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Road traffic safety (RTS) management systems — Requirements with guidance for use

Systèmes de management de la sécurité routière — Exigences et recommandations de bonnes pratiques

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 39001 was prepared by Project Committee PC 241, *Road traffic safety management systems*.

For the purposes of research on road traffic safety management standards, users are encouraged to share their views on ISO 39001:2012 and their priorities for changes to future editions of the document. Click on the link below to take part in the online survey.

http://www.surveymonkey.com/s/39001

Introduction

Road traffic safety (RTS) is a global concern. It is estimated that around 1,3 million people are killed and 20 million to 50 million are injured on roads around the world each year, and that this level is rising[10]. The socio-economic and health impacts are substantial.

This International Standard provides a tool to help organizations reduce, and ultimately eliminate, the incidence and risk of death and serious injury related to road traffic crashes. This focus can result in a more cost-effective use of the road traffic system.

This International Standard identifies elements of good RTS management practice that will enable the organization to achieve its desired RTS results.

This International Standard is applicable to public and private organizations that interact with the road traffic system. It can be used by internal and external parties, including certification bodies, to assess the organization's ability to meet the requirements.

Experience from around the world has shown that large reductions in death and serious injury can be achieved through the adoption of a holistic Safe System approach to RTS. This involves a clear and unequivocal focus on RTS results and evidence-based actions, supported by appropriate organizational management capacity[9][11][12].

Government cannot achieve these reductions alone. Organizations of all types and sizes, as well as individual road users, have a role to play. By adopting this International Standard, organizations should be able to achieve

— RTS results at levels that exceed what can be achieved through compliance with laws and standards, and

— their own objectives, and, at the same time, contribute to the achievement of societal goals

The management system specified in this International Standard focuses the organization on its RTS objectives and RTS targets and guides the planning of activities that will realize these goals by using a Safe System approach to RTS. Annex B describes categories of RTS results, the Safe System approach and a framework for good practice RTS management, and shows how they can be aligned with this International Standard.

Annex A provides some guidance on the implementation of this International Standard.

The RTS management system can be integrated into, or made compatible with, other management systems (see also Annex C) and processes within the organization.

This International Standard promotes the use of an iterative (plan, do, check, act) process approach that will guide the organization towards delivery of the RTS results.

Road traffic safety (RTS) management systems — Requirements with guidance for use

1 Scope

This International Standard specifies requirements for a road traffic safety (RTS) management system to enable an organization that interacts with the road traffic system to reduce death and serious injuries related to road traffic crashes which it can influence. The requirements in this International Standard include development and implementation of an appropriate RTS policy, development of RTS objectives and action plans, which take into account legal and other requirements to which the organization subscribes, and information about elements and criteria related to RTS that the organization identifies as those which it can control and those which it can influence.

This International Standard is applicable to any organization, regardless of type, size and product or service provided, that wishes to

a) improve RTS performance,

b) establish, implement, maintain and improve an RTS management system,

c) assure itself of conformity with its stated RTS policy, and

d) demonstrate conformity with this International Standard.

This International Standard is intended to address RTS management. It is not intended to specify the technical and quality requirements of transportation products and services (e.g. roads, traffic signs/lights, automobiles, trams, cargo and passenger transportation services, rescue and emergency services).

It is not the intent of this International Standard to imply uniformity in the structure of RTS management systems or uniformity of documentation.

RTS is a shared responsibility. This International Standard is not intended to exclude road users from their obligations to comply with the law and behave responsibly. It can support the organization in its efforts to encourage road users to comply with the law.

All requirements of this International Standard are generic.

Where any requirement of this International Standard cannot be applied due to the nature of an organization and its products or services, that requirement can be considered for exclusion, provided the exclusion and the reason for exclusion are documented.

Where exclusions are made, claims of conformity to this International Standard are only acceptable where these exclusions do not affect the organization's ability to establish, implement, maintain and improve an RTS management system successfully.

2 Normative references

There are no normative references.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
audit
systematic, independent and documented **process** (3.27) for obtaining **audit evidence** (3.4) and evaluating it objectively to determine the extent to which the **audit criteria** (3.3) are fulfilled

Note 1 to entry: An audit can be an internal audit (first party) or an external audit (second party or third party), and it can be a combined audit (combining two or more disciplines).

Note 2 to entry: "Audit evidence" and "audit criteria" are defined in ISO 19011.

3.2
auditor
person with the demonstrated personal attributes and **competence** (3.7) to conduct an **audit** (3.1)

Note 1 to entry: The relevant personal attributes for an auditor are described in ISO 19011.

3.3
audit criteria
set of policies, procedures or requirements used as a reference against which **audit evidence** (3.4) is compared

3.4
audit evidence
records, statements of facts, or other information which are relevant to the **audit criteria** (3.3) and verifiable

3.5
best available information
information available to the organization that takes into account any known limitations of data or modeling used, or the possibility of divergence among experts

Note 1 to entry: It includes sources, such as evidence, scientific safety research, experience, feedback, observation, forecasts and expert judgement.

Note 2 to entry: Availability is dependent on the organization's resources.

3.6
commitment
level of work and dedication given to a **management system** (3.16)

3.7
competence
ability to apply knowledge and skills to achieve intended results

3.8
conformity
fulfilment of a **requirement** (3.28)

3.9
continual improvement
recurring activity to enhance **performance** (3.23)

3.10
correction
action to eliminate a detected **nonconformity** (3.19)

3.11
corrective action
action to eliminate the cause of a **nonconformity** (3.19) and to prevent recurrence

3.12
death
loss of human life as a direct result of a **road traffic crash** (3.33).

Note 1 to entry: There is a widely accepted international definition of road traffic death which is a person or persons killed or dying within 30 days as a direct result of a road traffic crash, excluding suicide. There can be other definitions in different countries.

3.13
documented information
information required to be controlled and maintained by an **organization** (3.21) and the medium on which it is contained

Note 1 to entry: Documented information can be in any format and media and from any source.

Note 2 to entry: Documented information can refer to:

— the **management system** (3.16), including related **processes** (3.27);

— information created in order for the organization to operate (documentation);

— evidence of results achieved (records).

3.14
effectiveness
extent to which planned activities are realized and planned results achieved

3.15
interested party
person or **organization** (3.21) that can affect, be affected by, or perceive themselves to be affected by a decision or activity

Note 1 to entry: Interested parties can include, but are not limited to, employees, contractors, suppliers, customers and other affected third parties.

3.16
management system
set of interrelated or interacting elements of an **organization** (3.21) to establish **policies** (3.24) and **objectives** (3.20), and **processes** (3.27) to achieve those objectives

Note 1 to entry: A management system can address a single discipline or several disciplines.

Note 2 to entry: The system elements include the organization's structure, roles and responsibilities, planning, operation, etc.

Note 3 to entry: The scope of a management system may include the whole of the organization, specific and identical functions of the organization, specific and identified sections of the organization or one or more functions across a group of organizations.

3.17
measurement
process (3.27) to determine a value

3.18
monitoring
determining the status of a system, a **process** (3.27) or an activity

Note 1 to entry: To determine the status there may be a need to check, supervise or critically observe.

3.19
nonconformity
non-fulfilment of a **requirement** (3.28)

3.20
objective
result to be achieved

Note 1 to entry: An objective can be strategic, tactical, or operational.

Note 2 to entry: Objectives can relate to different disciplines (such as financial, health and safety, and environmental goals) and can apply at different levels [such as strategic, organization-wide, project, product and **process** (3.27)].

Note 3 to entry: An objective can be expressed in other ways, e.g. as an intended outcome, a purpose, an operational criterion, as an RTS objective or by the use of other words with similar meaning (e.g. aim, goal, or target).

Note 4 to entry: In the context of RTS management systems, RTS objectives are set by the organization, consistent with the RTS policy, to achieve specific results.

3.21
organization
person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its **objectives** (3.20)

Note 1 to entry: The concept of organization includes, but is not limited to sole-trader, company, corporation, firm, enterprise, authority, partnership, charity or institution, or part or combination thereof, whether incorporated or not, public or private.

3.22
outsource (verb)
make an arrangement where an external **organization** (3.21) performs part of an organization's function or **process** (3.27)

Note 1 to entry: An external organization is outside the scope of the **management system** (3.16), although the outsourced function or process is within the scope.

3.23
performance
measurable result

Note 1 to entry: Performance can relate either to quantitative or qualitative findings.

Note 2 to entry: Performance can relate to the management of activities, **processes** (3.27), products (including services), systems or **organizations** (3.21).

3.24
policy
intentions and direction of an **organization** (3.21) as formally expressed by its **top management** (3.45)

Note 1 to entry: The RTS policy provides a framework for action and for the setting of RTS **objectives** (3.20) and **RTS targets** (3.43).

3.25
preventive action
action to eliminate the cause of a potential **nonconformity** (3.19)

3.26
procedure
specified way to carry out an activity or a **process** (3.27).

3.27
process
set of interrelated or interacting activities which transforms inputs into outputs

3.28
requirement
need or expectation that is stated, generally implied or obligatory

Note 1 to entry: "Generally implied" means that it is custom or common practice for the organization and interested parties that the need or expectation under consideration is implied.

Note 2 to entry: A specified requirement is one that is stated, for example in documented information.

3.29
risk
effect of uncertainty

Note 1 to entry: An effect is a deviation from the expected — positive or negative.

Note 2 to entry: Uncertainty is the state, even partial, of deficiency of information related to, understanding or knowledge of, an event, its consequence or likelihood.

Note 3 to entry: Risk is often characterized by reference to potential **events** (as defined in ISO Guide 73:2009, 3.5.1.3) and **consequences** (as defined in ISO Guide 73:2009, 3.6.1.3), or a combination of these. In this International Standard, RTS-related risk refers to crashes (events) and death and serious injuries (consequences).

Note 4 to entry: Risk is often expressed in terms of a combination of the consequences of an event (including changes in circumstances) and the associated **likelihood** (as defined in ISO Guide 73:2009, 3.6.1.1) of occurrence.

3.30
road
surface that vehicles and people use for travel including the adjacent area

Note 1 to entry: Railways are included in the case of railway level crossings or tramways operating on roads.

3.31
road network
system of **roads** (3.30) in a given area

3.32
road traffic
motorized and non-motorized usage of the **road** (3.30)

3.33
road traffic crash
collision or other impact on a **road** (3.30) causing **death** (3.12), any injury or damage

Note 1 to entry: In this International Standard, the focus for **organizations** (3.21) is on the prevention of death and **serious injury** (3.44) arising from road traffic crashes in the long-term and targeted improvements in the interim.

3.34
road traffic incident
occurrence arising from a failure of a component or external contributing factors of the **road traffic system** (3.36)

Note 1 to entry: Incidents include but are not limited to **road traffic crashes** (3.33) and near-misses.

Note 2 to entry: Examples of components where failure can cause incidents includes **road users** (3.37), vehicles, **roads** (3.30) or unforeseen external contributing factors such as lightning or animals.

3.35
road traffic safety
RTS
conditions and factors related to **road traffic crashes** (3.33) and other **road traffic incidents** (3.34) that have an impact on, or have the potential to have an impact on death or serious injury of **road users** (3.37)

3.36
road traffic system
road (3.30), the vehicles, the emergency medical system and **road users** (3.37), and their interactions

3.37
road user
any person on the **road** (3.30)

3.38
RTS deficiency
appearance of conditions and factors related to the **road traffic system** (3.36) identified to cause **road traffic crashes** (3.33) and **road traffic incidents** (3.33) that lead, or have the potential to lead, to death and serious injuries of **road users** (3.37)

3.39
RTS corrective action
action to eliminate the cause of **road traffic crashes** (3.33)

3.40
RTS performance
measurable results of an **organization's** (3.21) management of its contribution to **RTS (**3.35)

Note 1 to entry: In the context of RTS management systems, results can be measured against the **organization's** (3.21) RTS **policy** (3.24), RTS **objectives** (3.20), **RTS targets** (3.43) and other RTS performance requirements.

3.41
RTS performance factor
a measurable factor, element and criterion contributing to **RTS** (3.35) that the **organization** (3.21) can influence and that allows the organization to determine impacts on RTS

Note 1 to entry: It allows an **organization** (3.21), including its contractors and sub-contractors, to determine changes in RTS **performance** (3.23). It is a concrete and measurable element of the organization's activity that will be used by the organization to track performance over time.

3.42
RTS preventive action
action to reduce or eliminate the **risk** (3.29) of **road traffic crashes** (3.33)

3.43
RTS target
detailed **performance** (3.23) to be achieved, consistent with the **policy** (3.24) and RTS **objectives** (3.20), that an **organization** (3.21) applies to itself or together with **interested parties** (3.16)

3.44
serious injury
injury with a long term health impact or non-minor harm caused to a person's body or its functions arising from a **road traffic crash** (3.33)

Note 1 to entry: In various countries, different definitions of serious injury are in use based on the duration of hospitalization of an injured person. Seriousness can also be based on medical diagnosis or disablement as a consequence of a road traffic crash. There may be other definitions in different countries.

3.45
top management
person or group of people who directs and controls an **organization** (3.21) at the highest level

Note 1 to entry: Top management has the power to delegate authority and provide resources within the organization.

Note 2 to entry: If the scope of the **management system** (3.16) covers only part of an organization then top management refers to those who direct and control that part of the organization.

4 Context of the organization

4.1 Understanding of the organization and its context

The organization shall determine external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended outcome(s) of its RTS management system.

The organization shall:

— identify its role in the road traffic system;

— identify the processes, associated activities and functions of the organization that can have an impact on RTS;

— determine the sequence and interaction of these processes, activities and functions.

4.2 Understanding the needs and expectations of interested parties

The organization shall determine:

— the interested parties that are relevant to the RTS management system;

— the requirements of these interested parties;

— the legal and other requirements related to RTS to which the organization subscribes.

4.3 Determining the scope of the RTS management system

The organization shall determine the boundaries and applicability of the RTS management system to establish its scope.

When determining this scope, the organization shall in particular consider

— the external and internal issues referred to in 4.1,

— the requirements referred to in 4.2, and

— the planning requirements referred to in Clause 6.

The organization shall determine the intended outcome of its RTS management system which shall include the reduction, and ultimately elimination, of the number of deaths and serious injuries in road traffic crashes that it can influence.

The scope shall be available as documented information.

4.4 RTS management system

The organization shall establish, implement, maintain and continually improve an RTS management system, including the processes needed and their interactions, in accordance with the requirements of this International Standard.

5 Leadership

5.1 Leadership and commitment

Top management shall demonstrate leadership and commitment with respect to the RTS management system by:

— ensuring that RTS policy and RTS objectives are established and are compatible with the strategic direction of the organization;

— ensuring the integration of the RTS management system requirements into the organization's business processes;

— ensuring that the resources needed for the RTS management system are available;

— adopting the elimination of death and serious injury in road traffic crashes as the long-term RTS objective, as well as decide on the RTS results to be achieved in the interim;

— working in partnership and collaboration with interested parties in developing a contribution to a safe road traffic system to achieve the established RTS objective(s);

— ensuring that the organization adopts a process approach to achieve the desired RTS results to ensure that there are transparent processes and appropriate involvement at all relevant levels of the organization;

— prioritizing strategic actions and selecting specific courses of action, based on the best available information to achieve the intended outcomes of the RTS management system;

— communicating the importance of effective RTS management and of conforming to the RTS management system requirements;

— providing the resources to establish, implement, maintain and continually improve the RTS management system;

— ensuring that the RTS management system achieves its intended outcomes by focusing on RTS results;

— ensuring that the importance of compliance with laws relevant to achieve the intended outcome of the RTS management system is communicated to all relevant personnel within the organization;

— directing and promoting persons to contribute to the effectiveness of the RTS management system;

— continual improvement;

— supporting other relevant management roles to demonstrate leadership as it applies to their areas of responsibility.

NOTE Reference to "business" in this International Standard is intended to be interpreted broadly to mean those activities that are core to the purposes of the organization's existence.

5.2 Policy

Top management shall establish an RTS policy that:

a) is appropriate to the purpose of the organization;

b) provides a framework for setting RTS objectives and RTS targets;

c) includes a commitment to satisfy applicable requirements;

d) includes a commitment to continual improvement of the RTS management system.

The policy shall:

— be available as documented information;

— be communicated within the organization;

— be available to interested parties, as appropriate.

5.3 Organizational roles, responsibilities and authorities

Top management shall ensure that the responsibilities and authorities for relevant roles are assigned and communicated within the organization.

Top management shall assign the responsibility and authority for:

a) ensuring that the RTS management system conforms to the requirements of this International Standard;

b) reporting on the performance of the RTS management system to top management, including recommendations for improvement.

6 Planning

6.1 General

The organization shall follow a process that reviews its current RTS performance, determines the risks and opportunities, selects RTS performance factors to work on, analyses what it can achieve over time and sets appropriate RTS objectives, RTS targets and plans to achieve them.

The review of current RTS performance shall take account of the context of the organization (see Clause 4) and its leadership (see Clause 5), with particular reference to the processes, associated activities and functions of the organization that can have an impact on RTS. Current RTS performance shall be quantified where possible, and assessment made of likely future impacts in accordance with relevant RTS performance factors.

6.2 Actions to address risks and opportunities

When planning for the RTS management system, the organization shall consider the issues referred to in 4.1 and the requirements referred to in 4.2 and determine the risks and opportunities that need to be addressed to:

— ensure the RTS management system can achieve its intended outcome(s);

— prevent, or reduce, undesired effects;

— achieve continual improvement.

The organization shall plan

a) actions to address these risks and opportunities;

b) how to:

— integrate and implement these actions into its RTS management system processes;

— evaluate the effectiveness of these actions.

6.3 RTS performance factors

The organization shall identify for use RTS performance factors from the following list of risk exposure factors, final safety outcome factors and intermediate safety outcome factors, depending on the context (see Clause 4) of the organization and on the risks and opportunities it has identified.

a) Risk exposure factors:

— distance travelled and road traffic volume, including vehicle and road user type, whether influenced or not influenced by the organization;

— volume of product and/or service provided by the organization.

b) Final safety outcome factors, e.g. the number of deaths and serious injuries.

c) Intermediate safety outcome factors: these safety outcome factors are related to the safe planning, design and use of the road network and of the products and services within it, the conditions for entry and exit of those products, services and users, as well as the recovery and rehabilitation of road traffic crash victims:

— road design and safe speed, especially considering separation (on-coming traffic and vulnerable road users), side areas and intersection design;

— use of appropriate roads, depending on vehicle type, user, type of cargo and equipment;

— use of personal safety equipment, especially considering seat belts, child restraints, bicycle helmets and motorcycle helmets, and the means to see and be seen;

— using safe driving speed, also considering vehicle type, traffic and weather conditions;

— fitness of drivers, especially considering fatigue, distraction, alcohol and drugs;

— safe journey planning, including consideration of the need to travel, the amount and mode of travel and choice of route, vehicle and driver;

— safety of vehicles, especially considering occupant protection, protection of other road users (vulnerable as well as other vehicle occupants), road traffic crash avoidance and mitigation, roadworthiness, vehicle load capacity and securing of loads in and on the vehicle;

— appropriate authorization to drive/ride the class of vehicles being driven/ridden;

— removal of unfit vehicles and drivers/riders from the road network;

— post-crash response and first aid, emergency preparedness and post crash recovery and rehabilitation.

The organization shall develop additional RTS performance factors when the above-mentioned RTS performance factors have insufficient relevance. Additional RTS performance factors shall be developed by investigating relevant road traffic incidents and identifying RTS deficiencies.

Based on the RTS performance factors, the organization shall specify elements and criteria in appropriate detail to determine, monitor and measure RTS objectives and RTS targets. The organization shall document this information and keep it up to date.

EXAMPLE Seat belt use represents both the element and the criterion in relation to the RTS performance factor “use of personal safety equipment”. For the RTS performance factor “vehicle safety”, a consumer safety rating represents the element and the rating level the criterion.

NOTE Guidance on the use of the RTS performance factors by different types of organizations is given in A.11.

6.4 RTS objectives and planning to achieve them

The organization shall establish RTS objectives at relevant functions and levels.

The RTS objectives shall:

— be consistent with the RTS policy;

— be measurable (if practicable);

— take into account applicable requirements;

— be monitored;

— be communicated;

— be updated as appropriate.

The organization shall retain documented information on the RTS objectives and the RTS targets.

When establishing and reviewing its RTS objectives and RTS targets, an organization shall take into account its risks and opportunities in 6.2, its RTS performance factors in 6.3 and element and criteria in 6.3 as well as give consideration to its management capacity. It shall also consider its technological options, its financial, operational and business requirements, and the views of interested parties.

When planning how to achieve its RTS objectives and RTS targets, the organization shall determine:

— what will be done;

— what resources will be required;

— who will be responsible;

— when it will be completed;

— how the results will be evaluated.

The action plans shall be documented and reviewed as necessary.

NOTE 1 A.6.3 provides an example of an RTS target hierarchy.

NOTE 2 The type of measurement for any RTS objectives and RTS targets can be identified on the basis of the RTS performance factors and the elements and criteria in 6.3 as well as organizational outputs.

7 Support

7.1 Coordination

The organization shall coordinate with relevant levels and functions of the organization (including the involvement of employees, in general) and interested parties to realize the potential benefits from its actions related to RTS. It shall ensure that there is appropriate internal and external consultation and coordination of its activities designed to achieve the established RTS objective(s) and RTS targets.

7.2 Resources

The organization shall determine and provide the resources and allocation framework needed for establishment, implementation, maintenance and continual improvement of the RTS management system to achieve the established RTS objective(s) and RTS targets.

NOTE Resources include human resources and specialized skills, organizational infrastructure, technology and financial resources.

7.3 Competence

The organization shall:

— determine the necessary competence of person(s) doing work under its control that affects its RTS performance;

— ensure these persons are competent on the basis of appropriate education, training, or experience;

— where applicable, take actions to acquire the necessary competence, and evaluate the effectiveness of the actions taken;

— retain appropriate documented information as evidence of competence.

NOTE Applicable actions can include, for example the provision of training to, the mentoring of, or the re-assignment of current employed persons, or the hiring or contracting of competent persons.

7.4 Awareness

Persons doing work under the organization's control, and who are affected by or affect RTS in their work, shall be aware of:

— the RTS policy;

— their contribution to the effectiveness of the RTS management system, including the benefits of improved RTS performance;

— the implications of not conforming with the RTS management system requirements;

— information and lessons learned concerning the major relevant road traffic incidents that are experienced by the organization.

7.5 Communication

The organization shall determine the need for internal and external communications relevant to the RTS management system, including:

— on what it will communicate;

— when to communicate;

— with whom to communicate.

The organization shall establish, implement and maintain a communication process considering the various levels and functions of the organization and interested parties.

The organization shall support the continual improvement of RTS performance, by engaging with and promoting among its internal and external interested parties, as appropriate, the need for a long-term focus on RTS results and the means by which they can be achieved.

7.6 Documented information

7.6.1 General

The organization's RTS management system shall include:

— documented information required by this International Standard;

— documented information determined by the organization as being necessary for the effectiveness of the RTS management system.

NOTE The extent of documented information for an RTS management system can differ from one organization to another due to:

— the size of organization and its type of activities, processes, products and services,

— the complexity of processes and their interactions, and

— the competence of persons.

7.6.2 Creating and updating

When creating and updating documented information, the organization shall ensure appropriate:

— identification and description (e.g. a title, date, author, or reference number);

— format (e.g. language, software version, graphics) and media (e.g. paper, electronic);

— review and approval for sustainability and adequacy.

7.6.3 Control of documented Information

Documented information required by the RTS management system and by this International Standard shall be controlled to ensure:

— it is available and suitable for use, where and when it is needed;

— it is adequately protected (e,g. from loss of confidentiality, improper use, or loss of integrity).

For the control of documented information, the organization shall address the following activities, as applicable:

— distribution, access, retrieval and use;

— storage and preservation, including preservation of legibility;

— control of changes (e.g. version control);

— retention and disposition.

Documented information of external origin determined by the organization to be necessary for the planning and operation of the RTS management system shall be identified as appropriate, and controlled.

NOTE Access implies a decision regarding the permission to view the documented information only, or the permission and authority to view and change the documented information, etc.

8 Operation

8.1 Operational planning and control

The organization shall determine, plan, implement and control the processes to meet requirements, and to implement the actions determined in 6.2, to address the RTS performance factors identified in 6.3 and the RTS objectives and RTS targets in 6.4, by:

— establishing criteria for the processes;

— implementing control of the processes in accordance with the criteria;

— keeping documented information to the extent necessary to have confidence that the processes have been carried out as planned.

The organization shall control planned changes and review the consequences of unintended changes, taking action to mitigate any adverse effects, as necessary.

The organization shall ensure that outsourced processes are controlled.

8.2 Emergency preparedness and response

The organization shall respond to actual death and serious injuries caused by road traffic crashes or by other road traffic incidents in which the organization is involved and, where practicable, prevent or mitigate adverse associated impacts on RTS.

The organization shall periodically review and, where necessary, revise its preparedness for actual death and serious injuries caused by road traffic crashes or by other road traffic incidents in which the organization is involved, and response procedures, in particular, after such occurrences of deaths and serious injuries.

The organization shall also periodically test such procedures where practicable.

9 Performance evaluation

9.1 Monitoring, measurement, analysis and evaluation

In relation to the RTS management system, the organization shall determine:

— what needs to be monitored and measured;

— the methods for monitoring, measuring, analysis and evaluation, as applicable, to ensure valid results;

— when the monitoring and measuring shall be performed;

— when the results from the monitoring and measurement shall be analysed and evaluated.

The organization shall retain appropriate documented information as evidence of the results.

The organization shall evaluate the RTS performance and the effectiveness of the RTS management system.

The organization shall establish, implement and maintain a process to periodically evaluate compliance with applicable legal RTS requirements and other RTS requirements to which the organization subscribes.

9.2 Road traffic crash and other road traffic incident investigation

The organization shall establish, implement and maintain a procedure(s) to record, investigate and analyse those road traffic crashes and other incidents in which it is involved that lead, or have the potential to lead, to death and serious injuries of road users, in order to:

a) determine the underlying factors that it can control and/or influence and that can be causing or contributing to the occurrence of those incidents;

b) identify the need for RTS corrective action;

c) identify opportunities for RTS preventive action.

The investigations shall be performed in a timely manner.

Any identified need for RTS corrective action or opportunities for RTS preventive action shall be dealt with according to the relevant parts of Clause 10.

The results of road traffic crash and other incident investigations shall be documented and maintained.

9.3 Internal audit

The organization shall conduct internal audits at planned intervals to provide information on whether the RTS management system:

a) conforms to:

   — the organization's own requirements for its RTS management system;

   — the requirements of this International Standard;

b) is effectively implemented and maintained.

The organization shall:

— plan, establish, implement and maintain an audit programme(s), including the frequency, methods, responsibilities, planning requirements and reporting. The audit programme(s) shall take into consideration the importance of the processes concerned and the results of previous audits;

— define the audit criteria and scope for each audit;

— select auditors and conduct audits to ensure objectivity and the impartiality of the audit process;

— ensure that the results of the audits are reported to relevant management;

— retain documented information as evidence of the implementation of the audit programme and the audit results.

9.4 Management review

Top management shall review the organization's RTS management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness in achieving the established RTS objectives and RTS targets. In establishing its RTS management system, or following review of its RTS management system, the

organization shall identify and analyse the key issues which need to be addressed across the management system in order to improve the organization's RTS performance in the interim and long term.

The management review shall include consideration of:

a) the status of actions from previous management reviews;

b) changes in external and internal issues that are relevant to the RTS management system;

c) information on the RTS performance, including trends in

- nonconformities and corrective actions,
- monitoring, measurement analysis and evaluation of results, including the extent to which RTS objectives and RTS targets have been met, and
- audit results and evaluations of compliance with legal and other requirements to which the organization subscribes;

d) opportunities for continual improvement, including consideration of new technologies;

e) relevant communication(s) from interested parties, including complaints;

f) road traffic crash and other road traffic incident investigation.

The outputs of the management review shall include decisions related to continual improvement opportunities, achieving RTS results and any need for changes to the RTS management system.

The organization shall retain documented information as evidence of the results of the management reviews.

10 Improvement

10.1 Nonconformity and corrective action

When a nonconformity with the requirements of the RTS management system occurs, the organization shall:

a) react to the nonconformity, and as applicable,

- take action to control and correct it, and
- deal with the consequences;

b) evaluate the need for action to eliminate the causes of the nonconformity, in order that it does not recur or occur elsewhere, by

- reviewing the nonconformity,
- determining the causes of the nonconformity, and
- determining if similar nonconformities exist, or could potentially occur;

c) implement any action needed;

d) review the effectiveness of any corrective action taken;

e) make changes to the RTS management system, if necessary.

Corrective actions shall be appropriate to the effects of the nonconformities encountered.

The organization shall retain documented information as evidence of

— the nature of the nonconformities and any subsequent actions taken, and

— the results of any corrective action.

10.2 Continual improvement

The organization shall continually improve the suitability, adequacy and effectiveness of the RTS management system.

NOTE This can be achieved through the use of the RTS policy, RTS objectives and RTS targets, audit results, analysis of monitored events, corrective and preventive actions and management review.

Annex A
(informative)

Guidance on the use of this International Standard

A.1 General

This annex is strictly informative and intended to provide clear interpretation of the requirements in Clauses 4 to 10 of this International Standard. This information is not intended to add to, subtract from, or modify, the requirements of Clauses 4 to 10.

Good practice RTS management requires a systematic approach, including appropriate capacity for the key management functions and processes needed to deliver effective action to achieve desired RTS results[11][12]. Successful implementation of an RTS management system depends upon commitment from all persons working for the organization or on its behalf, from strategic management to operational delivery staff. This commitment begins at the highest levels of management. The implementation of an RTS management system specified by this International Standard is intended to result in improved RTS performance, and promotes a Safe System approach as outlined in Annex B. The RTS management system is based on the Plan-Do-Check-Act methodology, which is a cyclical approach requiring strong leadership and commitment from top management (see Clause 5).

The rate, extent and timescale of this continual improvement process are determined by the organization in the light of economic and other circumstances.

a) Step 1: Plan

— Identify the impact the organization can have on RTS, map that impact across interested parties, and determine the organizational scope of an RTS management system with reference to the identified needs throughout the planning process (see Clause 4).

— Establish leadership commitment by, amongst other actions, adopting a long-term vision to eliminate death and serious injury to be achieved by incremental RTS targets and a strategy or approach to realizing these and providing resources to establish, implement, maintain and continually improve the RTS management system towards these ends. Establish, document and communicate RTS policy, assign organizational roles, responsibilities and authorities (see Clause 5).

— Determine risks and opportunities through assessment of current performance wherever possible and work through each of the RTS performance factors to establish those which are relevant to the organization, and most important to RTS improvement. Set RTS objectives (measurable, if practicable) and measurable RTS targets for each priority RTS performance factor, taking into account RTS management capacity needs and develop action plans (see Clause 6).

b) Step 2: Do

— Implement and operate the RTS management system and ensure that sufficient capacity is provided for the delivery of the key system functions to allow the identified actions to be carried out and to ensure that RTS objectives and RTS targets are met, following the steps in Clauses 7 and 8.

c) Step 3: Check

— Monitor and evaluate RTS performance, conduct internal audits and periodic reviews of the RTS management system to identify opportunities for continual improvement, achieving RTS results and necessary changes in the RTS management system following the steps in Clause 9.

d) Step 4: Act

— Improve the RTS management system on a continual basis following review of RTS performance against RTS objectives and RTS targets, RTS management system performance, deficiencies and nonconformities and identification of corrective action and opportunities for preventive action aimed at reducing the incidence and risk of death and serious injuries in road traffic crashes (see Clause 10).

A.2 Normative references

No guidance provided.

A.3 Terms and definitions

No guidance provided.

A.4 Context of the organization

A baseline review establishes the organization's current position with regard to the RTS. The review considers all factors relevant for establishing the RTS management system, including the RTS results desired by the organization, how these are to be delivered and who is responsible for them.

Tools and methods for undertaking a review can include checklists, interviews, surveys, direct inspection and measurement, and results of previous audits or other assessments and reviews.

A.4.1 Understanding of the organization and its context

The RTS context can be described by the interactions between four components, i.e. roads, vehicles on those roads, use of the roads and vehicles, and emergency response, trauma care and rehabilitation. Each of these components are controlled and/or influenced by many organizations which ultimately affects the RTS. The organization's impact on RTS depends on the nature of the organization's activities, products and services and the location where and the conditions under which it functions, as well as the effectiveness of its RTS management system.

Examples of activities within organizations, public and private, large and small, that can involve RTS are listed below. Most RTS performance factors are relevant to all organizations although their significance varies across organizations.

a) Employees' use of the road traffic system to and from work, or on duty, in public or private vehicles as a passenger or driver, and while walking or cycling.

b) Goods and passenger transport in the road traffic system carried out by the organization, or contracted to other organizations.

c) Activities that generate traffic to and from locations controlled or influenced by the organization such as supermarkets, schools, and locations with many visitors.

d) Service delivery and products for the road traffic system, such as transport service, management, planning, design, construction and maintaining infrastructure, vehicles and related products, emergency medical response, trauma care, rehabilitation, enforcement and legislative activities.

Even though some organizations only have a small number of processes linked to RTS issues, these can be very important in reducing death and serious injuries. It is, therefore, important to identify transport needs and the level of risk exposure for motorized and non-motorized users. Specific external issues can be recognized by the occurrence of road traffic crashes or complaints from third parties. Internal issues can be recognized by the occurrence of near-misses or deviations from documented procedures.

A.4.2 Understanding the needs and expectations of interested parties

Most activities and functions (processes) in the organization can be controlled by the organization itself. However, reducing death and serious injuries depends on the combination and interaction of activities in a number of organizations and road users. Therefore the organization is to identify interested parties in its sphere of influence in order to communicate, consult and coordinate with those who are most relevant to reducing death and serious injuries.

A.4.3 Determining the scope of the management system

An organization may choose to implement this International Standard with respect to the entire organization or to specific operating units of the organization. The organization should define and document the scope of its RTS management system, particularly the parts of the organization to which the RTS management system will apply if not the entire organization. Once the scope is defined, all activities, products and services of the organization within that scope need to be included in the RTS management system. The credibility of the RTS management system depends upon which parts of the organization are included in the RTS management system, and the documented reasons for any exclusion.

A.4.4 RTS management system

No guidance provided.

A.5 Leadership

A.5.1 Leadership and commitment

A high level of demonstrated commitment by top management is critical to success in RTS management. This is because it is relatively easy to consider the RTS management task to have been completed through relatively low-level activity (for example, issuing safety instructions or requiring safety training), or to respond quickly to incidents rather than addressing the elimination of death and serious injuries.

Top management leadership can be shown, for example, by: motivating and empowering persons to contribute to the effectiveness of the RTS management system; reinforcing organizational accountability for RTS results; creating and maintaining the internal environment in which persons can become fully involved in achieving the organization's RTS objectives and leading by example.

A.5.2 Policy

Having considered the RTS context of the organization and the overall implications for the organization in its contribution regarding seeking to eliminate to death and serious injuries, an RTS policy needs to be developed. The RTS policy provides the framework for setting RTS objectives and RTS targets for, and guides the implementation and improvement of, an organization´s RTS management system so that it can continually improve its RTS performance. In good practice, this policy reflects the commitment of top management to eliminate death and serious injuries, to comply with applicable legal and other requirements, and to continual improvement. The RTS policy is also sufficiently clear to be understood by internal and external interested parties, is periodically reviewed and revised to reflect changing conditions and information, and; has a clearly identifiable scope reflecting the unique circumstances of the organization.

The RTS policy can be linked with other policy documents of the organization and ideally is consistent with the organization's overall business policies and with its policies for other management disciplines (such as quality management, occupational safety and health or environmental management), in addition to compliance with legal requirements, and industry standards. In good practice, the policy is communicated in such a way that demonstrates the commitment of top management and the organization to RTS, increases awareness of the commitments made in the policy statement, explains why the RTS management system is established and is maintained, motivates individuals, and guides understanding of their RTS responsibilities and accountabilities.

A.5.3 Organizational roles, responsibilities and authorities

The successful implementation of an RTS management system entails building competent and accountable capacity to deliver the key management functions and processes needed to produce desired RTS results. Top management is required to designate one or more specific management representatives with defined responsibility and authority for implementing the RTS management system. It is important that the key roles and responsibilities of the RTS management system are well defined and communicated to all persons working for and on behalf of the organization.

A.6 Planning

A.6.1 General

No guidance provided.

A.6.2 Actions to address risks and opportunities

Effectively acting on identified risks and opportunities will reduce death and serious injury in road traffic crashes, and thereby both reduce the costs to the organization and increase the time and resources available for productive activity. It will also tend to increase confidence in the organization from interested parties. Examples of different risks and opportunities are a high percentage of aged users, the mix of motorized and non-motorized users, high traffic volumes on major routes, strict demand for on time delivery from customers, road safety activity in different regions, the level of compliance activity with key safety rules, and the quality of the road infrastructure, vehicle fleet, and emergency medical system.

A.6.3 RTS performance factors

RTS performance factors describe the different elements of road safety that organizations need to consider in their RTS management system. The RTS performance factors identified in this International Standard are general and usable for most organizations and situations, are oriented towards known RTS problems or solutions, and have an evidence base. The organization considers all of the following performance factors, and prioritizes them, based on the organization's context.

a) Risk exposure factors: the organization is required to consider the extent to which it faces exposure to safety risks within the road traffic system, and collect data on this. Risk exposure factors can take a variety of forms, including the volume of traffic within a certain area which is relevant to the organization, or the volume of travel that is undertaken by members of the organization, or the volume of products and services. Safety risks can be increased or decreased depending upon the type of users that are involved or other factors about those users, such as their driving record. Safety risks can also be increased or decreased depending upon the type of vehicle or mode of transport that is used. Understanding the extent of exposure to safety risks provides organizations with tangible information about which of the performance factors it should prioritize.

b) Final safety outcome factors: good practice includes consideration of the extent of fatal and serious road traffic injuries, and the human and economic costs of the resulting trauma, and collection of data on this. Aside from considering physical injury, final safety outcome factors may address losses that relate solely to the organization, through lost productivity or additional external costs, or that relate to wider socio-economic losses such as pain and suffering, rectification of services, or human recovery, treatment and rehabilitation. Understanding the extent of human and economic costs provides organizations with tangible information about the benefits and cost-effectiveness available from improving RTS.

c) Intermediate safety outcome factors: the road traffic system is an open and complex system with many actors and shared responsibilities. Road traffic crashes resulting in death or serious injury are rare and the distance in space and time between action and potential improvement can be great. While risk exposure factors and final safety outcome factors need to be continually monitored, intermediate safety outcome factors (which are causally linked to the final safety outcome factors) need the most attention. Intermediate safety outcomes are measures of interventions that are known to improve final RTS

performance, such as reducing traffic speeds, or improving the safety rating (for example New Car Assessment Program) level of the vehicle fleet. By focusing, measuring and following up on the intermediate factors which will most improve RTS performance, systematic improvements can be achieved.

Organizations should identify for use intermediate safety outcome factors from the following list depending on the context of the organization:

1) Road design and safe speed, especially considering separation (on-coming traffic and vulnerable road users), side areas and intersection design

   Standards, rules and guidelines and compliance arrangements cover the safe planning, design, construction, use, operation and maintenance of the road network. Demonstrably effective, innovative treatments meeting Safe System requirements are increasingly informing safety engineering policies and plans, supported by new tools to assist in the evaluation of the safety quality of road infrastructure. Roads and streets with flow, distributor and access functions all have different safety issues and requirements. High levels of safety can be attained by achieving a good match between the function of the road, safe speed limits and their compliance and design and layout. Typical issues include separating on-coming traffic on high-volume, high-speed roads to prevent head-on collisions and providing crash protective roadsides to address run-off road collisions; ensuring safe speeds at intersections to reduce side-on collisions and ensuring safe speeds on roads and streets with mixed use where separation of motor vehicles and vulnerable road users may be difficult. In many countries, there is a significant gap between the safety level of the road and the legal speed limit. Organizations may consider imposing lower speed limits.

2) Use of appropriate roads, depending on vehicle type, user, type of cargo and equipment

   For some vehicle types and equipment (or those carrying particular loads, such as dangerous goods), access to some road types is inappropriate, and use and selection of road type should be adjusted accordingly.

3) Use of personal safety equipment, especially considering seat belts, child restraints, bicycle helmets and motorcycle helmets, and the means to see and be seen

   Personal safety equipment, such as seat belts, bicycle and motorcycle crash helmets, visibility aids, protective clothing for motorcyclists, and special child safety equipment are needed to supplement the inherent safety level of the road traffic system. Safe usage is not only dependent on the user/driver, compliance with key safety rules assisted by police enforcement, but also management reinforcement and driver support equipment (e.g. seat belt reminders).

4) Using safe driving speed, also considering vehicle type, traffic and weather conditions

   Unsafe driving speed is a key road traffic safety problem. In addition to engineering and combined publicity and police enforcement measures, a range of technologies can be applied to assist driver compliance with posted speed limits including speed cameras and driver support systems, such as speed limiters and in-vehicle driver monitoring. Adaptation to weather and traffic situations and, generally, operating within traffic law are prerequisites.

5) Fitness of drivers, especially considering fatigue, distraction, alcohol and drugs

   A large proportion of road traffic crashes results from impaired driving especially in relation to fatigue, distraction, alcohol and drugs. In many countries, legislative and other requirements provide a framework to assist management with these problems. Driver support systems, such as alcohol interlocks which prevent driving with excess alcohol, are being used increasingly. The monitoring and logging of the use of commercial vehicles and drivers' hours of work also provide useful management tools.

6) Safe journey planning, including consideration of the need to travel, the amount and mode of travel and choice of route, vehicle and driver

Journey planning can have a critical impact on RTS. Important considerations are whether the travel is necessary (telecommunication can be equally effective, for example), which modes of travel (pedestrian, private vehicle, public transport) are the safest and most appropriate for each journey, and which routes are the safest and most appropriate . Assistance is available from consumer programmes (such as road assessment programs which systematically rate the safety of different roads), or journey planners.

7) Safety of vehicles, especially considering the occupant protection, protection of other road users (vulnerable as well as other vehicle occupants), road traffic crash avoidance and mitigation, roadworthiness, vehicle load capacity and securing of loads in and on the vehicle.

   Improvements in vehicle safety design and safety equipment, including the development and application of new safety technologies (e.g. electronic stability control), play an important role in efforts to reduce road traffic deaths and serious injuries. The conditions for the entry of vehicles to the road network are set out in jurisdictional vehicle registration and certification legislation, which can be supplemented by additional organizational requirements. Any organization can improve safety by careful selection of the vehicles it uses. The safety differences of vehicle types and models are significant, whether for people inside or outside of the vehicle, or for light or heavy vehicles. Generally, vehicle safety is legislated and most new vehicles deliver safety beyond legislation. Consumer programs test and publish safety ratings for many vehicle types and models which can be used by organizations to assist them in making informed decisions about the level of safety they seek in vehicle fleets.

8) Appropriate authorization to drive/ride the class of vehicle being driven/ridden

   Drivers and riders are generally subject to legislated standards for entry and exit to the road network. Adherence to these standards can be supported through requiring appropriate licensing documentation, but higher standards of driver and rider behaviour can be put in place by an organization, along with additional safety requirements for drivers and riders. Organizations should have very clear requirements for who can use which vehicle on which roads and reinforce the importance of compliance with these requirements. Medical fitness, competence, and licensing standards are all important.

9) Removal of unfit vehicles and drivers/riders from the road network

   Jurisdictional penalty systems typically set out the conditions for driver disqualification in the event of serious breaches of key safety rules. Legislative requirements cover the conditions for the removal of vehicles. Organizations may set additional requirements, such as vehicle fleet inspection regimes, vehicle age restrictions as well as monitoring drivers' records for continued fitness to drive.

10) Post-crash response and first aid, emergency preparedness and post-crash recovery and rehabilitation

    Appropriate insurance, preparedness to alert, first responder care and training of commercial and public transport vehicle drivers, the availability and quality of rescue and emergency services, and post-crash recovery and rehabilitation are all parts of the chain of post-impact response, which can have a significant influence on the incidence of death and disability following a road traffic crash.

A.6.4 RTS objectives and planning to achieve them

Whatever the organizational context, the focus on RTS objectives and RTS targets drives the management system, integrates the system, and gives it purpose. Improving RTS performance is a continual process and the measurement of, and accountability for, RTS objectives and RTS targets are the factors which ensure the delivery of this improvement.

The RTS objectives and RTS targets set by the organization should be specific and measurable wherever practicable and should take account of the RTS management capacity needed to achieve them. A good practice model relevant to public and private sector organizations should include an overall target to reduce the cost of road traffic crashes through reducing the number of deaths and serious injuries (final outcomes). These final outcomes will be achieved by interventions based on intermediate safety outcome factors, which have their own RTS targets (for example the level of seat belt wearing). The delivery of these interventions (outputs, such as the installation of alcohol ignition interlocks) will have their own RTS targets and measurement.

The creation and use of one or more programmes or action plans is important to the successful implementation of an RTS management system. For complex issues more formal project plans may be needed. In good practice, the organization examines the resources (financial, human, infrastructure) required to deliver the programmes, and how they are allocated, the coordination mechanisms needed, how the programme will be promoted, monitored and evaluated, and consideration of the need to build and transfer knowledge. Depending on the complexity of the programme, the organization should assign responsibility, authority, and completion dates for individual tasks to ensure that the RTS objective can be accomplished within the overall timeframe. Reviews and refinements of programme(s) need to be conducted regularly. This can be as part of management review, or more frequently.

A.7 Support

A range of management functions are required in order to effectively implement and sustain a successful RTS management system.

A.7.1 Coordination

A successful RTS management system is based equally on coordination horizontally across different parts of the organization (whether in different locations, or responsible for different functions) and interested parties (whether public or private organizations), and vertically within each part of the organization. Work to define the organizational context and, particularly, the needs and expectations of interested parties, is a key start to establishing which activities need to be coordinated in order to improve RTS performance.

A.7.2 Resources

In good practice, the organization ensures that appropriate, sustainable resources and organizational infrastructure are provided for the RTS management system to be established, implemented and maintained. Examples of organizational infrastructure include buildings, vehicles and communication lines. Procedures, such as cost-benefit analysis, can be used to guide allocation of resources across safety programmes.

A.7.3 Competence

Awareness, knowledge, understanding and competence may be obtained or improved through training, education, work experience, demonstration projects, or recruiting skilled staff. It is important to nominate a person, or establish a process, which encourages regular consideration of new safety practices, techniques, approaches which can improve RTS performance. Regularly updating this understanding within the organization will allow the organization to consider changing practices within the context of its overall commitment and approach to RTS.

A.7.4 Awareness

See guidance on A.7.3 above.

A.7.5 Communication

Communicating the requirements of the RTS management system is necessary for its effective implementation. Internally, this can be achieved by regular work group meetings, newsletters or intranet sites. Persons can be involved through consultation on possible improvements, and in the selection of appropriate controls, including discussion of the advantages or disadvantages of options for controlling specific hazards, or preventing unsafe behaviour.

External communications can include dialogue with interested parties, and consideration of their relevant RTS issues. The aim of this communication is to encourage open exchange of information and perspectives so that organizations and their interested parties can share responsibility for improved RTS where appropriate.

Achieving desired RTS results is a shared responsibility and good practice promotion typically involves advocating and promoting both internally and externally the elimination of death and serious injuries, RTS objectives, RTS targets and plans to achieve them. Organizations can consider how they will promote the RTS management system they put in place, and how to continue to reinforce the commitment of top management to the system.

A.7.6 Documented information

No guidance provided.

A.8 Operation

A.8.1 Operational planning and control

No guidance provided.

A.8.2 Emergency preparedness and response

No guidance provided.

A.9 Performance evaluation

A.9.1 Monitoring, measurement, analysis and evaluation

Once the organization's RTS performance factors have been set, monitoring systems are required to be developed to inform the organization about its underlying contribution to RTS improvement.

A.9.2 Road traffic crash and other incident investigation

Road traffic incident investigation is an important tool for preventing the recurrence of incidents and identifying opportunities for improvement. It can also be used for raising the overall RTS awareness in the organization. Clear policy and criteria for identifying road traffic incidents which are classified as significant/serious, and how they are investigated will ensure consistent investigation. An escalation procedure is recommended to ensure senior management is made aware of serious incidents.

A.9.3 Internal audit

Good practice includes periodic audits carried out at least once a year and whenever the organization's situation has changed. These audits will indicate the extent to which the organization is complying with its own management system, and with this International Standard.

A.9.4 Management review

A management review is intended to cover all elements of the RTS management system and its linkages, and so address the extent to which the system and its implementation has been effective in improving RTS. In conducting this review, it is important for top management to gain insight and context through site visits and discussion with frontline staff and interested parties.

The review is required to lead to actions which will improve RTS performance in the organization, and in good practice is carried out at least once a year, or when the organization's situation has changed. The management review may include benchmarking information with peer organizations.

A.10 Improvement

For an RTS management system to be effective on an ongoing basis, an organization is required to have procedures for identifying actual and potential nonconformities, and taking corrective and preventive action, preferably preventing problems before they occur. Examples of issues that can give rise to nonconformities in relation to the performance of the RTS management system include: failure of top management to demonstrate commitment, failure to establish RTS objectives, failure to define responsibilities, failure to support and promote the system, failure to provide sufficient resources, failure to periodically evaluate compliance with the system, failure to record road traffic incidents or to implement corrective action in a timely manner, or failure to maintain adequate documentation. In relation to RTS performance, examples include: failure to implement the planned activities, failure to achieve the RTS objectives and RTS targets, or high rates of unaddressed road traffic crashes or other incidents.

Ideally, individuals closest to the work are encouraged to identify nonconformities, and to report potential or actual problems.

A.11 Different organizational contexts and RTS performance factors

Different types and sizes of organizations which meet the requirements of this International Standard will document and operate RTS management systems that vary considerably in terms of their size, scope and complexity, while still retaining the same long term RTS objective.

Table A.1 illustrates the different RTS context for some different types of organizations and the RTS performance factors that may be of greatest relevance. Identifying context and RTS performance factors is a key element of this International Standard. The following examples are intended to be inspirational.

Table A.1 — RTS context and performance factors for different types of organizations

Transporting people and goods – A small taxi company	The core business of transporting people has a direct impact on the safety of employees, clients, and other road users. Interested parties who the taxi company could need to consult include clients (for example, regarding the use of restraints), drivers (regarding speed) and those involved in vehicle purchase (regarding the selection of safe vehicles) and maintenance (to ensure safety is maintained). Key RTS performance factors for the taxi company should include driver impairment (e.g. fatigue, alcohol or drugs), driving speed, driver and passenger seatbelt use, vehicle selection and maintenance, and journey planning. Key monitoring tools include restraint compliance and driver licence status.
Transporting people and goods – A road haulage provider	Commercial vehicle operations are involved in a disproportionally high number of road deaths on the world's roads. As such road haulage providers have an RTS responsibility to their employees, third parties with whom they come into contact and the larger communities in which they operate. They also have a responsibility to their customers to ensure goods arrive safely. Key RTS performance factors include driver selection, and how drivers are managed and motivated to ensure appropriate skills and behaviors, particularly in terms of speed management and driver fitness. The selection and use of vehicles best suited to the task, designed and equipped to reduce the risk of a road traffic crash and the risk of death and serious injuries to vehicle occupants and other road users and inspected and maintained to ensure roadworthiness. Loads should be properly managed to ensure no overloading and the safe securing of cargo. Safe journey planning to ensure the most appropriate routes, speeds and working/driving hours. Consideration of other vulnerable road users within the road network and in the event of a road traffic incident, emergency preparedness.
Transporting people and goods A multinational sales and marketing organization	Driving on company business represents the highest risk activity within many multinational companies which operate regional or global fleets. Sales, service and other drivers can spend 40 % to 60 % of their time driving on company business in company owned, leased, car allowance, rental or other vehicles. As such, companies have an obligation to ensure the health and safety of their employees and the communities in which they operate. Key RTS performance factors include understanding their fleet safety risks, i.e. the risk of death and injury; appropriate entry and exit of vehicles and drivers into the road network; policies around speed, alcohol, seat belt/helmet use, driver fatigue and distraction, vehicle selection/maintenance; journey planning; contractor/distributor RTS management; and corporate social responsibility through involvement in road safety advocacy and support of community road safety initiatives.
Generating demand for traffic – A school	RTS is not the core business of a school, but many trips to and from the school are made each day by a range of vulnerable users, in terms of both maturity and exposure. Road traffic injury is the leading cause of death for school age children. Interested parties for a school include staff/students/parents, local road and planning authorities and transport operators (who may need to be engaged in safety improvement programs). Key RTS performance indicators for a school should include the different modes of travel to and from school, and on school trips, safe journey planning for those trips, and the use of appropriate restraints (e.g. helmets, seatbelts) and visibility aids (e.g. reflective clothing, lights).
Generating demand for traffic – A supermarket	The core business of transporting goods, including dangerous goods (such as fuels), the home-delivery of goods to customers as well as provision of goods at supermarket sites, can have a direct impact on road safety. A large supermarket should consider those safety factors affecting its employees and customers which it can influence. Interested parties will include the responsible planning and road authorities, and goods delivery companies. Key considerations for a large supermarket include the impact which its site can have on the safety of the surrounding area, all factors which can contribute to a safe environment for its customers, both within the area it provides for car parking (which comprises the mixed usage by pedestrians, children and large and small motor vehicles), and immediate entry to and exit from the road. A range of performance factors can be relevant, including the safe planning, design, operation and use of the road infrastructure for which it has responsibility, use of personal safety equipment by its drivers and safe driving speed and type of vehicles making deliveries.

Table A.1 (*continued*)

Road design and operation – A road authority	The core business of providing a road network directly impacts on the safety of all users of that network. Interested parties for a local road authority include providers of engineering design and operation services (who should be able to deliver the required level of safety), major user groups (who need to accept the requirements for safe use), and enforcement agencies (who need to enforce user/vehicle standards, and make up for limitations in the inherent safety of the network). Key RTS performance factors for a road authority include all those in the category of the safe planning, design, operation and use of the road network. These can include factors relating to the level of side-on, head-on and vulnerable road user protections and corresponding speed limits, as well as user compliance. Monitoring tools can be integrated into wider network management analysis, and enforcement reporting.

Annex B
(informative)

International work relating to road traffic safety management frameworks

B.1 General

This International Standard represents a significant step in the world's efforts to improve RTS by providing generalized procedures and requirements for every type of organization to develop its own RTS management system.

Understanding the Safe System approach to road traffic safety is fundamental to the successful adoption of this International Standard.

In addition to outlining the key elements of a Safe System, this annex also provides additional guidance to organizations in implementing RTS management systems that are consistent with identified good practice in this field.

B.2 Safe System approach to RTS

At the time of publication of this International Standard, several countries are using a Safe System approach in developing and implementing their RTS programmes. Sweden has developed a "Vision Zero" approach, the Netherlands has developed a closely related "Sustainable Safety" approach and New Zealand and several jurisdictions in Australia have established programmes under the banner of Safe System.

While the specific details vary, Safe System approaches typically:

a) have the long-term aim of eliminating traffic related deaths and serious injuries;

b) aim to develop a road traffic system better able to accommodate human error. This is commonly achieved through better management of crash energy, so that no individual road user is exposed to crash forces likely to result in death or serious injury;

c) incorporate many strategies for better management of crash forces, with a key strategy being road network improvements in conjunction with speed limits set, the latter set in response to the level of protection offered by the road infrastructure;

d) rely on strong economic analyses to understand the scale of the trauma problem, and direct investment into those programmes and locations where the greatest potential benefit to society exists;

e) are underpinned by comprehensive leadership, management and communication structures, incorporating all key government agencies and other organizations, which have a role in determining the safe functioning of the traffic system;

f) align safety management decision-making with broader societal decision making to meet economic goals and human and environmental health goals, and to create a commercial environment that generates demand for, and benefits the providers of, safe road traffic products and services;

g) embrace the ethos of "shared responsibility" for RTS among the various actors of the road traffic system, such that there is a shared vision amongst citizens, public, private and not-for-profit organizations regarding the ultimate safety ambition, and how to achieve it.