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Urban pedestrian and bicycle transportation system planning standards

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1 General

1.0.1 This standard is formulated in order to ensure the urban walking and bicycle traffic space, improve the safety and quality of walking and bicycle traffic travel, and make scientific use of space resources.

1.0.2 This standard applies to the planning and related work of urban pedestrian and bicycle transportation systems.

1.0.3 The planning and design of urban pedestrian and bicycle traffic systems should adhere to the basic principles of people-oriented, adapting measures to local conditions, smooth and comfortable, safe and accessible, and environment-friendly.

1.0.4 The planning and design of the urban pedestrian and bicycle traffic system shall not only comply with this standard, but also comply with the current relevant national standards.

2.0.1 Pedestrian transport system

A system composed of sidewalks, pedestrian streets, pedestrian-only roads, street crossing facilities, pedestrian parking spaces, pedestrian signs and markings, signals, etc.

2.0.2 bicycle transport system

A system consisting of non-motor vehicle lanes, bicycle lanes, street crossing facilities, parking facilities, non-motor vehicle markings, signals, etc.

2.0.3 Facilities with facility zone

Refers to the installation space provided for facilities such as transportation, municipal administration, greening, and sanitation in the roadside belt. For ease of distinction, the facility belt between the non-motor vehicle lane and the sidewalk is called the street tree facility belt, and the facility belt between the sidewalk and the building setback space is called the green facility belt.

2.0.4 pedestrian and bicycle network density

It refers to the ratio of the total mileage of the walking or cycling network to the area of the

area in a certain area.

2.0.5 Walking and cycling space

Refers to outdoor spaces that meet the needs of pedestrians and bicycles, such as sidewalks, non-motorized lanes, facility belts that can be passed, and building setback spaces.

2.0.6 Waiting and parking space

Refers to the outdoor space that meets the needs of pedestrians to stop and move, such as corner spaces at intersections, micro-parks, building retreat spaces, and bicycle parking spaces.

2.0.7 crossing time ratio

2 Type II area. general traffic area, which should cover the urban area where walking and cycling activities exist outside the key traffic area. The traffic network should guarantee basic density and continuity.

4.2.3 The minimum density and maximum spacing of pedestrian traffic network and bicycle traffic network in different districts shall meet the requirements in Table 4.2.3.

4.2.4 The maximum distance between crossing facilities of urban main roads and secondary main roads in different traffic zones shall meet the requirements in Table 4.2.4.

5 passage space

5.1 General provisions 5.1.1 The cross-sectional planning and design of urban roads should give priority to ensuring the space for pedestrians and bicycles, and the vertical design should give priority to the space for pedestrians and bicycles.

5.1.2 Ancillary facilities on urban roads, three-dimensional street crossing facilities and on-street parking spaces for motor vehicles must not encroach on the space for pedestrians and bicycles.

5.1.3 The sidewalks and non-motor vehicle lanes of urban roads should not be arranged on the same plane.

5.2 Grading 5.2.1 Sidewalks arranged along urban roads can be divided into two levels according to factors such as pedestrian traffic characteristics, surrounding land use and environment, traffic zoning, and urban public life quality.

1 Step Level I. Large flow of people, friendly street interface, is the main component of the pedestrian network. It is mainly distributed in urban central areas and functional areas, medium-sized and above public facilities, rail stations, surrounding transportation hubs, areas where people gather, etc.

2 Step II level. Mainly walk directly through, the street interface is less active, and the flow of people is small, it is the extension and supplement of the step I level network.

5.2.2 The non-motor vehicle lanes arranged along urban roads can be divided into two levels according to factors such as bicycle traffic characteristics, traffic zones, urban road grades, surrounding land use and environment.

1 Level I. Large bicycle traffic and good connectivity, it is the main channel for bicycle traffic.

2 Self-level II. The traffic flow of bicycles is less, mainly collecting and distributing and arriving and dispatching.

5.3 Width 5.3.1 The space for pedestrians and bicycles should take overall consideration of such elements as the separation zone for motor vehicles, non-motor vehicle lanes, street tree facility belts, sidewalks, green facility belts, and building retreat space, as shown in Figure 5.3.1.

5.3.2 The sidewalk width (Wp) shall be calculated as an integral multiple of a single pedestrian passageway, and shall be comprehensively determined according to formula (5.3.2) and Table 5.3.2 based on the designed pedestrian flow and traffic capacity during peak hours.

In the formula. Wp - sidewalk width (m);

Nw--Pedestrian flow of sidewalk in peak hour (p/h);

Nw1--the design capacity of a single pedestrian passageway (p/h);

W1--the width of a single pedestrian passageway (m).

5.3.3 The width of sidewalks shall meet the requirements in Table 5.3.3.

5.3.4 The non-motor vehicle lane width (Wb) shall be calculated as an integral multiple of a single bicycle lane, and shall be comprehensively determined according to formula (5.3.4) and Table 5.3.4 based on the peak hour design non-motor vehicle flow and capacity.

In the formula. Wb - non-motor vehicle lane width (m);

Nb--Non-motorized lane peak hour standard bicycle flow rate (veh/h);

Nb1--Designed traffic capacity of a single bicycle lane (veh/h);

W2--the width of a single bicycle lane (m).

5.3.5 The minimum width of non-motor vehicle lanes and bicycle lanes shall comply with the provisions in Table 5.3.5.

5.3.6 Pedestrians, bicycles and motor vehicles may mix in the streets, alleys and lanes of the city, but the following regulations shall be met.

1 Prioritize the space for pedestrians and bicycles;

2 Limit the speed of motor vehicles by means of stabilization.

5.3.7 On-street parking spaces for motor vehicles may be adjacent to motor vehicle lanes, set in conjunction with non-motor vehicle barriers, and shall not encroach on the passage space of non-motor vehicles. When there is no non-separation zone, a buffer zone should be set between the on-street motor vehicle parking spaces adjacent to the motor vehicle lane and the non-motor vehicle lane. Parked vehicles are not allowed to enter the buffer zone, and the width of the buffer zone should not be less than 0.5m.

5.3.8 The road ancillary facilities, municipal facilities and street furniture, etc. shall be arranged compactly by means of street tree facilities.

5.4 Traffic connection 5.4.1 The pedestrian and bicycle traffic facilities at the entrance and exit of motor vehicles on the plot shall comply with the following regulations.

1 The sidewalk at the entrance and exit of motor vehicles in the plot shall be kept flat and continuous, and a traffic blocking column shall be set;

2 The non-motor vehicle lane at the motor vehicle entrance and exit of the plot should be paved in color.

5.4.2 The connection between pedestrian and bicycle traffic and bus stops shall comply with the following regulations.

1 When the non-separation belt of the bus stop combined with the machine is set, the minimum width of the sidewalk and the non-motor vehicle lane shall meet the requirements of Table 5.3.3 and Table 5.3.5 of this standard;

2 The non-motor vehicle lane should be set outside the bus stop, and the pedestrian crossing line should be set on the non-motor vehicle lane, while meeting the requirements of barrier-free passage;

3 When the bus stop is set in the street tree facility zone, transparent reverse bus stop kiosks can be set up to ensure that the remaining width of the sidewalk meets the requirements in Table 5.3.3 of this standard.

5.4.3 The connection between pedestrian and bicycle traffic and the entrances and exits of rail stations shall meet the relevant requirements of the current national standard "Urban Rail Transit Network Planning Standard" GB/T 50546, and meet the following requirements.

1 Passenger distribution squares should be set up at the entrances and exits of rail stations, and the area should not be less than 30m2;

2 When it is necessary to occupy the sidewalk at the entrance and exit of the rail station, the remaining width of the sidewalk shall not be less than 3m;

3 It is not suitable to set walls, fences, guardrails and other facilities within 20m near the entrance and exit of the rail station;