



Bonneagar Iompair Éireann  
Transport Infrastructure Ireland

# TII Publications



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## Road Safety Audit

**GE-STY-01024**  
December 2017

## About TII

Transport Infrastructure Ireland (TII) is responsible for managing and improving the country's national road and light rail networks.

## About TII Publications

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<b>TII Publication Number</b>	<i>GE-STY-01024</i>

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## TII Authorisation and Contact Details

This document has been authorised by the Director of Professional Services, Transport Infrastructure Ireland. For any further guidance on the TII Publications system, please contact the following:

Contact: Standards and Research Section, Transport Infrastructure Ireland  
Postal Address: Parkgate Business Centre, Parkgate Street, Dublin 8, D08 DK10  
Telephone: +353 1 646 3600  
Email: [infoPUBS@tii.ie](mailto:infoPUBS@tii.ie)

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**Updates to TII Publications resulting in changes to  
Road Safety Audit GE-STY-01024**

**Date:** December 2017

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**Amendment Details:**

This Standard supersedes the March 2015 version of GE-STY-01024. The principle changes are as follows:

- a) Minor changes to some text where experience of the safety audit process has identified a need for clarification e.g. Opening of road should only occur on completion of Stage 3 process unless traffic management is in place.
- b) Reference to national roads throughout document removed as it is now identified in the scope of the document.
- c) The requirement to request available collision data for Stage 4 Road Safety Audits has been removed.
- d) A requirement to notify the TII Road and Tunnel Safety Section of the dates of Stage 3 and Stage 4 Road Safety Audits has been added.

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# 1. Introduction

## 1.1 General

This Standard outlines the requirements for Road Safety Audit in the management of the Irish national road infrastructure. It describes the roles and responsibilities of those engaged in the management of road safety and it outlines the procedures to be followed to address the requirements of the EU Directive 2008/96/EC on Road Infrastructure Safety Management (RISM) and its transposition into Irish Law under SI 472 of 2011.

The objective of this Standard is to ensure that the road safety implications of all schemes are fully considered for all users of the road and others affected by the scheme.

## 1.2 Scope

This Standard sets out the procedures required to implement Road Safety Audits on National Road Schemes. It defines the relevant schemes and stages in the design and construction at which audits shall be undertaken.

## 1.3 Definitions

### 1.3.1 Road Safety Audit:

The evaluation of a road scheme during design, construction and early operation, to identify potential safety hazards which may affect any type of road user, and to suggest measures to eliminate or mitigate those problems.

### 1.3.2 Scheme:

**Road Scheme.** A scheme which results in new road construction or permanent change to the existing road or roadside layout.

**Development Scheme.** A scheme which results in a change to the road or roadside layout that is initiated and/or executed for commercial or private development.

### 1.3.3 Employer:

The organisation managing the various phases of scheme preparation and supervision of construction or as defined in the Contract.

### 1.3.4 Employer's Representative

The Engineer or other person appointed by the Employer as its representative in accordance with the construction contract.

### 1.3.5 Designer

The Design Team undertaking the various phases of scheme preparation and supervision of construction.

### **1.3.6 Audit Team:**

A competent Audit team consists of a minimum of two persons, independent of the Designer and approved by the Overseeing Organisation. For schemes designed by the Contractor the Audit Team shall be from a completely separate organisation to the Contractor or Designer (employed by the Contractor).

### **1.3.7 Audit Team Leader (ATL):**

The person appointed as Audit Team Leader.

### **1.3.8 Audit Team Member (ATM):**

A qualified member of the Audit Team.

### **1.3.9 Audit Trainee (AT)**

An Engineer who wishes to train as a road safety auditor, and who takes part in the audit as a named observer.

### **1.3.10 Director:**

TII Head of Safety (Roads and Tunnels) or equivalent in the Overseeing Organisation.

### **1.3.11 Exception Report:**

A report submitted by the Employer's Representative to the Director. Each report covers an item in the Audit Report where the Designer and the Audit Team cannot agree appropriate means of addressing a safety problem identified by the Audit.

### **1.3.12 Overseeing Organisation:**

For National Road Schemes the Overseeing Organisation is Transport Infrastructure Ireland (TII). Where the scheme is not on a National Road and this Standard is being applied, the appropriate Overseeing Organisation shall be the relevant road authority.

### **1.3.13 TII Road Safety Audit Approvals System:**

The method of obtaining approval for road safety auditors and road safety audit teams for audits of schemes on National Roads.

<https://web.nra.ie/safetyaudits/>

## 2. Road Safety Audit

### 2.1 Schemes to be audited

This Standard shall apply to all National Road Schemes. This includes work carried out under agreement with the Overseeing Organisation resulting from developments alongside or affecting the National Roads.

The Standard sets out two categories of scheme:

- **Road Scheme.** A scheme results in new road construction or permanent change to the existing road or roadside layout.
- **Development Scheme.** A scheme which results in a change to the road or roadside layout that is initiated and/or executed for commercial or private development.

A Road Safety Audit is required on any piece of road infrastructure which requires a design. No Audit is required on like-for-like repair or replacement of existing road infrastructure.

Appendix A provides a representative sample of types of Scheme and guidance on the requirement for Audit for each type of Scheme, and also on the relevant Audit Stages to be carried out if Audit is required.

A Departure from standards is needed for omission of any required audit stage.

### 2.2 Scope of the Audit

The Road Safety Audit shall only consider matters that have an adverse bearing on road safety. It shall consider safety under all operating conditions.

The primary purpose of a Road Safety Audit is to identify potential safety hazards within the scheme design or construction as they could affect all road users. A Road Safety Audit is not a check of compliance with design standards. The audit shall not be concerned with structural safety.

This Standard applies to arrangements between developers and road authorities regarding Road Safety Audits of the road and traffic elements of development planning proposals.

During the course of scheme preparation and construction, personnel within the Designer and Audit Team may change. Where possible, the same Audit Team should be used for each stage of audit throughout the scheme delivery to ensure a consistent approach.

Formulation of recommendations for dealing with the identified hazards should make allowance for the fact that strategic decisions on matters such as route choice, junction type, standard of provision and Departures from Standards should already reflect the optimum balance of a number of factors, including safety.

### 2.3 Safety, Health and Welfare at Work Act

The Audit Team must comply with current legislation and best practice in relation to health and safety while undertaking Road Safety Audits.

It is important to ensure that the report from each stage of Road Safety Audit is received by the relevant Project Supervisor for the Design Process for the scheme, and placed within the Safety File.



## 2.4 Stages of Audit

Road safety audits and subsequent actions shall generally be completed at specific stages in the preparation of the scheme. These stages are:

- **Stage F:** Route selection, prior to route choice.
- **Stage 1:** Completion of preliminary design prior to land acquisition procedures.
- **Stage 2:** Completion of detailed design, prior to tender of construction contract. In the case of Design and Build contracts, a Stage 2 audit shall be completed prior to construction taking place.
- **Stage 1 & 2:** Completion of detailed design, prior to tender of construction contract, for small schemes where only one design stage audit is appropriate.
- **Stage 3:** Completion of construction (prior to opening of the scheme, or part of the scheme to traffic wherever possible).
- **Stage 4:** Early operation at 2 to 4 months' post road opening with live traffic.

In certain circumstances some of the stages may be omitted, as shown in Appendix A.

Where no previous stage audit has been undertaken, those factors that would normally be considered at an earlier stage shall be included as necessary.

Stage F audits shall be completed where a choice of routes or other options is available, Stage F audits shall be carried out in two parts. Part 1 shall be a comparative assessment of the options from a road safety point of view. Once the option has been chosen, Part 2 of the audit shall be carried out on the chosen option, in the standard problem and recommendation format.

Where a Stage 1 & 2 audit is completed it will be the only design stage audit before construction. It is therefore necessary that the level of detail in the design submitted for a Stage 1 & 2 audit is the same as that expected for a Stage 2 audit.

Stage 4 audits require an assessment of road safety in light of actual behaviour of road users during early operation. The approval process and audit procedure for the Stage 4 audit is the same as for all other audit stages.

## 2.5 Project Management

Appendix B outlines the Road Safety Audit Process by means of an Audit Flow Chart. The same process applies to all Road Schemes, whether designed by the Employer or by the Contractor.

The Employer's Representative / Contractor, as appropriate, shall provide the link between the Audit Team Leader and Designer for dealing with queries or requests for additional information.

The Employer's Representative / Contractor, as appropriate, shall liaise with the Designer and initiate the audit process at the appropriate stages, ensuring that sufficient programme time is available to complete the full audit procedure. This should include an allowance for the incorporation of design changes.

The Employer's Representative/ Contractor, as appropriate, shall ensure that the Audit Team is given due notice of when the scheme will be ready for audit and the date by which the report shall be required.

The Employer's Representative / Contractor, as appropriate, is responsible for ensuring that the TII Road and Tunnel Safety Section ([infosafety@tii.ie](mailto:infosafety@tii.ie)) is notified of the dates of the Stage 3 and Stage 4

site visits, and that representatives of An Garda Síochána and those responsible for network management are invited to attend the Stage 3 and Stage 4 site visits, and given reasonable notice to attend.

## 2.6 Audit Brief

The Employer shall prepare an Audit Brief describing the audit required and the works that it will cover.

The list below describes the items that should be provided to the Road Safety Audit team, where relevant.

- Design Brief or design report that describes the scheme and objectives;
- Departures from Standard;
- Scheme Drawings;
- Other scheme details, e.g. signs schedules, traffic signal staging;
- Collision data for existing roads affected by the scheme;
- Traffic surveys, including pedestrian and cycle movements, for existing roads affected by the scheme;
- Previous Road Safety Audit Reports and Designer Responses /Feedback Form;
- Previous Exception Reports;
- Date Audit Report is required;
- Any other relevant information.

## 2.7 Audit Team Approval For Schemes on National Roads

For schemes on or affecting National Roads, the Employer shall register the scheme and each audit on the TII Road Safety Audit Approvals System (RSAAS) at <https://web.nra.ie/safetyaudits/>. For each audit the Employer shall seek approval of TII through RSAAS to appoint a competent Audit Team.

Each stage of audit is a separate entity, for instance a Stage 1 Audit is a unique audit separate from a Stage 2 Audit. The members of an Audit Team are approved to carry out an Audit; they are not approved to carry out all stages of audit relating to an individual scheme.

Each Audit requires closure, by means of uploading a completed audit report to RSAAS, before approval can be given for the next stage of audit. A completed audit report will include a completed Feedback Form and signatures of all parties concerned.

The Audit Team shall be independent of the scheme design. For schemes designed by the Contractor, the Audit Team for each stage audit, shall be from a completely separate organisation to that of the Contractor or Designer (employed by the Contractor).

The current TII training and experience requirements for Road Safety Audit Teams are subject to change and are detailed in GE-STY-01025 Road Safety Audit – Audit Team Qualifications which can be downloaded from the TII Publications website.

## **2.8 Site Visits**

A site visit shall be carried out at the first audit stage being undertaken by an Audit Team. Site visits shall also be carried out at Stage 2, unless otherwise agreed with the Employer, and always at Stage 3 and Stage 4. These shall be carried out by all members of the Audit Team at every stage requiring a site visit. The team shall take into account the topography, local amenities, tie-ins of the scheme and any other relevant details.

The Stage 3 and Stage 4 site visits shall be made during both daylight and darkness.

## **2.9 Audit Report**

For each stage of audit, the Audit Team shall prepare a written report for the Employer / Contractor, who shall copy the report to the Designer and the Employer's Representative. The Employer / Contractor, in consultation with the Designer, shall act on the recommendations contained in the report.

The report must clearly identify the scheme, the audit stage, the letter of approval from TII to the Employer for appointment of the Audit Team, and the Audit Team membership, including the names of others present at Stage 3 and Stage 4 site visits.

The body of the report should be kept brief and shall contain descriptions of the specific road safety problems that the Audit Team believes may be created. It should include reasoning in support of the findings, together with the Audit Team's recommendations to eliminate or mitigate the potential hazards identified.

## **2.10 Designer Response on Feedback Form**

The Designer shall consider the Audit Report and prepare a Designer Response to each of the recommendations, using the Feedback Form included in Appendix C. The response shall state clearly whether each recommendation is accepted, rejected, or whether an alternative recommendation is proposed. Copies of the Designer Response shall be sent to the Employer and the Audit Team.

The Audit Team shall then consider the Designer Response and indicate on the Feedback Form whether the Designer's response to each recommendation is accepted.

A Completed Report shall contain:

- a completed Feedback Form with signatures of all three parties involved: Designer, Audit Team Leader and Employer / Contractor.
- a signed statement by each Audit Team member confirming team membership and independence from the Designer.

## **2.11 Exception Report**

For those cases where the Designer and the Audit Team cannot agree appropriate means of addressing a safety problem identified by the audit, an Exception Report must be prepared on each disputed item in the audit report.

The Exception Report should be submitted by the Employer / Contractor. It must address only those items in the Audit Report for which an Exception Report is necessary.

Exception Reports must be sent to the Director of the Overseeing Organisation for decision. The final decision to accept or reject the disputed recommendations rests with the Overseeing Organisation. For National Roads this is the TII Head of Road and Tunnel Safety. The Exception Report Decision Form, given in Appendix D, must be returned to the Employer / Contractor for action on the decision.

## 2.12 Audit Completion

The audit stage is completed when the Feedback Form has been accepted and signed by all three parties. In the event of an Exception Report, the audit stage will be complete when the Authority has issued the Exception Report decision form.

Completion of this process for the Stage 3 audit is required prior to any part of the scheme being opened to traffic without the presence of temporary road works traffic management.

Copies of the Final Completed Audit Report, including the completed Feedback Form and Exception Report, if any, shall be provided by the Employer / Contractor to the following:

Designer

- a) Employer's Representative
- b) Audit Team Leader
- c) For schemes on National Roads, the Employer / Contractor shall upload copies of the Final Completed Audit Report, including completed Feedback Form and Exception Report, if any, to the TII Road Safety Audit Approvals System at <https://web.nra.ie/safetyaudits/> .

The Employer / Contractor shall ensure that all agreed recommendations from the Road Safety Audit are implemented.

## **3. References**

### **3.1 TII Publications (Standards)**

Transport Infrastructure Ireland. GE-STY-01027 Road Safety Audit Guidelines. TII Publications.

### **3.2 TII Publications (Technical)**

Transport Infrastructure Ireland. GE-STY-01025 Road Safety Audit – Audit Team Qualifications. TII Publications

### **3.3 Other documents**

Transport Infrastructure Ireland. NRA Traffic and Transportation Assessment Guidelines.

## **Appendix A:** Scheme Type and Audit Stage

No Audit is required on like-for-like repair or replacement of existing road infrastructure		
Example Scheme Description		
	Pavement repair such as patching, edge strengthening which does not result in widening the carriageway, inlay works with similar materials.	No Audit Required
	Pavement overlay which does not change the cross section, vertical alignment, camber or superelevation	No Audit Required
	Surface rejuvenation such as mechanical abrasion etc.	No Audit Required
	Surface dressing of an existing carriageway	No Audit Required
	Replacement of a worn road sign with a new road sign of the same type	No Audit Required
	Replacement of a damaged road sign with a new road sign of the same type	No Audit Required
	Refreshment of existing worn road markings	No Audit Required
	Replacement of worn or missing road studs	No Audit Required
	Replacement of a length of damaged safety barrier with barrier of the same or similar type.	No Audit Required

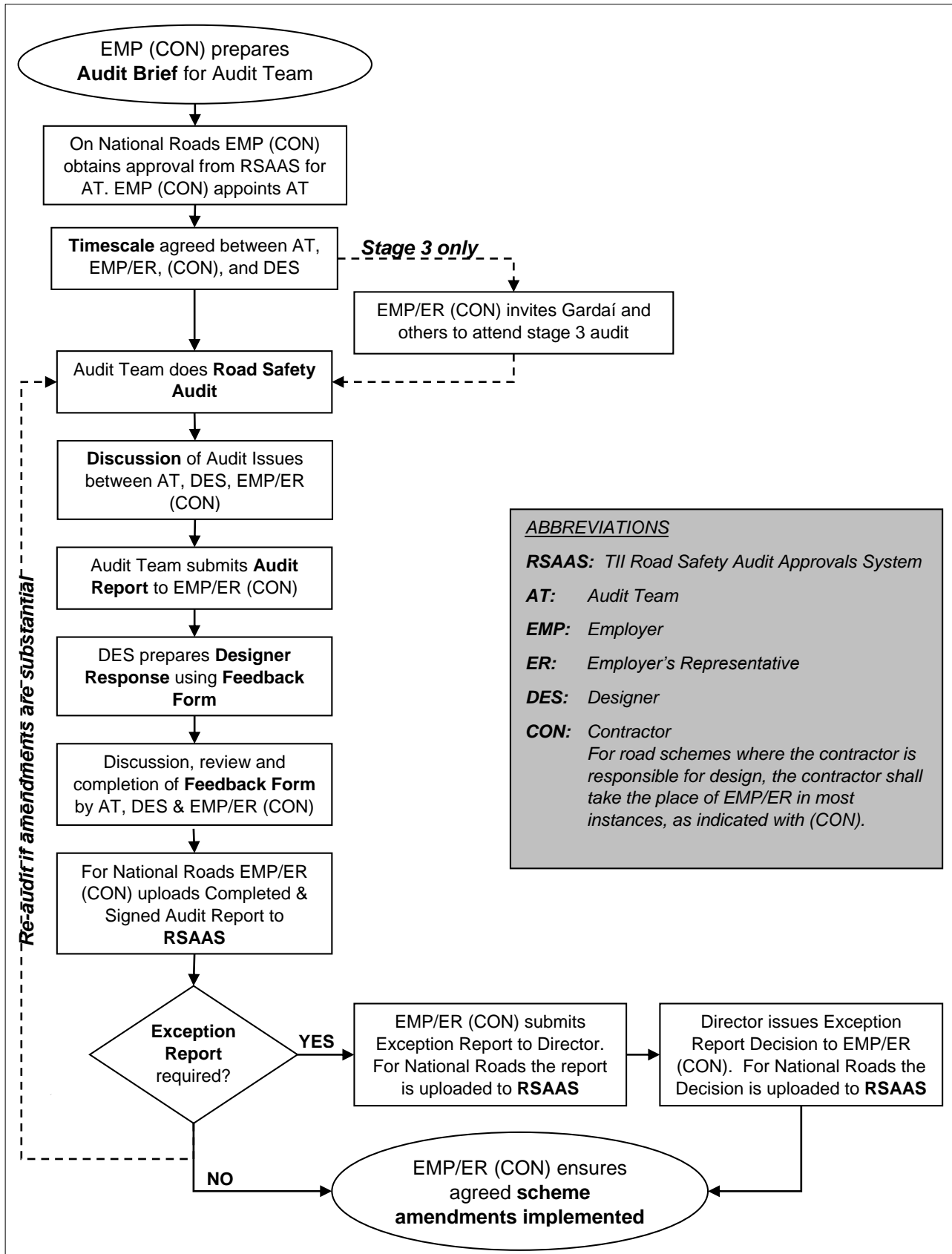
Audit is required on any piece of road infrastructure which requires a design							
	Example Scheme Description	Audit Stages Required					
		F	1	2	1 & 2	3	4
		X – Required (X) – Alternative to St1 and St2					
New Alignment	Off-line road scheme with multiple options.	X	X	X		X	X
	On-line road scheme – Minor land take required		X	X		X	
	On-line road scheme – No land take required				X	X	
	New junction or access onto the road		X	X	(X)	X	
Realignment	Realignment of bend				X	X	
	Realignment of junction				X	X	
	Alteration of type of junction control, such as traffic signals, mini roundabout etc.				X	X	
	Sight line Improvements				X	X	
Pavement Improvements	Change to the existing cross section, widening or narrowing the pavement				X	X	
	Change to the existing vertical alignment				X	X	
	Change to the existing pavement which affects the horizontal or vertical alignment of public or private entrances				X	X	
	Change to existing camber or superelevation				X	X	
Signing & Road Markings	Installation of road signs: Single installation, multiple installations, or addition or amendment to sign on existing supports				X	X	
	Installation of road markings which results in a change to the existing road marking layout and/or its meaning				X	X	
Safety Barrier	Installation of new safety barrier				X	X	
	Upgrade to an existing safety barrier				X	X	
	Upgrade of an existing terminal				X	X	

Audit is required on any piece of road infrastructure which requires a design							
	Example Scheme Description	Audit Stages Required X – Required (X) – Alternative to St1 and St2					
	Replacement of an entire safety barrier installation				X	X	
Kerbing & Footpaths	Installation of kerbs in the verge and/or hard shoulder				X	X	
	Installation of kerbs in the centre of the pavement		X	X	(X)	X	
	Installation of kerbs and footpaths				X	X	
	Installation of pedestrian crossing, both informal and formal crossing points		X	X	(X)	X	
Lighting	Installation of traffic route lighting				X	X	
	Change to the lighting level and type of existing lighting				X	X	
Development	Major development, meeting the criteria in NRA Traffic and Transportation Assessment Guidelines Table 2.2	X	X	X		X	X
	Any development that is not a major development				X	X	



## **Appendix B:**

### Road Safety Audit Process Flow Chart



## **Appendix C:**

### Road Safety Audit Feedback Form



## **Appendix D:**

### Exception Report Decision Form


Road Safety Audit Exception Report Decision Form		
Scheme:		Route No.
Audit Stage:	TII Project Ref. No (If TII scheme)	Date of Audit

Exception Report Item	Paragraph No. in Road Safety Audit Report	Decision by Director
		Accept or Reject Exception Report from Employers Representative

Signed: \_\_\_\_\_ Director of Overseeing Organisation: \_\_\_\_\_ Date: \_\_\_\_\_





 Ionad Ghnó Gheata na Páirce,  
Stráid Gheata na Páirce,  
Baile Átha Cliath 8, D08 DK10, Éire

 [www.tii.ie](http://www.tii.ie)

 +353 (01) 646 3600

 Parkgate Business Centre,  
Parkgate Street,  
Dublin 8, D08 DK10, Ireland

 [info@tii.ie](mailto:info@tii.ie)

 +353 (01) 646 3601