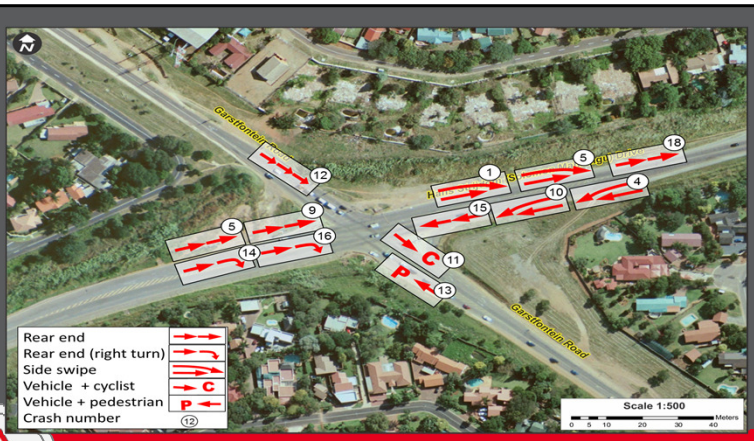

Session 4.4 Recap: Data Analysis

Conducting Road Safety Audits & Appraisals

Presented by: RTS & AATT

January 2022

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1

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 only relevant 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.

Recap: Data Analysis

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2

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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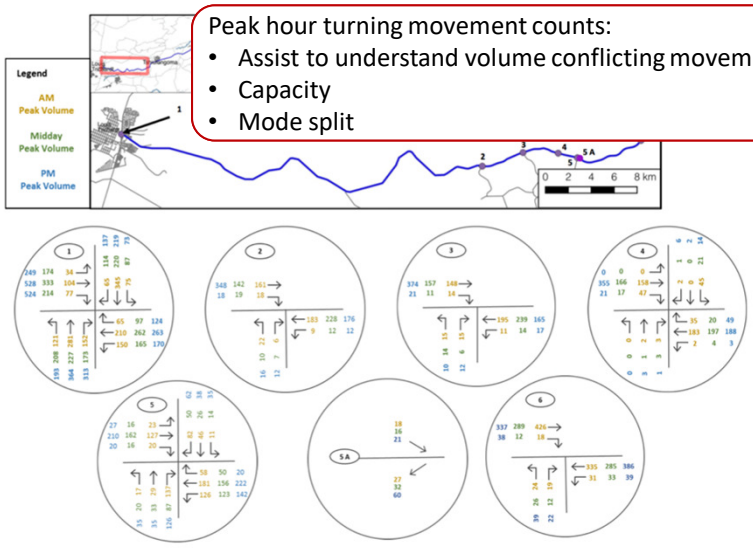
Relevant data - Traffic counts (turning movements)

Peak hour turning movement counts:

- Assist to understand volume conflicting movements.
- Capacity
- Mode split



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Relevant data - Traffic counts (7 day counts)

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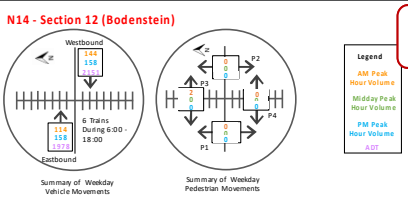
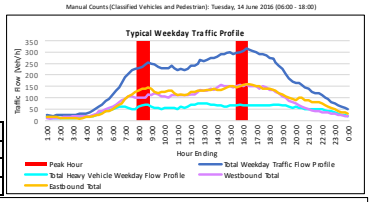
Daily/weekly flows – could determine day and time of site visit.

N14 - Section 12 (Bodenstein)

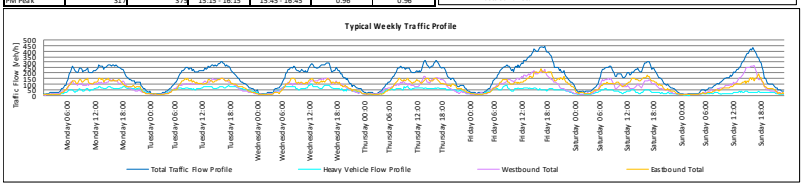


Survey Period: Electronic Counts: Monday, 6 June 2016 (16:15) - Wednesday, 22 June 2016 (11:15)

Manual Counts (Classified Vehicles and Pedestrian): Tuesday, 14 June 2016 (06:00 - 18:00)



	Peak hour Volume [Veh/h]		Peak Period		Peak Hourly Factor (PHF)	
	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
AM Peak	258	179	07:45 - 08:45	11:00 - 12:00	0.96	0.73
PM Peak	317	375	15:15 - 16:15	15:45 - 16:45	0.96	0.96



Peak Hour Modal Split [%]	
Light Vehicles	69%
Heavy Vehicles	29%
Minibus Taxi	1%
Bus	1%

Week Period	Average Daily Traffic (ADT) [veh/day]			Average Daily Truck Traffic (ADTT) [veh/day]			Heavy Vehicle Proportion [%]		
	Eastbound	Westbound	Total	Westbound	Eastbound	Total	Westbound	Eastbound	Total
Weekday	1978	2151	4129	506	653	1159	26%	30%	28%
Weekend	1816	1807	3623	233	368	601	13%	20%	17%

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Speed – Understand the different kinds of speed

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Important to understand the difference!

Speed Limit → Operating speed → Design speed → Appropriate speed

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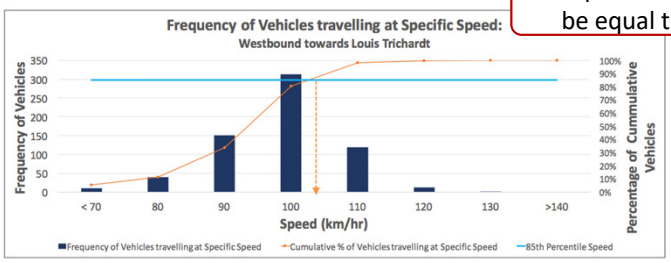
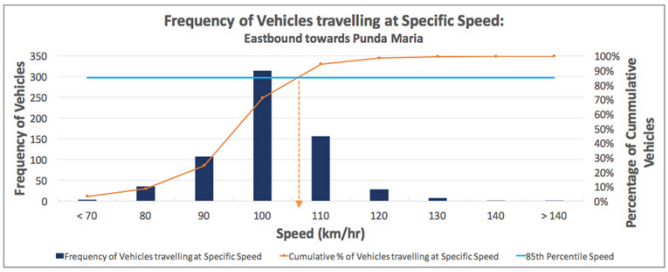
Relevant data – Speed Surveys

85th percentile speed should be equal to speed limit.





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Relevant data - Crash Data

Collision/crash data and information:

Unfortunately good quality crash data is hard to come by.

Source data 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

Anecdotal information regarding crashes can be obtained from:

- Local business owners
- Councillors or community leaders
- Officials from the local authority

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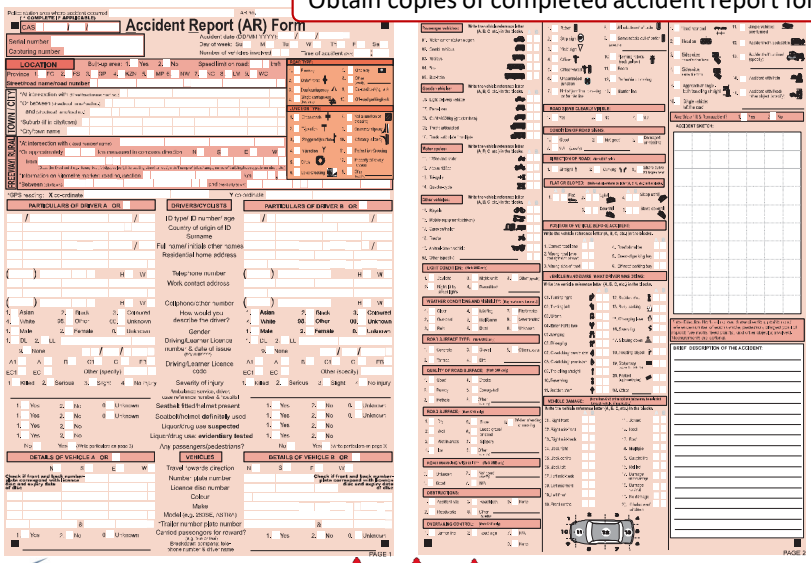
Relevant data – Accident Report Form

Obtain copies of completed accident report forms



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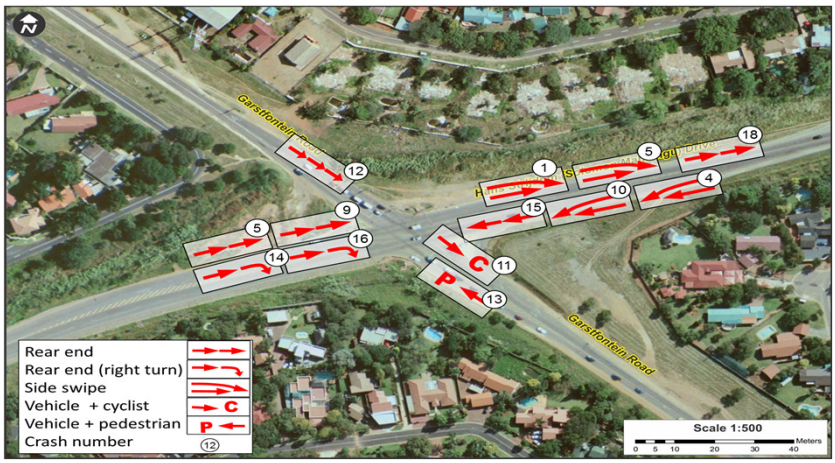
Relevant data – Crash data analysis



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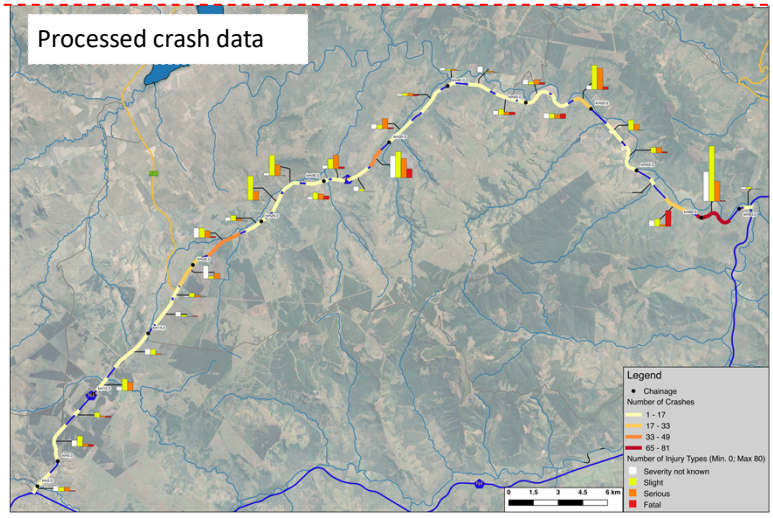
Relevant data – Summarised crash data from incident management

Obtain data from road authority's incident management system.



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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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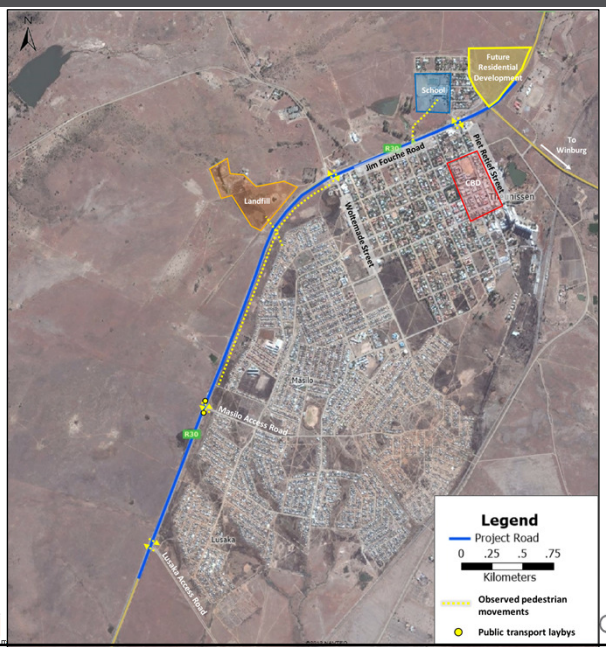
Relevant Data – Land Use & Pedestrians



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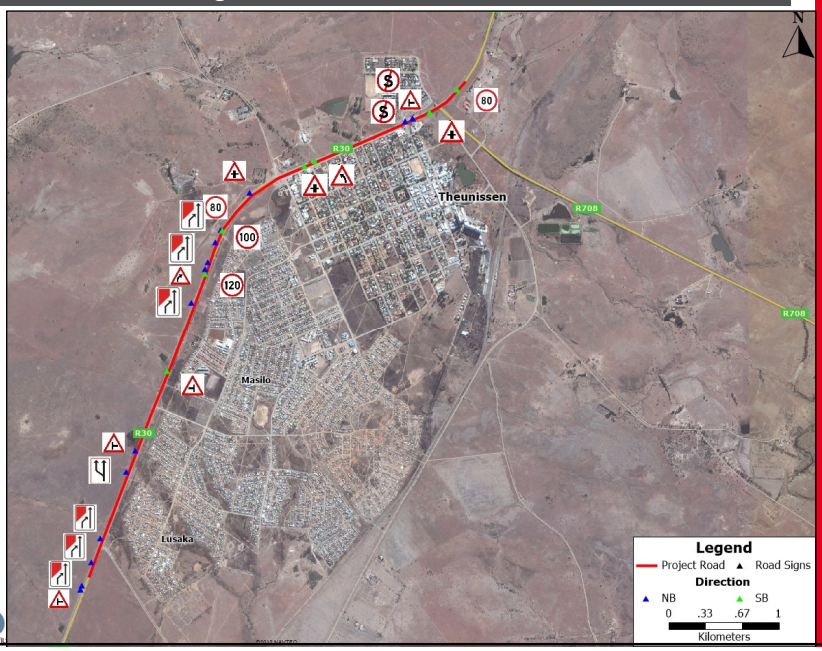
Relevant Data – Road signs



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14

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.

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