

# The Mabopane-Centurion Development Corridor: A historical analysis of successes and constraints and proposals for improvement

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## CHAPTER TWO

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### *INTERNATIONAL DEVELOPMENT CORRIDOR PERSPECTIVES*

#### SECTION A: INTRODUCTION

The research that was done to find study material for this dissertation revealed that study material analysing the development corridor concept, development and implementation approaches, underlying theories, principles and preconditions for development corridors, are not readily available. For this purpose, a broad-based analysis was made of a number of international development corridor projects. The findings thereof are discussed in the first part of this chapter. This includes a discussion on what is meant by a development corridor, the use of the concept to address development and social-related problematic issues, as well as the development of the corridor to attract investment. Through the investigation, it was also attempted to identify the underlying conceptual strategies, as well as the measures taken in terms of the institutional structures put in place to enhance implementation and promote its establishment.

The second part of this chapter focuses on the formulation of a possible theoretical framework for development corridors. In this theoretical framework, issues such as a potential definition for a development corridor, objectives of development corridors and the different components/elements of development corridors, are discussed.

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#### SECTION B: GENERAL

##### 1. Understanding the term “*development corridor*”

In general terms, the term “*development corridor*” seems to be a development strip, linear in nature, with specific edges on either side allowing focused movement and activity within such edges. But how is this term defined?

##### 1.1. The term “*development corridor*”

There are a number of definitions that attempt to explain what is meant with the term, “*development corridor*”. The evaluation of the definitions provided in the rest of this paragraph, revealed that it seems that this phenomenon is not so simple to define. This view is supported

by the different perceptions studied in a variety of sources<sup>6</sup> addressing development corridors. Geyer confirms this opinion in his work about the “*Development Axis*”. There are two confusing aspects about the definitions, the one being the differences in definitions, and the other the differences regarding terminology that is used in such definitions (Geyer; 1986). This is confirmed in the definitions of Friedman, Mayer, the Technical Team of the Interim Co-ordinating Committee of the Maputo Development Corridor, Duany and Plater-Zyberk, the protagonists of the Wetton-Landsdowne Development Corridor, the Policy Development and Implementation Office of the former Department of Development Planning, Environment and Works of the Gauteng Provincial Administration, and the Gauteng Department of Transport and Public Works, which are further discussed below.

The definition used by Friedman and as quoted by Geyer, clearly stresses the importance in the difference in the “*intensity*” of “*economies*” one will find in economic activity nodes, as well as the need to travel distances between such economic activity nodes. The definition reflects that a development corridor is a:

*“...type of upward transitional area connecting two or more core regions. The intensity of corridor development tends to be directly proportional to the product of the core region economies and inversely proportional to the distance separating them”* (Geyer, 1986).

From the definition it is possible to conclude that the economic activity present in economic activity nodes, necessitates the need to travel as a result of physical economic interaction. This interaction implies the necessity to move from one destination to another along a transport link or network.

The definition by Mayer expresses the opinion that:

*“... the attraction of any given city, and hence its growth is dependent upon not only its own mass – the demands of its own population – but also its interaction with every other establishment outside the city with which it interacts. The importance of such external interactions, along routes of transportation and communication, may also be measured in terms of the total attractiveness (mass) of each of these external places (establishment clusters) and inversely as the distance of each in turn from the city”* (Geyer, 1986).

The definition differentiates between the importance of issues such as economic development and urban growth, as well as the interaction between urban activities and economies.

The Technical Team<sup>7</sup> of the Interim Co-ordinating Committee for the Maputo Development Corridor, which is further discussed in Section C of this chapter, refers to a development corridor as:

*“...geographical linkages created through policy for the expressed purpose of economic development within certain areas”* (Interim Co-ordinating Committee, 1996a).

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6 These sources include a reference to project reports, unofficial and official government reports, doctoral theses and publications in journals.

7 The Technical Team of the Interim Co-ordinating Committee for the Maputo Development Corridor-project, was responsible for all technical analyses and input to aspects related to transport, economic development and potential, social welfare and potential investment projects.

This description of what a development corridor is, emphasises the focus on economic development and links it to the dimension of a specific geographical area, where such unique economic development activities and/or opportunities are to be found. Another aspect of the definition expresses the role of policy issues focused on economic growth.

Development corridors can take up a number of different forms, but the most inherent characteristic is the linearity, "...bisected by an existing or potential infrastructure route spine" (Interim Co-ordinating Committee, 1996a).

The protagonists of the *Wetton-Landsdowne Development Corridor*, which is discussed in Section C of this Chapter (see paragraph 2.4 on page 23), prefer to refer to a development corridor as a:

*"... linear route connecting nodes. Along this corridor high intensity uses will be concentrated. Activity along this corridor need not be uniform and the nature of development will change and respond to surrounding land-uses, concentrating at certain points of highest accessibility"* (Department of Transport, 1996b).

This linear concentration of economic activity is also supported by Taniguchi, who in terms of the Curitiba Development Corridor-model, is of the opinion that corridor development represents a concept of planned linear growth. He also adds another dimension, which indicates that the benefits of corridor development bring about measures that result in "a substantial saving in resources" (Taniguchi, 1995). Benefits, such as reduced travel time, higher productivity and the multi-use of services and amenities, bring about savings in the use of scarce natural resources, the use of public funds, and capacity of the local government authority.

Supporting a similar view, the officials of the Policy Development and Implementation Office of the Former Department of Development Planning, Environment and Works<sup>8</sup> of the Gauteng Provincial Government, defined a corridor as:

*"...a tract of land, forming a passageway which allows access from one area to another and as a planning concept is mainly associated with linear or axial development"* (Gauteng Provincial Government, 1996).

The former Policy Development and Implementation Office (Gauteng Provincial Government) also indicated in their considerations of development corridors, that it represents a linear development form, which is usually centred on a transport axis of some kind. Their perceptions of a "development axis", is that it is an "...area of intensive use along transportation routes and, in particular, those areas that have potential for public transport facilities" (Urban-Econ, 1997).

The Gauteng Department of Transport and Public Works of the Gauteng Provincial Government researched during 1998 the increased impact of the use of urban elements such as "Activity Corridors, Activity Spines and Activity Streets", on the provincial road network. As a result of their research, a number of the above urban elements related to corridor development concepts, were analysed. It included the following:

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<sup>8</sup> The name of the former Department of Development Planning, Environment and Works of the Gauteng Provincial Government changed to the Department of Development Planning and Local Government as a result of restructuring in 1997.

- ◆ a transportation corridor;
- ◆ an activity or development corridor;
- ◆ an activity spine;
- ◆ an activity street; and
- ◆ activity nodes (PWV Consortium, 1998).

They define a development corridor as:

*"... a linear strip of land or area, connecting large activity nodes, traversing urban or inter-urban areas, surrounding a major transport facility or facilities providing an appropriate regional level of mobility<sup>9</sup> and accessibility<sup>10</sup> to adjacent areas, containing a high concentration of population and mixed land-uses (job opportunities)" (PWV Consortium, 1998).*

Both the Gauteng Department of Transport and Public Works and the National Roads Board (S A Roads Boards, 1993), regard mobility and accessibility as important functions in an urban environment. With regard to the demand for mobility within an urban environment, the mentioned institutions consider "*mobility demand*", to be a direct response to economic and social development within a given area. In this regard, they state that the "*...overall demand for mobility is determined by the distribution of business, dwellings and services and the availability of public and private resources...*" (S A Roads Board, 1993).

Duany and Plater-Zyberk, expressed another opinion, viz. that of referring to a development corridor as being:

*"...a significant element of the new urbanism because of its inherently civic nature. In the age of the metropolis, with villages, towns, neighbourhoods and districts aggregated in unprecedented quality, the most universally used public spaces are the corridors that serve connection and mobility<sup>11</sup>..."*

This description recognises the importance of development corridors as an urban element<sup>12</sup>, which serves connection and provides mobility, as well as the potential of this urban element to bring about alternative urban development forms where urban activities are more integrated than in the conventional urban forms (Duany and Plater-Zyberk, unknown).

## 1.2. Conclusion

The definitions discussed above, have certain commonalities. Geyer summarises it into functions, which are related to:

- ◆ A linkage function: Linking economic activities, nodes, social facilities and amenities and recreational areas. Duany and Plater-Zyberk support this view by stating that corridors

9 The Gauteng Department of Transport and Public Works regards "*mobility*" as the "*...capacity to move quantities of vehicles or people at a reasonable high speed and acceptable travel time with freedom to manoeuvre without undue interruption and at acceptable levels of comfort, convenience and safety*" (PWV Consortium, 1998).

10 The Gauteng Department of Transport and Public Works regards "*accessibility*" as the "*... level of direct access that is provided from a specific route to a development*" and regards "*regional accessibility*" as the "*... ease to reach a particular area in terms of connectivity to the transportation system and particularly time*" (PWV Consortium, 1998).

11 The Concise Oxford Dictionary defines mobility as the ability or freedom to move or flow easily.

12 Other urban elements are for example a central business district, an activity street, open space systems and industrial areas.



"serve connection" and "mobility";

- ◆ An unlocking function: This function can be regarded as a result of the improvement on mobility and accessibility, causing a direct response towards inherent economic and social development (S A Roads Board, 1993). This in turn, is the result of the unlocking of development opportunities, opportunities for community involvement and even the opportunities for joint ventures between different government spheres;
- ◆ A co-ordination function: To arrange concentrated development and related activities into a proper compact urban form by means of high intensity mixed land-uses, supported by the orderly location of high density residential development along a specific transport link (Department of Transport, 1996);
- ◆ An alleviation function: The reduction in travel distances, time and cost, the reduction in vehicle congestion, the creation of improved environmentally sustainable urban environments, the addressing of social and racial disparities found in cities and towns in the Republic of South Africa, are all issues which can be addressed through corridor development (VKE, Plan Associates, TRC Africa and Infratech Solutions, 2000). The latter is possible as a result of the benefits brought about by the presence of a public transport system, linked to that the development of a mix of private investments along the public transport corridor integrated with the concentration of public facilities and amenities along the corridor as well;
- ◆ A development function: Advantages are created for economic and social activities to locate closer to each other to create agglomeration and comparative advantages (Geyer, 1986). When the latter are located closer to public transport routes, the threshold values thereof improve substantially, simply as a result of the larger presence of buying power making use of the public transport system. Opportunities are also created to establish an improved climate for co-ordinated public and private sector investment (Department of Transport, 1996);
- ◆ A mobility/movement/transportation function: Del Mistro and Oranje are of the opinion that this function is one of the primary functions of a development corridor, as it implies the movement of goods, people and services from one point to another by means of different modes of transport (Del Mistro and Oranje, 2001); and
- ◆ An access/activity function: The access/activity function stresses the inter-relationships between "*land-use*", "*economic activity*" and the accessibility potential to such land-uses and economic activity, provided by a given transport link. In this scenario, "*land-use*" and "*economic activity*" is regarded as key functions within the development corridor.

Lastly, the discussion above also revealed that a development corridor should be regarded as only one "*urban element*" found in an urban complex. Duany and Plater-Zyberk view it as a development phenomenon, which is used in the "*new urbanism*" as an urban space<sup>13</sup> (Duany and Plater-Zyberk, unknown). This reference to the "*new urbanism*" represents a renewed urban development approach, focused at creating a more integrated urban form where the work, stay and play environments are physically closer situated to each other.

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13 From Duany and Plater-Zyberk's reference to the word "*urban space*", it is understood that they refer to any area where the inhabitants of that urban area stay, play, work, buy, move and relax.

## 2. Selection of international development corridor projects for research purposes

### 2.1. Introduction

As a result of the search for possible study material, a number of international development corridor projects were identified through an intensive Internet search, interaction with officials of the National Department of Transport, as well as interaction with officials of the former GPMC. Official study tour feedback reports and materials undertaken and compiled by national government departments (Department of Transport and the Department of Trade and Industry), the Provincial Government of Gauteng, local governments (Cape Town and the GPMC) and private companies (Urban-Econ and MLH Architects and Planners), were also studied. Official government reports and project reports were also studied to broaden the scope of available information to compile this dissertation.

The list hereunder gives an indication of the international development corridor projects identified in the research for potential study material:

- ◆ the Coast-to-Coast initiative through Namibia, Botswana, South Africa and Mozambique. Within this initiative is a number of other national corridor initiatives, namely: the Walvis Bay Corridor; the Trans-Kalahari Corridor; the Platinum Corridor, the Delta Corridor and the Maputo Development Corridor;
- ◆ the Mdantsane-East London Development Corridor situated in the Eastern Cape Province of the Republic of South Africa;
- ◆ the Khulani Development Corridor in Port Elizabeth, also situated in the Eastern Cape Province of the Republic of South Africa;
- ◆ the Wetton-Landsdowne Development Corridor, one of the national “*Four Cities*”-projects situated in Cape Town, situated in the Western Cape Province of the Republic of South Africa;
- ◆ the Tembisa–Kempton Park Development Corridor, situated in the Gauteng Province of the Republic of South Africa;
- ◆ New Town Development Corridor in Johannesburg, also situated in the Gauteng Province of the Republic of South Africa;
- ◆ the Germiston-Daveyton Development Corridor, situated in the Gauteng Province of the Republic of South Africa;
- ◆ the Beira Corridor through Mozambique and Zimbabwe;
- ◆ the Melanje and Namibia Development Corridors, both in Angola;
- ◆ the Benguela Development Corridor stretching through Angola, the Democratic Republic of the Congo and Zambia;
- ◆ the Tazara Development Corridor through Tanzania and Zambia;
- ◆ the Nacala Development Corridor through Mozambique and Malawi;
- ◆ the Curitiba corridor model in Brazil;
- ◆ the Porto Alegre development corridor model, also in Brazil;
- ◆ the Central Luzon Growth Corridor, also referred to as the W-Growth Corridor, found in the Philippines;

- ◆ the Nord Pas de Calais Corridor found in France;
- ◆ the Arizona Trade Corridor in North America; and
- ◆ the A1 Highway Transport Corridor in the Netherlands.

It is regarded as essential to note that these development corridor projects differ in terms of scale, the reason for their existence, strategies identified for implementation and implementation structures and methods. As a result, not all of the identified development corridor projects could be used for the purpose of this dissertation. It was, therefore, considered appropriate to make use of selection guidelines to choose from among the development corridor projects listed above.

## 2.2. The selection guidelines

The selection guidelines used to identify the development corridor projects which fulfil the objectives of this dissertation, were the following:

- ◆ that, as the MDCD-project forms part of a national initiative in the Republic of South Africa to develop urban development corridors, named the "*Four Cities*"-project, that the other three projects<sup>14</sup> be studied as potential corridor projects for inclusion in this dissertation;
- ◆ that urban development corridor projects initiated in Brazil, also a developing country, be studied as international urban development corridor projects;
- ◆ that the most recently initiated urban development corridor projects in the Republic of South Africa, initiated after the initiation of the MDCD-project, be studied to determine what new development corridor insights were developed since the initiation of the "*Four Cities*"-project;
- ◆ that, although a scale difference is found, that development corridors of a national nature be studied, both locally and internationally, in an attempt to find additional lessons which can be learnt from for the formulation of a possible theoretical framework for development corridors;
- ◆ technically, the projects had to focus on addressing some multi-dimensional urban-related development problems, such as fragmented development, unequal distribution of urban facilities, services and resources, lack of an integrated transport system and unlocked economic development opportunities, all due to historical development policies and approaches;
- ◆ the projects had to have a concern with, and focus on directed economic development, investment attraction and social upliftment; and
- ◆ the projects had to have a specific approach towards the establishment of an institutional and policy environment, to promote the management and implementation of project activities.

It must be emphasised once again that this study is regarded a lead study on development corridors. Therefore, the availability of detailed study material played a prominent role in the identification of international development corridor examples.

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<sup>14</sup> The Wetton-Landsdowne Development Corridor, the Baralink and the Greater Warwick Triangle-project.

## 2.3. Conclusion

By applying the selection guidelines discussed above, seven development corridor projects were identified for incorporation into this dissertation. The result of the application of the selection guidelines is illustrated in Table 1 and briefly discussed below:

- ◆ The Wetton-Landsdowne Development Corridor: (One of the “*Four Cities*”<sup>15</sup>-projects initiated in Cape Town) This project was initiated simultaneously with the MCDC-project. As a project, it has similar urban characteristics to the MCDC-project, which emphasises the need for urban restructuring, social upliftment and economic development. It, however, represents a South African example of how a development corridor can be incorporated into an overall city plan. It also incorporates appropriate multi-faceted development proposals and institutional frameworks for possible further consideration;
- ◆ The Curitiba corridor model in Brazil: This corridor model is, according to MLH Architects and Planners, well known throughout the world for successes reached with regard to aspects such as its land-use and transport integration approaches and concepts, its multi-modal public transport systems, its institutional structures established to implement and manage different elements of its city plan and its innovative problem-solving approaches to alleviate community needs and demands;
- ◆ The Porto Alegre approach, also in Brazil: Key considerations for including this project in the dissertation includes its location in a developing country, the project's approach to involve communities with the project planning and implementation, the “*own simplified*” corridor-concept and their focused approach to enhance purpose-directed economic development;
- ◆ The Tembisa–Kempton Park Development Corridor in the Gauteng Province of the Republic of South Africa: This project was recently (2000) initiated by a South African representative transport institution, known as the Transport Co-ordinating Committee (TCC). As a project, it represents development corridor considerations from a transport point of view. Therefore, to improve mobility, accessibility, urban integration and involving all spheres of government and the private sector into proposed quasi-public institutions, were key considerations to include this project for the purpose of this dissertation;
- ◆ The Maputo Development Corridor: This project, although on a much larger scale than an urban development corridor, represents the first development corridor project processes initiated by the national government of the Republic of South Africa (Departments of Transport as well as Trade and Industry). The key considerations for its inclusion in this dissertation includes the project's approach towards creating a continuous mobility linkage, multi-dimensional analysis and focused investment attraction actions;
- ◆ The Central Luzon Growth Corridor, also referred to as the W-Growth Corridor, to be found in the Philippines: Key considerations for the inclusion of this development corridor project include its international nature, its strategic positioning as a result of its location, the strengthening of its economic base and related potentials to promote economic growth, as well as the institutional framework established to enhance implementation; and

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<sup>15</sup> Background on the “*Four Cities*”-project is discussed in detail in Section C of this Chapter (see paragraph 2 on page 19), as well as in Chapter Three (Section A: on page 97).



**Table 1: Selection results of the identified development corridor projects**

| Corridor project                          | Selection guidelines            |                               |          |   |                         |                                                                                 |                                                  |                                |
|-------------------------------------------|---------------------------------|-------------------------------|----------|---|-------------------------|---------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------|
|                                           | Linked to "Four Cities"-project | Located in developing country | Scale    |   | Multi-dimensional focus | Directed economic development, social upliftment, investment attraction focuses | Dedicated institutional implementation structure | Availability of study material |
| Urban                                     |                                 |                               | Regional |   |                         |                                                                                 |                                                  |                                |
| Wetton-Landsdowne Development Corridor    | √                               | √                             | √        |   | √                       | √                                                                               | √                                                | √                              |
| Curitiba                                  | -                               | √                             | √        |   | √                       | √                                                                               | √                                                | √                              |
| Porto Alegre                              | -                               | √                             | √        |   | √                       | √                                                                               | √                                                | √                              |
| Tembisa-Kempton Park Development Corridor | -                               | √                             | √        |   | √                       | √                                                                               | √                                                | √                              |
| Maputo Development Corridor               | -                               | √                             |          | √ | √                       | √                                                                               | √                                                | √                              |
| W-Growth Development Corridor             | -                               | √                             |          | √ | √                       | √                                                                               | √                                                | √                              |
| Arizona Trade Corridor                    | -                               | -                             |          | √ | -                       | √                                                                               | -                                                | √                              |

- ◆ 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 focuses<sup>16</sup> of the project, important project strategies<sup>17</sup> 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 MDCD (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.

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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.