CONTEXTUALLY APPROPRIATE TOOLS FOR THE ASSESSMENT OF THE SOUTH AFRICAN CYCLING ENVIRONMENT

Brett John Mathew Petzer

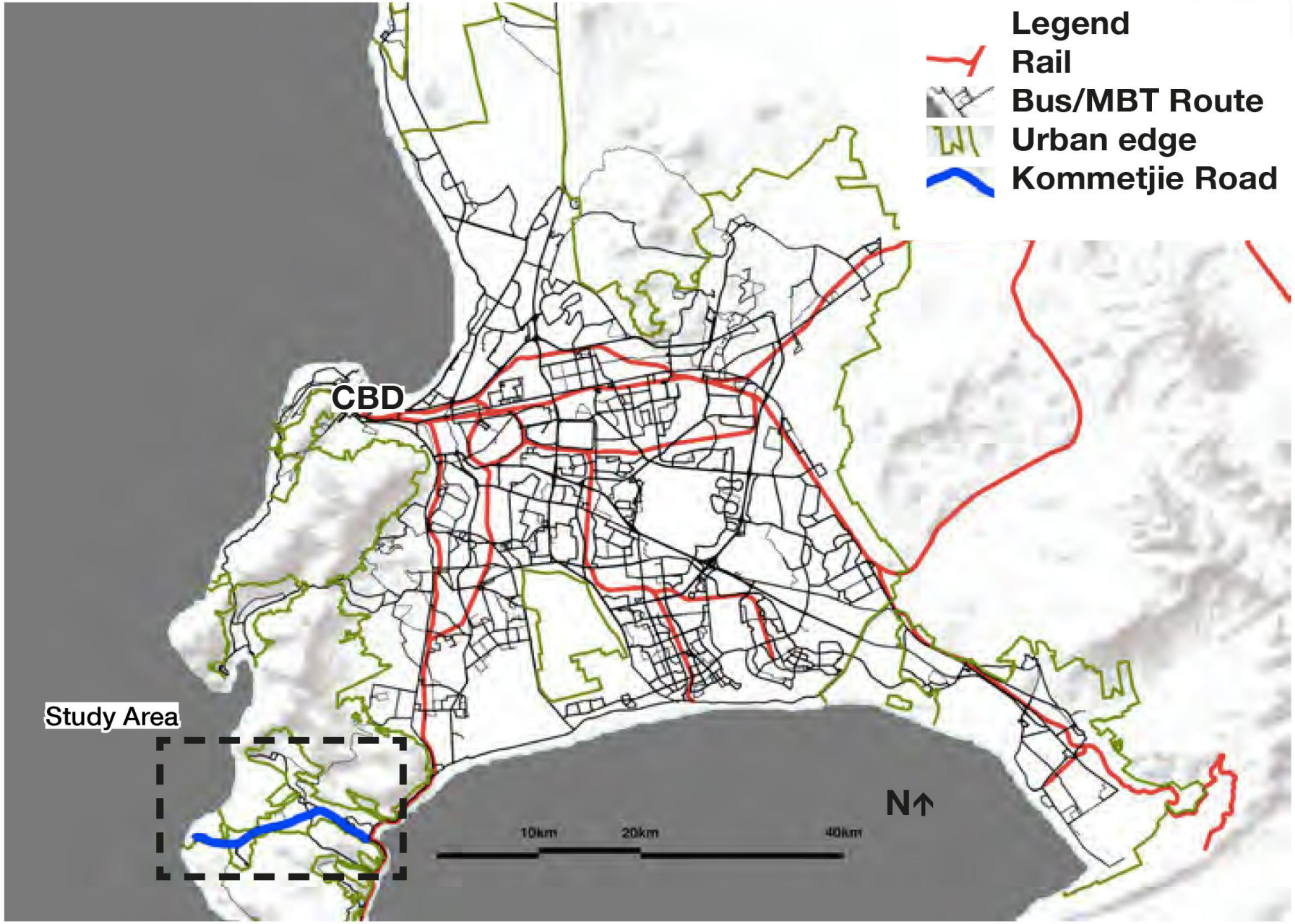
Promovendus/PhD Candidate, Technical University Eindhoven ('20), ***The role of cycling-based mobility services within the Dutch urban mobility transition***

E info@brettpetzer.com

W brettpetzer.com

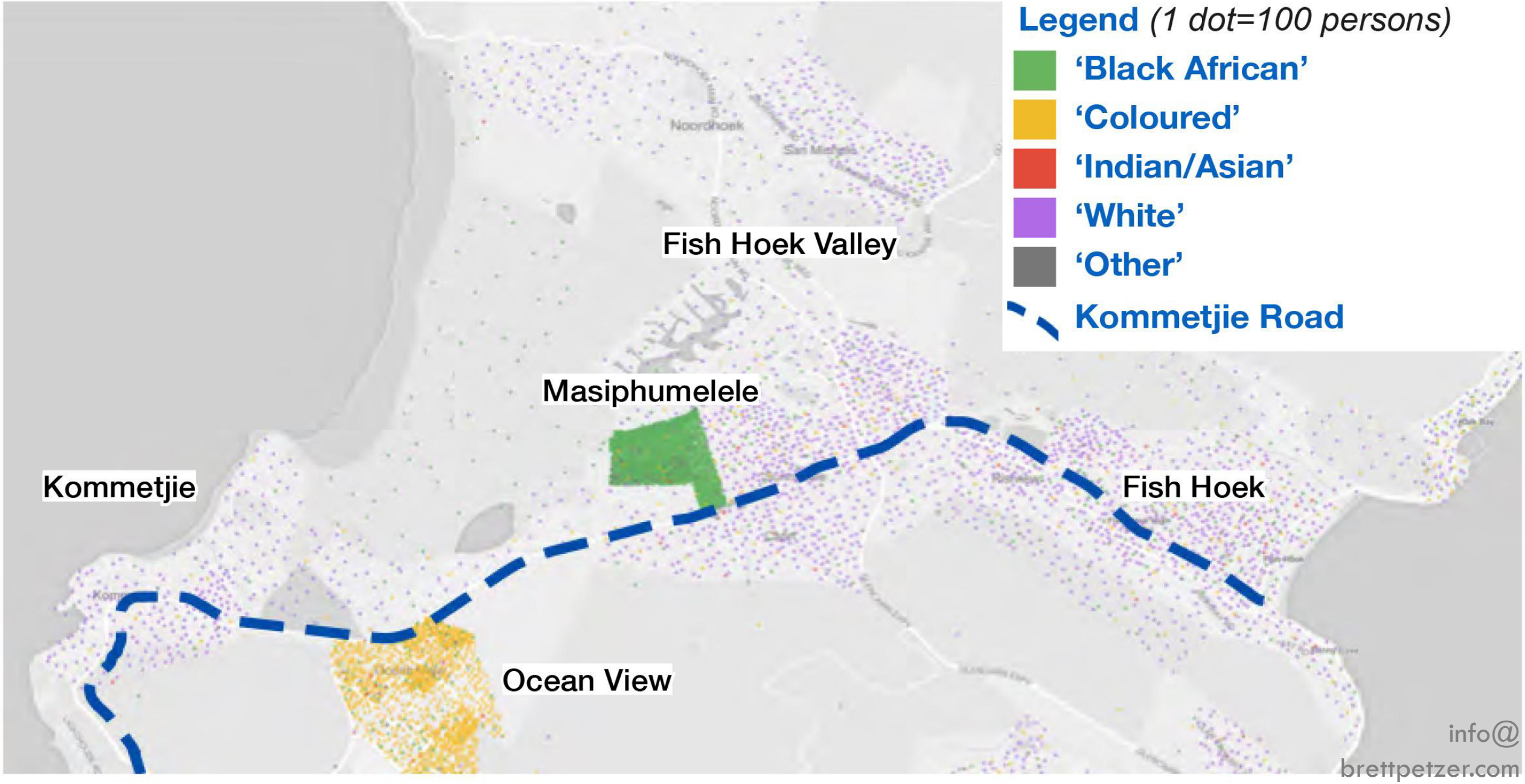
Tw @brettpetzer

The Kommetjie Road Corridor (blue) within greater Cape Town



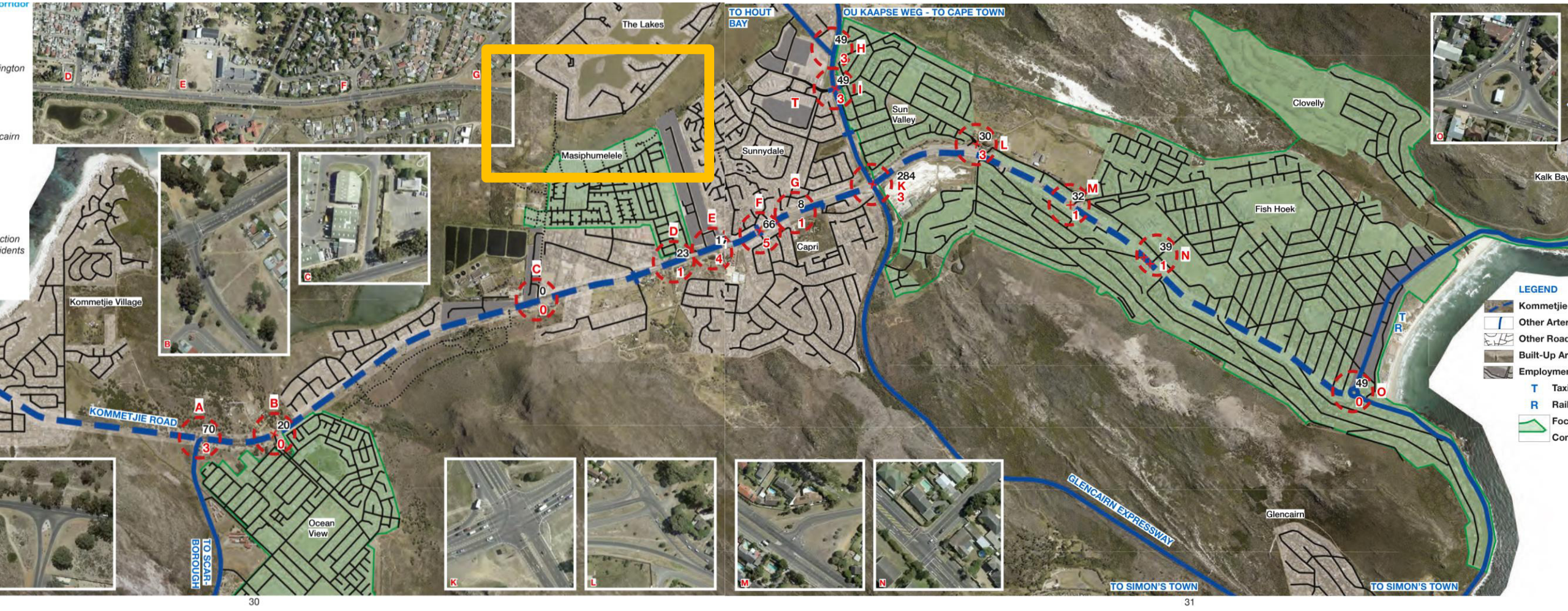
info@
brettpetzer.com

Racial Distribution in the Fish Hoek Valley (after Frith, 2015)



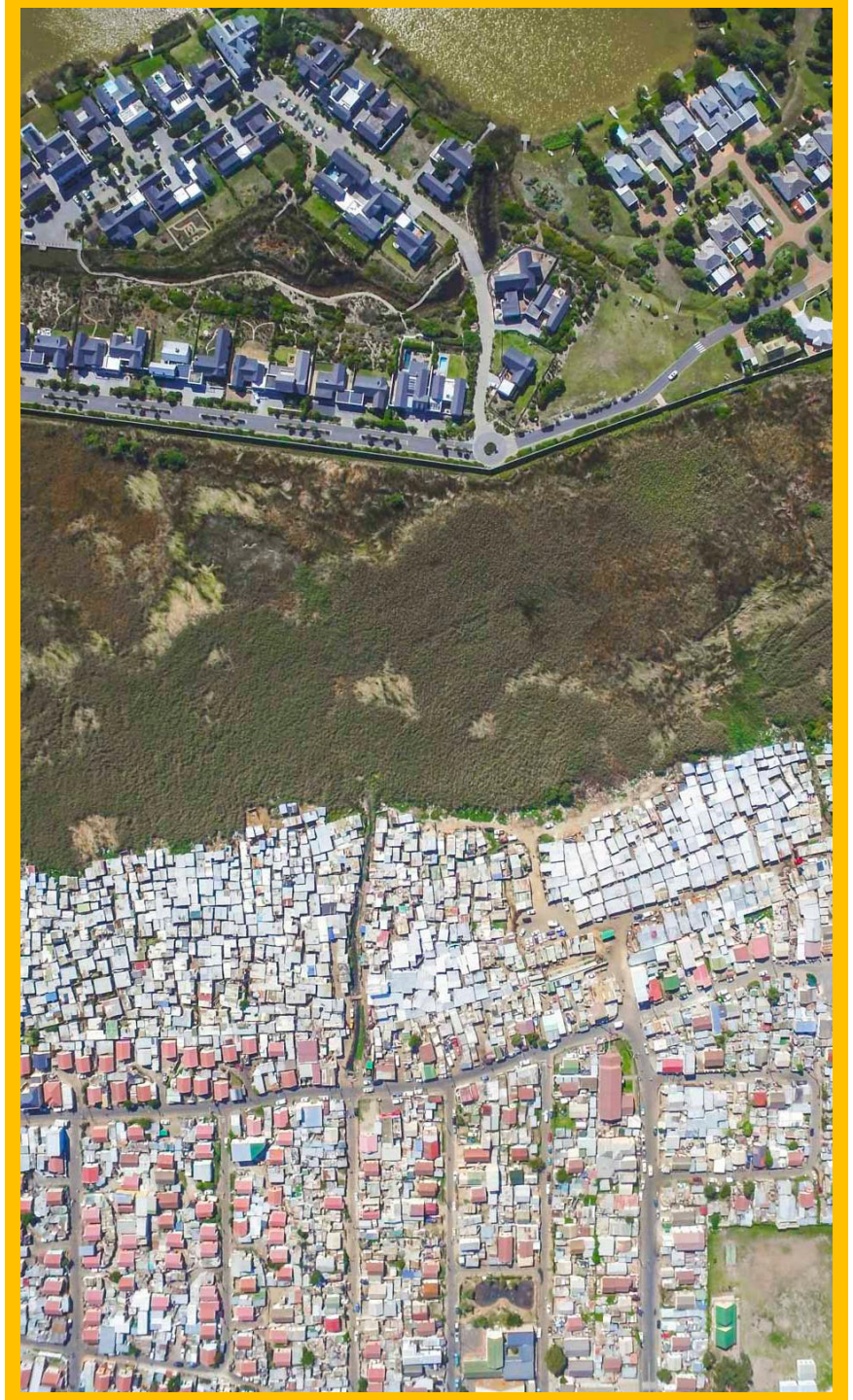
info@
brettpetzer.com

Access and Connectivity in the Kommetjie Road Corridor



info@
brettpetzer.com

Nested socio-spatial disparities, and how the boundaries of wealth are policed



Movement across income differentials is rendered impossible by means both formal and informal – e.g. environmental designations, unauthorised but tolerated road blocking and fence-building.

info@
brettpetzer.com

Methods

1. Review of cycling environment assessment tools from comparable contexts

Table 2-1: List of CEATs selected for further analysis

Year	Assessment Tool Title	Short Form	Issuing Authority	Region Assessed or Implemented	Country
1987	Davis Bicycle Safety Index Rating	DAVIS INDEX	N/A	Florida	USA
1997, 2003	Landis, Vattikuti, Brannick (link), 1997; Landis et al. (intersection), 2003.	REAL-TIME PERCEPTIONS	N/A	Florida	USA
2006	Guidelines for Assessing Cycling Level of Service (G-CLoS)	WESTERN AUSTRALIA	State of Western Australia	Western Australia	AUS
2010	Highway Capacity Manual (HCM)	USA FEDERAL	Federal Highway Authority	USA	USA
2010	South African Pedestrian Environment Assessment Tool (PEAT)	SOUTH AFRICA PEDESTRIAN	N/A	Tshwane	SA
2014	Victoria Level of Service Audit Tool for Cycling Facilities (CLOSAT)	VICTORIA AUSTRALIA	VicRoads	Victoria	AUS
2014	Cycling Level of Service Assessment Matrix (CLoSM)	LONDON	Transport for London	London	UK
2014	Cycling Route Audit Tool, Wales (CRAT)	WALES	Welsh Government	Wales	UK

1. Review of criteria used by these tools

CEAT CRITERIA →			NET-WORK							
			COHESION			DIRECTNESS				
CYCLING ENVIRONMENT ASSESSMENT TOOLS ↓			CYCLISTS ABLE TO JOIN/LEAVE ROUTE SAFELY	NETWORK IS CONTINUOUS, INCLUDING THROUGH INTERSECTIONS	MESH' OF CYCLABLE STREETS FINER THAN 250m	IS VALUE OF TIME (VOT) FOR CYCLISTS EQUAL TO THAT OF MOTORISTS?	DEVIATION AGAINST STRAIGHT LINE	FREQUENCY OF STOPS OR YIELDS REQUIRED	ARE CYCLISTS REQUIRED TO COME TO A STOP AT INTERSECTIONS? (BYPASS, YIELD)	CAN CYCLISTS TRAVEL MOSTLY AT OWN SPEED ON LINKS?
COUNTRY →	YEAR →	UNIT →	Y/N	Y/N	m	Y/N	%	per km	Y/N	Y/N
	MENTIONED IN FOCUS GROUPS →	2016	1	1	1	1	1	1		1
USA	Davis Bicycle Safety Index Rating	1987								
USA	Landis, Vattikuti, Brannick (link), 1997; Landis et al. (intersection), 2003.	1997, 2003								
AUS	Guidelines for Assessing Cycling Level of Service (on-road)	2006								
USA	Highway Capacity Manual	2010								
SA	South African Pedestrian Assessment Tool	2010								
AUS	Victoria Level of Service Audit Tool for Cycling Facilities	2014		1			1			
UK	Cycling Level of Service Assessment Matrix	2014	1	1	1	1	1		1	1
UK	Cycling Route Audit Tool, Wales	2014	1	1	1		1	1	1	1
	TOTAL INSTANCES IN ALL CEATs		2	3	2	1	3	1	2	2

info@
brettpetzer.com

Methods

3. Mapping of routes, events (near misses, collisions) and habits (avoidance, deviations)

Source: Author

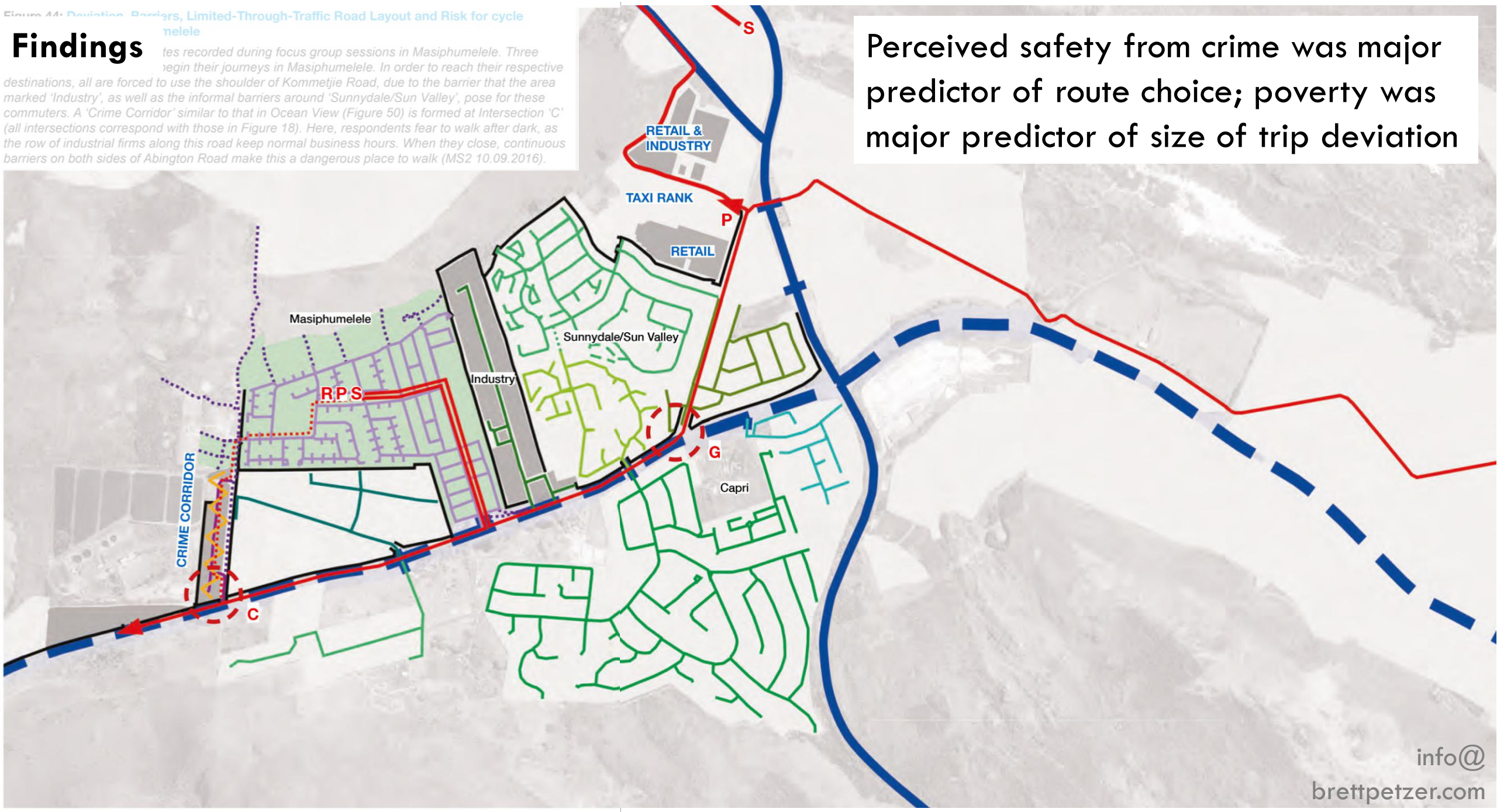
4. Observation, including 20 field trips conducted by bicycle and bike-train-bike

Source: Author

info@
brettpetzer.com

Findings

Perceived safety from crime was major predictor of route choice; poverty was major predictor of size of trip deviation



info@
brettpetzer.com

Implications for Cycling Environment Assessment Tools

- All road users – motorists, cyclists, pedestrians – 'make' their own rules and infrastructure
- The legal road regime does not engage with this complexity and contingency
- Therefore, a South African CEAT should be informed by contextual studies of user groups' adherence to the behaviours assumed for them in road design manuals (i.e., observance of posted speed limits).
- Perceived safety along the Corridor depends on human activity close to the road. Informal surveillance from people nominally able to intervene, is key.
- For this reason, cyclists prefer to ride close to traffic; these findings run counter to assumptions in current planning.
- The CEAT that best matched these findings was a South African pedestrian environment assessment tool (Albers, Wright and Oloch, 2010).

info@
brettpetzer.com

Site Photography

Wheels come off cycle lane project

News | 1 June 2017, 02:00am

TAURIQ HASSEN

Has the City of Cape Town finally conceded defeat over its costly cycling lane project? That was the question some were asking after workmen were seen removing the lanes in Woodstock's Albert Road.

Source: IOL.co.za

Implications

Source: RideYourCity

PPA warns cyclists not to use Paarden Island cycle lane after latest attack

by **PedalPower** on 30 November 2016 in **News**

Source: Pedal Power Assoc.