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GA/T 527.2-2016

Replacing GA/T 527.2-2016

Road traffic signal control mode - Part 2: Evaluation index and methods for traffic state and control performance

道路交通信号控制方式 第2部分：通行状态与控制效益评估指标及方法

(English Translation)

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References

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is part 2 of GA/T 527 "Road Traffic Signal Control Methods". GA/T 527 has been published in the following parts.

--- Part 1: General technical requirements;

--- Part 2: Traffic status and control benefit evaluation indicators and methods;

--- Part 3: Implementation requirements for single-point signal control methods;

--- Part 4: Implementation requirements for trunk coordinated signal control methods;

--- Part 5: Traffic control rules for variable guide lanes;

--- Part 6: Bus intersection priority control rules;

--- Part 7: Tram crossing priority control rules.

This document replaces GA/T 527.2-2016 "Road Traffic Signal Control Methods Part 2:

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Traffic Status and Control Benefit Evaluation Guidelines" Compared with GA/T 527.2-2016, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

a) The scope has been changed (see Chapter 1, Chapter 1 of the 2016 edition);

b) Added analysis and evaluation objects (see Chapter 4);

c) The traffic status evaluation index classification and control benefit evaluation index classification have been deleted (see 4.1.1 and 4.1.2 of the 2016 edition);

d) The traffic status characteristic indicators have been changed (see 5.1, 4.2.1 of the 2016 edition);

e) Added control objective classification (see 5.2.1);

f) The control benefit evaluation indicators under various control objectives have been changed (see 5.2.2, 4.2.2 of the 2016 edition);

g) Added the selection of control benefit evaluation indicators (see Chapter 6);

h) Added evaluation index determination (see Chapter 7);

i) Added the evaluation process (see 8.1);

j) The assessment method has been changed (see 8.2, Chapter 7 of the 2016 edition);

k) Deleted the calculation of traffic status assessment indicators (see Chapter 5 of the 2016 edition);

l) The calculation method of control benefit evaluation indicators has been changed (see Appendix B, Chapter 6 of the 2016 edition);

m) Added the calculation method of the comprehensive evaluation index of control benefits (see Appendix C).

Introduction

The road traffic signal control method is applied to the road traffic signal control system to control and adjust the traffic flow operation status according to the traffic the specific control method implemented by the signal control scheme. In order to ensure the orderly development of road traffic signal control design and application, and promote the city in order to achieve the goals and benefits of traffic signal control, it is necessary to standardize the implementation requirements and control rules of various traffic signal control methods.

In terms of the above, my country has established an industry standard system to support the design and application of road traffic signal control methods.

GA/T 527 "Road Traffic Signal Control Methods" aims to determine the technical

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requirements for the design and implementation of various traffic signal control methods.

It consists of nine parts.

--- Part 1: General technical requirements. The purpose is to establish the requirements for the design and application of various road traffic signal control methods.

Sufficient technical conditions and setting requirements.

--- Part 2: Traffic status and control efficiency evaluation indicators and methods. The purpose is to establish various types of road traffic signal control methods Evaluation indicators, evaluation process and methods for road traffic status and control effectiveness.

--- Part 3: Implementation requirements for single-point signal control methods. The purpose is to establish requirements applicable to the design and application of single-point signal control methods.

Technical requirements for control method classification, setting conditions, implementation process, signal timing parameters, etc.

--- Part 4: Implementation requirements for trunk coordinated signal control methods. The purpose is to establish requirements for trunk coordinated signal control methods.

Technical requirements for design and application of control methods classification, setting conditions, implementation process, control parameter determination, etc.

--- Part 5: Traffic control rules for variable guide lanes. The purpose is to establish variable guide lane signals applicable to road intersections Setting requirements and control rules for control design and implementation.

--- Part 6: Bus intersection priority control rules. The purpose is to establish the rules applicable to bus intersection priority control.

The overall principles and relevant rules that need to be followed in system design and application.

--- Part 7: Tram crossing priority control rules. The purpose is to establish the rules applicable to tram crossing priority control rules.

The overall principles and relevant rules that need to be followed in the design and application of bank controls.

--- Part 8: Tidal lane traffic control rules. The purpose is to establish practical rules applicable to the design and application of tidal lane traffic control.

Implementation conditions, switching modes, implementation procedures, operation constraints, etc.

--- Part 9: Ramp traffic control rules. The purpose is to establish the setting requirements, implementation rules and procedures applicable to the design and implementation of ramp

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traffic control.

Technical requirements such as implementation process, control method, and control parameter determination.

Road traffic signal control method Part 2: Traffic status and control effectiveness evaluation Indicators and methods

1 Scope

This document specifies the analysis and evaluation objects, evaluation indicators, and control benefit evaluation of road traffic status and traffic signal control benefits.

Indicator selection, evaluation indicator determination, and evaluation process and methods.

This document applies to the evaluation of road traffic conditions and control effectiveness when traffic lights are used to control traffic.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 29107-2012 Road traffic information service traffic condition description GB/T 31418 Terminology of road traffic signal control systems GB/T 33171-2016 Specification for evaluation of urban traffic operation status GA/T 115-2020 Road traffic congestion evaluation method GA/T 527.1 Road traffic signal control methods Part 1: General technical requirements GA/T 994 Specification for the release of road traffic information

3 Terms and definitions

The terms and definitions defined in GB/T 31418, GA/T 527.1 and GA/T 994 apply to this document.

4.1 Traffic status analysis object

According to the composition of road traffic elements and differences in physical form, the objects of traffic status analysis are divided into single points, trunk lines and regions.

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