



**ADDITIONAL INFORMATION REQUESTED BY THE CITY OF CAPE TOWN
(CCT) WITH RESPECT TO THE REPORT ENTITLED “TRAFFIC /
TRANSPORT ECONOMIC INPUT ON ALTERNATIVE OPTIONS FOR THE
SOUTHERN ALIGNMENT OF THE R300 RING ROAD IN CAPE TOWN –
AUGUST 2003”**

In the above regard and further to our meeting in Cape Town at the offices of the South African National Roads Agency Limited (SANRAL), we hereby provide the following:

- a) The traffic figures and select link assignments contained in the above August report (i.e. ostensibly Table 1 and Figures 1, 2 & 3 respectively, copies of which are attached) reflect Year 2000 traffic demands on the existing network but with the following roads added/amended.
 - i) The R300 northern section between the Stellenberg Interchange and Bloubergstrand, this modelled as a tolled facility.
 - ii) The existing R300 upgraded and modelled as a tolled facility.
 - iii) The Philippi Link between Vanguard Drive and Prince George Drive, this modelled as a tolled facility.
 - iv) Each of the five options defined in Section 1 – Introduction, of the above report added individually to the above network. In adding these five options each was modelled as an untolled facility, this being deemed appropriate in order to attain an equitable comparison between the five options.
- b) Whilst assignments were produced for each of the above five tested networks, these assignments display tolled traffic volumes on the R300 northern section, the R300 existing section and the Philippi Link. Since the R300 project will be put out to competitive tender, the Penway Consortium is therefore somewhat reluctant to publish these assignment results. This aside, it is recognised that some assignment information needs to be provided to the CCT to enable them to evaluate the contents of the above report further and hence in this regard reference should be made to the additional information now supplied and contained in Figures 4 & 5 attached.
- c) Depicted in Figure 4 is the southern portion of the assignment for the Original Penway



Option as defined in the August report. This assignment shows that with the R300 northern section completed and tolled, the R300 existing section upgraded and tolled, the Philippi Link completed and tolled and the Southern Alignment (i.e. the Original Penway Option) completed but untolled, it is predicted that the Year 2000 a.m. peak hour demand on the R300 just east of Vanguard Drive would be 4272 veh/hr. To put this demand in perspective it is of benefit to mention that a traffic count conducted in Year 2000 by Penway on the existing R300 east of Vanguard, recorded a flow of 2200 veh/hr in the a.m. peak hour. Consequently this assignment result predicts that with the opening up and tolling of the R300 northern section, the upgrading and tolling of the existing section and with the opening up of the two southern or eastern sections (the Philippi Link tolled and the Southern Alignment untolled), the existing traffic on the R300 east of Vanguard Drive will approximately double.

A further point to note with respect to Figure 4, is the a.m. peak hour volume of 1150 veh/hr on Baden Powell Drive. This demand is very similar to that obtained from counts undertaken by Penway on Baden Powell Drive and hence it can be concluded that the expansion and development of the R300 as outlined above, does not really impact Baden Powell Drive at all.

d) In order to assess the implication of the potential near twofold increase in traffic on the R300 east of Vanguard Drive, it was deemed beneficial to perform a select link model assignment on this section of the R300 in order to identify and “track” the origins and destinations of the predicted demand on the R300 (i.e. the 4272 veh/hr). The results in this regard are shown in Figure 5 and indicate that of the 4272 veh/hr on the R300 east of Vanguard Drive;

- 2359 veh/hr originate from or are destined for the R300 Southern Alignment or alternatively the Muizenberg area and surrounds.
- 998 veh/hr originate from or are destined for the Philippi Link.
- 817 veh/hr originate from or are destined for Vanguard Drive north of the R300 / Philippi Link.
- The balance, less than 100 veh/hr, originate from or are destined for Vanguard Drive south of the R300 Philippi Link.

When examining the traffic information contained in Figure 5 it is important to note that this is a select link assignment. Since no flow is shown on Baden Powell Drive



this confirms the conclusion in c) above that the traffic on the R300 east of Vanguard Drive does not use (or impact) Baden Powell Drive but prefers to use the more direct Southern Alignment route. Consequently it can further be concluded that the traffic on Baden Powell Drive shown in Figure 4, (i.e. the 1150 vehs/hr), originates from or is destined for the more easterly coastal areas (e.g. Mitchells Plain, Khayelitsha).

In a similar vein it should be noted that the traffic demand shown on the Philippi Link in Figure 5, namely 998 veh/hr, only reflects that demand which originates from or is destined for the R300 east of Vanguard Drive. The actual demand on the Philippi Link will therefore be greater since traffic will also access / egress the Philippi Link from Vanguard Drive be it from / to the section lying north or south of the R300.

When examining the information contained in Figure 4 it is also important to acknowledge that this information is in context, identical to that contained in Figure 1 of the original August report discussed at the August Progress Meeting.

- e) In terms of analysing the results of the model runs undertaken for the Original Penway Option / Southern Alignment, the question that needs to be addressed is “If the Southern Alignment is not developed how will the 2359 veh/hr outlined above and predicted to use the Southern Alignment in the a.m. peak hour be accommodated?” Essentially this question is addressed in the original report in the latter half of Section 3.1 and in Section 3.2. In addition to this information, the following supplementary information is provided.
- i) If the Southern Alignment is not constructed the 2359 veh/hr outlined in d) above and which originates from or is destined for the Muizenberg area would need to be accommodated on routes such as Philippi / Prince George and/or Vanguard / Baden Powell. The lengths of these alternative routes when compared to the length of the Southern alignment are as follows:
- Southern Alignment (from R300 / Vanguard to Southern Alignment / Prince George) – 13,5km.
 - Philippi / Prince George (from R300 / Vanguard to Southern Alignment / Prince George) – 13,5km.
 - Vanguard / Baden Powell (from R300 / Vanguard to Baden Powell / Prince George and assuming Vanguard Drive Extension is built) – 17,5km.



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- ii) Based upon the above route lengths, it can be concluded that the majority of the “re-routed” Muizenberg related traffic would utilize the Philippi / Prince George corridor in preference to the Vanguard / Baden Powell corridor. The fact that Philippi is to be developed as a tolled facility will however result in a more equal distribution of the “re-routed” traffic onto both the Philippi / Prince George and Vanguard / Baden Powell road corridors.
- iii) Whether the “re-routed” traffic utilizes the Philippi / Prince George or Vanguard / Baden Powell corridors it will incur higher operating costs than it would have done had it been able to use the Southern Alignment. Along Philippi / Prince George this additional cost will result from use of a lower order facility (i.e. not a limited access facility), having to share road space with other traffic and of course the toll on Philippi. Along Vanguard / Baden Powell Drive the additional cost will result from a longer route length, use of a lower order facility and having to share road space with other traffic.
- iv) If developed as a tolled facility, use of the Southern Alignment would still be beneficial from an operating cost point of view when compared to the alternatives of using the Philippi / Prince George or Vanguard / Baden Powell routes. This is because in the case of the Philippi / Prince George option the benefits of not having to use a lower order facility and not having to share road space with other traffic remain (the toll cost having been cancelled out) and in the case of the Vanguard / Baden Powell option, the toll charged on the Southern Alignment will only constitute a portion of the full benefit outlined above. This conclusion with respect to the benefit of the tolled Southern Alignment over the Philippi / Prince George and Vanguard / Baden Powell alternatives is also valid in the sense that if it were not correct, no traffic would use or be attracted to the Southern Alignment and hence no party and no private concern, would wish to pursue its development.
- v) As a consequence of all of the above, one can therefore only conclude that whether untolled or tolled, the Southern Alignment will provide the optimum economic solution for those road users travelling between the existing R300 and Muizenberg.
- e) From a financial perspective it must also be acknowledged that if the Southern Alignment is developed as a tolled facility, the cost of development and maintaining this road will be borne directly by the road users utilizing this facility. In comparison, if the Southern Alignment is not developed and traffic uses the alternative route options,

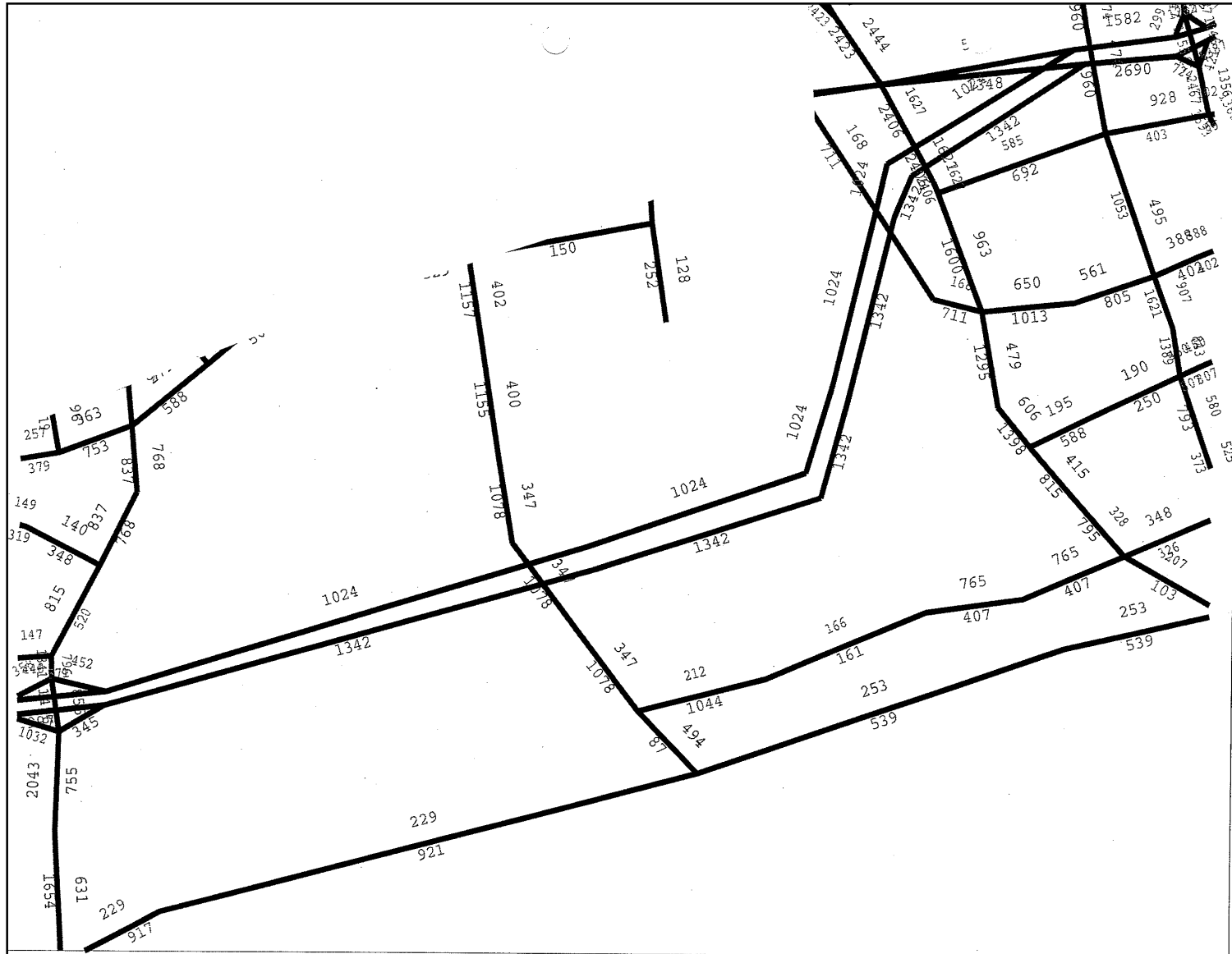


namely the Philippi / Prince George and Vanguard / Baden Powell, the CCT will themselves have to directly fund over time, increased upgrading costs on Prince George and Vanguard and also the new infrastructural needs of this alternative option (i.e. an upgraded Baden Powell Drive and development of Vanguard Drive Extension). The direct financial implications on the CCT as a result of not developing the Southern Alignment therefore far exceed those where the Southern Alignment is developed.

4 SEPTEMBER 2003

**Table 1 : Assignment Results**

| Southern Alignment Options | | | | |
|--|-------------------------------|------------------|--------------|------------------------------------|
| | A.M. Peak Hour Volumes | | | Representative Daily Volume |
| | Westbound | Eastbound | Total | |
| Original Penway Option | | | | |
| • Southern Alignment | 1337 | 1022 | 2359 | 15920 |
| • Baden Powell (existing) | 921 | 228 | 1149 | 7760 |
| TOTAL | 2258 | 1250 | 3508 | 23680 |
| Alignment A | | | | |
| • Southern Alignment | 1114 | 823 | 1937 | 13070 |
| • Baden Powell (existing) | 925 | 258 | 1183 | 7990 |
| TOTAL | 2039 | 1081 | 3120 | 21060 |
| Alignment B | | | | |
| • Southern Alignment | 1195 | 883 | 2078 | 14030 |
| • Baden Powell (existing) | 968 | 274 | 1242 | 8380 |
| TOTAL | 2163 | 1157 | 3320 | 22410 |
| • Southern Alignment | - | - | - | - |
| • Baden Powell (upgraded) | 1698 | 752 | 2450 | 16540 |
| TOTAL | 1698 | 752 | 2450 | 16540 |
| CCT OPTION 3 (False Bay Coastal Arterial) | | | | |
| • False Bay Coastal Arterial | 1490 | 1045 | 2435 | 16440 |
| • Baden Powell (existing) | 725 | 207 | 932 | 6290 |
| TOTAL | 2219 | 1254 | 3367 | 22730 |



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 & Leeds ITS
 FBEP2A.UFS
 Scale 32866
 Link Annot:
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Figure 4: Original Penway Option - Southern Links - AM Peak Hr Volumes

