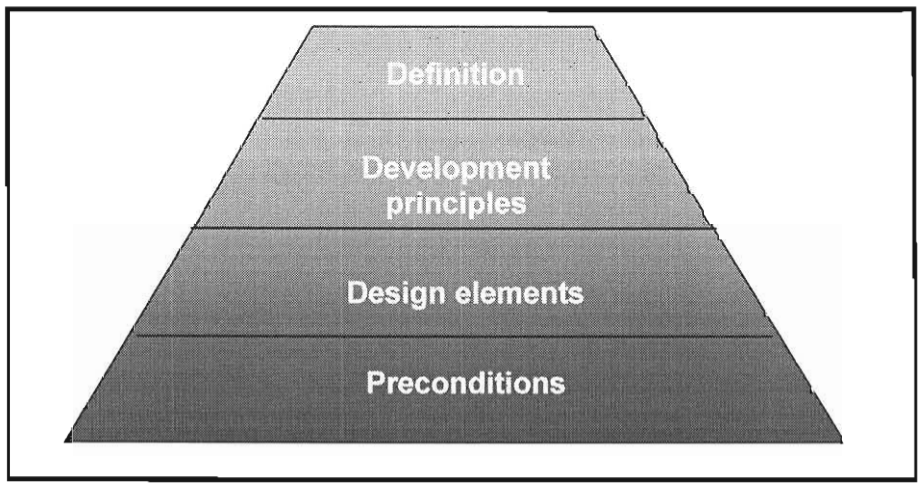
SECTION D: A THEORETICAL FRAMEWORK FOR DEVELOPMENT CORRIDORS

1. Introduction

This section attempts to capture typical corridor strategies, concepts and development corridor lessons found in the discussion of the respective development corridors in Section C above, in order to formulate a potential theoretical framework for development corridors.

As illustrated in Diagram 3 below, the theoretical framework discussed in this section consists of a proposed definition for a development corridor, development principles for guiding the planning and establishment of development corridors, design elements of a development corridor concept and lastly a number of preconditions for the planning and development of development corridors.

Diagram 3: A schematic illustration of the theoretical framework components



2. A possible development corridor definition

To formulate an exact description of what a development corridor is, can by no means be regarded as so simplistic as it might sound. In fact, the definitions discussed in Section B of this chapter, already indicate the different perceptions and opinions that exist around the concept of development corridors. However, the discussion on development corridors in Section C reflects in the broadest sense that a development corridor could be regarded as a possible mechanism to create change within a city. As a concept, it is often focused to promote urban reconstruction and the enhancement of urban growth where it is strategically needed, benefiting the civil society in more than one way. This statement is supported by the words of Jaime Learner (former Mayor for Curitiba) when he said: *"I think we should rediscover the city as an instrument of change. I know it's a very optimistic view of the city, but I have to be optimistic because my vision of humanity is optimistic. If not, nothing will work"* (Herbst, 1992).

Duany and Plater-Zyberk also expressed an opinion that a development corridor brings along *"... an alternative future for the building and re-building of regions,..."* and "... *neighbourhoods*

that are compact,...". These areas, they state, are also characterised by mixed land-uses, which are pedestrian friendly, functionally and are integrating "*...natural environments and man-made communities into a sustainable whole" (*Duany and Plater-Zyberk, unknown).

The following issues were considered essential as background to determine the core focus of a development corridor:

- Development corridors need a supportive transport network: The Gauteng Department of Transport and Public Works was of the opinion that a "*...road network needs to be in place to facilitate the full development potential of adjacent land...*", therefore, accommodating and giving "*...momentum to urban restructuring initiatives...*" (PWV Consortium, 1998);
- Development corridors enable restructuring: Enabling restructuring (spatially and economically), is a similarity found amongst all the development corridor projects discussed in Section C above. Naude confirms this view, by stating that development corridors in an urban environment have a specific focus on preventing urban sprawl, densification and infill-development (to overcome fragmented urban areas). It includes the development of affordable and effective public transport-oriented development corridors as major urban structuring axis. He is also of the opinion that the development of major new regional economic activity nodes in close proximate to presently peripheral low-income areas, is an essential element of development corridors (Naude, 1996);
- Development corridors are linear in nature: Development corridors seem to be linear in nature, as researched by the Gauteng Department of Transport and Public Works (Gauteng Province, Republic of South Africa). It is this linear nature, they state, which benefits the principle of urban integration a great deal more (and more practical) than any other urban form (PWV Consortium, 1998); and
- Development corridors increase markets to promote growth: The Gauteng Department of Transport and Public Works (Gauteng Province, Republic of South Africa), also supports the view that economically, development corridors attempt to increase markets through higher densities, increased visibility, benefiting shorter walking distances and increasing access to facilities and amenities.

  From a national corridor perspective, it seems that corridors throughout the world are developed for development promotion purposes, to expand the development opportunities for a specific economic sector and/or industry and increased access to public amenities and private investments within the corridor area, as well as between the corridor and surrounding areas, markets or economic activity nodes (Interim Co-ordinating Committee, 1996a).

  A view expressed by the Technical Team of the Interim Co-ordinating Committee of the Maputo Development Corridor, shows that job creation opportunities in corridor areas are not enough to sustain the population found in a corridor, hence the strong focus given towards promoting economic development and a move towards social upliftment.
- Basic development corridor principles: MLH Architects and Planners elaborated as follows on the principles applicable to corridors, irrespective of it being an urban corridor or a national corridor:
  - the opinion is held by MLH Architects and Planners that the influence of a corridor stretches beyond its boundaries. For this reason, the development thereof needs to be dealt with in an integrated manner, with the rest of its surroundings. It should, therefore, never be considered in isolation;

- development corridors function both in terms of mobility and accessibility. The transportation system developed for a specific corridor must accommodate both these functions;
- the links which exist between land-use, transport and density, confirms the integrated nature of a development corridor. MLH Architects and Planners holds the opinion that the establishment of a development corridor will always be influenced by the development of the influence sphere of a corridor;
- as revealed by especially the Curitiba development corridor, points of conflict must and could be managed as points of greatest opportunity;
- public transport and pedestrians should receive the highest priority as part of an integrated multi-modal transport system, when an integrated land-use and transport system is being developed for a development corridor; and
- information sharing on the development corridor (i.e. planning, implementation, progress, public opinion, development opportunities and economic growth), was reflected in most development corridors as an essential strategy, especially to attract private investment. Therefore, information should be generally available, accessible and communicated on a continuous basis (MLH Architects and Planners, 1997).

With the above as background, it seems that an all-encompassing definition for a development corridor could be guided by the fact that development corridors should be regarded as a development concept, which can in itself also be regarded as just another element within the urban fabric, consisting of a grouping of a number of other urban elements (such as mobility routes, activity routes, activity streets, public transport routes, business and community-related land-uses and industrial parks), to form an identifiable linear "*urbanised strip*". This "*urbanised strip*" should promote, amongst others, aspects such as the efficiency and use of a public transport system, economic activity and job creation adjacent to the public transport route and facilitate the accessibility to public amenities and facilities. It should also be supported by a set of multi-faceted development programmes and policies, attracting and promoting inward growth towards the corridor area.

This dissertation confirms in Section B of this chapter that a number of different definitions could be formulated. However, for the purpose of developing a basis for a theoretical framework, the following definition is derived from the research in Section C above:

> *"A development corridor could be regarded as a development concept, supported by a range of development programmes and policies, which organises (when implemented) other urban elements in such a manner that it forms an obvious identifiable linear urban strip, characterised by a definite higher intensity of mixed economic and public activity, movement and direct interaction, than found in the surrounding environment."*

3. Principles incorporated in the planning and establishment of development corridors

Keeping in mind the discussions in this chapter, it should be stated that no two development corridors could ever be the same. Therefore, defining a single set of principles[44] which could be used to plan and establish a development corridor, does not seem possible. What does

44 "*Principles*" in the discussion in this Section, refers to the guidelines used/incorporated, to guide a planning process for the formulation of a specific development corridor concept.

seem possible, is to identify a number of general principles found in the planning and establishment processes of a development corridor. However, the individual or combination of principles found in a development corridor, will differ from corridor to corridor and *will not necessarily be relevant to or be present in all development corridor projects.*

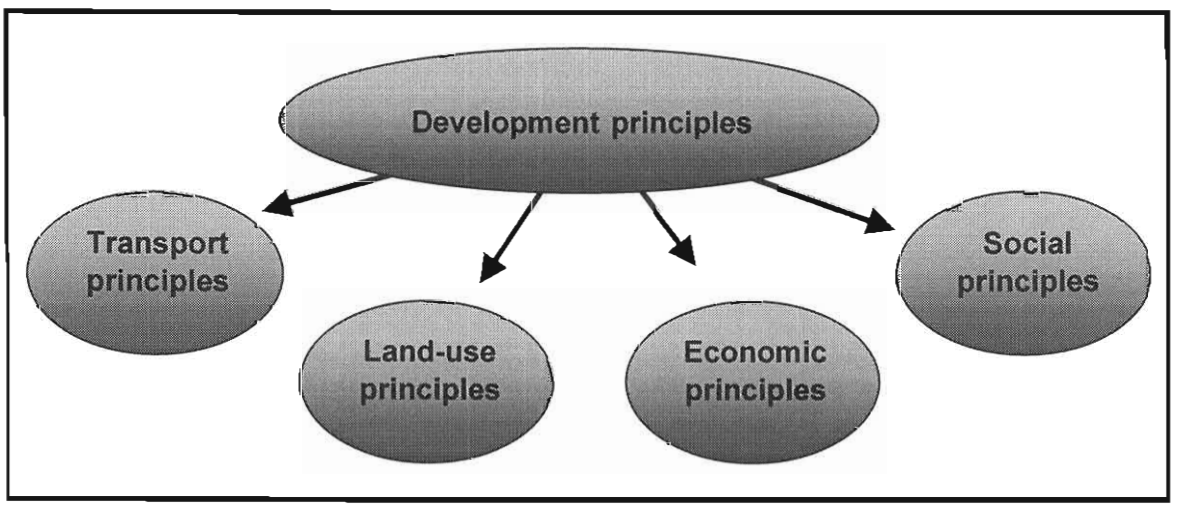
For easy reference, the identified principles are grouped into four broad-based groupings (as illustrated in Diagram 4 below)

3.1. Transport-related development corridor principles

As learned from the development corridors discussed in this chapter, all development corridors have strong transport-related principles. These include the following:

- To optimally promote the use, efficiency and affordability of public transport: When considering the Curitiba Development Corridor, this principle can be considered one of the most essential principles used to increase the productivity in a city. It must, however, be accompanied with the provision of a high intensity of economic activity next to the public transport route, as well as high population densities to increase the threshold value of the public transport system (Kleynhans, Gough and Van der Merwe, 1997). An important sub-element of this principle is, therefore, to create the population densities needed to support profitable public transport (MLH Architects and Planners, 1995);

Diagram 4: The four broad-based development corridor principle-groupings



- To reduce travel times: Reducing travelling distances and time is essential in terms of reducing the cost of a service to the public. This does imply that land-uses should locate in close proximity to a public transport route (Krynauw, 2000);
- To promote pedestrianisation: The Curitiba Development Corridor-model reflected that pedestrianisation forms a key principle in the development of a corridor. Public transport facilities should be easily reachable by foot. On the other hand, public facilities and amenities should also be situated within walking distances from public transport facilities. The pedestrianisation of the Curitiba central business district is also promoted to prevent excessive economic growth at the central business district[45] (representing job

45 A central business district normally represents the centre where the most job opportunities are found in a city.

opportunities), and to prevent unnecessary vehicle congestion (MLH Architects and Planners, 1995);

- To use parking as a development control mechanism: On-street parking tends to develop in development corridors, whilst the decrease of parking in a central business district is being used as a mechanism to prevent people from using private vehicles to travel to the central business district (causing congestion) and to encourage the use of public transport systems (Birk and Zegras, 1993); and
- To increase mobility and accessibility in a co-ordinative and purpose-directed manner: Both these functions are present in any development corridor. The nature and extent differ from the scale of corridor and the need to have more from the one than the other. However, normally a combination of both is present in any development corridor.

3.2. Land-use-related development corridor principles

Development corridors have a strong element of land-use and transport (especially public transport) integration. This integration result from a comprehensive planning process with a strong element of a strategic development vision, which necessitates the use of mixed land-use development as a planning principle. Mixed land-use development is a common phenomenon within development corridors, as it provides the opportunity to integrate a mix of public facilities and private investments along a continuous public transport corridor (Krynauw, 2000). Mixed land-use development along a development corridor also helps to reduce the need to travel by locating land-use at, for example, multi-purpose centres. Mixed land-uses also demand the need for special zoning rights, which should also be used as an incentive to promote preferred developments along the development corridor or even discourage certain land-uses to locate in the development corridor, if needed.

3.3. Economic-related development corridor principles

The economic principles incorporated in the planning and establishment of development corridors include the following:

- Job creation closer to places of residence: It seems to be a prominent characteristic of development corridors to develop a situation where jobs (economic activity) are created closer to the place of residence (Krynauw, 2000). Given that the place of residence forms part of a zone of higher residential densities created next to the public transport corridor, it eases access between the place of residence and the place of work. The concept is further enhanced when the public transport corridor is integrated with the development of a parallel running activity corridor in close proximity to the public transport corridor. Activity corridors tend to enhance the development of SMME's, as well as providing an opportunity for the location of accessible public facilities and amenities (which in turn attract further businesses as a result of the concentration of people at such public facilities and amenities). MLH Architects and Planners, in this regard, stated that higher population densities create opportunities for potential entrepreneurs (MLH Architects and Planners, 1995); and
- Strengthening the development of prominent nodes: This principle is not always found in development corridors (compare the Curitiba Development Corridor-model where the central business district is the only economic node - there are no economic nodes at the end of the five established development corridors in Curitiba). However, the PWV-

Consortium is of the opinion that by promoting the development of major metropolitan nodes, the development of activity corridors linking such nodes is further strengthened between such nodes (PWV Consortium, 1998). MLH Architects and Planners adds another element *viz.* that of the accommodation of both the formal and informal private sectors in the development nodes and the activity corridors (MLH Architects and Planners, 1995).

3.4. Social-related development corridor principles

From a social point of view, a number of interrelated principles could apply. These relate to attempts to prevent the separation amongst communities (enhancing integration), enhancing literacy amongst the poorer communities, relieving poverty, improving access to development and employment opportunities, as well as improving access to information and basic services.

4. Design elements of the development corridor concept

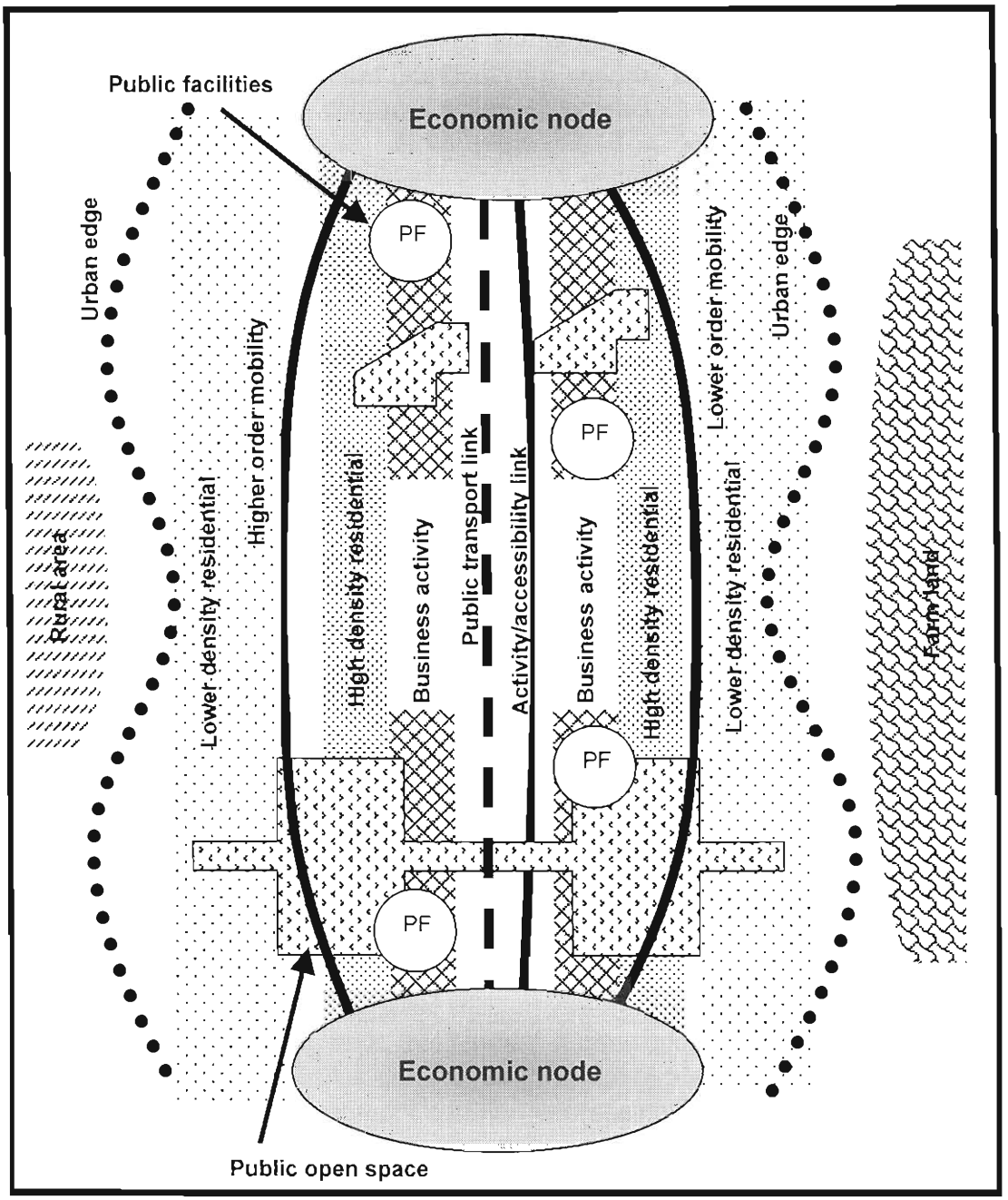
Again, the discussion in Section C of this chapter revealed that different design elements exist amongst the different development corridor projects, but even more so, between development corridors of an urban scale and those of a national scale. The discussion in this paragraph is, however, more focused on design elements for urban development corridors, than for national development corridors. The purpose, therefor, relates to the discussion in Chapters Three, Four and Five, which encompass a discussion on the MCDC-project (being regarded as an urban development corridor).

For urban development corridors, typical design elements incorporated into a development corridor concept include, amongst others, those identified design elements schematically illustrated in Figure 23 and further summarised below:

- Economic activity nodes: Economic activity nodes (central business districts, neighbourhood centres, industrial parks, office parks) as urban elements, are often used as economic anchors for the establishment of development corridors between such nodes;
- Direct public transport links between economic activity nodes: Development corridors, especially the urban development corridors, are characterised by the design of a supportive integrated public transport system. The most prominent part of the integrated public transport system seems to be that part linking one economic activity node with the other. The rest of the system is planned to feed into or support the movement towards the direct public transport link between the economic activity nodes;
- Activity (accessibility) links: An activity link is normally established parallel to the main public transport link to enhance access to job creation in a single strip, found between the economic activity nodes;
- Mixed land-uses: Mixed land-use is normally promoted next to the activity links;
- Higher density residential development: To create the appropriate levels of thresholds needed for both the public transport system as well as economic activity next to the activity links, a higher residential density-zone next to the activity link is a key to the success of establishing proper operating development corridors;
- Mobility links: Higher and lower order mobility links are established parallel to the activity link in a development corridor to ease movement from one end of the corridor to the other

end of the corridor or within the development corridor, respectively;

Figure 23:A schematic illustration of design elements for urban development corridors



(Own interpretation)

- Accessible public facilities: Public facilities often form some of the most known bases to encourage the need to travel. It is, therefore, argued that these facilities should be established within or close to a public transport corridor to reduce the need to travel longer distances;
- Open spaces: This design element is regarded as an essential element of the concept, as it is regarded as a main ingredient to promote environmental sustainability, easy access to recreation opportunities and the overall productivity of the city's population. In South

Africa, urban farming is also incorporated as part of this design element; and

- Urban edges: Urban edges in the form of rural areas, natural areas and farmland are used to promote inwards growth towards the development corridor.

No obvious design elements were identified for development corridors of a national scale. However, it seems that development corridors of a national scale are rather built around the philosophy of a development corridor, which is characterised by the application of the principles discussed in paragraph 3 on page 82. The two most prominent of these characteristics, as illustrated schematically on Figure 24 below, are *firstly*, those related to the establishment of proper "*continuous mobility linkages*" between places of major economic significance and other places of entry for international economies, and *secondly*, those characteristics related to "*increasing accessibility levels*" between places of economic resources (representing sectoral opportunities for economic development) and places of value adding (situated at, for example, economic activity centres) found within the corridor area. Other characteristics include the stimulation of economic centres through value adding at processing-plant locations, upgrading of the rural areas through the development of the potential economic resources found in the respective corridor areas, as well as the promotion of SME-development along the major mobility linkage.

5. Preconditions for the establishment of development corridors

A number of preconditions for the successful planning and establishment of development corridors were identified within a number of functional fields (see schematic illustration on Diagram 5 below). As a result of the detailed discussions in Section C of this chapter, no in-depth discussion with regard to the individual preconditions were put forward in the paragraphs to follow, as to prevent unnecessary duplication. Therefore, the identified preconditions are only listed and briefly highlighted.

5.1. Transport-related preconditions

The following transport-related preconditions for the establishment of development corridors were identified:

- The existence of a proper integrated multi-modal framework: Krynauw stresses the fact that a well structured integrated multi-modal framework for public passenger transport needs to exist. This should be done through an integrated transport planning exercise, done for the entire city/development corridor, addressing all modes of transport (Krynauw, 2000);
- Limiting through-movement: The Curitiba Development Corridor model implicates that through-movement of vehicles with no destination in a development corridor or an economic activity node, should be discouraged. Fines are payable when heavy vehicles enter the central business district during day-hours. Loading and unloading take place after-hours (Kleynhans, Gough and Van der Merwe, 1997); and
- Separating public and private vehicle movement: All urban development corridors' concepts support the separation of public transport and private vehicles as a method to ensure that users can reach destinations much quicker and cheaper with public transport than private vehicles, especially if the public transport system is a dedicated system.

Figure 24: Schematic illustration of a typical development corridor at a regional scale

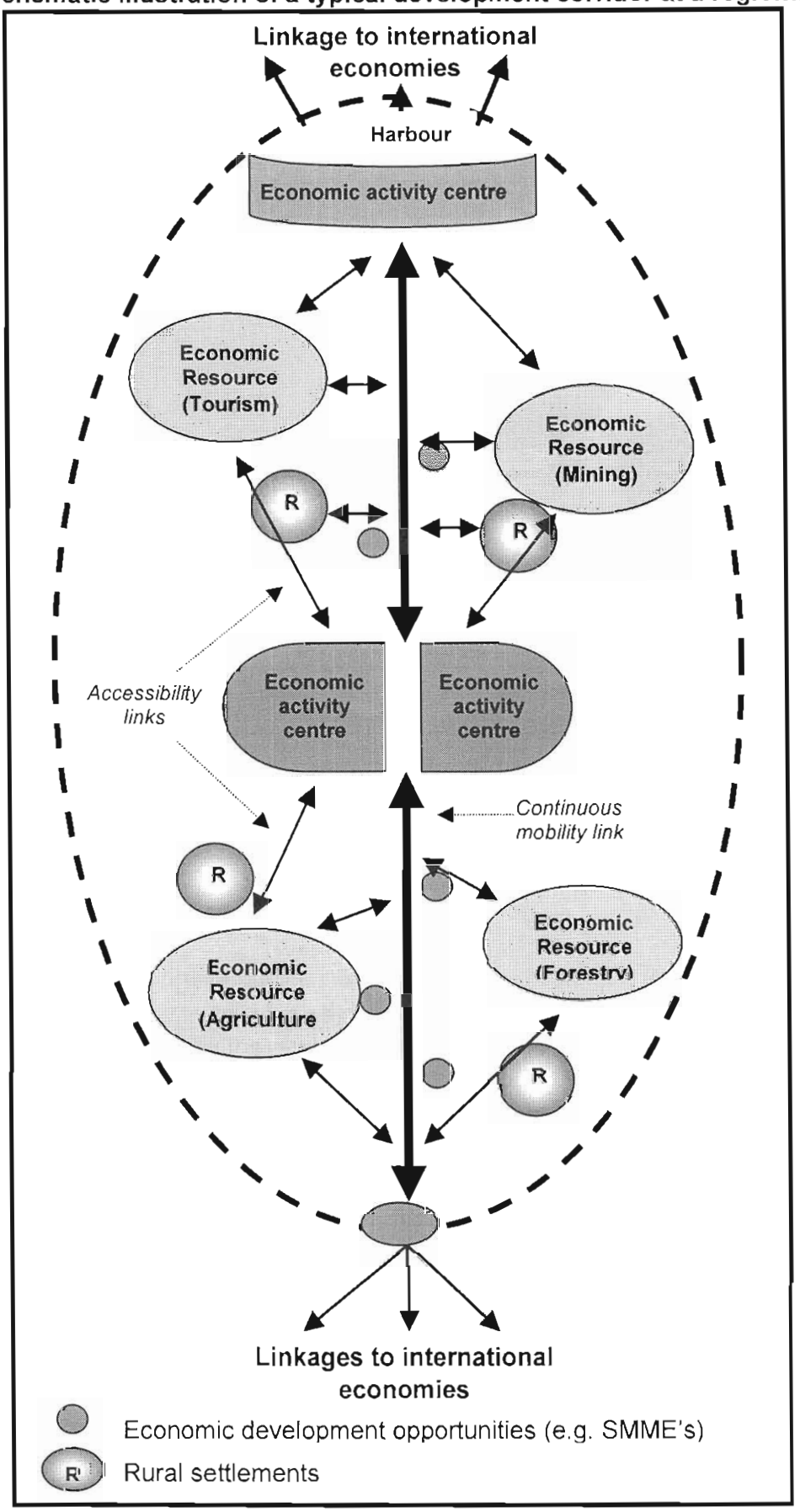
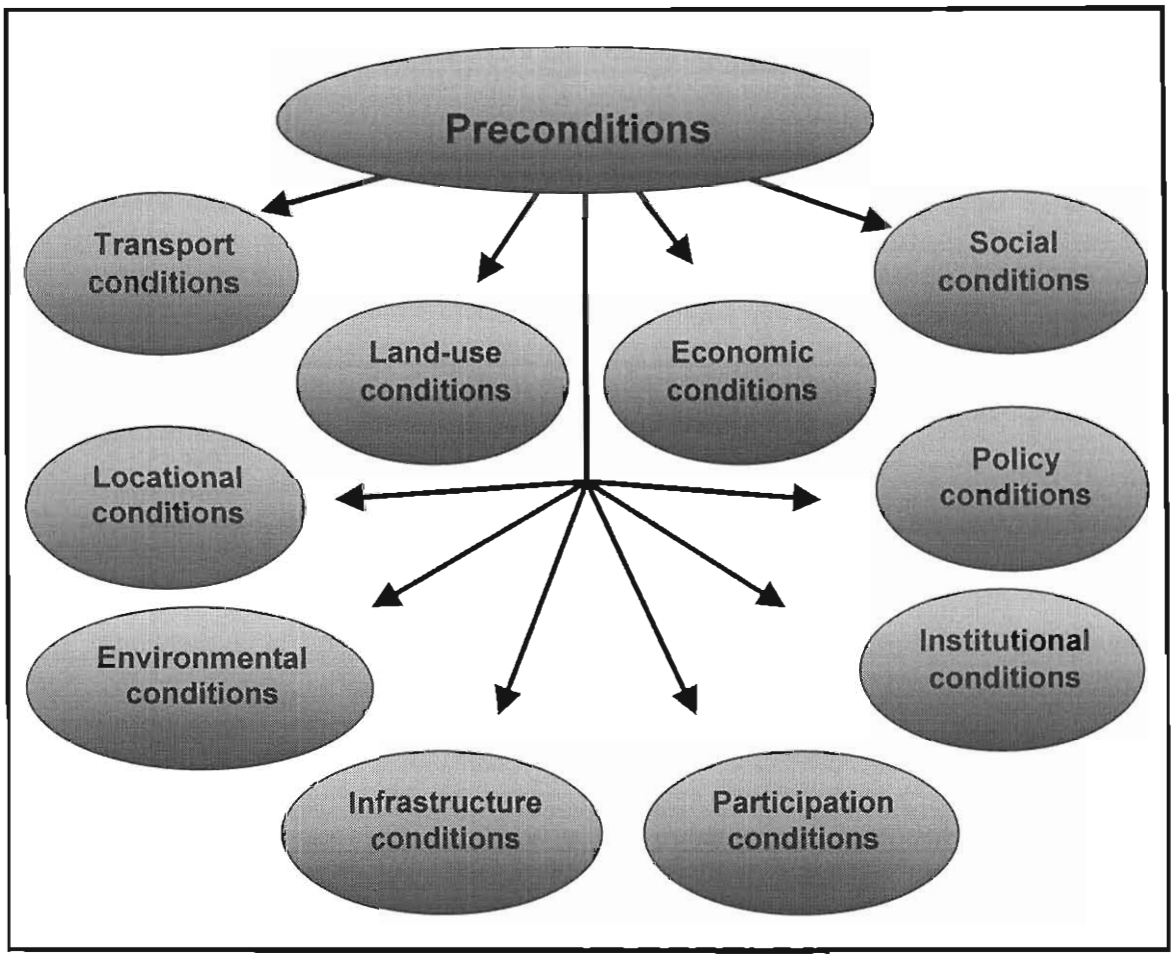


Diagram 5: The identified functional groupings for the preconditions related to the planning and establishment of development corridors



5.2. Land-use-related preconditions

Identified land-use-related preconditions include, amongst others, the following:

- The need for a holistic integrated development planning process: Planning of development corridors is characterised by the application of a strategic integrated development planning process, whereby a number of issues are incorporated, *viz.* that of land-use, transportation, economic development and social development. Through this planning process, a development framework and development corridor concept is generated, which should strengthen the development of a compact city. MLH Architects and Planners is of the opinion that this integrated development framework should be robust and dynamic to accommodate urban changes and human choices, as and when necessary;
- Supportive urban design parameters: Development corridors also demand the formulation of a special set of urban design parameters related to aspects such as frontage, height, parking, access and cross-sections of the development corridor. The purpose is to create a specific preferred urban image within the development corridor;
- Continuous evaluation: Spatial implementation results need to be assessed on a continuous basis so as to change direction if needed; and

- Developing adjacent areas of influence: MLH Architects and Planners stated that successful development corridors are also characterised by an element of supporting the growth of those areas surrounding the development corridor. This element is further supported by an approach to promote the equal distribution of job opportunities throughout a city and not to concentrate job opportunities at one locality only. This also prevents haphazard development resulting in urban fragmentation (MLH Architects and Planners, 1994 and 1995).

5.3. Economic-related preconditions

Development corridors in general place considerable emphasis on creating economic growth. Therefore, identified preconditions include the following:

- Linkages to mature nodes: The existence of mature economic nodes normally strengthen the opportunity for economic growth as a result of the economic interaction and movement that could emanate from such node towards the corridor area;
- Establishing diversified economies: As a result of the opportunity created through the development of mixed land-use, it is also necessary to promote the development of diversified economies. Those include the promotion of industrial and even agricultural activities;
- The application of incentives and disincentives: The establishment of development corridors is going hand in hand with incentives to attract job creation activities to development corridors. Disincentives are provided to prevent the "*wrong*" location of land-uses not belonging in the corridor, to establish elsewhere. In general, incentives are applied to guide growth and development in the development corridors. This creates a situation where inward growth towards the development corridor is promoted, whilst outward growth is controlled. This includes the incorporation of an element focusing at containing and controlling urban edges (MLH Architects and Planners, 1995);
- Business facilitation: The development corridors reveal a strong element of business development facilitation taking place to identify and develop economic development opportunities. The establishment of business development (support) centres are highlighted by the Arizona Trade Corridor, as well as in the Curitiba Development Corridor (SEBRAE, unknown), especially in terms of the need for such facilitation initiatives to promote economic development amongst communities;
- Marketing: Economic development opportunities and project progress should be continuously marketed. This ensures a constant flow of information to inform businesses and communities. It creates a situation of active business sector involvement, as well as enhancing economic networking and cluster development; and
- Feasibility testing: The Arizona Trade Corridor implicates that projects and investments should be tested before implementation as to ensure that those projects and investments with the maximum multiplier effects are implemented first, so as to enhance speedy economic growth. It comprises an element of continuous evaluation of economic growth and developmental effects, to ensure that the authorities embark upon the "*correct*" development strategies.

5.4. Preconditions as far as social issues are concerned

Development corridors have a pertinent contribution towards an improved social environment for the individual, as it represents cost savings and easily accessible facilities (Krynauw, 2000). This statement is supported by an element of incorporating the provision of social facilities in the development corridor next to the public transport system.

Furthermore, most development corridors, such as the Maputo Development Corridor, the W-Growth Development Corridor and the Curitiba Development Corridor-model, include an element of promoting human resources development through the implementation of empowerment programmes, entrepreneurial training and the provision of training institutions. The centralisation of these actions at multi-purpose community centres (accommodating a number of public amenities, community facilities and opportunities for recreation and sports activities), distributed in a balanced manner throughout the development corridor, seems an essential element of social upliftment and promotion. Ensuring adequate education and even health facilities are, therefore, definite preconditions for establishing efficient working development corridors.

A further indirect result is related to enabling an increase in the overall productivity amongst the entire population. This incorporates an element of promoting community development.

5.5. Locational preconditions

This essential precondition relates to the use of the "*strategic location*"[46] of the entire development corridor to benefit the establishment and growth of such a corridor. It also incorporates the location of development opportunities or the placement of public facilities and amenities (for example, in the form of a multi-purpose community centre), in a development corridor. The location of different land-uses in relation to each other is another element which, for example, could stimulate the establishment of places of residence closer to job opportunities.

5.6. Environmental-related preconditions

Taniguchi is of the opinion that development corridors have a strong element of sustainable environmental development. This incorporates the provision of open spaces and recreational areas in the development corridor, easily accessible by means of the public transport system (Taniguchi, 1995).

5.7. Infrastructure-related preconditions

Development corridors are characterised by an element of large infrastructure investments needed to encourage private sector investment. This includes infrastructure, such as the development of the public transport system. However, the development corridors discussed in this chapter also revealed a strong element of using existing infrastructure as a cost-saving measure. Other preconditions include:

- Providing effective, efficient and affordable service infrastructure: An impression is also

46 "*Strategic location*" refers to the location of the development corridor in relation to aspects such as markets, existing and proposed infrastructure, resources and development programmes and policies.

created by Birk and Zegras that development corridors represent a strong element of creating effective, efficient and affordable physical infrastructure services (i.e. water, electricity and sanitation) as a result of the intensity of demand caused by higher densities along the development corridors (Birk and Zegras, 1993);

- Development corridors need catalyst projects: It seems that most development corridors embark upon the initiation of catalyst projects to "*kick-start*" development. These are normally initiated as part of a government intervention to promote private sector interest and investment; and
- Infrastructure projects: All development corridor projects incorporate an enormous amount of infrastructure projects needed to create an enabling environment for natural economic development and establishing a feasible public transport system.

5.8. Participation as a precondition for the establishment of development corridors

Development corridors have a strong element of active community involvement in the planning, implementation and problem-solving processes (Andretta, 1995). In fact, participation is considered a partnership between local government and the community. Taniguchi considered the involvement of the community in planning and problem solving the only way to address city differences (Taniguchi, 1995). The Curitiba Development Corridor adds another dimension to this element, *viz.* that of continuously evaluating public opinion and interest to guide changes desired by the public.

5.9. Institutional requirements as preconditions for development corridors

The development corridors discussed in this dissertation implicate that there is (and should be) a committed institutional structure taking responsibility for the initiation, implementation, monitoring and revisiting of the development corridor plan/concept formulated for a respective corridor. The dedicated institutional structure is, therefore, an essential development corridor element and incorporates the following:

- Absolute commitment to the development vision: The discussion on development corridors revealed that a development corridor should have a focused vision, shared by all stakeholders. This vision should be focused to achieve the goals set in the development plan for the development corridor (MLH Architects and Planners, 1995). An impression is also created that the overall vision should be communicated regularly to the communities and key stakeholders. The latter goes hand in hand with political commitment and strong leadership to implement and finance projects;
- Calculated risks: A willingness to take calculated risks should exist to test new development approaches (MLH Architects and Planners, 1995); and
- Multi-disciplinary nature: MLH Architects and Planners reflects that an established *"...multi-disciplinary, semi-autonomous, urban planning agency with strong leadership..."*, is a vital element to reach the goals of the corridor's development plan (MLH Architects and Planners, 1995).

Other preconditions related to institutional issues include the following:

- Development corridors need government involvement: In all the development corridors the

government has a specific role to play, especially in terms of project management and giving project direction. It should also act as facilitator to guide budget spending and private sector investment. Equally important, it should create an enabling environment for natural economic development through the provision of infrastructure, facilities and services;

- Goal-orientated development programmes: Another element is that of developing goal orientated programmes to address primary issues, such as public transport, high density housing, private sector investment and public sector spending (MLH Architects and Planners, 1995). A proper funding strategy should be compiled as a supportive element to get the development programmes implemented. The latter should be accepted by all stakeholders;
- Creativity: Creativity is an essential problem-solving element of actually any developmental approach. However, the corridor discussions in this dissertation revealed that creativity should lead to the creation of multiple multiplier effects created by one investment (MLH Architects and Planners, 1995). For this purpose, it is deemed necessary to involve urbanologists, intellectuals, political leaders and others for seminars, group and round table discussions for problem-solving purposes (Kleynhans, Gough and Van der Merwe, 1997); and
- Inclusivity: All development corridors reflect the need to involve all "*applicable*" role-players in the planning and development processes. However, a strong indication is given with regard to the involvement of all spheres of government as partners to increase the development corridor's credibility with investors as far as implementation actions are concerned.

5.10. Policy-related preconditions

A number of policy-related preconditions were identified to guide the planning and development of a development corridor. One of the prominent preconditions is the use of policy guidelines to influence budgetary processes of role-players and stakeholders, especially that of government. The latter goes hand in hand and in accordance with the integrated development framework, as well as identified actions, programmes and projects formulated to guide the development of the corridor (Urban-Econ Development Economists, 1997b).

From the discussions in this chapter, it also seems that the implementation of corridor development programmes should incorporate a strong institutional approach as part of a development corridor's policy environment. In many cases, some sort of corporation (public or quasi-public entity) will have to be established to co-ordinate and package land-use/economic development opportunities. With regard hereto, the national Department of Transport of the Republic of South Africa found the latter more appropriate and preferable for establishing development corridors, than the large-scale "*co-operative agreement approach*" involving too many role-players (Department of Transport 1993).

Furthermore, development corridors enclose a range of corridor-related policies adopted to get a development corridor established. These adopted policies relate to, amongst others, issues such as zoning indicators and land-use rights, greater levels of intensity with regard to development along the corridor, environmental compatibility of development initiatives and projects (Gauteng Provincial Government, 1996), public-private co-operation, political decision-making (which should be quick, pragmatic and ease the immediate translation of the

decision into reality) and maintaining momentum. Others such as functions and responsibilities of role-players, institutional structuring, multi-disciplinary project approaches, timeous planning to address congestion (Department of Transport, 1995) and development programmes by government, can also be added to the list.

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SECTION E: CONCLUSIONS

The development corridors, whether on an urban scale (such as Curitiba) or at an international level (such as the Maputo Development Corridor), revealed that the successfulness of development corridors are directly related to three issues. These are their dependence on the intensity of mixed land-use development (economic activity), the strength of a well-developed multi-modal transport network, and the density of activity levels alongside such a development corridor. These could also form an essential base for a theoretical framework for development corridors.

The former Department of Development Planning, Environment and Works of the Gauteng Provincial Government expressed a view which acknowledged that the development along a transport corridor is not only *"reliant upon"*, but also has an *"influence"* on an urban environment. This inter-relationship forms part of a number of development processes and issues within which the corridor is developed (Gauteng Provincial Government, 1996). This implies that development corridors are not a new concept towards urban or regional development. This view was reflected in a number of the development corridors (Industrial Development Corporation, unknown).

It is acknowledged that transport networks have a major impact on the nature and extent of development in a specific development area. In the Republic of South Africa, it was that same transport network that reinforced the development of the fragmented apartheid cities and settlement patterns found in the country, which are now requiring reconstruction actions. It is, therefore, no wonder that all spheres of government consider the development corridor approach as a mechanism to address these high levels of spatial fragmentation and the lack of appropriate economic development activities in the dormitory townships. In itself, the corridor concept is also regarded as an opportunity to create additional development opportunities and linkages to bring about a more efficient/effective urban environment (Gauteng Provincial Government, 1996). The latter is further supported by the proposed theoretical framework discussed in Section D of this chapter.

However, it is also obvious from the development corridor discussions that corridors differ in nature and extent, as each attempts to address its own unique problems and issues experienced in that respective corridor's area. These problems and issues refer to the respective area's economy, transport networks and social facilities, characteristics, interaction and past economic and spatial development policies, as well as political frameworks (Gauteng Provincial Government, 1996).

A distinction is drawn between urban and region development corridors. In this regard, it can be concluded that:

- *urban corridors* are often focused at working towards urban reconstruction (or even revitalisation of the urban structure), economic growth enhancement, integrated inter-
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modal transportation (with a strong focus on public transport) and social upliftment; whilst

- *regional corridors*, on the other hand, have a strong focus on strengthening the corridor's[47] position in the global economy and, therefore, focus on the enhancement of well-structured infrastructure, improving human resource skills levels and public policies encouraging economic development (Anon, 1996).

Irrespective of the nature and extent of the corridor, a number of benefits were identified through the formulated theoretical development corridor framework, which can be summarised as follows:

- corridor planning creates an opportunity for innovative and creative designs and problem-solving opportunities;
- it necessitates the integration of land-use and transport planning;
- it has a strong focus on attracting and promoting private sector investment and joint ventures;
- it benefits the development of a compact urban form;
- it establishes the opportunity for greater levels of economic efficiency and productivity due to shorter travel distances and reduced travel time;
- sustainable environmental development and environmental protection are enhanced;
- it enables the establishment of efficient multi-modal transport systems;
- it allows a local and regional planning and development approach;
- it creates the opportunity to integrate fragmented spatial forms;
- it creates the opportunity for the more efficient use and allocation of urban and regional facilities; and
- it can be developed step-by-step, according to pre-formulated development programmes and as budgets permit implementation.

However, it seems that the corridor concept is relatively easy to plan, but that the real challenge is to set up appropriate institutional structures, which can take the responsibility to implement the appropriate projects, and to co-ordinate implementation. All corridors are characterised by a number of implementation agents who are responsible for implementation actions.

Furthermore, development corridor projects seem to have two common characteristics, namely, that they are:

- focused at providing solutions for an own unique problem (or set of problems), to ensure better and affordable living environments; and
- based on the implementation of a set of integrated multi-faceted strategies which have specific spatial implications (for example a linear nature, urban/rural integration, urban edges and so fourth) and underlying principles (for example higher densities, improved urban efficiency, compact city, sustainability, and so fourth). This is supported by the view

47 In this regard it should be realised that the nation/country is represented *via* the corridor.

of the Industrial Development Corporation (IDC)[48], which states that *"corridors of development are defined by the complexity and diversity of activity, which are generally supported by other spatial strategies, such as nodes, economic spines and individual clusters"* (Industrial Development Corporation, unknown).

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48 The IDC was involved in the potential analysis for the development of the Maputo Development Corridor.