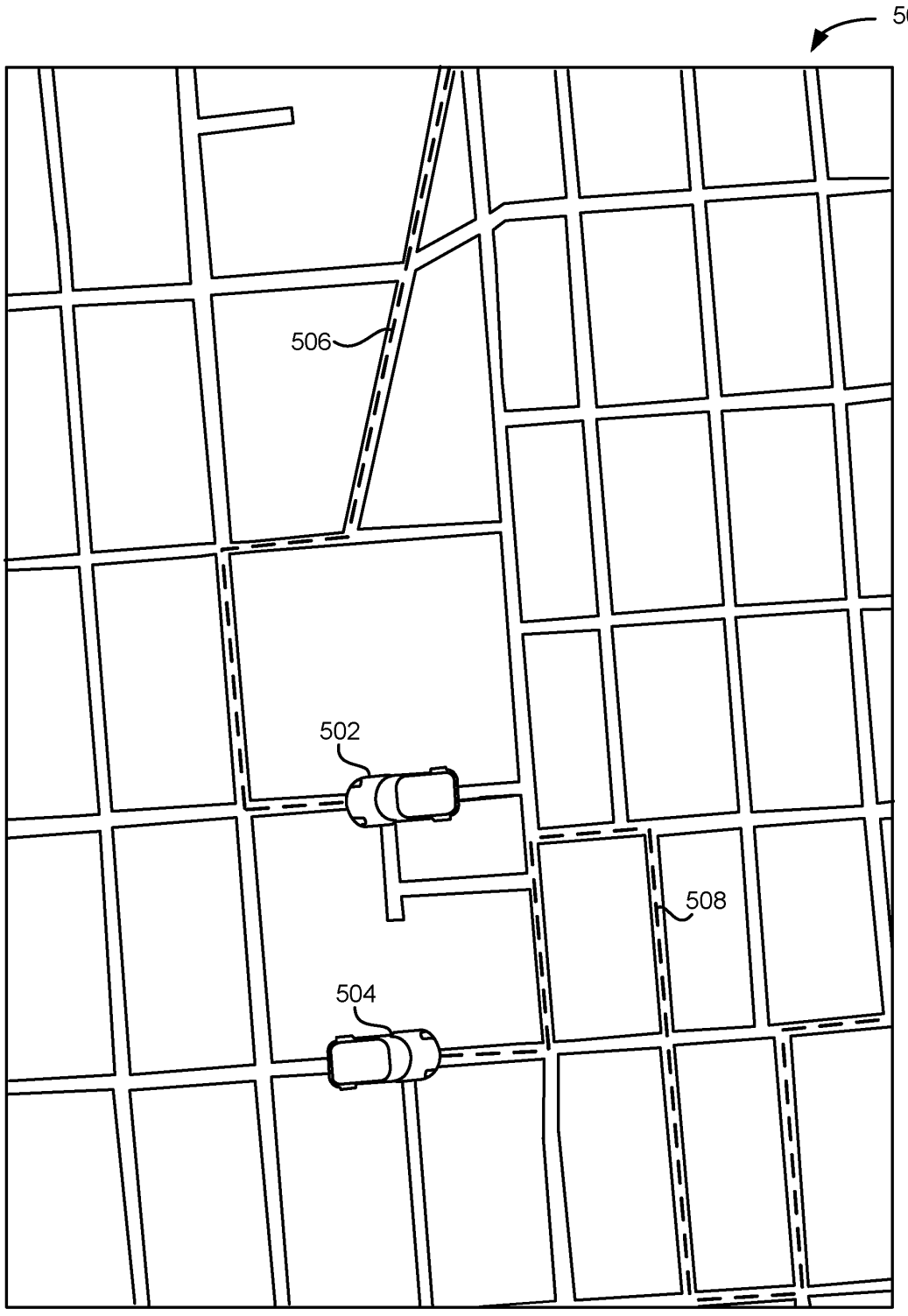


FIG. 5

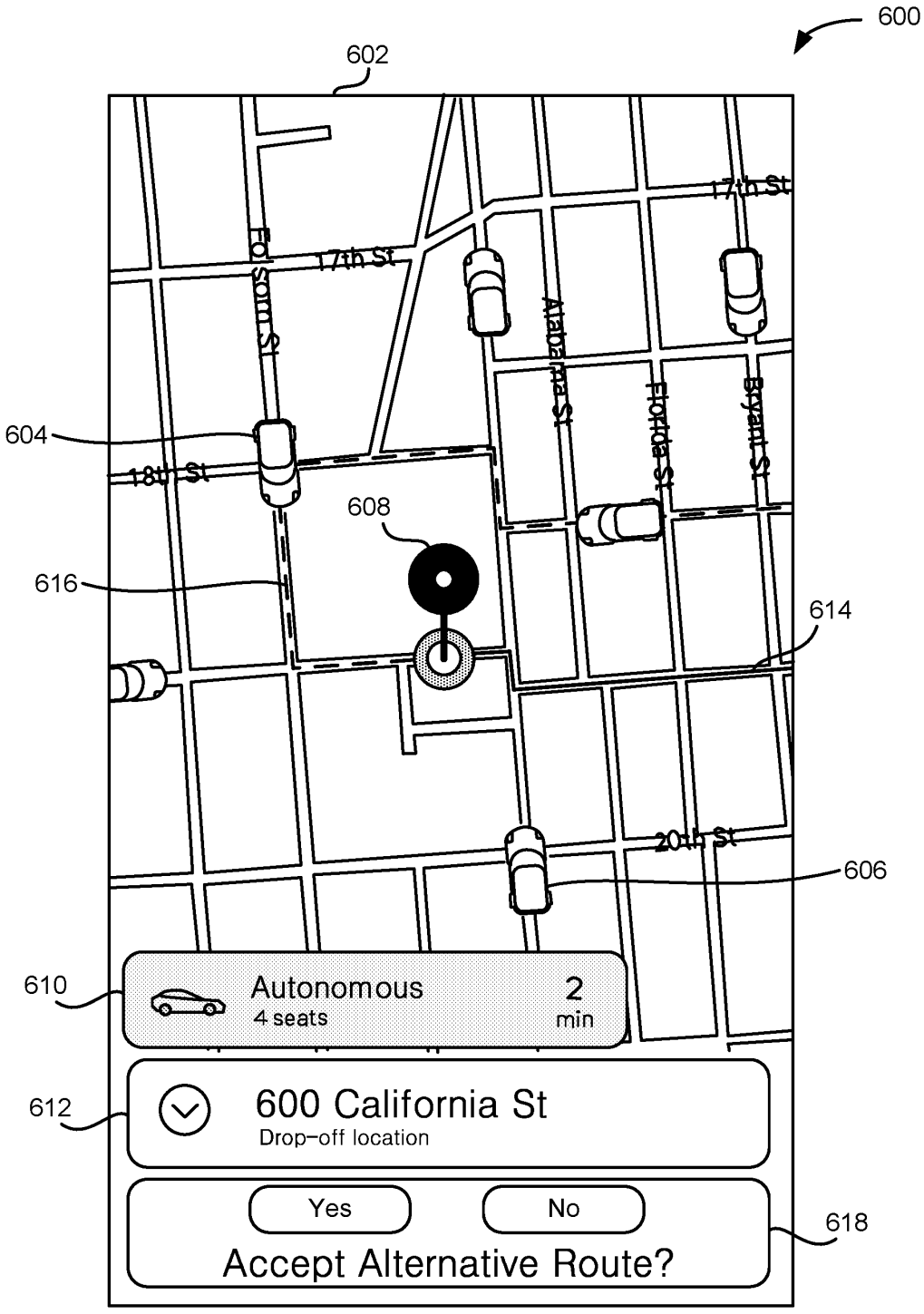

600
602
17th St
Folsom St
17th St
Alabama St
Florida St
Bryant St
604
18th St
608
616
614
20th St
606
610
Autonomous
4 seats
2
min
612
600 California St
Drop-off location
Yes
No
618
Accept Alternative Route?

FIG. 6

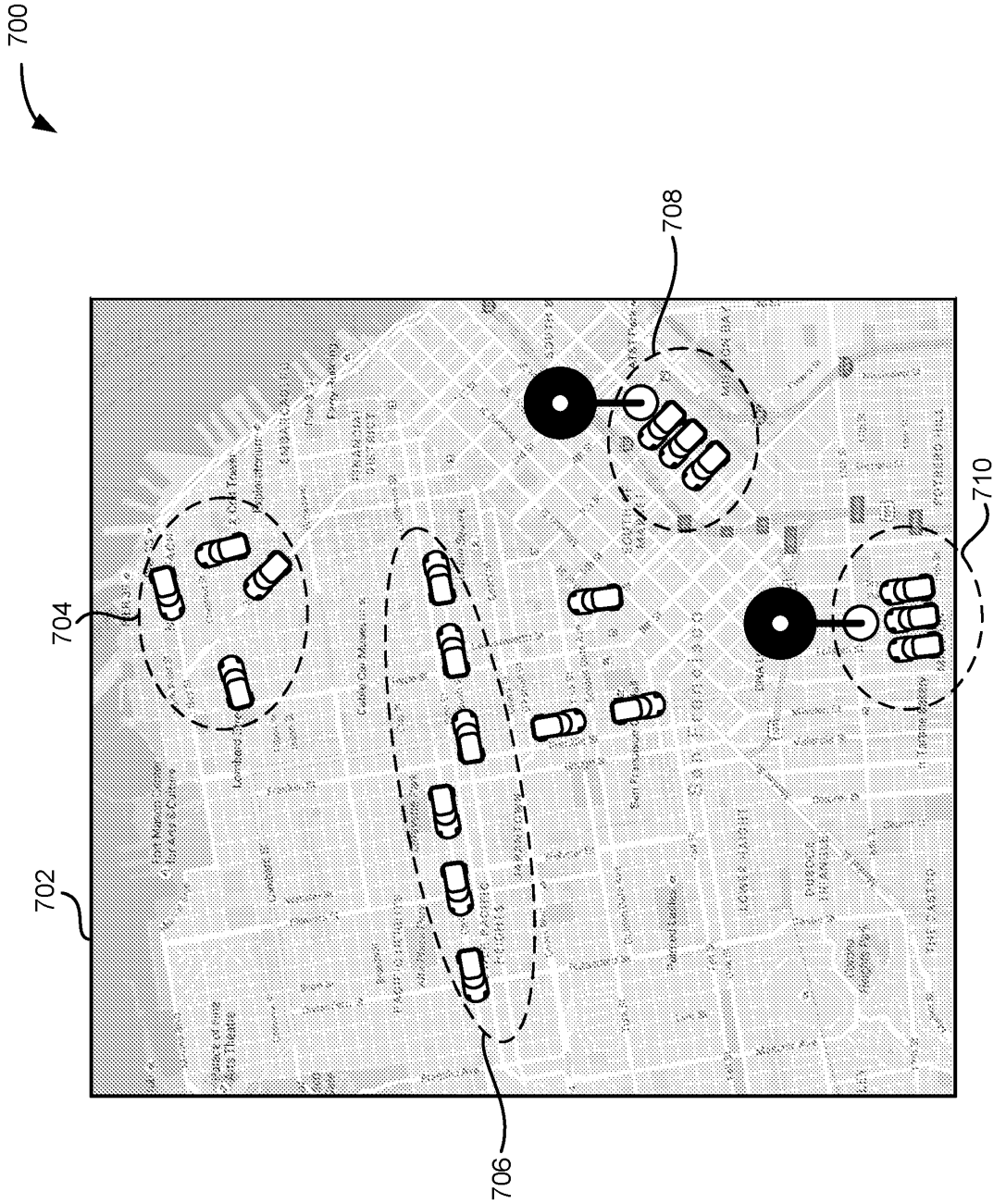


FIG. 7

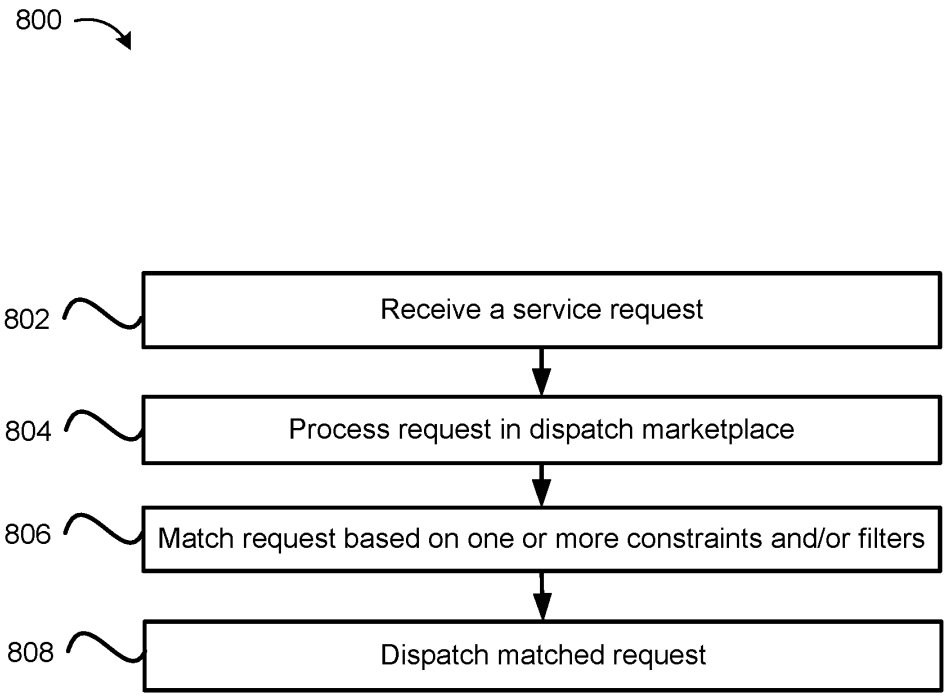

800
802
Receive a service request
804
Process request in dispatch marketplace
806
Match request based on one or more constraints and/or filters
808
Dispatch matched request

FIG. 8

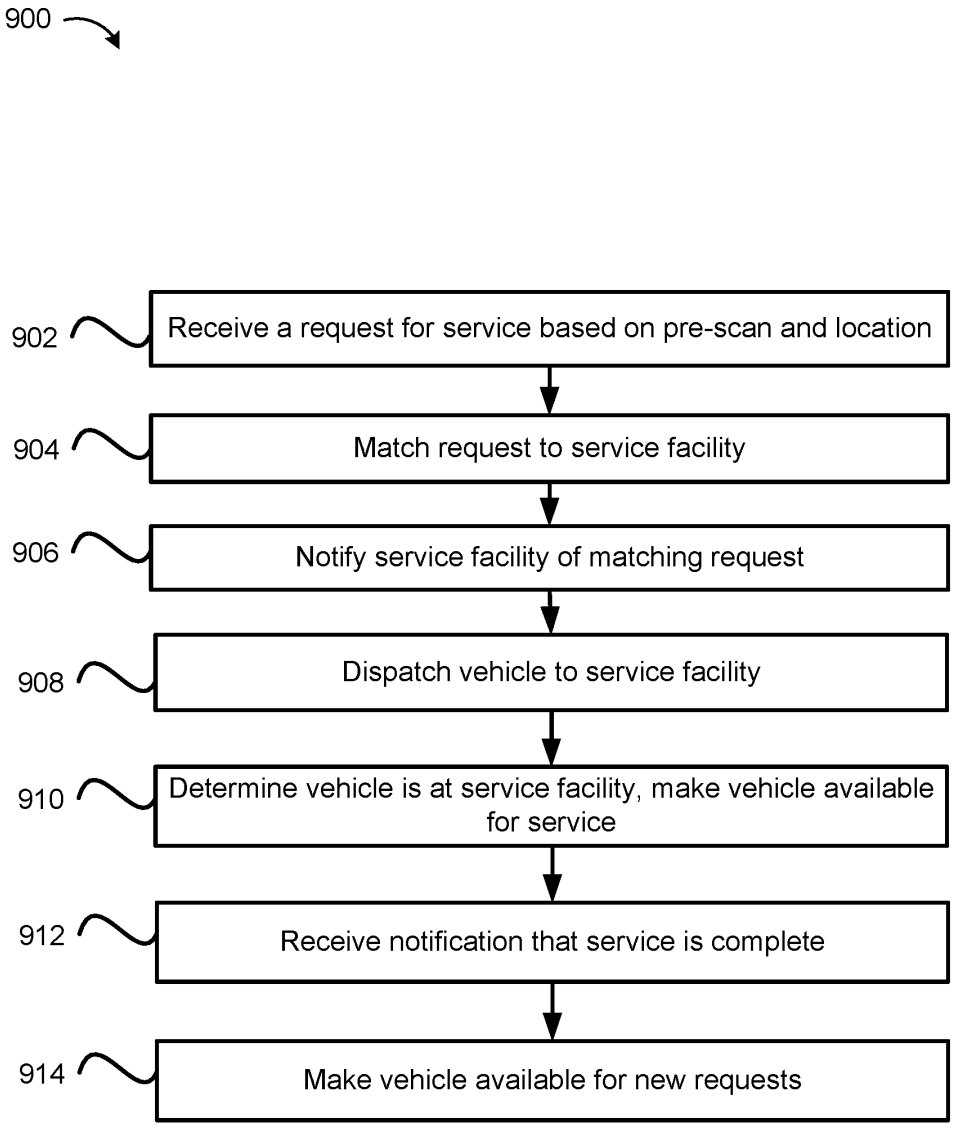

900
902
Receive a request for service based on pre-scan and location
904
Match request to service facility
906
Notify service facility of matching request
908
Dispatch vehicle to service facility
910
Determine vehicle is at service facility, make vehicle available for service
912
Receive notification that service is complete
914
Make vehicle available for new requests

FIG. 9

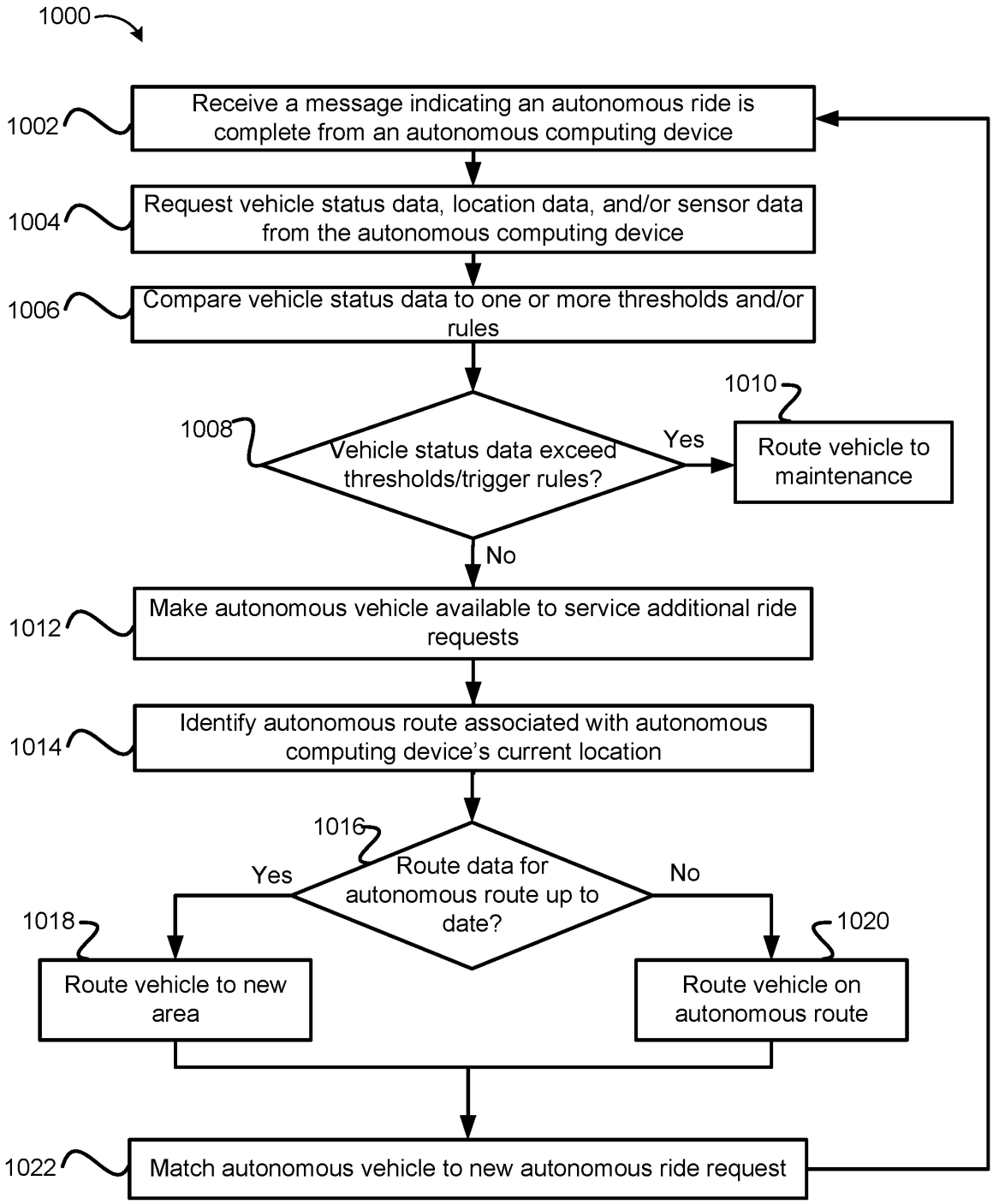

1000
1002
Receive a message indicating an autonomous ride is complete from an autonomous computing device
1004
Request vehicle status data, location data, and/or sensor data from the autonomous computing device
1006
Compare vehicle status data to one or more thresholds and/or rules
1008
Vehicle status data exceed thresholds/trigger rules?
Yes
1010
Route vehicle to maintenance
No
1012
Make autonomous vehicle available to service additional ride requests
1014
Identify autonomous route associated with autonomous computing device's current location
1016
Route data for autonomous route up to date?
Yes
No
1018
Route vehicle to new area
1020
Route vehicle on autonomous route
1022
Match autonomous vehicle to new autonomous ride request

FIG. 10

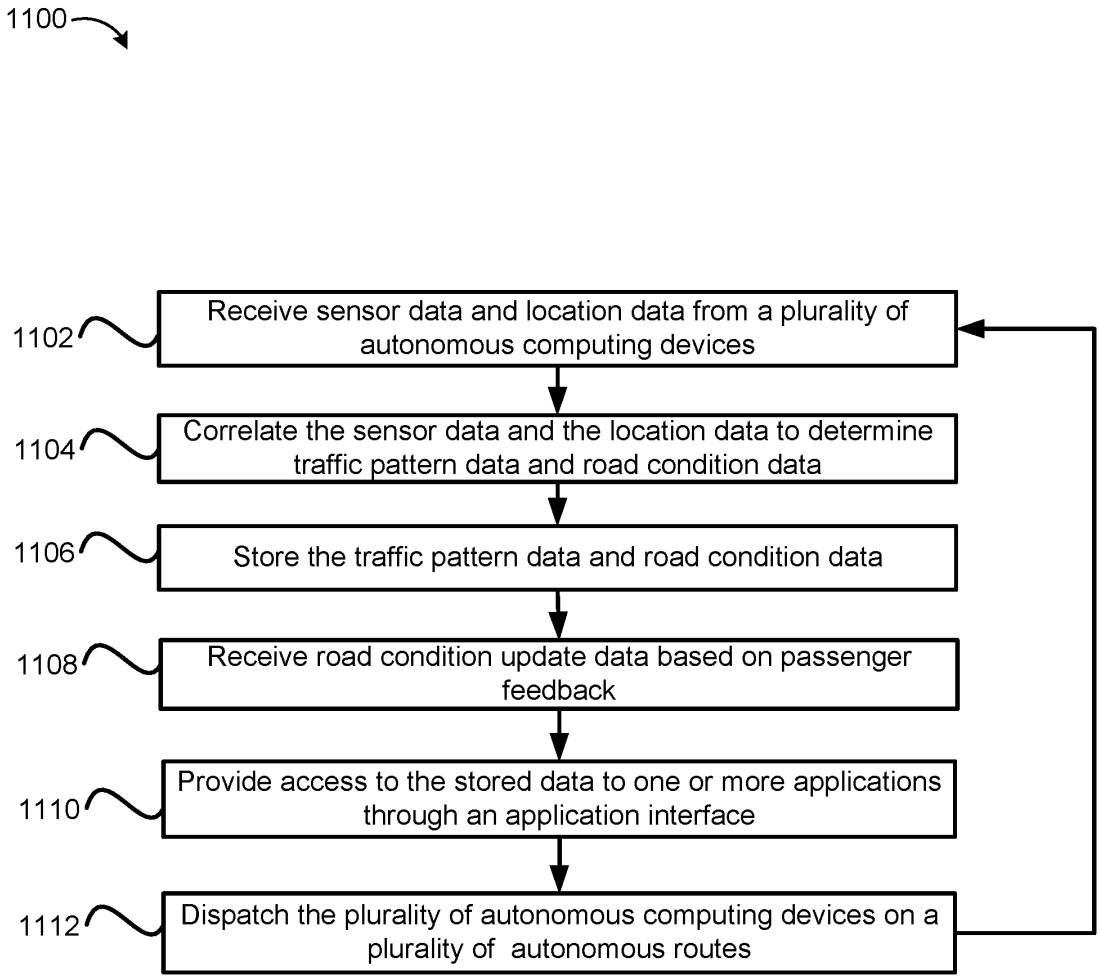

1100
1102
Receive sensor data and location data from a plurality of autonomous computing devices
1104
Correlate the sensor data and the location data to determine traffic pattern data and road condition data
1106
Store the traffic pattern data and road condition data
1108
Receive road condition update data based on passenger feedback
1110
Provide access to the stored data to one or more applications through an application interface
1112
Dispatch the plurality of autonomous computing devices on a plurality of autonomous routes

FIG. 11

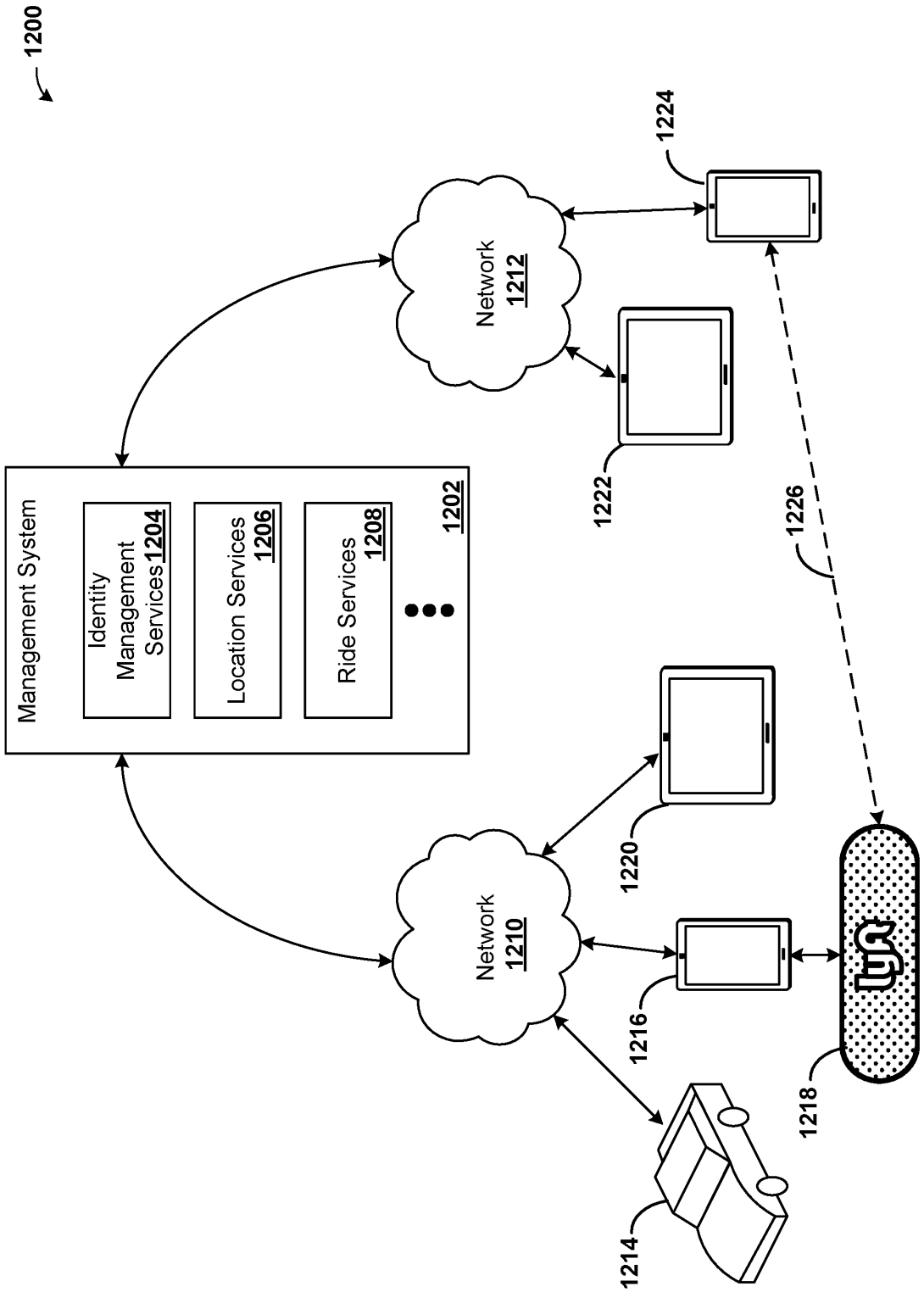

1200
Management System
Identity Management Services 1204
Location Services 1206
Ride Services 1208
1202
Network 1212
Network 1210
1224
1222
1226
1220
1216
1218
1214

FIG. 12

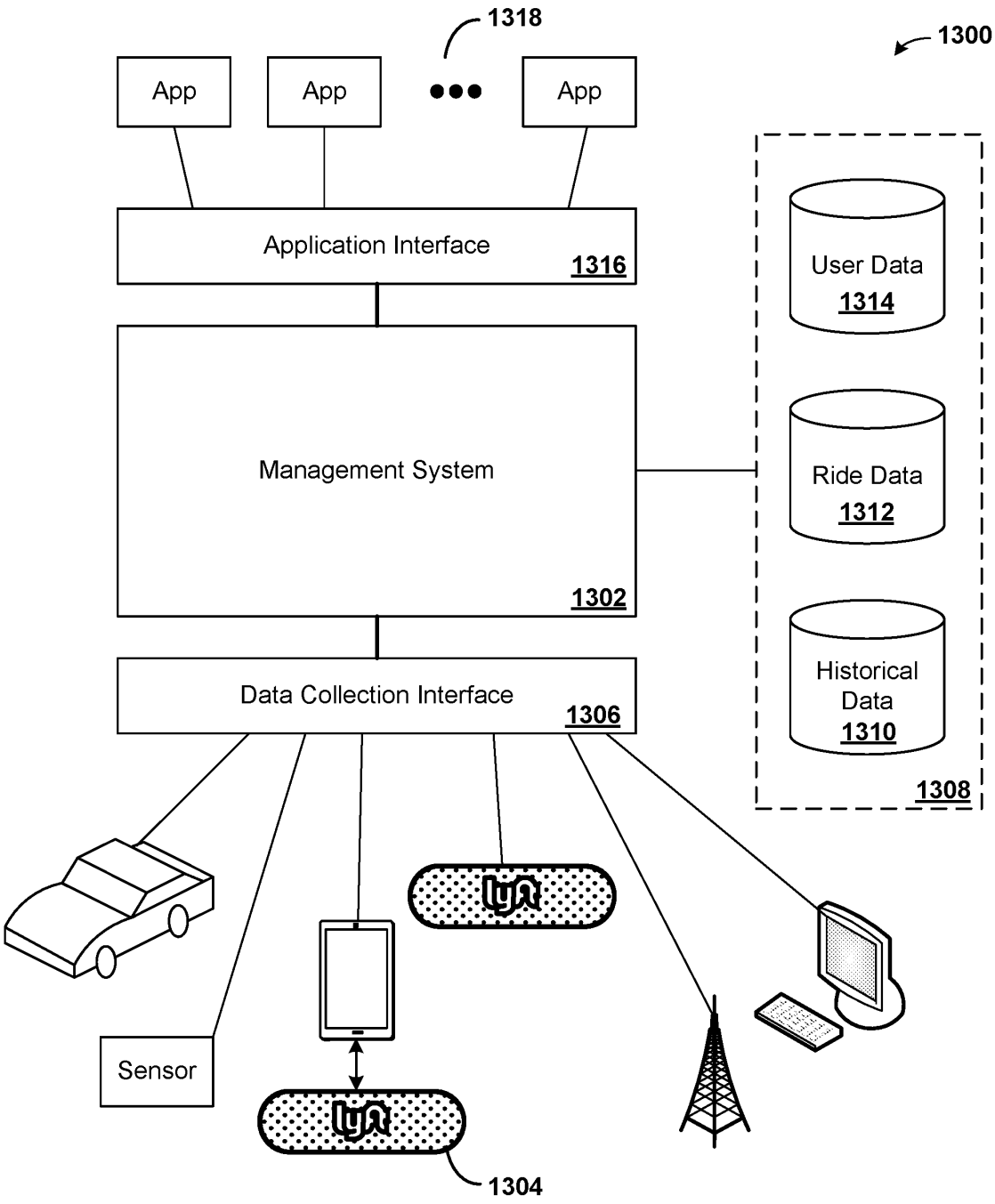

1318
1300
App
App
App
Application Interface
1316
User Data
1314
Management System
1302
Ride Data
1312
Historical Data
1310
1308
Data Collection Interface
1306
Sensor
1304

FIG. 13

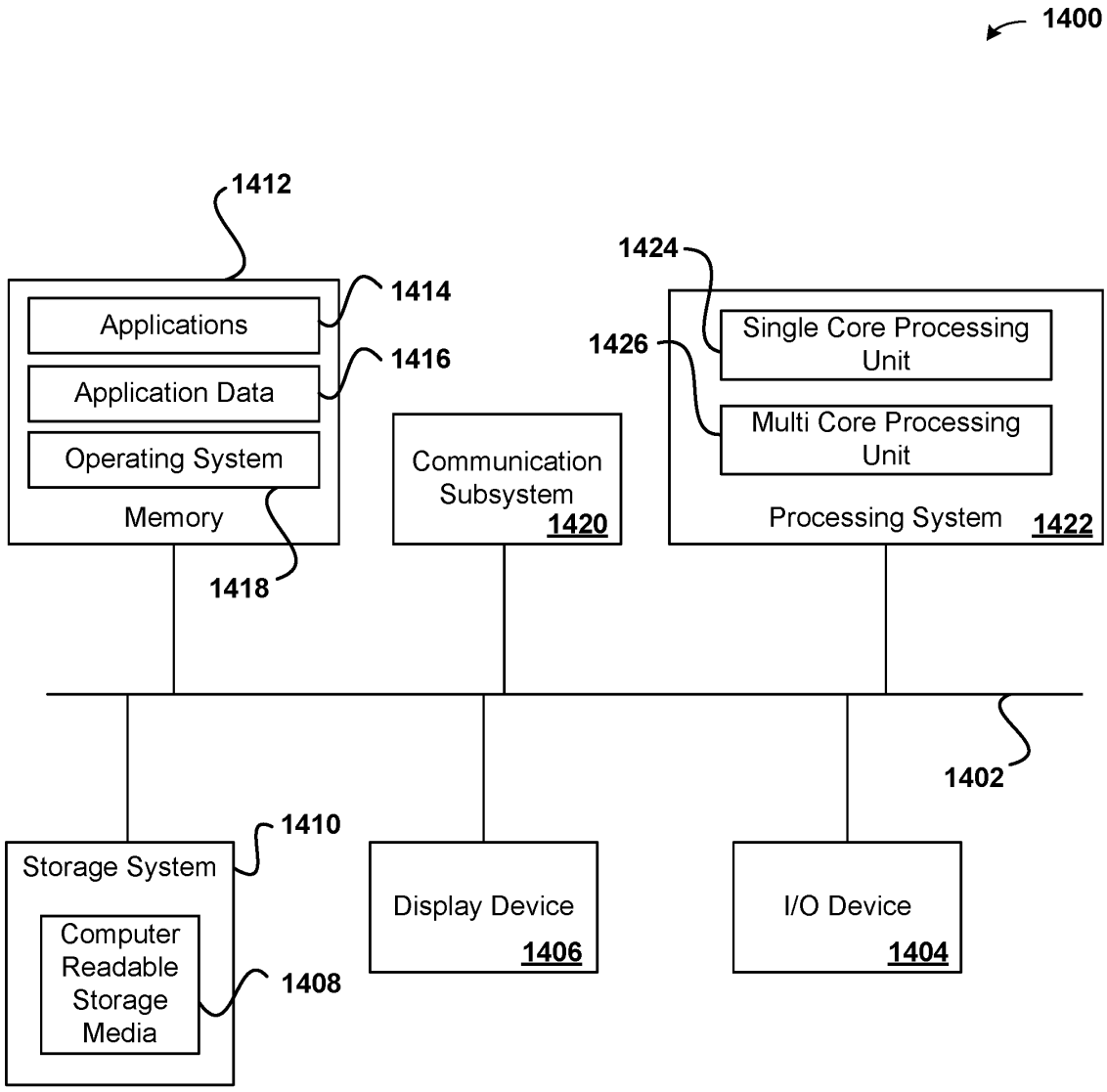

1400
1412
1414
Applications
1416
Application Data
Operating System
Memory
1418
Communication Subsystem
1420
1424
1426
Single Core Processing Unit
Multi Core Processing Unit
Processing System
1422
1402
1410
Storage System
Computer Readable Storage Media
1408
Display Device
1406
I/O Device
1404

FIG. 14