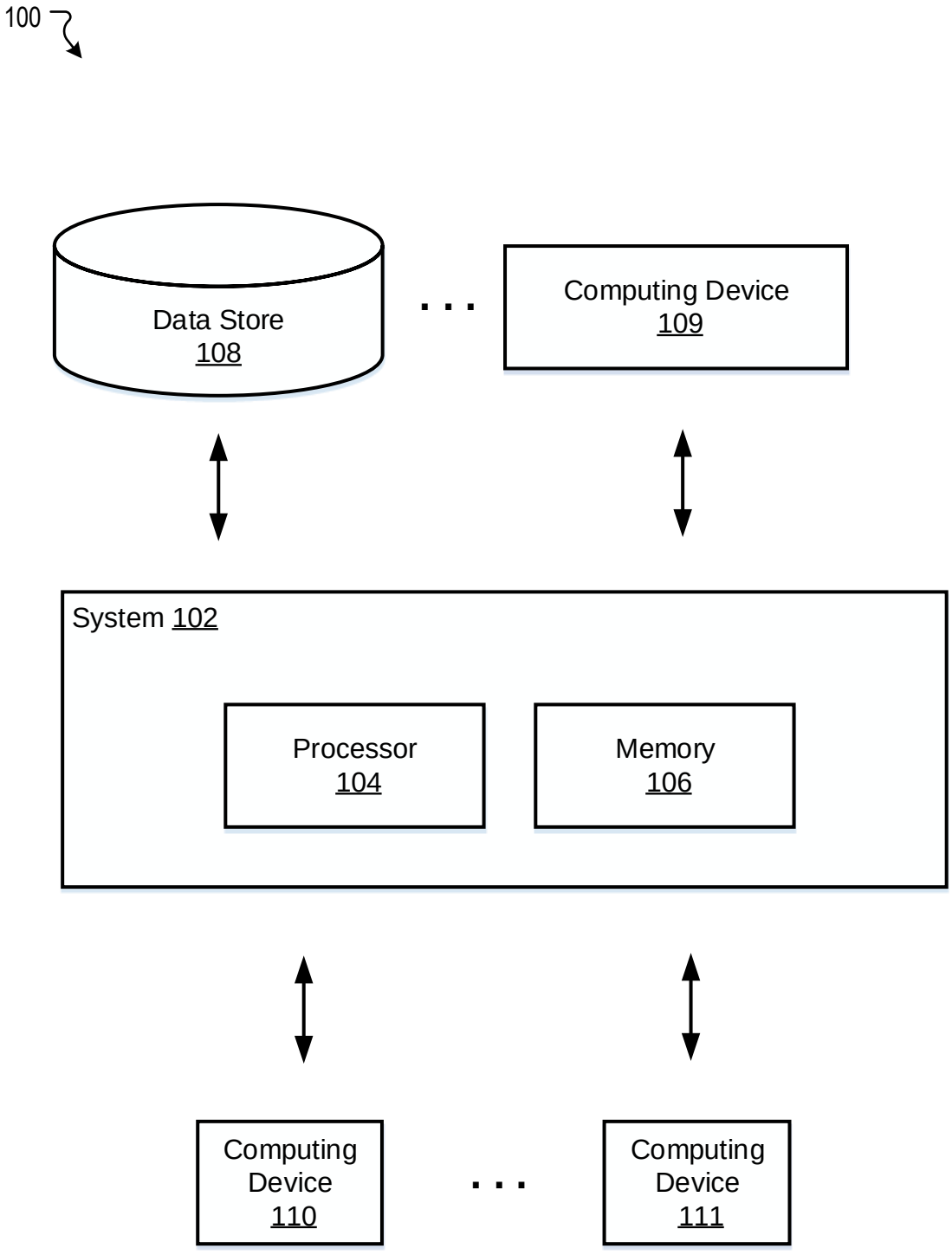

100
Data Store
108
Computing Device
109
System 102
Processor
104
Memory
106
Computing
Device
110
Computing
Device
111

FIGURE 1

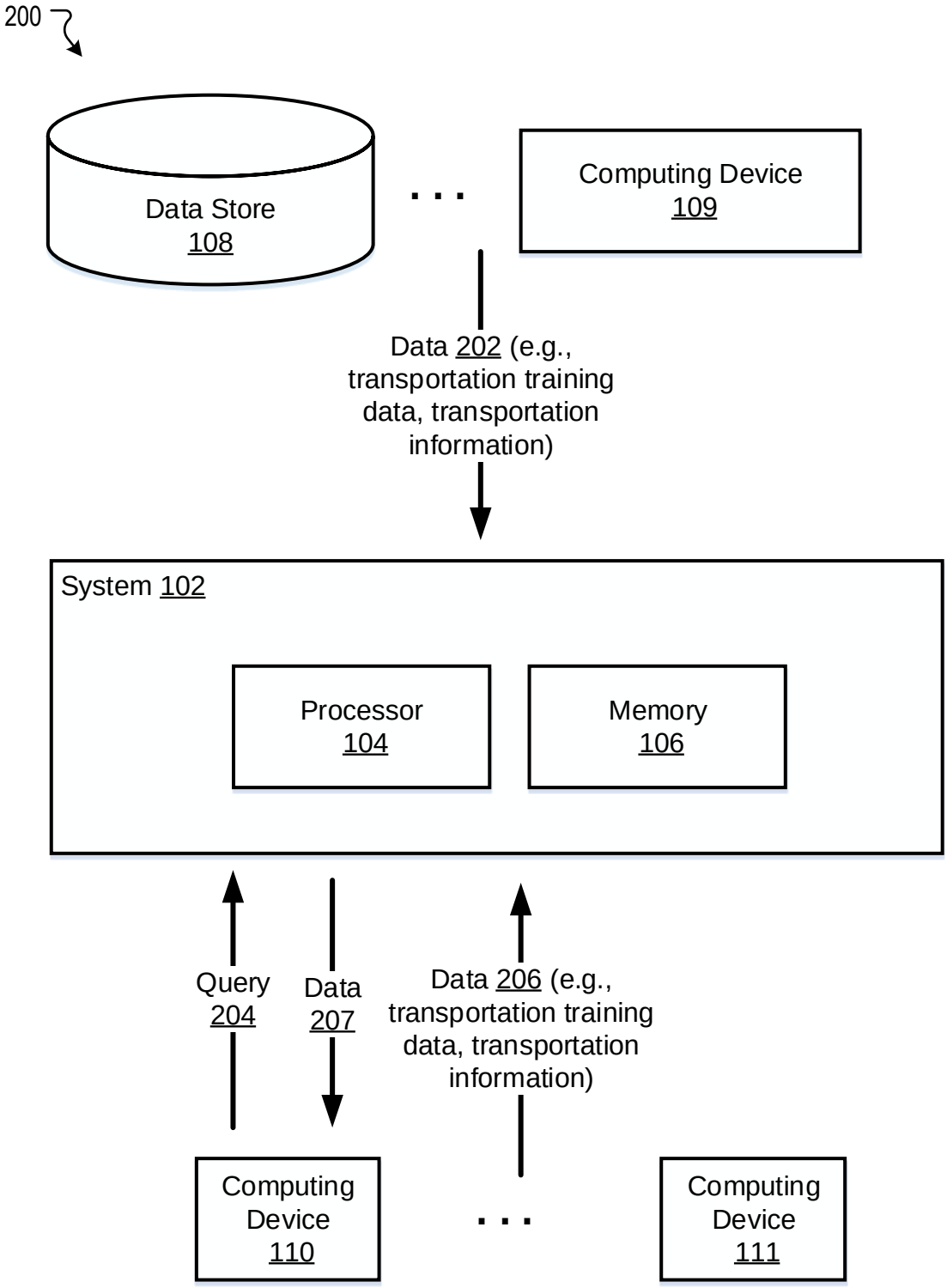

200
Data Store
108
Computing Device
109
Data 202 (e.g., transportation training data, transportation information)
System 102
Processor
104
Memory
106
Query
204
Data
207
Data 206 (e.g., transportation training data, transportation information)
Computing Device
110
Computing Device
111

FIGURE 2

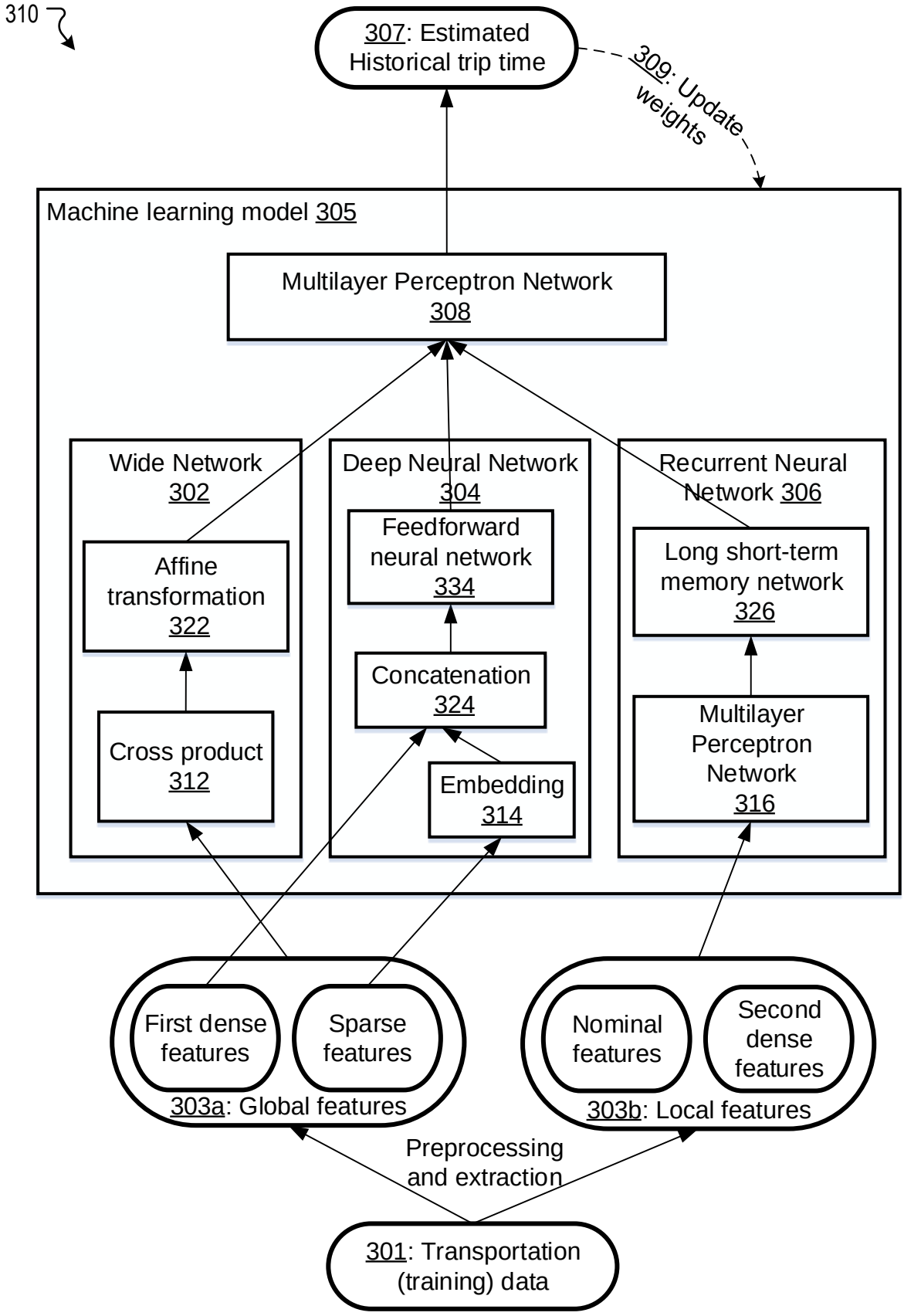

310
307: Estimated Historical trip time
309: Update weights
Machine learning model 305
Multilayer Perceptron Network 308
Wide Network 302
Affine transformation 322
Cross product 312
Deep Neural Network 304
Feedforward neural network 334
Concatenation 324
Embedding 314
Recurrent Neural Network 306
Long short-term memory network 326
Multilayer Perceptron Network 316
First dense features
Sparse features
303a: Global features
Nominal features
Second dense features
303b: Local features
Preprocessing and extraction
301: Transportation (training) data

FIGURE 3A

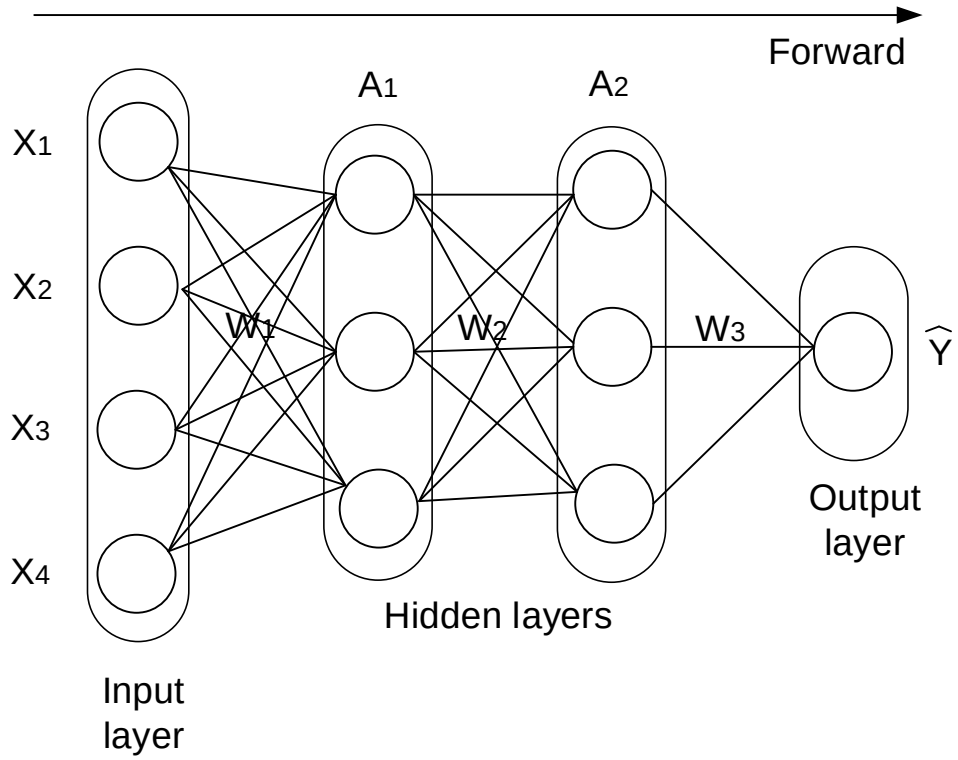


FIGURE 3B

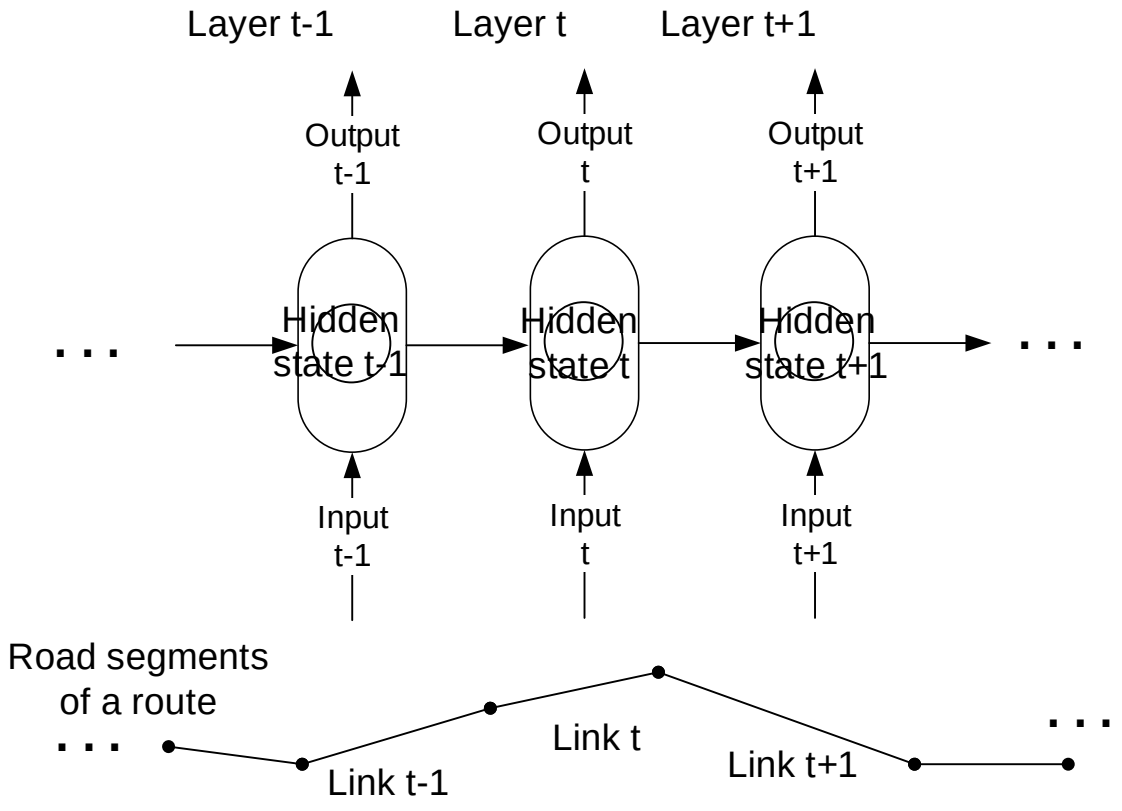


FIGURE 3C

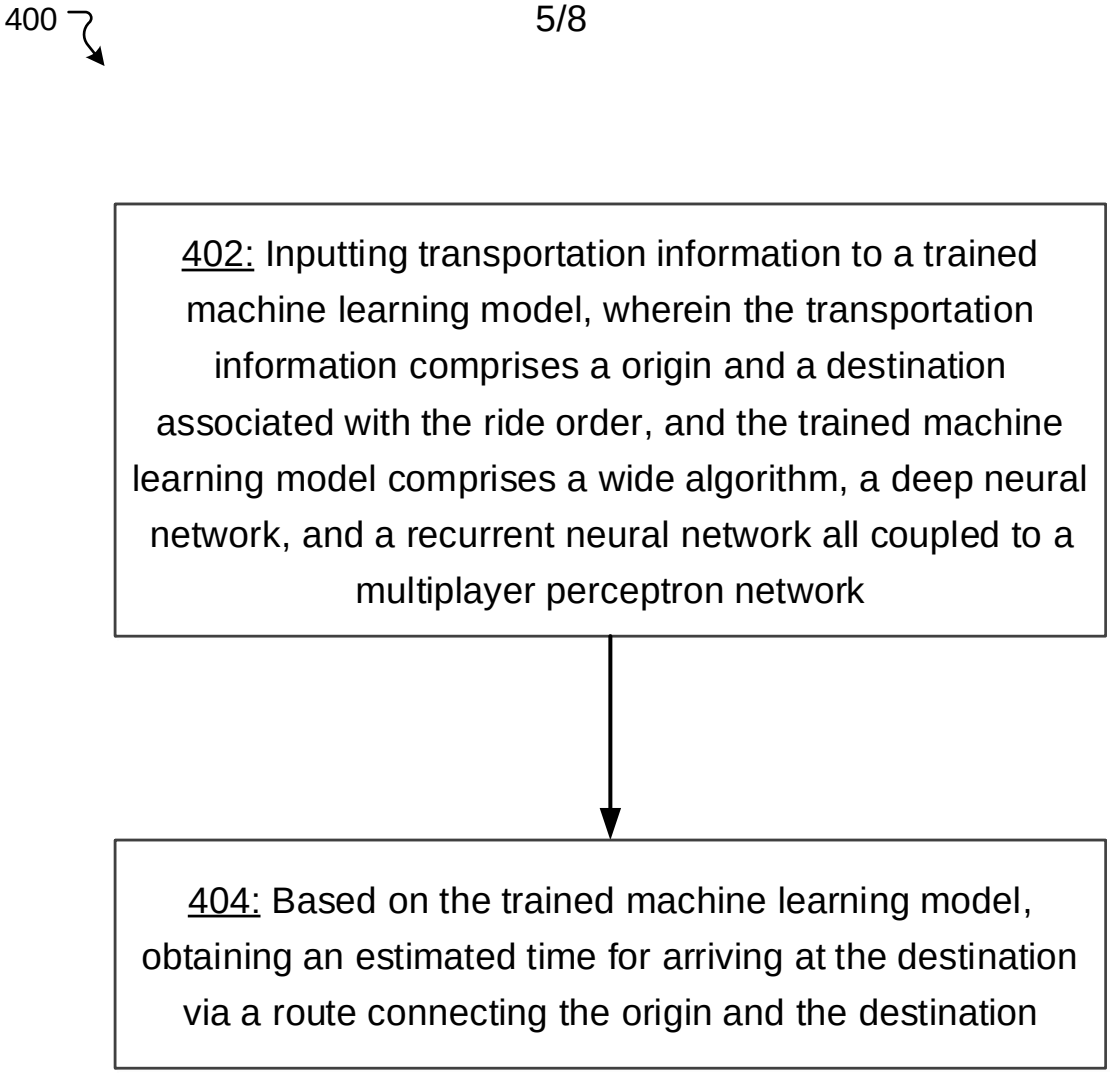

400
402: Inputting transportation information to a trained machine learning model, wherein the transportation information comprises a origin and a destination associated with the ride order, and the trained machine learning model comprises a wide algorithm, a deep neural network, and a recurrent neural network all coupled to a multiplayer perceptron network
404: Based on the trained machine learning model, obtaining an estimated time for arriving at the destination via a route connecting the origin and the destination

FIGURE 4A

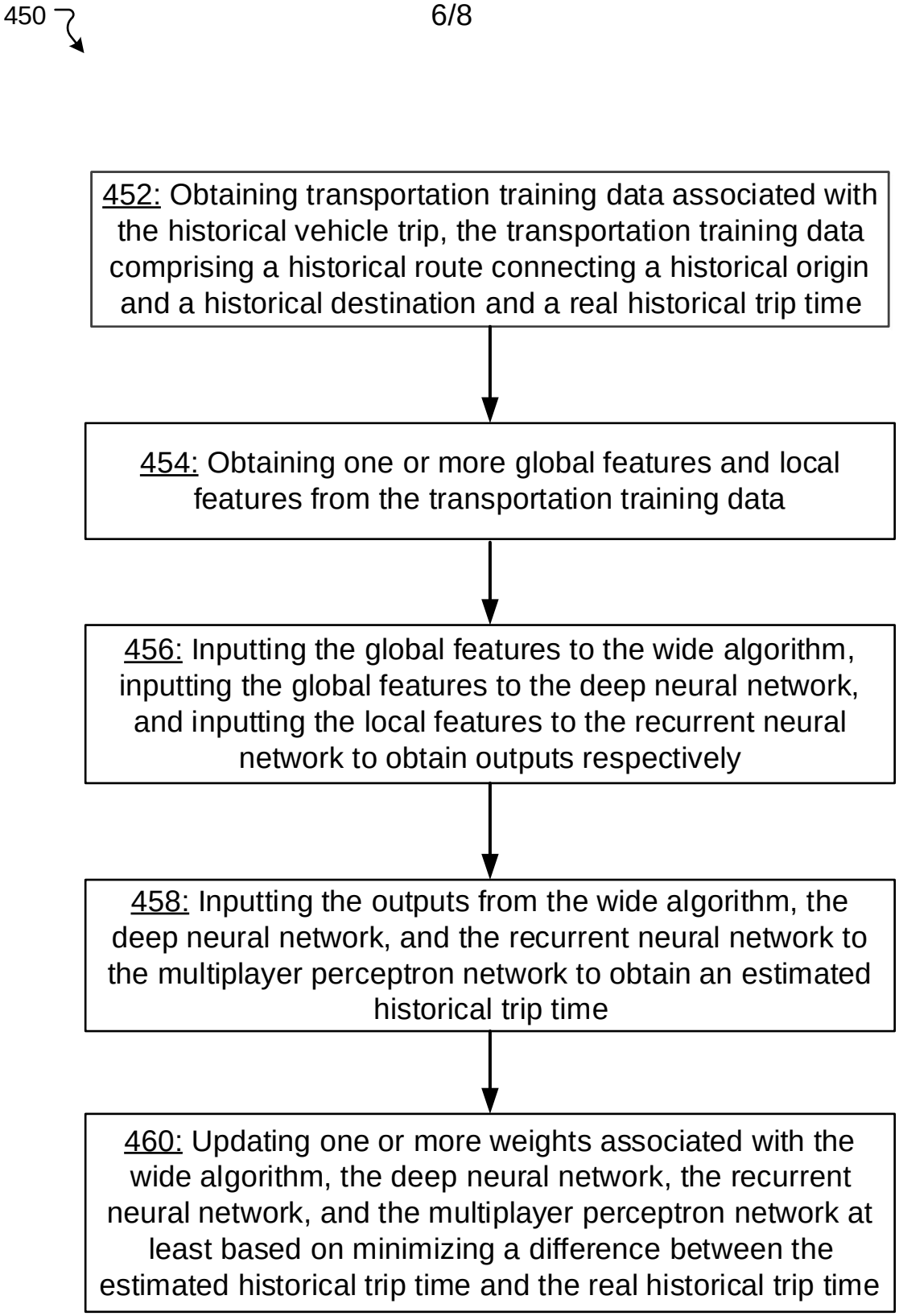

450
452: Obtaining transportation training data associated with the historical vehicle trip, the transportation training data comprising a historical route connecting a historical origin and a historical destination and a real historical trip time
454: Obtaining one or more global features and local features from the transportation training data
456: Inputting the global features to the wide algorithm, inputting the global features to the deep neural network, and inputting the local features to the recurrent neural network to obtain outputs respectively
458: Inputting the outputs from the wide algorithm, the deep neural network, and the recurrent neural network to the multiplayer perceptron network to obtain an estimated historical trip time
460: Updating one or more weights associated with the wide algorithm, the deep neural network, the recurrent neural network, and the multiplayer perceptron network at least based on minimizing a difference between the estimated historical trip time and the real historical trip time

FIGURE 4B

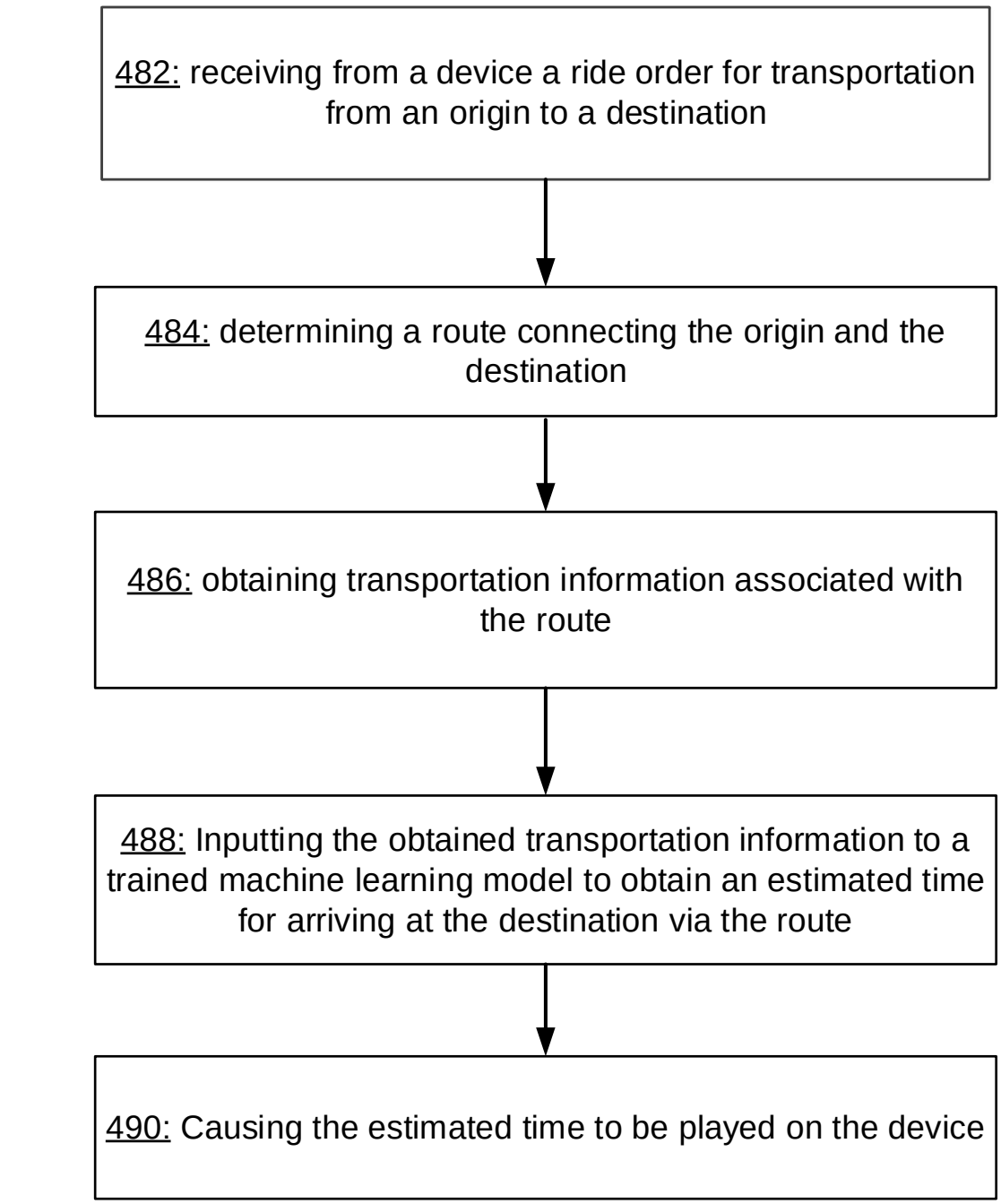

480
482: receiving from a device a ride order for transportation from an origin to a destination
484: determining a route connecting the origin and the destination
486: obtaining transportation information associated with the route
488: Inputting the obtained transportation information to a trained machine learning model to obtain an estimated time for arriving at the destination via the route
490: Causing the estimated time to be played on the device

FIGURE 4C

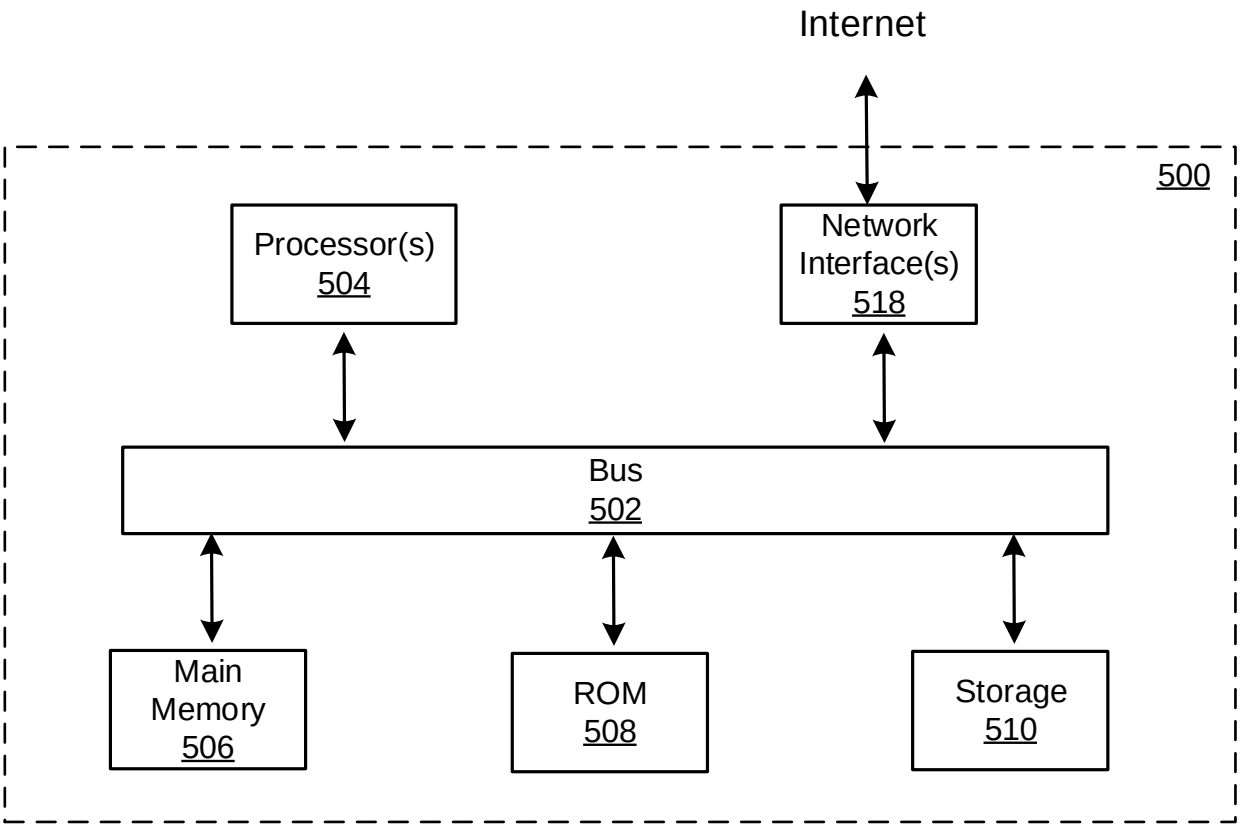

Internet
500
Processor(s)
504
Network
Interface(s)
518
Bus
502
Main
Memory
506
ROM
508
Storage
510

FIGURE 5