CLAIMS

1. A method comprising:

receiving a request for an autonomous vehicle from a client computing device, wherein the request identifies a first location, and also information of how the first location was specified by a user of the client computing device;

accessing pre-stored map information including a plurality of pre-determined stopping locations for the autonomous vehicle and a ranked set of heuristics, based on the first location;

determining if ranking of the heuristics of the ranked set of heuristics is to be adjusted based on how the first location was specified by the user;

identifying, based on the determination, one of the plurality of pre-determined stopping locations for the autonomous vehicle; and

providing the identified pre-determined stopping location for the autonomous vehicle as a recommended point to the client computing device for display with a map on a display of the client computing device, wherein the recommended point is provided as a suggested alternative to the first location.

2. The method of claim 1, further comprising adjusting the ranking of the heuristics of the set of ranked heuristics; and identifying the one of the pre-determined stopping locations based on the adjusted ranking.

3. The method of claim 1, wherein at least one heuristic of the ranked set of heuristics corresponds to the identified pre-determined stopping location being (1) a previous location at which the user associated with the client computing device was picked up or dropped off and (2) included in a trip history for the user and the previous location being within a predetermined walking distance of the first location.

4. The method of claim 1, wherein at least one heuristic of the ranked set of heuristics corresponds to the identified pre-determined stopping location being (1) a predesignated preferred pullover spot for the vehicle according to the map information and (2) within a predetermined walking distance of the first location, and the map information identifies a plurality of predesignated preferred pullover spots for the vehicle.

5. The method of claim 1, wherein at least one heuristic of the ranked set of heuristics corresponds to the identified pre-determined stopping location being (1) a

predesignated preferred pullover spot for the vehicle according to the map information and (2) within a predetermined walking distance of the first location.

6. The method of claim 1, wherein at least one heuristic of the ranked set of heuristics corresponds to the identified pre-determined location being (1) within a predetermined distance of a known entrance of a building according to the map information and (2) the first location is within a building outline of the map information.

7. The method of claim 1, wherein at least one heuristic of the ranked set of heuristics corresponds to the identified pre-determined location being (1) within a predetermined distance of a handicapped parking spot according to the map information and (2) within a predetermined walking distance of the first location.

8. The method of claim 1, wherein at least one heuristic of the ranked set of heuristics corresponds to the identified pre-determined location being within a predetermined distance of a location of a street address corresponding to the first location when (1) the first location is a GPS location of the client computing device and (2) the GPS location corresponds to a residential area identified in the map information.

9. The method of claim 1, wherein at least one heuristic of the ranked set of heuristics corresponds to the identified pre-determined stopping location being a closest predetermined stopping location to the first location according to the map information identifying a plurality of predetermined stopping locations for the vehicle to pull over.

10. The method of claim 1, further comprising:

receiving a current location of the client computing device;

determining a walkable path between the current location and the recommended point using the map information; and

providing the walkable path for display on the map with the recommended point.

11. The method of claim 1, further comprising:

identifying a subset of the plurality of pre-determined stopping locations that are within a predetermined radial distance of the first location; and

providing the subset for display on the map when the user pans on the map.

12. The method of claim 11, further comprising:

receiving a request for additional pre-determined stopping locations for a new location;

identifying a second subset of the plurality of pre-determined stopping locations that are within a predetermined radial distance of the new location; and

providing the second subset for display on the map when the user pans on the map.

13. The method of claim 1, further comprising:

receiving a current location of the client computing device;

identifying a subset of the plurality of pre-determined stopping locations that are within a predetermined radial distance of the current location; and

providing the subset for display on the map when the user pans on the map.

14. The method of claim 13, further comprising:

receiving a request for additional pre-determined stopping locations for a new location;

identifying a second subset of the plurality of pre-determined stopping locations that are within a predetermined radial distance of the new location; and

providing the second subset for display on the map when the user pans on the map.

15. The method of claim 1, further comprising:

receiving a confirmation message identifying the first location; and

dispatching the autonomous vehicle to pick up or drop off a passenger at the first location.

16. A system comprising one or more processors, configured to:

receive a request for an autonomous vehicle from a client computing device, wherein the request identifies a first location, and also information of how the first location was specified by a user of the client computing device;

accessing pre-stored map information including a plurality of pre-determined stopping locations for the vehicle and a ranked set of heuristics, based on the first location;

determine if ranking of the heuristics of the ranked set of heuristics is to be adjusted based on how the first location was specified by the user;

identify, based on the determination, one of the plurality of pre-determined stopping locations for the autonomous vehicle; and

provide the identified pre-determined stopping location for the autonomous vehicle as a recommended point to the client computing device for display with a map on a display of the

client computing device, wherein the recommended point is provided as a suggested alternative to the first location.

17. The system of claim 16, wherein the one or more processors are further configured to:

adjust the ranking of the heuristics of the set of ranked heuristics; and

identify the one of the plurality of pre-determined stopping locations based on the adjusted ranking.

18. The system of claim 16, wherein the one or more processors are further configured to:

identify a subset of the plurality of pre-determined stopping locations that are within a predetermined radial distance of the first location; and

provide the subset for display on the map when the user pans on the map.

19. The system of claim 16, wherein the one or more processors are further configured to:

receive a current location of the client computing device;

identify a subset of the plurality of pre-determined stopping locations that are within a predetermined radial distance of the current location; and

provide the subset for display on the map when the user pans on the map.

20. The system of claim 16, further comprising the autonomous vehicle.