





SESSION 2.4 INFORMATION REVIEW AND SITE INSPECTION

CONDUCTING ROAD SAFETY AUDITS & APPRAISALS


PRESENTED BY: RTS & AGTTC

6 – 7 June 2023



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CONTENT

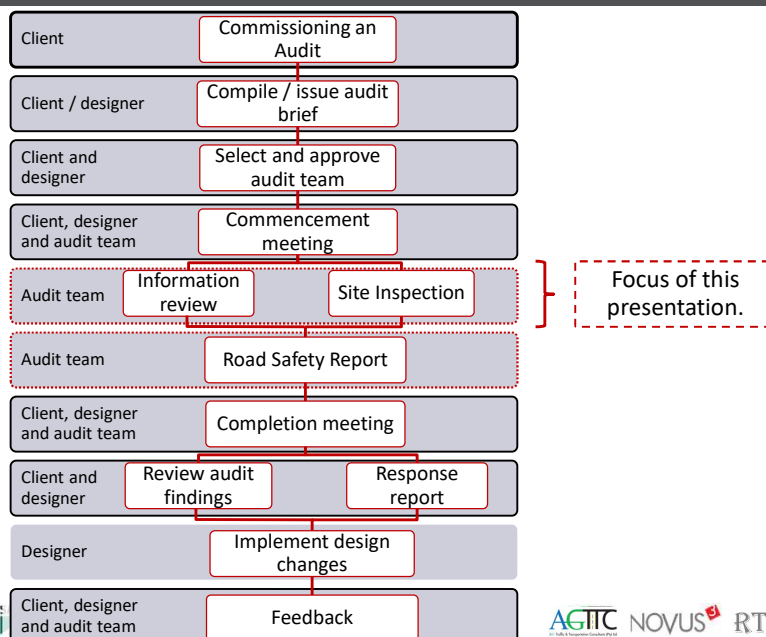
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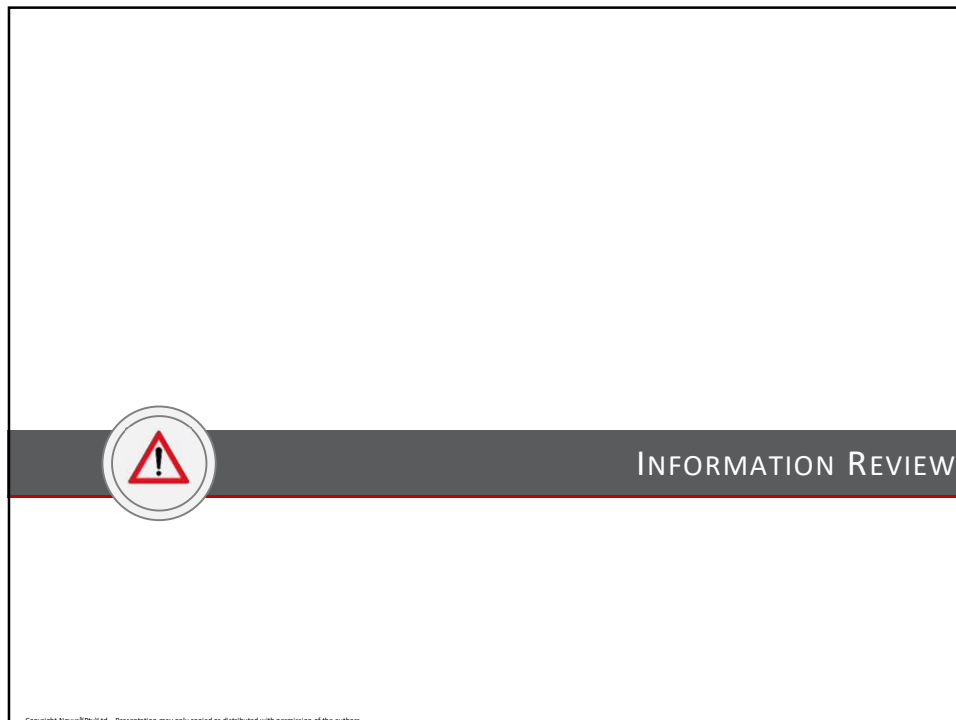
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Content

1. Information Review
2. Relevant data
3. Relevant data - Traffic surveys
4. Relevant data – Crash Data
5. Relevant Data – Road Infrastructure & Environment
6. Site inspection
7. Conclusion

Focus of this presentation





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Information Review

Information review

To review the designs and background information and identify potential safety problems and determine the safety status of the project.

- Obtain insight into road user/road environment interaction.
- Review design info to identify issues to investigation on site.
- Review all info which might highlight potential safety risks.
- May ignore crash data - possibly irrelevant if scheme is completely different.
- Guard against mitigating only risks which materialised in the past.
- Information must be reviewed again on completion of site visit.

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RELEVANT DATA

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Relevant Data

Apart from design drawings, why is other data relevant?

To gather sufficient information on the:


- Road environment
- Road users (vehicles and humans)
- Road infrastructure
- Road crashes


To be able to contextualise and understand the road safety risks.


I.e. collection sufficient data to understand what the road safety risks are.

The extent and type of data will depend on the phase of the audit.
For safety appraisals, limited data is likely to be available – extensive data will have to be collected on site.

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RELEVANT DATA - TRAFFIC SURVEYS

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Relevant data - Traffic surveys

Traffic surveys might be required to quantify the current vehicle and NMT volumes

Typical traffic surveys

- Classified vehicle counts
- NMT counts
- Speed surveys

Other surveys

- Conflict studies
- Infrastructure condition surveys

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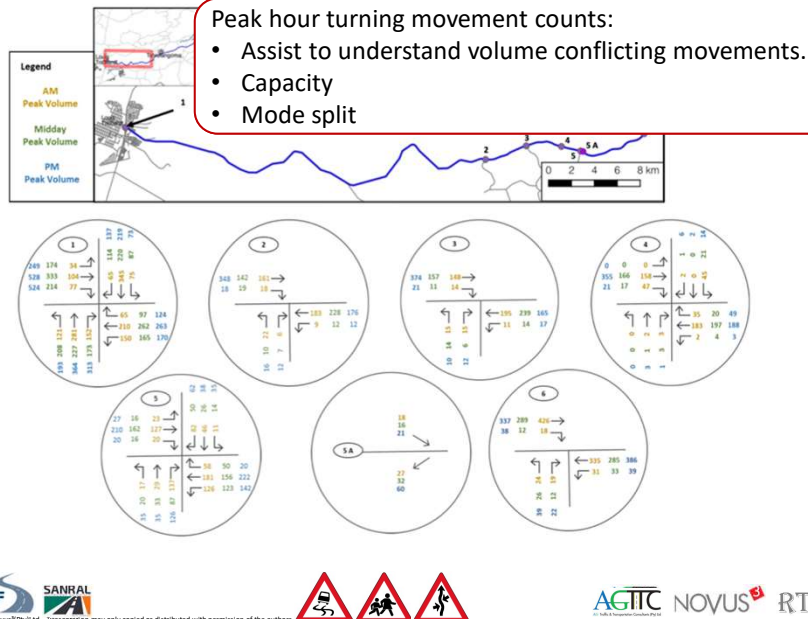


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Relevant data - Traffic counts (turning movements)

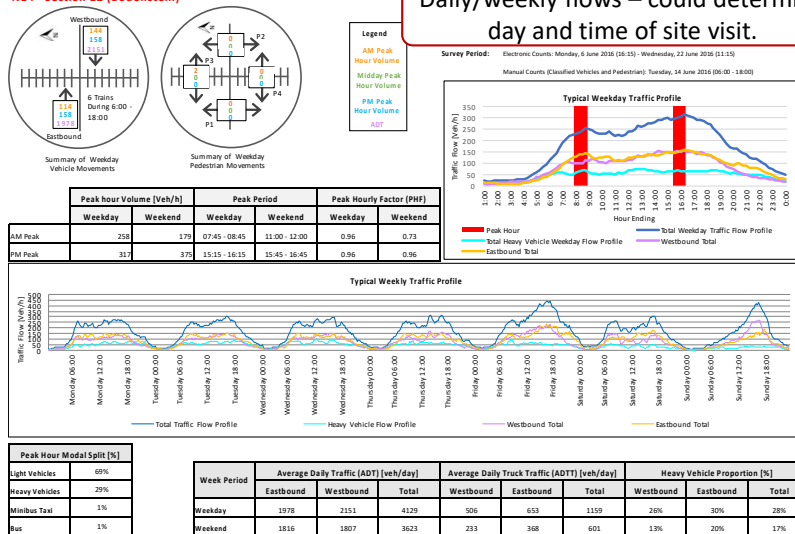


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Relevant data - Traffic counts (7 day counts)

N14 - Section 12 (Bodenstein)

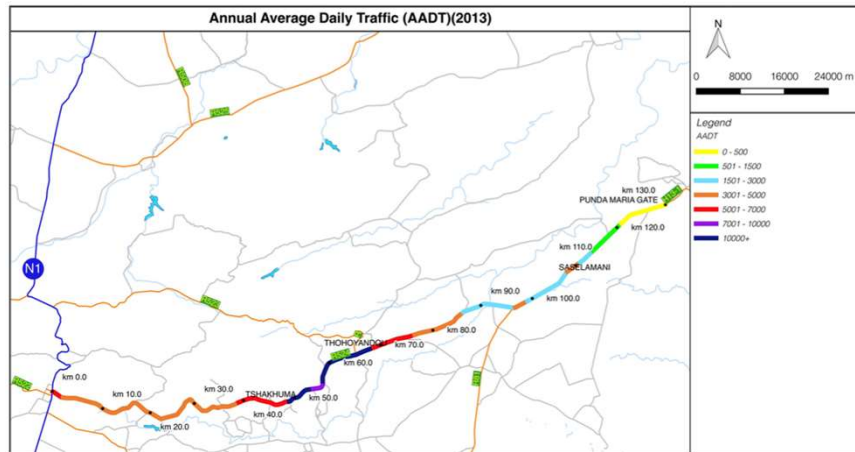
Daily/weekly flows – could determine day and time of site visit.



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Relevant data - Traffic counts (graphical representation)

Mapping info often gives a different perspective.



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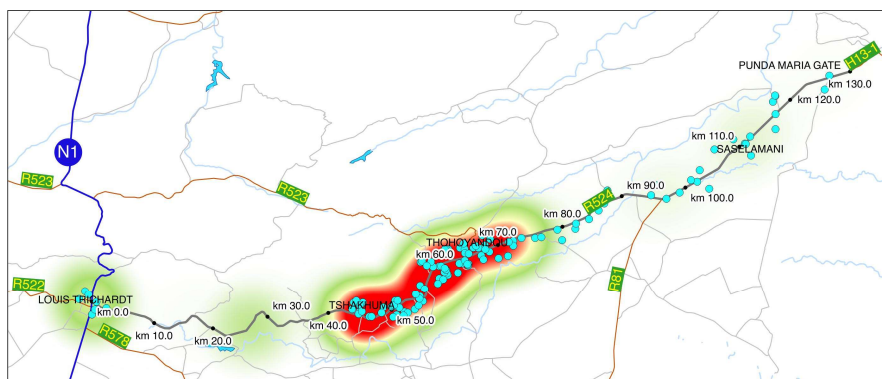


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Relevant data - Traffic counts (graphical representation)

NMT Demand vs school location heat map

Mapping info often gives a different perspective.



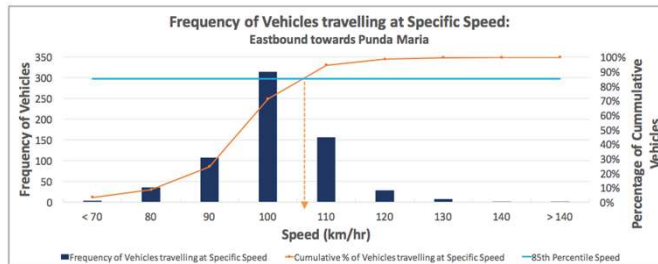
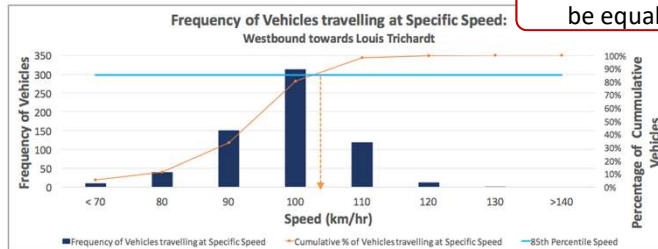
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Relevant data – Speed Surveys

85th percentile speed should be equal to speed limit.



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RELEVANT DATA – CRASH DATA

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Relevant data - Crash Data

Collision/crash data and information:

Unfortunately good quality crash data is hard to come by.

Source data from:

Anecdotal information regarding crashes can be obtained from:

- Road authority's incident management system
- Local/provincial traffic police's accident database
- Local police station's Vehicle Accident Report Book
- Road authority's route manager/incident response teams
- Local business owners
- Councillors or community leaders
- Officials from the local authority



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Relevant data – Accident Report Form

Obtain copies of completed accident report forms

The image shows a detailed Accident Report (AR) Form. It is a multi-page document with various sections for recording accident details. Key sections include:

- GENERAL INFORMATION:** Includes fields for Incident number, Date and time of accident, Location, and Road name.
- VEHICLE INFORMATION:** Sections for each vehicle involved, detailing make, model, year, color, and license plate number.
- DRIVER INFORMATION:** Fields for driver name, address, contact number, and license details.
- ACCIDENT DETAILS:** A large section for describing the accident, including a diagram of the scene and a detailed narrative of what happened.
- WITNESSES:** A section for recording witness names and statements.
- OFFICER INFORMATION:** Fields for the reporting officer's name, rank, and signature.

The form is designed to be filled out by a police officer or a trained accident investigator. It includes checkboxes for various conditions and a large area for a detailed description of the accident.



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Relevant data – Summarised crash data from Metro Police

Only summarised information is often available

Authority : TSHWANE METRO POLICE (4046)
Section : HANS STRUDOM-RYLAAN (1)
From date : 01/01/2003

Road : HANS STRUDOM-RYLAAN (H0205)
Node : GARSFONTEIN x HANS STRUDOM
To date : 20/11/2006

NUMBER OF ACCIDENTS AND CASUALTIES PER DAY

Date	Fatal accidents	Injury accidents	Damage	Total accidents	Accidents/Persons			Total persons
					Persons killed	Persons serious	Persons slight	
08/01/2003	0	1	0	1	0	0	1	1
10/01/2003	0	1	0	1	0	0	2	2
13/01/2003	0	0	1	1	0	0	0	0
16/01/2003	0	0	1	1	0	0	0	0
29/01/2003	0	0	1	1	0	0	0	0
04/02/2003	0	1	0	1	0	0	1	1
06/02/2003	1	0	2	3	2	2	1	5
14/02/2003	0	0	1	1	0	0	0	0
17/02/2003	0	0	1	1	0	0	0	0
22/02/2003	0	1	0	1	0	0	1	1
11/03/2003	0	0	1	1	0	0	0	0
22/03/2003	0	1	0	1	0	0	1	1
28/03/2003	0	0	1	1	0	0	0	0
01/04/2003	0	0	2	2	0	0	0	0
15/04/2003	0	0	1	1	0	0	0	0
23/04/2003	0	0	1	1	0	0	0	0
29/04/2003	0	0	1	1	0	0	0	0
03/05/2003	0	0	1	1	0	0	0	0
14/05/2003	0	0	1	1	0	0	0	0
26/05/2003	0	0	1	1	0	0	0	0
30/05/2003	0	0	1	1	0	0	0	0
31/05/2003	0	1	1	2	0	1	1	2
05/06/2003	0	0	1	1	0	0	0	0
06/06/2003	0	0	1	1	0	0	0	0
11/06/2003	0	0	2	2	0	0	0	0
27/06/2003	0	1	1	2	0	0	1	1
26/07/2003	0	1	1	2	0	0	1	1
29/07/2003	0	0	1	1	0	0	0	0
30/07/2003	0	0	1	1	0	0	0	0
05/08/2003	0	1	1	2	0	0	1	1
08/08/2003	0	1	0	1	0	0	2	2
15/08/2003	0	1	2	3	0	0	1	1
25/08/2003	0	0	1	1	0	0	0	0
27/08/2003	0	0	1	1	0	0	0	0
30/08/2003	0	0	1	1	0	0	0	0
03/09/2003	0	0	1	1	0	0	0	0
05/09/2003	0	0	1	1	0	0	0	0
07/09/2003	0	0	1	1	0	0	0	0



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Relevant data – Summarised crash data from Metro Police

Only summarised information is often available

Includes accidents on intersecting roads

Authority : TSHWANE METRO POLICE(4046)
Section : HANS STRUDOM-RYLAAN (1)
Period : 01/01/2003 - 20/11/2006
Node : GARSFONTEIN x HANS STRUDOM-RYLAAN (110)

Road : HANS STRUDOM-RYLAAN (H0205)

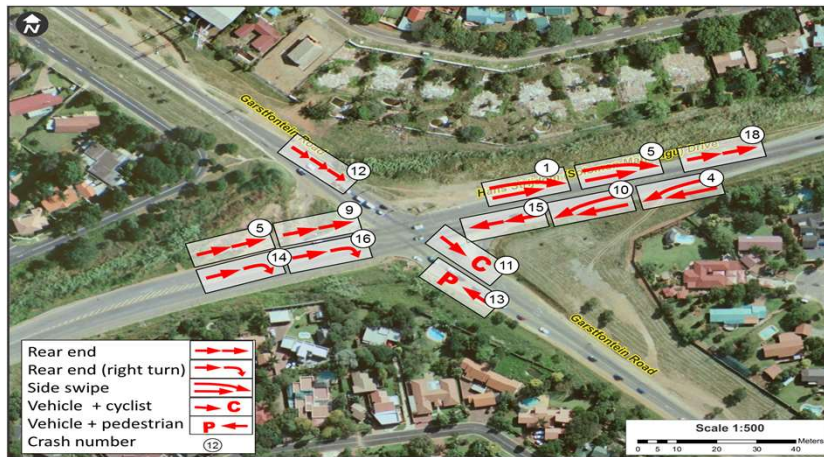
Code	Vehicle type	ACCIDENTS				Total	Graphical representation
		Fatal	Serious	Slight	No Inj		
1	Motor car/trailor wagon	8	18	45	230	301	
6	Light delivery vehicle	4	4	18	65	91	
9	Unknown	0	1	1	28	30	
	Unknown	1	0	11	17	29	
8	GVM<3500Kg (greater than)	1	0	6	6	13	
9	Truck: Articulated	2	2	0	8	12	
2	Combimotorbus	0	0	0	11	11	
12	M.cycl. Above 125cc	0	1	3	0	4	
4	Bus	0	0	1	1	2	
7	Panelvan	0	1	1	0	2	
98	Other vehicle	1	0	0	1	2	
10	Truck: Articulated multiple	0	0	0	1	1	
11	M.cycl. 125cc and under	0	0	0	1	1	
15	Bicycle	0	0	0	1	1	
20	Taxi	0	0	0	1	1	
Grand Total:		17	27	86	371	501	



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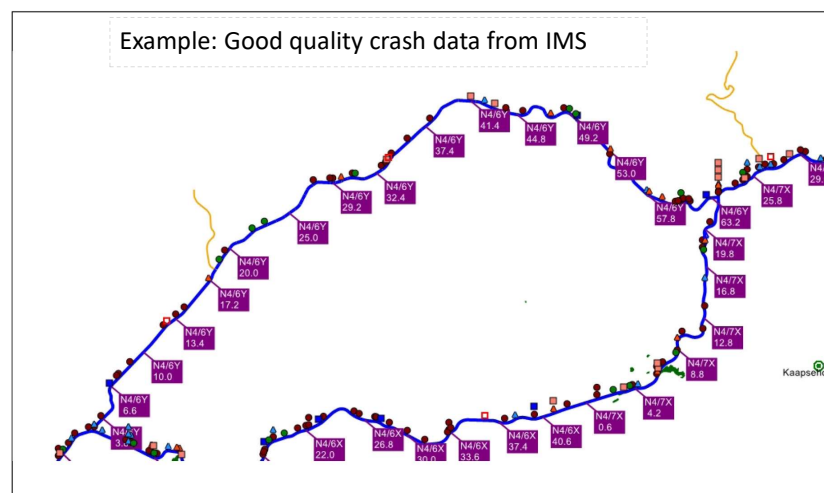
Relevant data – Crash data analysis



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Relevant data – Summarised crash data from incident management system

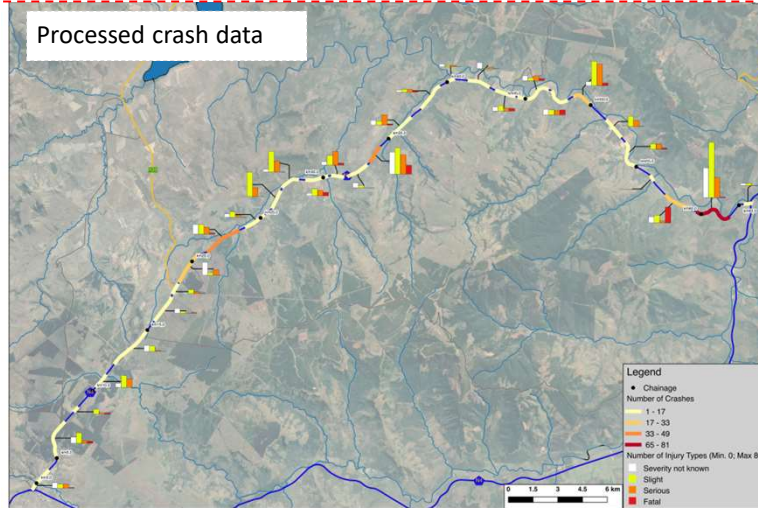
Obtain data from road authority's incident management system.



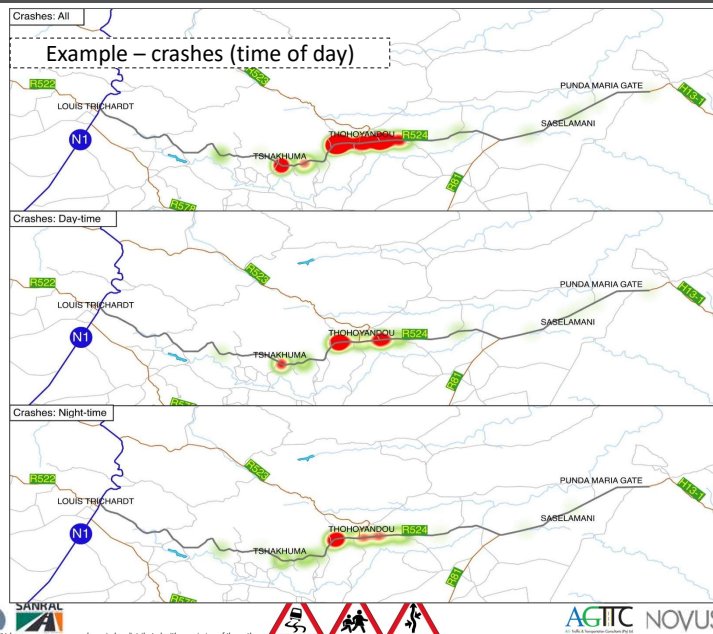
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Relevant data – Summarised crash data from incident management

Obtain data from road authority's incident management system.



Relevant data – Crash data analysis - spatial analysis





RELEVANT DATA – ROAD INFRASTRUCTURE & ENVIRONMENT

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Relevant Data – Road Infrastructure & Environment

Analysis of road environment assist in identifying road safety risks

Lane configuration

Road markings & signs

Intersection control

Accesses

Public transport facilities

NMT facilities

Traffic calming measures

Road side furniture



Street lighting




Barriers/ guard rails




Bridges/ culverts

Land use

Tourist attractions/ facilities

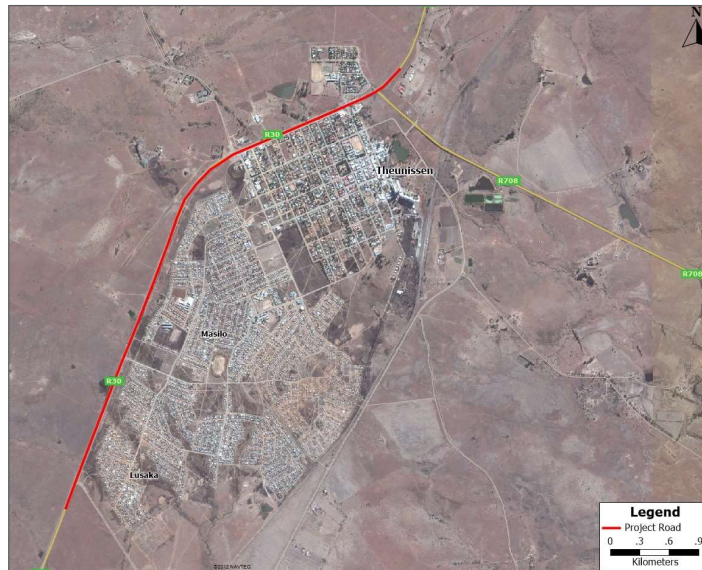




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Relevant Data – Project extent

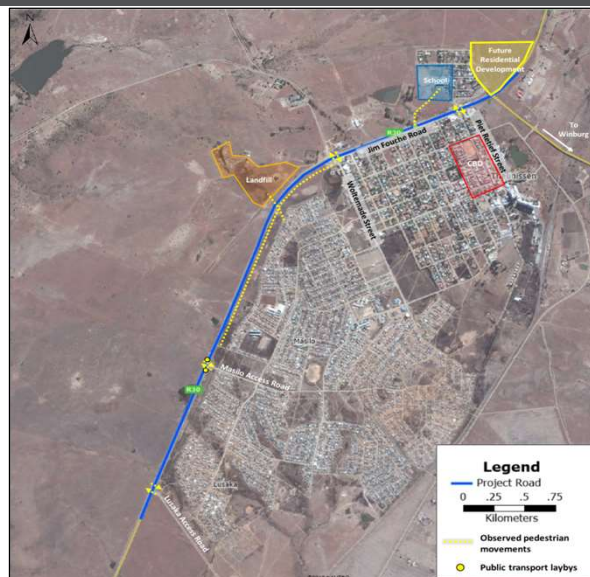


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Relevant Data – Land Use & Pedestrians

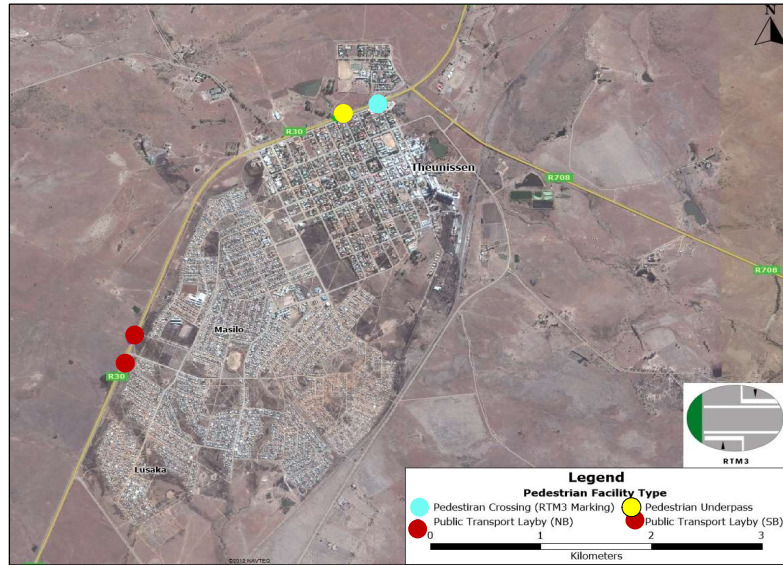


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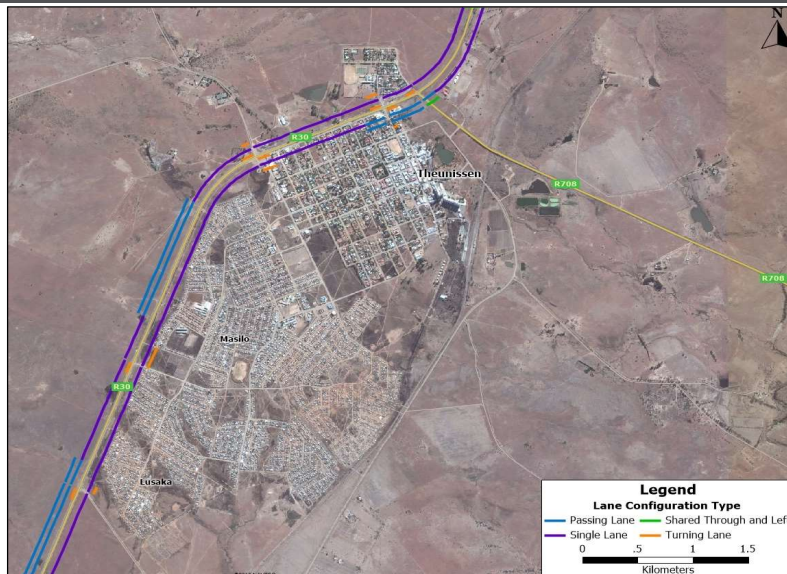
Relevant Data – Pedestrian/PT infrastructure



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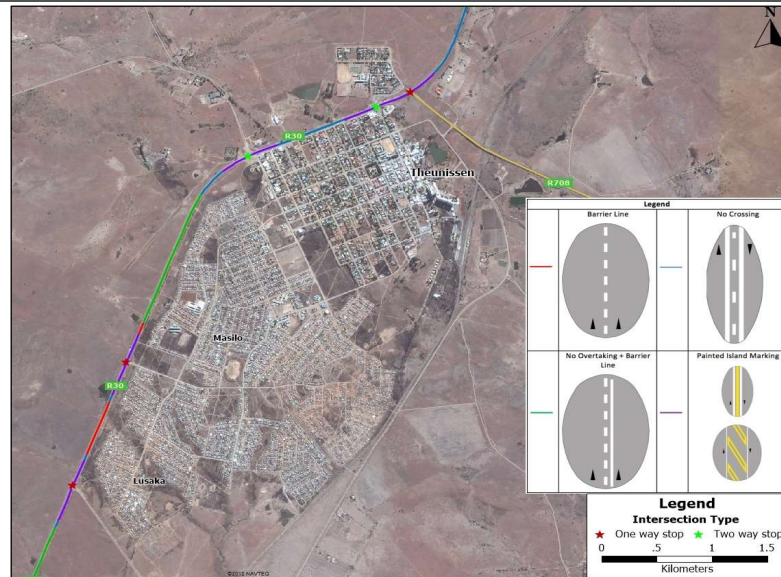
Relevant Data – Lane configuration



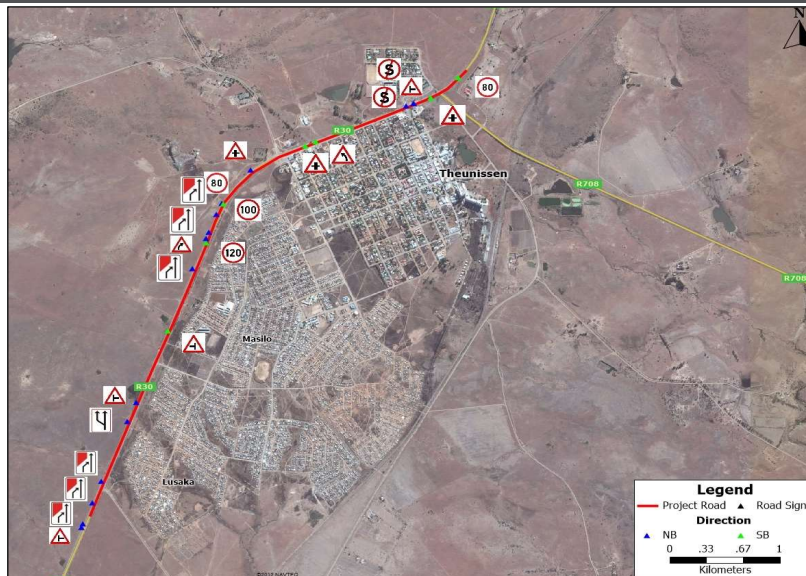
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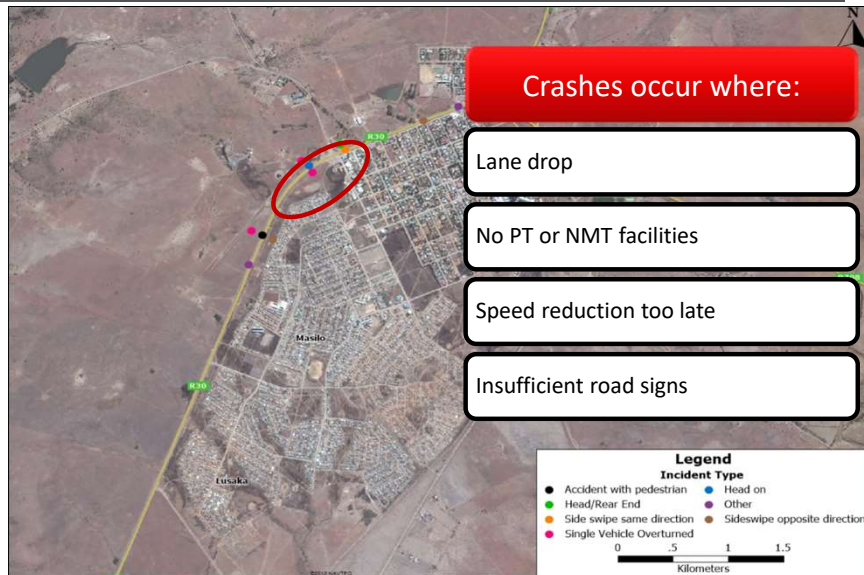
Relevant Data – Road markings



Relevant Data – Road signs



Relevant Data – Crash Types



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Relevant Data – Project context and safety risk locations




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SITE INSPECTION


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Site inspection

Site inspection

To identify how the proposal interacts with its surroundings and nearby roads; to visualise potential obstructions and conflicts for road users.




Observe conditions at day and night.






Review interaction with adjacent road sections and land use.

Establish traffic conflicts (all modes)

Identify risks due to proposed new scheme or road upgrade.

Need for communication with road users.



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Site Inspection

The site visit provides the opportunity to:

To meet with relevant local role players who may be able to provide context and background:

- Existing traffic operation and road safety issues
- Future infrastructure and land use planning

Traffic police
SAPS
Route manager
Community liaison officer
Local authority

- Engineering department
- Land use planning
- Community safety

Community leaders



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WBS 2-2: Site Investigations

Site visit activities :

Site/route inspection

- All relevant peak periods
 - AM, PM and off-peak
 - Night time
 - Weekends
- Observations on consecutive days if required.


On site observations

- Road infrastructure - alignment, sight distance, road markings & signs, street lights
- Public transport infrastructure
- NMT infrastructure
- Land use
- Road user activity – desire lines, peak flows
- Traffic, intersection and traffic signal operations



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CONCLUSION

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CONCLUSION



On completion of the data processing and analysis the audit team must:







Understand what the current road safety risks are.



Should be able to summarise the problem in a few sentences.



INFORMATION REVIEW AND SITE INSPECTION

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END OF LECTURE

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