

goba moahloli keeve steyn
consulting engineers & project managers
(pty) ltd



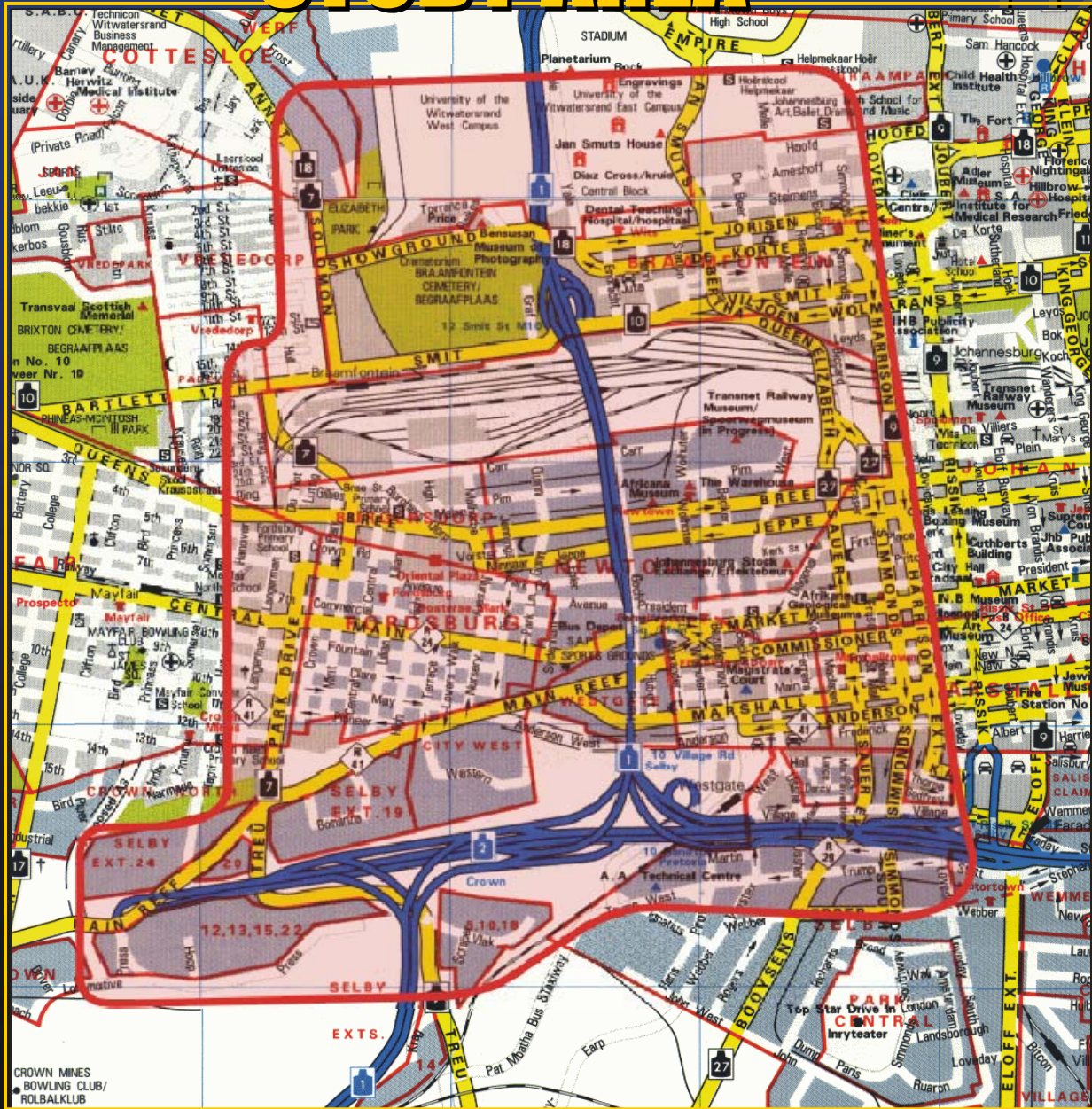
TRAFFIC STUDY

OF JOHANNESBURG CBD

WESTERN SECTOR, NEWTOWN

goba moahloli keeve steyn
consulting engineers & project managers
(pty) ltd

STUDY AREA



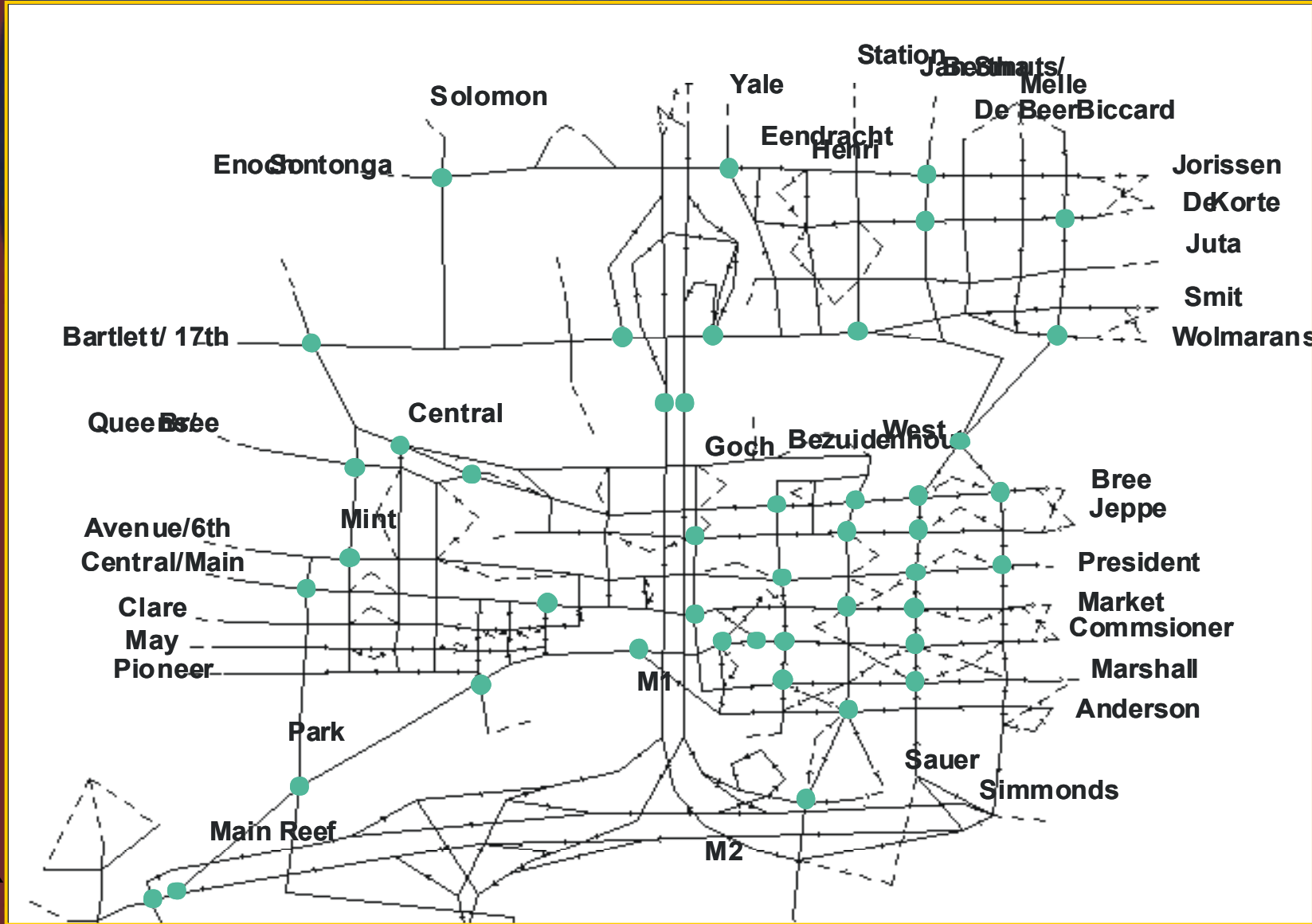


STUDY OBJECTIVES

1. CREATE AN UPDATED INTEGRATED LAND USE TRANSPORTATION STUDY TOOL USING SATURN
2. CREATE 2002 A.M. PEAK HOUR AND P.M. PEAK HOUR MODEL INCLUDING PASSENGER CAR AND MINIBUS TAXI MOVEMENTS
3. EVALUATE THE TRAFFIC IMPACT OF
 - A) 2007 DESIGN YEAR LAND USE DEVELOPMENTS IN NEWTOWN
 - B) M1 CARR STREET INTERCHANGE, NELSON MANDELA BRIDGE AND METROMALL
 - C) WEST AND BEZUIDENHOUT NETWORK SCHEME

DATA COLLECTION

COUNT LOCATIONS



2002 BASE YEAR A.M. PEAK TRAFFIC EVALUATION

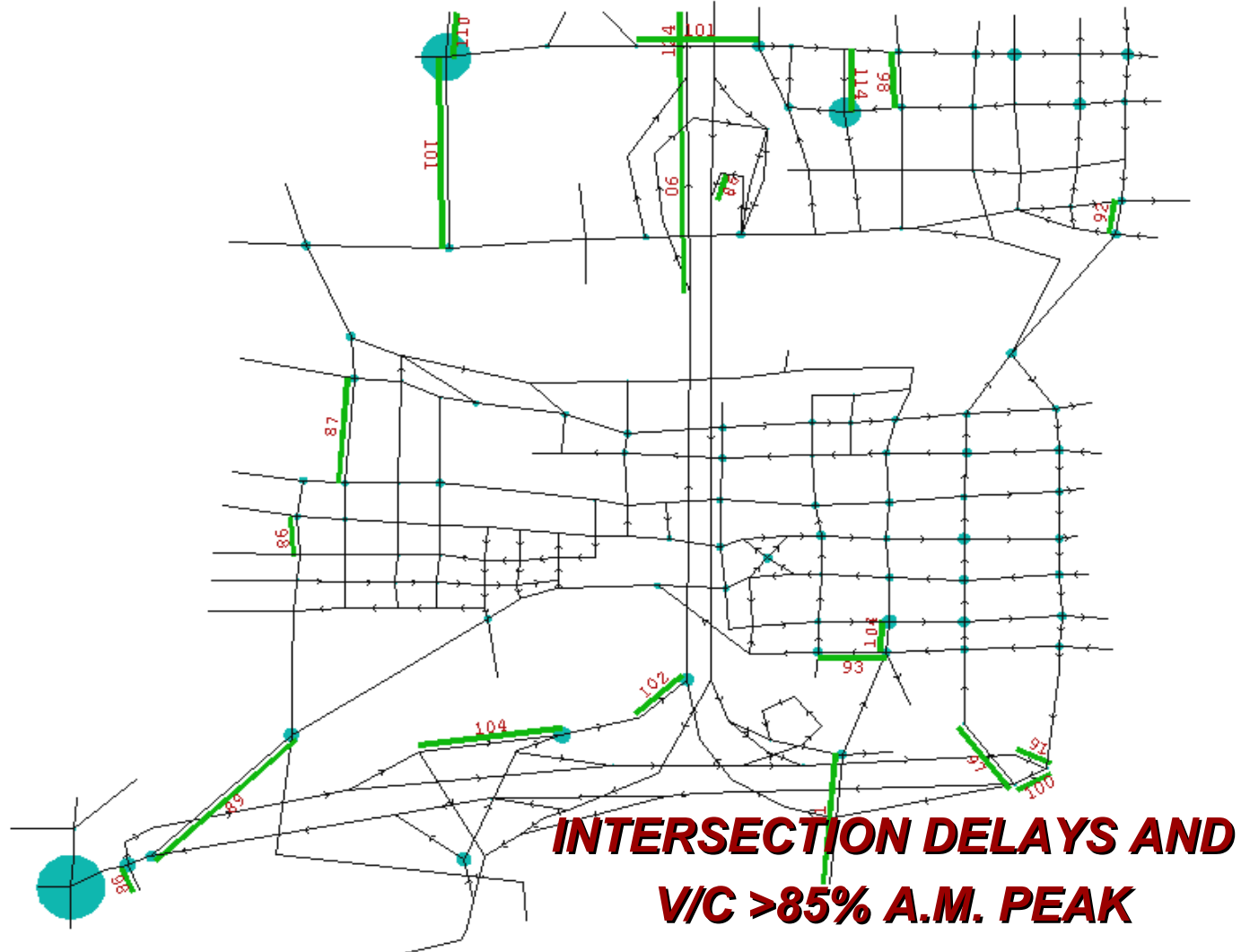


Figure 3 - AM PEAK : Intersection Delay and V/C > 85%

2002 BASE YEAR P.M. PEAK TRAFFIC EVALUATION

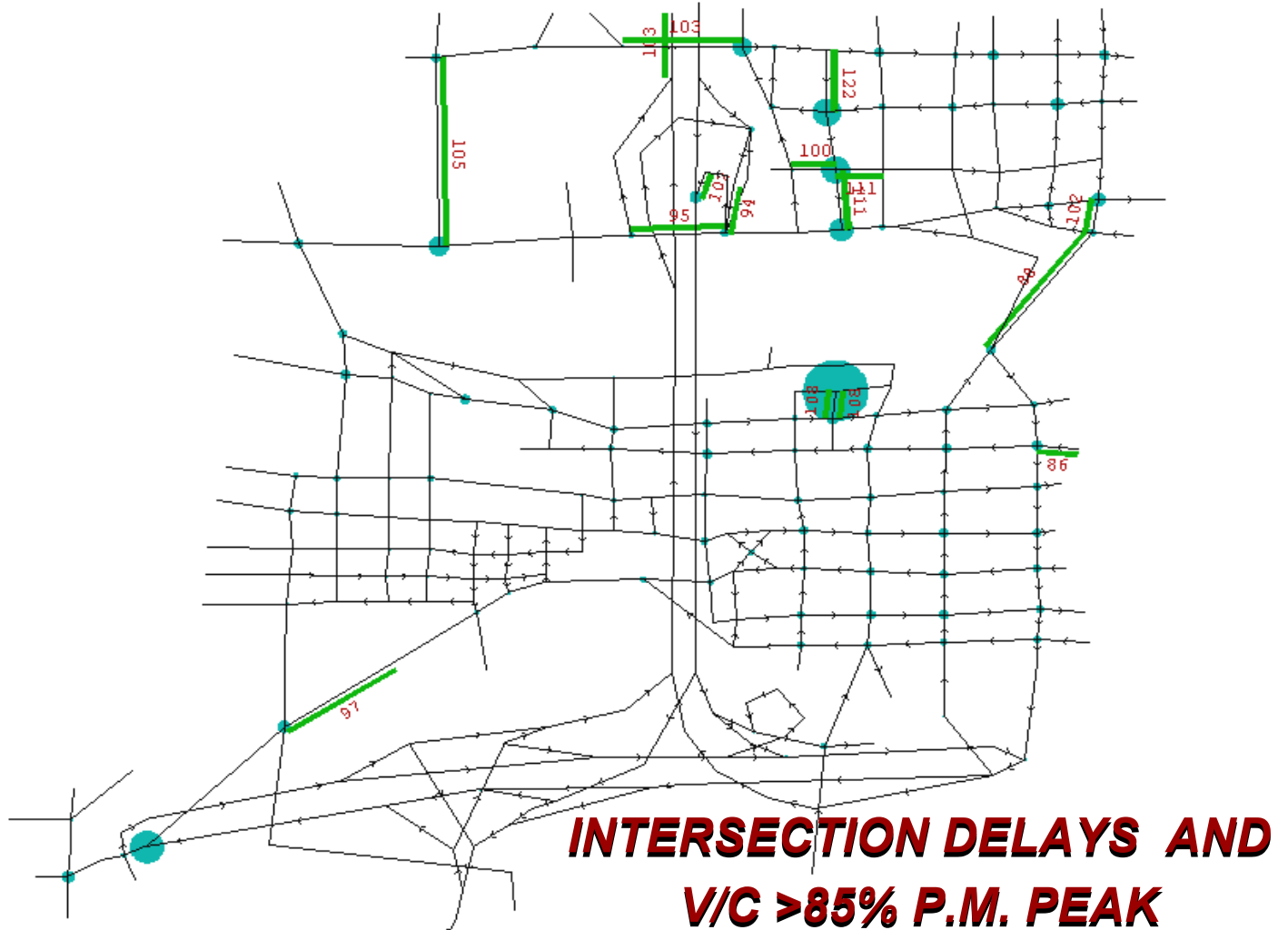


Figure 5 - PM PEAK : Intersection Delay and V/C > 85%

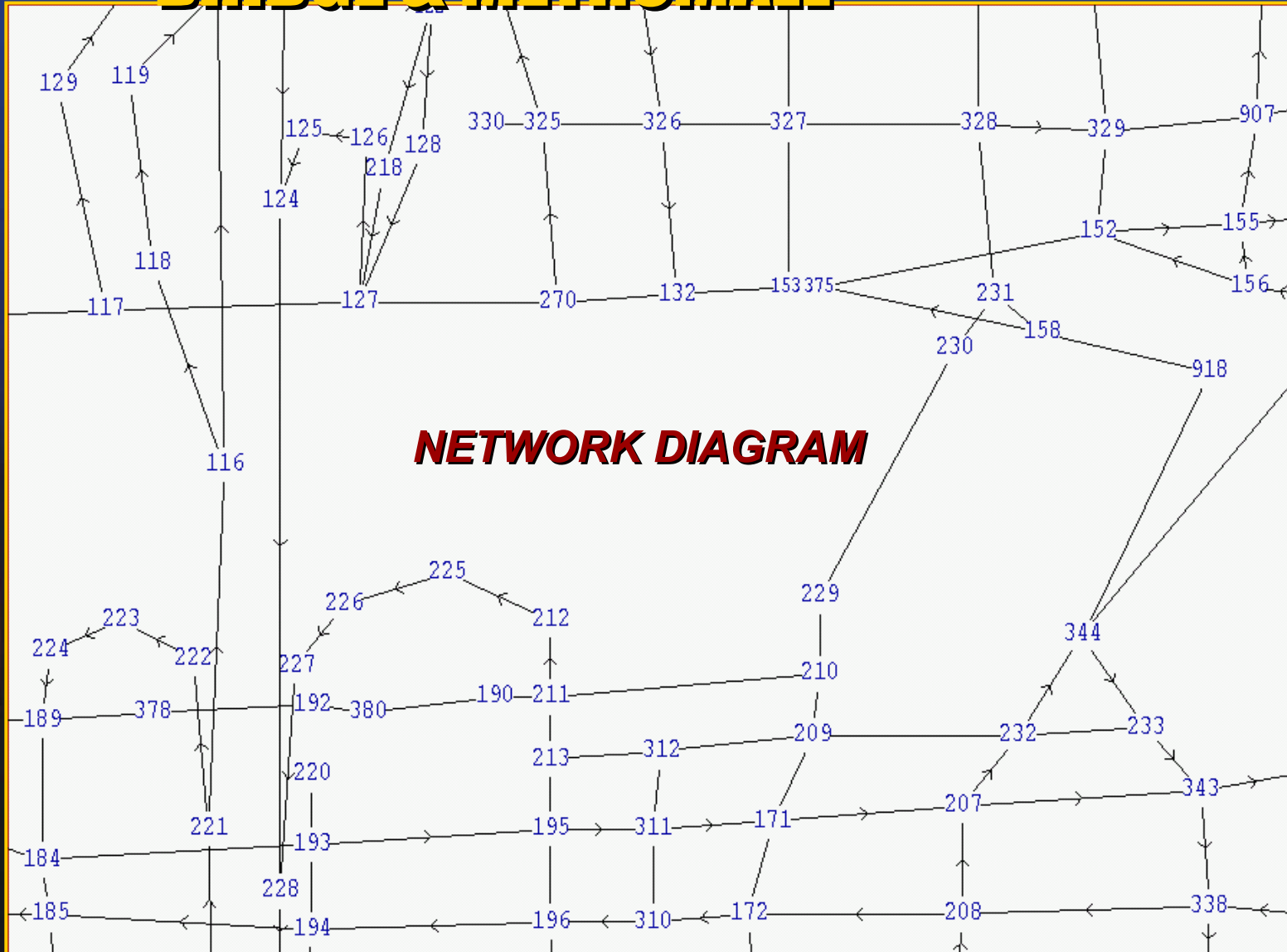
2007 DESIGN YEAR LAND USE

- 1) SCIENCE AND TECHNOLOGY CENTRE
- 2) MIXED LAND USE HOUSING DEVELOPMENT (2000 DWELLING UNITS)
- 3) 3000 SEATER AUDITORIUM – SCHOOL CHILDREN ENTERTAINMENT
- 4) 350-500 SPACE PARKING GARAGE
- 5) RENEWAL AND REDEVELOPMENT OF NEWTOWN INCORPORATING
 - 19 900m² GLA OF OFFICE SPACE
 - 19 950m² GLA OF RETAIL (GROUND FLOOR BUILDING EDGE ACTIVITY)
- 6) BACKGROUND TRAFFIC GROWTH OF 1.5% PER ANNUM



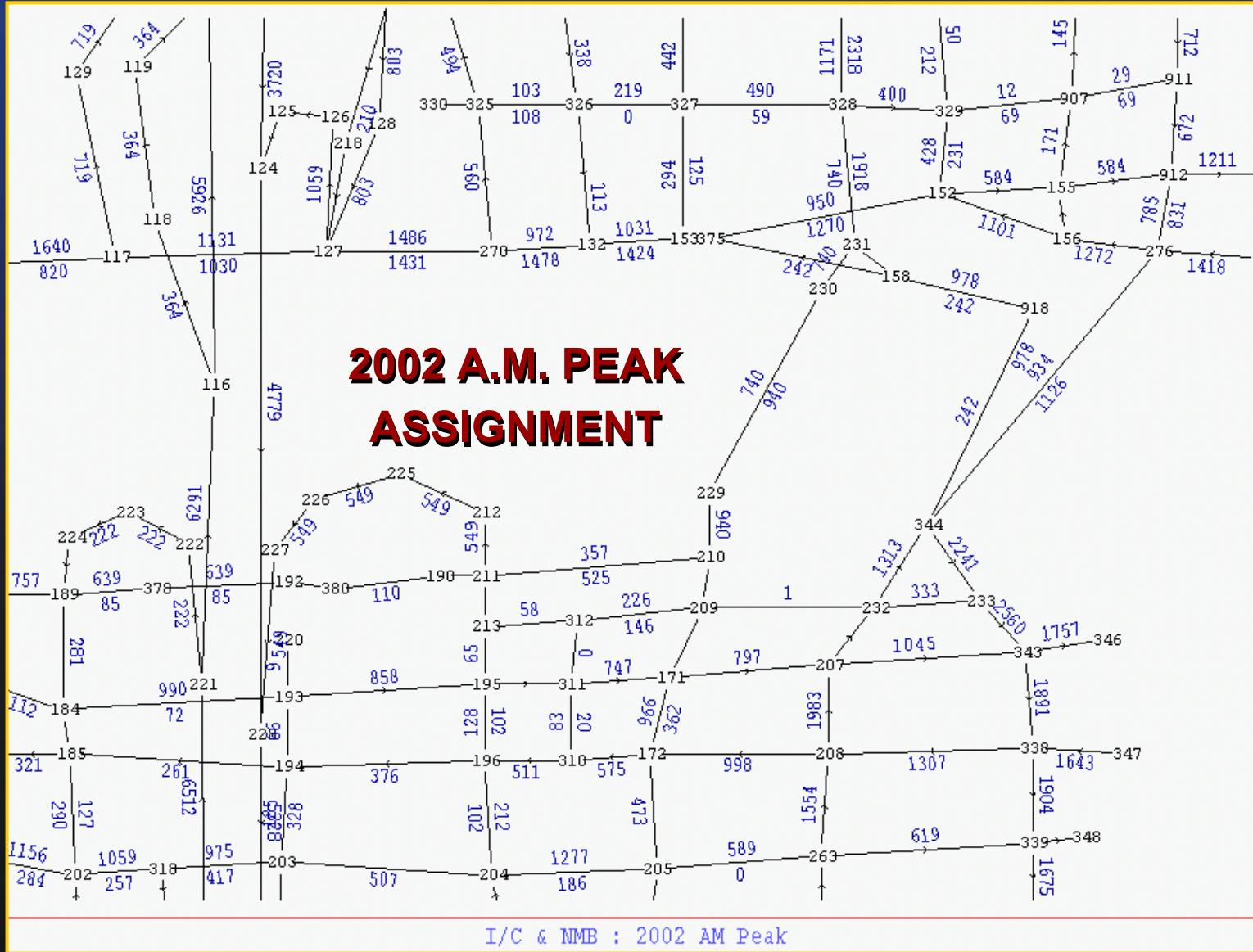


M1 CARR I/C, NELSON MANDELA BRIDGE & METROMALL



I/C & NMB : Network Diagram

M1 CARR I/C, NELSON MANDELA BRIDGE & METROMALL



M1 CARR I/C, NELSON MANDELA BRIDGE & METROMALL OVERALL NETWORK EVALUATION

1) 2002 A.M. & P.M. – NO SIGNIFICANT NETWORK BENEFITS

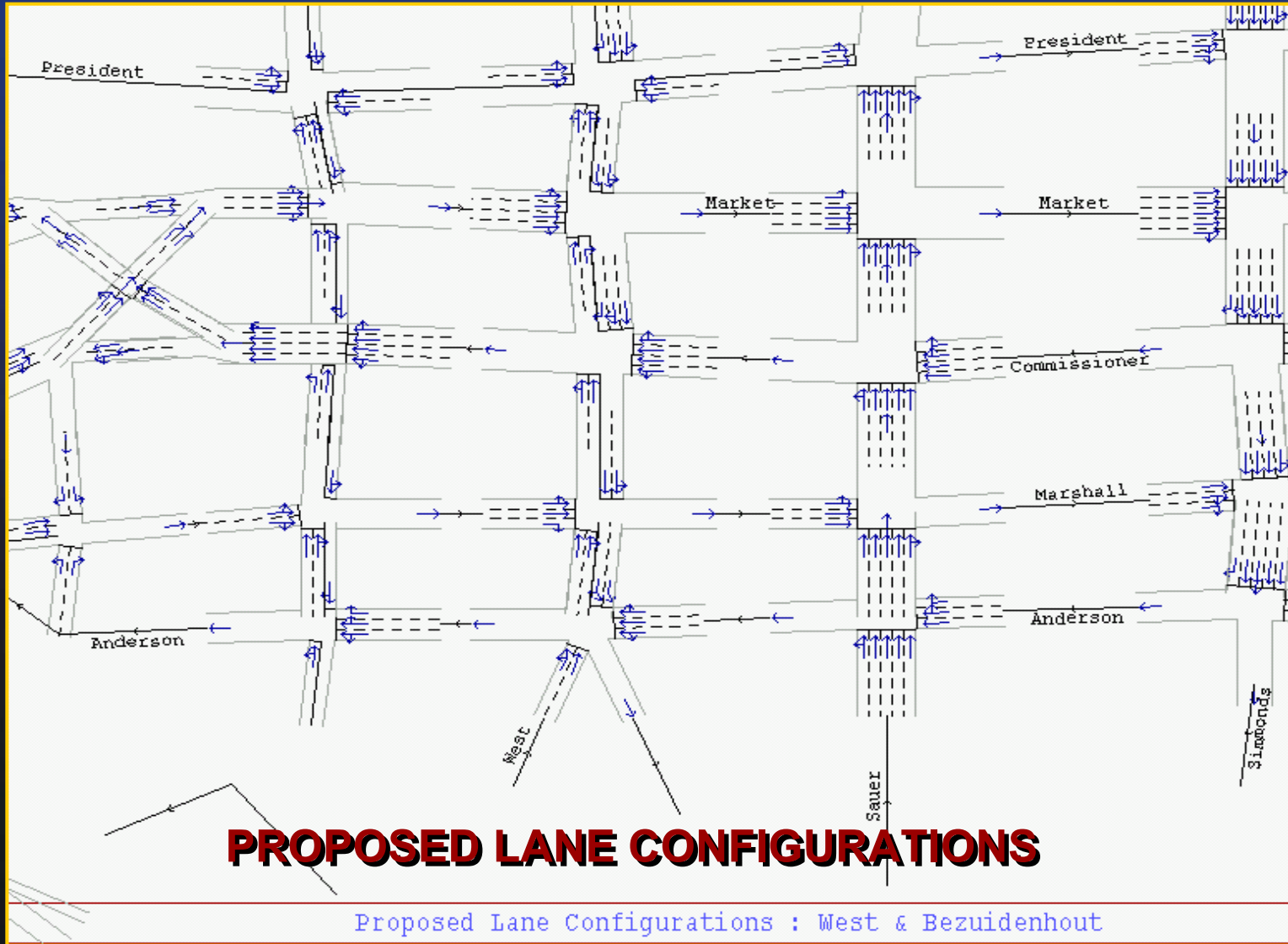
AM PEAK 2007	PCU hrs	PCU km	Speed (km/h)
AM Do Nothing	5 209	171 259	32.9
AM 2007 Optimised	4 751	171 283	36.1
BENEFIT	458	-	+ 3.2
SAVING	R13.74m	-	+19.7%

PM PEAK 2007	PCU hrs	PCU km	Speed (km/h)
PM Do Nothing	5 099	158 969	31.2
PM 2007 Optimised	4 754	158 126	33.3
BENEFIT	345	843	+ 2.1
SAVING	R10.33m	R0.63m	+ 6.7%

2) 2007 A.M. & P.M. – R24 MILLION PER ANNUM



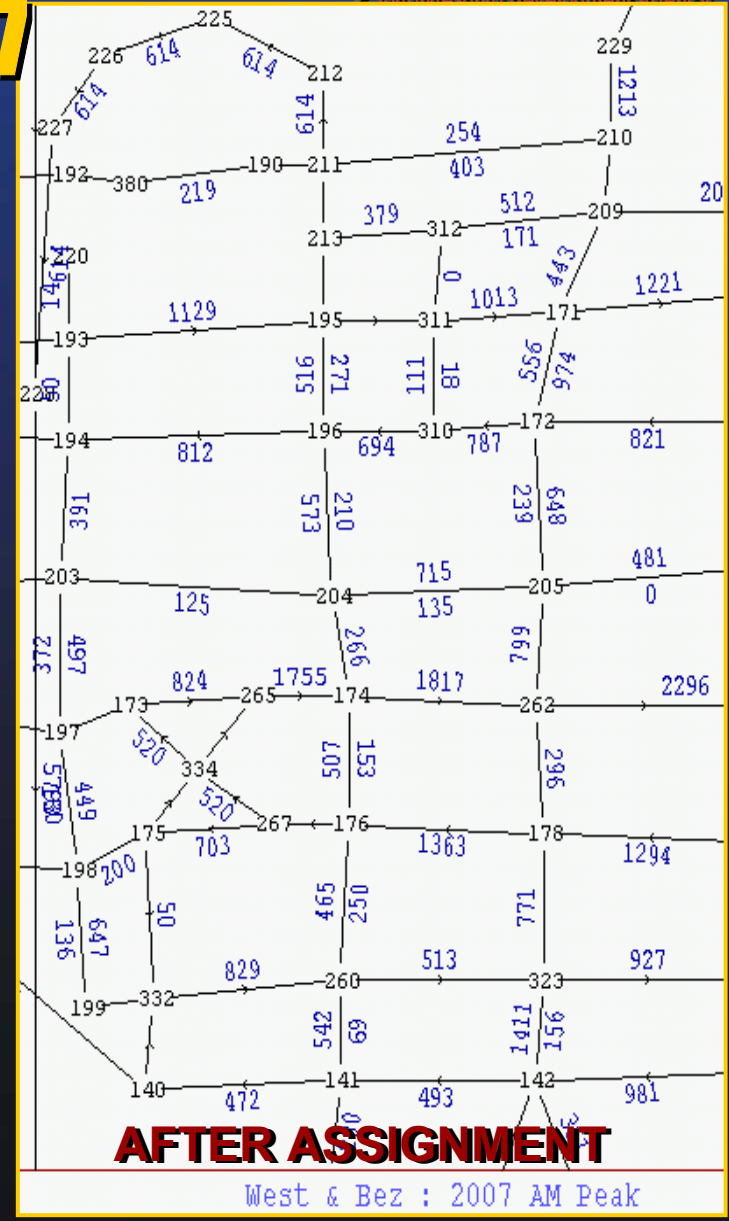
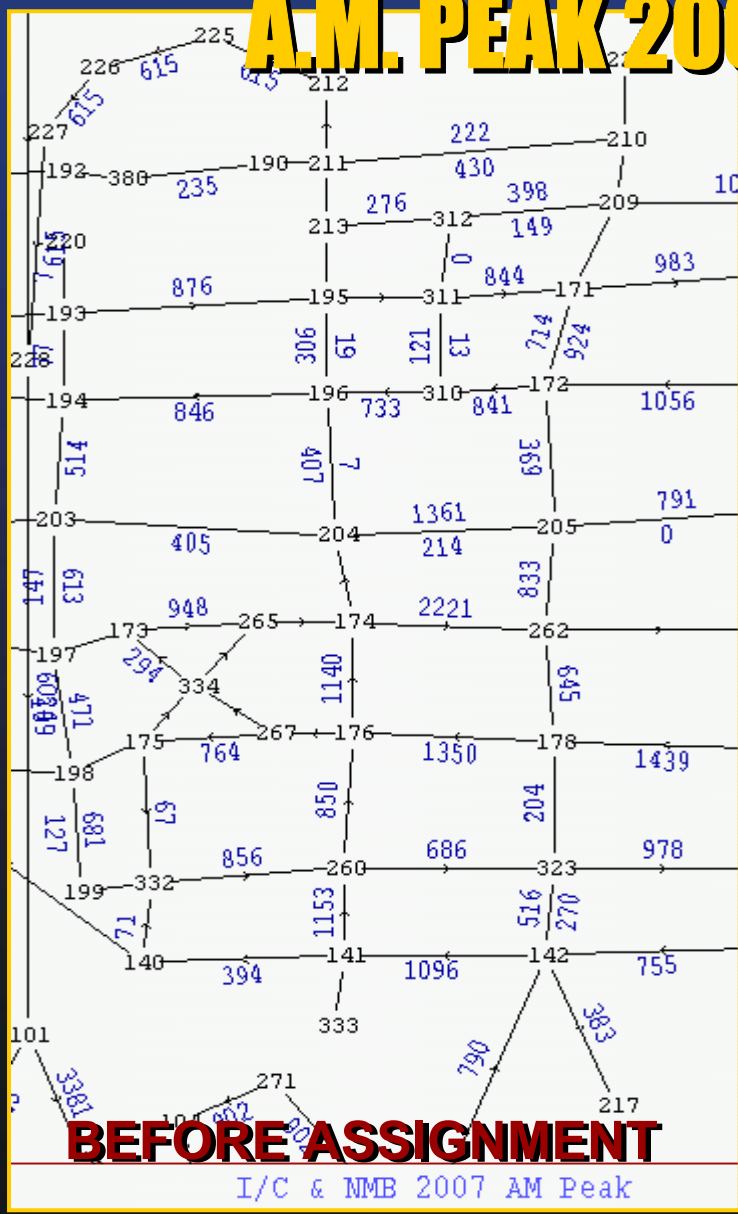
EVALUATION OF WEST AND BEZUIDENHOUT SCHEME



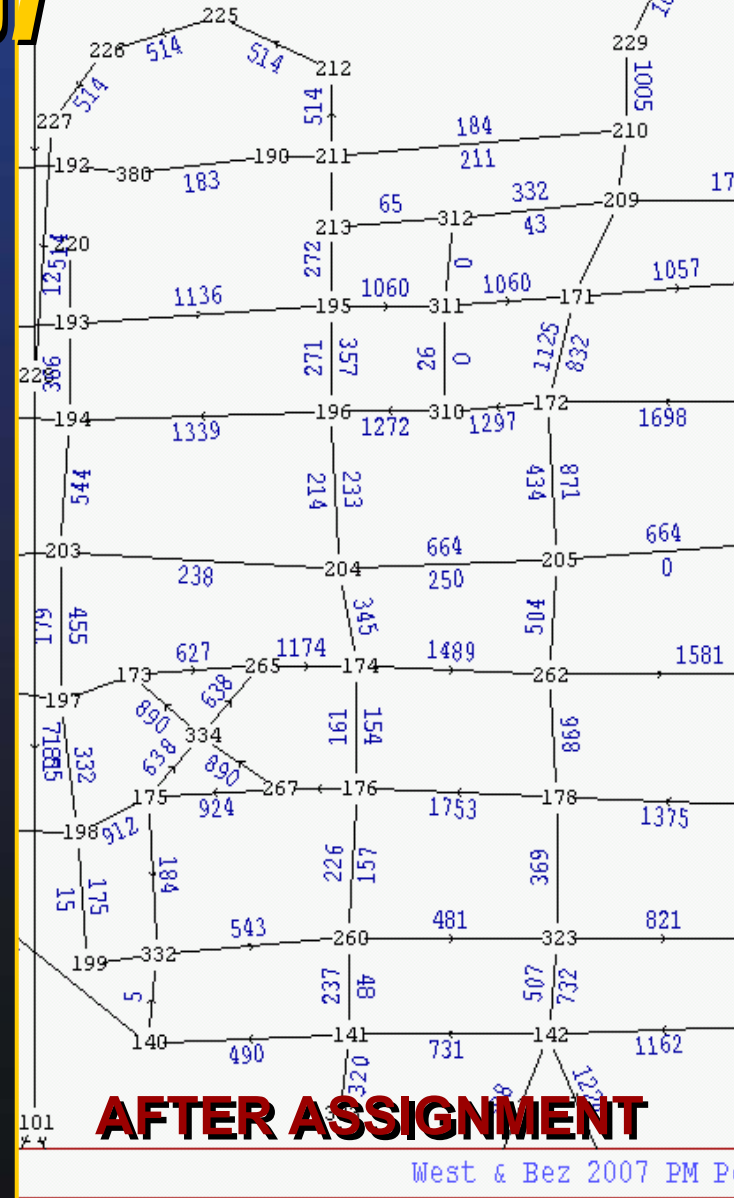
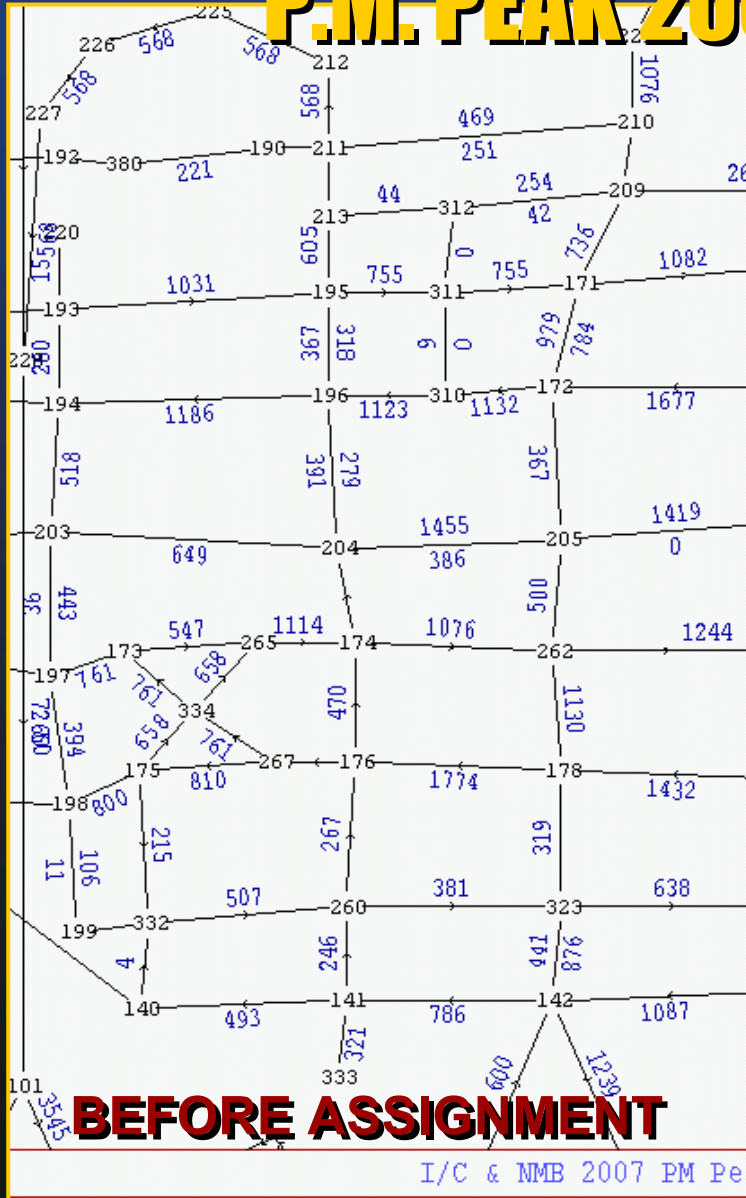
WEST AND BEZUIDENHOUT



A.M. PEAK 2007



WEST & BEZUIDENHOUT P.M. PEAK 2007



WEST & BEZUIDENHOUT SCHEME EVALUATION OF OVERALL NETWORK BENEFITS (2002)

1) 2002 A.M. & P.M. – R4,3 MILLION PER ANNUM

AM PEAK 2002	PCU hrs	PCU kms	SPEED (km/h)
Base Yr Int_MNB_MM	3 988	157 222	39.4
Base Yr with West / Bezuidenhout	3 886	156 216	40.2
BENEFIT	102	1006	+0.8
SAVING	R3.057m	R0.755m	-

PM PEAK 2002	PCU hrs	PCU kms	SPEED (km/h)
Base Yr Int_MNB_MM	3 768	140 298	37.2
Base Yr with West / Bezuidenhout	3 765	139 795	37.2
BENEFIT	3	503	-
SAVING	R0.087m	R0.377m	-



WEST & BEZUIDENHOUT SCHEME EVALUATION OF OVERALL NETWORK BENEFITS (2007)

2) 2007 A.M. & P.M. – R6,5 MILLION PER ANNUM

AM PEAK2007	PCU hrs	PCU kms	SPEED (km/h)
INT_NMB_MM 2007	4 751	171 283	36.1
West & Bezuidenhout	4 694	170 696	36.4
BENEFIT	57	587	+0.3
SAVING	R1.70m	R0.44m	+0.8%

AM PEAK2007	PCU hrs	PCU kms	SPEED (km/h)
INT_NMB_MM 2007	4 754	158 126	33.3
West & Bezuidenhout	4 611	157 989	34.3
BENEFIT	143	137	+1.0
SAVING	R4.29m	R0.10m	+3.8%





RECOMMENDATIONS

IT IS RECOMMENDED THAT:

- **THE PROPOSED SCHEME WITH TWO-WAY CONFIGURATION ON WEST STREET AND BEZUIDENHOUT STREET BE IMPLEMENTED.**