

### Routes:

All routes between and within buildings are of a smooth and even surface. All routes and entrances are accessible for wheelchairs. Regulations require a minimum of 1/100<sup>th</sup> of the audience capacity for wheelchair users in a performance space. Their location can be in front, at the sides of the retractable seating. A wheelchair user should be able to sit with a party of friends not in wheelchairs. Sight lines from the wheelchair should be checked, as should the sight lines of the audience members behind. Wheelchair users can also transfer into retractable seating and the wheelchair put on the side. Enough space must be provided for this. Dance performances should not only be undertaken by the young, fit and able-bodied: disabled and elderly people will also take part in programmes and performances. Therefore all surfaces should be accessible for wheelchairs. Lifts and ramps will provide access to the upper floors.

### Changes in level:

All areas will be accessible for the disabled. All changes in levels will be catered for with appropriate ramps of a fall not more than 1:12. Two lifts will be provided.

### Edges:

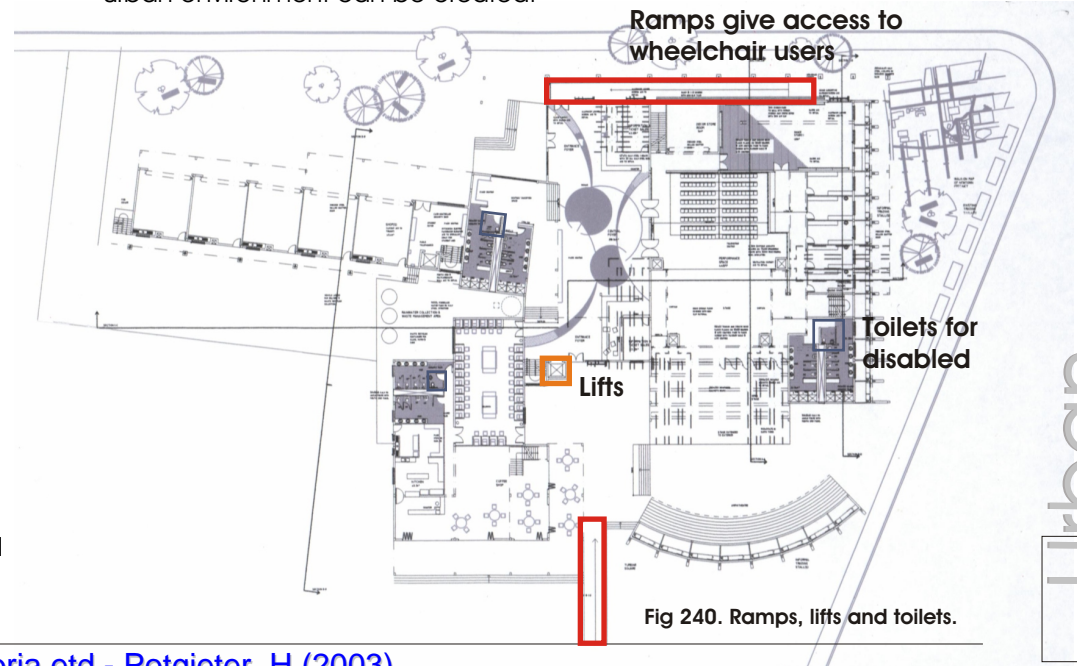
All edges between walls and floors and stair nosings must be clearly distinguished through the use of contrasting colour for the visually impaired.

### Toilets:

The required number of disabled toilets will be provided. One disabled toilet will be provided on the ground floor and the first floor.

### Access to facilities:

Convention living and working patterns requires regular access to a range of services. Ensuring that these services can be accessed easily and in environmentally friendly ways supports sustainability by increasing efficiency and reducing environmental impact. The whole Newtown development vision is based on creating an active and vibrant public environment, within a milieu of art and cultural activities, with supporting retail, commercial, business, office and residential uses. Pedestrians are accommodated as the major form of movement in an easy, safe, convenient and pleasant environment. Vehicular movement will be coordinated and access to well located and safe parking areas will be available. The proposal is focussed on a mixed-use development, encouraging the complex integration of cultural, art, entertainment, retail, commercial, office and residential activities. To maintain a sense of continuity and a vibrant urban life, ground floors will accommodate retailing and entertainment: uses that can flow out onto the sidewalk space adjacent to the building. The area around the site is so diverse in facilities that an independent urban environment can be created.



### Banking:

Banking services (i.e. ATM) are available within 3 km of the building.

### Retail:

Small, multi-functional, adaptable shops will be provided along Jeppe Street. Groceries and items required on a day-to-day basis will be available in these retail spaces. Stalls provide opportunities for informal trading. A wide variety of retail is available in the surrounding area.

### Communication:

Telephone and Internet facilities for the public will be provided next to the library.

### Residential:

A new housing development is in progress that will provide 2200 housing units in Newtown. This residential development is situated north to the site approximately two city blocks away. The development will be targeted to mixed income markets, thereby encouraging diversity and sustainability. Some 1050 of the total number of housing units are to be subsidised, while the remainder will be developed to target earners within the middle-income bracket. Residential densities have to be provided on a differential basis. Higher densities are vital for the provision of public transport and should be concentrated along major routes and around nodes. High densities imply that the single house on a single plot is a notion that has to be reconsidered (also there is not sufficient land for this to be viable). A variety of residential unit types are required, as are various tenure options. Rental stock, in particular, is needed in the city. Student housing will be provided in the building with shared bathroom and self-catering facilities.

### Participation and control:

Ensuring that users participate in decisions about their environment helps ensure that they care for and manage this properly. Control over aspects of their local environment enables personal satisfaction and comfort. Both of these support sustainability by promoting proper management of buildings and increasing productivity. The local community must be encouraged to take responsibility for their own actions and be consulted in preparing strategies to manage their environments. In addition, citizens must be continually made aware of and reminded of the aims and objectives of such strategies. Only once you have buy in and support from the community can the implementation of the strategy hope to be successful. The public must be involved in the entire process.

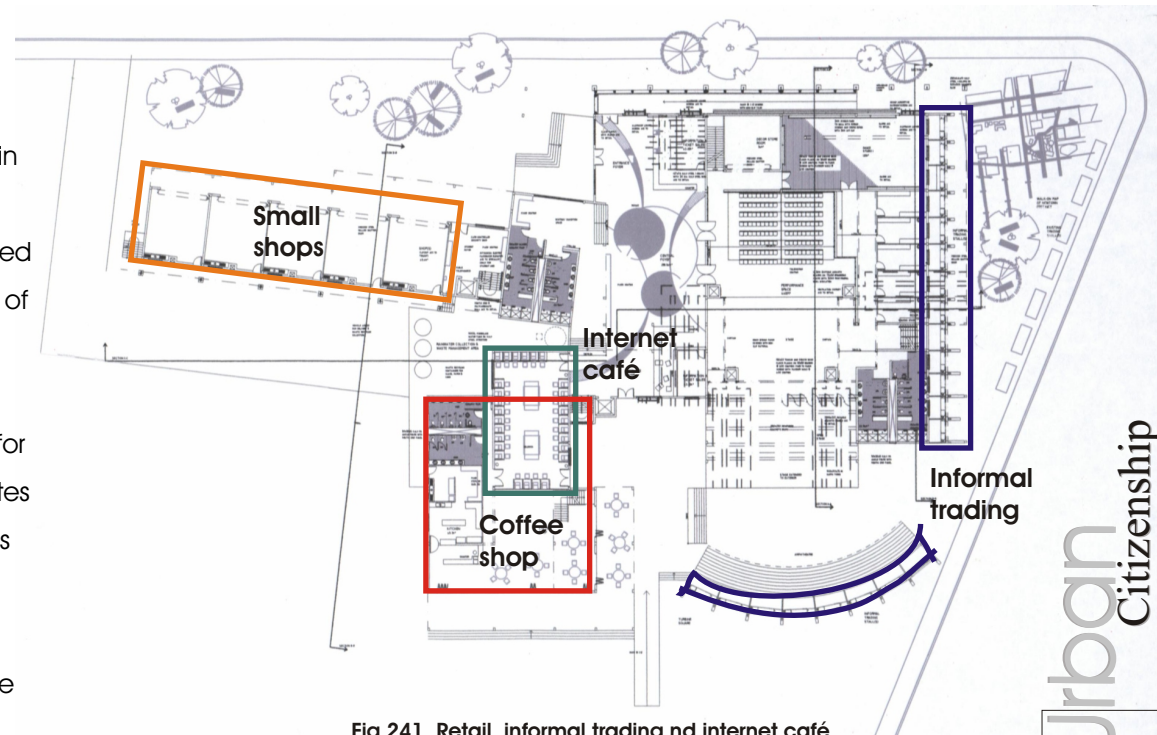


Fig 241. Retail, informal trading and internet café.

### Environmental control:

The users of the building should have reasonable control over their environmental conditions. This includes opening windows and louvers to adjust the internal climate of the building to reach a comfort level.

### User adaptation:

Furniture and fittings should be designed to fit a range of functions and users. Tables, chairs, internal partitions should be specified to allow for arrangement or rearrangement by the user. Provision must be made for personalisation of spaces if desired. In a multi-purpose performance space where different formats or uses are combined or where part of the raked seating will be removed, bleacher or retractable seating will be used. These are well-developed and highly flexible seating systems offering great variety. This telescopic structure with tippable upholstered seating with backs is able to retract into the depth of a single and highest row. The space can be cleared for other uses at different times. These systems need a dedicated space into which the seating can be concertina-ed when not in use. Movable acoustic panels separating the interior stage to the exterior stage can be opened or closed according to the use of the space.

### Social spaces:

Spaces for informal socialization must be provided for the public. The amphitheatre serves as an informal outdoor space where people can come and go as they please while watching students practising on the stage. This space will function as a sort of an outdoor living room for the public. The amphitheatre is placed along the regularly used route of West Street and is open for access from the Turbine Square. This space acts as the transition

space between the interior of the building and the public square. The space is large enough to allow for comfortable social interaction. The building edge that contains the retail, training centre and student housing are set back from the edge of the road to create a space for interaction that flows into the shops. Trees alongside the pavement make this a cool place to use during summer and a warm place during winter. The communal student housing features joint self-catering facilities, laundromat and lounge. These facilities are shared while each student enjoy the privacy of her/his room. The shared facilities encourage social interaction and group activities.

### Community involvement:

Spaces or services are shared or made available to local community. This includes access to Internet services, teaching and learning spaces like the education centre and communal student housing.

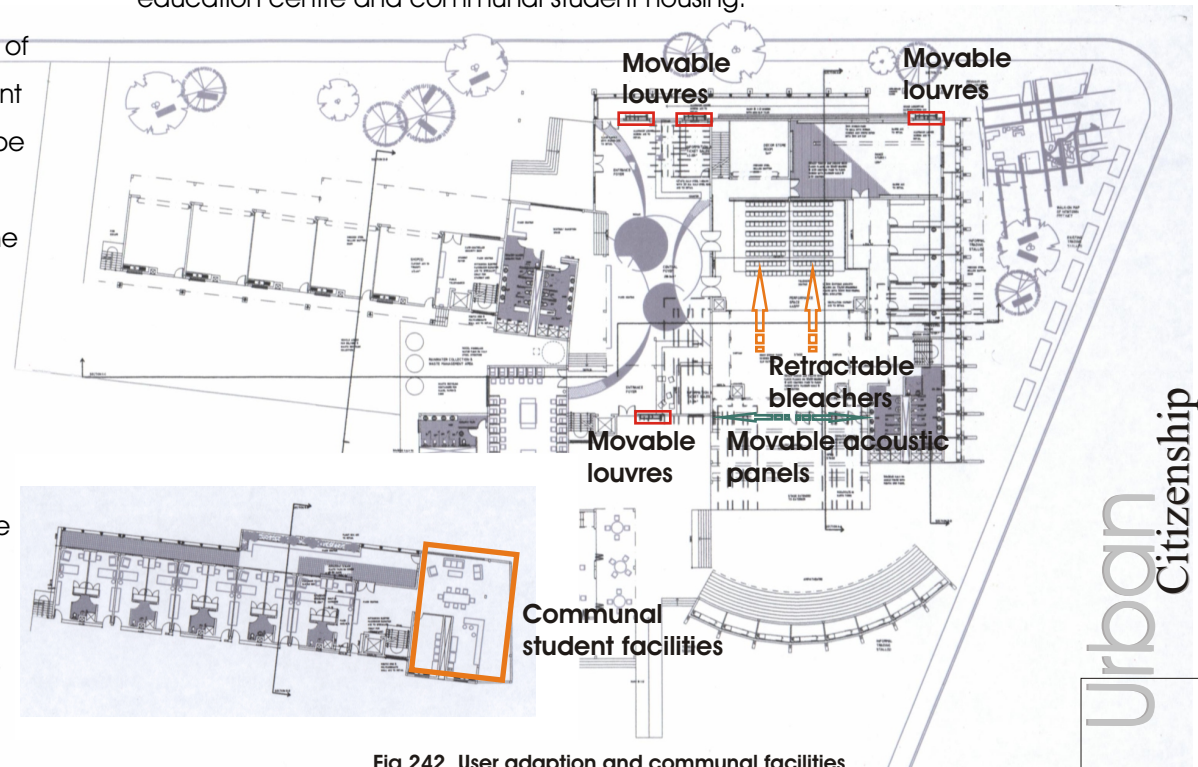


Fig 242. User adaption and communal facilities.

## Education, health and safety:

Buildings need to cater for the well being, development and safety of the users of the building. Awareness, and environments that promote health can help reduce the incidence of diseases such as aids. Safe environments and first aid can help limit the incidence of accidents and where these occur, reduce the effect. Learning and access to information is increasingly seen as a requirement of a competitive work force. All of these factors contribute to sustainability by helping ensure that people remain healthy and economically active, thus reducing the 'costs' (to society, the environment and the economy) of unemployment and ill health.

We must be commitment to making Johannesburg "An African World Class City" by concentrating its efforts on the stimulation of economic growth and job creation, preventing crime, building and reinforcing practices of good governance, ensure customer care and service delivery, addressing the HIV/Aids epidemic and regenerating the inner city of Johannesburg.

Johannesburg is home to a population of 2 883 226 people in some 791 367 households. The population is projected to rise to 2 986 228 in mid 2005 and 3 103 182 in mid 2010. The average rate of growth between 2000 and 2010 is projected to be 0.9% per annum. The African share of the population is projected to rise from 72% in 2000 to 74.7% in 2010, the Coloured share to remain constant at 6.5%, the Asian share to rise from 3.7% to 4%, and the White share to drop from 17.4% to 14.8%.

In 2002, the City of Johannesburg developed a long-term strategy with a 30-year horizon, known as "Joburg 2030" Integrated Development Plan (IDP). This is an overarching vision, policy and strategy that will guide all council's strategic decisions, resource allocation and operational management

activities. The key object of the strategy is to achieve a better quality of life for the city's citizens by increasing the standard and quality of life, measured by income per capita, and the Human Development Index (HDI). (Masondo, 2002).

## Health:

The HIV/Aids epidemic is projected to have a significant impact on demographic trends in the city, as indicated in the low rate of growth above. Other reasons for the low population growth include low fertility in Johannesburg and modest in-migration. Aids will wreak its heaviest impact on black residents, with the most dramatic impact on African women. The decline in mortality, prevalence and all other relevant indicators between 2000 and 2010 suggest the epidemic has peaked. The average annual number of HIV positive births is around 2 889 in 2000, however, at least 50% of these infections could be preventable. There is a significant difference between male and female prevalence, which is consistent through time. In 2000, female versus male infection levels were 157 861 and 128 667 respectively. The total number of Aids orphans will increase from 76 623 in 2000 to a cumulative total of 139 419 in 2010. Government at all levels needs to cater for this growing social problem (Masondo, 2002: 4.2).

Our newly formed democracy, have led to a shift from traditional approaches to primary health care service delivery. The IDP suggests the new approach, which is based on primary health care delivery through the district health system. It has a strong focus on promotive and preventative health service delivery that is both accessible and effective. Gauteng showed the largest increase in HIV/Aids prevalence in 2000. The City of Johannesburg is taking up the challenges of providing primary health care services and dealing with HIV/Aids through

targeted strategies and a range of initiatives that will be implemented through its Health Department (Johannesburg City Council, 2001:57). Medical advances and higher standards of living will ensure that HIV/Aids will no longer be a runaway pandemic in the city, though the legacy of Aids orphans and other social implications will still be felt. The social services sector will be sufficiently resourced to manage these issues. Infant mortality rates will have decreased and life expectancy will have increased. The population will be beginning to age as the birth rate falls. Private sector health demand will increase and public health facilities will be able to focus on smaller lower income communities.

### Education:

All citizens have the right to be literate and numerate. School attendance, in line with legislation, must be strictly enforced and truancy will be monitored and punished. Currently in Johannesburg it is estimated that 10% of young children are in early childhood development programmes (Masondo, 2002: 4.8). This average however, varies across the city, with, not unexpectedly, poorer parts of the city having the lowest rates of participation. In relation to skills development, it is proposed that a City Skills Project be developed to create a culture of appropriate learning and to ensure supportive infrastructure utilisation. The City Skills Project will seek to harness all actual and potential educational resources in the city - from crèches to community centres and libraries - in order to develop a culture of learning and technology in the city. By doing so, it will work towards building a strong foundation for the skills the economy requires. This will include, amongst other programmes citizenry and compliance education programmes, holiday and intern programmes for learners and job search facilities. City facilities such as museums, libraries and community centres will be refocused as crucial tools in developing a skilled and educated population. The City Skills Project will also strategically interface with national and provincial education authorities to assist in the transformation of the labour force and learners within the educational system (Johannesburg City Council, 2001: 35)

Internet facilities for the public will be provided in the Internet café. Lack of access to information has a debilitating effect on the development and empowerment of poor and disadvantaged groups who are isolated from opportunities. Access to information and technology immediately opens up opportunities for self-improvement. The education centres will provide the space for education programmes for the young to the old.



Fig 244. Education programmes for a sustainable future.

### Project Life Expectancy in Johannesburg 1995 - 2010

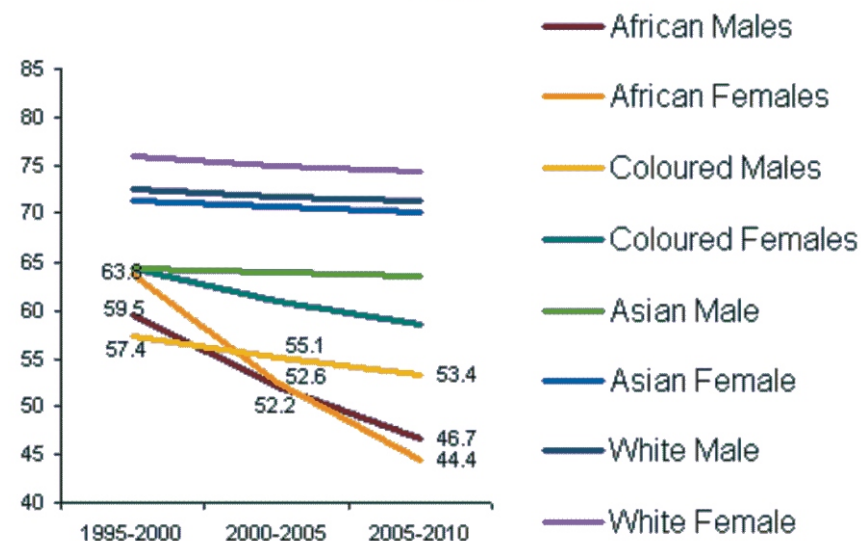


Fig 245. Life expectancy of citizens of Johannesburg: 1995 - 2010.

## Safety of the public environment:

Crime is an input, which does not exist for the majority of countries, but in South Africa, and specifically in Johannesburg, it was found to have a major impact not only on efficiency and profitability, but that it was the major constraint regarding new investment decision making. An econometric model was developed which showed that investment had a crime elasticity of 0.61 (Masondo, 2002: 4.6). This means that 61 percent of any decision to invest in Johannesburg will be determined by the deciding bodies view of crime in the city.

Following the national trend of a 15% increase in crime between 1994 and 1999, Johannesburg's crime rate has also increased. In many respects, crime in Johannesburg is of particular concern because it is the economic centre of the country. More than 50% of the total vehicle thefts in South African occur in Johannesburg, with a significant percentage of organised crime, fraud and computer crime concentrated in the city. Patterns of violent crime and rape show that a high proportion of these crimes are also concentrated in Gauteng. During 1999, one in every four residents in Gauteng had experienced at least one crime. This actual experience of crime has led to decreased levels of confidence among people in the ability of the police to assure their safety. The crime-pattern analysis makes clear that economic crimes are concentrated in the northern and central parts of the city, whereas violent and sex crimes are most prevalent in those areas where there are large concentrations of high-density, poor households - generally the township areas of the city. The National Victim Survey found that 54% of assaults and 68% of sexual offences occur in and around the home of the victim, with 34% and 28% respectively involve a perpetrator who is known to the victim. It is significant that it is young men who are the key offenders of violent crime, and it is other young people and women who are the primary victims of these crimes. Based on the available data,

experts in the field agree that between 70% and 80% of all crime is committed by between 5% and 10% of the young male population. Nearly 40% of the victims of violent crime are young men and women between the ages of 25 and 34 with the balance being mainly women in the home (Masondo, 2002: 4.6).

There are two key priorities necessary to create a conducive environment for growth in Johannesburg: they are crime and skills education. Of these, crime is by far the most serious problem, hence reducing crime and its impact on investment decision-making, becomes the crucial intervention necessary to re-establish conditions for growth in the city. A number of strategic proposals are put forward in respect of crime. First and foremost, it is recommended in the IDP that the safety and security initiative re-orientate itself around an outcome that is expressed more in economic than in purely social terms. That is, the city should aim to improve safety and security so that business confidence and business investment decision making is no longer negatively influenced by crime. The resultant reversals in investment and business confidence will lead to improved employment and standards of living. This will reduce one of the key social and economic factors that fuel crime. Another part of the strategy is to ensure that enforcement that is within the council's legislated powers is taken up and zealously enforced. The city's Metro Police Department will gear up to launch a zero-tolerance campaign. The Metropolitan Police Department and Emergency Management Services carry a key responsibility in giving effect to the city's safety and security strategy. The council has taken the initiative against crime by creating its own city police force, and mounting video surveillance cameras in strategic spots to keep a watch on the streets. Some R258-million has been allocated to the fight against crime, and hundreds of new metro police officers will be employed or trained over the next three years. The initial focus is on the city's worst crime spots, like Newtown and the CBD.

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#### **Safety of the building:**

Measures taken to ensure that areas of the buildings and routes to and from the building are safe, and feel safe. Measures taken include well-lit routes, routes and spaces overlooked by occupied areas and clear visual links between spaces. Only students have access to a small foyer by means of a security card. A lift and stair takes them from here directly to the student housing on the second and third floors. The public using the rest of the facilities in the building do not have access at all to the student housing.

All aluminium sliding windows will be fixed with steel louvers to keep out criminals. The informal trading stalls and small retail shops will be protected by Wispeco steel roller doors. These doors are extremely secure and can be operated with a minimum of effort. Security is another major consideration that has gone into the design and manufacture of these doors. The doors are made of a continuous curtain of pressed steel. The door has exclusive tamperproof slide bolt locking. This heavy-duty system is located on one side at waist height to provide improved "no bending" convenience. Other lock options are available to suit your specific needs. These include a waist high external pad bolt, a Centre Lift Lock with external key and internal turn knob operation, and floor level 4-point slide bolts. The aluminium bottom rail with optional weather-strip gives added protection against dirt, leaves and weather. The Southern wall opening up towards the amphitheatre will be protected with a roller grille when the space is closed.

#### **Fire protection:**

No travel distance to an escape door exceeds 45m. SABS standards qualify all spaces within the center as A2/ F2 en H3 (theatre, small shops and residential). The maximum width of an escape route for 80 people using the 2 education centers is 1200m. All emergency routes are provided with artificial lighting with a minimum illuminance of 50 lux on a horizontal plane 100mm above the floor. The public section of the building will be equipped with a fire detection system and an emergency evacuation communication system complying with SABS 0139. Hose reels for the purpose of fire fighting shall be installed in the building at a rate of 1 hose reel per storey or at least one for every 500 sqm of floor area of such storey. Any hose reel installed in the building shall comply with the requirements contained in SABS 543. 3.9 l portable water type fire extinguishers are provided at a rate of 1 per 200 sqm of floor area.

No materials that are combustible are used in the performance space. No seat in the performance space is more than 21 m from an escape door. The exit routes should be related to the normal circulation of the public. Exits should be away from the stage. (Corry, 1980:49) Exit widths should be such as to permit an audience to leave the performance space in two and a half minutes. The exit doors are provided with approved panic bolts and are never locked when the space is occupied.

#### **Smoking:**

Spaces will be provided for smokers. Smoking will otherwise occur on balconies or outside the building.

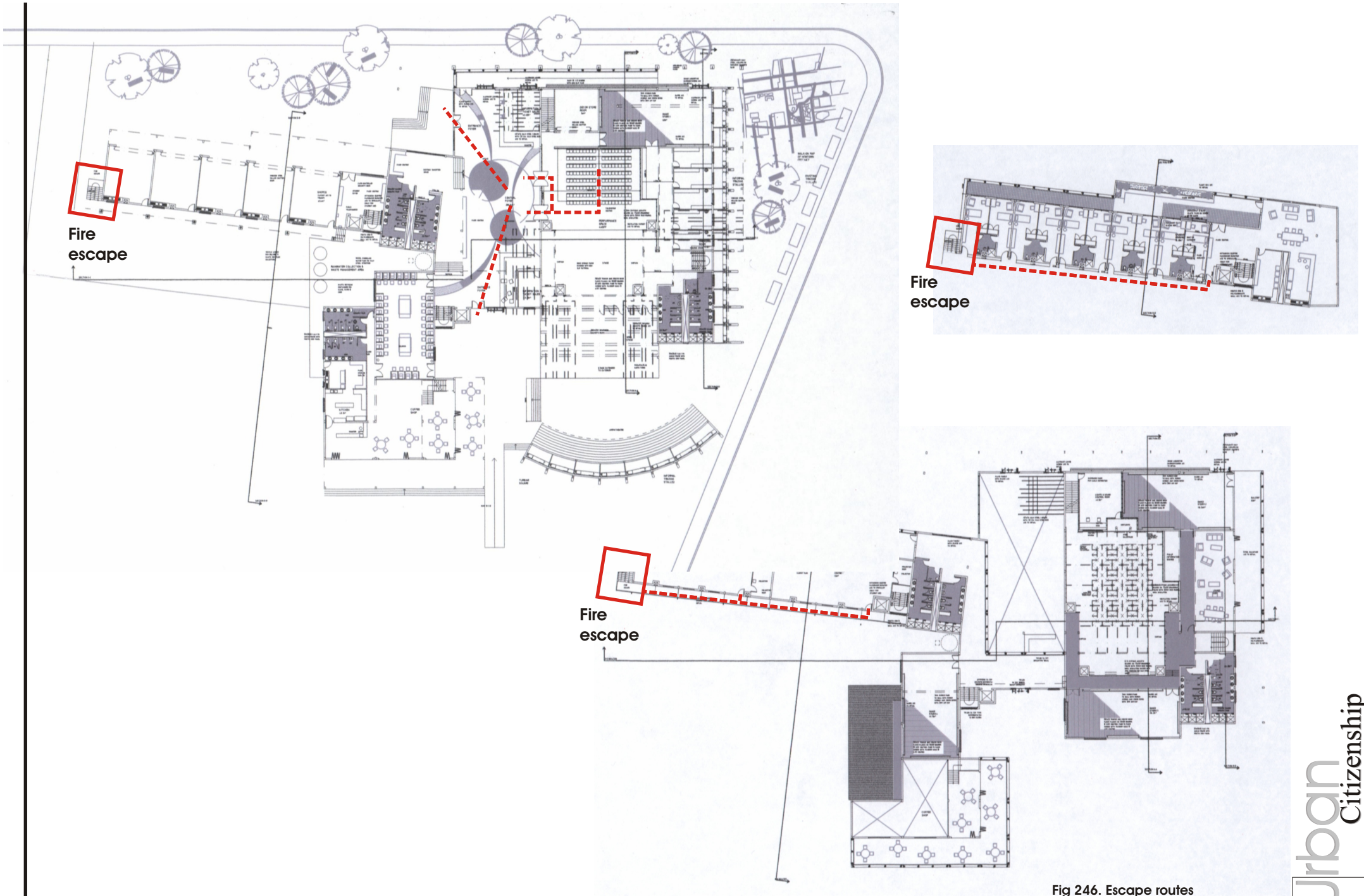


Fig 246. Escape routes