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Partially replacing GB 5768-1999

Road Traffic Signs and Markings -

Part 3: Road Traffic Markings

道路交通标志和标线

第 3 部分：道路交通标线

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Standardization Administration of the People's Republic of China.

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Foreword

All the technical content in this Part of GB 5768 is mandatory.

GB 5768 *Road Traffic Signs and Markings* is divided into 8 parts:

---Part 1: General;

---Part 2: Road Traffic Signs;

---Part 3: Road Traffic Markings;

---Part 4: Work Zone;

---Part 5: Speed Limit;

---Part 6: Highway - Railway Grade Crossing;

---Part 7: Non-motor Vehicles and Pedestrians;

---Part 8: School Zone

This is the 3rd part of GB 5768.

This Part serves as a replacement of general stipulations and corresponding parts of GB 5768-1999 *Road Traffic Signs and Markings*; No.1 Amendment of 1999 and No.2 Amendment of 2005. In comparison with corresponding parts and the amendments of GB 5768-1999, this Part has the following main changes:

---In the general stipulations of markings, markings are highlighted as the objective of signal transmission means; the service functions of markings are highlighted (see 3.1).

---The types of orange dotted lines and solid lines are added; the types of blue dotted lines and solid lines are added (see 3.6).

---The name of some markings is modified, so that their meaning can be more explicit (see 4.2; 4.3; 4.7; 5.2 and 5.3).

---Some forms of markings are added: tidal lane line; guidance lane line; variable guidance lane line; speed bump marking; road graphic marking; exclusive lane to multi-occupant vehicles; exclusive bus lane; horizontal roadway deceleration marking; longitudinal roadway deceleration marking; physical marking (see 4.4; 4.8; 4.14; 4.17; 5.11; 6.5; 6.7).

---The set parameters and forms of some markings are adjusted, such as: adding the types and application stipulations of roadway edge lines; cancelling left-turn zone pavement texts and replacing with left-turn arrow; canceling the previous

pedestrian crossing simplified setting scheme; adjusting the dimensions of notification markings on pedestrian crossing pavements; modifying the previous expressway distance confirmation line into distance confirmation line; cancelling the previous form of marking; designing new form of distance confirmation line; adding the form of blue and yellow parking marking; clarifying the meaning of different colors of parking markings; adding the form of parking marking for specific application object and range; modifying the name of the previous harbor-mode stop station marking into stop station marking; adding setting stipulations of exclusive stop station markings and roadside stop station markings; cancelling the previous form of confluence arrow; designing new confluence guidance arrow pattern; adding 4.5 m guidance arrow system exclusive to urban roads; adding specific stipulations of the dimensions of pavement text markings; deleting the previous overtaking pavement text markings; adjusting the stipulations of the distance between stop mark and pedestrian crossing; adding the restrictions of minimum diameter of circular central circle and the restrictions of minimum length of rhombic central circle diagonal; adding the restrictions of maximum dimensions of simplified grid lines; designing new form of NO U-turn (turning) marking; adding stipulations of set parameters of approaching obstacle markings, etc. (see 4.5; 4.6; 4.9; 4.10; 4.12; 4.13; 4.15; 4.16; 5.5; 5.9; 5.10; 5.12; 6.3).

---Examples of marking setting are added.

---Appendix B (informative) “Intersection Marking Setting” is added.

In this Part, Appendix A and Appendix B are informative.

Since the date of implementation of this Part, all the newly established (modified) traffic markings shall implement the new stipulations; traffic markings that have already been set up in accordance with GB 5768-1999 shall be gradually replaced within their service life.

This Part was proposed by Ministry of Transport of the People’s Republic of China; The Ministry of Public Security of the People’s Republic of China.

This Part shall be under the jurisdiction of National Technical Committee 223 on Traffic Engineering Facilities (Highway) of Standardization Administration of China (SAC/TC 223).

The drafting organization of this Part: Research Institute of Highway Ministry of Transport.

The main drafters of this Part: Hou Dezao, Heyong, Tang Chengcheng, Wangchao, Jiangming, Han Wenyuan, Gao Hailong, Zhangfan, Huangkai, Liu Hongqi.

The previous versions replaced by this standard are as follows:

Road Traffic Signs and Markings - Part 3: Road Traffic Markings

1 Scope

This Part of GB 5768 stipulates the general requirements of classification, colors, shapes, characters, patterns and dimensions of road traffic markings; the requirements of the design and setting.

This Part is applicable to the production and setting of traffic markings for highways, urban roads, and places that allow the passage of social motor vehicles even though they are within organizational jurisdiction, such as: squares and public parking lots, and other places for public passage. Traffic markings set up in places and parking lots for the passage of other motor vehicles may take this as a reference in implementation.

2 Normative References

Through the reference in this Part of GB 5768, clauses of the following documents become clauses of this Part. In terms of references with a specific date, all the subsequent modifications (excluding the corrected content) or the revised versions are not applicable to this Part. However, all parties that reach an agreement in accordance with this Part are encouraged to explore the possibility of adopting the latest version of these documents. In terms of references without a specific date, the latest version is applicable to this Standard.

GB 5768.1-2009 *Road Traffic Signs and Markings - Part 1: General*

GB 5768.2-2009 *Road Traffic Signs and Markings - Part 2: Road Traffic Signs*

GB/T 16311 *Specification and Test Method for Road Traffic Markings*

GB 6389 *Safety Standards for Railway Level Crossing in Industrial Enterprises*

JT/T 388 *Specification for Delineators*

JT/T 390 *Raised Pavement Markers*

3 General Stipulations

3.1 Road traffic markings are transportation facilities constituted of various lines, arrows, texts, patterns, elevation markers, physical markers, raised pavement markers and delineators that are designated or installed on roads. Their effect is to convey

a) Allows crossing of roadway in opposite direction;

b) Allows crossing of roadway in same driving direction;

c) Tidal lane;

d) Roadway edge line;

e) Left-turn waiting line;

f) Intersection guidance marking;

g) Guidance lane line.

4.1.2 Horizontal markings include:

a) Crosswalk line;

b) Distance confirmation line.

4.1.3 Other markings include:

a) Road exit-entrance marking;

b) Parking space marking;

c) Stop station marking;

d) Speed bump marking;

e) Guidance arrow;

f) Pavement text marking;

g) Pavement graphic marking.

4.2 Marking that Allows Crossing of Roadway in Opposite Direction

4.2.1 When marking that allows crossing of roadway in opposite direction (also known as crossing of road axis) is yellow dotted lines, it is used to separate traffic flows that are driving in opposite direction. Generally speaking, it is set up at the center line of roads. However, it is not restricted to the geometric center line of roads. Under the circumstance of guaranteed safety, vehicles may cross the line to overtake other vehicles on the road, or, make a turn.

4.2.2 In terms of roads whose width allows two-way driving of two (or more) motorways, when line-crossing for overtaking and turning is allowed, marking that allows crossing of roadway in opposite direction shall be designated.

5 Prohibition Markings

5.1 Classification of Prohibition Markings

5.1.1 Longitudinal prohibition markings include:

a) Prohibits crossing of roadway in opposite direction;

b) Prohibits crossing of roadway in same driving direction;

c) Marking prohibition marking.

5.1.2 Horizontal prohibition markings include:

a) Stopping line;

b) Stopping and give-way marking;

c) Deceleration and give-way marking.

5.1.3 Other prohibition markings include:

a) Non-motor vehicle no-drive zone marking;

b) Flow guidance marking;

c) Grid line marking;

d) Exclusive lane marking;

e) U-turn (turning) prohibition marking.

5.2 Marking that Prohibits Crossing of Roadway in Opposite Direction

5.2.1 Marking that prohibits crossing of roadway in opposite direction (also known as prohibits crossing of road axis) has three types: double yellow solid lines, yellow dotted-solid lines and single yellow solid lines. It is used to separate traffic flows that are in opposite direction; prohibit vehicles in two directions or one direction from driving on or over the line. Generally speaking, it is set up at the center line of roads. However, it is not restricted to the geometric center line of roads.

5.2.2 When double yellow solid line serves as marking that prohibits crossing of roadway in opposite direction, it prohibits vehicles in two directions from driving on or over the line. Generally speaking, it is designated on roads where there are two or more motor vehicle lanes in one direction but no practical central divider. Except from intersections or sections that allow vehicles to make left-turn (or U-turn), double yellow solid line shall be continuously set up. The form of vibration marking may be adopted.

the recommended layout spacing is 30 cm ~ 50 cm. In addition, the surface of the raised pavement marker shall have sufficient anti-slide performance.

7.1.4 The other performance of raised pavement markers shall comply with the requirements in JT/T 390.

7.2 Delineators

7.2.1 Delineator is used to indicate the forward direction and edge contours of roads.

7.2.2 The setting of delineators has the following stipulations:

a) In terms of expressways, first-class highways, main lines of urban expressways, and exit and entrance ramps or connecting roads of interchanges, service areas and parking lots, delineators shall be continuously set up.

b) In terms of second-class highways, third-class highways, and other roads and sections, as required, delineators may be continuously set up on both sides along the main line. In terms of small-radius curves, continuous turns, poor range of visibility, and sections where roadside rushing-out accidents would easily occur and where accidents have frequently occurred, in accordance with other safety treatment measures, delineators shall be continuously set up on both sides along the main line.

c) In terms of main straight sections of expressways, the spacing of delineator setting is generally 50 m. When delineators are attached to fences, the set spacing may be 48 m. In terms of first-class highways and main straight sections of urban expressways, the spacing of delineator setting is generally 40 m. In terms of second-class highways, third-class highways and main straight sections of other roads, the spacing of delineator setting is generally 30 m.

d) The spacing of delineator setting on curved sections may be selected in accordance with the stipulations in Table 8, or, be properly thickened. The set spacing of delineators on the start-stop segment outside the curved sections is shown in Figure 111. If double or triple spacing is larger than 50 m, then, the value shall be 50 m.

Table 8 -- Set Spacing of Delineators on Curved Sections

Curve Radius *R*/m	<30	30~89	90~179	180~274	275~374	375~999	1 000~1 999	2,000 and above
Set Spacing *S*/m	4	8	12	16	24	32	40	48

Appendix B

(informative)
Intersection Marking Setting

B.1 General Principle

a) The setting of intersection markings shall aim at guaranteeing safe, orderly and efficient intersection traffic; integrate the practical condition of intersection and the practical characteristics of traffic flow in design and setting;

b) Exclusive lanes for left-turn and right-turn shall be actively developed;

c) In order to develop exclusive lanes at intersections, appropriate widened intersections and appropriate lane width reduction shall be firstly considered. When the above measures cannot satisfy the requirements, or when the measures cannot be implemented due to restrictions, in order of priority, the methods of reducing the width of central divider, reducing the width of central divider and reducing roadway width, offsetting road axis and reducing roadway width, reducing road shoulder or the width of non-motor vehicle lane may be successively adopted to develop exclusive lanes at intersections.

B.2 Classification of Intersection Markings

In accordance with the set location, intersection markings may be classified into the following two types:

a) Pavement markings in the exit and entrance area of intersections: in the exit and entrance part of intersections, as required, set up various pavement markings, such as: roadway boundary, guidance roadway, roadway guidance arrow, and left (right) turn guidance marking, so as to clearly indicate the driving location and forward direction of the traffic flow that drives into or drives out of the intersections.

b) Pavement markings in intersections: “in intersections” refers to the intersection area inside stopping line. In intersections, as required, stopping line, stopping and give-way marking, deceleration and give-way marking, crosswalk line, non-motor vehicle no-drive zone marking, central circle may be set up, so as to indicate vehicles’ stopping location, and pedestrians and non-motor vehicles’ passage location. Moreover, as required, markings like left-turn waiting zone and flow guidance marking may also be set up, so as to indicate motor vehicles’ trajectory in intersections, through which, the traffic flow may be guided to smoothly and steadily pass the intersections.

Where,

N---within 1 cycle, the average number of left-turn vehicles, expressed in (PCS);

s---average headway, expressed in (m).

Intersections without signal control:

$$L_s = 2 \times M \times s \qquad \cdots\cdots (B.4)$$

Where,

M---within 1 min, the average number of left-turn vehicles, expressed in (PCS).

In terms of the average headway (*s*) when left-turn vehicles are lining up, small-sized vehicles may be 6 m; large-sized vehicles may be 12 m. If it is impossible to obtain the mix-in rate of large-sized vehicles, then, *s* may be 7 m for unified calculation.

Under urban road environment, within the range permitted by all the conditions, make sure to obtain the maximum length of left-turn exclusive lane. The length of gradient section may be reduced, so as to increase the length of the lining-up section as much as possible. Under highway environment, on the basis of guaranteeing sufficient length of gradient section, necessary left-turn exclusive lane shall be set up.

B.3.2 Exclusive lane marking to right-turn

B.3.2.1 Generally speaking, under the following circumstances, right-turn exclusive lanes shall be set up:

a) Intersections where the angle of intersection is acute angle;

b) When right-turn traffic volume is extremely large;

c) When the velocity of right-turn vehicles is extremely high;

d) When there are many right-turn vehicles and pedestrians on the crosswalk, and vehicles waiting for right-turn have severely affected straight driving vehicles.

B.3.2.2 An example of the set parameters of right-turn exclusive lane is shown in Figure B.7.

Unit: centimeter

B.3.3.2 In the lane of level-crossing intersection entrance section, except from variable guidance lane, there shall be guidance arrows that indicate the driving direction of each lane. The specific setting is shown in the stipulations in 4.15.

B.4 Pavement Markings in Intersections

B.4.1 Crosswalk

B.4.1.1 The distance of pedestrians' one-time road-crossing shall be controlled under 18 m. If it is above 18 m, then, safety island shall be set up in appropriate locations.

B.4.1.2 The minimum width of crosswalk at the intersection on arterial road shall be 4 m. In terms of relatively narrow highway intersection, the minimum width of crosswalk is 3 m, which may be increased by the unit of 1 m in accordance with the specific condition.

B.4.1.3 When it is necessary to forecast that there is crosswalk ahead, in the central roadway before the crosswalk, set up crosswalk forecasting pavement marking. The location of setting shall comprehensively consider vehicles' stopping distance and the visibility of night-time driving. Generally speaking, a crosswalk forecasting pavement marking shall be set up at a distance of 30 m ~ 50 m before crosswalk and at 10 m ~ 20 m interval before crosswalk. In accordance with the specific road conditions, another crosswalk forecasting pavement marking may be repeatedly set up. When crosswalk is located in front of the curved turning part or other locations with poor range of visibility, forecasting marking shall be set up.

B.4.2 Stopping line

B.4.2.1 In principle, stopping line shall be vertical to road axis.

B.4.2.2 When there is crosswalk, stopping line shall be set up at 1 m ~ 3 m before crosswalk.

B.4.2.3 The set location shall be able to be clearly recognized by vehicles that are driving in the surrounding area of intersection.

B.4.2.4 The setting of stopping line shall not obstruct the driving of left-turn and right-turn vehicles in the intersection.

B.4.3 Give-way marking

Give-way marking in intersections includes two types: stop and give-way marking, and deceleration and give-way marking. The set parameters of stop and give-way marking, and deceleration and give-way marking are shown in the stipulations in 5.6; the principle of the setting is shown in GB 5768.2-2009.

B.4.4 Direction guidance marking and flow guidance marking

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