WHAT IS CLAIMED IS:

1. A method for determining whether there is a target road facility at intersections, including:

obtaining trajectory data related to left-turn trajectories of moving objects at a target intersection;

extracting information related to feature parameters associated with the target road facility from the trajectory data;

determining whether there is the target road facility at the target intersection based on the information related to the feature parameters of the target intersection,

the trajectory data being a data set that includes a plurality of pieces of information related to a plurality of points at the left-turn trajectories in a chronological order;

the target road facility including a left-turn waiting area; and

the feature parameters including a driving parameter after the moving objects enter the intersection,

wherein determining whether there is the target road facility at the target intersection based on the information related to the feature parameters comprises:

determining judgment thresholds, a number of the judgment thresholds being the same as a number of the feature parameters, and each of the judgment thresholds being corresponding to one of the feature parameters; and

comparing the feature parameters with the corresponding judgment thresholds to determine whether there is the target road facility at the intersection,

wherein it is determined that there is the target road facility at the intersection if the feature parameters are within ranges of the corresponding judgment thresholds,

wherein determining the judgment thresholds comprises:

obtaining trajectory data related to left-turn trajectories of moving objects at a known intersection;

extracting information related to the feature parameters associated with the target road facility from the trajectory data;

labeling whether the known intersection includes the target road facility; and

determining the judgment thresholds of the feature parameters based on the information

related to the feature parameters and the labeling result of the known intersection.

2. The method of claim 1, wherein the feature parameters comprise at least one of the following:

a number of stops, a stop duration, a stop distance, a delay time, an average speed of passing through the intersection, or a probability of stopping twice;

wherein for the number of stops, a moving object is considered as having one stop if speeds corresponding to at least two consecutive points are less than a preset value in the trajectory data;

the stop duration refers to a duration of one stop;

the stop distance refers to a moving distance of the moving object between the at least two stops;

the delay time refers to a difference between an actual time for the moving object passes through the intersection and a time that the moving object needs to pass through the intersection without stops;

the average speed of passing through the intersection refers to an average speed of the moving object passing through the intersection; and

the probability of stopping twice is a ratio of a number of trajectories whose number of stops are equal to or greater than two to a total number of trajectories.

3. The method of claim 1, wherein the method further comprises:

obtaining left-turn trajectories of moving objects at the known intersection as preliminary trajectory data; and

extracting the preliminary trajectory data that corresponds to a flat peak period and includes the complete feature parameters as the trajectory data;

the flat peak period being a period of time when a traffic flow at the intersection is stable, the period of time excluding a time when the traffic flow at the intersection is too high and too low.

4. The method of claim 1, wherein determining the judgment thresholds of the feature parameters based on the information related to the feature parameters and the labeling result of the known intersection comprises:

training a judgment model using the judgment thresholds based on the information related to the feature parameters and the labeling result of the known intersection; and

determining the judgment thresholds and the judgment model.

5. The method of claim 4, wherein determine whether there is the target road facility at the target intersection based on the information related to the feature parameters of the target intersection comprises:

inputting the trajectory data of the target intersection into the judgment model; and

outputting a judgment result that whether there is the target road facility at the target intersection or not.

6. The method of claim 4, wherein the judgment model is a decision tree model.

7. The method of claim 1, wherein the method further comprises:

obtaining left-turn trajectories of moving objects at the target intersection as preliminary trajectory data; and

extracting the preliminary trajectory data that corresponds to a flat peak period and includes the complete feature parameters as the trajectory data;

the flat peak period being a period of time when a traffic flow at the intersection is stable, the period of time excluding a time when the traffic flow at the intersection is too high and too low.

8. A system for determining whether there is a target road facility at intersections, including:

an obtaining module configured to obtain trajectory data related to left-turn trajectories of moving objects at a target intersection, and extract information related to feature

parameters associated with the target road facility from the trajectory data; and

a judgment module configured to determine whether there is the target road facility at the target intersection based on the information related to the feature parameters of the target intersection;

the trajectory data being a data set that includes a plurality of pieces of information related to a plurality of points at the left-turn trajectories in a chronological order;

the target road facility including a left-turn waiting area;

the feature parameters including a driving parameter after the moving objects enter the intersection; and

a training module configured to determine judgment thresholds,

wherein the judgment module is further configured to compare the feature parameters with the corresponding judgment thresholds to determine whether there is the target road facility at the target intersection, wherein it is determined that there is the target road facility at the target intersection if the feature parameters are within ranges of the corresponding judgment thresholds,

wherein the training module is further configured to:

obtain the trajectory data related to left-turn trajectories of moving objects at a known intersection;

extract information related to feature parameters associated with the target road facility from the trajectory data;

label whether the known intersection includes the target road facility; and

determine the judgment thresholds of the feature parameters based on the information related to the feature parameters and the labeling result of the known intersection.

9. The system of claim 8, wherein the training model is further configured to:

obtain left-turn trajectories of moving objects at the known intersection as preliminary trajectory data; and

extract the preliminary trajectory data that corresponds to a flat peak period and includes the complete feature parameters as the trajectory data;

the flat peak period being a period of time when a traffic flow at the intersection is stable, the period of time excluding a time when the traffic flow at the intersection is too high and too low.

10. The system of claim 8, wherein the training module is configured to:

train a judgment model using the judgment thresholds based on the information related to the feature parameters and the labeling result;

determine the judgment thresholds and the judgment model.

11. The system of claim 10, wherein the judgment module is further configured to:

input the trajectory data of the target intersection into the judgment model;

output a judgment result that whether there is the target road facility at the target intersection or not.

12. The system of claim 10, wherein the judgment model is the decision tree model.

13. The system of claim 8, wherein the obtaining module is further configured to:

obtaining left-turn trajectories of moving objects at the target intersection as preliminary trajectory data; and

extracting the preliminary trajectory data that corresponds to a flat peak period and includes the complete feature parameters as the trajectory data;

the flat peak period being a period of time when a traffic flow at the intersection is stable, the period of time excluding a time when the traffic flow at the intersection is too high and too low.

14. The system of claim 8, the feature parameters comprise at least one of the following:

a number of stops, a stop duration, a stop distance, a delay time, an average speed of passing through the target intersection, or a probability of stopping twice;

wherein for the number of stops, a moving object is considered as having one stop if

speeds corresponding to at least two consecutive points are less than a preset value in the trajectory data;

the stop duration refers to a duration of one stop;

the stop distance refers to a moving distance of the moving object between the at least two stops;

the delay time refers to a difference between an actual time for the moving object passes through the intersection and a time that the moving object needs to pass through the intersection without stops;

the average speed of passing through the intersection refers to an average speed of the moving object passing through the intersection; and

the probability of stopping twice is a ratio of a number of trajectories whose number of stops are equal to or greater than two to a total number of trajectories.

15. A device for determining whether there is a target road facility at intersections, the device includes a processor and a storage for storing instructions, wherein when the instructions are executed by the processor, causing the device to perform operations corresponding to a method of any one of claims 1 to 7.

16. A computer readable storage medium, wherein the storage medium stores computer instructions, when a computer reads the computer instructions in the storage medium, the computer operates a method of any one of claims 1 to 7.