CLAIMS

1. A method of controlling a vehicle in an autonomous driving mode, the method comprising:

(i) receiving, by one or more processors, a first location corresponding to a location where the vehicle is to pick up or drop off a passenger;

(ii) determining, by the one or more processors, a first cost for the vehicle to reach the first location;

(iii) identifying a second location based on the first location;

(iv) determining, by the one or more processors, a second cost based on a cost for the vehicle to reach the second location and a cost for the passenger to reach the second location, wherein the first cost and the second cost further include cost of routing, by the one or more processors, the vehicle to a next location respectively from the first location and the second location, after the pick up or drop off the passenger;

(v) comparing the first cost to the second cost;

(vi) determining whether to send a notification based on the comparison;

(vii) sending the notification based on the determination in (vi);

(viii) in response to sending the notification, receiving, by the one or more processors, instructions to proceed to the first location or the second location; and

(ix) in response to receiving the instructions, controlling, by the one or more processors, the vehicle in the autonomous driving mode to the first location or the second location to pick up or drop off the passenger.

2. The method of claim 1, wherein the first location corresponds to a first side of a street, further comprising, identifying the second location includes selecting the second location on a second side of the street opposite of the first side of the street.

3. The method of claim 2, wherein determining the cost for the passenger to reach the second location includes determining the cost for the passenger to reach the second side of the street.

4. The method of claim 3, wherein determining the cost of the passenger to reach the second side includes assessing an amount of difficulty for the passenger to cross the street.

5. The method of claim 4, wherein assessing the amount of difficulty is based on whether there is a median on the street.

6. The method of claim 4, wherein assessing the amount of difficulty is based on a number of lanes to be crossed.

7. The method of claim 4, wherein assessing the amount of difficulty is based on an availability of crosswalks for the passenger to use to cross the street.

8. The method of claim 4, wherein assessing the amount of difficulty is based on a speed limit for the street.

9. The method of claim 3, wherein determining the cost of the passenger to reach the second side includes determining a distance the passenger needs to travel to the second location after crossing the street.

10. The method of claim 1, wherein determining the second cost includes adding the cost for the vehicle to reach the second location and the cost for the passenger to reach the second location.

11. The method of claim 1, wherein the comparing includes determining a difference between the first cost and the second cost and comparing this difference to a first threshold value.

12. The method of claim 11, wherein the notification is sent only when the difference meets the first threshold value.

13. The method of claim 12, further comprising:

if the vehicle is being controlled towards the second location, determining a third cost for the vehicle to reach the second location using a current location of the vehicle;

determining a fourth cost based on a cost for the vehicle to reach a third location using the current location of the vehicle and a cost for the passenger to reach the third location from the second location; and

comparing the third cost to the fourth cost;

sending a second notification based on the comparison of the third cost to the fourth cost;

receiving instructions to proceed to the third location; and

controlling the vehicle in the autonomous driving mode to the third location to pick up or drop off the passenger.

14. The method of claim 13, wherein determining the cost for the passenger to reach the third location includes determining the cost for the passenger to cross the street.

15. The method of claim 13, wherein the comparing includes determining a difference between the first cost and the second cost and comparing this difference to a second threshold value, and wherein the second threshold value is greater than the first threshold value.

16. The method of claim 15, wherein the second notification is sent only when the difference meets the second threshold value.

17. A system for of controlling a vehicle in an autonomous driving mode, the system comprising one or more processors configured to:

(i) receive a first location corresponding to a location where the vehicle is to pick up or drop off a passenger;

(ii) determine a first cost for the vehicle to reach the first location;

(iii) identify a second location based on the first location;

(iv) determine a second cost based on a cost for the vehicle to reach the second location and a cost for the passenger to reach the second location, wherein the first cost and the second cost further include cost of routing, by the one or more processors, the vehicle to a next location respectively from the first location and the second location, after the pick up or drop off the passenger;

(v) compare the first cost to the second cost;

(vi) determine whether to send a notification based on the comparison;

(vii) send the notification based on the determination in (vi);

(viii) in response to sending the notification, receive instructions to proceed to the first location or the second location; and

(ix) in response to receiving the instructions, control the vehicle in the autonomous driving mode to the first location or the second location to pick up or drop off the passenger.

18. The system of claim 17, wherein the first location corresponds to a first side of a street, further comprising, identifying the second location includes selecting the second location on a second side of the street opposite of the first side of the street.

19. The system of claim 18, wherein determining the cost for the passenger to reach the second location includes determining the cost for the passenger to reach the second side of the street by assessing an amount of difficulty for the passenger to cross the street.

20. The system of claim 17, further comprising the vehicle.