CLAIMS

1. A method for generating speed classes for road segments in a navigation map, comprising:

receiving a speed profile which specifies a speed for each road class from the navigation map;

constructing a tuning tree using a depth-first search order, wherein each node of the tuning tree includes a plurality of road segments having same speed and same road class;

generating a plurality of child nodes for each tree node of the tuning tree;

allocating road segments to the child nodes independently based on their speed; and

generating the speed classes for the road segments using the tuning tree.

2. The method according to claim 1, wherein the generating the plurality of child nodes comprises: generating the plurality of child nodes for each tree node of the tuning tree, except for leaf nodes of the tuning tree.

3. The method according to claim 1 or claim 2, wherein the generating the plurality of child nodes comprises: generating three child nodes for each tree node of the tuning tree, based on a statistical and classification strategy.

4. The method according to claim 3, wherein the three child nodes for each tree node of the tuning tree represent higher, equal, and lower speeds, respectively.

5. The method according to any one of claims 1 to 4, further comprising: applying the speed classes to improve route prediction accuracy.

6. The method according to claim 5, wherein the applying the speed classes comprises: applying the speed classes to at least one of an estimated time of arrival (ETA) and an estimated time of travel (ETT).

7. The method according to any one of claims 1 to 6, further comprising: iteratively training the navigation map using the tuning tree.

8. A server for generating speed classes for road segments in a navigation map, comprising:

a communication interface configured to receive a speed profile which specifies a speed for each road class from the navigation map; and

a processing unit configured to:

construct a tuning tree using a depth-first search order, wherein each node of the tuning tree includes a plurality of road segments having same speed and same road class;

generate a plurality of child nodes for each tree node of the tuning tree;

allocate road segments to the child nodes independently based on their speed; and

generate the speed classes for the road segments using the tuning tree.

9. The server according to claim 8, wherein the processing unit is configured to: generate the plurality of child nodes for each tree node of the tuning tree, except for leaf nodes of the tuning tree.

10. The server according to claim 8 or claim 9, wherein the processing unit is configured to: generate three child nodes for each tree node of the tuning tree, based on a statistical and classification strategy.

11. The server according to claim 10, wherein the three child nodes for each tree node of the tuning tree represent higher, equal, and lower speeds, respectively.

12. The server according to any one of claims 8 to 11, wherein the processing unit is configured to: apply the speed classes to improve route prediction accuracy.

13. The server according to claim 12, wherein the processing unit is configured to: apply the speed classes to at least one of an estimated time of arrival (ETA) and an estimated time of travel (ETT).

14. The server according to any one of claims 8 to 13, wherein the processing unit is configured to: iteratively train the navigation map using the tuning tree.

15. A computer program element comprising program instructions, which, when executed by one or more processors, cause the one or more processors to perform the method of any one of claims 1 to 7.

16. A computer-readable medium comprising program instructions, which, when executed by one or more processors, cause the one or more processors to perform the method of any one of claims 1 to 7.