

4. OPPORTUNITIES

Four types of areas having development potential in and around the station complex have been identified: Uncovered Areas, Airspace, Decked Airspace and Existing Buildings. See Figure K.

4.1 Uncovered Areas

Such areas include all open, vacant areas at ground floor level.

4.1.1 Site 1 :

Open area to the east of Paul Kruger Building on the corner of Wanderers and Wolmarans streets. Approximately 100m long and 90m wide which is 9 000m². This area is used as a park at present. A forty storey office block was envisaged for this site in 1981.

4.1.2 Site 2 :

Open area to the west of Paul Kruger Building on the corner of Rissik and Wolmarans street. Approximately 90m long and 70m wide which is 6 300m². There is a chapel on the west side of the site which can be relocated should the site be developed.

A forty storey computer centre and office block was planned on this site in 1981.

4.1.3 Site 3 :

Open area in front of the Paul Kruger Building on Wolmarans street. Approximately 80m long and 60m wide which is 4 800m². This area is used for parking and a park at present. Should this site be developed, access to the Paul Kruger Building will have to be allowed for.

4.1.4 Site 4 :

Open area between Harrison and Rissik street to the south of the railway cutting. Triangular shaped

area approximately 155m long and 45m maximum width which is 3 500m². This area is presently used as casual parking area and is undeveloped.

4.1.5 Site 5 :

Open area to the west of Wanderers street and north of the railway cutting. Approximately 86m wide and 145m maximum length which is 12 500m². This area is presently used for pedestrian ways, access roads and casual parking.

4.1.6 Site 6 :

Piazza south of Main Concourse. Approximately 40m long and 30 m wide which is 1 200m². This area is used by large volumes of pedestrians. A yearly lease for a flea market on this site is being negotiated at present.

4.2 Airspace

This includes those volumes of space which are above the railway tracks but located so that the trains have an unimpeded right of way.

4.2.1 Site 7 :

Area on the corner of Noord and Wanderers streets and east of the third class concourse. Approximately 145m max. wide and 170m max. length and has a total area of 16 317m². Used for railway lines at a lower level carrying large numbers of trains daily.

4.2.2. Site 8 :

Area to the north of Noord street between King George and Wanderers streets. Approximately 78m wide and 90m maximum length which is 4 800m². Used for railway lines at a lower level. A signal cabin, which was recently replaced after it had been destroyed by fire, is

located on the southern embankment of the cutting.

4.2.3. Site 9 :

Area to the north of Noord street between King George and Klein streets. Approximately 60m long and 40m wide which is 2 400m². Used for railway lines at a lower level.

4.2.4. Site 10 :

Area to the north of Noord street between Klein and Twist streets. Approximately 150m long and 40m wide which is 6 000m². Used for railway lines at a lower level. This area has the Johannesburg Art Gallery to its northern boundary.

4.2.5. Site 11 :

Area to the south of the Airways building between Rissik and Harrison streets. Approximately 142m wide and 145m maximum length which is 20 600m². Used for railway lines at a lower level.

4.3 Decked Airspace

Existing decks above the rail right of way. Further development will need structural changes to the existing decking.

4.3.1. Site 12 :

Forecourt to the west of the main station concourse. Approximately 300m long and 65m wide which is 19 500m². This area is used for parking and pedestrian access to the station building. Any development within this area should attempt to minimise the vehicular / pedestrian conflicts and hazards which exists at present.

4.3.2. Site 13 :

Court area to the west of the third class station concourse. Approximately 46m wide and 80m long

which is 3 680m². This area is used for parking and service vehicle access at present, and is underutilised.

4.3.3. Site 14 :

Area to the north of the third class concourse up to the south side of Paul Kruger Building which is presently used as vehicular access area to platforms, as well as facilities for S.A.T.S. long distance buses. Approximately 70m x 45m, which is 3 200m².

4.4 Existing Buildings

Modern as well as historic buildings having various uses are located within the station complex. Should their structure and occupancy permit rehabilitation, they may be converted to improve their functional and economic potential.

See Figure L for locality and areas of buildings.

4.4.1. Site 15 :

1st And 2nd Class Main Station Building to the east of Rissik Street. This is a vast underutilised 13 393m² space with a floor (deck level over platforms) to ceiling height of 20m.

4.4.2. Site 16 :

3rd Class station and bus concourse to the west of Wanderers Street, comprising 8 600m². The access/ egress ways to/from this building are presently too small to cater for the large number of commuters using it every day.

4.4.3. Site 17 :

South Station Building to the North of De Villiers Street. Approximately 150m long and 60m wide on ground level. Used mainly for offices at present. Refer to the Appendix, item 6.2 for a

detailed description of this building, of which the total floor area is 32 060m².

4.4.4. Site 18 :

Regional Manager's Office Building to the North of De Villiers street. Approximately 74m long and 60m wide on ground level and 3 storeys high. This historic building is used for offices and parking at present, and comprises 30 054m² total floor area.

4.4.5. Site 19 :

Tippett Building to the south of the Main Station concourse. Approximately 58m long and 11m wide on ground and 7 storeys high. Used for offices at present, and has a total floor area of 8 344m².

4.4.6. Site 20 :

Paul Kruger Building to the south of Wolmarans Street. Approximately 76m long and 28m wide at ground level and 15 storeys high. Used for Transport Service's headquarters at present, and amounts to 38 304m² total floor area.

4.4.7. Site 21 :

Rotunda Building to the east of Rissik Street. Approximately 46m diameter on ground level. Used for S.A. Airways terminal concourse and offices, with an internal floor area of 3 272m².

4.4.8. Site 22 :

S.A. Airways Building to the east of Rissik Street. Approximately 80m long and 16m wide on ground level, and comprises 13 070m². Used for offices at present.

4.5 Comment

4.5.1. As proposals are realised for the sites listed above, the effect that

such action will have on remaining sites should be comprehensively evaluated. Imbalances, shifts in focus areas, re-direction of vehicular/pedestrian flows could all result from development actions. Because it is difficult to predict in which way and when the various developable areas will be developed, as this will be determined by the market, a programme of on-going assessment of the emerging situation, with due allowance for amendment and revision, is called for. This procedure is also subscribed to by Johannesburg City Council. However, a development framework will tend to eliminate such problems by defining how sites should be developed.

4.5.2 The development of all of the sites would be subject to the requirements of S.A.T.S. as well as the consent of the Johannesburg City Council.

4.5.3 The Director of Planning, of the City Council of Johannesburg has made the following recommendations, which have not been formally approved, with regard to the "Decking of Railway Property" on 24 February 1987: (Site numbers in brackets refer to the site numbers as used by the Council).

i) Site 7: (7) "An east-west structuring element in the C.B.D." with a Floor Area Ratio (F.A.R.) of 3,6, coverage of 90 % and an 8 m building line along the Noord Street frontage.

ii) Site 8: (6) As i) above, except that the building line along the Noord Street frontage is 3m.

iii) Site 9: (5(b)) "To link the site and the existing open space around the monument Joubert Park", (sic) otherwise

as ii) above.

- iv) Site 10: (5(a)) "To provide a coherent and usable public open space in the city centre by linking Joubert Park to Noord Street and Jack Mincer Square". F.A.R. is 3,6 and coverage to be 25 % for podium (max. 2 storeys) and 12 % for point block. The building line along the Klein Street frontage is 100 m.
- v) Site 11: (9) "A major Civic Plaza" with F.A.R. of 3,6, and coverage of 40 % above the Plaza Level, which is the level of Rissik Street at its highest point.

4.5.4 The two historic buildings facing on to De Villiers Street are landmarks within the C.B.D., and present opportunities for improving the image of SATS.

4.5.5 Airspace and decked airspace development could not only rationalise the functioning of the multi-modal transport centre, but also benefit the city by eliminating the barrier presented by the railway cutting.

4.5.6 With regard to the future of the Johannesburg C.B.D. Dr Z. de Beer (P.B.D., April/May 1984) has stated:

"... The black people shop in the C.B.D. partly because the facilities are superior to those in the townships and partly because the C.B.D. is where they are during shopping hours. City government is in the C.B.D., the railway stations, the air terminal - all these make an absolutely solid basis for the permanent existence and growth of the C.B.D. "

5. CONCLUSION AND RECOMMENDATIONS

5.1 S.A.T.S. as owners of 15ha of station facilities, as well as 18 ha of central city airspace, (a total of 33 ha) could be the means to initiate and exploit a new, pleasant atmosphere in the heart of the city, with the historic South Station building providing the logical starting point for improvement in the area. This building has the potential to be renovated and refurbished into an exciting railway - theme shopping and restaurant complex. It's civic environs could be public places attracting passing pedestrians, lunchtime browsers, evening entertainment seekers and Saturday shoppers to such an extent that a development momentum is established in a prime area of central Johannesburg. In this way S.A.T.S. will obtain and realise a significant additional income. See Appendix, item 6.2.

The economic basis on which investment will be founded is the stimulation of developer - interest within an existing centrally located transport node frequented by 300 000 people per day. The extremely valuable space over the railway tracks could change the divided nature of Johannesburg into an integrated, more cohesive city, while at the same time improving the visual unpleasantness of the rail infrastructure. A steering committee comprising S.A.T.S., City Council, developers and public representation should be formed, with access to funds so that the development framework may be implemented.

5.2 An in-depth transport study should be undertaken as a matter of urgency, so that the primary function of the station complex, which is to house an efficient, multi-modal transport node, may be realised. The transport study should result in a comprehensive transport and traffic plan for the station complex and environs.

5.3 Presently, the station complex houses diverse activities most of which could be more economically located elsewhere and it is recommended that a thorough study be undertaken to establish which activities could be transferred elsewhere and the costs involved. The prime areas which become available present opportunities to improve S.A.T.S.'s income.

- 5.4 It is further recommended that messrs Britz and Abramovitz's Urban Design Project (See Appendix, 6.4) be presented to SATS management, the City Council, and the C.B.D. Association as their proposals have considerable value in defining a development framework for the station complex.
- 5.5 The station complex should be improved by:
- 5.5.1 The integration of different modes of traffic
 - 5.5.2 The provision of adequate, well located short and long term parking.
 - 5.5.3 Encouragement and allowance for a diversity of facilities and activities to be established in the area.
 - 5.5.4 Attention to urban landscaping such as signage, trees, street furniture, litter bins, hygiene, security, lighting and covered routes defined by attractive paving.
 - 5.5.5 The promotion of shows, street theatre, markets/fetes and the like.
 - 5.5.6 The creation of new access points to the city:
 - a) To/from Rissik street diagonally across Atwell Park to cater for a pedestrian link to the Newtown area with its concentration of buses and taxis.
 - b) An improved route to Joubert Street, i.e. the sub-way with its three flights of steps should be eliminated in favour of a pedestrianised crossing at (a traffic free) street level.
 - c) A direct link through the South Station building from the forecourt area in the north, to Eloff Street in the

South. This link has been shown at basement level in a proposal by SAGE. A link at ground floor with bridges is desirable, however, as this will facilitate accessibility.

The above actions will draw attention to the station area as a place of interest and attraction which in turn will encourage retail opportunities, revitalise the Johannesburg C.B.D. and promote an efficient multi-modal transport centre.

6. APPENDIX : URBAN DESIGN CONCEPTS BY VARIOUS PARTIES THAT WILL INFLUENCE THE FUTURE STRUCTURE PLAN FOR THE STATION COMPLEX

6.1 The Eloff Street Scheme

Mr. Bernard Snodyk of SAGE presented proposals for the renewal of the Eloff Street area to the Chief Director (Building Services) project team on 4 May 1987.

The following comments were made by Mr. Snodyk during his presentation:

- 6.1.1 Eloff Street frontage from Plein to President streets is controlled by SAGE and associated companies, and common ownership is essential for a proposal of this nature.
- 6.1.2 Eloff, Kerk and Pritchard streets have the highest C.B.D. retail rental income per m² in South Africa.
- 6.1.3 It is proposed to pedestrianise Eloff Street entirely, create a mall under the street level and draw pedestrians to this axis by allowing commuters to move through the South Station Building. Although catering for passing pedestrians, the scheme is to be desirable in its own right.
- 6.1.4 Proposals for a central city transport system, which include a bus "box" (a dedicated ring road system) around the core with a possible future light rail route from Faraday station to Braamfontein under Eloff street, form part of the scheme. The core should be as traffic free as possible, with no bus termini being located in the city centre.
- 6.1.5 South Station Building, because of its strategic location between the station and Eloff street, could become a first phase catalyst for the SAGE proposals. The long term participation in the planning and implimentation of the scheme by S.A.T.S. is required and a union of

interests is essential, according to Mr. Snoodyk.

6.1.6 Mr. Snoodyk noted that as transport facilities degenerate, the ridership declines, and that improving a public transport service, if needs be by adequate subsidies, is crucial to the efficient functioning of the city central core. The C.B.D. is not yet at a bulk saturation point, and some 29 000m² of underutilised open land is available for the creation of new office space. (This figure excludes the air space area over S.A.T.S. land within the core). In addition, urban renewal will promote the better utilization of existing city centre space.

6.1.7 Mr. Snoodyk indicated that convenience shops, fast food outlets, banking services, employment agencies, medical suites and consultancies could be suitable for inclusion in the South Station Building. He did not envisage a conventional shopping centre in this location.

6.1.8 Lastly, Mr. Snoodyk believes that because of a poor public transport service, a lack of infrastructure, low densities and political instability commercial decentralization to the black townships is not likely to occur on a significant scale, in the foreseeable future.

6.1.9 At a presentation to the Central Business District Association of Johannesburg on 12th October 1987, Mr. Snoodyk indicated that certain sectors of the C.B.D. are being acquired or are already owned by the same investors, i.e. there appears to be a strategy to consolidate ownership by acquiring the surrounding properties as well. This could lead to the development of megablocks, of which the Carlton Centre complex forms an example, and such megablocks would

significantly influence the future development of the city centre. He further indicated that the Consortium Report, (the Johannesburg C.B.D. study by various consultants) presently under consideration by the Johannesburg City Council, will generate new growth if the City implements the recommendations contained in the report.

6.2 Feasibility Study for the Redevelopment of the South Station Building

6.2.1 General

The following feasibility analysis by Mr. Hector MacGregor, Assistant Valuer, S.A.T.S. was initiated by the Deputy Director, Business Development Section in order to determine the viability of converting the old and historic South Station Building into a modern shopping complex and office block. The study is also the subject of a practical assignment towards attaining a B.Comm. (Hons)(Business Economics) degree with the accent on Property Management and Development, at the University of South Africa, and an in-depth report will be submitted to the Deputy Director, Business Development Section, S.A. Transport Services. The following summary was compiled at the request of the Chief Director (Building Services)'s Section, for inclusion in this report on the Johannesburg Station complex.

6.2.2 Location

The South Station Building is located on the southern side of the Johannesburg Station complex fronting on De Villiers Street with the main entrance facing Eloff Street. The property consists of 16 adjoining stands (Stands 1816 to 1841, Johannesburg) and a portion of Stand 4372 (previously a portion of Eloff Street) in extent

some 10 292m² .

6.2.3 Improvements

The South Station Building was erected during the early 1930's and was designed as a station and an administrative office block for the S.A. Railways and Harbours.

At present the three upper floors are utilised as an administrative office block whilst the rest of the building houses other diverse activities most of which could economically be accommodated elsewhere (e.g. the museum workshops and printing works).

The building was found to be physically deteriorated and functionally obsolete. However, due to its historic significance it may not be demolished. This nevertheless does not detract from the fact that the productivity of the building is severely affected and that the cost of management and maintenance is unacceptably high in terms of established market parameters.

For example, the expenditure-to-income ratio indicates a ratio of 72% measured against a market norm of between 25% and 35% (considered acceptable in the current income property market.)

6.2.4 Current Income Potential and Market Value

The South Station Building can be considered as an income producing building and it was estimated that this building can at current market rentals for similar buildings generate a net income of only R391 000 p.a.. Based on the current income potential an investor will most probably not be prepared to pay more than R4-million for the building. This amount can be considered as the market value of

the South Station Building as at 15 September 1987.

The market value of the South Station property after demolition and clearing of the site in terms of the highest inherent potential (location and the Johannesburg Town Planning Scheme of 1979 as amended), was determined on a comparable basis to be R11,3-million (R1 100/m²).

Considering the above mentioned market value, it is clear that the South Station Building is obsolete in productivity terms and should in fact be demolished. However, due to its historic significance redevelopment for a more productive utilisation is an alternative strategy.

It was previously mentioned that this building could be redeveloped for a retail shopping complex to be located in the basement, ground and mezzanine levels and that the upper floors could be upgraded for modern office accommodation. In order to establish the viability of such a redevelopment it is necessary to consider modernisation and redevelopment costs and market demand for the proposal, in terms of the current supply of the particular type of space in the trade area, and the expenditure patterns of the population supporting this trade area.

6.2.5 Cost of Redevelopment

Two redevelopment possibilities were considered :

Possibility A :

- i) Modernisation and redevelopment of the basement level, mezzanine level and ground floor into a retail shopping complex and the development of two cinemas. This will entail:

(a) The creation of improved access to the basement and mezzanine levels and pedestrian walkways to ensure efficient traffic flow and support for the project by way of entrances on the southern, western and eastern sides of the building. Refer to plans conceived by the Chief Director (Building Services)'s Section: See Figures M, N and O.

(b) Modernisation and provision of all services (electricity, water, lifts, air conditioning etc.).

(c) Redesign of space to ensure improved space utilisation

ii) Modernisation and redevelopment of the office space on the three upper floors for placement on the open market.

Possibility B :

i) Modernisation and redevelopment of lower floors as described above, as well as

ii) Renovation of the three upper floors for utilisation by S.A.T.S. on a lease - back basis.

Possibility B was found to be potentially more profitable, producing a higher rate of return on redevelopment capital invested. The cost of modernisation, redevelopment and renovation of the South Station Building was assessed by Quantity Surveyors in the Chief Director (Building Services) Section as being approximately R13,5-million.

Potential Income Expectation of South Station Building after redevelopment and modernisation based on current market rentals for similar accommodation :

	January 1989 - 1990
Projected gross income	R4 500 000
Less Vacancy factor (3 % on retail space only)	R 100 000

Effective gross income	R4 400 000
Less Expenditure	R1 200 000

NET INCOME :	R3 200 000

Based on this net income figure a potential investor may be prepared to pay R32-million for South Station Building after redevelopment (i.e. in January 1989). Furthermore, the Expenditure to Effective Gross Income ratio will be 27,27% which is deemed acceptable in the current market situation. The rate of return on the total capital investment (Redevelopment cost plus current market value of the building) amounts to 18.3% which is considered good, although it should be noted that the net income estimation is a conservative calculation in view of the current market expectations.

6.2.6 MARKET STUDY

i) Office Accommodation

The market analysis of the office accommodation in the C.B.D. supports the modernisation of accommodation in the South Station Building especially if it is directed towards the small business, professional and consultancy sectors which requires relatively small prestige office suites. The main factors in favour of specialised office development

in the South Station Building are location, accessibility and approachability which can be considered on a par with most buildings in the C.B.D..

ii) Retail Accommodation

If improved access to the interior of the building is provided, its redevelopment into a retail shopping complex should be economically viable provided that the shopping mix is directed to the appropriate market segment.

It was found that because the users are mainly black commuters the viable shopping development which could be established in South Station Building is the bazaar type of development such as at the Oriental Plaza.

6.2.7

CONCLUSION

It is recommended that the South Station redevelopment should be proceeded with as it is considered financially feasible and that it will also benefit Transport Services in other aspects such as :

- i) The rehabilitation of a historic building.
- ii) The effective linking with the C.B.D. which will encourage more commuters to make use of the transport service.
- iii) The provision of amenities and services to the commuter and travelling public in particular, and the C.B.D. community in general, to improve the image of SATS and increase the use of the transport service.
- iv) The improvement of pedestrian traffic flows through and around the South Station

Building will decrease criminal activities on the eastern side of the building because of improved accessibility and surveillance.

- v) The productive utilisation of the building, in that maintenance costs will be reduced and income to S.A.T.S. will be improved.
- vi) Promote urban renewal in the surrounding area and start the process of redevelopment and re-organisation of the total station complex.

NOTE :

A few days after receiving the above summary from Mr. Mac Gregor, it was announced in the press that the President Hotel, which is opposite the South Station Building, has been sold to Kroteenberger Holdings. It was speculated that the selling price for the 28 storey hotel was between R15-million and R20-million. (Crews, Sunday Times, 1 November 1987) A spokesman for the purchasing company stated: "The lower section will be used for shops and restaurants and the upper floors for office accommodation." Such a change in use will significantly enhance rehabilitation possibilities for the South Station Building.

6.3 Smal Street Mall - Phase Two

Watson and Associates have been involved with the co-ordination and planning of the development of the Smal Street mall.

The Phase Two proposals will create a pedestrian link on two levels from the Carlton Centre to Joubert Park. A 29 - storey shopping, office and residential building is proposed in the airspace on site 9.

6.4 University of the Witwatersrand : Recent Urban design Projects

Both the Department of Architecture and the Department of Town and Regional Planning have set projects or promoted dissertations with the Johannesburg Station Complex and its environs as the subject of study. The architectural thesis 'Blood, Sweat and Tears' by Slavin and Weinberg, (1969) is an example of an exhaustive study with comprehensive design proposals, which is still of great interest and relevance eighteen years later.

Three post-graduate students at the Department of Town and Regional Planning are presently involved with research and urban design proposals for the Johannesburg Station and environs.

6.4.1 Messrs. Bannie Britz and Syd Abramovich have completed an Urban Design Practice I project entitled: 'Re-use of S.A.T.S. properties in central Johannesburg' on 6 November 1987. Professor Boden was approached on 22 April 1987 to establish whether projects had been completed on the station complex which led to him deciding on the station area as an urban design project. His brief stated : 'S.A.T.S. has approached the Department for ideas on the revamping, re-use and air rights potential of their land and buildings in central Johannesburg'.

At the interim jury, which took place on 14 September 1987, Prof. R. Uytenbogaardt made a plea that the development of the station complex should contrast with the monotonous grid layout of the C.B.D. The linking of various movement systems could still occur at the complex, but in a structure having a different order to the existing pattern - "Let it be a link, but let it be unique."

6.4.2 The presentation by Messrs Bannie Britz and Sydney Abramovitz at the Final Jury on 6 November 1987 was of a high standard, and the drawings, photographs and models

clearly illustrated the rationale and proposals in a pleasing manner. The content of the presentation may be summarised as follows:

i) Two options for the development of the station complex presented themselves after various scenarios had been evaluated:

(1) Maximising the development potential of the area.

(2) Giving something back to the city as called for by Prof. Uytendogaardt at the interim jury.

Both these options were developed into proposals at a different scale to the present city blocks, both include innovative structures in keeping with a transport centre which will have to cater for 20 million people in the P.W.V. area by 2035 and both have retained the two historic buildings on the site.

ii) Problems and opportunities for Johannesburg, Soweto and the site were outlined:

Johannesburg - Problems

A deteriorating city because of over-emphasis on cars; a pandering to the wealthy; the flight of business to the suburbs; security; the inadequate public transport system; the single minded pursuit of profit; the lack of diversity and basic facilities.

Johannesburg - Opportunities

A city with potential because of the concentration of wealth, infrastructure and

expertise, as well as a place which creates/provides jobs and begins to address political problems.

Soweto - Problems

Access to Johannesburg; security and poverty.

Soweto - Opportunities

A place of human resources - people who want to get on in life and the cream of Third World expertise reside here.

The Site - Opportunities

A sizable property - approx. 34 city blocks with easy access; a prestige, unique site; at least 300 000 people pass through the site on work days; a concentration of formal and informal activities; a transport interchange at the crossing of routes; a symbol of golden opportunity, transport and heart-of-the-city.

The Site - Problems

The cost of decking and piling calls for major investment; no sense of place or occasion; no spatial diversity or equity of facilities; present economic recession; no basic transport strategy.

iii) Option 1 is characterised by:

A massive, multi-flexible low-rise transport centre which straddles Rissik Street into the airspace on site 11 to the west, over the main forecourt and concourses (which are demolished) to the east.

Two 50 - storey highrises are located in the airspace to the

west of the new transport centre, and two 30 - storey buildings are proposed to the east and west of Paul Kruger building on site 1 and 2.

A cultural centre, which is totally lacking in the C.B.D., is provided on top of the Jack Mincer parkade.

iv) Option 2 is characterised by:

A 100 m x 100 m civic square, where the 1st and 2nd class concourse now stands, and a second smaller square (the size of Piazza Navona which is 280 m x 65 m) to the west of the main square. A 3,4ha park is proposed over the Braamfontein shunting yard, and an east - west link to Joubert park is envisaged.

Four 50-storey office towers are included in this option, and all other buildings are not higher than 7 storeys.

The geometric orientation of this proposal is determined by the axial extension of Diagonal Street i.e. the main square is at an oblique angle to the city grid.

24 m diameter openings at regular intervals are provided in the airspace deck for light, ventilation and a view onto "the world of trains".

The financial value to SATS of either of the above options is estimated to be R2 000 - million over a 30 year period. (sic).

vi) Mr Conrad Berge, the honorary secretary of the Johannesburg Metropolitan Action Group (Jomag), suggested that a first step to the realisation of development would be the

improvement of the extremely poor image of the rail facilities. He admired the robust 100 m x 100 m square contained in Option 2, and felt that such a space would help to overcome social and racial fears.

- vii) Prof Boden believed it would be short-sighted to limit the Bulk of the site to 5, in view of the enormous economic and physical potential of this area.

6.4.3

Mr. Gawie Greeff is the third post-graduate student involved with the Johannesburg Station area, and he is finalising his thesis at present. He made the following comments about his research on 13 October 1987 :

- i) The quality of open space in the C.B.D. should be a primary concern. Places for people, of which there are too few at present, should be created.
- ii) Single-use super blocks contribute to urban quality only when limited and suitably balanced with a diversity of smaller scale facilities.
- iii) The station is located at what used to be the main open space of the early city.
- iv) The density of the station complex could be increased, but the goal should be to create a well functioning multi-modal transport centre.