



mainroads
WESTERN AUSTRALIA

Policy and Guidelines for Road Safety Audit

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1	All	Guideline developed	23 Jan 2003
1A	3.4	Relink Road Safety to new website	26 Jun 2009
2	All	Policy and Application Guidelines developed	18 Nov 2013
3	All	Policy and Application Guidelines Reviewed	19 Oct 2015
4	All	Policy and application guidelines reviewed to align with ROSMA, updated Blackspot requirements and incorporate land use developments	20 Apr 2016
5	3.2 Para 5 / 7	Addition of likelihood and exposure to Safe System findings	Nov 2016
6	All	Content changes to improve the clarity of policy application	Mar 2017
7	4.1 / 8	Content change to improve the clarity of policy application to Blackspot projects	June 2017

1 POLICY STATEMENT

Main Roads Western Australia is committed to its aspiration “To provide world class outcomes for the customer through a safe, reliable, and sustainable road-based transport system” by targeting four areas of focus, one of which is ‘Safety’ which aims to “Provide improved safety outcomes for all users of the transport network” as set out in our “Keeping WA Moving” strategic plan.

To assist Main Roads concentrate on its ‘Safety’ area of focus a strategic approach has been developed for the delivery of Road Safety Audit. This is a vital proactive road safety mechanism for assessing the road safety risk of permanent changes to the road network which incorporates Safe System principles embedded within the process. This is to be achieved by focusing the audit process on considering safe speeds and by providing forgiving roads and roadsides. This is to be delivered through the Road Safety Audit process that accepts people will always make mistakes and by considering the known limits to crash forces the human body can tolerate with the aim to reduce the risk of fatal and serious injury crashes.

To achieve this Main Roads require that:

- Road Safety Audits shall be conducted on all projects that involve a permanent change to the road layout on State managed roads in accordance with the requirements of this policy.

2 PRELIMINARY

2.1 Definitions

Audit Brief means the instructions prepared and approved by the client organisation and design team prepared using the Main Roads standard template. It defines the scope of the audit and provides sufficient information to enable the audit team to conduct the audit.

Audit Team means a team that shall comprise at least two people, independent of the design team, comprising members appropriately experienced and trained in road safety engineering or crash investigation with knowledge of current practice in road design or traffic engineering principles who undertake the road safety audit.

Audit Team Leader means the person with appropriate training and experience with overall responsibility for carrying out the audit and certifying the report. An Audit Team Leader practising in Western Australia must be an IPWEA/Main Roads Accredited Senior Road Safety Auditor.

Audit Team Member means an appropriately experienced and trained person who is appointed to the Audit Team and who reports to the Audit Team Leader. An Audit Team Member practising in Western Australia must be an IPWEA/Main Roads Accredited Road Safety Auditor.

Audit Team Trainee means an individual that has successfully completed a recognised Road Safety Audit training course within 5 years who accompanies the Audit Team to gain experience of the road safety audit process.

Corrective Action Report (CAR) means a tabular summary report prepared by the Audit Team to be completed by the Asset Owner, Project Owner, Regional Manager or delegated representative to respond to identified findings and recommendations detailed in the audit report.

Crash investigation means an examination of crashes to identify patterns and common trends that may have contributed to crash causation or crash severity. This can include the detailed investigation of a single crash.

“IMPORTANT” means a Safe System road safety audit finding which may result in fatal or serious injury crashes.

Independent Mentor means an Audit Team Leader with appropriate training and experience who is employed by an organisation independent of the Trainee Audit Team Leader.

Main Roads means Main Roads Western Australia.

Trainee Audit Team Leader means an Audit Team Member with appropriate training and experience who is independently mentored by an Audit Team Leader to meet the requirements to apply for accreditation as an Audit Team Leader.

Permanent change means any permanent change to the road network, excluding like for like maintenance replacement works and temporary works.

Public road means a road either under the control of Main Roads, Local Government, or any other road accessible by the public (excludes private roads).

Road Safety Audit means a formal, systematic, assessment of the potential road safety risks associated with a new road project or road improvement project conducted by an independent qualified audit team. The assessment considers all road users and suggests measures to eliminate or mitigate those risks.

Road safety engineering means the design and implementation of physical changes to the road network intended to reduce the number and severity of crashes involving road users, drawing on the results of crash investigations.

Road Safety Inspection means a formal examination of an existing road or road related area in which an independent, qualified team report on the crash potential and likely safety performance of the location. (Formerly known as an 'Existing Road Safety Audit')

ROSMA (Road Safety Management) means a system adopted by Main Roads for managing Road Trauma on the state road network.

Safe System means a road safety approach adopted by National and State Government to generate improvements in road safety. The Safe System approach is underpinned by three guiding principles: people will always make mistakes on our roads but should not be killed or seriously injured as a consequence; there are known limits to the forces the human body can tolerate without being seriously injured; and the road transport system should be designed and maintained so that people are not exposed to crash forces beyond the limits of their physical tolerance.

Specialist Advisor means a person approved by the client who provides independent specialist advice to the audit team, such as, road maintenance advisors, traffic signal specialists, police advisors and individuals with specialist local knowledge.

State road means a highway and main road under the control of Main Roads Western Australia and includes national highways.

3 SCOPE

3.1 Purpose

The purpose of this document is to set out Main Roads requirements for conducting Road Safety Audits on the State road network in Western Australia.

Main Roads primary objective of these guidelines is to improve the safety of the road network and ensure measures to eliminate or reduce road environment risks for all road users are fully considered with emphasis placed on fatal and serious crash risk.

3.2 Background

In accordance with the Australian National and the Western Australia State Road Safety Strategies this policy adopts a Safe System approach to the delivery of a road safety audit service by placing emphasis on fatal and serious crash risk.

The road safety audit process is an assessment of road engineering projects and as such the Safe System sphere of influence is limited to two of the four cornerstones of the Safe System approach, namely, Safe Roads and Roadsides, and Safe Speeds.

This is to be achieved by focusing the audit process on considering safe speeds and by providing forgiving roads and roadsides. This is to be delivered through the Road Safety Audit process by accepting that people will always make mistakes and by considering the known limits to crash forces the human body can tolerate with the aim to reduce the risk of fatal and serious injury crashes.

The additional annotation “**IMPORTANT**” shall be used to provide emphasis to any road safety audit finding that has the potential to result in fatal or serious injury or findings that are likely to result in the following crash types above the related speed environment: head-on (>70 km/h), right angle (>50 km/h), run off road impact object (>40 km/h), and crashes involving vulnerable road users (>30 km/h), as these crash types are known to result in higher severity outcomes at relatively lower speed environments.

The exposure and likelihood of crash occurrence shall then be considered for all findings deemed “**IMPORTANT**” and evaluated based on an auditors professional judgement. Auditors should consider factors such as, traffic volumes and movements, speed environment, crash history and the road environment, and apply road safety engineering and crash investigation experience to determine the likelihood of crash occurrence. The likelihood of crash occurrence shall be considered either “**VERY HIGH**”, “**HIGH**”, “**MODERATE**” or “**LOW**” and this additional annotation shall be displayed following the “**IMPORTANT**” annotation on applicable findings.

A Road Safety Audit is a formal examination of a future road or traffic project in which an independent qualified team reports on potential crash occurrence and severity which may result from the introduction of the project.

Road Safety Audits are a proactive process to prevent the occurrence of road crashes. The Road Safety Audit process provides project managers with a powerful mechanism to identify potential crash risk in the delivery of infrastructure projects and aims to reduce the risk of trauma and crashes on the road network.

In the implementation of this policy the road safety audit approach to be taken is: that it is not acceptable that any human should die or be seriously injured on the Western Australia road network, and specific road safety audit findings shall be highlighted in this regard.

4 APPLICATION

4.1 Applicable routes

This Guideline applies to all State roads in Western Australia and all Federal and State funded Blackspot projects on public roads.

4.2 Principles

Road Safety Audits shall be conducted in accordance with the requirements of this policy with reference to *Austrroads Guide to Road Safety Part 6: Road Safety Audit*, which explains the general principles of Road Safety Auditing.

A road safety audit brief shall be provided to the accredited audit team leader by completing the Main Roads road safety audit brief template which is provided on Main Roads website. The audit brief should include details of the project purpose, any departures from standards, crash data, traffic data and information about any previous Road Safety Audits conducted on the project.

All Road Safety Audits **must** be repeated if the project design materially changes, if there are many minor changes which together could impact on road user safety, or if the previous road safety audit for the relevant stage is more than 3 years old. Should a project not begin the next stage in its development within 3 years of the completion of the previous audit, the project must be re-audited. This is to ensure that due consideration is given to the project's interface with the existing road network.

4.3 Audit process

Road Safety Audits may be undertaken for each of the 4 audit stages outlined below:

- Stage 1 - Feasibility design
- Stage 2 - Preliminary design
- Stage 3 - Detailed design
- Stage 4 - Pre-opening (when the project is substantially complete and prior to opening to the public)

The road safety audit process **must** be completed using the Main Roads road safety audit report template provided on Main Roads website.

4.4 Checklists

Checklists can be used as a prompt for the auditor and all checklists should be used in conjunction with *Austrroads Guide to Road Safety Part 6: Road Safety Audit*.

Additional checklists available from Main Roads are listed as follows:

- Railway Level Crossing checklist;
- Shared Use Paths checklist; and
- Road Safety Around Schools checklist.

Completed check lists **shall not** be appended to the final road safety audit report.

4.5 Initiating the audit process

Advice on when the audit process should be initiated and the information required by the audit team is provided in Table A below.

Audit Stage	Description	When to initiate RSA process	Information required
Stage 1 – Feasibility Design	An audit of the feasibility project design	Prior to land acquisition	Road safety audit brief. Drawings including horizontal and vertical alignment and basic form of intersections proposed in hard copy and electronic format. Copy of the Road Safety Management (ROSMA) Road Trauma Reduction Report and/or minutes of the Strategic Planning Advisory Group meeting as appropriate.
Stage 2 – Preliminary Design	An audit of the preliminary project design	On completion of preliminary design prior to commencement of detailed design	Road safety audit brief. Drawings including horizontal and vertical alignment, typical cross section and form of intersections proposed in hard copy and electronic format. Copy of previous stage audits undertaken and completed Corrective Action Report. Copy of the Road Safety Management (ROSMA) Road Trauma Reduction Report.
Stage 3 – Detailed Design	An audit of the detailed project design	Prior to tendering the contract for the project	Road safety audit brief. Drawings including horizontal and vertical alignment, cross sections, road markings, signage, kerbing, safety barriers, drainage, lighting, traffic signal details and landscaping in hard copy and electronic format. Copy of previous stage audits undertaken and completed Corrective Action Report. Copy of the Road Safety Management (ROSMA) Road Trauma Reduction Report.
Stage 4 – Pre-Opening	An audit of the constructed project	Once substantially complete prior to opening to road users	Road safety audit brief. As-built drawings in hard copy and electronic format. Copy of previous stage audits undertaken and completed Corrective Action Report. Copy of the Road Safety Management (ROSMA) Road Trauma Reduction Report.

Table A – Road Safety Audit stages and requirements

5 THE AUDIT TEAM

All road safety audit teams must comprise a minimum of two members. The audit team shall be made up of an IPWEA/Main Roads Accredited Senior Road Safety Auditor and a minimum of one IPWEA/Main Roads Accredited Road Safety Auditor team member.

5.1 Audit team training, skills and experience

To ensure that the maximum emphasis is placed on road safety engineering and Safe System principles, all audit teams must be led by a suitably qualified and experienced Western Australia IPWEA/Main Roads Accredited Senior Road Safety Auditor and shall be listed on the Road Safety Audit Portal.

All Audit team members must be Western Australia IPWEA/Main Roads Accredited Road Safety Auditors and shall be listed on the Road Safety Audit Portal.

The experience and training requirements for Road Safety Auditors are set out on the Road Safety Audit Portal. www.road-safety-audit-wa.org

5.2 Specialist advisors

Specialist advisors, such as, Police advisors or technical experts can assist the audit team by providing independent specialist advice to the audit team on particular aspects of a project. There is no requirement for a specialist advisor to be an Accredited Road Safety Auditor. Specialist advisors shall be listed as an “Advisor” in the audit report and shall not be listed as a team member.

5.3 Road Safety Audit – Senior Road Safety Auditor (Restricted)

Senior Road Safety Auditor (Restricted) accreditation shall not form part of this policy or guideline, and suitability and compliance audits shall not be considered a road safety audit for the purposes of road safety audit registration to maintain accreditation as a Senior Road Safety Auditor or Road Safety Auditor.

Senior Road Safety Auditor (Restricted) accreditation shall be conducted in accordance with the requirements provided in Main Roads Traffic Management for Works on Roads Code of Practice.

6 WHEN TO AUDIT

Road Safety Audits shall be undertaken for all road projects that involve a permanent change to the road network as detailed below.

6.1 Road projects with a project value \geq \$10 M

All road infrastructure projects and design and construct projects that involve a permanent change to the State road network with an estimated project value \geq \$10 M shall have a road safety audit for each of the following 4 stages:

- Stage 1 - Feasibility design*
- Stage 2 - Preliminary design
- Stage 3 - Detailed design
- Stage 4 - Pre-opening (when the project is substantially complete and prior to opening to the public)

*Feasibility design stage road safety audits are not required to be conducted on Main Roads projects. A similar assessment is conducted under the ROSMA framework prior to passing the EPM Assess and Select stage gates.

6.2 Road projects with a project value \geq \$1 M and $<$ \$10 M

All road infrastructure projects that involve a permanent change to the State road network with an estimated project value \geq \$1 M and $<$ \$10 M shall have a road safety audit undertaken at the following 3 stages as a minimum:

- Stage 2 - Preliminary design
- Stage 3 - Detailed design
- Stage 4 - Pre-opening (when the project is substantially complete and prior to opening to the public)

6.3 Road projects with a project value \geq \$100,000 and $<$ \$1 M

All road infrastructure projects that involve a permanent change to the State road network with an estimated project value \geq \$100,000 and $<$ \$1 M shall have a road safety audit undertaken at the following 2 stages as a minimum:

- Stage 3 - Detailed design
- Stage 4 - Pre-opening (when the project is substantially complete and prior to opening to the public)

6.4 All Federal and State funded Blackspot projects involving a permanent change to existing roads

6.4.1 Project value \geq \$100,000

All Federal and State funded Blackspot projects that involve a permanent change to the public road network shall have a road safety audit undertaken at the following 2 stages as a minimum:

- Stage 3 - Detailed design
- Stage 4 - Pre-opening (when the project is substantially complete and prior to opening to the public)

6.4.2 Project value $<$ \$100,000

All Federal and State funded Blackspot projects that involve a permanent change to the public road network shall have a road safety audit undertaken at the following stage as a minimum:

- Stage 3 - Detailed design

6.5 ROSMA and road safety audit outcomes

Where there are conflicting outcomes from a Road Safety Audit and the ROSMA Road Trauma Reduction process, Road Safety Branch will need to be advised so that a further review can be undertaken. The recommendations from this review will be taken to the relevant committee for approval prior to being actioned by the project team.

6.6 Road Safety Inspection – Existing roads

Road Safety Inspections are a proactive road safety approach that can be conducted on the existing public road network. Road Safety Inspections are a formal examination of an existing road or road related area in which an independent, qualified team report on the crash potential and likely safety performance of the location.

Road Safety Inspections shall be carried out in accordance with the requirements provided in the *Austrroads Guide to Road Safety Part 6: Road Safety Audit*.

To ensure that the maximum emphasis is placed on road safety engineering and Safe System principles, all inspection teams must be led by a suitably qualified and experienced Western Australia IPWEA/Main Roads Accredited Senior Road Safety Auditor and shall be listed on the Road Safety Audit Portal.

All inspection team members must be Western Australia IPWEA/Main Roads Accredited Road Safety Auditors and shall be listed on the Road Safety Audit Portal.

The experience and training requirements for Road Safety Auditors are set out on the Road Safety Audit Portal. www.road-safety-audit-wa.org

Road Safety Inspections shall be conducted by suitably experienced and qualified persons for the assessment of existing roads to identify safety deficiencies and substandard road elements and for project proposals such as Blackspot submissions.

6.7 Land use developments

Road safety audits shall be conducted on land use developments that intersect the State road network in accordance with the requirements of this policy.

The road project value warrants above shall be used to determine audit requirements, with the exception of projects with an estimated project value less than \$100,000 that meet any of the following warrants:

- Subdivisions of more than 20 lots;
- Car parks providing access for more than 50 vehicles;
- Developments that are likely to generate traffic movements in excess of 100 movements per day;
- Projects that are likely to generate increased pedestrian or cycle movements, or where significant numbers of pedestrians or cyclists are nearby; or
- Project locations where potential road safety risks are identified by Main Roads.

Land use developments that involve a permanent change to the public road network with an estimated project value less than \$100,000 that meet any of the above warrants shall have a road safety audit undertaken at the following 2 stages as a minimum:

- Stage 3 - Detailed design
- Stage 4 - Pre-opening (when the project is substantially complete and prior to opening to the public)

6.8 Conflict of interest

Team Leaders/Members shall excuse themselves from participation in the audit if:

- They have had any involvement in planning, design, construction or maintenance activities for road infrastructure for the project; or
- They perceive any possibility of duress or coercion by their employer or employer's staff in relation to the audit.

Persons not accredited as a Road Safety Auditor or do not have relevant specialist skills may still participate as an observer if invited to do so by the Team Leader.

7 RESPONSIBILITIES

7.1 Endorsement

All Audit Reports shall be endorsed by the Team Leader, prior to distribution.

7.2 Distribution and audit registration

7.2.1 Main Roads Team Leader

Team Leaders directly employed by Main Roads shall arrange for the audit report (including the Corrective Action Report) to be recorded on the relevant TRIM file and electronically forwarded with a workflow action assigned to the Asset Owner, Project Owner, Regional Manager or the delegated representative.

The Main Roads Team Leader shall register the Road Safety Audit on the Road Safety Audit Portal to meet auditor accreditation requirements. www.road-safety-audit-wa.org

7.2.2 Consultant or other agency Team Leader

Consultants or Other Agency Team Leaders must be an IPWEA/Main Roads Accredited Senior Road Safety Auditor and shall arrange for the audit report (including the Corrective Action Report) to be electronically forwarded to the Asset Owner, Project Owner, Regional Manager or the delegated representative.

The Asset Owner, Project Owner, Regional Manager or the delegated representative shall arrange for the full audit report (including the Corrective Action Report) to be recorded on the relevant TRIM file.

There may be instances where Main Roads and Local Government / Other Agency are responsible for asset management within the audit area. The Asset Owner, Project Owner, Regional Manager or the delegated representative shall forward the relevant sections of the audit report to the Local Government or Agency responsible for the road.

The Team Leader shall register the Road Safety Audit on the Road Safety Audit Portal to meet auditor accreditation requirements. www.road-safety-audit-wa.org

7.3 Close out

The Asset Owner, Project Owner, Regional Manager or the delegated representative shall complete the Corrective Action Report within one calendar month and arrange for the completed and signed report to be recorded on the relevant TRIM file and a copy forwarded to the audit team leader.

The Asset Owner, Project Owner, Regional Manager or the delegated representative shall be responsible for the proposed actions and comments resulting from the Corrective Action Report.

7.4 Court appearances

The Audit Team Leader is responsible for the findings and recommendations of the Audit Report but not the subsequent actions by the Asset Owner, Project Owner, Regional Manager, Local Government / Other Agency officer or the delegated representatives.

There may be instances where the Main Roads Team Leader is requested to appear in court via:

- Subpoena;
- Summons; or
- Contact to be a witness by:
 - Police Officer (prosecuting or Coroner's Court);
 - Counsel Assisting (Coroner's Court);
 - State Solicitors Office (State Government agencies); or
 - Lawyer acting for party to or interest in an action.

In all instances such requests shall be referred to the Manager Legal and Commercial Services Branch to determine the most appropriate representatives (refer to Delegation of Authority Clause 17.3).

END OF APPLICATION & APPROVAL GUIDELINES