

- ◆ The Arizona Trade Corridor in North America: This project presents an example of the need to create continuous mobility linkages so as to enhance economic growth, the establishment of business development centres to facilitate business development in the trade corridor, as well as the need to assess potential investments/projects as to determine and ensure that those investments/projects with optimal multiplier effects, are implemented first.



SECTION C: NATIONAL AND INTERNATIONAL DEVELOPMENT CORRIDORS

1. Introduction

This section contains information on core development corridor issues related to key focuses¹⁶ of the project, important project strategies¹⁷ and success stories that have been studied from the different development corridors, locally and abroad. An indication of the institutional environment required to manage implementation is also included.

The development corridors are discussed in the following sequence:

- ◆ the "*Four Cities*"-project;
- ◆ urban development corridors in Brazil;
- ◆ a recently initiated urban development corridor in Gauteng; followed by
- ◆ regional development corridors, locally and abroad.

2. The "*Four Cities*"-project

The "*Four Cities*"-project on urban development corridors was initiated in the Republic of South Africa by the national Department of Transport in 1995. The four projects referred to are the MCDC (situated in the former Greater Pretoria Metropolitan Area), the Greater Warwick Avenue-project (situated in the Durban City Council Area), the Baralink-project (situated in the former Greater Johannesburg Metropolitan Area) and the Wetton-Landsdowne Development Corridor (situated in the Cape Town Metropolitan Area) (Department of Transport, 1996).

These projects were initiated in collaboration with the former office of the Reconstruction and Development Programme.

16 "*Key focuses of the project*", for the purpose of this dissertation, is regarded as that focus representing and aiming at addressing the unique problematic issues found in a relevant development corridor-project.

17 "*Important project strategies*", for the purpose of this dissertation, refers to a strategy/concept/approach, which is regarded as essential, and which is aimed at establishing a relevant development corridor from an economic, social, land-use, transport and/or institutional point of view.

In many cases in the Republic of South Africa, new planning and development approaches were based on the findings and guidelines of the Reconstruction and Development Programme (RDP). It is, therefore, necessary to have a brief look at some of the aspects mentioned in the Reconstruction and Development Programme, which are related to corridor development. These include:

- ◆ Transport: The Reconstruction and Development Programme encouraged the integration of land-use and transport planning. The Reconstruction and Development Programme also stressed the need for public transport, the use of buses to act as prime movers where rail is not available and the creation of a safe, convenient and affordable public transport system;
- ◆ Residential: With regard to residential development, the Reconstruction and Development Programme indicated the necessity of housing close to places of work and social facilities, the provision of a range of housing types and the need for higher density developments;
- ◆ Environment: The Reconstruction and Development Programme also implicated that the environment is considered an important element of the urban complex, by stating that environmental development strategies should guide development and should play a crucial role, to reduce pressure on the environment. The protection of natural areas and the determination of an urban edge to protect rural areas, also reflects the need to contain urban sprawl and the development of more compact cities;
- ◆ Small business, industry and employment: With regard to job creation, the Reconstruction and Development Programme emphasised the importance of aspects such as:
 - the provision of a range of enterprises;
 - making provision for the informal sector;
 - using incentives to promote development;
 - identifying and creating small businesses opportunities; and
 - creating support for emerging entrepreneurs and markets (African National Congress, 1994).

The former Office of the Reconstruction and Development Programme also initiated the compilation of the Draft National Spatial Development Framework for the Republic of South Africa. This spatial development framework identified six key strategies. These related to the development of urban nodes, the establishment of rural clusters, the implementation of sectoral strategies, the development of industrial clusters, the development of economic spines and developing development corridors.

These strategies were aimed at addressing racially-fragmented development, promoting equity, integration and efficiency.

2.1. Background

The Greater Warwick Avenue-project, the Baralink-project and the Wetton-Landsdowne Development Corridor-project, are discussed below as part of this section. The MCDC-project, as one of the "*Four Cities*"-projects, is not dealt with in this section, as it is discussed in detail in Chapter Three.

2.2. The Greater Warwick Avenue-project

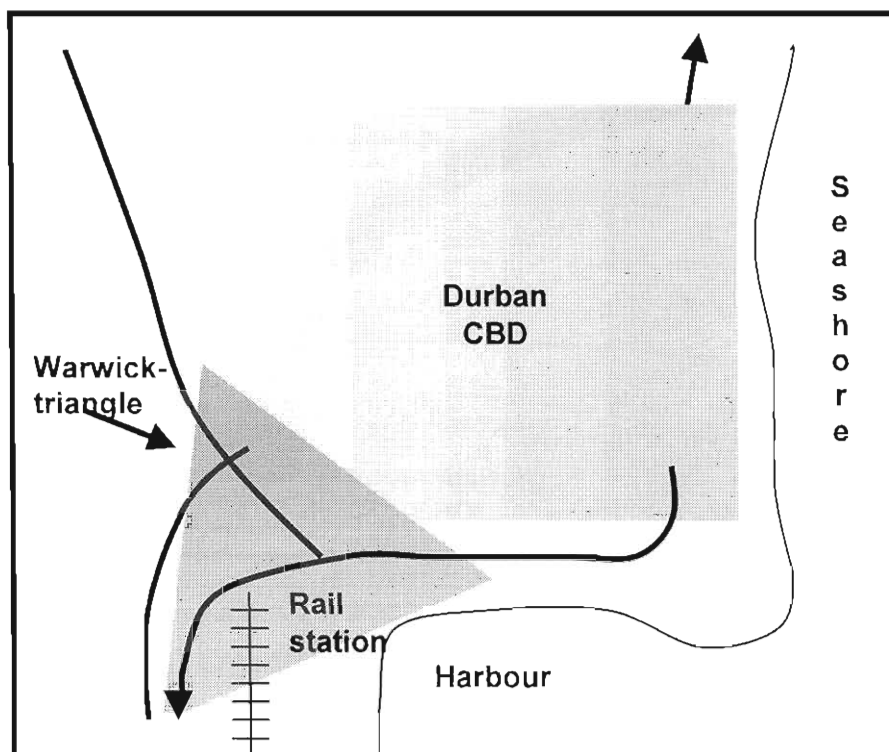
2.2.1. General

The Greater Warwick Avenue-project was launched as a result of urban decay found in the west-north-western areas of the central business district of the City of Durban (also see Figure 1 below). The project, therefore, has as its overall focus, the redevelopment of a large portion of the Durban central business district. The main focus of this project was to “...improve the quality of the urban environment in terms of safety, security, cleanliness, functionality and the facilitation of economic and housing opportunities” (Department of Transport, 1996).

The project is institutionally backed by multi-disciplinary planning, management, technical and co-ordinating workgroups and committees that were established to deal with the project processes.

Although this project is linked to the “Four Cities”-project and the implementation of the RDP, the project is not considered to be a development corridor project. It is rather regarded as an urban renewal project affecting a large part of the Durban central business district.

Figure 1: Schematic illustration of the Greater Warwick Avenue-project



(Own interpretation)

2.2.2. Conclusions

For the purpose of this study, this “Four Cities”-project is not considered appropriate for further research and inclusion in this dissertation, as it is not regarded as a development corridor project. It will also not be further elaborated upon in other parts of this dissertation.

2.3. The Baralink-project

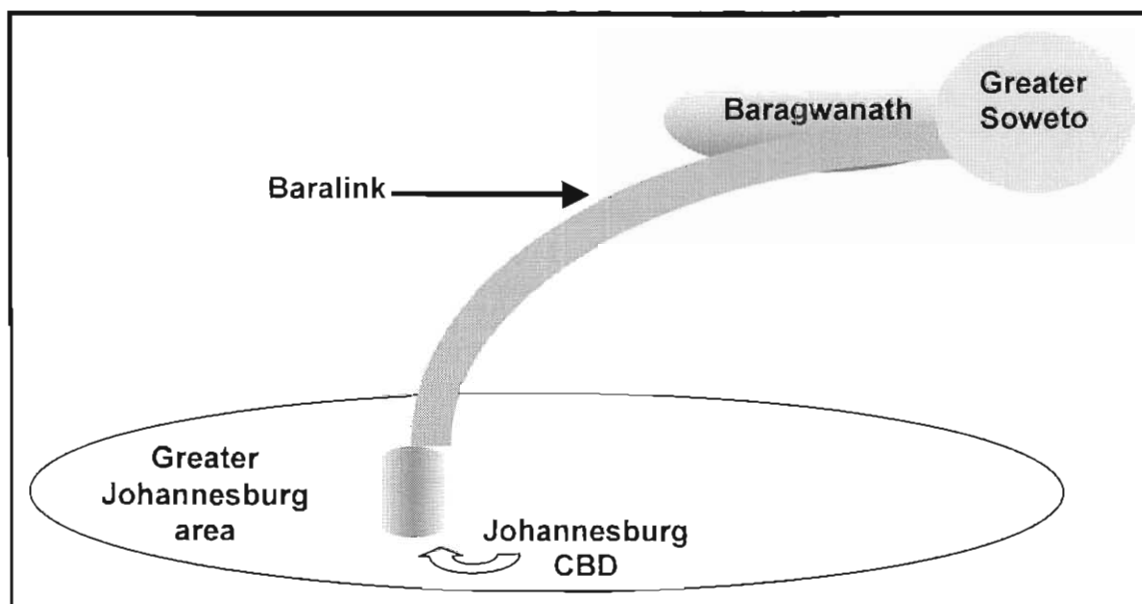
2.3.1. General

The development of the Baralink-project started with the compilation of the Baralink Development Framework, which was initiated in January 1995. When the Department of Transport initiated the concept of the "Four Cities"-project in October 1995, the Baralink-project was ready to proceed with some more detailed investigations (also see Figure 2 below) (Department of Transport, 1996).

2.3.2. Key focuses of the project

In terms of the project's key focus, this project initially focused on addressing imbalances in urban development experienced in the area between Johannesburg and Soweto. However, as this project commenced, the project developed into proposals prepared for the development of a development node on 1 500 hectares of land at one of the main entrances to Soweto (Department of Transport, 1996).

Figure 2: A schematic illustration of the Baralink-project



(Own interpretation)

2.3.3. Institutional arrangements

Institutionally, a Baralink Co-ordination Committee was established, a Baralink Development Forum was established to ensure community participation, and a number of Technical Task Teams were established to initiate and co-ordinate technical investigative studies (Durban City Council, 1998).

2.3.4. Conclusions

Due to this project not developing into a fully-fledged development corridor but only representing a nodal development initiative, this project has together with the Greater Warwick Avenue-project, not further been researched or elaborated upon in the rest of this dissertation.

2.4. The Wetton-Landsdowne Development Corridor

2.4.1. General

The Wetton-Landsdowne Development Corridor was identified as one of the future metropolitan development corridors in the Cape Metropolitan Spatial Development Framework (see Figure 3 on page 24). It forms part of a network of metropolitan development corridors and nodes, metropolitan open spaces and an urban edge as structuring urban elements, all of which are defined in the cited Development Framework (Cape Metropolitan Council, 1996).

From a planning point of view, the Wetton-Landsdowne Development Corridor-project followed a broad-based approach by identifying opportunities and constraints, followed by the preparation of a spatial development framework, the formulation of implementation strategies, policies and an implementation plan, including a financial plan.

2.4.2. Key focuses of the project

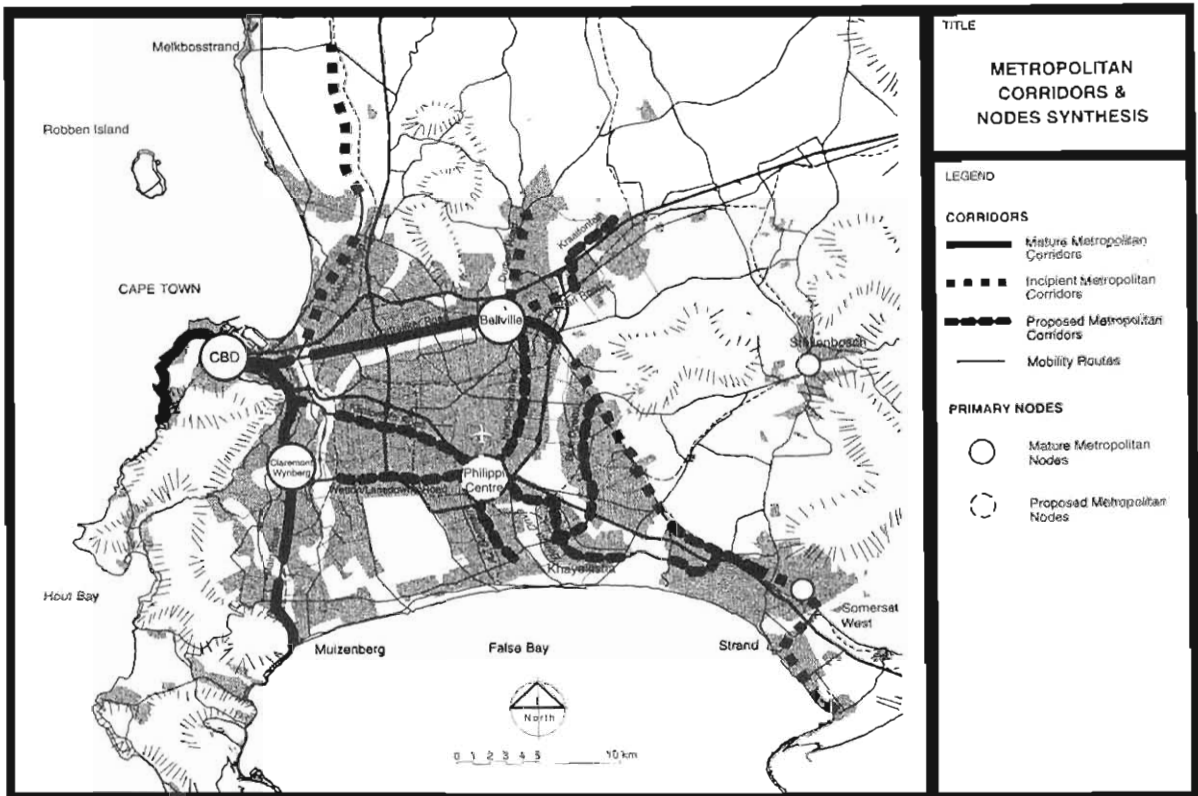
As a project, the Wetton-Landsdowne Development Corridor was initiated with a specific focus to promote urban restructuring and urban integration. The project is also considered to be an ongoing *"multi-faceted programme"* that could *"kick-start"* the implementation of the former RDP in Cape Town. This fact once again puts a focus on an attempt to address imbalances caused by development policies and actions during the apartheid era. In the Cape Metropolitan Area, this includes the following:

- ◆ low density sprawl towards the Cape hinterland;
- ◆ housing, which was developed in areas with poor environmental conditions;
- ◆ the fragmented location of developed areas causing the separation of communities;
- ◆ unacceptable distances between places of work and residence, resulting in long travel distances, time and cost; and
- ◆ unequally distributed public, social and community facilities and resources (Department of Transport, 1996).

MLH Architects and Planners¹⁸ identified another important focus for the Wetton-Landsdowne Development Corridor, namely its ability to increase the 1994 population of the affected project area from 22 000 to 84 000 within a *"high density mixed-use system"*, incorporating a number of employment opportunities and other cultural, social and recreational services and amenities (MLH Architects and Planners, 1994).

¹⁸ MLH Architects and Planners is a private consultant who was responsible for the formulation of the Cape Metropolitan Spatial Development Framework.

Figure 3: Metropolitan Nodes and Corridors in the Cape Metropolitan area



(Cape Metropolitan Council, 1996)

2.4.3. Important project strategies

The Wetton-Landsdowne Development Corridor Project Team implemented a number of form-giving strategies. The first development corridor strategy was summarised in the vision formulated for the project. This vision reflects that the Wetton-Landsdowne Development Corridor is to be developed into a major metropolitan development corridor, integrating transport and land-use in such a manner that both urban elements (transport and land-use), support each other (Cape Town Municipality, 1996b).

A further element linked to the above, is the development of supportive activity corridors, which are linked to “mature”¹⁹ nodes, supported by an efficient public transport system.

Evaluation of the project reveals that the project focused on an existing transport route between the Claremont/Wynberg Metropolitan Node and the Phillipi Centre. Development will focus on this route to stimulate economic growth, benefiting the local community and the overall city structure by making the overall city structure more compact. The development of the Phillipi Centre (industrial area) into a major metropolitan node of economic significance formed another development strategy of the Wetton-Landsdowne Development Corridor-concept. It was considered that this node should attract higher order institutional facilities, recreational facilities and business activities (Department of Transport, 1996 and Cape Town Municipality, 1996b).

19 “Mature nodes” refer to already developed nodes incorporating economic activity, public facilities and amenities supported by a city-wide integrated public passenger transport system (Cape Metropolitan Council, 1996).

The project, however, will not only incorporate the development of the mentioned transport route, but will also enhance the development of the adjacent suburbs to ensure the integration of co-ordinated development throughout the entire project-area (Department of Transport, 1996).

The more detailed urban development strategies incorporated into the Wetton-Landsdowne Development Corridor-concept are briefly enlightened below:

- ◆ Public transport: Formulated strategies are focused on providing an affordable, viable and safe public transport system. It is regarded as a strategy that the public transport system for this specific corridor must be 95% road-based public transport (Department of Transport, 1996). Reducing the need for public transport subsidies was also considered a crucial strategy to reduce the dependence on governmental money coffers (MLH Architects and Planners, 1994);
- ◆ Economic development: The crux of promoting economic growth is to stimulate economic development through creating the right climate for government investment at optimal localities, which benefit the development of the entire corridor. An example relates to the provision of appropriate development and investment incentives at preferred locations (Department of Transport, 1996);
- ◆ Housing: The development of higher density housing along the previously mentioned transport route and the linkage of the high-density housing projects to an efficient public transport system, were formulated as a strategy to reduce travel distances and to increase the feasibility values of the existing and identified economic development opportunities in the corridor (Department of Transport, 1996);
- ◆ Environment: The provision of quality public parks and open spaces was specifically formulated as a strategy, so as to create additional economic benefits for local communities (Department of Transport, 1996). This incorporates the development of visually attractive green open spaces (MLH Architects and Planners, 1994);
- ◆ Services: The provision of appropriate social and physical services, as a support base for private sector investment, is also regarded as a supportive strategy to enhance co-ordinated job creation at localities where it is most preferred. For other areas, the focus would be on the upgrading, improvement and extension of existing social services, so as to work towards the social upliftment of existing communities (Department of Transport, 1996);
- ◆ Facilities and amenities: Facilities and amenities are distributed unevenly to benefit specific communities. The improvement of access to these facilities and amenities was considered a strategic approach to prove the benefit of corridor development. Improved quality, as well as the multi-functional use of the facilities and amenities were considered evenly important issues to enhance social and cultural integration (Department of Transport, 1996). Periodic markets and permanent service delivery facilities and systems accommodating a wide range of commodities, products and services at a single locality, were put forward as a strategy to reduce travel time significantly (MLH Architects and Planners, 1994);
- ◆ Institutional: The Wetton-Landsdowne Development Corridor-project considered community participation and the positive fostering of initiatives as important institutional strategies, which need to be dealt with appropriately, to assure optimal implementation results. This is discussed in more detail in paragraph 2.4.5 (see page 27) (Department of Transport, 1996);

- ◆ High-density mixed-use development: The development of high-density mixed-use areas, characterised by a range of residential types and densities close to public transport, as well as including opportunities for formal and informal traders, were regarded as strategies to ensure jobs closer to homes (MLH Architects and Planners, 1994);
- ◆ Small-scale farming/market gardening: The cultivation of flowers and horticulture for the local market was identified as a dual strategy. On the one hand, to establish an education process and on the other hand, to increase job creation. This approach, incidentally, also provides the opportunity to increase local research, the results of which can immediately be implemented locally to the benefit of the entire corridor community (MLH Architects and Planners, 1994); and
- ◆ Cost distribution: From a cost point of view, it was found that the project is not only a public sector responsibility, but that the private sector should also be mobilised to invest in a co-ordinated manner to ensure the development of long-term benefits to all stakeholders (Department of Transport, 1996).

2.4.4. Success stories

Irrespective of the integrated urban development strategies representing in itself a "*success story*" scenario, a number of other success stories have also been identified. These are reflected below.

The *first* success story is reflected in the use of what is regarded as a "*multi-faceted programme*" (see paragraph 2.4.2 on page 23), emanating from the implementation of a multi-faceted integrated development-planning approach. This was concluded from the multi-dimensional background research through a literature review of corridors, economic analyses, transport studies, geo-technical investigations, bio-physical studies, cultural studies, a vacant land audit, land-use surveys and services studies (Cape Town Municipality, 1996a, b, c and d).

A *second* success story is regarded as the importance given to infrastructure projects (public responsibility), to create greater levels of access and an enabling environment for private sector investment and community development. This is supported by identified projects, such as the construction of the Wynberg transport intersection, the upgrading and rehabilitation of Zwelitsha Drive, the construction of the NY3A taxi rank and market, the cleaning and landscaping of Lotus River Canal, the construction of the proposed Ikhwezi multi-purpose community centre, and the construction of the Philippi taxi and pedestrian bridge.

A further success story is the incorporation of the Wetton-Landsdowne Development Corridor into the development of the entire Cape Metropolitan Area as part of a network of corridors.

However, although the above were identified as success stories in the Wetton-Landsdowne Development Corridor-model, it seems from the Cape Metropolitan Spatial Development Framework's approach that the nature of the corridor is not totally as anticipated, as some problems were experienced since its initiation. These include that the Wetton-Landsdowne Development Corridor will primarily serve a linkage function in the Cape Metropolitan Area and that the Philippi Centre will not be an end destination as originally expected. The overall movement in the metropolitan area will remain north-south through the corridor between the "*mature*" economic nodes (MLH Architects and Planners, 1994). However, it is expected that the east-west movement along the corridor will increase significantly in future. For the interim

period, it is also expected that the majority of jobs will continue to exist and be created outside the Wetton-Landsdowne Development Corridor-area (Cape Metropolitan Council, 1996).

2.4.5. Institutional arrangements

Institutionally, the project was initiated through the establishment of an Intergovernmental Technical Co-ordination Committee, managed by the City Council of Cape Town. It was this Committee that was responsible to establish a Steering Committee, to ensure the involvement of all appropriate stakeholders during the planning processes, as well as for the execution of the planning processes itself (Department of Transport, 1996).

However, the implementation of the planning results, development frameworks and development strategies were regarded as a much more complex operation. MLH Architects and Planners confirmed that there were no examples in the Republic of South Africa, which could be used as a blueprint to initiate and manage the development of a development corridor. As a result of their involvement in the Wetton-Landsdowne Development Corridor, they realised that the implementation of the project and its development strategies will require a dedicated institutional structure, which could:

- ◆ co-ordinate public, private and community development for optimal implementation results;
- ◆ be not-for-gain in nature to enable optimal focus on the integration of economic growth and on enhancing social upliftment through providing services that normally have a low feasibility;
- ◆ attract investment to preferred locations where the most impact could be obtained and which could serve as a catalyst to create comparative advantages to also attract other related investments; and
- ◆ be representative of all stakeholders (MLH Architects and Planners, 1994).

The Wetton-Landsdowne Development Corridor-model proposed a dual, but supportive institutional structure. This relates to the establishment of a development agency as well as the establishment of local development forums.

With regard to the development agency that should be established for the entire corridor area, some key characteristics for the Wetton-Landsdowne Development Corridor were identified by MLH Architects and Planners, based on their findings of a dedicated institutional structure mentioned above. These potential key characteristics for a proposed development agency were identified in collaboration with the project's stakeholders by the relevant authorities. These include that the proposed development agency should:

- ◆ be focused in its action;
- ◆ be efficient, transparent and should implement accountable business approaches;
- ◆ be a Section 21 Company (not for gain);
- ◆ be structured in such a manner that it uses *"the resources and skills of both the private and public sector"*;
- ◆ enhance capacity building through involving affected communities in decision-making and project execution processes. It should also be accountable to the affected communities;
- ◆ be as representative as possible in its organisational structure;
- ◆ have urgency in its operations; and

- ◆ be chaired by a leading business figure (MLH Architects and Planners, 1994).

In terms of responsibilities, the following were regarded by MLH Architects and Planners as some of the key responsibilities for the proposed Wetton-Landsdowne Development Corridor development agency, viz. that it should:

- ◆ be enabled to undertake both transport and land-use planning;
- ◆ be placed in a position to apply for funding by means of governmental grants, loans, and so forth;
- ◆ provide the required utility services to both the public sector as well as the private sector and the communities;
- ◆ provide technical and logistic support to structures as and when needed;
- ◆ be enabled to develop an efficient and effective public transport system for the entire Wetton-Landsdowne Development Corridor; and
- ◆ initiate projects, as well as act as a developer of housing, manufacturing and SMME's.

Local Development Forums were identified as area-bound forums working in a specific geographical area and representing the community in that geographical area. These forums should enable people-driven processes and respond to community needs. According to MLH Architects and Planners, these Local Development Forums should be transformed to community development corporations over time. Where the latter do not exist, the development agency will have to provide a direct support-base to the Local Development Forums (MLH Architects and Planners, 1994).

2.4.6. Conclusions

The Wetton-Landsdowne Development Corridor is still in its planning phases and limited implementation has taken place. However, it represents a number of aspects that could be considered as planning lessons, essential to any development corridor initiative.

However, from the evaluation of this project, it could be stated that the Wetton-Landsdowne Development Corridor serves both as a mobility corridor and an activity destination. As a development corridor, it has been repeatedly emphasised that it was established as a mechanism to facilitate restructuring and integration of the south-eastern sector of the Cape Metropolitan Area with the rest of the Metropolitan Area (MLH Architects and Planners, 1994).

Strong focus is given towards a development corridor model that ensures sustainable development. In this regard, a critical underlying principle is to increase the population thresholds to high enough levels so that feasible economic development opportunities and social facilities in the corridor are created/supported (MLH Architects and Planners, 1994).

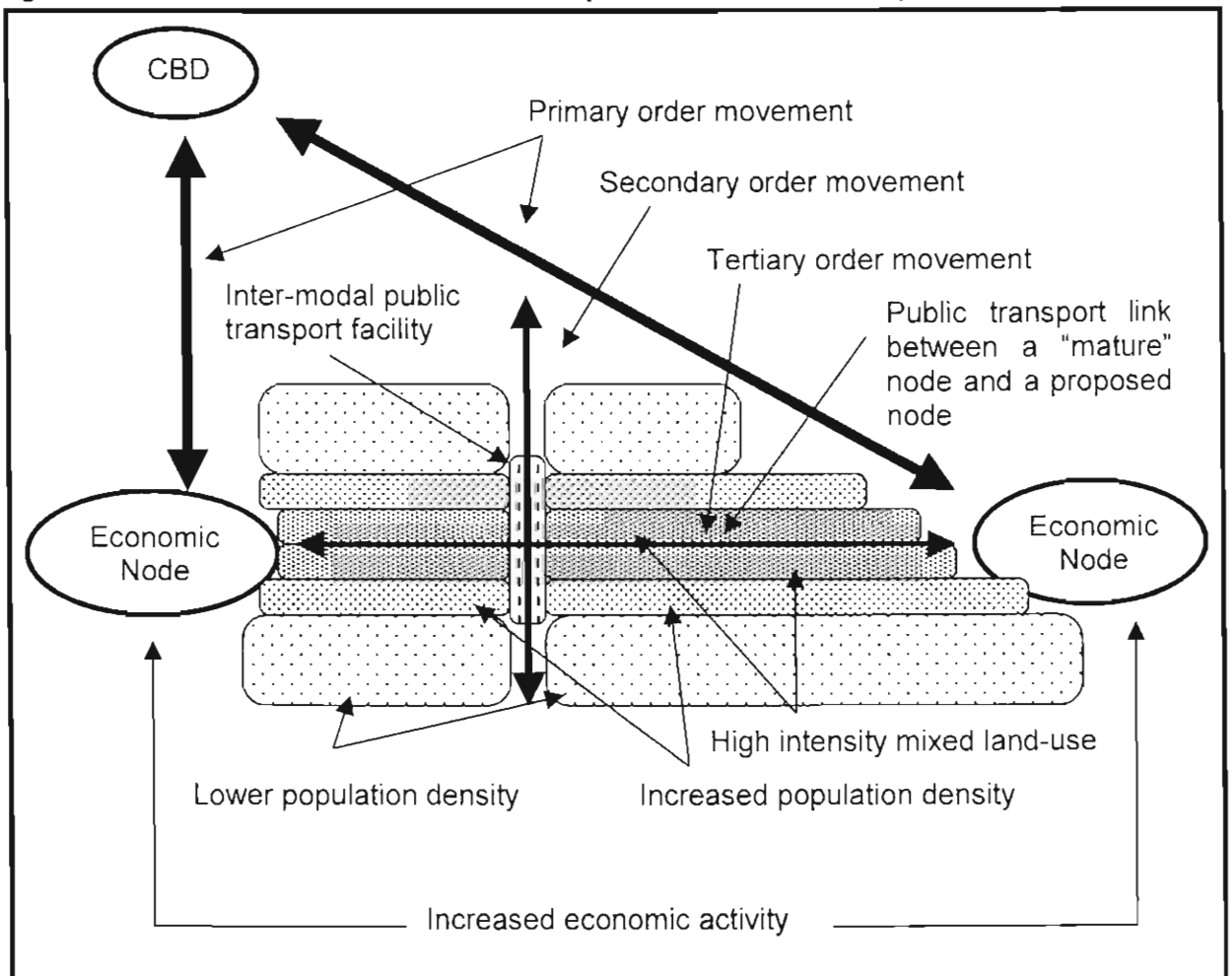
With regard to the Wetton-Landsdowne Development Corridor, the anticipated restructuring will be brought about by implementing proposals, to (see Figure 4 below for a schematic illustration):

- ◆ develop mixed land-uses at a high intensity, as well as to develop higher density residential areas along the corridor's transport link;
- ◆ improve public transport systems and facilities by means of skills and entrepreneurial training programmes, as well as to establish proper and stronger transport links between

all transport modes;

- ◆ promote people-driven development by incorporating communities in development processes, for example, through infrastructure provision projects. The latter should include a focus on addressing community needs related to housing, health facilities, job opportunities and recreation facilities;
- ◆ implement multi-purpose projects to increase optimal development and the sustainable use of available resources;
- ◆ invest in human resources by incorporating them into the corridor planning and development processes; and
- ◆ maximising development opportunities through improved access to areas adjacent to the public transport link, higher population densities and strategically located public facilities (MLH Architects and Planners, 1994).

Figure 4: The Wetton-Landsdowne Development Corridor-concept



Except for considering it a mechanism for urban reconstruction, the Wetton-Landsdowne Development Corridor revealed that development corridors are also regarded as a mechanism to promote local spending to ensure maximum and sustainable development and returns.

From a benefit point of view, the strong points of this project is regarded as its attempts to:

- ◆ increase residents' proximity to jobs;
- ◆ the development of higher order recreational areas;
- ◆ enhance access to public passenger transport systems;
- ◆ create a variety of medium and higher density housing opportunities;
- ◆ create a variety of economic opportunities for private sector investment;
- ◆ improve access to community and public facilities; and
- ◆ improve service delivery.

The Wetton-Landsdowne Development Corridor also illustrates that proposals and strategies to establish development corridors should be integrated into the overall city planning which is done for a city/region where such a development corridor is to be initiated. This is needed so as to ensure that:

- ◆ there are not conflicting development proposals/priorities in such a city/region, but that the opportunities found, be developed according to its real potential;
- ◆ there is no competition in attracting a single investment to more than one area in that city/region, but that the most appropriate location be found;
- ◆ development is guided from a single integrated planning platform; and
- ◆ co-ordinated implementation of priority projects in the entire city/region takes place.

Nodal development was also identified as a prominent element of the corridor development concept. For each of these nodes specific actions were identified for implementation. The latter included projects such as road construction, access improvements, public/private joint venture development projects, detail urban design projects, pedestrian facilities and community facilities. From the latter, it is concluded that a large degree of emphasis was given to the provision of physical infrastructure to create an enabling environment for the optimal establishment of a development corridor.

Another added element is the degree to which the Wetton-Landsdowne Development Corridor stresses the support needed for the development of adjacent areas inter-linked with the development of the corridor. This underpins the importance of what is stated above, *viz.* that the proposals to establish a development corridor should be incorporated in the planning processes of the entire city/region.

The latter also reflects that a direct relationship exists between the development of a corridor and the development of the area surrounding that corridor (which one probably can refer to as the corridor's direct area of influence).

Furthermore, an impression is created by the planning reports of the Wetton-Landsdowne Development Corridor that policy formulation will become an important mechanism to streamline development and implementation. These policies should be supportive of specific aspects such as rezonings, interfaces, access and parking, as well as improved development application procedures (MLH Architects and Planners, 1994).

Lastly, planning reports reflect the necessity that actions, responsibilities, priorities and financial implications be incorporated into an implementation plan as a mechanism to co-ordinate and manage the development of the entire development corridor.

2.5. MCDC

The MCDC is not discussed here as part of the other three “*Four Cities*”-projects, but is dealt with in detail in Chapter Three and Four.

3. Urban development corridors in developing countries: Brazil

3.1. Curitiba

3.1.1. General

Curitiba is regarded throughout the world (MLH Architects and Planners, 1995) by town planners and urban designers as “*best practice*” when it comes to the establishment of development corridors. MLH Architects and Planners starts to explain the success of Curitiba by stating that it is regarded as a city that “...with minimal resources and sustained population growth, has succeeded in implementing a holistic and integrated city plan aimed at meeting human needs and empowering the individual” via innovative and participative planning and problem-solving measures (MLH Architects and Planners, 1995).

MLH Architects and Planners is also of the opinion that the success of Curitiba is directly linked to strong and committed leadership (originally of a military dictatorship nature). This enabled a situation whereby decisions were carefully considered, especially as and when implemented, as it was constantly measured to contribute to the improvement of the quality of life of the inhabitants of Curitiba. This approach ensured the development of an environmentally sustainable city. The leadership also ensured that solutions delivered multiple benefits and through their committed appearances, confirmed that their focus was to make things work for the community (Herbst, 1992). However, the above *does not imply* that a military dictatorship is needed to promote the establishment of development corridors, but *should rather be interpreted* as that strong leadership and commitment are needed to enhance optimum implementation results.

3.1.2. Key focuses of the project

Concluded from the available study material, which represent the views of researchers (such as MLH Architects and Planners, Herbst and Kleynhans, Gough and Van der Merwe) who also evaluated the system in much depth, it is evident that the former Mayor of Curitiba (Jaime Learner) started initiatives to develop a network of urban corridors by concentrating on a specific focus to solve typical urban growth problems. These included, amongst others, the following:

- ◆ poor literacy rates as a result of the lack of proper education and skills development opportunities and facilities;
- ◆ the lack of accessible public facilities to all residents of Curitiba;
- ◆ increasing travel distances, time and cost, especially for the poor staying on the outskirts of the city;
- ◆ illegal squatting on the periphery of the city as a result of cheaper land prices;
- ◆ increased unproductivity amongst the entire population;

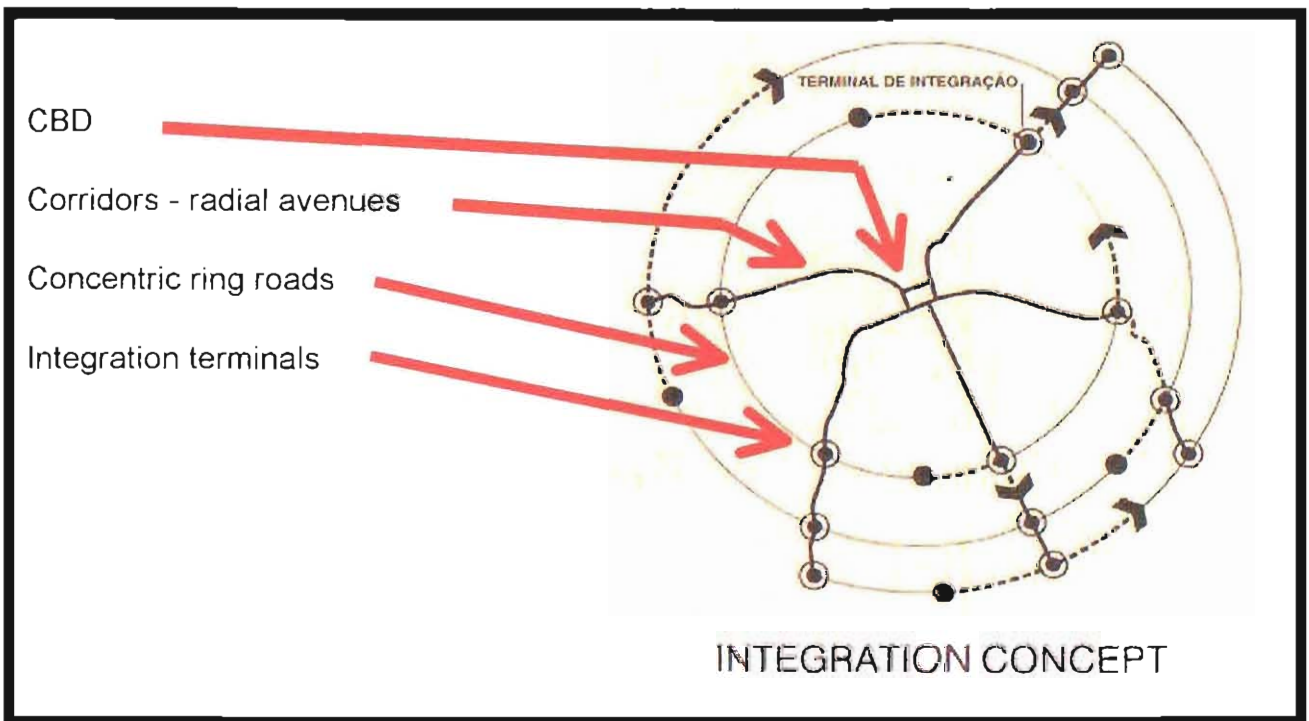
- ◆ lack of accessible recreational opportunities and facilities; and
- ◆ high population growth (MLH Architects and Planners, 1995).

According to Kleynhans, Gough and Van der Merwe, the first formal urban plan for Curitiba was compiled in 1943, known as the "*Agache Plan*". The focus of this plan was to reinforce the development of the central business district of Curitiba through a spoke-wheel type of design (concentric roads linked by radial avenues) (Kleynhans, Gough and Van der Merwe, 1997).

As part of an attempt to solve the above-mentioned urban growth problems, Curitiba adopted a holistic integrated development planning approach (as referred to by MLH Architects and Planners in paragraph 3.1.1 above). This was done through a public competition during which a Brazilian consulting firm produced the winning "*master plan*", which was produced in 1965 (Kleynhans, Gough and Van der Merwe, 1997).

Birk and Zegras made the following observations with regard to the master plan indicated schematically in Figure 5 below:

Figure 5: The Basic Curitiba Spatial Development Concept

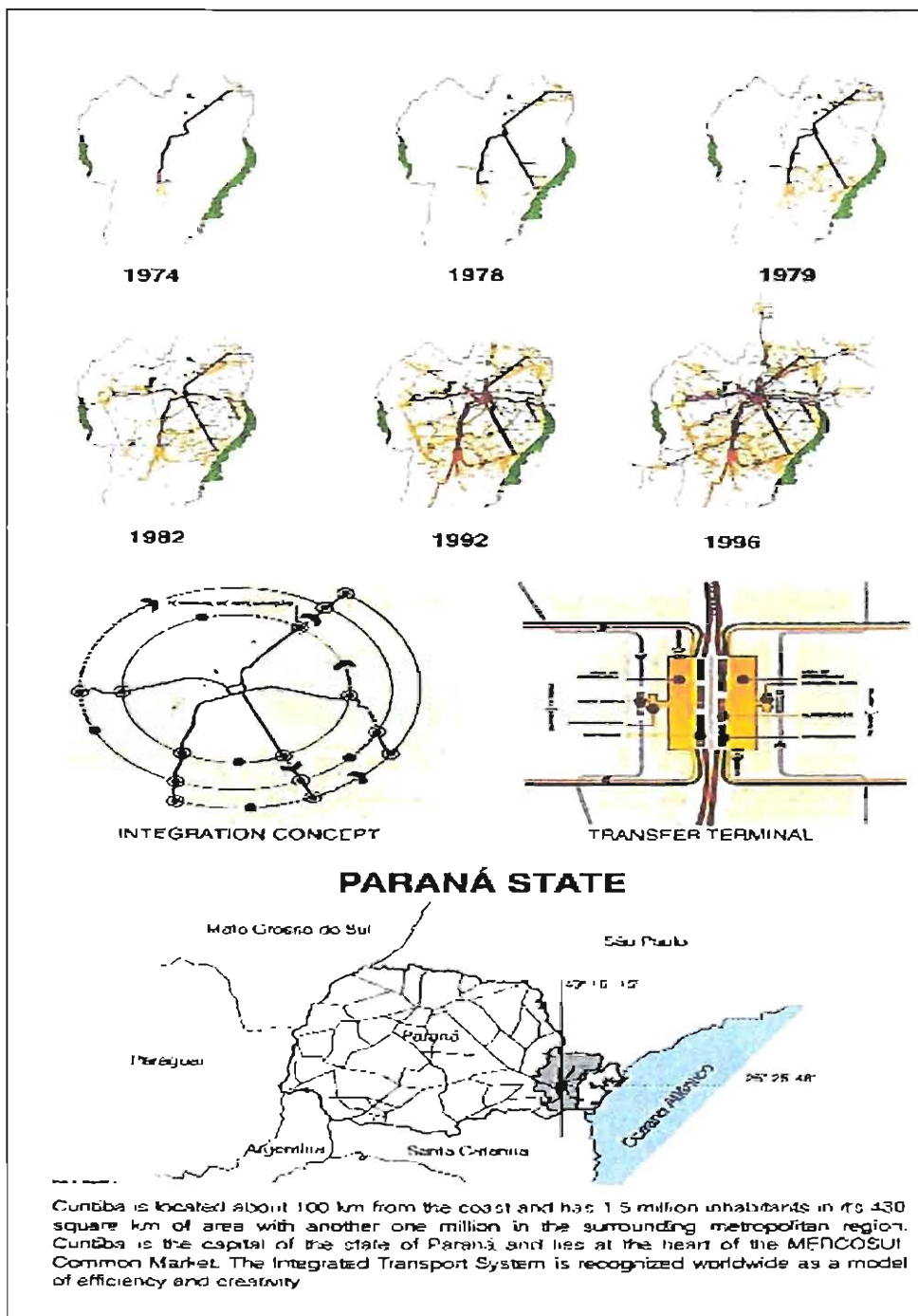


(URBS, 1996)

- ◆ Limiting central area growth: The plan was oriented towards limiting central area growth (Birk and Zegras, 1993). In fact, MLH Architects and Planners, conducted a comprehensive study of Curitiba for the preparation of the Cape Metropolitan Spatial Development Framework, as referred to in paragraph 2.4.1 (see detail on page 23). They identified an approach reflecting support for this view of Birk and Zegras, stating that:
 - one third of the population is to stay in the "*downtown*" areas;
 - one third along high density development corridors; and
 - one third in the rest of the city (Department of Transport, 1995).

- ◆ Economic growth: The plan encourages conventional and service sector growth along two north-south radiating transport arteries (Birk and Zegras, 1993);
- ◆ Encourage industrial development: Development of an identified industrial zone on a specific located site situated towards the outskirts of the city was encouraged (Birk and Zegras, 1993);

Figure 6: Evolution of the Integrated System



(URBS, 1996)

- ◆ Adequate education and health: The provision of adequate education and health care services and facilities as well as opportunities for recreation, which include some park areas, was all part of an attempt to create socially healthy communities. According to

them, healthier communities have higher productivity levels (MLH Architects and Planners, 1997); and

- ◆ **A sustainable integrated transport system:** This included the development of a sustainable integrated transport system (see Figure 6 for a schematic illustration), which is integrated with business development, road infrastructure development and local community development (Birk and Zegras, 1993).

Figure 7: The Curitiba Integrated Transport Network



(URBS, 1996)

In addition to the key focuses mentioned above, the vision for the development of the Curitiba Development Corridor-model, as identified by MLH Architects and Planners, also reflects the necessity of linking employment with place of residence (so as to create shorter travel distances and to reduce cost), reducing private vehicle use in the CBD, reducing pollution in the entire city (to create an environment-friendly city) and facilitating access to amenities (MLH Architects and Planners, 1997).

3.1.3. Important project strategies

Curitiba is regarded as an excellent reflection of using innovative approaches to solve local problems (where each problem is actually regarded as an opportunity for creating innovative solutions). It has a strong focus on a “*multi-dimensional integrated development approach*”. Included in this approach are measures to alleviate congestion, mechanisms to limit population growth, anchor developments and ample public services and programmes to address basic community needs (Taniguchi, 1995).

To underline the latter, it is important to highlight some general strategies within two key urban development strategies, the one being the design of an optimal urban design concept for Curitiba and the other the development of a supportive public transport system.

(a) Curitiba’s urban design concept

(i) General

The 1965 Master plan incorporated some innovative measures related to what is referred to as the “*Civic management of the plan*”. But what is so innovative about this? The following were identified by researchers²⁰ who studied the development corridor concept:

- Reorganising rezoning parameters: Zoning parameters are directed towards promoting mixed land-use development and high-density housing along the identified development corridors (MLH Architects and Planners, 1997). Kleynhans, Gough and Van der Merwe determined that these high-density developments took place primarily in areas where bulk services, such as water, sanitation, electricity, communication and public transport, are provided (Kleynhans, Gough and Van der Merwe, 1997);
- Securing affordable housing for the poor: This is done through a site identification process where the lowest-cost-implication is considered to be a major criterion. An approach is implemented by a housing authority whereby “*cheap*” land is purchased/expropriated as a first step. Affordable housing is then constructed at variable densities. MLH Architects and Planners also found in some cases, that land in the development corridors owned by the local government, was even “*exchanged*” for other suitable land (for high density housing provision), owned by private individuals. The exchange-of-land action was often linked to the provision of development rights to the benefit of the private individual, as a form of additional compensation (MLH Architects and Planners, 1997);
- Implementation of an appropriate communication strategy: This strategy focused on the continuous provision of information on issues such as project progress, project financing, results of opinion surveys and development priorities (MLH Architects and Planners, 1997);

20 See MLH Architects and Planners and Kleynhans, Gough and Van der Merwe,

- Innovative approaches to solve problems: The local authority of Curitiba regarded every urban problem as an opportunity for innovative solutions. Identified solutions often addressed more than one urban problem (Kleynhans, Gough and Van der Merwe, 1997);
- Provision of facilities and amenities: The plan provided an opportunity for the provision of facilities and amenities such as schools, libraries, clinics and crèches, next to the road forming the activity spine of the development corridor (Kleynhans, Gough and Van der Merwe, 1997); and
- Decentralisation of government offices and services: Provision was also made for the decentralisation of government offices and services closer to residents. The location of these facilities was very carefully considered, as the linkage to the public transport system played a prominent role in the site development process (Kleynhans, Gough and Van der Merwe, 1997).

(ii) The cross-section

The Curitiba urban design concept illustrates the interdependent relationship between transport and land-use planning and development. The conceptual approach is focused on expanding the city along five linear transport routes (development corridors), integrated with the rest of the city through a proper road network. In turn, it is further integrated with a public transport systems and accompanying land-use development.

The cross-section of the development corridor found in Curitiba (see Figure 8 as well as Figure 9), is characterised by the following:

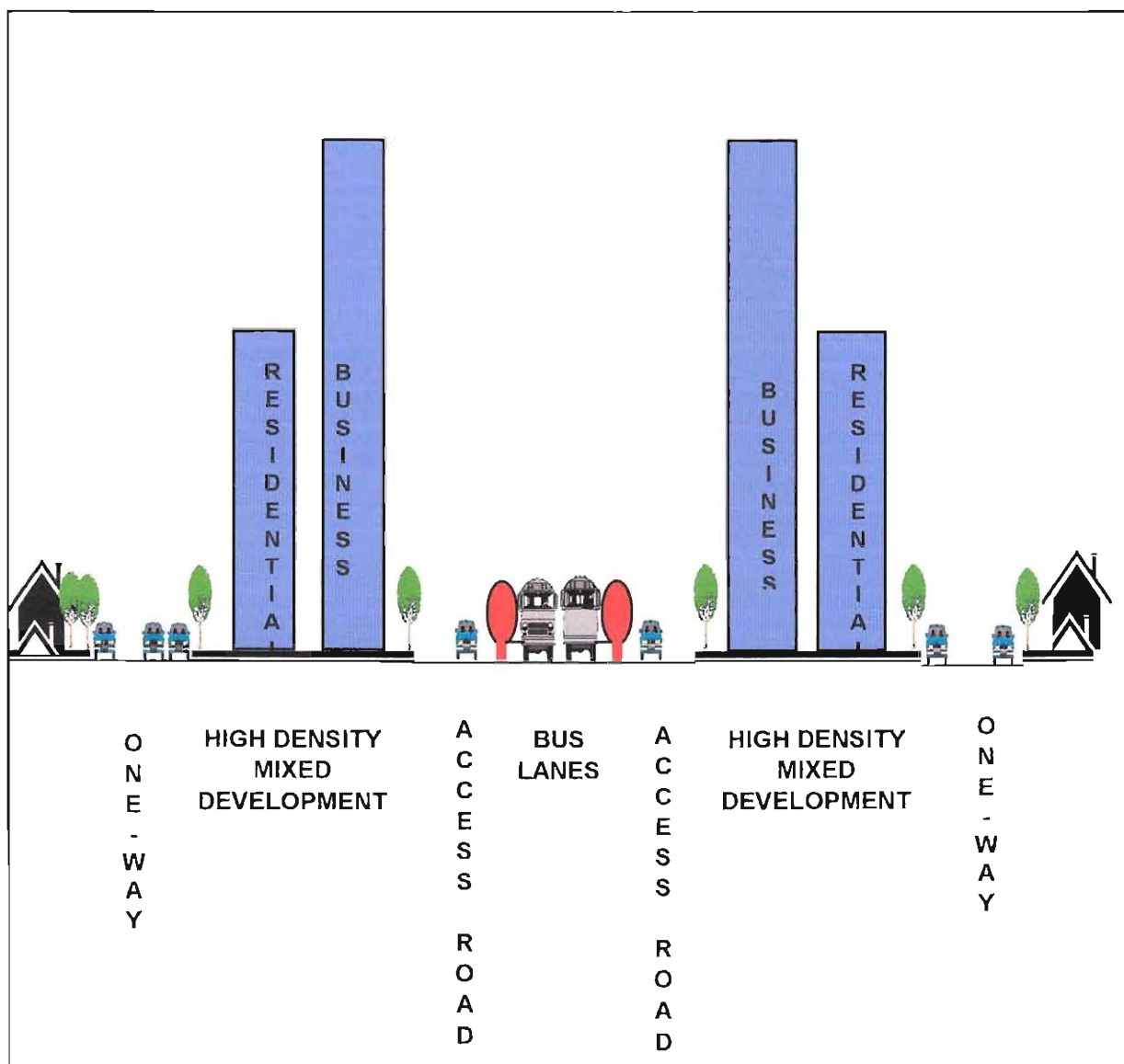
- Dedicated public transport routes: The centre line of the corridor accommodates a two-way direction dedicated public passenger transport route. Buses, forming part of the public transport system, exclusively use this road. Bus stops are found at regular intervals, as well as where the development corridor intersects with the concentric circular routes;
- Two-lane single direction routes: On both sides of the public passenger transport route, a two-lane single direction route is found to benefit the user of the private motorcar. Movement on these routes is normally slow. On-street parking is also provided on this route. Sidewalks divide the public transport route from this route. Therefore, this route could be regarded as an activity route;
- High intensity business frontage: The row of erven fronting the latter route is zoned for business development purposes as a mechanism to promote job creation and in turn attempts to reduce travel distances between places of residence and work. To promote higher intensity economic development on these erven, an incentive is provided whereby the investor is allowed to construct a building, which is in size equal to a maximum of six times the erf area. From the first floor upwards, the building is allowed to overlap the sidewalk, as an additional incentive. A combination of business and residential uses can be accommodated on these erven. However, the structure will still not be allowed to be more than six times the size of that respective erf. The residential component will not be allowed to form more than four times the area of that erf;
- High-density housing: The row of erven behind the "business"-zoned row of erven is earmarked for the development of higher density residential developments. An incentive also applies here. These structures are not allowed to exceed a size four times the size of that respective erf. Height is limited to prevent unnecessary social problems normally related with overcrowding. Business developments are also allowed to take place on these erven. However, parking must then be

provided on site and no sidewalk-overhangs can be developed. Height is still limited to four times the area size of that respective erf;

- Higher speed mobility routes: Following on the high-density residential zone, a two lane single direction route is provided. This route is considered a mobility route and the speed on this route is normally much higher than the one serving local businesses fronting the public transport route; and
- Lower density residential development: Beyond the latter, lower density residential development is found. This can include normal housing densities of 8 to 12 residential units per hectare (gross) (Kleynhans, Gough and Van der Merwe, 1997).

Taniguchi regards the application of sustainable development principles, which relate to activities such as the preservation of green areas in the city and the "cheap" urban transport rendered through the planning of a simplistic road structure and network, as special characteristics of the Curitiba development corridor model. Equally so, the integrated public infrastructure through the "orderly occupation of urban spaces" and the implementation of recycling programmes (Taniguchi, 1995).

Figure 8: A cross-section of the Curitiba development corridor model



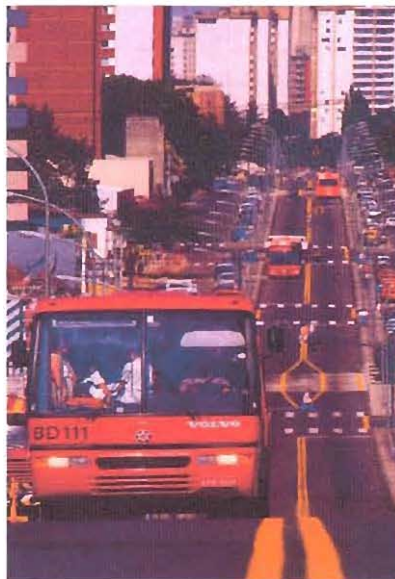
(Kleynhans, Gough and Van der Merwe, 1997)

(b) Curitiba's transport system

The integrated public transport system, managed by an institution known as URBS (see paragraph 3.1.5 on page 43 for more detail), forms a functional and supportive component of the entire development corridor concept. The public transport concept is based on the following (also refer to Figure 10 below and Figure 11 on page 41):

- The City Centre Circular Line: This system operates around the central business district. It consists of white painted passenger vehicles, which can accommodate 30 passengers;
- Conventional Integration Radial Routes: This system operates on the normal road network and is also linked with "*integration terminals*", as well as the central business district. It consists of yellow painted passenger vehicles, which can accommodate 80 passengers;
- Feeder Routes: This system links terminals with the neighbourhoods. It consists of orange painted passenger vehicles, which also accommodate 80 passengers;

Figure 9: A visual display of a development corridor with its public passenger transport system in Curitiba.



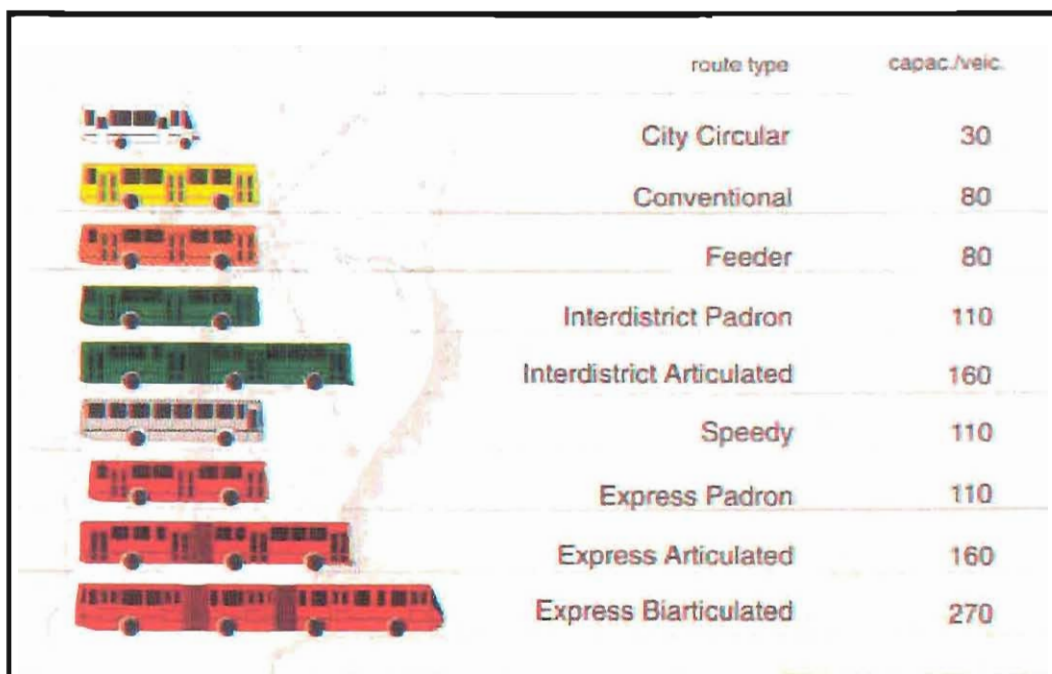
(Kleynhans, Gough and Van der Merwe, 1997)

- Express Articulated and Padron Routes: These routes provide the normal terminal to terminal service throughout the entire city. It consists of red painted articulated passenger vehicles, which can accommodate between 105 to 170 passengers;
- Direct or Speedy Routes: These routes connect the main districts and surrounding municipalities and stops every 3 kilometres. It consists of silver grey painted passenger vehicles, which can accommodate 110 passengers;
- Inter-district Routes: This system links the various transfer and integration terminals and districts without passing through the central business district. It follows circular routes around the city centre. It consists of green painted passenger vehicles, which can accommodate between 110 and 160 passengers;
- Express Bi-articulated Routes: This system links the transfer terminals with the central business district. It consists of red painted bi-articulated passenger vehicles, which can accommodate 270 passengers; (C Taniguchi, 1997).

Information related to the operations of the public transport system has shown that:

- 70% of the population of the city commutes by public transport (Department of Transport, 1995);
- 17 co-operatives are contracted to provide the entire public passenger transport operation;
- a single tariff structure is implemented all over the city. This implies that no matter the distance that a member of the public travels, the tariff stays the same, even if one travel from one bus network to another, as long as transfer takes place at a transfer facility ("tube station"). This implies that the shorter transport routes subsidise the longer routes;
- operators are paid actual kilometres travelled;
- 300 bus companies are incorporated in the public passenger transport operation;
- the public passenger transport operation survives without any subsidisation; (Taniguchi, 1995);
- 340 public passenger transport routes were provided, which have a distance of 1100 kilometres of public passenger transport routes;
- 25 transfer terminals have been developed;

Figure 10: Bus system and colour coding in Curitiba.



(URBS, 1996)

- tube stations were constructed and tickets can be purchased at the tube station. Once the bus enters next to the tube station, it allows a passenger on-level entrance into the bus – causing a tremendous saving in time for passengers to enter the bus. It also allows the disabled to enter the bus without any obstacles;
- the public passenger transport system also includes a specific tourism route whereby tourists can get on and off a bus travelling on the tourism route, knowing that a next bus will arrive within approximately 20 minutes; and
- a separate public passenger transport system was also developed for the physically and mentally handicapped, creating access to all education and social facilities throughout the city (Kleynhans, Gough and Van der Merwe, 1997).

Other characteristics can be summarised as follows:

- the Curitiba-planners are not concerned about the densification around the central business district or developing an overall more compact city with outer urban edges, but rather about the decentralisation of economic activities (found at higher intensities) towards corridors to alleviate congestion in the central business district and feeder roads thereto. The development of a supportive public transport system forms an integral part of this decentralisation approach, creating the opportunity to decrease the need to do substantial travelling. Simultaneously, it increases the need for and use of a public transport system;
- a strong movement exists to reduce parking in the central business district each year. This is being done by transforming roads to pedestrian ways;
- heavy vehicles are also not allowed during day-time in the central business district. Doing so, results in heavy fines; and
- all hospitals in Curitiba are linked through a separate public transport system (Kleynhans, Gough and Van der Merwe, 1997).

The effective and affordable self-paid public transport service in Curitiba can only be effective though to the development of high densities next to the routes, whilst on the other hand, it is also considered that the densities can only be achieved as a result of the public transport service provided (MLH Architects and Planners, 1997).

3.1.4. Success stories

As a result of the progress made with the development of the Curitiba Development Corridor-model over the past 30 years, the concept proved its ability as an urban restructuring and urban growth mechanism to develop an effective working city. Therefore, a number of best practices can be mentioned which were tested and proven. A long list could be elaborated upon, but for the purpose of this dissertation, the most prominent success stories are further discussed briefly below:

- ◆ The concept: The concept represents a network of development corridors consisting of high-density mixed land-use developments, supported by a unique public passenger transport system serving the entire city. This implies that transportation is more evenly distributed throughout the city and its surrounding districts ;
- ◆ The public passenger transport system: The public passenger transport system plays a prominent role to integrate all facets and urban elements of the city. One can, therefore, deliberate that the public transport system, which is based on an integrated road network, forms one of the backbone elements of the successes to develop an efficient working city - also compare Figure 12 on page 42 (Kleynhans, Gough and Van der Merwe, 1997);
- ◆ The central business district: As found by Kleynhans, Gough and Van der Merwe, the concept encompasses a crucial developmental movement whereby the importance of the central business district is reduced. A good element hereof relates to a situation of lower levels of congestion and higher levels of pedestrianisation. This is through the implementation of measures to reduce private vehicle movement in the central business

Figure 11: Passenger transport (bus) facilities/services in Curitiba

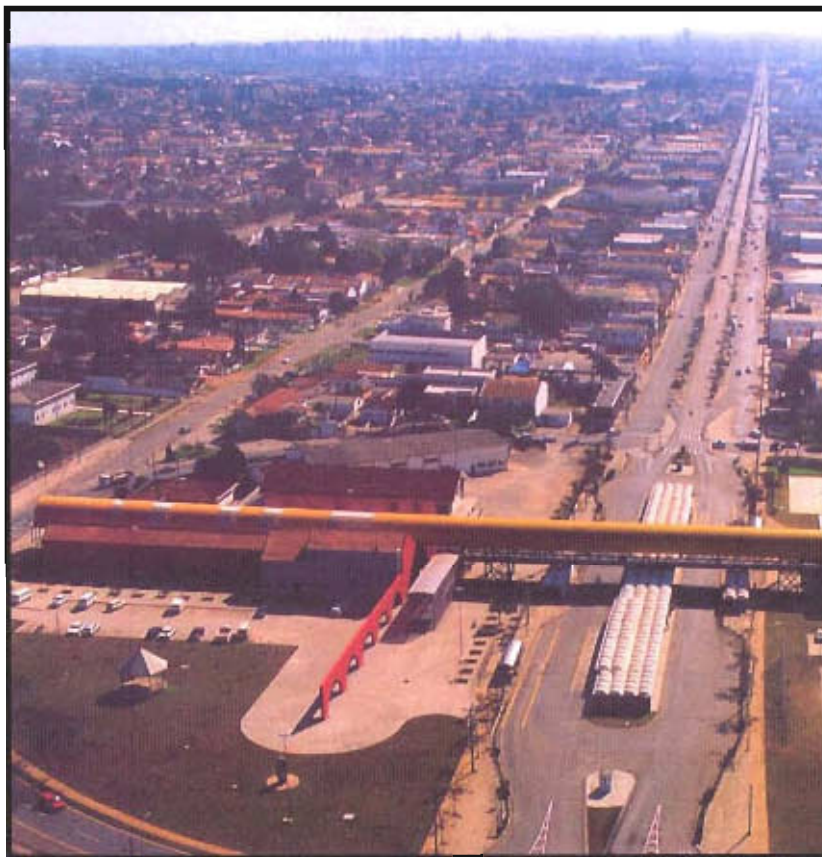


(Kleyhans, Gough and Van der Merwe, 1997)

district, by promoting the use of the public transport system and by transforming roads in the central business district to pedestrian ways (Kleynhans, Gough and Van der Merwe, 1997);

- ◆ Land values: Kleynhans, Gough and Van der Merwe found that the highest land values are no longer to be found in the central business district, but along the development corridors. This situation creates the impression that "*wealth*" is now also been distributed to other parts of the city and not as normally found, captured in the central business district (H Kleynhans, D Gough and Van der Merwe, 1997);
- ◆ Productive population: Although detailed numbers and figures could not be found for detailed analysis, an overall general analysis of this urban phenomenon creates the impression that there could be a direct correlation to the population becoming more productive, as it implies that easily accessible jobs are located closer to where people are staying. Reduced travel times will be a result, providing more time to spend with families (resulting in improved family ties) and for recreational activities (Taniguchi, 1995);
- ◆ Information: The ongoing flow of information to the public is also considered as one of the critical success factors for Curitiba (MLH Architects and Planners, 1995);
- ◆ Congestion: Vehicle congestion in the central business district is also minimised as a result of the efficiency of the public transport system and the high usage levels thereof, as well as the pedestrianised effects found in the central business district (URBS, 1996);

Figure 12: An integrated community centre and an integrated transfer terminal in one of the development corridors



(Kleynhans, Gough and Van der Merwe, 1997)

- ◆ Demand for public transport: The strength the development corridors is creating for economic development, further strengthens the demand for public transport and also increases its affordability levels (Kleynhans, Gough and Van der Merwe, 1997);
- ◆ Committed leadership: The management approach and the commitment of the leaders to make progress and to improve the quality of life through focused implementation also reflects an impression that planners must not only plan, they must implement, step by step (MLH Architects and Planners, 1995);
- ◆ Institutionally: The institutional set-up, as can be concluded from paragraph 3.1.5 (see page 43 for detail), also reflects that the best developmental results are obtained by mixing public officials' knowledge with the private sector's business skills. The establishment of non-profit institutional planning and implementation structures seems to be another major contributor to the successes achieved in Curitiba;
- ◆ Community participation: Community participation is directly incorporated within the ongoing planning processes. In fact, MLH Architects and Planners consider Curitiba a good example of a partnership between local government and the community (MLH Architects and Planners, 1995);
- ◆ Development programmes: Supportive child development programs, skills transfer and environmental education are all contributing towards improving the quality of life of Curitiba's inhabitants (MLH Architects and Planners, 1995); and
- ◆ Sustainability: Sustainability is also a major concern and is being promoted through, amongst others, active and intensive waste recycling. Incentives to promote the concept amongst the communities, also form important elements of the corridor concept (MLH Architects and planners, 1995).

MLH Architects and Planners find the *"most striking characteristic of the corridors and their development to be the recognition that they are a single component in an integrated system"*. This view is supported by the definitions of Duany and Plater-Zyberk discussed in Section B: of this chapter (see detail in paragraph 1.1 on page 10).

3.1.5. Institutional arrangements

MLH Architects and Planners regards the military dictatorship, which ruled Brazil for decades, as one of the cornerstones of Curitiba's success, easing the implementation of planning and development approaches decided upon by the governing body. However, the fact that Brazil was under military dictatorship when the Curitiba Development Corridor model was initiated, does not imply that development corridors can only be established under military leadership. In fact, this situation must rather be regarded as a representation of the need for firm and committed leadership and commitment by the governing body to improve the quality of life of its city's inhabitants.

Another cornerstone is the organisational structure and management of the corridor development projects through seven autonomous non-profit agencies. These were established to implement the common development visions that were set for the development of the city. The mentioned agencies are:

- ◆ Urbanisation (land-use);
- ◆ Industry;
- ◆ Curitiba Development Company (CIC);

- ◆ Curitiba Housing Company (COHAB);
- ◆ Curitiba Urbanisation Company (URBS);
- ◆ Curitiba Institute for Research and Planning (IPPUC); and
- ◆ Curitiba Cultural Foundation (MLH Architects and Planners, 1995).

Some of these agencies are further elucidated:

- ◆ The Master Plan of the 1960's proposed the establishment of IPPUC – "*Institute of Urban Research and Planning of Curitiba*". This institution is responsible for co-ordinating, modifying and overseeing plan implementation on an annual basis (also refer to paragraph 3.1.2 on page 31, as well as paragraph 3.1.3 on page 36 of this section). IPPUC also co-ordinated Curitiba's investment in mass transit between 1970-1986 (Birk and Zegras, 1993);
- ◆ URBS is responsible for managing the entire public transport system (refer to paragraph 3.1.3 on page 35), including the respective bus companies operating the system. The fact that the system is a non-subsidised transport system, implies an efficient and effective system that is working within Curitiba.

The revenue earned from sold public transport tickets is paid into a single public transport fund. The bus companies are then paid from this fund for each real kilometre travelled.

The system is being evaluated on a continuous basis and public opinion on the efficiency and effectiveness of the system is valued very high. The results of opinion surveys, which are done constantly, are implemented immediately so as to ensure that the users are satisfied with the system. In this way, URBS ensures the optimal use of the public transport system;

- ◆ Industrial development is strongly promoted by a non-profit industry agency, known as "*Cidade Industrial de Curitiba*". It is dedicated to promote and attract new industries to preferred localities. It promotes communication between government and the industry sector and constantly supports institutions and universities with implementation and education activities.

To encourage industries to locate locally, the "*Cidade Industrial de Curitiba*" even purchases shares in such companies to confirm the high esteem Curitiba holds for that investment in contributing to economic development.

Co-operation between public and private sectors is considered important. This is underpinned by the full range of services provided to the industrial sector. This includes, amongst others, health, education and welfare facilities, as well as a place of residence to the worker in the immediate vicinity of the industrial area.

Public support is specifically provided to those activities, which can improve production (MLH Architects and Planners, 1995).

3.1.6. Conclusion

A concern raised throughout the world, is that disorderly growth tends to result in an increased demand for and use of public funds, as well as a low quality of life. This was also the case faced by Curitiba in the 1960's. Reports²¹ in this regard revealed that an opinion was raised that the reduction in time spent on travel, results in savings as a result in the decrease in the fuel consumption. Simultaneously, time saved leads to an increase in productivity or recreational opportunities. It is the opinion of Taniguchi that the above can be translated into a "profit" for the city and an improved quality of life (Taniguchi, 1995). The above deliberation places a large degree of emphasis on the movement of people and goods over short travel distances, as well as the need to travel as a result of the close proximity of end destinations to the users.

The results gained through the community participation approach of the Curitiba Development Corridor are regarded as an excellent example of a partnership between local government and the community. The approach includes the use of the community to assist in identifying solutions for city problems. These solutions must deliver multiple benefits. In turn, it reflects a total commitment by all role-players to make things work for the community. Taniguchi considered it the only way to address city differences (Taniguchi, 1995).

Therefore, it clearly seems that all development decisions are carefully considered so that when it is implemented, it contributes to the improvement of the quality of life. This approach ensures the development of an environmentally sustainable city (MLH Architects and Planners, 1995).

With regard to zoning and land-use, the Curitiba Development Corridor model reflects:

- ◆ that mobility and land-use cannot be disassociated from each other;
- ◆ mixed-use high-density development along arteries are necessary to comply with the threshold values of economic activities found in the corridor, which include the public transport system serving these corridors;
- ◆ the provision of an effective and affordable public transport system should be considered the highest priority, as it represents the most essential cost-saving mechanism in the development of a city; and
- ◆ the city centre, as the major economic activity node found in a city, forms an important urban element of the development corridor concept. In Curitiba, the city centre represents a pedestrian network focused at boosting economic activity in the city as a whole (Birk and Zegras, 1993).

Curitiba contains a number of other essential lessons. Amongst these, the following general lessons can be highlighted according to MLH Architects and Planners:

- ◆ "sustained commitment" to work towards the implementation of a common vision;
- ◆ expediting the "willingness to take calculated risks", to enhance more speedy delivery processes and improved end results;
- ◆ it is regarded as essential to establish "a multi-disciplinary, semi-autonomous, urban planning agency with strong leadership", to oversee planning and implementation activities

21 See Taniguchi (Creating an Environmental Sustainable City; The Curitiba Initiative; The Trend Towards Sustainable Development) and Herbst (Brazil's model city).

on an annual basis;

- ◆ not to act too eagerly, but to "*move one step at a time*". Kleynhans, Gough and Van der Merwe add that no policy is implemented without a plan of action;
- ◆ as commitment towards progress exists, it does happen that mistakes are made. However, irrespective thereof, the approach should be to "*learn from mistakes*", correct them and continue project implementation. Kleynhans, Gough and Van der Merwe support this view by adding that a constant political will exists to ensure the optimal planning and development results;
- ◆ compile specific "*goal orientated programmes*" related to aspects such as public transport, development incentives, short development application considerations, zoning measures, all to improve the quality of life in Curitiba;
- ◆ another strategy is to ensure that "*growth must be focused inwards*" and that "*outward growth must be controlled*", to prevent low density sprawl and a decrease in the threshold value of the public transport system (MLH Architects and Planners, 1995);
- ◆ a strong relationship must be developed between "*public transport corridors supported by high fronting densities*", which will create the appropriate "*economic thresholds, opportunities for entrepreneurs and a convenient, efficient and sustainable urban public transport system*". Kleynhans, Gough and Van der Merwe add that proactive action is supported by built-in tests for such proactive activities, followed by immediate implementation;
- ◆ creativity is seen as an essential ingredient to problem-solving. In this regard, communities play a prominent role. Linked to the concept of being creative, is the approach to consider a problem as an opportunity for creative thinking and to maximise that opportunity by solving more than one problem with one solution; and
- ◆ a special effort is made to recognise the role of formal and informal businesses in the development of corridors, as each serves a specific purpose and both have a contribution to make to the city's economy (MLH Architects and Planners, 1995).

The success of development corridors is directly related to innovative and effective management of the entire concept. MLH Architects and Planners supports this view as they indicate that innovation and effective management are imperative from inception through to the implementation of project strategies and projects. They also state that ongoing management and the availability of financing will also dictate the success of development. MLH Architects and Planners links the latter consideration to that of also considering the corridor development as a "*principle tool in restructuring the urban environment*" (MLH Architects and Planners, 1997).

In terms of the urban restructuring focus, it seems that revitalisation can be achieved within a broad approach towards preservation, small scale beautification, special zoning recommendations and design guidelines, implemented through specific urban structuring projects (Taniguchi, 1995).

The urban design concept is regarded by some as a basis for communication and of action. Effectively, it is used for international imageability (Del Rio, 1992). This view is supported by Taniguchi, who is of the opinion that efficient marketing structures guaranteed that the urban design solutions of Curitiba became new urban symbols of modernity, "*hallowed and divulged*" both nationally and internationally (Taniguchi, 1995).

3.2. Porto Alegre

3.2.1. General

Porto Alegre is a major city situated in the southern parts of Brazil, with very similar urban conditions as Cape Town (Republic of South Africa), due to its location as a harbour city next

Figure 13: Location of Porto Alegre in Brazil

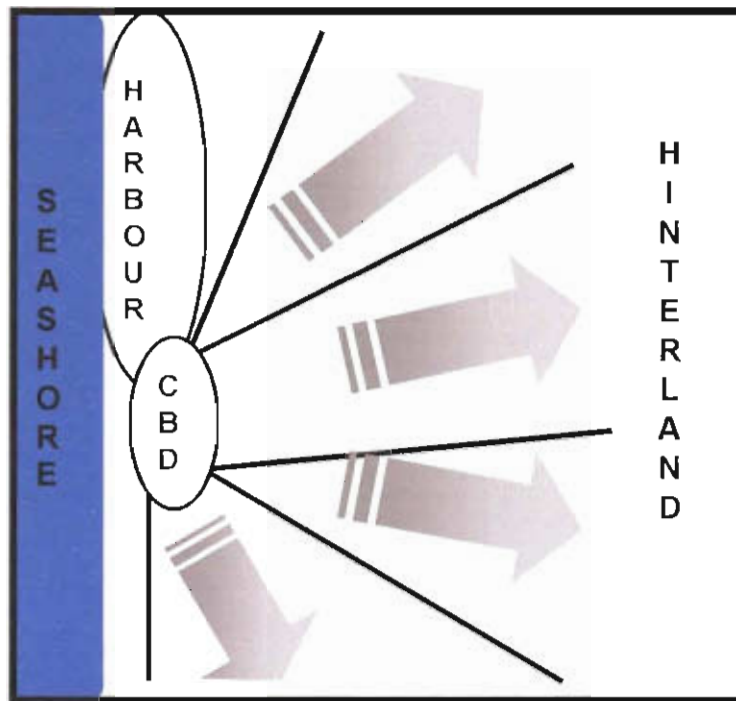


(Kleynhans, Gough and Van der Merwe, 1997)

to the Atlantic Ocean (see Figure 13 above). It is characterised by: degraded industrial areas next to the harbour; radial routes stretching from the central business district (also close to the seashore) into the hinterland (see Figure 14), with lower density development taking place further and further away from the central business district; illegal land invasion of open spaces with poor basic services; illegal squatting taking place on the outskirts of the city where the cheaper land is found; and serious congestion in the central business district. Development directly adjacent to the seashore is also more expensive and of a higher quality. Densities vary from area to area. Linkages between radials are lacking (Andretta, 1995).

A typical *laissez-faire* planning and development approach was followed by the public sector until the late 1980's. It was only recently (1989), that the local government of that time redirected the planning approach to what is known as the "*Participative Budget*"-planning approach (see Figure 15 on page 49). As concluded from the latter, the approach places a strong emphasis on community participation, where the public is provided the opportunity to decide about how public funds should be spent. Simultaneously, the planning process made provision for the input by "*intellectuals*" (for example urban planners and architects, transport engineers and so fourth), to guide the city structuring processes.

Figure 14: Schematic view of the development of Porto Alegre



3.2.2. Key focuses of the project

The existing city structure developed into four radial routes, stretching from the central business district into the city's hinterland. The central business district, as can be expected, developed into the main centre of economic activity.

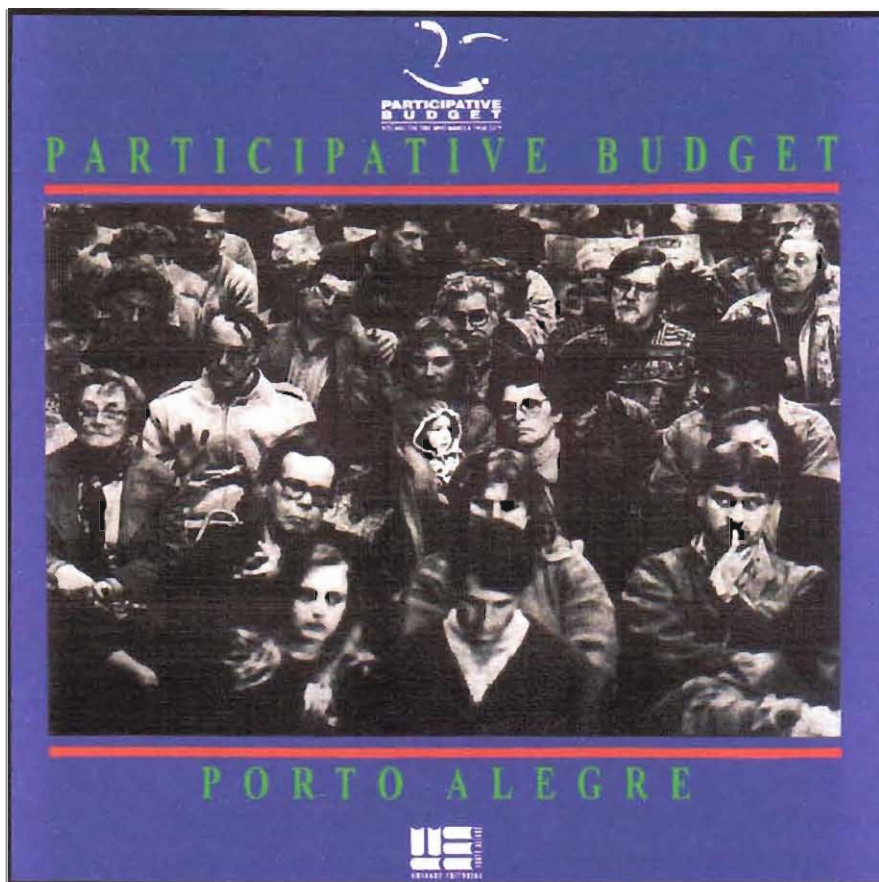
As a result, typical urban problems were experienced, such as: uncontrolled urban sprawl, tremendous vehicle congestion (especially in the central business district), time and productivity losses and expensive infrastructure services. A poorly developed public transport system contributed to the problem even further at the time, the reason being that people who needed to travel from the one radial route to a destination situated on another radial route, had to travel through the central business district. This resulted in a situation where the largest percentage (90%) of all bus trips in the city went through the central business district (Kleynhans, Gough and Van der Merwe, 1997).

The efficiency of its neighbour city, Curitiba (refer to paragraph 3.1 on page 31) must have made a serious impression on the local government of Porto Alegre, as, together with the "*Participative Budget*"-approach, the local government initiated the implementation of an integrated land-use and transport planning approach late in the 1980's (Andretta, 1995). The research material implicated a number of sectoral focuses for implementation, viz.:

- ◆ Urban infrastructure and education: Since the implementation of the "*Participative Budget*" in 1989, the public placed a fundamental focus on the development of appropriate urban infrastructure and education. The development of the "*Participative Budget*" was done through the implementation of the "*Cidade Constituinte Project*", which is discussed in more detail in paragraph 3.2.3 below;
- ◆ Globalisation: A specific focus was placed on "*globalisation*", not only in economical terms, but also in a cultural context. This focus resulted into a number of innovative strategies focusing on improving conditions for product and service quality and competition (see

paragraph 3.2.3 below for detail); and

Figure 15: Porto Alegre's "Participative Budget"



(Andretta, 1995)

- ◆ Improved public transport: Improving the public transport system was another focus in terms of addressing the efficiency and the effectiveness of the system, as well as improving the existing road network. The underlying reason was that 90% of all busses passed through the central business district, whilst only 35% of the users' destinations are in the central business district (Kleynhans, Gough and Van der Merwe, 1997).

With these focuses, the local government of Porto Alegre attempted to address the following four key questions/issues:

- ◆ Is the city appropriate for its inhabitants?
- ◆ Is public income distribution being done effectively?
- ◆ Are the public's policy priorities being addressed?
- ◆ Is the government-society relationship improving?

3.2.3. Important project strategies

The Porto Alegre approach towards using integrated land-use and transport planning as a mechanism for urban reconstruction and urban growth, has also only recently (in relative terms when compared to the use thereof in Curitiba) been recognised and introduced (Kleynhans, Gough and Van der Merwe, 1997). Although busy implementing the approach for

approximately ten years now, optimal results have not as yet been obtained, proving that it is a time-consuming process, guided by the availability of supportive financial resources.

Nevertheless, Porto Alegre is implementing a number of concepts, which are worth considering. These include the following:

- ◆ Improving the public transport system: A serious effort is made to develop and improve the use of the public transport system through integrated land-use and transport planning. One of the strategies being implemented, is the development of a more appropriate road network. This road network should not only relieve congestion in the central business district, but should also be supportive of the development and improvement of a more balanced and equally distributed public transport system. For this purpose, circular routes around the central business district were proposed and initiated, so as to bypass the central business district. A separate public transport system is being introduced on these circular routes, with transfer facilities where it intersects with the radial routes. This approach is also shortening the travel distances for the public transport user, as a user does not need to travel *via* the central business district anymore;
- ◆ Speed-lanes: A set of speed-lanes have also been introduced and developed on the radial routes, exclusively for the electronically monitored bus-based public transport system. As in Curitiba (refer to paragraph 3.1.3 on page 35), a single direction road for slow-moving traffic has been created on both sides of the public transport speed-lane;
- ◆ A microbus public transport system: A microbus public transport system is also operating in the city, but these minibuses are not allowed to make use of the speed-lane system;
- ◆ Reducing movement through the central business district: It is expected that if the implementation of the speed-lane and the radial public transport system is completed, Porto Alegre will prevent the use of 70% of the amount of busses passing through the central business district at present;
- ◆ Smart-card system: No through-ticketing exists at present, although Kleynhans, Gough and Van der Merwe found in 1997, that consideration was given to the implementation of a smart-card system at the time. As in Curitiba, the existing public transport system is not subsidised;

Figure 16: Roads transformed into pedestrian ways in the CBD of Porto Alegre



(Kleynhans, Gough and Van der Merwe, 1997)

- ◆ Pedestrianisation: As in Curitiba, transforming roads in the central business district into pedestrian ways, forms a specific strategy to make the central business district more user-friendly for pedestrians, whilst demotivating the use of private vehicles to reduce vehicle congestion (see Figure 16 above for an illustration); and
- ◆ Economically: Porto Alegre initiated the development of what can be regarded as an “interesting” approach, through adopting a project known as “*Project Porto Alegre Technopolis*”. The focus of this project is to promote the globalisation of the local economy (Porto Alegre City Hall, unknown).

“*Project Porto Alegre Technopolis*”, is regarded as a multi-institutional effort to promote, amongst others, local economic development. This was done through the improvement of local conditions of competitive insertion. Again, as participation was set as a base for sustainable overall growth, the project is considered to be a typical partnership between a number of role-players, which include the public sector, science and technology institutions, enterprises, casual workers and civil society institutions. Other strategies set for “*Project Porto Alegre Technopolis*” include addressing local needs and exchanging experiences with interested countries, governments and local institutions (Porto Alegre City Hall, unknown).

One of the examples of “*Project Porto Alegre Technopolis*”, is the establishment of an institution known as IETEC, which is aimed at transforming project or product ideas into real economically viable business initiatives. This institution is described in more detail in paragraph 3.2.5 (see page 53 for detail). Another example is the development of a Trade Point to increase global exposure of locally manufactured products (Porto Alegre City Hall, unknown).

Kleynhans, Gough and Van der Merwe found that “*Project Porto Alegre Technopolis* based its development actions and activities on metropolitan actions²². The underlying principle is that these projects are implemented which promotes aspects such as:

- economic and social development;
- goods and service generation;
- an increase in income levels;
- empowerment, education and improving of skills levels for higher quality jobs; and
- expanding the revenue base for the public sector to enable a more balanced resource distribution application (Kleynhans, Gough and Van der Merwe, 1997).

- ◆ Participation: The “*Participative Budget*”-approach was implemented as a participation strategy as a result of the “*Cidade Constituinte Project*”. The “*Cidade Constituinte Project*”²³ has as strategy the enhancement of the participation of the citizens of Porto Alegre, or as stated by the local government of Porto Alegre, “...a process seeking a global discussion of the city” (Prefeitura Municipal de Porto Alegre, unknown). This approach encompasses a continuous democratic process within which more efficient channels of participation and control were constructed and consolidated by means of addressing four basic topics,

22 By definition, the Porto Alegre local government defines “*metropolitan action*” as “...every activity of public interest done in partnership that promotes the process of technological innovation in the field of production of goods and services, intensive in knowledge” (Prefeitura Municipal de Porto Alegre, unknown).

23 “*The Cidade Constituinte*”-project expresses the political will of Porto Alegre’s local government to enhance participation experiences of the citizens, which has begun to be developed during the first governing term of the “*Popular Administration*” (Prefeitura Municipal de Porto Alegre, unknown)

being:

- urban reform and development;
- traffic and transportation;
- economic development; and
- city finance (Prefeitura Municipal de Porto Alegre, unknown).

The latter are further discussed below.

(a) Urban form²⁴ and development

The aspects incorporated under this topic addressed through the *"Cidade Constituinte Project"* refer to issues such as:

- ❖ the uneven and unfair distribution of basic services and infrastructure (sanitation, paved and lightened streets, education, health care and cultural events) as a result of illegal land invasion and high levels of poverty;
- ❖ typical²⁵ land settlement, land tenure and housing problems as experienced in the Republic of South Africa;
- ❖ promoting urban reform, which represents quality of life improvement and public investment reversion; and
- ❖ the compilation and implementation of a *"City Directive Plan"*.

(b) Traffic and transportation

Aspects incorporated and addressed through the *"Cidade Constituinte Project"* refer to issues such as:

- ❖ determining appropriate public transportation service standards which are closely related to the decision and contradictions concerning the construction of urban areas;
- ❖ ways and means to overcome the serious traffic and transportation problems experienced in the city; and
- ❖ addressing other typical urban development influences and externalities such as land prices, real estate speculation and excessive conservation of commercial and service settlements. Other influences included the lack of land-use definitions, housing for the poor, which is either central but very deteriorated or far from employment opportunities/centres, as well as the great dependency of low-income people on public transport and the lack of public financial resources for public transport.

These aspects are addressed through the compilation of a spatial plan, which also incorporates policies through the *"City Directive Plan"*.

24 The local government of Porto Alegre regards *"urban reform and development"* as that it is based *"...on public reversion and tries to guarantee full citizenship exercise to most people still marginal to city resources and possibilities"* (Prefeitura Municipal de Porto Alegre, unknown).

25 *"typical land settlement"* refers to the fragmentation of the city structure, illegal occupation of land, erection of squatter structures and the lack of development control.

(c) Economic development

Aspects incorporated and addressed through the “*Cidade Constituinte Project*” refer to issues such as:

- ❖ slow industrial development processes;
- ❖ improvement of commerce and services needed by investors;
- ❖ the need to promote tourism;
- ❖ the need to promote technological development; and
- ❖ the formalisation of the informal economy sectors to absorbed globalisation more dynamically.

(d) City finance

The greatest challenge to be addressed through the “*Cidade Constituinte Project*” with regard to city finances, is to overcome the increasing demand and need for funds caused by continuous “*urban growth and the increased urban complexity*” being created by that urban growth (Prefeitura Municipal de Porto Alegre, unknown).

3.2.4. Success stories

There are two prominent aspects that are considered as success stories. These relate to Porto Alegre’s approach towards the development of development corridors within the ambit of integrated land-use and transportation planning and development.

The *first* is their approach towards involving the public directly into decision-making processes to use available public resources to address the needs experienced by the city’s inhabitants. The fact that more than 70 other local government structures in Brazil initiated the implementation of a similar participation approach, confirms that it can be regarded as a best practice. This approach ensured that the communities are becoming more involved in, and more responsible for their own future (Kleynhans, Gough and Van der Merwe, 1997).

The *second* is the innovative approach initiated through “*Project Porto Alegre Technopolis*”, to promote local economic development, as explained in paragraph 3.2.3 above and elaborated on in paragraph 3.2.5 below.

3.2.5. Institutional arrangements

The “*Cidade Constituinte Project*” was implemented through the following structures:

- ◆ as a project, it was guided by an Executive and a General Co-ordinating Committee;
- ◆ the elaboration process was organised and developed by four work groups, established for each of the four focus topics as mentioned in paragraph 3.2.3 above;
- ◆ an Executive Co-ordinating Committee, which was managed under the responsibility of the local government of Porto Alegre. This committee was responsible for the daily supervision of the project process and organisation of events, as well as the tasks of the four work groups on urban reform and development, traffic and transportation, economic development and city finance. The committee consisted of civil society representatives;
- ◆ a General Co-ordinating Committee, which consisted of government members, legislative

power representatives and individual entities and associations. This committee decided on the instructions and guidelines for the "*Cidade Constituinte Project*"; and

- ◆ the Porto Alegre City Congress which approved the final document (Prefeitura Municipal de Porto Alegre; date unknown).

To obtain community participation, Porto Alegre was divided into 16 homogenous participative regions. Citizens and representative community groups formed workshops in each of these regions. Budget issues were debated at these workshops by the public, and whilst doing so, determined their own future (Kleynhans, Gough and Van der Merwe, 1997).

Economically, an institutional joint venture approach was implemented to get economic development strategies implemented, especially in terms of the "*Project Porto Alegre Technopolis*". This approach was implemented through the establishment of an institution being referred to as the "*Incubator Entrepreneurial Technology*" (IETEC). The Porto Alegre Municipality manages this institution and has as focus the development of services, products and processing processes, based on new technology. Partnerships form a strong base for the approach, as it incorporates education and training institutions, as well as other domestic and foreign-based businesses and institutions. They provide a full range of administrative, communication, legal and technological support. The institution's specific purpose is to get Porto Alegre known as a world-class centre for developing and generating technological innovations (Kleynhans, Gough and Van der Merwe, 1997).

3.2.6. Conclusions

As development corridors were only recently introduced in Porto Alegre (in the first half of the 1990's), typical lessons are still lacking. However, three prominent goals can be noted:

- ◆ to position the corridor's economy as an important part of the global economy. In this regard the Porto Alegre Municipality is focusing the city as an innovative technology and research hub, a unique focus representing a specific demand in the global economy. One can refer to it as a dedicated approach towards "*dedicated economic development*";
- ◆ the authorities of Porto Alegre, as with Curitiba, realised that the greater the city size and urban complexity, the greater the demand for public finance. As a result thereof, an investigation was initiated to find a mechanism to "*guarantee a balanced development, which will transform the town, starting with a continuous improvement of the life quality standard*". It was this search that emanated into a strong emphasis on overall involvement in, for example, planning, problem-solving and prioritisation processes. In the Porto Alegre-scenario, it does not only include community involvement, but also an approach not to always solve your problem by yourself, but to invite "*urbanologists, intellectuals, political leaders and others for seminars, as well as group and round table discussions*" for problem-solving purposes (Prefeitura Municipal de Porto Alegre); and
- ◆ the community participation process implemented by Porto Alegre, is an essential lesson to get the community to help guiding the expenditure of local government structures, and which can be learned from. Their approach presents an appropriate model for dealing with the management of public resources.

The development corridor concept has not yet been fully developed in Porto Alegre. This is a result of the slow integration of economic development activities into the public transport system. However, related to the latter, the Porto Alegre authorities are developing a public

transport system that is working for Porto Alegre and her people. A prominent characteristic of this concept is the development of the speed-lane, which enables the separation of public transport and private vehicle use.

The initiative, especially through IETEC, to focus on technological innovations as an economic development strategy to increase the global positioning of Porto Alegre and its business sectors in the world market, is also regarded as a focused approach to benefit local economic development.

4. Urban development corridors launched in South Africa after the MCDC

4.1. The Tembisa-Kempton Park Development Corridor

4.1.1. General

The Tembisa-Kempton Park Development Corridor is situated in the central part of the Gauteng Province, in close proximity to the Johannesburg International Airport (JIA), which has a major influence on the development of this development corridor. The study investigating the feasibility for the establishment of the development corridor was initiated in September 1999.

To guide the project and the project process, the Transport Co-ordinating Committee²⁶ (TCC), decided to focus strongly on the integration of residential areas and places of work, improving accessibility and promoting modal integration. Attention was also given to influence the direct correlation between development and public transport to “*support*” each other, as well as to integrate and expand on existing development initiatives to kick-start implementation.

The TCC identified corridor development as an appropriate means to promote the integration of land-use and transport planning. They decided on the Tembisa-Kempton Park Development Corridor project as a pilot project, to test some planning and development principles, as well as due to its potential for private sector interest and investment (VKE Engineers, Plan Associates, TRC Africa and Infratech Solutions, 2000).

4.1.2. Key focuses of the project

The key focuses of the project were to investigate, understand and highlight the potential for corridor development over its length of 14,5 kilometres, to obtain buy-in from stakeholders for implementation, to facilitate private investment and to co-ordinate public investment.

To address these focus areas, the TCC adopted the following approach:

- ◆ establishing co-operative involvement of all three spheres of government (national government, the provincial government and the respective local government structures);
- ◆ to create an understanding of co-operation between the private and public sector;

26 The TCC is a land-transport co-ordinating institution established between the Gauteng Department of Transport and Public Works and the respective Metropolitan and Regional Services Councils within the Gauteng Province. The Committee has a number of work groups, each dealing with a different issue, such as land-use and transport integration, road construction, road planning standards, public passenger transport and so forth (personal interview: Mike Krynauw, 27 November 2000).

- ◆ to move towards focused investment in transport as a mechanism to promote growth;
- ◆ to promote the usage of public transport; and
- ◆ to adopt appropriate development promotion mechanisms (VKE Engineers, Plan Associates, TRC Africa and Infratech Solutions, 2000).

As in many cases in cities and towns in the Republic of South Africa, the Tembisa-Kempton Park area is also characterised by a number of urban development problems. These include, amongst others, the following:

- ◆ Long travel distances: Commuters travel long distances between place of residence and place of work;
- ◆ Lack of racial integration: A lack of racial integration, especially as far as places of residence is concerned, is experienced;
- ◆ Undeveloped land: Large parcels of undeveloped farmland, especially between the black and white residential areas, occur;
- ◆ Isolated high-density development: Isolated high-density black residential areas with a high dependency on public transport as a result of the distanced job opportunity areas, is experienced. These dormitory areas (consisting of 76% of the study area population), are also characterised by the presence of poor economic development activities. On the other hand, the white residential areas are characterised with lower densities situated closer to job opportunities and mostly dependent on private car use;
- ◆ Industrial development: An existing capacity exist in industrial areas, which is ready for development; and
- ◆ Different public transport modes: A number of different public transport modes are present in the identified area where the corridor should be developed, but with no integration that exists between these modes (VKE Engineers, Plan Associates, TRC Africa and Infratech Solutions, 2000).

4.1.3. Important project strategies

During the information-gathering phase, three comprehensive strategies were implemented. *Firstly*, an environmental scan, *secondly*, the interpretation of the development potential and *thirdly*, the facilitation of implementation opportunities.

Important issues considered during the environmental scan included, amongst others, aspects such as: planned projects; projects committed for implementation; expected future planning initiatives; stakeholder identification; the gathering of bio-physical and economical data; and the institutional arrangements affecting the project.

During the interpretation of the development potential, special focus was given to aspects such as: catalyst projects; corridor development guidelines; funding sources; opportunity for joint ventures and partnerships; and additional planning required for identified priority development areas.

With regard to investment facilitation, important issues addressed include impediments to growth, the impact of institutional changes, alternative implementation strategies, the identification of action steps, the appointment of a dedicated project champion and the implementation of activities decided upon.

From the study material available, five critical project strategies were identified. These are:

- ◆ Integration of places of residence and places of job opportunities: Sub-strategies include, amongst others, the reduction of travel distances, the creation of direct linkages between economic nodes, the development of feasible travel options, the creation of higher densities and to promote node-focused development opportunities;
- ◆ Establishing high levels of accessibility: Sub-strategies include the development of an appropriate road network and the development of a supportive public transport network;
- ◆ Ensuring modal integration: It includes the provision of appropriately located modal integration facilities, as well as a through-ticketing system, as sub-strategies;
- ◆ Focusing development along public transport routes: Higher density levels are promoted in the development process, developing a continuous urban structure; and
- ◆ Expanding development initiatives: To expand development initiatives identified during the information gathering phase.

Other strategies include the development of industrial nodes, promoting residential integration and promoting the construction of across-access routes (VKE Engineers, Plan Associates, TRC Africa and Infratech Solutions, 2000). These strategies culminated in a development concept, schematically illustrated in Figure 17 below.

The TCC also identified project-specific development priorities such as the improvement of the west-east movement across the north-south orientated development corridor to create alternative links to closer located employment areas and the densification of land usage adjacent to the development corridor. Others include improving public transport integration, improving north-south movement and improving access to regional traffic routes.

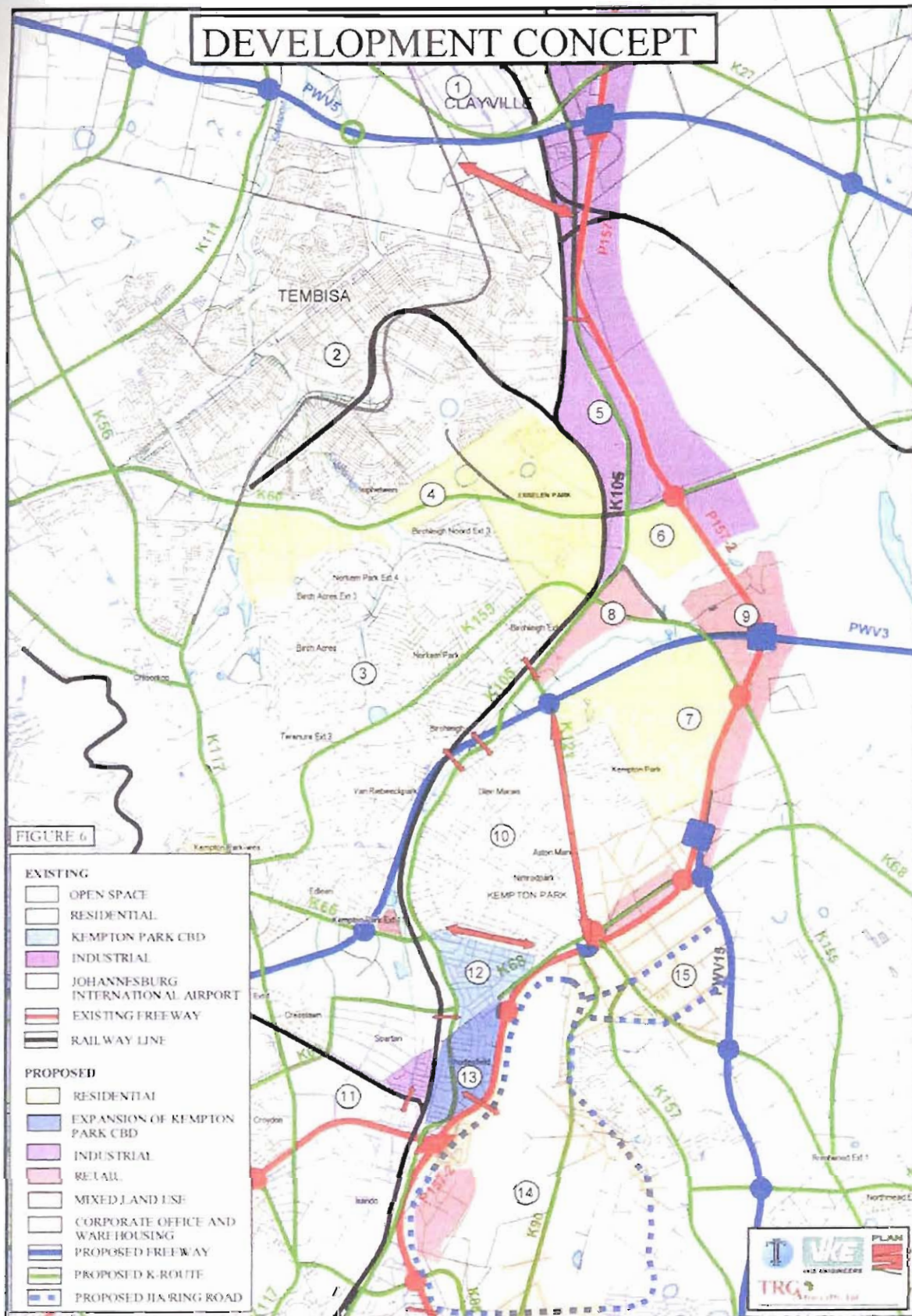
4.1.4. Success stories

Although this initiative was only recently²⁷ initiated and limited implementation initiatives launched, the project still represents some basic successes. These are mentioned below:

- ◆ Co-ordination and co-operation: Co-ordination and co-operation between all spheres of government was identified as a strategy to improve the implementation of identified project goals and objectives. However, maximising the co-operation needed, implies continuous negotiations, motivation and patience, as each level of government has its own powers and duties. The latter can also be considered a threat due the difference in priorities, budget capacities, different budget and project approval processes and political influences;
- ◆ Encouraging private sector interest: This was considered a crucial element for success, as without their investment, limited economic growth and land-use development activities will materialise;
- ◆ “Adequate” infrastructure: The project team placed a specific emphasis on the government’s role to provide adequate infrastructure, facilities and services to guide, attract and enable private sector investment;

²⁷ See VKE Engineers, Plan Associates, TRC Africa and Infratech Solutions (Status Quo for the Tembisa/Kempton Park Development Corridor. TCC Report).

Figure 17: Tembisa-Kempton Park Development Corridor Development Concept



(VKE Engineers, Plan Associates, TRC Africa and Infratech Solutions, 2000)

- ◆ An implementation forum: The TCC indicated that the development of an implementation forum, as discussed in paragraph 4.1.5 below, is regarded as a vital success factor. This goes hand in hand with the establishment of a development corporation to fast track development. In this regard, the TCC is of the opinion that local government's ability to deliver, is questionable, whilst a serious need exist for post-apartheid reconstruction. For this purpose the skills of the private sector need to be incorporated into the delivery process for which government is normally responsible for; and
- ◆ Catalyst projects: The identification and initiation of catalyst projects to kick-start private sector interest and investment, was considered a necessity by the project team to initiate the economic growth in the corridor area (VKE Engineers, Plan Associates, TRC Africa and Infratech Solutions, 2000).

4.1.5. Institutional arrangements

The project processes were guided by a steering committee primarily consisting of representatives of all three spheres of government. However, three participation groups were identified, being government institutions, groups involved in planning processes and the private sector. A process of consultation was used to get input from institutions such as the nearby airport companies, the South African Rail Commuter Corporation Ltd (SARCC), as well as the Gauteng Department of Housing. Discussion processes were also initiated with various developers involved in existing or proposed development activities, primarily to create awareness of the project approach of the development corridor and to empower these developers on the potential benefits that can be obtained through the development of the corridor.

The establishment of an implementation forum forms part of the implementation proposals to fast track the development of the corridor. The purpose of the implementation forum is to interact in the future development of a corridor, as well as with the private sector. The latter includes interaction with regard to development applications submitted by the private sector to local governments for approval and implementation considerations. Furthermore, the proposed forum should, according to the project team²⁸ of this project, negotiate with government institutions to provide infrastructural facilities and services as and when needed and to adjust and negotiate land-use application. Initiating catalyst projects also forms a specific focus, which goes hand in hand with further planning, implementation and development priorities. The TCC was also of the opinion that the proposed forum should determine, negotiate and offer incentives to promote development in areas where it is most needed, according to predetermined priorities.

The TCC also expects of the proposed forum to establish continuous communication networks with all role-players and stakeholders, as well as to identify, facilitate and establish public/private partnerships.

Marketing the development corridor and its development potential and opportunities, was identified as another potential responsibility of the proposed forum.

28 See VKE Engineers, Plan Associates, TRC Africa and Infratech Solutions (Status Quo for the Tembisa/Kempton Park Development Corridor. TCC Report).

4.1.6. Conclusions

The Tembisa-Kempton Park Development Corridor is a recent initiation of a development corridor and has in terms of practical substantiated proof, no lessons to offer. However, in terms of its planning and expected implementation approaches, a number of focuses seem to be essential. These are highlighted below:

- ◆ Government involvement in implementation actions: It is considered a necessity for all levels of government in the Republic of South Africa, especially those involved in implementation actions, to be incorporated in the planning and delivery processes;
- ◆ The involvement of the private sector: This incorporates influential processes to move the private sector to invest at preferred locations in the corridor, to benefit a number of development corridor strategies and principles;
- ◆ Improved mobility and accessibility: Mobility and accessibility levels, not only within the corridor, but also towards the outskirts of the corridor, need to be improved;
- ◆ Improved public transport: The development of an effective, affordable public transport system was considered essential for enhancing integrated land-use and transport development;
- ◆ Sensitive environmental development: The development that is taking place in the corridor should be sensitive towards the environment and it should be sustainable;
- ◆ Strengthening of development nodes: The Tembisa-Kempton Park Development Corridor project adds an interesting scenario to the development corridor concept, *viz.* that of acknowledging the prominent role development nodes are playing in the Gauteng Province. It seems, therefore, that recognition is given to the direct relationship between the strength of the development nodes linked by a development corridor, and the ability to attract development/investment to the development corridor situated between such nodes;
- ◆ Initiating catalyst projects: This development corridor places a lot of emphasis on the presence of a catalyst project to kick-start other catalyst projects and private sector investment. In the case of this development corridor project, the catalyst projects are strongly orientated towards the development of the JIA, as well as the provision of infrastructure, such as roads, taxi ranks and inter-modal facilities;
- ◆ Prioritisation of key elements: Priorities for the development framework can be summarised into four key elements, *viz.* that of movement, densification, accessibility and public transport integration; and
- ◆ Establishing an institutional implementation framework: Emphasis was placed on the establishment of an appropriate institutional framework for the purpose of influencing government budgets (so as to channel public investment to where it suits the development corridor concept best). The project also emphasised project identification and implementation, assessing development applications (to test its ability to support the development of the development corridor concept), inform stakeholders and to create opportunities for public/private interventions.

5. National Development Corridors

Processes to establish development corridors in the Republic of South Africa were initiated by National Government. These development corridors were of an international scale, as the aim was to benefit economic development in Southern Africa. Processes used to initiate these regional scale development corridor projects formed the backbone of further lower scale (urban) development corridor projects initiated in the country. Although at such larger scale, the planning and implementation processes used also included lessons for the urban development corridors initiated afterwards, as its implementation actions are also far more advanced. For this purpose, the Maputo Development Corridor, being the first national development corridor initiated in South Africa and Mozambique, was considered for research purposes to formulate this dissertation.

The studying of other international examples of regional development corridors also revealed that there is a strong movement towards using local opportunities and locational advantages to promote the globalisation of that region's economy, where such a large-scale development corridor project is found. These and other principle issues such as increasing mobility and accessibility, promoting economic development and enhancing overall upliftment, compares well with the focuses of urban development corridors, providing further motivation to also include other international examples of regional corridors for the purpose of this dissertation.

5.1. The Maputo Development Corridor

5.1.1. General

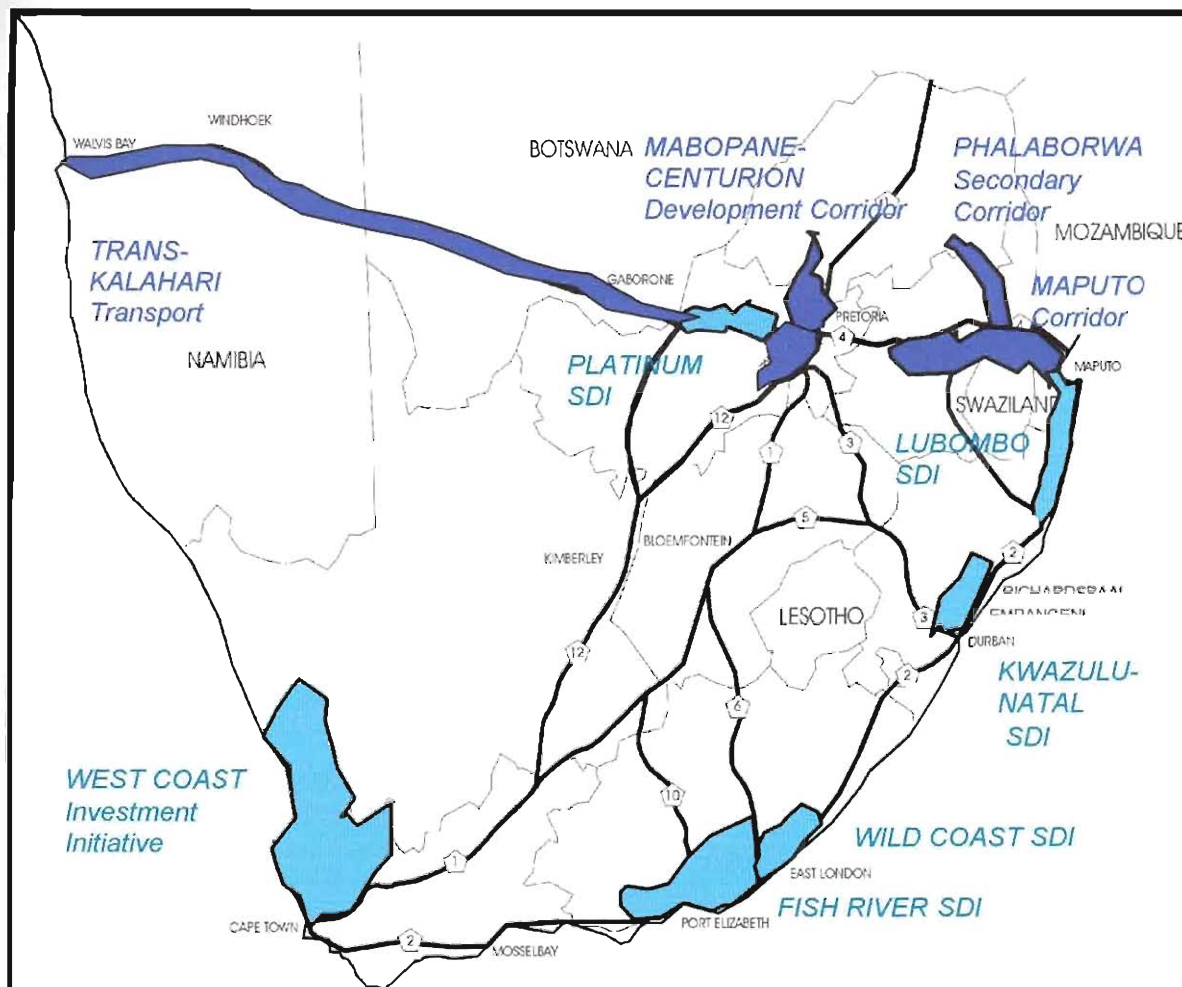
The Maputo Development Corridor, which was officially initiated in August 1995, is regarded as a joint venture project between the governments of the Republic of South Africa and Mozambique. It stretches from Witbank through Nelspruit, both towns situated in the Province of Mpumalanga (Republic of South Africa), to Maputo in Mozambique (see Figure 18²⁹ below, as well as Figure 19 on page 64). Past political and warfare issues prevented optimal co-operation and economic development between the two countries, but more so within Mozambique (Interim Co-ordinating Committee, 1996a).

As a project, the Maputo Development Corridor is considered to be a catalyst to unlock the development opportunities in both countries affected by the location of the corridor through *"balanced and integrated growth and development"* (Interim Co-ordinating Committee, 1996b). It included overcoming transport problems previously hindered by the mentioned past political and warfare issues (Interim Co-ordinating Committee, 1996a).

The Maputo Development Corridor also presents opportunities to overcome aspects such as sustainability, poverty and access to basic needs and social services.

²⁹ The figure also indicates other strategic development and development corridor initiatives in the Republic of South Africa.

Figure 18: Spatial Development Initiatives in the Republic of South Africa



(Urban Econ, 1999a)

5.1.2. Key focuses of the project

Although a holistic approach towards development was followed during the planning of the Maputo Development Corridor-project, as was discovered during the research and which is further detailed in the paragraphs to follow, the Maputo Development Corridor has a dual primary focus. In the Republic of South Africa, it can be summarised to one word namely, "access"³⁰. For the Mozambican part, the focus is understandably in the development of an integrated infrastructure network (i.e. telecommunications, energy and waterway infrastructure such as the harbour and also an improved international airport) and economic development (Interim Co-ordinating Committee, 1996a).

Key goals for the development of the Maputo Development Corridor were identified as being:

- ◆ Improving transport infrastructure: Public/private partnerships are preferred to improve the needed infrastructure;
- ◆ Maximising investment: This is supported by integrated infrastructure development, contributing to sustainable growth and development;

30 "Access" refers to the accessibility of businesses and industries in the South African part of the Maputo Development Corridor, as well as the accessibility towards suppliers, local and foreign markets, so as to improve the economies of scale benefits for such South African businesses and industries situated in the Maputo Development Corridor.

- ◆ Maximising the social development impact: A benefit for especially disadvantaged communities was foreseen; and
- ◆ Ensuring environmental sustainability: This should happen throughout the corridor areas.

The project was initiated through careful analysis of a number of secondary key focuses (listed below). These reflect the underlying approach for integrated problem solving, as well as the development of unique opportunities found in the project area. The mentioned secondary key focuses are:

- ◆ Spatial distribution and living conditions: The indications from the population's spatial distribution and living conditions reflect distorted settlement patterns, further characterised by poor services and community infrastructure, such as water, sanitation, sports and recreation and health and education facilities (especially in the rural settlements). In this regard, the problems in both the Republic of South Africa and Mozambique have direct similarities;
- ◆ The biophysical environment: Biophysical data was analysed to determine the unique and core economic opportunities of the corridor and surrounding areas;
- ◆ Infrastructural development: General infrastructure³¹ conditions were determined; and
- ◆ The economy: The economy was assessed, especially in terms of unique economic sectors found in the areas, such as tourism, mining, manufacturing, agriculture and forestry (Interim Co-ordinating Committee, 1996b).

The above secondary key focuses were each investigated in terms of its salient features, opportunities, critical issues to be addressed and the identification of general development generators. These have been summarised in Table 2 and further discussed below, as well as in paragraph 5.1.3 (see page 66 for more detail).

Table 2: A synopsis of the development concerns of the Maputo Development Corridor.

| Development focuses | Development concerns | |
|---------------------------|--|--|
| | South Africa | Mozambique |
| Population and settlement | Sparsely populated. High population growth rates. Population decline in rural areas. Increasing unemployment. | The situation is the same as in South Africa, although in some cases, just worse. |
| Biophysical | Tourism and manufacturing potential not used. A need to stimulate SME development. | Serious environmental degradation experienced. Conservation of water sources needed. |
| Infrastructure | Fairly well-established infrastructure. Opportunity for the expansion of existing communication network. | An appropriate higher order road network. Lack of properly maintained local road network. Lack of a proper |

31 "General infrastructure" refers not only to the main mobility and transport linkages between the Republic of South Africa and Mozambique, but also to the adjacent secondary road networks, as well as services infrastructure serving all communities, towns and cities found in the corridor area. "Corridor area" refers to the main development corridor, which also incorporates its direct economic area of influence.

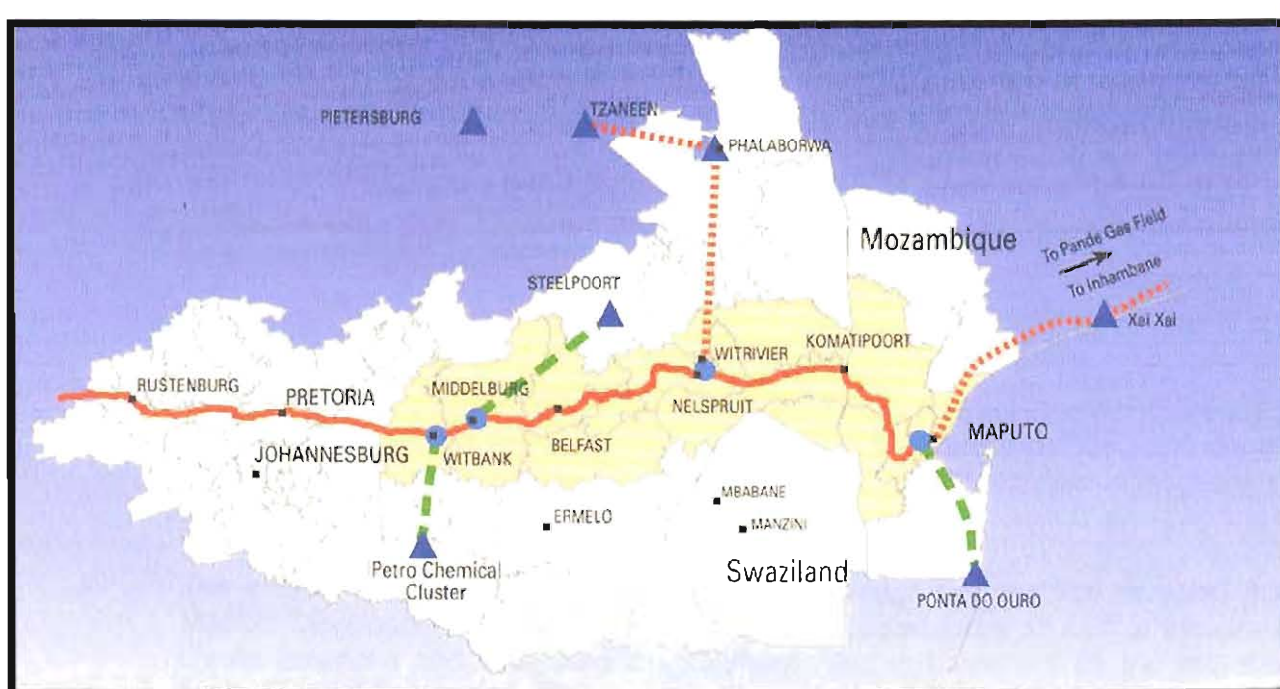
| | | |
|----------------|--|---|
| | | communication network. |
| Economy | High rate of income leakages. High import dependency. | Negative environmental impact. Lack of technical, managerial, professional and entrepreneurial capacity. |
| Social welfare | Lack of private sector involvement. | Lack of private sector involvement. |

(a) Population and settlement

In both the countries, the Republic of South Africa and Mozambique, investigations indicated that the corridor areas are sparsely populated and experience relatively high growth rates, especially around major towns and cities (Interim Co-ordinating Committee, 1996b). Urbanisation is in the order of the day, leaving the rural areas not only with declining population figures, but also with extreme poverty levels. The urban areas on the other hand, experience high levels of pressure on service infrastructure as a result of the urbanisation trends (Interim Co-ordinating Committee, 1996b).

Specific focus was given to addressing fragmented urban development, different degrees of urban growth in cities, towns and rural settlements in the corridor areas, as well as the levels of densification in these urban areas.

Figure 19: The Maputo Development Corridor



(Interim Co-ordinating Committee, 1996c)

(b) Biophysical

With regard to the biophysical focus, the transformation of the economic sector's potential (tourism and manufacturing), to stimulate SME development, was identified as a key project focus. It was also found that the traditional culture found in the corridor

areas provides a well-based opportunity to benefit from the tourism market and its potential. Environmental degradation, skills shortages, management of water sources, management of mining activities, marine balance and conservation of water sources, were all identified as issues of critical importance.

(c) Infrastructure

Improving infrastructural conditions formed a critical focus in the development of the Maputo Development Corridor. In this regard, special attention was foreseen regarding the provision of sufficient bulk infrastructure capacity and the existence of an appropriate road network (especially for lower income levels and rural communities). Other focuses included addressing the inadequate provision of housing, as well as providing missing links in the communication network and improved communication services. Special focus was given to the rail, road and electricity capacity, as comparative advantages for increased investment in the corridor area. This included the proposed establishment of partnerships to develop a joint border post, a toll road system, as well as improving the Maputo harbour.

(d) Economy

The economic focus of the Maputo Development Corridor is strongly related to address the high rate of income leakage³² out of the corridor areas, as well as reducing the high import dependency of the corridor-areas and the exporting of raw materials. The latter was further supported by an approach to promote processing and value adding, as well as reducing the cut-throat competition that exists in the economy.

Reducing the negative environmental impact of the main economic activities (tourism, mining and forestry) in the corridor areas, was identified as yet another focus. The latter was linked to finding alternatives for the high capital intensity of the main economic activities (Tourism, mining and forestry) found in the corridor areas.

The lack of technical, managerial, professional and entrepreneurial capacity in the corridor areas, were identified as secondary focuses to be addressed (Interim Co-ordinating Committee, 1996b).

(e) Social welfare

From a social welfare point of view, the Maputo Development Corridor team identified two strategic project focuses. The one is an opportunity for a high degree of participation from the private sector and the other, to attract new investment to the corridor area.

The evaluation of the social well-being of the corridor communities revealed that the Maputo Development Corridor considers a broad-based focus as part of the attempt to create balanced and integrated development. This is borne out by the fact that the issues³³ listed below were all considered important to address, to facilitate the Maputo Development Corridor's establishment:

32 This implies that raw material is exported out of the corridor areas, for which limited revenue is received. On the other hand, value adding, which represents a substantial revenue base, is taking place outside the corridor-area.

33 It should be noted that these issues are broad-based issues identified at national government level as general representative issues found throughout the different corridor areas in the Maputo Development Corridor.

- ❖ unbalanced racial domination of economic activities and resources³⁴;
- ❖ the high capital intensiveness of production activities, which prohibit advanced social development;
- ❖ the lack of corporate and financial support;
- ❖ low density suburbs culminating into unbalanced urban structures;
- ❖ the poor state of infrastructure and facilities for disadvantaged communities;
- ❖ low literacy levels amongst formerly disadvantaged communities;
- ❖ insufficient training options for skills development and access to tertiary education institutions;
- ❖ the severe shortage of sport and recreation facilities; and
- ❖ insufficient availability of and accessibility to health services in the corridor areas (Interim Co-ordinating Committee, 1996b).

5.1.3. Important project strategies

An evaluation of the unpublished project material generated during the work of the Technical Team of the Interim Co-ordinating Committee of the Maputo Development Corridor revealed that a "*preliminary*" evaluation method was initially used for the evaluation of economic activities. The same method was used for the compilation of a "*natural resources inventory*", and the identification of resources that could be used for export from the corridor areas, all in just three weeks. From a time-constraint point of view, there was initially a specific focus to identify development and investment opportunities without detailed time-consuming investigations. The next step was to take these opportunities and to transform them into possible bankable projects, ready to suit investors interests (Technical Team, 1996).

Following on the initial "*quick and dirty*" project activities, more detailed project investigations, as referred to in paragraph 5.1.2, were conducted. These revealed that the formulation of what is being referred to as "*development generators*", formed a key strategy to address some of the problematic population and settlement issues experienced by the corridor areas. These development generators refer to project strategies such as:

- ◆ SME-development: The stimulation of SME development according to the potential thereof in the respective development corridor areas;
- ◆ Empowerment: The empowerment of people through training programmes to enable them to identify and develop economic development opportunities. The training of women was especially regarded as essential, not only to enable them to enter the entrepreneurial arena, but also in terms of family and household planning;
- ◆ Improved living conditions: The improvement of living conditions through the provision of proper social services and education throughout the corridor areas, but with a specific focus to the technical and economic empowerment of informal settlers in both urban and rural areas; and
- ◆ Resource allocation: This include the allocation of appropriate resources to relieve poverty (Interim Co-ordinating Committee, 1996b).

The project strategies as far as the biophysical component of the Maputo Development Corridor is concerned, were identified as:

34 This implies the domination by whites owning and managing economic activities in the corridor areas, whilst in terms of population figures, whites are the minority when compared to other races.

- ◆ Environmental management: Developing plans for tourism development and environmental management;
- ◆ Empowerment: Empowering communities with regard to environmental management and conservation;
- ◆ Craft manufacturing: Promoting craft manufacturing; and
- ◆ Promote mining: Optimising the utilisation of the mineral potential in the corridor areas (Interim Co-ordinating Committee, 1996b).

The project strategies for improving infrastructure conditions included providing for telecommunication and electricity for the disadvantaged groups in the corridor areas. It also included the provision of infrastructure that enables the incorporation of disadvantaged communities into economic development activities. This includes promoting small-scale manufacturing, craft and processing opportunities.

Another strategy focused at providing adequate service infrastructure throughout all corridor areas.

It is also attempted to promote the influx of "*new money*"³⁵ into the corridor area and not simply reallocating government funds (Interim Co-ordinating Committee, 1996b).

As a result of the focus to promote integrated economic development, a number of strategic approaches were adopted. These include:

- ◆ Concentrating economic activity: Economic activity should be concentrated along the main transport links in the corridor;
- ◆ Using natural resources: Optimising the use of the abundant natural resources found in the corridor areas in an environmentally sustainable manner (Interim Co-ordinating Committee, 1996d and e);
- ◆ Unlocking downstream processing: Unlocking the unutilised potential for downstream processing of raw materials through manufacturing and SME involvement;
- ◆ Exports: Utilising the advanced export market opportunities provided by access to the Maputo harbour; and
- ◆ Utilising the transport capacity: The strategy focused at increasing movement in the corridor area to take up the under-utilised transport capacities.

Other related project strategies put in motion as economic development generators include the following:

- ◆ promoting integrated land-use planning³⁶ at all levels;
- ◆ implementing and developing labour-intensive economic activities;
- ◆ build on and developing support for the tourism potential of the corridor areas;
- ◆ ensuring the development of a diversified economy; and
- ◆ increasing access to training opportunities and facilities for local people as part of an

35 "*New money*" refers to local private sector investment, as well as foreign investment in the corridor areas (Interim Co-ordinating Committee, 1996b).

36 The reference relates to the implementation of an integrated development planning process similar to what was initially prescribed by the Local Government Transition Second Amendment Act, Act 97 of 1996 for the compilation of Integrated Development Plans.

empowerment programme to establish greater levels of entrepreneurship (Interim Co-ordinating Committee, 1996b).

Project strategies, which were regarded as development generators to address social welfare focuses (as referred to in paragraph 5.1.2(e) page 65), include the following:

- ◆ Joint ventures: Opportunities to establish joint ventures between national governments, provincial governments, local governments, as well as the private sector should be exploited;
- ◆ Business networks and linkages: To establish proper linkages between large corporate sector companies and the emerging and informal business sectors;
- ◆ Developing economic cores: Economic cores should be created according to the potential throughout the different corridor areas, as well as to create equal access to productive land for all;
- ◆ Training: Provision should be made for more tertiary education institutions;
- ◆ Export promotion: Export should be promoted through the development of new local economic industrial activities; and
- ◆ Project privatisation: Government infrastructure projects should be implemented through Build-Operate-Transfer (BOT) project implementation processes (Interim Co-ordinating Committee, 1996b).

The development of a geographical information system to assist with the evaluation of a number of corridor influences (such as the distribution of economic activity and population distribution) along the main transport link, was also implemented as a project strategy to save time during decision-making processes (Interim Co-ordinating Committee, 1996b).

5.1.4. Success stories

The Maputo Development Corridor was driven in a focused manner by the national government of the Republic of South Africa, as a result of the superior knowledge and management locally available in the Republic of South Africa³⁷. This is proven by the project processes, which indicated that initially, the involved national government departments did not want to fall into a trap of executing one investigation after the other, as well as continuous planning processes, wasting important implementation time.

In itself it holds a message, *viz.* that a strong focus was given to expedite implementation and economic development. This included that mistakes that could have been made as a result of the fast track planning and implementation processes be corrected as implementation commences.

However, there is also a danger linked to this approach *viz.* that a lack of knowledge on a critical development issue might lead to taking an uninformed decision. This statement is supported by the lack of understanding by affected local governments of the critical nature and national need for the Maputo Development Corridor-project. On the other hand, proper project investigation is time consuming, especially if quick decision-making is set as a critical success factor (Interim Co-ordinating Committee, 1996b). Appropriate information was also

37 Knowledge and management skills are largely absent in Mozambique, as a result of the "braindrain" caused by the civil war/military activities prevalent in Mozambique in the past.

lacking and this further forced the national government to react quickly, based on current knowledge.

With regard to the width of the Maputo Development Corridor, an approach was adopted stating that the width of the corridor is defined by economic activities found in the corridor area. This implies that the corridor do not have a specific demarcated width. The width may vary as a result of the physically dispersed nature of the interactive economic characteristics of some of the development opportunities (for example the presence of minerals) found in some parts of the corridor area.

The real level of success of the Maputo Development Corridor is not known as yet. As referred to in paragraph 3.1 (see page 31 for detail), the development of a development corridor is a time-consuming exercise and real benefits and success stories can only be known after a long period of time. However, short-term results in terms of process implementation and project initiation create certain benefits, which can be regarded as potential success stories. These are:

- ◆ access that is being created for local enterprises to global markets;
- ◆ employment creation;
- ◆ income generation and tax base development, which could be used to alleviate poverty and the provision of community infrastructure and services;
- ◆ improved environmental resources management; and
- ◆ long-term public investment savings.

For the Republic of South Africa, the Maputo Development Corridor encloses the potential for major cost savings on transport costs of exports *via* Maputo while, for Mozambique, it means overall economic growth and development.

From an economic developmental point of view, the Maputo Development Corridor is regarded as the first national initiative attempting to promote economic development since the 1994 elections. It can, therefore, be considered a catalyst for balanced integrated growth and development in the Republic of South Africa.

5.1.5. Institutional structures

The Department of Transport and the Department of Trade and Industry collectively established the "*Overall Spatial Development Initiative Co-ordination Committee (OSDIC)*". The Development Bank of Southern Africa (DBSA) provided secretarial as well as technical and management support to the national SDI initiatives. This committee co-ordinated the progress and implementation of the SDI projects.

For the Maputo Development Corridor, an Interim Co-ordination Committee was also established to oversee the project processes and results. A number of Technical Teams were established between September 1995 and April 1996 and which were used to investigate the technical aspects of the project, as discussed in paragraph 5.1.2 (see page 62 for detail).

To enhance economic development and co-ordination between South Africa and Mozambique, a proposal was made to establish the so-called "*Maputo Development Company*" (a company established not for gain). The Development Bank of Southern Africa (DBSA) provided the management support for the proposed company (which was "*informally*")

established in South Africa), whilst negotiations were entered into with the Mozambique government to accept the proposal. The Mozambique government, however, did not accept this proposal, as that country's legislation does not make provision for the establishment of companies not seeking profit.

The "*Maputo Development Company*" also improved working relationships with the Mpumalanga Provincial Government (Republic of South Africa), to such an extent that as from April 1996, the "*Maputo Development Company*" started to work from offices of the Provincial Government in Nelspruit.

5.1.6. Conclusion

The Maputo Development Corridor is faced with a number of key challenges, which formed the backbone of the key focuses investigated during the initiation of the project. This relates to the creation and maintenance of a balanced development approach, which is to the benefit of existing and potential local and foreign investors by taking advantage of the investment and development opportunity the corridor areas have to offer.

The Maputo Development corridor represents a challenge, namely to create a substantial benefit for enterprises in terms of cost savings by exporting through the harbour of Maputo. This should translate into tremendous opportunities for economic growth and development in Mozambique. The Maputo harbour is, therefore, from an infrastructural and an economic developmental point of view, regarded as an important multi-modal access point for the import and export of goods. In the Republic of South Africa, to some extent, a relatively well-established economic activity corridor exists, which can use the benefit of the harbour as such a cost saving opportunity.

Identifying potential multiplier effects for identified key economic sectors (agriculture and mining, as in the case of the Maputo Development Corridor), formed a crucial element of the strategy to promote the development of the manufacturing and processing sectors (Interim Co-ordinating Committee, 1996b).

When comparing the Maputo Development Corridor, as a regional development corridor, to the urban development corridors discussed in this dissertation (refer to paragraphs 2.4, 3.1, 3.2 and 4.1), it transpires that all development corridors share similarities, although each operates on a different scale and has its own characteristics. Each is dependent on its own economic activities and particular characteristics. In this regard the Industrial Development Corporation (IDC)³⁸ (Interim Co-ordinating Committee, 1996b) found that its location advantages also contributes to the operation of development corridors on different scales and levels.

The Maputo Development Corridor revealed that there are broad similarities between urban and regional corridors. These include:

- ◆ a specific approach to improve economic growth by optimising the potential of unique opportunities captured in the respective corridor areas;
- ◆ addressing specific problematic circumstances related to unemployment, lack of social facilities and the disparities amongst communities;

38 The IDC was requested by the National Department of Trade and Industry to evaluate the "*nature and level of economic activity*", to compile a "*natural resources inventory*" and to identify resources that could be used for export from the corridor's study area.

- ◆ promoting the improvement of transport and the movement of people and goods;
- ◆ multi-faceted development programmes integrating aspects such as economic elements, social elements, physical infrastructure elements, spatial elements, as well as institutional arrangements; and
- ◆ both focus on holistically integrated development planning.

The IDC's evaluation on the applicability of the corridor-concept for the Maputo Development Corridor revealed that economic nodes and the transportation linkages and volumes form essential elements of the corridor-concept and therefore an example of the "*beats on a string*" concept for the Maputo Development Corridor. However, the concept is seen to be more than just about transportation, as it also implies the clustering of public and private investments. This includes uses such as housing, SME's, agriculture, service infrastructure and recreation, as normally found in activity corridors between economic nodes.

The Technical Team of the Interim Co-ordinating Committee of the Maputo Development Corridor also revealed that problem areas found in the respective corridor areas related to planning and economic development, forcing governments to implement strategies to link geographic areas with common interest. This view is strongly supported by the IDC (Interim Co-ordinating Committee, 1996a).

6. International development corridors

6.1. Central Luzon Growth Corridor (W-Growth Corridor)

6.1.1. General

The Central Luzon Growth Corridor (see Figure 20 on page 72), also known as the W-Growth Corridor due to its physical w-shape, was initiated in the Philippines as a national project. The located corridor is on one of the three largest islands of the Philippines and stretches over all six provinces found on the island. It stretches over the areas of jurisdiction of 47 local governments (Information Technology Support Centre, 1999a).

The areas of jurisdiction of the local governments have growth and development opportunities for the industrial, tourism and agricultural sectors (Information Technology Support Centre, 1999b).

These growth and development opportunities were created as a result of the corridor's strategic position at the crossroads in the Asia Pacific Region, serving European and American enterprises (Information Technology Support Centre, 1999b).

6.1.2. Key focuses of the project

The key focuses of this project are to market the corridor area as a logical national and international investment destination and to promote the rapid development of the industrial, eco-tourism and agricultural sectors (Information Technology Support Centre, 1999b).

To get these focuses implemented, more physical-specific focuses have been identified as part of the corridor's development vision for implementation. These include approaches for the W-Growth Corridor to become:

- ◆ An industrial heartland: The strategy is to become the industrial heartland of the Philippines, as well as the Asia Pacific Region. For this purpose an approach was adopted to develop Industrial Estates and Special Economic Zones (Information Technology Support Centre, 1999c);
- ◆ An international transshipment hub: It includes a strong focus on the use of three international airports, as well as the corridor's access to three international harbours, as a key international distribution network (Information Technology Support Centre, 1999d);
- ◆ A world conference centre: The tourist attractions and facilities in the Philippines create an unique environment for international conferences; and
- ◆ A vibrant and competitive agricultural sector: The economic base of the W-Growth Corridor Area is the agricultural sector. Expansion of the existing agro-science and research, as well as strategic agro-processing, form key success factors to further stimulate the agricultural sector (Information Technology Support Centre, 1999e).

Figure 20: The Central Luzon Growth Corridor (also known as the W-Growth corridor) in the Philippines



(Information Technology Support Centre, 1999b)

6.1.3. Important project strategies

A development plan known as the “*Central Luzon Development Plan*”, forms the basic development framework for the development of the corridor. This development plan is implemented and managed by a Commission (see paragraph 6.1.5 on page 74 for detail), established for this purpose. The development plan has a 15-year integrated development vision, focused to promote the balanced pursuit of economic growth, social development, and environmental quality.

The development plan indicates that the first line of the w-shaped corridor below, is to be developed as the tourism belt of the corridor. This belt focuses on the area's natural beauty, white beaches, amusement parks and a number of existing and potential tourist facilities and destinations.

The inner peak of the w-shaped corridor (see Figure 20 above), is proposed as an industrial belt. This belt includes 22 industrial estates, including 3 special economic zones and 2 export processing zones. Skills-intensive and technological advanced industries are also to be found in this belt, of which the majority is small and medium enterprises. A project strategy to improve the "*competitive cost of production*" was regarded as an essential part of the project. To reach the latter, optimal locations of industrial estates and special economic zones in relation to the proposed international distribution network, were chosen. The training of skilled and educated manpower also formed an integral part of the industrial development strategy.

The rightmost line (see Figure 20 on page 72), is being developed as the vibrant agricultural belt, which will incorporate dedicated high value crops suitable for this area, as well as agro-forestry (Information Technology Support Centre, 1999b).

6.1.4. Success stories

No information with regard to success stories could be obtained on the Internet or from the literature on the corridor.

However, the following could be regarded as success stories in the making and which could contribute to the successful development of the W-Growth Corridor:

- ◆ Using existing road network: The project capitalises on the existing road network in the corridor-area. This implies a major time (the construction of a road is time consuming) and cost saving when compared to the development of a new road network;
- ◆ Increasing economic efficiency: The project is working towards economic efficiency, environmental sustainability and to strengthening its people's participation in the corridor's development processes. This is indicated by the fact that the economic activities are skills-intensive, are focussed to use natural resources in sustainable manner, as well as the fact that the majority of the economic activities are small and medium enterprises (Information Technology Support Centre, 1999b); and
- ◆ An appropriate institutional framework: The established institutional framework (see paragraph 6.1.5 below for detail on composition and responsibilities), is also considered a potential success story to get the W-Growth Corridor developed. The mentioned institutional framework is an indication of the need for a dedicated project leader and a multi-disciplinary project team to:
 - work as a single goal-orientated entity, to implement the common vision, goals and projects determined to reach optimal results;
 - ensure optimal involvement and co-operation between stakeholders;
 - ensure co-ordination between stakeholders and project activities; and
 - ensure integration of planning and implementation activities.

6.1.5. Institutional structures

The W-Growth Corridor-initiative is considered an essential economic development attempt to position the Philippine's economy as a strategic location in the world economy. For this purpose, a Presidential Commission, referred to as the Presidential Commission for the Central Luzon Growth Corridor (PC-CLGC), was established.

The responsibility of the PC-CLGC is the orchestration and the co-ordination of all development efforts in Central Luzon.

In terms of the PC-CLGC's composition, the following list of member institutions gives an indication of the multi-faceted approach adopted to develop the W-Growth Corridor in an integrated manner:

- ◆ Chaired by the Secretary of Trade and Industry;
- ◆ the Chairman: Mount Pinatubo Commission;
- ◆ the Under-Secretary: Department of Agriculture;
- ◆ the Under-Secretary: Department of Environment and Natural Resources;
- ◆ the Under-Secretary: Department of Public Works and Highways;
- ◆ the Under-Secretary: Department of Transportation and Communication;
- ◆ the Under-Secretary: Department of Tourism;
- ◆ the Chairman, Subic Bay Metropolitan Authority;
- ◆ the President, Clark Development Corporation;
- ◆ the Director-General, Philippine Economic Zone Authority;
- ◆ the Governors of the provinces of Bataan, Bulacan, Nueva Ecija, Pampanga, Tarlac and Ambales; and
- ◆ three representatives from the private sector appointed by the President.

Three task forces are used to address critical issues. These are:

- ◆ a task force on investment facilitation;
- ◆ a task force on land-use; and
- ◆ a task force on strategic infrastructure (Information Technology Support Centre, 1999a).

6.1.6. Conclusion

The Central Luzon Growth Corridor has a number of similarities when compared to other national corridors, such as the Maputo Development Corridor, discussed in paragraph 5 (see page 61 for detail). Related hereto, is the emphasis given to promote economic development by focusing on a specific primary sector, such as the agricultural sector, which forms the economic base of the Central Luzon Growth Corridor. Two other issues also come to the fore, the one being to improve production methods through continuous research, and the other, to simultaneously promote the development of the supportive secondary sector. In this regard continuous research on improved manufacturing and production activities ensures that a value-added product be produced, instead of only delivering unprocessed products.

The above approach stresses the importance of and relationship between economic development and research to remain a world leader on a specific economic development field. One can refer to it as keeping the “*strategic edge*”. It also compares well with the approach in Porto Alegre (representing an urban economy), where the focus is on developing a technological innovation hub (see paragraph 3.2 on page 47 for detail). Another characteristic is the issue of maximising comparative advantages as a result of the strategic location³⁹ of the relevant corridor area, as well as the strategic location of unique development opportunities found in such a corridor area.

Furthermore, emphasis is also placed on maximising development opportunities by using existing resources, such as the natural environment to develop the tourism industry as proposed for the Central Luzon Growth Corridor, or the establishment of a World Conference Centre (a centre of centres), as a result of the movement of people between the East and West through the Pacific Region.

Lastly, an important attempt is made to use existing infrastructure as a mechanism to create a comparative advantage to further strengthen the global position of the W-Growth Corridor-area in the Pacific region.

6.2. International – The Arizona Trade Corridor

6.2.1. General

The Arizona Corridor is found in the state of Arizona, situated in North America, and is regarded as a “*trade corridor*”⁴⁰. Arizona is rectangular in shape (631 km from north to south and 549 km from east to west). Its western border is formed by the Colorado River. Four states meet in the north-western corner, viz. that of Arizona, New Mexico, Colorado, and Utah (also see Figure 21).

This corridor project adds the facilitation activity in terms of the movement of goods, services, people and information to the corridor concept as being a critical success factor to activate and accelerate economic activity and growth in a corridor area (Anon, 1996).

6.2.2. Key focuses of the project

The key focus of the Arizona Trade Corridor-project is to position the Arizona economy in the Northern American trade environment, by creating a regional-orientated vibrant business environment. The latter is further supported by a focus to ensure efficient access to multiple markets (Anon, 1996).

6.2.3. Important project strategies

The Arizona Trade Corridor has certain key strategies to increase economic activity in the corridor area. These include the following:

39 “*Strategic location*” in this instance refers to its physical location in relation to markets (local, regional, national, international or combination thereof), resources, high levels of mobility, regional and local accessibility, high levels of expertise, skills and entrepreneurship.

40 A “*trade corridor*” is defined as a “...geographically designated area that facilitates the national and transnational movements of goods, services, people and information” (Anon, 1996).

- ◆ Developing well-structured physical infrastructure: This is done by improving highway, rail, air and sea linkages between places of entry into Arizona, national and international markets and places of economic activity in Arizona. The purpose is to create a lower cost for the movement of goods. This is further supported by strengthening policies to promote inter-modal transportation and related economic activities;

Figure 21: The state of Arizona



(Microsoft Corporation, 1996)

- ◆ Establishing commercial infrastructure: This includes the provision of warehousing facilities, as well as to develop trade zones at strategic locations where it will create multiplier benefits to stimulate further economic growth and job creation. The formulation of trade incentives is also considered a supportive measure to promote economic activity. In this regard, the trade incentives should be further supported by improved regulatory measures for the movement of goods, services, people and information;
- ◆ Generate and implement programs and policies: This strategy advances and integrates business services, telecommunication and information infrastructure to help to create a favourable international business environment;
- ◆ Improving skills: To improve business and professional skills and services throughout the corridor area;
- ◆ Improving linkages: The focus is to establish well-structured social, political and business linkages between the respective countries and communities affected by the corridor project;
- ◆ Promoting a broad range of economic activities: Economic activities should create economic benefits for the regional and national economy, especially as a situation exists where the state's main city, Phoenix, serves as a distribution point for agricultural products

of the Salt River Valley and as a commercial, manufacturing, and financial centre for the state (Microsoft Corporation, 1996); and

- ◆ Step-by-step implementation: A flexible step-by-step project implementation and development approach is used to solve critical issues without hampering progress (Anon, 1996).

Concluded from the above, it is evident that this project has a strong focus on creating a policy environment within which the implementation of projects related to the strategic elements⁴¹ of the corridor project can be implemented. These policies can be regarded as control and/or management mechanisms to get the multi-faceted projects implemented by the different implementation institutions (Anon, 1996).

Although a trade corridor of international status, the Arizona Trade Corridor-project also stresses the need for continuous road links between economic nodes, as well as the need for improved access between remote areas and the corridor. This approach is similar to the other corridors discussed in this chapter.

The Arizona Trade Corridor adds another approach to the corridor-concept, viz. that of the necessity for successful "*centres for economic development*". These mentioned "*centres for economic development*" have certain unique characteristics, which include strong public-private sector co-operation, government policies (which are in support of economic development), modern transportation and telecommunication infrastructure, as well as a wide range of financial and business support services.

Although it is not explicitly stated in the Internet material, it is concluded from the analysis that an impression is created that the Arizona Trade Corridor has as a strategy the establishment of small business development centres along the corridor. The purpose is to assist with the implementation of the corridor's strategic development plan, as part of an integrated attempt to develop the entire trade corridor as a successful "*centre for economic development*" (Anon, 1996).

6.2.4. Success stories

It would seem that the project is still young, as a number of studies to investigate the feasibility of the development of the corridor were completed only as recently as 1996. Success stories could, therefore, not be obtained. However, it seems that the strategy to develop a mix of policies and development programmes could become a potential success story (policies are normally approved by political figureheads and development programmes normally implies the provision of budget for project implementation). This approach could possibly ensure political backing as well as a mechanism to ensure that the implementation agents make provision in their respective budgets to enable project implementation.

The identification and use of economically-based "*decision criteria*"⁴², to evaluate policies and project investment for overall economic implications, could also be regarded as a possible mechanism to evaluate future potential success stories. This way, it could be ensured that informed decisions are taken, based on that policy's or investment's expected rate of return

41 "*Strategic elements*" refer to project elements such as: "*the border development*", "*highway investment*", "*rail and inter-modal transportation*", "*aviation development*", "*development of business services*" and the "*development of communications and information systems*" (Anon, 1996).

42 "*Decision criterion*" is regarded as "...a yardstick against which to gauge the performance of policies and investments (whether proposed or existing) in achieving their objectives" (Anon, 1996).

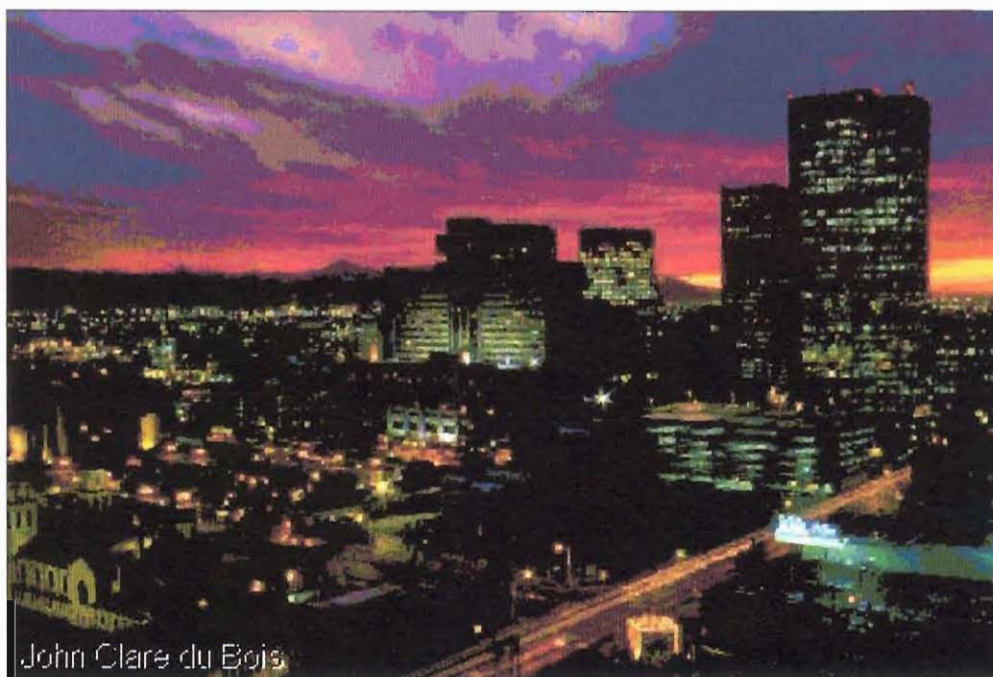
and its social benefits. The assessment is done by comparing the expected rate of return against a pre-determined minimum required rate of return for such a policy or investment.

6.2.5. Institutional arrangements

No information could be obtained as far as the institutional framework for the project is concerned. However, the development corridor has a number of institutions, which are involved in the development of the trade corridor. The following list represents a number of the primary institutions that could be identified from the study material:

- ◆ the Arizona Department of Transport;
- ◆ the Arizona Department of Commerce;
- ◆ the Federal Highway Administration/Centre for the New West; and
- ◆ the Arizona University Consortium.

Figure 22: Phoenix, the capital of Arizona, is regarded as the centre of economic activity and therefore regarded as the origin and destination of movement in the trade corridor.



John Clare du Bois
(Microsoft Corporation, 1993-1996)

Some of the secondary listed institutions involved, include the following:

- ◆ Swift Transportation (transportation agent);
- ◆ Arizona Public service;
- ◆ Arizona Automobile Association;
- ◆ Tucson Electric Power Company; and
- ◆ Pima County Department of Community Services.

Concluding from the nature of the business of the institutions mentioned in the list above, it is evident that this project is also strongly orientated towards integrated developmental approaches.

6.2.6. Conclusion

The Arizona Trade Corridor project contains a number of lessons.

As found in a number of the development corridors studied as part of this dissertation, a strong focus is given to promote economic development. In this regard the Arizona Trade Corridor study material revealed that:

- ◆ the initiators of the project are strong supporters of identifying and supporting those investments⁴³, which enable the creation of multiplier benefits to increase the economic growth rate of the corridor area. As a result, it is expected that investments with higher multiplier benefits will create higher levels of agglomeration advantages, attracting more and speedy investment to a specific area;
- ◆ the authorities involved also embarked upon a process to create incentives for certain preferred existing and potential developments at preferred locations;
- ◆ the authorities involved are also strong supporters of networking as an economic development approach to establish firm trade links with its suppliers and markets, both economically and physically; and
- ◆ the creation of a diversified economy for the corridor area is promoted to ensure a more balanced approach towards economic development.

The authorities involved in the Arizona Trade Corridor stressed step-by-step implementation, similar to a number of other development corridors, such as Curitiba and the W-Growth Corridor. For this purpose, the formulation of development programmes and policies plays a prominent role to co-ordinate and manage the step-by-step implementation approach.

In terms of road infrastructure, the Arizona Trade Corridor study material confirmed the essence of continuous mobility (transport) linkages throughout the trade corridor area. It therefore seems that the principle of "*continuity*" is a firm criterion for the establishment of any corridor.

Nodal development also forms a prominent element of the Arizona Trade Corridor-project.

The most outstanding is the approach applied to ensure feasibility and having maximum benefits through the application of what is referred to as "*decision criteria*". Projects and investments are all measured in monetary terms to determine the feasibility of such a project or investment. A similar approach was found in the discussion of the Temba-Kempton Park Development Corridor (refer to paragraph 4.1 on page 55 for detail).

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43 "*Investment*" in this scenario, not only refers to the private sector's investment in new economic development opportunities, but also physical and social infrastructure.