CLAIMS

1. A method for maneuvering a vehicle, the method comprising:

generating, by one or more processors, a route for a trip from a first location to a destination using map information including a plurality of lane segments;

periodically determining, by the one or more processors, a plurality of local map regions based on current locations of the vehicle as the vehicle is navigated to the destination; wherein within each local map region, a set of lane segments based on the current location of the vehicle is identified from the plurality of lane segments which lead the vehicle out of each local map region and towards the destination;

calculating, by the one or more processors, a cost value to each lane segment of the set of lane segments when the vehicle navigates within one of the plurality of local map regions, and recalculating at least some of the cost values when the vehicle navigates from the one to another of the plurality of local map regions as determined from the periodic determination;

using, by the one or more processors, any of the cost values to determine whether to pass an object; and

maneuvering, by the one or more processors, the vehicle based on the determination of whether to pass the object.

2. The method of claim 1, wherein the object is another vehicle in a same lane as the vehicle.

3. The method of claim 1, wherein the object is a stopped vehicle in a same lane as the vehicle.

4. The method of claim 1, wherein determining whether to pass the vehicle is further based on calculated cost values for lane segments for a second lane adjacent to a first lane in which the vehicle is traveling.

5. The method of claim 1, wherein determining whether to pass the object is further based on calculated cost values for lane segments corresponding to the vehicle proceeding through an intersection without a turn if the vehicle passes the object.

6. The method of claim 1, wherein determining whether to pass the object is further based on calculated cost values for lane segments corresponding to the vehicle making a right turn through an intersection if the vehicle does not pass the object.

7. The method of claim 1, wherein at least some of the lane segments of the set of lane segments correspond to lane segments of a lane adjacent to a lane segment in which the vehicle is traveling when the cost values are calculated.

8. The method of claim 1, wherein the cost values are calculated further based on the destination location.

9. The method of claim 1, wherein calculating at least one of the any calculated cost values for a given lane segment of the set of lane segments includes retrieving a previously calculated cost value from local cache.

10. The method of claim 1, wherein calculating at least a second one of the any calculated cost values for a second given lane segment of the set of lane segments includes generating a new value based on the destination.

11. A system for maneuvering a vehicle, the system comprising one or more processors configured to:

generate a route for a trip from a first location to a destination using map information including a plurality of lane segments;

periodically determine a plurality of local map regions based on current locations of the vehicle as the vehicle is navigated to the destination; wherein within each local map region, a set of lane segments based on the current location of the vehicle is identified from the plurality of lane segments which lead the vehicle out of each local map region and towards the destination;

calculate a cost value to each lane segment of the set of lane segments when the vehicle navigates within one of the plurality of local map regions, and to recalculate at least some of the cost values when the vehicle navigates from the one to another of the plurality of local map regions as determined from the periodic determination;

use any of the cost values to determine whether to pass an object; and

maneuver the vehicle based on the determination of whether to pass the object.

12. The system of claim 11, wherein the object is another vehicle in a same lane as the vehicle.

13. The system of claim 11, wherein the object is a stopped vehicle in a same lane as the vehicle.

14. The system of claim 11, wherein the one or more processors are further configured to determine whether to pass the vehicle is further based on calculated cost values for lane segments for a second lane adjacent to a first lane in which the vehicle is traveling.

15. The system of claim 11, wherein the one or more processors are further configured to determine whether to pass the object is further based on calculated cost values for lane segments corresponding to the vehicle proceeding through an intersection without a turn if the vehicle passes the object.

16. The system of claim 11, wherein the one or more processors are further configured to determine whether to pass the object is further based on calculated cost values for lane segments corresponding to the vehicle making a right turn through an intersection if the vehicle does not pass the object.

17. The system of claim 11, wherein at least some of the lane segments of the set of lane segments correspond to lane segments of a lane adjacent to a lane segment in which the vehicle is traveling when the cost values are calculated.

18. The system of claim 11, wherein the one or more processors are further configured to assign at least one of the any calculated cost values for a given lane segment of the set of lane segments includes retrieving a previously calculated cost value from local cache.

19. The system of claim 11, wherein the one or more processors are further configured to calculate at least a second one of the any calculated cost values for a second given lane segment of the set of lane segments includes generating a new value based on the destination.

20. The system of claim 11, further comprising the vehicle.