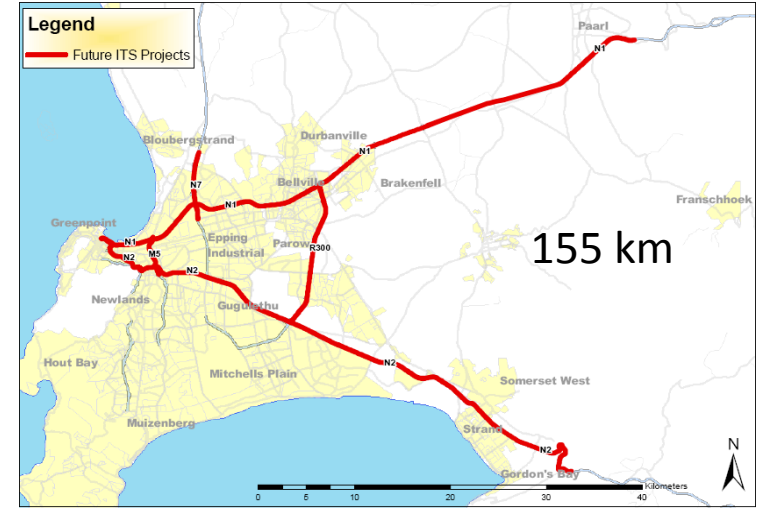




Case Study: Cape Town Freeways





Land Use Development



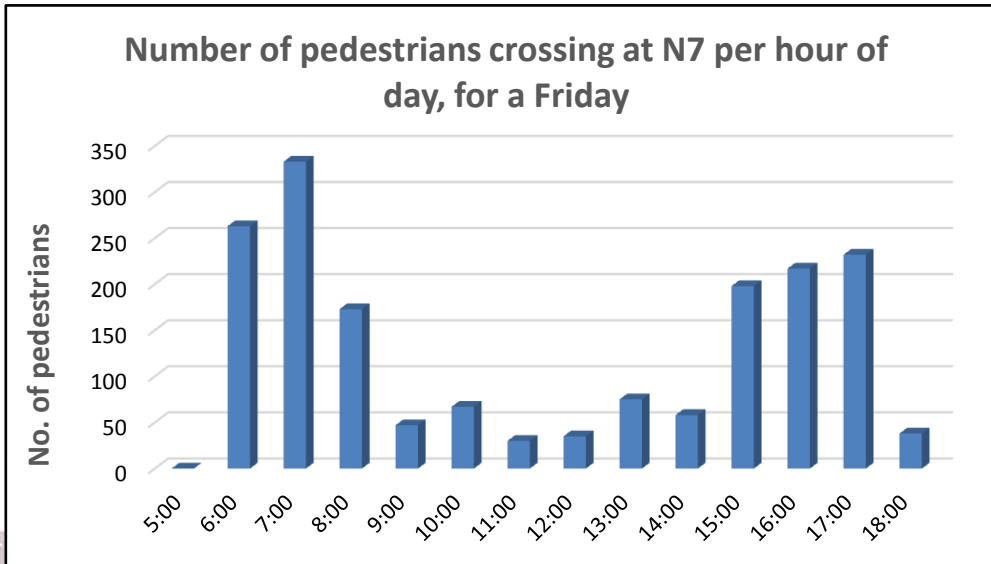


Land Use Development





Land Use Development



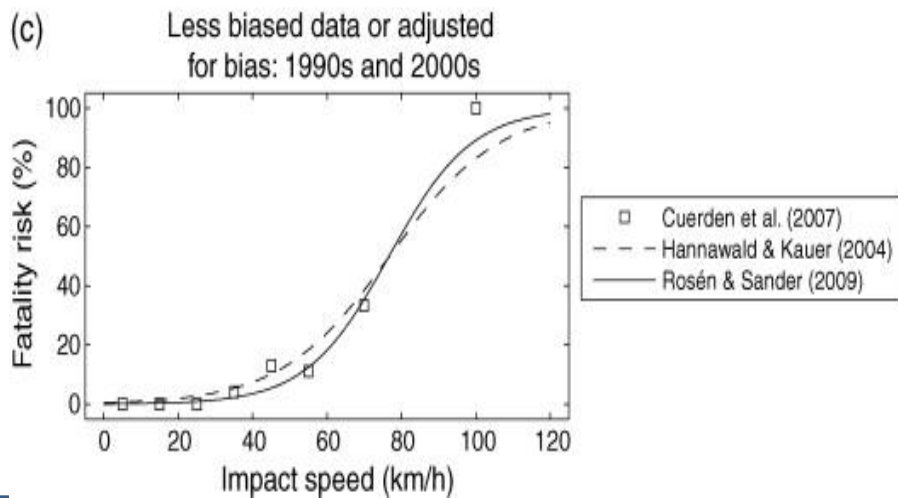
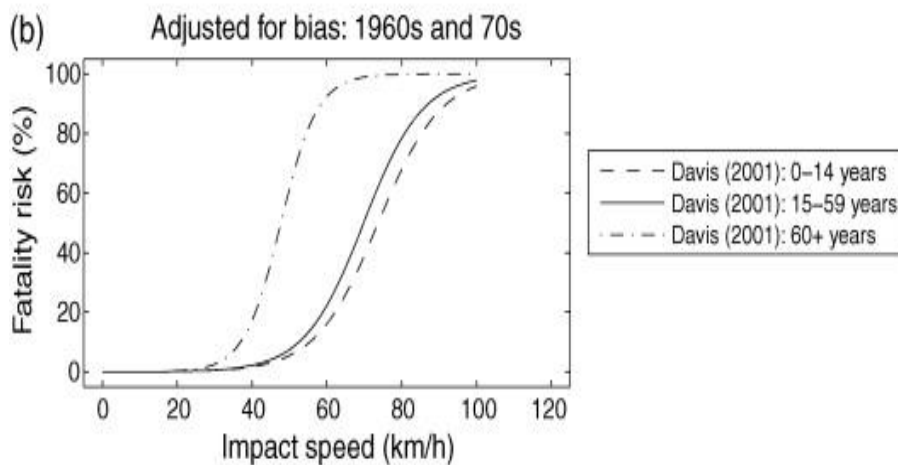
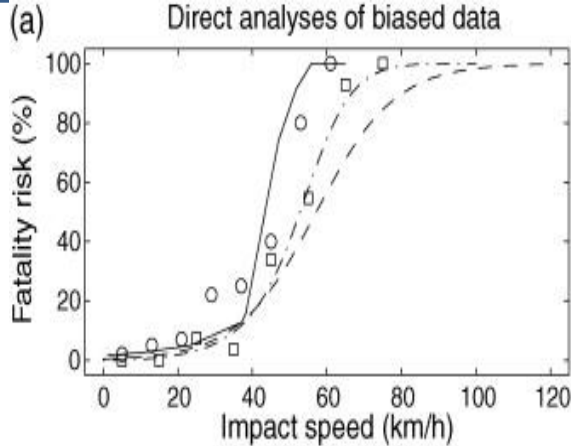
704 N7 SB AT POTSDAM



2013/11/07 07:56:00 AM



2013/11/07 07:56:37 AM





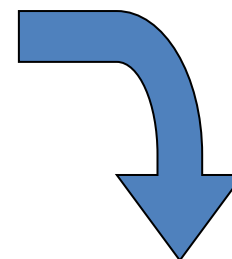


Need for better understanding of pedestrian behaviour on freeways



How does FMS work ?

Real-time traffic
data CCTV
Surveillance



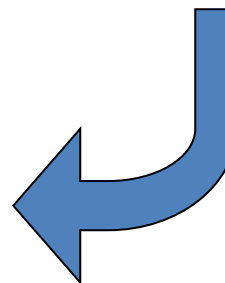
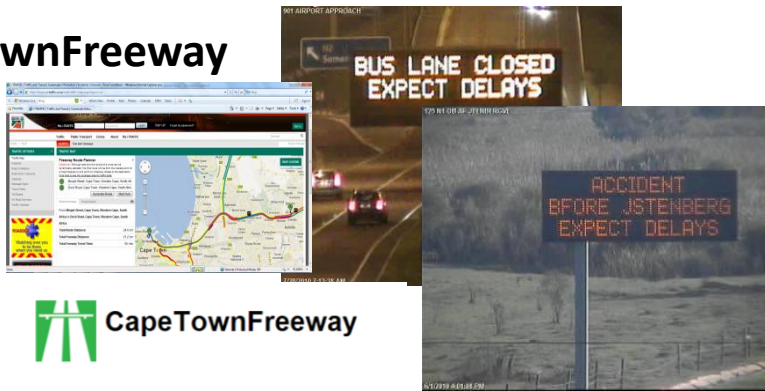
Information is processed

FMS Operations Centre 24/7

Information Dissemination

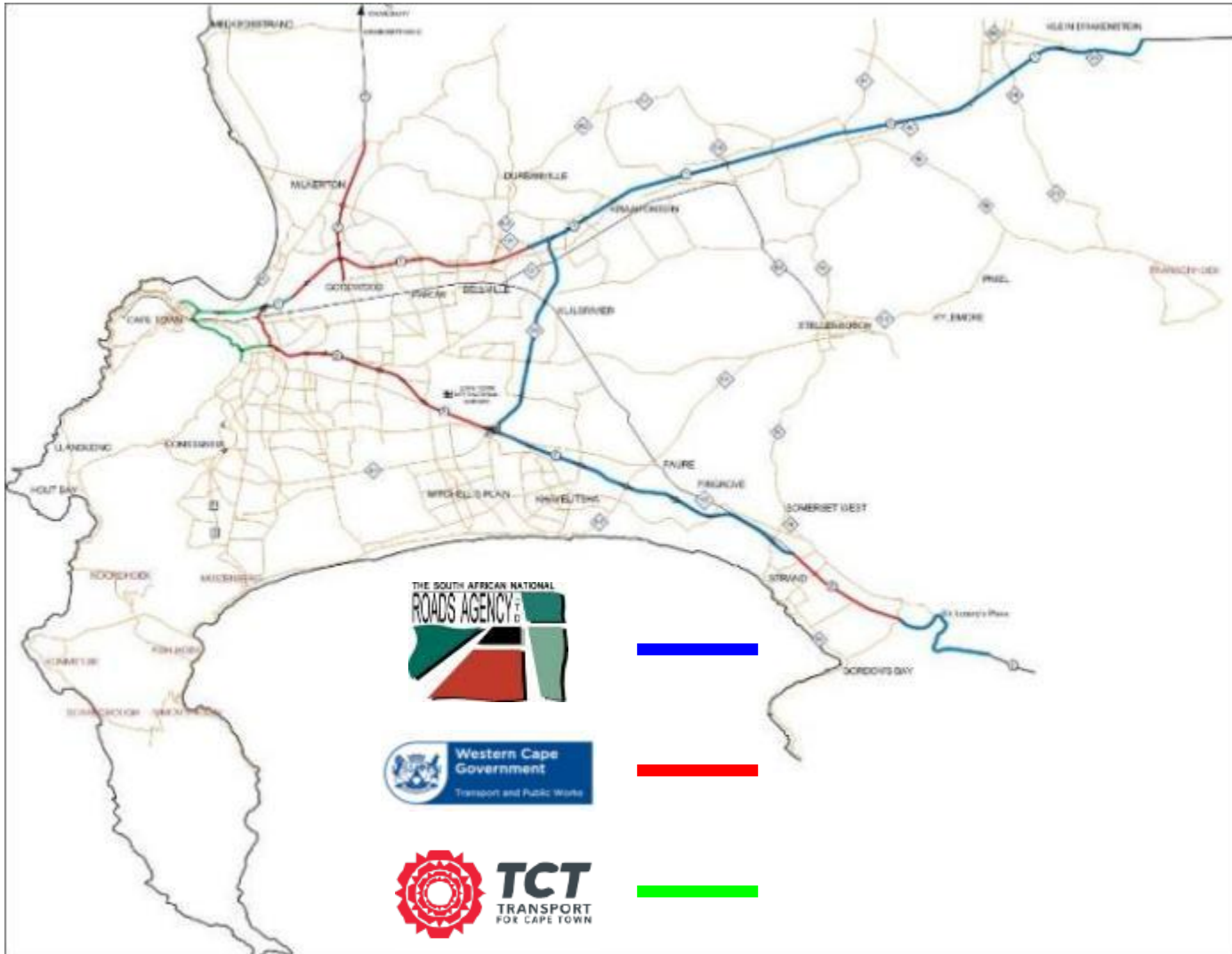
(www.i-traffic.co.za)

@CapeTownFreeway



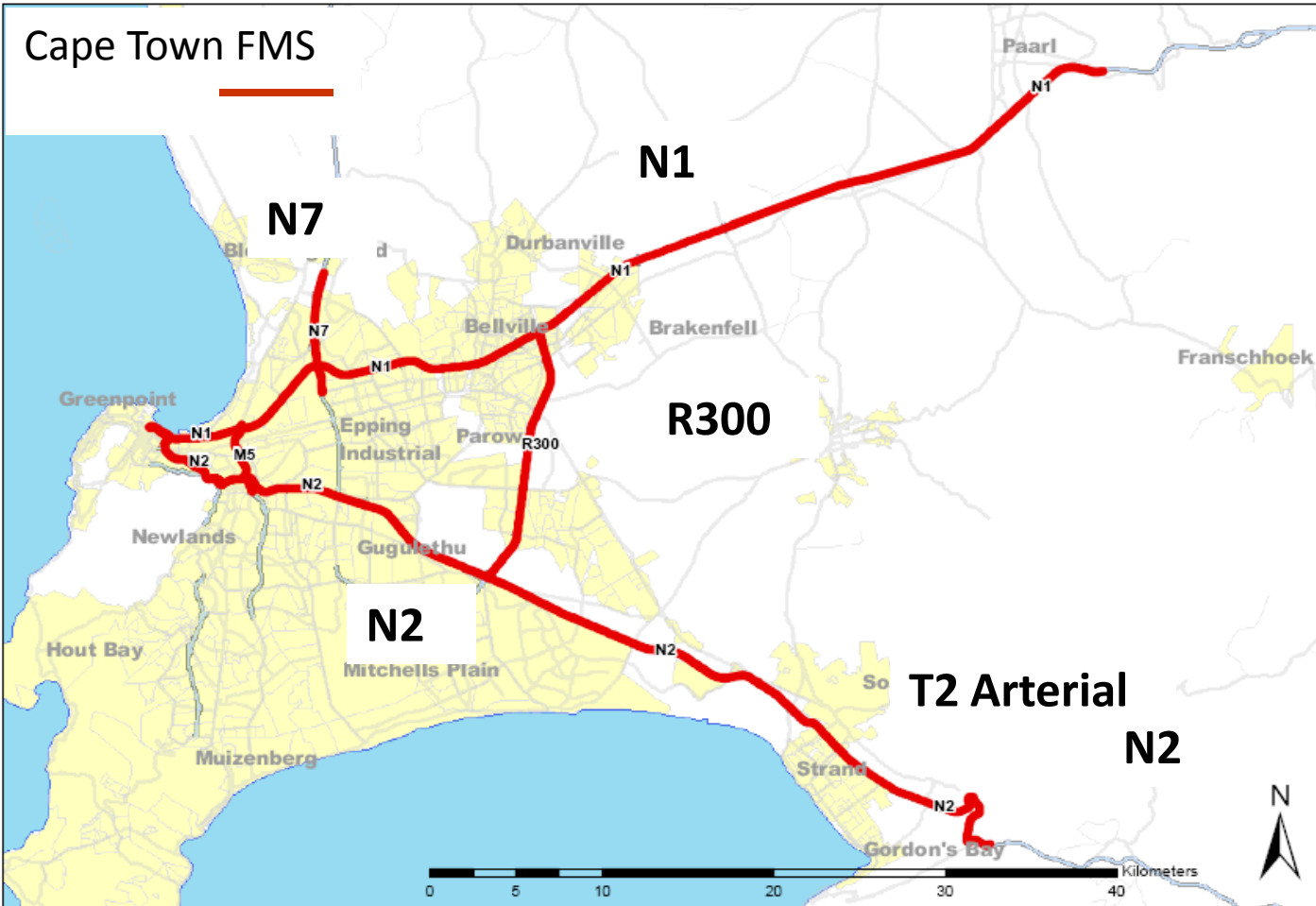


Overview of the CT FMS





Overview of the CT FMS



155 km



**Use of 240 CCTV Cameras
count pedestrian activity**

Pedestrian Freeway Research

- SANRAL, Universities of Cape Town & Stellenbosch
 - A - Pedestrian Freeway Count
 - B - Pedestrian Intercept Surveys
 - C - Motorists Survey (E-mails, Short Questionnaire)

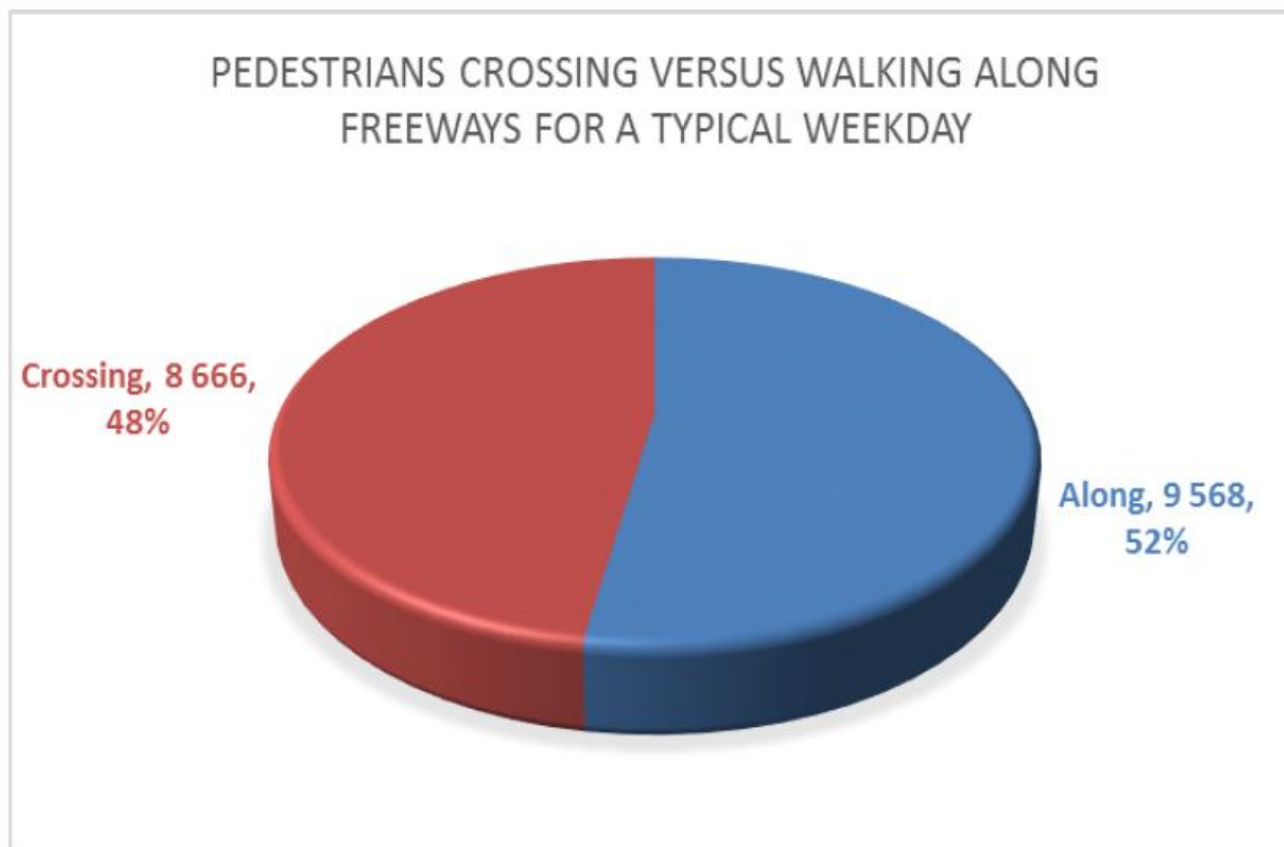


A - Pedestrian Freeway Count





A - Pedestrian Freeway Count



Approximately **18 000** pedestrian activities per weekday on
155 km of Cape Town's Freeways

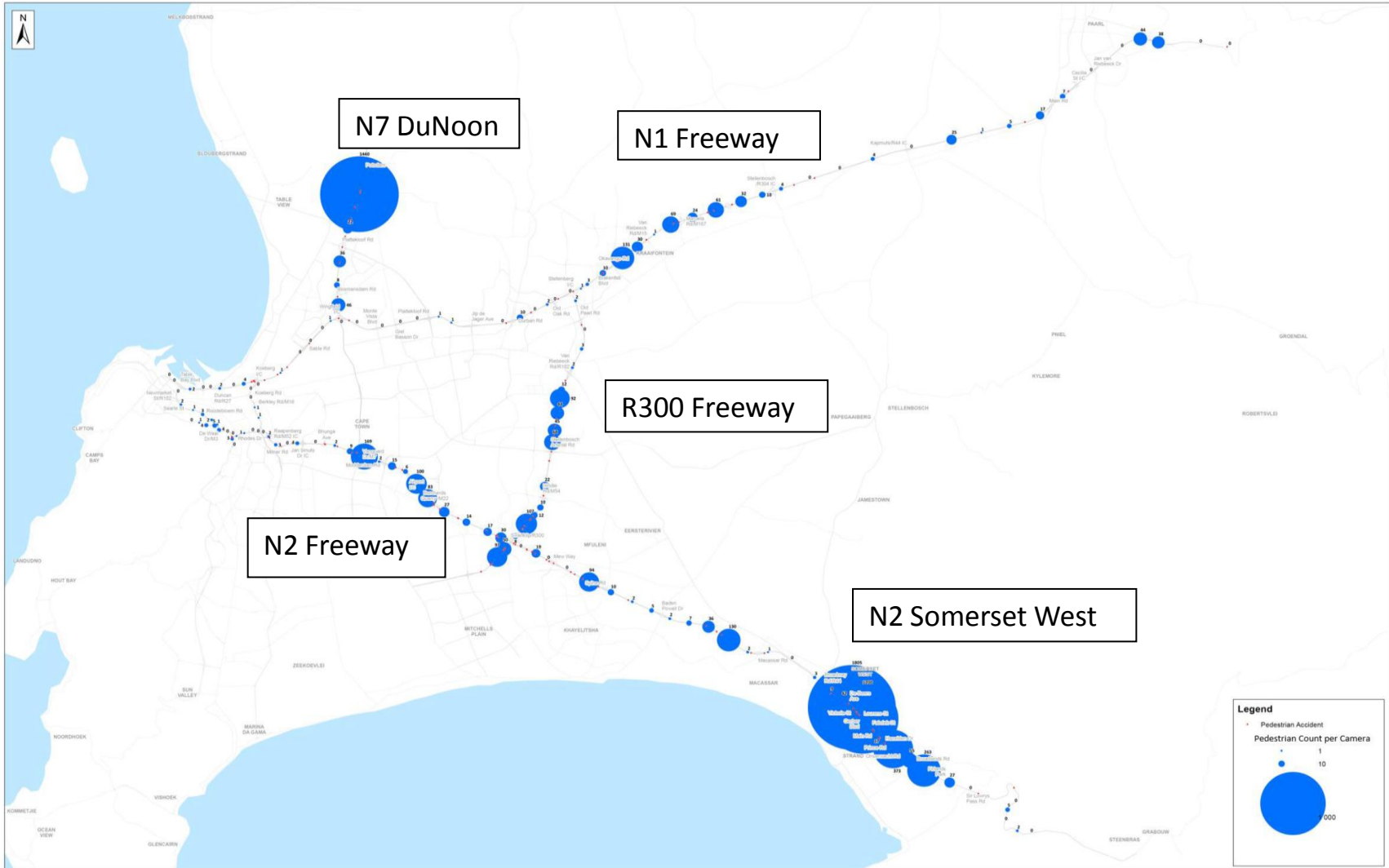


A - Pedestrian Freeway Count



Reg. No. 1998/009584/06

Pedestrian Crossing Activity





A - Pedestrian Freeway Count

Pedestrian Travelling Along Activity

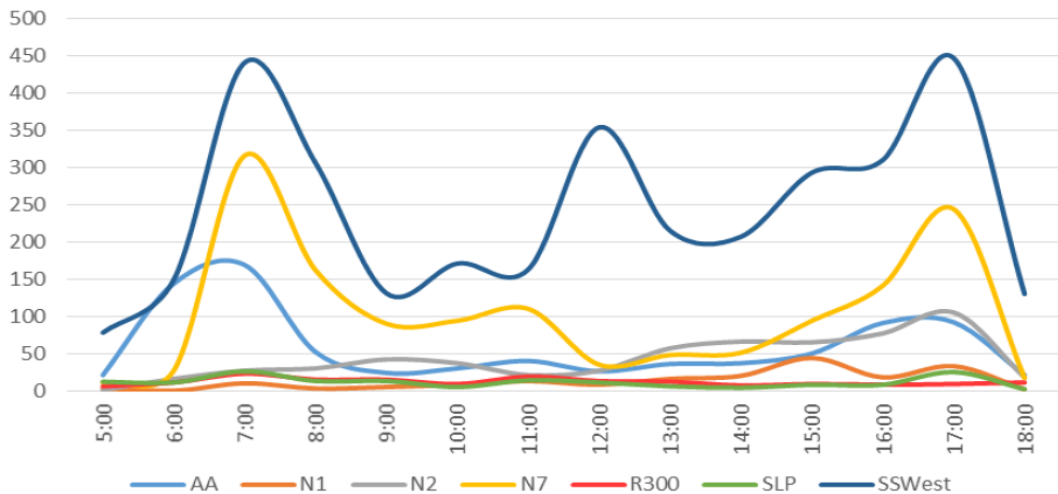




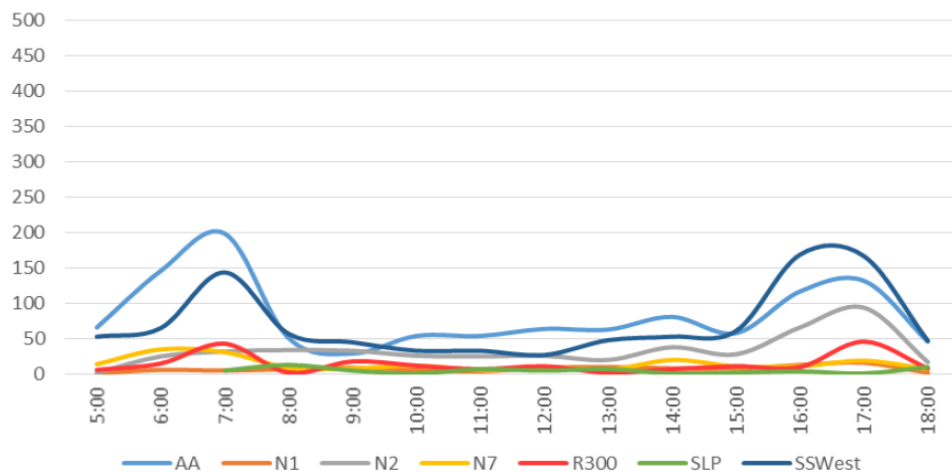
A - Pedestrian Freeway Count



NO. OF PEDESTRIANS CROSSING A FREEWAY ON A WEEKDAY PER HOUR OF DAY AND PER FREEWAY SECTION



NO. OF PEDESTRIANS WALKING ALONG A FREEWAY ON A WEEKDAY PER HOUR OF DAY AND PER FREEWAY SECTION





A - Pedestrian Freeway Count

Pedestrian Bridges on Freeways

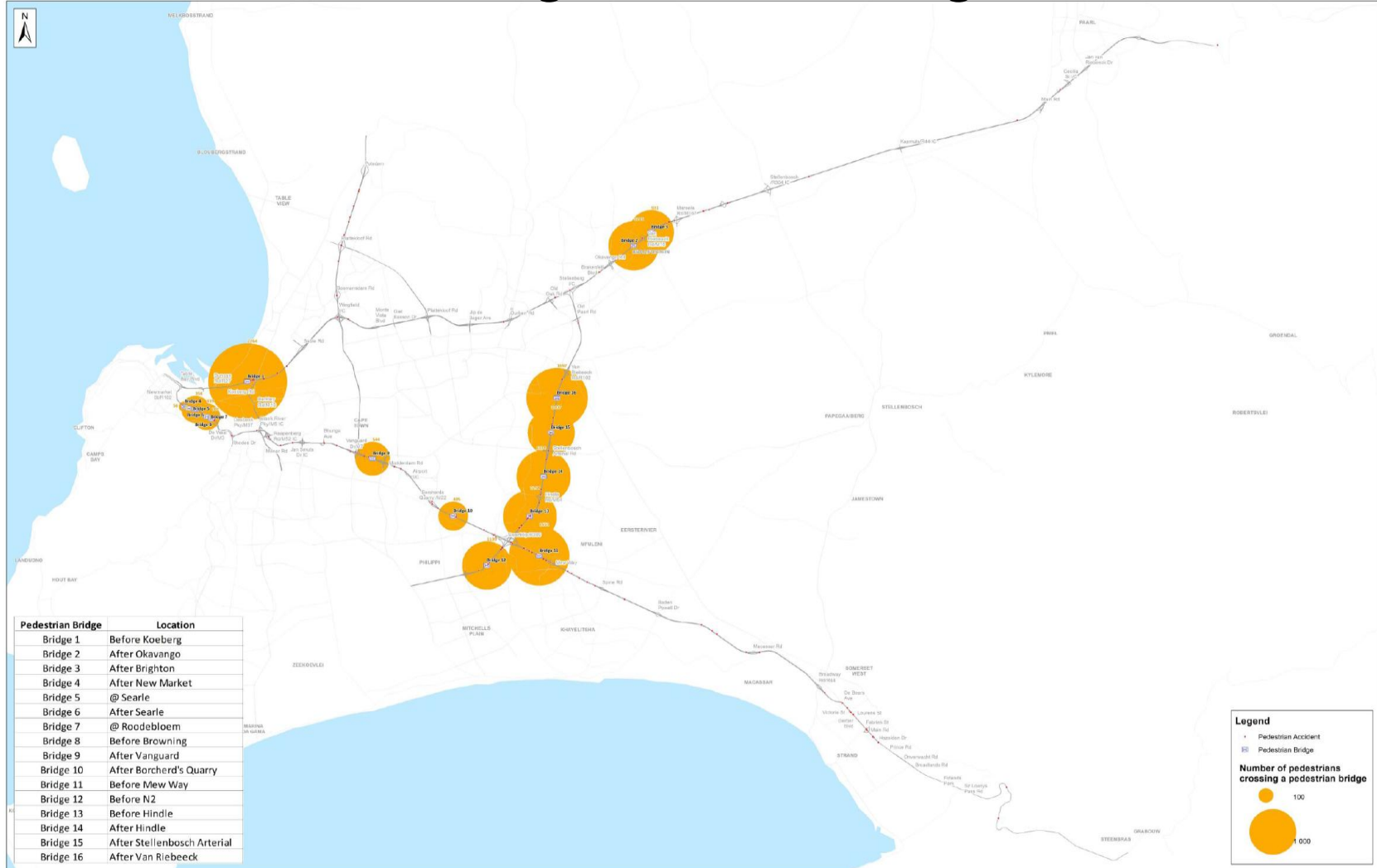
- Counts were conducted at **16 Pedestrian Bridges** across the freeway under investigation (**15 500 pedestrian per weekday use the pedestrian bridges**)





A - Pedestrian Freeway Count

Crossings: Pedestrian Bridges

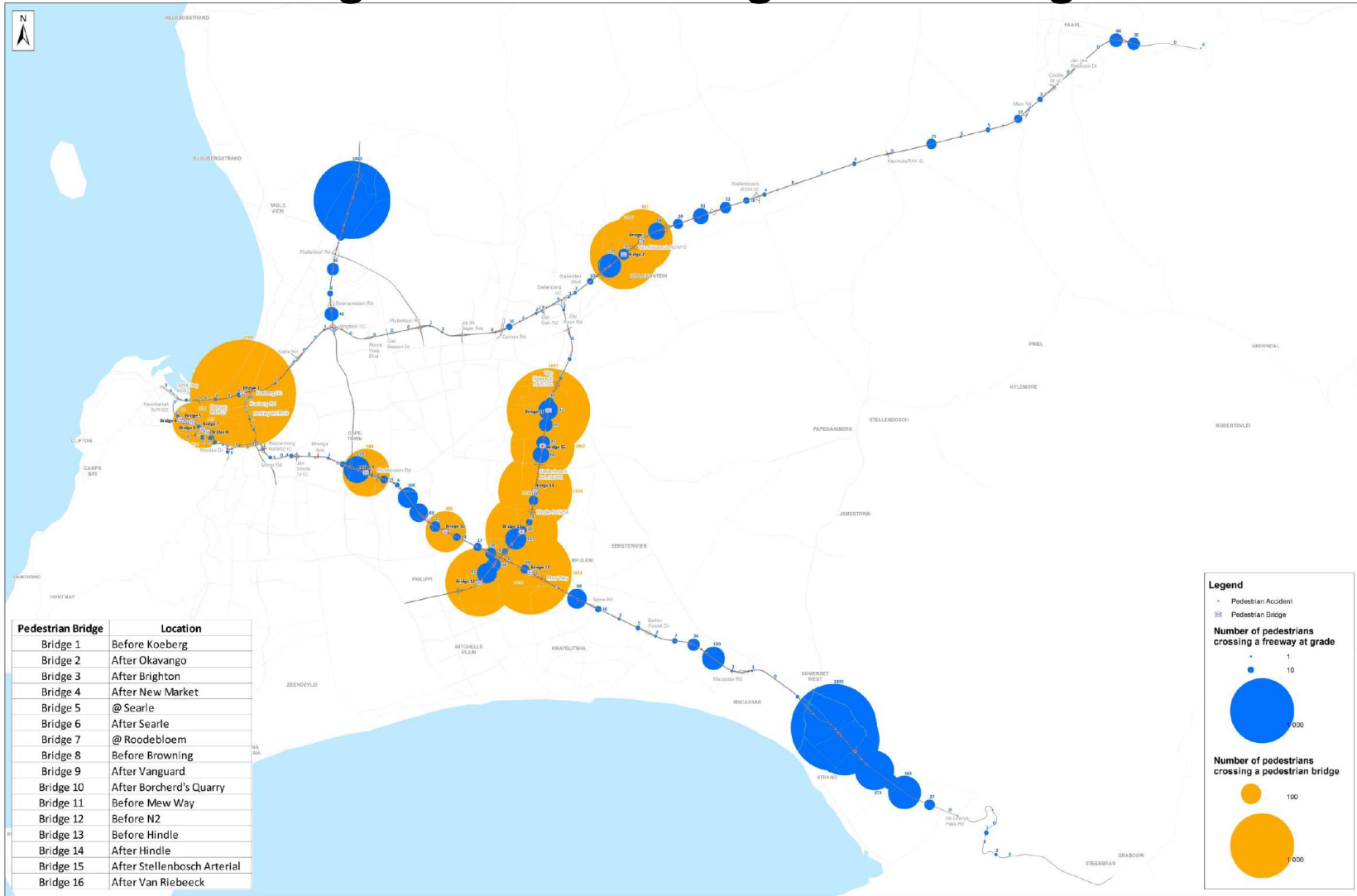




A - Pedestrian Freeway Count



Crossings: Pedestrian Bridges versus At-grade





B - Pedestrian Intercept Survey

- Methodology
 - Short Intercept Surveys
 - Minimize inconvenience
 - Conducted during AM and PM peaks
 - Primary purpose of surveys to primarily understand the choices made by the at-grade (level) crossers.



B - Pedestrian Intercept Survey



Freeway Crossers

How safe do you feel crossing on the freeway at-grade?

How safe do you feel crossing at-grade?

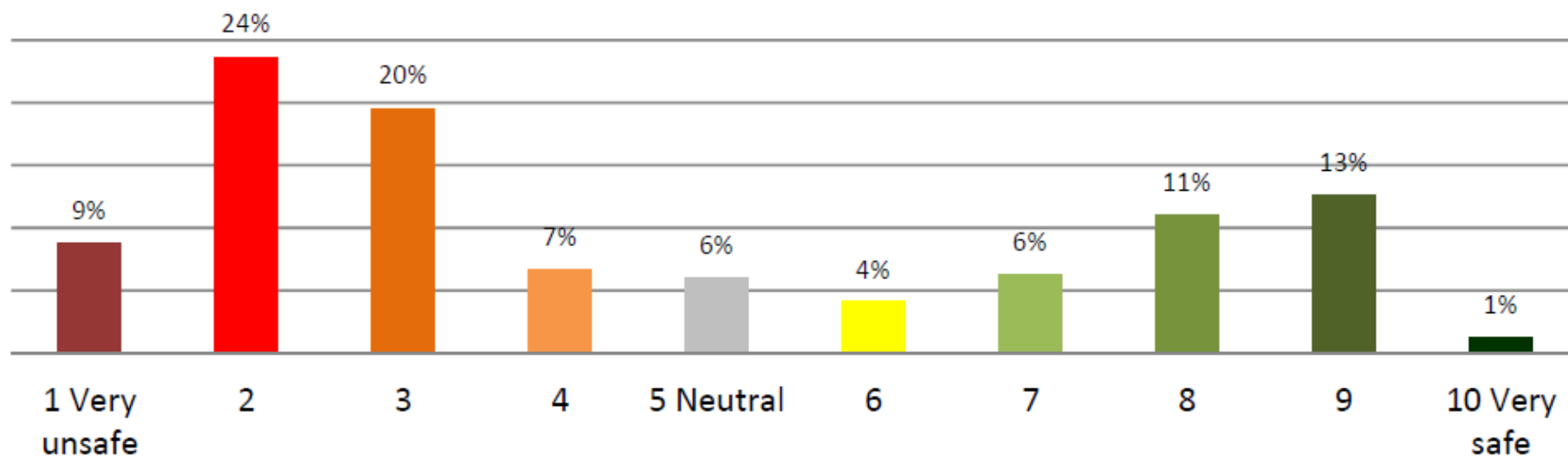


Fig. 7. Relative safety experienced by at-grade crossers.



B - Pedestrian Intercept Survey



Bridge Crossers

How safe do you feel crossing on the bridge?

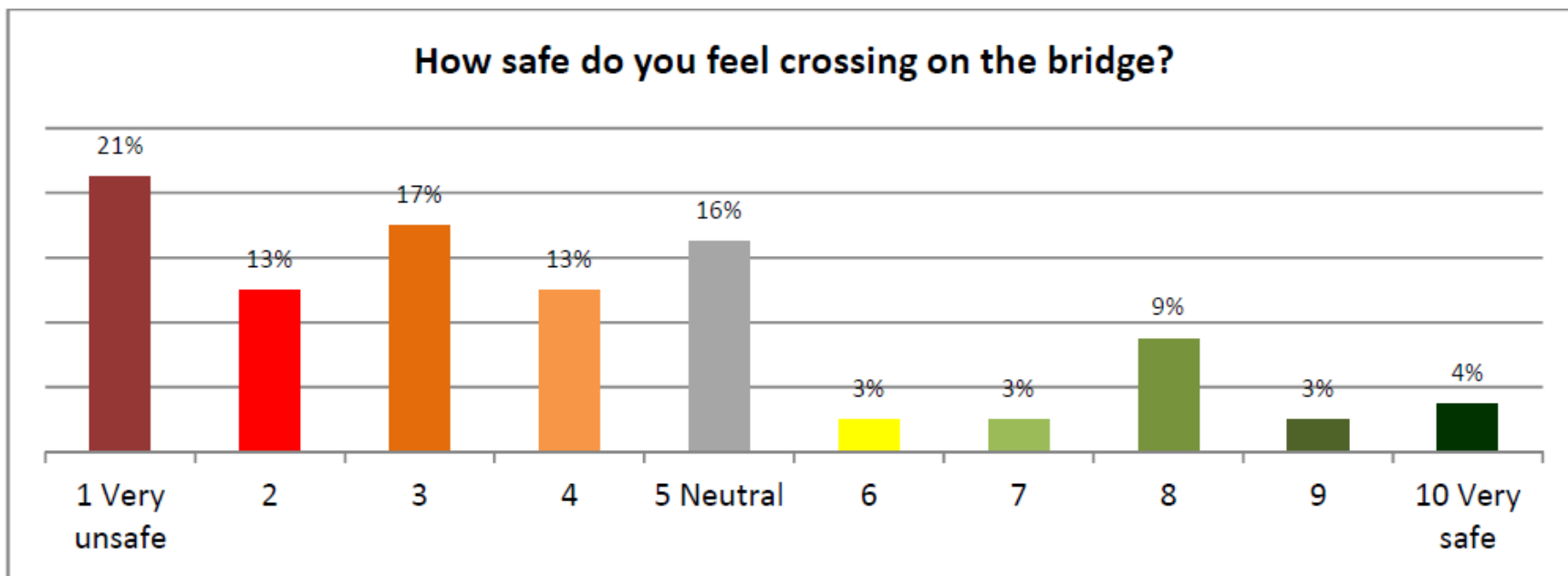


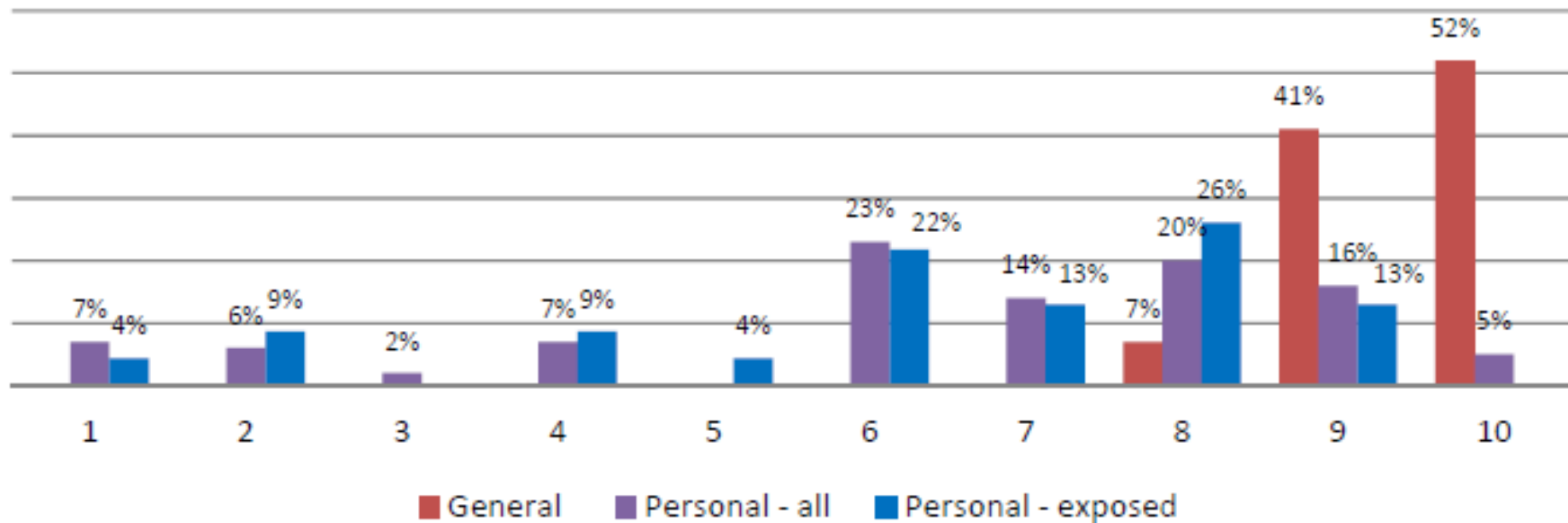
Fig. 6. Relative safety experienced by bridge users.



B - Pedestrian Intercept Survey



Risk of being struck by vehicle? 1- very unlikely and 10 - very likely





C – Motorists Survey

- **Motorists Surveys (889 respondents)**
 - **74%** had witnessed a crash or near crash involving pedestrians on the freeways.....high degree of awareness around pedestrian safety (or lack of safety).
 - **96%** describe pedestrian activity on the freeway as being **dangerous or very dangerous**.
 - **77%** agreed or strongly agreed that pedestrians crossed the freeways because they **were lazy**.
 - Significant comments indicate at-grade crossing because of a **lack of other options**, suggesting some **sympathy** with this position as well.



C – Motorists Survey

- **How do motorists react?**
 - **86%** indicated that they drive more carefully on the freeways when they see pedestrians
 - **67%** that they drive more carefully when they expect to see pedestrians.
 - *These are important because they may help us understand why accidents with pedestrians occur in unexpected places.*
 - The most common, by far, avoidance technique was reducing speed.
 - *This is interesting because it indicates an instinctive understanding of the link between speed and accidents that we often think South Africans are not inclined to have.*



Interventions

Engineering / Infrastructure





Interventions

Engineering / Infrastructure

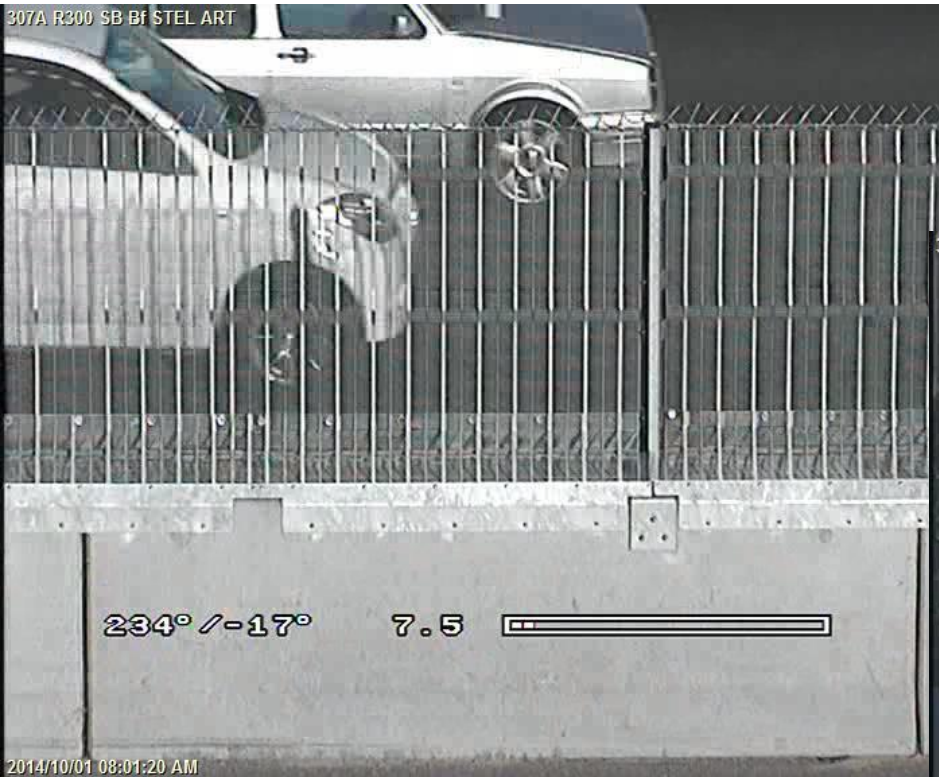
307A R300 SB BF STEEL ART





Interventions

Engineering / Infrastructure





Interventions

Engineering / Infrastructure





Interventions

Engineering / Infrastructure





Safer Roads and Mobility





Interventions

Infrastructure Monitoring

- Monitor Pedestrian Infrastructure
 - Theft and Vandalism





Interventions

Infrastructure Monitoring

- Monitor Pedestrian Infrastructure
 - Pedestrian Bridge Surveillance
 - Fencing





Conclusions



Research Results

- Pedestrian operating on **freeways feel unsafe** regardless of whether they are crossing using the bridge, or crossing at-grade.
- For bridge crossers they **feel unsafe for personal security**, but this fear does not outweigh the fear of crossing freeway traffic at-grade
- For at-grade crossers the issue of **time and distance saving is important**, but **thirdly, fear of using the bridges for personal security**
- For all at-grade crossers there was a great **appreciation for understanding of the risk** involved in crossing the freeway
 - But assume the risk belongs to some other road user...
 - Won't happen to me attitude



Recommendations



Behaviour Intervention Strategies

- **Create more awareness to Pedestrians that:**
 - It is unsafe to cross the freeway at-grade any time
 - Inform them that pedestrian bridges (R300) are under 24/7 CCTV surveillance
 - Initiate more community based projects directed at addressing issues that deter the use of pedestrian bridges
- **Inform motorists:**
 - High pedestrian activity zones on freeway network
 - That the speed limit is not a target
 - Keep left pass right
 - Always be on the lookout for pedestrians