

**THE LOCATION OF
PEDESTRIAN FACILITIES
ALONG THE PROPOSED
ALIGNMENT OF THE N21
(R300) CAPE TOWN RING
TOLL ROAD**

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(i) Background and Introduction

The need for a free-flowing route linking the West Coast (Melkbosstrand) and the South Peninsula (Muizenberg) is widely acknowledged. A shortage of public funds necessary for road maintenance and upgrade has led to the unsolicited proposal by the Penway Consortium for the N21 (R300) Cape Town Ring Road Toll Project as a National Road, the N21. Such a road would link development nodes and could alleviate traffic congestion problems.

The Environmental Impact Assessment for this project is nearing completion.

The terms of reference of this study is to identify the locations of pedestrian bridges and/or crossings along the proposed route of the N21(R300) Cape Town Ring Toll Road. As such, this report supplements a Social Impact Assessment conducted by Dr Malan (May 2002) which provided a broad socio-economic profile of the residential communities adjacent to the proposed alignment of the N21(R300) Cape Town Ring Toll Road. Dr Malan provided an impact assessment of various factors relevant to these communities in each of phases 1 to 3 of the project. Recommendations were also put forward regarding the sites where a need for pedestrian facilities (either bridges, subways or crossings) may exist and where further investigation was warranted.

The purpose of this report is threefold. Firstly, to investigate the proposals made in the SIA. These proposals refer specifically to Sectors 1, 2, 3 and 5, where emphasis in this report is on Sector 1 (the Southern Greenfields section). A second objective concerns reviewing the recommendations already made by Jeffares and Green with regard to the location of pedestrian facilities in Sector 5 (the Phillippi Link). Where necessary, further investigation may be necessary to confirm recommendations. Finally, this report seeks to make recommendations concerning the location of pedestrian facilities along the proposed route.

This report begins in Section A by describing the design and planning requirements for pedestrian facilities as formulated by the Department of Transport. Thereafter, each of Sectors 5, 1, 2, and 3 of the proposed freeway are considered, in this order, in sections B to E. A background overview of pedestrian traffic for each sector is provided, followed by an impact assessment, where necessary. Each section concludes with recommendations for pedestrian facilities. The report closes with general conclusions and a summary per Sector in Section F.

(ii) Methodology

The recommendations made in this report are based on

- (a) a study of all the relevant background documentation
- (b) a study of aerial photographs for the relevant sectors to identify desire lines
- (c) consideration of the official guidelines for pedestrian facilities
- (d) consultation with interested and affected parties (I & AP's), either telephonically or in person
- (e) site inspection in an attempt to gauge pedestrian traffic demand and therefore the need for pedestrian facilities (every recommendation made in this report is based on personal site visit/s)
- (f) consultation with engineers regarding the feasibility of the recommended locations.

(iii) Limitations

- (a) The time available for this study did not allow for a more detailed assessment of pedestrian traffic and community needs. Formal desire line studies, for example, would involve considerable time and expense¹.
- (b) The identification of desire lines was made much more difficult without access to the relevant aerial photographs. Only aerial photographs for Sector 1 were available.
- (c) The interested and affected parties consulted may not include all significant stakeholders.
- (d) Discussions with the consulting engineers (J&G) concerning the location of pedestrian facilities revealed an apparent overlap between the terms of reference of this study and work already completed by them.
- (e) The extent of elevation of the proposed N21 freeway will obviously have an important bearing on the type of pedestrian facility provided. What is feasible from an engineering point of view and desirable/reasonable from the communities perspective with regard to pedestrian access and safety?
- (f) The final alignment of the proposed freeway will be important in deciding how provision for pedestrian traffic demand will be made. At the time of writing, the final alignment of the road through the Rondevlei/Zeekoevlei Nature Reserves and Cape Flats Wastewater Treatment Works area had not been decided.

A. PEDESTRIAN FACILITY GUIDELINES

This section aims at describing the relevant factors and procedures which should be considered when planning or designing a pedestrian facility, specifically grade-separated crossings. The latter are most needed on roads on which access control is required (like the proposed N21/R300 freeway) and where large numbers of accidents involving pedestrians occur or are likely to occur. A manual issued by the South African National Department of Transport (DOT) in 1993 [*Pedestrian Facility Guidelines: Manual to plan, design and maintain safe pedestrian facilities, Report No 92/126*] has, until very recently, served as the benchmark reference in the design & planning of pedestrian facilities.

However, DOT has now made a draft version of its new guidelines available [*Pedestrian and Bicycle Facility Guidelines: Manual to plan, design and maintain safe pedestrian and bicycle facilities, Draft 0.1, 2002*] which will replace the original guidelines.

This study, while not detracting from the importance of bicycles as a mode of transport, focuses specifically on pedestrians. Moreover, the planning & design of pedestrian facilities would normally also accommodate bicycle traffic.

¹ Pedestrian demand estimation methods include so-called sketch planning methods, manual pedestrian & bicycle counts & origin-destination studies (Cf DOT, 2002: F.3). It should be noted that the areas where pedestrian facilities are most needed in terms of the proposed freeway are also relatively dangerous areas in which to conduct detailed site surveys etc. The risk originates not only from high crime rates in these areas, but also, as in the case of the existing R300, from the danger posed by heavy & fast moving traffic. This has limited the scope of this study.

The engineering planning and design of grade-separated pedestrian bridges has traditionally complied with DOT 92/126. The specifications for these pedestrian facilities are known as warrants.

1. Warrants for Roads with Access Control

Warrants have generally been used to indicate whether a particular pedestrian facility should be provided. These facilities may include midblock crossings, traffic signals, grade-separated crossings, sidewalks and walkways. Warrants have typically indicated a level of activity above which a facility can or should be installed. DOT 92/126 contains the detail of these warrants.

Unlike roads without access control, pedestrian traffic demand alone will indicate whether grade-separation is required on roads with access control (where access is via interchanges only), like the proposed N21(R300) freeway. A number of parameters have been employed in determining the need for grade-separation on freeways. Weights are then assigned to the factors affecting each parameter.

The parameters used are summarized in table 1 below:

Table 1: Parameters for Roads with Access Control

Parameter	Description
1	The persistent tendency of pedestrians to walk a natural direct route (desire line) and cross the freeway at-grade at specific points
2	The distance to the closest crossing facility
3	Pedestrian-related accidents on the freeway. An 'Equivalent Cost Collision Number' or ECCN is calculated ² .
4	Physical characteristics, such as topography, which allow convenient crossing facilities. A footbridge would be most suitable in a cutting, while a subway would be preferred at an embankment.

Source: DOT 92/126, 1993: 4-3 – 4-5

Points are assigned to each parameter and sites with a total score of fifty or more points qualify for grade-separation.

Nevertheless, the relatively prescriptive nature of these warrants has made their practical implementation less useful. Engineers have not been able to justify a pedestrian facility even when such a facility may instinctively be deemed necessary. Consideration must also be given to the fact that warrants are usually based on existing traffic demand for a facility and *"...do not take into account the potential of a facility to attract traffic or to generate additional traffic"*. *Walking will not be encouraged if infrastructure is lacking.*

² According to DOT RR 92/126 (1993: 4-4), the ECCN is the weighted number of road traffic collisions involving pedestrians per annum at the worst recorded site in the country. According to DOT (Draft 0.1, 2002: F.4.4), the ECCN is known as the EAN (Equivalent Accident Number) and is calculated in a similar manner. For, example, the recommended weighting for calculating the EAN for fatal accidents is 12. This figure is then multiplied by the number of fatal accidents at a specific location and the total divided by the number of years over which the accident data were collected.

The DOT's current standpoint indicates that a pedestrian facility should be provided "where there is a reasonable expectation that such facilities will be used by pedestrians...even if the numbers of pedestrians...are currently relatively low." (DOT, 2002: v)

A pedestrian facility such as a bridge should be provided where, in the view of the planning or design professional, there is thought to be a **reasonable requirement** for such a facility, and where it is **feasible**. The proposals contained in this report rest heavily on these two criteria. The need for a pedestrian bridge or facility cannot be considered only from an engineering perspective, but must also take social factors and any other relevant information into consideration.

The needs & requirements of users of pedestrian facilities must be recognized and accommodated, where possible, in the design and planning thereof. Such needs cover a broad spectrum of issues, including safety & security concerns, operational needs & economic needs.

1. Pedestrian Facilities: User Needs and Requirements

1.1 Safety and Security

The rationale for pedestrian facilities lies in ensuring that people safely cross a dangerous freeway (in this case) with traffic travelling at high speed. Probably the highest pedestrian traffic demand in terms of this study is from school children. As pedestrians, school children have certain limitations that increase their vulnerability to traffic accidents³. In addition, the location of pedestrian generators such as schools should, ideally, be away from major roads, or so that the need to cross major roads is minimised (DOT, 2002: E.4.3).

Security is arguably the most important factor in the location and design of pedestrian facilities. Pedestrians will not use a pedestrian bridge if, for example, it is unsafe to do so, being a target of criminals, whether gang-related or otherwise. Fear of criminal activity around or at such facilities has been identified as a very real threat to the use of pedestrian bridges at certain points on the existing R300 (Garrod & Sole, City of Cape Town, interview, 7 August). Gang members can 'seal off' and trap pedestrians on a grade-elevated pedestrian bridge by just waiting at either end and then approaching from either side. Bridges are normally fence-enclosed, increasing the risk involved.

Moreover, safety and security concerns imply that subways/underpasses will not be favoured as an option unless the facility is large, with open sight lines and is not in a crime-ridden area.

Of course, safety includes designing a pedestrian facility for maximum pedestrian safety, for example, walkways that are level, not slippery or have protruding obstacles. Provision must also be made for the safety of people with special needs

³ These limitations of children include: unpredictable movements, physical height, visual ability to estimate vehicle speed & direction of sound, less experience as pedestrians, understanding of driver intentions as they do not drive & shorter attention spans. Particular attention must therefore be given to addressing pedestrian safety issues at, or in the vicinity of, schools (DOT, 2002: E.5.2). It is a cause for some concern that the proposed alignment of the N21 freeway takes it very close to a number of schools, especially in the Grassy Park area/Lotus River Area of sector 5.

such as the disabled, children and the elderly. The draft guidelines, once accepted and finalized, will become the standard reference manual for designing and planning pedestrian facilities.

1.2 Operational Needs

(a) Accessibility

Pedestrian facilities need to be accessible to all users, regardless of age or disability.

(b) Convenience

The location of grade-separated crossings is critical and needs to be on existing desire lines as far as possible. People are not willing to deviate from established natural routes that are quick and direct (DOT 2002: B.6.3). Experience (especially on the R300) has shown that a pedestrian bridge that is not positioned correctly will not be utilized sufficiently. Design also needs to try and force pedestrians to use a pedestrian bridge by channeling them onto it as far as possible. However, DOT 92/126 (pp 4-8) concludes that, generally, the deterrent capability of a fence, guardrail etc., is limited.

(c) Comfort

Topography is also an important factor to consider. The DOT (2002: A.3.5) recommends no more than a five percent grade in order to encourage use. Whether the section of the road to be crossed (proposed R300/N21) lies in a cut or fill is therefore significant as this not only influences the grading required but also impacts on security concerns. Residents adjacent to grade-elevated pedestrian bridges have expressed their concern regarding users of such facilities being able to observe them from pedestrian bridges. Apart from being an invasion of privacy, this can also promote criminal activity.

1.3 Economic Needs

Pedestrian bridges such as those on the existing R300 cost between R2 million and R3 million to construct (Sole and Garrod, interview, 7 August). Project resources need to be allocated in the most cost-effective manner possible. Cost-benefit analysis (part of the 'duration' criterion with regard to environmental impact parameters) needs to be conducted for pedestrian facilities as well. Benefits include the expected savings in terms of accident & other costs at a specific site. Such study would fall within the domain of the relevant parties conducting the economic impact assessment of the proposed freeway.

B. SECTOR 5: THE PHILLIPPI LINK (VANGUARD DRIVE TO PRINCE GEORGE DRIVE)

South of the N2, the R300 is known as Trunk Road 81/1 or, more commonly, the Cape Flats Freeway Extension (hereafter referred to as the CFFE).

In terms of the proposed alignment of the N21(R300) Ring Toll Road, the CFFE will be extended from Vanguard Drive (M7), where the CFFE currently terminates, to Prince George Drive (M5), or Princess Vlei Parkway, which it will become known as in the future. The proposed alignment of the CFFE is across the Phillippi Horticultural Area (PHA) and through an existing road reserve in Grassy Park to meet Prince George Drive at its intersection with De Waal Road . Although the Grassy Park Corridor had been reserved prior to the urban development of the area, no corridor had been selected in Phillippi, chiefly due to concerns over the impact of the road on the horticultural nature of the area.

For a detailed analysis of the various proposed economically feasible routes through the PHA, see the Draft EIA (1998). The route selection envelope is discussed in detail.

Considerable work had already been done and recommendations made regarding provision for pedestrians (and cyclists) along this section of the proposed route. The Draft EIA (1998) contains such information, as do documents prepared by entities like the Cape Flats Consortium (CFC) [Jeffares and Green Inc. (J&G) and Fongoqa, Skade, Toyi & Associates (FST)]. For CFC proposals, reference should be made to documents such as the Conceptual and Preliminary Planning Report of November 2000 [Cape Flats Freeway Extension - Princess Vlei Parkway to Vanguard Drive. Project 13.68, prepared by the Cape Flats Consortium for The Cape Metropolitan Council: Directorate Transport, in association with the South Peninsula Municipality and the City of Cape Town].

Land has been reserved for the CFFE between Strandfontein Road and Prince George Drive since the early 1960's, but no formal planning has been done for a route through the PHA, i.e. between Strandfontein Road and Vanguard Drive.

This report focuses only on proposals concerning the placing of pedestrian bridges/crossings and any other measures accommodating pedestrian (& also, where relevant, cyclist) movement. To this end, reference to the relevant sections of the CFC Report in this regard is deemed appropriate.

In terms of residential areas like Grassy Park, the proposed route travels through residential areas like Montagu's Gift, Lotus River, Parkwood and Grassy Park. The proposed alignment of the CFFE is roughly parallel to, and just north of, Klip Road (Cf Draft EIA, 1998: Map 5-7: 120).

All existing north-south surfaced roads across the Cape Flats Freeway extension (CFFE) will be retained but there will be no direct access except via interchanges at Strandfontein Road and De Wet Road (CFC 2000: vii)

The following is a list of the road crossings envisaged along the proposed route of the CFFE in this sector:

Acacia Road
 Plantation Road
 New Agricultural Underpass
 Olieboom Road
 Nursery Road
 Weltevreden Road

In terms of pedestrian and cyclist requirements specifically, the CFC Report recommends seven grade-separated crossings and/or intersections along the route as indicated in Table 2 below:

Table 2: Pedestrian and Cyclist Requirements: Walmer Road to Strandfontein Road

Major Crossings/intersections	Type	Proposed accommodation
1. Between Walmer Road and Acacia Road	<i>Existing pedestrian desire line</i>	<i>Overhead pedestrian bridge</i>
2. Acacia Road	Existing road	Freeway bridge across Acacia Road with pedestrian path either side of road under bridge
3. Little Lotus River canal	<i>Canal & pedestrian desire line</i>	Freeway bridge across canal with single pedestrian path alongside road under bridge
4. Montagu's Gift/Plantation Road	Existing road	Freeway bridge over road with single pedestrian path alongside road under bridge
5. De Wet Road	Existing road	Road bridge over CFFE
6. Big Lotus River Canal	Canal	Freeway bridge across canal with a pedestrian path & cycle path along canal
7. Between Strandfontein Road and Big Lotus River Canal	<i>Pedestrian desire line</i>	Investigate need for overhead pedestrian bridge

Source: CFC Report, November 2000: 9-13

Most informal pedestrian crossings will be diverted to road / pedestrian bridge crossings. Such crossings are indicated on aerial photographs or by site observation by desire lines. A desire line is an informal route used by pedestrians, indicating a 'desire' for a formalized pedestrian path or crossing. Pedestrian crossings (midblock signalized pedestrian crossings) are also planned for at all existing road crossings and canals within Grassy Park.

Prince George Drive is being upgraded and a grade-separated interchange is planned. At Strandfontein Road, the proposed accommodation of the existing road will take the form of a diamond interchange with a pedestrian path on either side of the road.

1. Pedestrian Traffic: Walmer Road to Acacia Road

The proposed pedestrian bridge west of Acacia Road is to provide for learners walking between two schools in Grassy Park (north & south of Klip Road) and homes

in Parkwood across the proposed alignment of the CFFE. Strong desire lines are evident from aerial photographs of this area.

Without the proposed pedestrian bridge in this area, learners would have to deviate by up to one kilometer in order to cross at Acacia Road. Also, the development of vacant land will result in an increase in pedestrian activity. (CFC Report, November 2000, 5-13, 5-14)

For this pedestrian bridge, a grade of no more than ten percent is proposed (with no steps) to facilitate the disabled, cyclists and prams. Appropriate fencing is also recommended (CFC Report, 7-7).

2. Pedestrian Traffic: Strandfontein Road to the Big Lotus River Canal

The other major site where strong desire lines are evident from aerial photography of the vicinity is approximately halfway between Strandfontein Road and the Big Lotus River Canal. Learners walk between Stephen Road Primary School to the south (and other schools such as Die Duine Primary) and the former Lotus River High School to the north. Mr Baker, Principal of Stephen Road Primary, has confirmed that most of the schools learners (400+) are drawn from residential communities to the north of the proposed freeway and would therefore have to cross the latter. In addition, approximately 50 schoolchildren walk across Strandfontein Road from farming communities in that region. Notwithstanding the above, it is noteworthy that, for several reasons, a pedestrian bridge was not recommended here (cf. CFC Report, November 2000, 5-15).

The former Lotus River High School, previously located adjacent to the CFFE Grassy Park corridor, relocated to other premises in July 1998. The school is located on the corner of Hector and Edward Avenues in Montagu's Gift. The Lotus River, Ottery, Grassy Park Ratepayers and Residents Association have indicated that Hector Road is an "active area" in terms of pedestrian traffic (see Appendix 2). The Draft EIA (1998: 107) did recommend an overhead pedestrian bridge to mitigate the impacts of community severance and children's road safety adjacent to this school site between Strandfontein Road and the Big Lotus River Canal. However, this proposal was not incorporated into the engineering Conceptual Planning Report because the school was not occupied at the time and thus there was no real need for a pedestrian bridge.

Nevertheless, the vacant premises are currently being rented from the Department of Education by the "Al Hazar" Islamic School (Isaacs, pers. comm.). The Supplementary EIA (Rosenthal, 2001: 21) therefore recommended an investigation into the need for a pedestrian bridge at the detail design stage, should the site still be used as a school at that stage.

At present, the need for a pedestrian bridge at this site to accommodate learners particularly, can be mitigated by the fact that the overwhelming majority of learners at Al Hazar do not walk to school but utilize taxi's to commute to and from school from the nearby communities in which they reside (Mitchell's Plain, Athlone, Lotus River). Al Hazar would also relocate given the opportunity as safety concerns are a major concern in this area (Isaacs, pers. comm.).

In the final instance, however, this site is officially zoned for educational purposes (Visser, Department of Education, pers.comm.), implying that the current occupiers

of the school site should not determine the future requirements for a pedestrian bridge at this location.

2.1 Impact Assessment

Stephen Road Primary School lies adjacent to Strandfontein Road and will also lie adjacent to the proposed freeway. Although it has been proposed that scholar demand be accommodated by a pedestrian path along either side of Strandfontein Road under the proposed freeway, the close proximity of the freeway to the school would make crossings at the school site inevitable and very high risk. Proposals also include providing a pedestrian path and cycle path along the Big Lotus River Canal under the proposed freeway. But the distance from the school site to the latter crossing area would make it highly improbable that learners would utilize it. The Lotus River, Ottery, Grassy Park Ratepayers and Residents Association have also expressed concern regarding crime and "*gangsterism*" in the area serviced by the Canal (see Appendix 2). Site inspection (14 August) showed pedestrians walking north and south across the road reserve from the vicinity of the school. This is where the desire line exists.

The proposed elevation of the freeway through this area may mitigate the need for a pedestrian facility to a certain extent. Elevation will make the freeway more difficult to cross directly and can channel pedestrians to designated crossing points. (DOT 2002: E.4.3). Notwithstanding the latter, grade-elevation is not considered sufficient justification for not providing a pedestrian facility at this location, given the high pedestrian traffic demand.

Moreover, the Lotus River Clinic, just south of Klip Road and Stephen Road Primary, also generates pedestrian traffic demand. In fact, there appears to be two-way pedestrian traffic between this clinic and the Ottery Day Hospital/clinic at the corner of Bruce and Daniel Roads. Pedestrian traffic across the road reserve is also a factor with regard to people accessing facilities like Pick 'n Pay and Makro stores on Ottery Road. Ottery residents also shop on the southern side of Klip Road (see Appendix 2).

2.2 Recommendations

The construction of an overhead pedestrian bridge at Stephen Road Primary School⁴ to accommodate not only learners walking to and from schools and residences in the vicinity, but also to cater to the needs of community members needing to cross the proposed freeway to access shops, clinics and other amenities. Midblock signalized pedestrian crossings must be considered at the Strandfontein Road interchange.

⁴ The relevant grid reference in the Cape Town Street Guide is provided for the location of recommended pedestrian facilities. In this case, the school lies at CO 35, pp88.

C. SECTOR 1: THE SOUTHERN GREENFIELDS SECTION (WESTLAKE INTERCHANGE TO VANGUARD DRIVE)**1. Description of Route**

The proposed N21 freeway will start at the Westlake interchange (M3) and then run along the existing Steenberg Road. The route will run east-west, initially comprising an extension of Steenberg Road, running across Main Road and on toward Prince George Drive. The freeway will sever Coniston Park/Sheraton Park from Marina da Gama, then after crossing Prince George Drive, will run along the southern boundary of Seawinds/Lavender Hill. This route will therefore separate the latter communities from Capricorn Park (formerly Vrygrond) to the south. The alignment of the route to the east through the Zeekoevlei/Rondevei False Bay Coastal Park area still appears to be under contention (see sections 3.2 & 3.2.1 below). The freeway will then run along the northern edge of the Strandfontein residential community before turning northwards and running in close proximity to Vanguard Drive (Mitchell's Plain). The freeway runs just inside the eastern edge of the PHA before joining up with the existing R300 at the Vanguard Drive/R300 intersection.

2. Pedestrian Traffic: Main Road to Prince George Drive

The Road reserve is clearly visible from aerial photographs. The first indication of pedestrian activity from aerial photography is in the Steenberg, Sheraton Park, Coniston Park vicinity, i.e. south of Military Road, west of Prince George Drive and east of the railway line.

Holtmann et al (2002: 44) emphasize the likelihood of the large areas of vacant land between Main Road and Prince George Drive experiencing pressure for development due to improved access to these areas.

Pedestrian traffic demand in this area can be categorized into two significant and distinct flows:

- (a) The first desire line extends eastward from Steenberg Railway Station toward Lavender Hill. There are four schools in Lavender Hill (Levana Primary, Hillwood Primary, Zerildapark -Primary and Lavender Hill High). In addition, Christian David Moravian Primary is a school situated in Coniston Park.

An on-site visit to the area and consultation with various I and AP's confirmed this flow. Learner's from the station walk roughly parallel to, but not necessarily along, Military Road and cross Prince George Drive at various points, although especially at the intersection of Prince George Drive and Military Road. This intersection has been identified by various parties as hazardous.

- (b) Secondly, the Zandvlei Nature Reserve contributes significantly to pedestrian traffic demand from the surrounding communities in the immediate vicinity. These communities have already been profiled by Dr Malan (2002) in the Social Impact Assessment (SIA). Various socio-economic indicators in this document pointed to the fact that these communities are relatively poor (pp

13,14). Without vehicle transport, pedestrian activity is the dominant means of transport for the majority of the population in this area. Walking distances to amenities such as schools, shops and clinics determines their relative ease of accessibility.

From a logistical perspective, the relatively close proximity of Steenberg railway station makes it a very convenient means of accommodating school children attending environmental education programmes at Zandvlei. Such programmes are in increasing demand, not only in this area, but also in the Zeekoevlei/Rondevlei area (see section 3.2.1).

Lavender Hill schools are also within easy walking distance from Zandvlei. Many school children currently walk to Zandvlei from Lavender Hill to attend a 3-hour environmental education session. To date (2002), 1 200 children have attended the course and it is envisaged that 3 000 children will have been exposed to this service by year-end.

(Dorse, Nature Conservation manager, Sandvlei and Giljam, formerly of the Marina da Gama Association: interview, Sandvlei: 5 August 2002)

Current pedestrian movement is from Coniston Road and following the alignment of the Sand River Canal which feeds into Zandvlei. Aerial photographs confirm pedestrian traffic along this route.

2.1 Safety Concerns

Consultation with the Muizenberg Police Station (Captains Grundling and Jeftha and Inspector Voges, interview: 5 August 2002) revealed that pedestrian movement from the Lavender Hill/ Coniston Park area into the Marina da Gama area is problematic in terms of criminal activity such as house-breaking and theft in the latter community. This needs to be taken into consideration in the design of pedestrian facilities.

Aerial photographs indicated possible pedestrian activity along the north-western finger of Zandvlei running adjacent and just to the west of the railway line. Nevertheless, as far as could be reasonably determined, pedestrians walk from Steenberg Station across Military Road to their place of employment in the Retreat Industrial Area, and not southwards over the proposed freeway.

2.2 Recommendations

The recommendations that follow rest on the following two assumptions:

- (i) the continued existence of Sandvlei education centre after the construction of the proposed freeway and
 - (ii) the priority attached to easy access to environmental education for children from disadvantaged communities.
-
- (a) That the proposed freeway cross the Sand River Canal⁵ in such a manner so as to facilitate continued access by learners in particular along the current desire line (under a freeway bridge) to Zandvlei. Learners walking from Steenberg Railway Station would also have to utilize this route.

⁵ Grid ref. CU 29, pp 103.

- (b) That pedestrian safety at and near the Military Road/Prince George Drive intersection be further investigated. Adequate (signalized) midblock crossings are required at this site.

3. Pedestrian Traffic: Prince George Drive to Strandfontein Road

3.1 The Lavender Hill/Seawinds/Capricorn Park Area

On-site inspection of this area has confirmed the very significant flow of pedestrians in a north-south direction between the Capricorn Park (formerly Vrygrond) communities and the Lavender Hill/Seawinds communities. Pedestrian traffic demand from children walking to school alone is high. Hillwood Primary and Lavender Hill High, both in Lavender Hill, already accommodate approximately 400 children residing in the Capricorn Park area who walk to school. Engeldo (Principal, Zerilda Park Primary, Seawinds) communicated to me that approximately 600 school children walk from Capricorn Park (former Vrygrond) to school (southern Lavender Hill area). Personal communication with the Seawinds Clinic (Sister Basson) also revealed that many people make use of the clinic's facilities by walking from Capricorn Park. Many people also commute on foot to shop at Pick 'n Pay in Capricorn Park.

It should be remembered that these communities are under severe socio-economic stress, as described in the SIA. This is especially true of the Capricorn community. Discussions held with the Muizenberg police confirmed that crime is very prevalent in these communities, especially Capricorn Park.

The Vice-Principal of Hillwood Primary (Williams, 5 August) related to me the story of a recent accidental shooting of one of the school children in a gang-related shoot-out. There are allegedly 17 gangs in Lavender Hill alone.

3.1.1 Impact Assessment

The pedestrian traffic outlined above is directly across the proposed alignment of the N21(R300) freeway. Very strong pedestrian traffic demand follows the well-defined desire line that represents an extension of Depsiton/St Peter Road. Ongoing development in the Capricorn area cannot be ignored as contributing to the need for a pedestrian facility in this area. The strong pedestrian traffic demand from schoolchildren in particular would make this crossing extremely hazardous without mitigation and would presumably result in a high mortality rate, as has been experienced on sections of the existing R300 before additional mitigation measures (construction of additional pedestrian bridges).

3.1.2 Recommendations

To mitigate the effects of community severance from amenities such as schools, shops and clinics, a grade-separated pedestrian bridge is proposed for this area. This facility would be positioned at the existing desire line along Depsiton/St Peter Road⁶ where the latter would cross the proposed freeway into the Capricorn Park community. There is a high degree of confidence in the strong demand for a pedestrian facility at this site. Without mitigation, the probability of death or injury to a significant number of pedestrians (especially children) is high. Pedestrians will

⁶ Grid ref. CU 31, pp104

attempt to follow the desire line described above and attempt high-risk crossings of the proposed freeway at grade.

3.2 The Rondevlei/Zeekoevlei Area

The proposed alignment of the N21(R300) Ring Road is west to east between Zeekoevlei to the north and the Cape Flats Wastewater Treatment Works (CFWTW) in the Strandfontein area to the south.

Any recommendations concerning pedestrian facilities in this area need to be considered in the context of local government planning for this region.⁷ The relevant authority in Sector 1 is the South Peninsula Administration. The South Peninsula Spatial Development Framework (SPSDF) does not support the proposed section of the R300 between Princess Vlei Parkway and Vanguard Drive due to the environmental sensitivity of the area it will traverse. The SPSDF proposes the upgrading of Baden Powell Drive to ensure adequate east-west accessibility (Holtmann et al, 2002: 38).

3.2.1 Impact Assessment

The proposed alignment of the N21(R300) Ring Road cuts across two of the waste treatment ponds on the northern and north-eastern edge of the CFWTW. Various proposals have been put forward concerning the construction of the freeway across/through these ponds, but these issues are not included in the terms of reference for this study. Of relevance is the fact that, currently, the only access to the CFWTW is via Zeekoevlei Road from the north off Strandfontein Road. The proposed N21 freeway would therefore have to cross this service road. Access to the CFWTW from the south (Baden Powell Drive) has been closed for security reasons.

Of major potential significance is the intended proclamation of the whole area as the so-called False Bay Ecological Park (FBEP). Bloom (2002: 8) points to the fact that *"...the City of Cape Town, South Peninsula Administration is progressing with this venture after commissioning several studies."* Consequently, there appear to be significant environmental issues mitigating against the alignment of the freeway through this area (see, for example, the Final Scoping Report, Chand Ecosense JV, October 2000).

From a social perspective, the environmental significance of the Zeekoevlei/Rondevlei Nature Reserves, including the CFWTW, is described in the SIA (Malan, 2002: 15,16). The fact that many school children from disadvantaged communities participate in environmental education programmes at Rondevlei has important implications for pedestrian access over or under the proposed freeway. Currently (2002), approximately 2 000 children participate in 3-day outdoor camping experiences, providing a total of 6 000 days of environmental education. At present, approximately half of these children would need to cross the proposed freeway.

⁷ There is a plethora of planning documentation produced by the various administrations responsible for different sections of the proposed route. For example, regarding Sector 1, the South Peninsula Sub-Regional Structure Plan should also be considered, as well as the Municipal Spatial Development Framework (covering the area south of the N2/R300 interchange westwards, therefore also relevant to sector 5) & the Metropolitan Spatial Development Framework. In addition, national, provincial and local government legislation needs to be considered.

School children are guided on foot down eastern bank of the Zeekoevlei canal and participants access the beach for marine ecology as well as visit the CFWTW and landfill sites.

The proposed alignment of the freeway would cut off this access. Furthermore, an operational service road is required for vehicle access to the park (e.g. in the event of fire).

3.2.2 Recommendations

- (a) That the proposed freeway overpass the existing service road along the Zeekoevlei Canal⁸. This underpass would then constitute the chief pedestrian access route in a north-south direction for environmental education programmes or activities. Provision for pedestrians along the Canal should be made, for example, by ensuring that the underpass be sufficiently wide to allow vehicle and pedestrian access. It should be noted that an underpass alone is not supported by Rondevlei Nature Reserve management (Gibbs, interview, Rondevlei: 5 August 2002).
- (b) That a pedestrian bridge be constructed over the proposed N21 freeway as an additional facility. This would be the favoured option from an environmental perspective as it would not detract from an 'outdoor experience' to the extent that a subway may. The pedestrian bridge would have to lie at least 300-400 metres to the east of the freeway overpass.
- (c) That the proposed freeway allow continued access to the CFWTW along the existing service road (Zeekoevlei Road), i.e. an overpass is required at this location. Provision for pedestrians along Zeekoevlei Road can also be considered.

4. The Pelikan Park Area

Adjacent to Zeekoevlei (northern and eastern side) are the Pelikan Park communities. Pelikan Heights, however, is a new, distinctly separate and more 'up-market' residential development just north of Baden Powell Drive and west of Strandfontein Road. In the SIA, Malan (2002: 20) notes how *"The building of the road could lead to the division of communities and the creation of barriers between residents and amenities. An example is the separation of Pelican Park and Peacock Close, which form part of the same community."*

It has subsequently been confirmed that Peacock Close is a part of the Pelican Park residential area (Davids, Pelikan Park Ratepayers Association). This implies that the current alignment of the proposed proposed alignment of the N21(R300) Ring Road(R300) freeway will not separate these two communities. It is true that Pelikan Heights will be severed from Pelikan Park however. Nevertheless, pedestrian traffic demand between these two communities is not a factor and pedestrian traffic demand between these areas can be accommodated via Strandfontein Road.

Recommendations

No pedestrian facilities are proposed for this area.

⁸ Grid ref. CU 33, pp 104.

5. Strandfontein Road to Vanguard Drive

The northern edge of the established Strandfontein residential area borders on the southern edge of the PHA. The proposed alignment of the N21(R300) Ring Road is approximately along Punt Road that runs adjacent to the Strandfontein residential area in the north.

Several indistinct desire lines are evident from aerial photos of this area. Pedestrians may be able to cross at the Strandfontein Road crossing but this may imply a considerable detour for anyone wishing to cross the proposed freeway.

Consultation with various I and AP's in Strandfontein has indicated that limited pedestrian traffic demand does exist across the proposed alignment of the proposed freeway. Of the three schools in Strandfontein, only Dennegeur Avenue Primary accommodates learners who walk from farming communities to the north to school. More than 100 children walk along an existing farm road opposite the Admiral Hill / Admiral Road area⁹ and then cross into Strandfontein at this site (Gydien, Albanie and Lynch, pers. comm.). Strandfontein High and Strandfontein Primary Schools are situated further to the south. Captain Cillier of the Strandfontein Police Station confirmed this pedestrian traffic.

Pedestrian movement of farm labourers between farms in the PHA and the Strandfontein residential area is too minimal to be of any significance. Farmer's would be opposed to a pedestrian bridge allowing easy access to their properties.

From the north-eastern perimeter of Strandfontein, the proposed freeway turns northward and runs just inside the eastern edge of the PHA and the western border of Mitchell's Plain until it joins up with the existing R300 at Vanguard Drive.

This section cuts through the southern sections of the PHA. A significant part of the PHA is used for sand-mining and certain areas are therefore heavily degraded (Cf Draft EIA: 1998: 27,28). Route inspection (14 August) revealed sand-mining activity just south of the Morgenster/Weltetevreden Road intersection. In this vicinity, for example, limited pedestrian traffic demand may be experienced due to the location of the Westgate shopping mall just north of the Vanguard Drive/Morgenster Road intersection. Pedestrians would, however, be able to walk along Morgenster Road. In essence, determining potential pedestrian traffic demand for access the proposed alignment of the freeway is problematic.

Recommendations

Although no specific proposals are made in terms of pedestrian facilities for this section, further investigation into learner pedestrian traffic demand in Strandfontein is recommended at the detail design stage.

At this stage, there is a low degree of confidence that a pedestrian bridge/s or other pedestrian facilities will be required along this section of the freeway. There is a

⁹ Grid ref. CT 40, pp 106

relatively low population density (lack of residential communities and facilities) to the north and west of the proposed alignment of the freeway for this section.

D. SECTOR 2: VANGUARD DRIVE TO THE N1 (EXISTING R300)

1. Description of Route

Currently, the R300 begins in the south at Vanguard Drive (M7) and travels north toward the Swartklip Interchange on the N2. South of the N2, it is known as the Cape Flats Freeway. The R300 continues through to its termination at the N1 and the Stellenberg Interchange. Residential communities adjacent to the road include Weltevreden Valley North, Weltevreden Valley, Woodlands, Phillippi East, Mandalay, Delft, Eindhoven, Roosendaal, Diepwater, Vogelvlei, Kalkfontein, Kuilsriver (Sarepta, Voelvlei, Mabelle Park Marinda Heights, Drosdy Park), Glenhaven, Bellville South Industrial, Ferndale and Oak Glen.

2. Position of Existing Pedestrian Bridges

The current position of pedestrian bridges on this existing stretch of road was determined by route inspection during peak-hour conditions and is as follows:

- (a) In the Mandalay region of the R300 (between Vanguard Drive and the N2). The pedestrian bridge is on the southern perimeter of the Mandalay residential community at the point where the CFF curves to the West.
- (b) Just south of Hindle Road (at Hindle Road signboard) in the Delft area.
- (c) Just north of Hindle Road (at M12 Stellenbosch signboard) in the Delft area. This pedestrian bridge follows the alignment of Silversands Road.
- (d) At the first signboard to the R102, approximately 1 km before the railway bridge. This pedestrian bridge is of the open type with railings only.

In the Draft EIA (1998: 106), reference is made to the inadequate provision for pedestrian needs in the Delft area of the R300. It was suggested that existing linkages be preserved to accommodate community cohesion and maintain traffic flow patterns.

An additional pedestrian bridge in the Hindle Road vicinity, (b) above, has since been constructed. The Hindle Road crossings are reported to be problematic with regard to criminal activity at these bridges. Gang members have allegedly targeted pedestrians crossing on the pedestrian bridges, making it potentially unsafe to cross. For crime reasons, overhead pedestrian bridges are preferred to subways and bridges also need to be designed so as to maximize visibility to protect pedestrians. No engineering design can completely eliminate crime risk. These bridges (or a path alongside a canal under the proposed freeway) still represent fairly confined spaces (Draft EIA, 1998: 107).

Route inspection during peak hour (8 August) also confirmed the fact that pedestrian traffic demand is often at grade directly across the R300, i.e. not making use of the grade-elevated pedestrian bridge. This is extremely hazardous and has resulted in

many pedestrian fatalities and injuries along this stretch of road. Traffic is very heavy during peak-hour conditions.

Site inspection showed the pedestrian bridge north of Hindle Road to be better utilized and there to be not as many pedestrians attempting crossings at grade. Engineers at the City of Cape Town (Sole and Garrod, interview: 7 August) have confirmed the intention to widen the Hindle Road road bridge into a cantilever pedestrian bridge.

3. Recommendations

- (a) Consultation with the Delft police station (Superintendent Booysen, Station Commander, pers. comm.) revealed that the Kalkfontein area¹⁰ was also hazardous in terms of pedestrians attempting to cross the R300 in this area. This was subsequently confirmed by the site visit referred to above. This locality, as well as other areas will require further investigation and constant monitoring. One such area is in the vicinity from Stock Road westwards toward Vanguard Drive, where several pedestrians were observed crossing at grade.
- (b) Any attempt to mitigate these at-grade crossings could include the raising of the freeway as well as the use of a high retaining wall that would discourage illegal pedestrian crossing. The height of the retaining wall used on the N2, for example, has been inadequate in preventing pedestrians from crossing the freeway.

E. SECTOR 3: STELLENBERG INTERCHANGE (N1) TO WELLINGTON ROAD

1. Description of Route

The proposed road would follow the existing road reserve northward along the Kuils River Valley from the current termination of the R300 at the N1 (Stellenberg Interchange). Phase one of the construction falls mainly within the Tygerberg Municipality jurisdiction and, more specifically, the Durbanville municipal area. The road reserve runs chiefly through residential developments, including Belhar, Durbanville, Eversdal, La Rochelle, Morning Star, Oak Glen, Stellenberg and Vredekloof.

2. Pedestrian Traffic

The Final Scoping Report (Chand Ecosense JV, 2000: 50-54) outlines the relevant social aspects for this area. Malan (2002: 4,5) also profiles the baseline socio-economic environment. It is clear from both these documents that the socio-economic profile of these communities is significantly better than that of communities profiled in Sector 1, 2 and 5 which lie adjacent to the proposed route.

¹⁰ Grid ref. CD 52 pp 59

The implication of this for pedestrian facilities along this section of the proposed route is that, as a result of overwhelming reliance on vehicles as a means of transport, pedestrian traffic demand is expected to be smaller than in the areas referred to above. Less attention has therefore been given to investigating the need for pedestrian facilities in this area (Ipse and Bredenhand, pers. comm.).

Nevertheless, the Final Scoping Report (2000: 54) does recommend *"bridges... where necessary to aid vehicular and pedestrian access across the road. Pedestrian access is significantly important, as walking distances determine the ease of accessibility to services, infrastructure and institutions for the majority of the population."*

Investigation has revealed that limited pedestrian traffic demand in the vicinity of the proposed Wellington Road interchange. This demand has its origins in the Phesantekraal community. The latter is comprises approximately 1 400 homes and one estimate is that 60 percent of the population is unemployed in this community. Concern has been expressed by the Durbanville Development Forum (Jankielsohn, pers. comm.) regarding the need for pedestrian access across the proposed alignment of the N21(R300) Ring Road from Phesantekraal.

In mitigation though, it should be said that Phesantekraal is a significant walking distance from the envisaged Wellington Road interchange and secondly, it would seem somewhat of a hyperbole to suggest that pedestrian access will affect *"the majority"* of the population in the Durbanville area.

Furthermore, pedestrian traffic demand could be adequately catered for by constructing pedestrian pathways along Wellington Road. This is also true for Langeberg Road where some pedestrian traffic is evident, as well as for De Villiers Road. Apart from observation, pedestrian movement is also gauged by complaints received from community members adjacent to existing desire lines.

As a result of the nature of the socio-economic profile of the Morning Star residential community (Final Scoping Report, 2000: 51), further investigation with regard to pedestrian traffic demand was deemed necessary. Consultation with the principal of Alpha Primary School (Mr November) revealed that only approximately 20 learners currently walk from the Goedemoed area to school, i.e. across the proposed alignment of the N21(R300) Ring Road. However, residential development in the Goedemoed area implies that fewer children will be walking to school from this area. Moreover, the distance of the Morning Star community from the proposed alignment of the freeway essentially makes pedestrian traffic very light. Further investigation of pedestrian needs here is therefore not regarded as a priority.

3. Recommendations

- (a) No pedestrian bridges are recommended for the area bounded by De Bron Road in the south and Wellington Road in the north due to the low pedestrian traffic demand in this area and reliance on vehicles for transport.
- (b) Midblock crossings should be considered for the De Villiers Road and Wellington Road interchanges.
- (c) Adequate provision for pedestrian traffic should be made along Wellington and Langeberg Roads, with the emphasis on the former. Pedestrian traffic demand along De Villiers Road requires further investigation but there is a low degree of confidence in the need for further provision for pedestrians.

- (d) There is insignificant pedestrian traffic demand by schoolchildren and domestic workers between Goedemoed and the areas immediately adjacent to the road reserve on its western side, i.e. between Langeberg Road and Wellington Road. Observation of Madeliefie Road¹¹ during peak-hour traffic conditions showed very little pedestrian movement. There is a low degree of confidence in the need for pedestrian facilities in this area.

F. CONCLUSIONS AND SUMMARY

Identifying the locations of pedestrian bridges and/or crossings along the proposed alignment of the proposed alignment of the N21 (R300) Cape Town Ring Toll Road is informed by both engineering criteria and social considerations. Engineers today consult with communities to a greater extent than in the past when planning pedestrian facilities.

Official thinking with regard to the planning and design requirements for pedestrian facilities has undergone somewhat of a radical shift in the last ten years. The focus has changed from strict adherence to so-called warrants, to guidelines that now stress the criteria of reasonableness and feasibility when considering a pedestrian facility.

The need for various pedestrian facilities such as overhead pedestrian bridges and/or pedestrian crossings is much greater in certain communities along the proposed route than in others. In fact, requirements are very closely correlated with the socio-economic profile of the residential communities concerned. The more socially 'vulnerable' an area, as described by Malan (2002) in the Social Impact Assessment, the greater the need for pedestrian facilities. This is chiefly due to the fact that communities with a lower standard of living (as defined by certain criteria such as income per capita, employment, dependency ratios, literacy rates, crime levels etc) have to rely on walking to access schools or places of employment or other facilities such as clinics, shops and churches. It is therefore in these communities that pedestrian traffic is at its highest.

Identification of desire lines has been the point of departure in determining the recommended sites for pedestrian facilities.

THE SOUTHERN GREENFIELDS SECTION: WESTLAKE INTERCHANGE TO VANGUARD DRIVE

Main Road to Strandfontein Road

Pedestrian facilities are recommended at the following locations:

- (a) A pedestrian path/s alongside the Sand River Canal to facilitate continued access to the environmental education programmes offered by Sandvlei Nature Reserve. This recommendation assumes
- (i) the continued existence of Sandvlei education facility after the construction of the proposed freeway and

¹¹ Grid ref. BP 53 pp 18

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- (ii) that easy pedestrian access to nature reserves & environmental education for children from disadvantaged communities is regarded as valuable from a social perspective.
 - (b) An overhead pedestrian bridge is **strongly recommended** at the desire line indicated by the extension of Depsiton Road in Lavender Hill into the Capricorn Park area. Should the danger to high pedestrian traffic not be mitigated, high mortality and injury rates, especially to schoolchildren, are likely to occur.
 - (c) In the vicinity of the Rondvlei/Zeekoevlei Nature Reserves, two overpasses and a pedestrian bridge are recommended:
 - (i) Firstly, on the existing north-south service road, which runs along the Zeekoevlei Canal. Provision for pedestrians using this access route should be made, such as sufficient height and width of the underpass/'subway'.
 - (ii) Ideally, a pedestrian bridge across the freeway should also be constructed approximately 300-400 metres to the east of the above-mentioned site. This would ensure that people walking through the reserve on environmental education camps or programmes or bird-watching would not have to utilize an underpass. This is the preferred option.
 - (iii) The second overpass is where the freeway crosses the existing Zeekoevlei Road which currently serves as the only access Road for the Cape Flats Wastewater Treatment Works. Provision for pedestrians could also be made along Zeekoevlei Road.

Strandfontein Road to Vanguard Drive

No specific recommendations with regard to pedestrian facilities are made for this section. Further investigation may be warranted in the Admiralty Hill area of the Strandfontein community, but pedestrian traffic demand is relatively low.

THE PHILLIPPI LINK: CAPE FLAT FREEWAY EXTENSION – VANGUARD DRIVE TO PRINCE GEORGE DRIVE

Stephen Road Primary School (Corner Strandfontein Road and Klip Road)

In view of the recommendations of the Supplementary EIA and the CFC Report, this is the only site between Vanguard Drive and Prince George Drive where further investigation was considered necessary. Confirmation of pedestrian traffic demand here was deemed appropriate in view of the changed status of the former Lotus River High School to the north.

An overhead pedestrian bridge at the school site is recommended. This is in line with both the Draft EIA of 1998 and the Supplementary EIA of 2001.

It considered impractical to expect schoolchildren to deviate substantially from their route (desire line) by having to walk along pedestrian paths alongside the Big Lotus River Canal. Provision for pedestrians (paths) must be made along Strandfontein Road and (midblock signalized) pedestrian crossings provided at the Strandfontein Road interchange.

VANGUARD DRIVE TO THE STELLENBERG INTERCHANGE (EXISTING R300)

The provincial and local government authorities have been intimately involved with pedestrian traffic safety and the provision of pedestrian bridges on the R300. Apart from the existing 4 pedestrian bridges (2 of which have been recently constructed), further investigation in the Kalkfontein area (southern perimeter) and west of Stock Road may be necessary.

STELLENBERG INTERCHANGE (N1) TO WELLINGTON ROAD

Due to the high reliance on vehicle as a means of transport and the relatively light pedestrian traffic, no specific recommendations with regard to pedestrian facilities are made for this section. Pedestrian traffic demand can be accommodated by making provision (pathways) along existing roads such as Wellington and Langeberg Roads.

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13. **The proposed N21(R300) Cape Town Ring Road Toll Project.** Specialists' and Engineers' Workshop. 12 June 2002.

Appendix 1**List of Interested and Affected Parties Consulted**

Name	Description	Tel
Albanie Mr	Principal, Strandfontein Primary School	3932110
Arends Richard	Lotus River/Ottery/Grassy Park Residents' Association	082 4968861
Baker Mr	Principal, Stephen Road Primary, Lotus River	7033698
Basson Ms	Seawinds Clinic (sister in charge: Sister Carolissen)	7011348/9
Booyesen Mr	Superintendent, Delft Police Station	9541345
Botha JN Mr	Founder and Chairman, New Retreat Estate Residents Forum, and City Councillor	7127413
Bredenhand Koos	Councillor, Durbanville	9764539 083 6291111
Burger David	Acting Chief engineer, South Peninsula Municipality	710 8000
Cillier Ms	Captain, Strandfontein Police Station	3932151
Claasen Ms	Principal, Hillwood Primary, Lavender Hill	7019450
Davids Ishmael	Pelikan Park Ratepayers Association	3964140 (h)
Dorse Clifford	Nature Conservation Manager, Zandvlei	
Engeldo Ms	Principal, Zerilda Park Primary, Seawinds	7019824
Feldman W Mr	Lavender Hill Ratepayers Association	083 3632640
Garrod Kevin	Manager: TSM, Bicycles, Pedestrians. Transport, Roads & Stormwater, City of Cape Town	4067316 083 6432042
Gibbs Dalton	Manager, Rondevlei Nature Reserve	083 6356339 7062404
Giljam Cherry	Marina da Gama Association	082 7132322 7887931
Grundling Mr	Captain, Muizenberg Police Station	7885162
Gydien Mr	Acting Principal, Dennegeur Primary School, Strandfontein	3933475
Hesqua Cheryl	Traffic Safety, City of Cape Town	4067406
Ipse Claude	Councillor, Durbanville	9195259 083 6404825
Isaacs Mr	Principal, Al Hazar Islamic School, Montagu's Gift	7041043
Jankielsohn Ian	Chairman, Durbanville Development Forum and Community Improvement District	9751137
Jeftha Mr	Captain, Muizenberg Police Station	7885162
Jones Ishmael	Councillor, Ward 68	7014491 083 6291320
Lund Peter	Cape Flats Wastewater Treatment Works, Strandfontein	
Lynch Mr	Deputy-Principal, Strandfontein High School	3932100
Manchip Chris	Consulting Engineer, Jeffares and Green Inc. Pinelands	5320940 083 2901441
Mangnall Michael	Chand Environmental Cape Town	4186406
Manie Mr	Principal, Lavender Hill High, Lavender Hill	7019000
November Mr	Principal, Alpha Primary School, Morning Star, Durbanville	9761493
Officer Andrew	Chief engineer, Penway Consortium	975 8235 082 853 6093

Oliver Emma	Chairlady, Zeekoevlei Civics Association	7055502
Peterson Elizabeth	Haven for Educational Development, Lavender Hill	7017941
Ryall Ms	Former Chairlady, Kirsten and environs Ratepayers Association	7125427
Sasman Mark	Ecosense, Stellenbosch	8864056
Sole, Peter	Manager: Traffic Safety, City of Cape Town	4067405
Stoffels G Mr	Lavender Hill Clinic	
Van Wyk Dr M	New World Foundation, Steenberg	7011150
Vincent Graham	Former Chairman, Durbanville Development Forum	9754113
Visser Mr	Planner, Physical Resources Planning, Dept. of Education	4672128
Voges Mr	Inspector, Muizenberg police station	7885162
Williams Mr	Director (Station Commander), Nyanga Police Station	3863432/5
Williams Mr	Deputy-Principal, Hillwood Primary, Lavender Hill	7019450
Wood, Yvonne	Chairlady, Tokai Residents Association	7125797

Appendix 2



**LOTUS RIVER, OTTERY, GRASSY PARK
RATEPAYERS AND RESIDENTS ASSOCIATION**

P O BOX 31043, GRASSY PARK 7888 TEL: 7053753 FAX: 7052154
e-mail: lofob@iafrica.com

CHAIRPERSON: Mr R Arends Ph: 7624333 CELL: 0824968861 e-mail: rialoss@netactive.co.za

Mr. G Ball
CONSULTANT

22 August 2002

Sir

PEDESTRIAN BRIDGES AND CROSSINGS ON PROPOSED R300

Your request for our input refers.

Firstly, it is still our organizations view that the road in question should not be a toll road for the reasons as discussed at the meeting held in Bonteheuwel.

It is imperative that a pedestrian bridge be erected in the vicinity of Stephen Road Primary School to cater not only form the learners but also adult traffic using this area. The pedestrians all stay in the Ottery (Marble Flats) area and visits the shops on the southern side of Klip Road.

Another active area is Hector Road.

Klip Road residents walk to the Ottery Day Hospital whilst the residents of Ottery make their way to the Lotus River Day Hospital.

Parkwood residents make use of the Klip Road Clinic.

The schools situated south of Klip Road also attract a number of pupils from the Ottery area.

From the aforementioned you will note that the areas in question carry above normal pedestrian traffic.

We would not support pedestrian and cycle pathway that run along the Big Lotus River Canal in view of the high crime rate and incidence of gangsterism.

We trust that the information provided will assist your research.

Yours faithfully

RICHARD J ARENDS

