

The dissertation addresses an interesting process of spatial change affecting our cities, and its implications for space and land use planning. The research question and hypothesis is generally very good indeed. The research is executed in a thorough way, and the researcher is to be commended for the systematic methodology and execution.

However, more could have been done on the following chapters of the dissertation to live up to the promise of the opening chapters. There are key research questions raised in the introductory chapters which are not properly dealt with in subsequent chapters.

It seems that while the researcher has done a lot of good and solid empirical research, rather limited points are extracted from the numerous interviews and observations conducted.

I feel that the author focused a greater extent on macro-scale issues for which his empirical treatment provides a less solid foundation. This could be improved upon.

Despite these comments the dissertation is well set-up, empirical research is carried out competently and the researcher arrives at reasonable set of conclusions.

PLANNING IMPLICATIONS FOR THE CHANGE IN THE
USE OF INDUSTRIAL SPACE FROM FORMERLY LARGE
SCALE INDUSTRY INTO SMALLER UNITS OF LIGHT
AND SERVICE INDUSTRIES.

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To my family, my late sister Sindy who passed away during November 1998 and especially my mum Mildred, your love and encouragement has paid much difference to my strength. In appreciation I dedicate this thesis to you.

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Chapter one: "NEED FOR THE STUDY"

1.1 INTRODUCTION

Industry is not a static activity. It undergoes metamorphosis as it is affected or influenced during its quest to grow, produce more, become dynamic and to defend itself from competition. Subsequently, industrial land use transforms itself (at a given time and space) both functionally and organizationally. One of the most fascinating areas of transformation in industrial land use is the change in the use of formally large-scale manufacturing industrial spaces in areas closer to city centres, into an even more complex space utility by smaller light industrial activities.

The focus of this dissertation is on the planning implications for the change in the use of industrial space from an area that is formally large scale manufacturing base into an emerging concentration of the small scale light industries and mostly service type industries. The Congella industrial area is studied to observe and analyse the planning implications that are likely to emerge from the change in the use of industrial space at Congella.

The study area 'Congella' is strategically located in the older inner city industrial area, that has experienced a period of relative decline preceded by a an era of relative industrial development. Due to it's close proximity to the harbour, which was the catalyst for industrial development in Durban, the Congella area had an ideal location advantage for the heavy manufacturing and harbour related bulk-storage industries.

This area formally housed large scale manufacturing industries. (Katzen: 1961)

By contrast, today when one takes a walk or drives through the area, one is confronted by a diverse mix of a lesser number of the remaining large manufacturing industries, and a concentration of smaller, light and service type outlets. This is a new industrial character in Congella.

When looking left, right, back and forth one's eyes never fail to capture the image 'Premises To Let'. This image is a signpost to a transforming process of land use. This process raises some interesting questions - 'what is going on? What is the nature of change?. Is this a form of inner city reindustrialisation? What challenges and advantages does the shift in the use of Congella industrial space, generate for planners? These are some interesting questions that this dissertation's investigation responds to.

This study is exploratory and will therefore attempt only to highlight the general processes of change and their implications for land use planning.

In trying to understand this complex process of industrial change taking place in Congella, the study recognises that the events of change need to be viewed in an historic and time context, as well as within an appropriate geographic-spatial context. The investigation will further explore whether this change is a response to external forces of change, i.e. globalization.

There is an emerging characteristic feature whereby formerly single large-scale manufacturing units are converted into a number of multi-tenanted operations, housing smaller, light and mostly service type industries.

It is acknowledged in this study that there are varying meanings to the usage of the terms Service and Light Industry.

Therefore, it is important to provide working definitions so as to guide the reader of this work. For the purpose of this study the term Service Industry is used to refer to such operations that supply secondary working to readily finished products. These include repair type activities as well as immaterial goods like security and consultancy. Congella consists of a wide variety of service firms ranging from such operations as motor repairs (including wholesaling parts), print, spray painting, security services, shoemakers/laundry to bakeries and secondary agricultural co-ops (selling seeds and fertilizers.)

The list is by no means limited to the above-mentioned. Services further subdivide into two categories:

1. Retail activities, which involve direct selling (or offering of service-goods to individual customers.
2. Trade activities, which supplies convenience goods of a low order demand to traders and other businesses. By convenience goods is meant, ' those goods that are purchased or consumed at regular short intervals (often daily) by consumers ' (Maasdorp 1977:35). Sometimes these activities overlap so that one finds both retail and trade services being provided by a single outlet.

Light Industry is differentiated by the scale of production and the machinery used to manufacture goods or provide services. Unlike heavy large-scale industries, light industries do not require heavy machinery and large quantities of space or labour for their operation. (For a generalised definition, please refer to the glossary of

terms provided in the appendix section). In the context of Congella, light industries include both manufacturing and service activities.

Definitions given above, are only meant to paint a clearer picture of the nature of industries we dealing with in the context of Congella and by no means universal definitions.

1.2 RESEARCH PROBLEM

'Planners must create opportunities within which individuals and group of people can realize their aspirations ' (Robinson, 1991)

In order to realize this goal, planners must equip themselves with the adequate knowledge of the forces at play. Understanding the behavior or the transformation of land uses is one of the important concerns that is essential in trying to understand the forces that shape industrial spaces in older inner city industrial areas such as the case of the Congella area near Durban.

During the last three decades (1960's-1980's) there has been a constant effort by local (Durban) planning authorities to create viable economic spaces, within the strategically located inner city areas. This period had seen greater tendency towards controlling and guiding land use development. Accordingly development controls, zoning plans, spatial (land use) development plans were continuously developed to facilitate orderly and harmonious management and distribution of land uses.

Within the Durban Metro, Congella should be no exception as rehabilitation and urban renewal plans had been developed for other adjacent inner-city areas such as the Point, Umngeni, Warwick Triangle, City centre and the Harbour etc.

Therefore, to realise opportunities in the Congella industrial area, more information must be accumulated on the general implications of the recent change in the use of industrial spaces. In this way planners will be able to deal with the consequences of the transformation in the use of industrial space.

1.3 BRIEF HISTORY OF INDUSTRY IN THE CONGELLA AREA

This section will be presented under two sections 'The Early Days', which will give an account on the origins of industry in Congella and then, 'Getting Smaller' which takes us through the turning point while describing the recent industrial trends in the Congella area.

1.3.1 'The Early Days'

The area has a unique significance to the development of industry in Durban. It was identified and zoned for large scale manufacturing for industries associated with the port during the 1920's. Katzen (1961:2) claims that 'as early as mid 1920's the land owned by South African railway and city council was made available (on favorable terms) for industrial development at Congella. For example, Durban City Council, (DCC) land along Gale street and Sydney road in 1927 was allocated to manufacturing industries that were designed to especially solve the problems of bulk storage for the harbor. From this onset Congella established itself very rapidly as a large-scale industrial centre.

Subsequently the area became congested and the problem became accentuated and warranted immediate intervention. In Congella, available industrial space was quick to reach its capacity such that by 1959 McWhiter observed that, 'all available industrial land in the Mydon Wharf and Congella areas has been alienated and there is hardly any room for expansion on existing sites there'. Due to

this situation, land for further large-scale industrial manufacturing expansion gradually disappeared. However, the area continued to command inner city industrial activity.

Katzen (1961) asserted that in no other town in the Union have the industrial activities of the city been so concentrated in one spot. At this stage, all the major industries had their headquarters at Congella.

While the area continued to offer strategic location to manufacturing industries, the focus has shifted towards greater concentration of smaller scale light and mostly service type industries.

1.3.2 'Getting Smaller'

As a consequence of rapid industrial growth in this area, very little space was available for further development in the early 1990's. The available industrial space became saturated during 1970's. McCarthy (1993:20) observed that vacant industrial property is fairly widely distributed in the Durban municipal area, except that it is noteworthy that it is relatively uncommon in the Congella/CBS area.

Instead, smaller light and service industries is increasingly dominating the area, as former large-scale manufacturing operations decentralise further in search of bigger and cheaper premises.

By the late 1990's there has been a unique and noticeable shift or change in the use of industrial space in formally large scale manufacturing older inner-city industrial area of Congella into smaller multi-tenanted operations of light industrial land uses, dominated by service type firms.

The emerging change in the use of industrial space presents some interesting planning implications that have not yet been explained and noticed by previous studies. Highlighting these implications will contribute valuable information necessary to hint likely planning responses.

1.4 'CHANGE' IN THE USE OF CONGELLA'S INDUSTRIAL SPACE

Congella industrial change must be viewed at two levels:

- ◆ As a response to external pressures of restructuring and city expansion at both metropolitan and global scale.
- ◆ As a unique and complex process (in terms of scale and scope of impact) of change in the use of industrial space in the Congella industrial context.

It is imperative to view this shift in Congella's industrial land use not in isolation from the broader processes of change affecting older inner city areas in global cities. This is so because this area does not exist or operate inside vacuum, therefore, it is shaped, (as part of a broader metropolitan and global economy) and affected by both external and internal forces of influence. (eg. Globalisation)

Secondly, the scope of the implications of this change is unique and therefore needs to be analyzed in the context of its peculiar circumstances within the geographic-spatial context of Congella. Why industry behaves uniquely in Congella as opposed to other areas within the Durban Metropolitan Area?

This change is of concern to planning to the extent that it affects inner city industrial land use and therefore presents potential implications for land use planning.

While significant implications are generated by this

industrial land use change, it is recognized that no previous work (studies) has fully explored or studied the phenomenon in Congella. It is a spatial shift that still requires some in-depth research, which has not yet sufficed by far. This study is an attempt to investigate the planning implications of these changes while also highlighting some likely interventions by planners?

The emerging shift in this area provides some interesting planning implications, which have not yet been investigated in terms of its impact to the following:

- Existing land use arrangements
- Traffic
- Parking (space for workers, customers, management etc)
- Access and also loading and off-loading points into the emerging multi-tenanted or subdivision units.
- Industrial employment and socio-economic developments.

Land Use Arrangement

The shift in the use of industrial space affects existing patterns of land use in Congella and it also raises some interesting questions that need to be investigated. There is a noticeable trend towards dominance of services and light industrial land uses in Congella. What are factors that give rise to this trend? What opportunities or implications does this spatial shift generate for land use planners? Which of these implications must planners take notice of and which ones may lead to particular responses?

Traffic related problems

With the shift from large scale manufacturing operation into smaller light and service outlets, traffic densities also shift and more traffic demands are generated.

Due to the fast growing number of smaller industries that are linked to retail activities (ie. Retail service

outlets) traffic volumes are generated as customers make frequent visits into the area. Thus increasing levels of congestion on streets and presenting more pressure on the already contested traffic space (busy arterial roads like Umbilo and Sydney as well as the railway).

Parking

With the changing (growing) vehicular traffic densities, more space for parking will soon be in demand. In Congella, due to limited space some cars are forced to utilise pavements for parking (sometimes-double parking on busy distributor roads), thus resulting in disorderly arrangements of pedestrians and vehicular traffic.

Again the shift from formerly single large industrial units into multi-tenanted development units generates demand for more parking space within the various tenanted subdivision units. In most cases this space does not exist.

Access

Because of the increase in the number of smaller individual units (resulting from subdivided buildings and sub-leased premises) outlets operating on formerly single large-scale unit premises, there is also an elicited demand for more access point to access vehicles in and out of individual subdivisions. How do converted former single large-scale manufacturing units, along busy roads, adjust to the above stated demands for their operations?

How important (for the emerging small firm's survival) is the orientation of access points towards consumer market and suppliers? .

Socio-Economic Impact and industrial employment

The industrial change in Congella also manifest in socio-

economic shifts such as increased human densities, shift from unskilled to semi-skilled employment. The assumption therefore, is that with increasing emphasis on semi-skilled employment, worker's income threshold will generally improve.

With increased people densities (workers and customers often visiting the area) the demand for ancillary land uses such as banking facilities, restaurants, coffee shops and hawker's stands tend to generate. This is no different in Congella.

The changing use of industrial spaces in Congella (ie. Shift from large scale manufacturing into smaller light and service operations) reflects some global impacts such as rationalisation, downsizing and decentralisation.

With rationalization and downsizing industrial operation tend to shrink in the size of its labour demand and become more complex in its skill base requirement. In the process, a sizeable degree of unskilled employment tends to be reduced since firms demand particular skills (trade related) to provide service or produce certain goods.

Because of the small size of the emerging firms and the nature of functioning of service-type industry (i.e. gearbox repairs, spray paintings, security firms, car repairs etc.) only a limited number of workers with the appropriate skill required will be employed and this has implications for socio-economic development.

This process of rationalisation also requires certain industries to specialise and therefore gives an opportunity for workers to diversify their skills since only a limited number of flexible workforces can be employed. One person for example may be required to learn

multiple skills or trades to satisfy the needs of a specialising service industry. In this way skilled labour will increase.

Consequent to the decentralisation of large scale manufacturing away from Congella, employment as well as the economic activity of the area (since Congella's main economic activity formerly derived from its manufacturing base) faces some potential disturbances.

This section has raised a number of interesting questions and assumptions which sums up the problem of research.

1.5 RESEARCH QUESTION AND SUB-QUESTIONS

The precise research question for the study reads:

'What are the planning implications, if any, for the change in the use of industrial space in Congella. Does the scope of this change necessitate a planning response? If so, What form of response?

This study acknowledges the limitations of a single question in understanding a broad and complex issue as the one researched. Therefore the following sub-questions have been developed to substantiate a broader understanding of all the issues at hand:

- What factors give rise to the emerging change in older inner-city industrial areas like Congella?
- What is the nature of this change (scale and scope)?
- Does this change suggest a form of inner city reindustrialization? .
- What are new demands set by the new service type industrial use onto the existing sites?
- What lessons can planners draw from this exploratory study?

1.6 HYPOTHESIS

The emerging industrial change in Congella results in a number of formerly large-scale industries being converted

into multi-tenanted development units serving smaller light and mostly service type industries. This change will have potential traffic, parking, access problems as well as socio-economic changes.

These will include issues such as the subdividing of building units, increasing sub leasing (short term), agglomeration of service firms, shift in the form of industrial employment from less skilled-labour intensive to more complex semi-skilled labour.

1.7 OBJECTIVES OF THE STUDY

This study contributes toward an understanding and knowledge of the nature of industrial changes affecting the Congella inner-city area and their implications for land use planning so that future interventions could be better informed.

It is surprising enough, that very little attention has been given to the source and the planning implications for the changing trends in the use of industrial space at this important strategic industrial location. This study intends to highlight these implications and further point the direction in terms of the subsequent need for reactive and proactive planning intervention.

1.8 LIMITATIONS OF THE STUDY

This study is a partial fulfillment of an academic program that is bound by time limitations. Were it not because of this factor, this exercise would be more than superficial in its detail.

This dissertation is an exploratory study and therefore, it will only describe and highlight the planning implications including the general land use effects for the change in the use of industrial space in Congella,

only to the extent of providing insights to the likely planning interventions. As an exploratory research, it will not be limited in terms of proving the hypothesis.

1.9 Reasons for choice of topic

“If we knew what it was we were doing, it would not be called research, would it?” (Einstein cited in Shy 1995).

The topic has been chosen because it is a relevant theme for planning research and that it has not been explored by any previous research.

Instead many studies covering this particular geographic context tended to focus mainly on such aspects as locational dynamics and decentralization of industries.

1.10 STRUCTURE OF DISSERTATION

This dissertation consists of six chapters. The first chapter introduces the ‘need for the study’ outlining the broad intentions of the author and more specifically what the whole study attempts to do. It briefly introduces our research problem, gives a precise research question and hypothesis so as to draw in the reader’s mind a complete picture of where the dissertation’s intentions lead. This chapter concludes with a chapter outline.

The second chapter outlines the methodological framework that informs this research study. It spells out how various data collection methods (both primary and secondary) are being applied in the study and also states specific goals or objectives for which each method is being applied. This chapter is centrally significant in terms of providing a logical and sequential approach to achieving what the study sets out to do. That is, as an exploratory research: sets out to investigate and describe ‘ what is going on’ (explaining the emerging

spatial shift in industrial space use) so as guide likely planning interventions.

The third chapter provides a conceptual framework within which the research thinking herein will be based. This framework is understood here to comprise both of the theoretical and the conceptual aspects. This chapter is centrally significant to the whole exercise because it attempts to conceptualise and theorise planning implications for the change or shifting trends in the use of industrial space within the Congella industrial area. It explores various theories and concepts are explored.

Chapter Four introduces the case study, the Congella industrial area. It provides a synthesis of the material gathered in the preceding chapter (conceptual framework) and attempts to apply it as the basis for explaining the problem of research (as alluded to in chapter one). More closely, this chapter provides a justification as well as a critical assessment for the choice of Congella industrial area as a suitable case study for this particular research.

Carefully drawing from the interviews done with the industrial tenants within the multi-development units, the property market agencies and industrial managers in the study area, this chapter will introduce the existing trends in industrial space usage within the Congella spatial context. Thus leading to the next chapter.

Chapter Five presents the interpretation of the research survey alluded to in the previous chapters. This chapter forms the cornerstone of this research because it synthesizes the primary information gathered through research surveys and interviews to lay basis for qualitative and empirical claims about the nature of the

problem being researched. It therefore sets the contexts without which the last chapter (conclusion and recommendations) cannot justifiably exist.

The last chapter will summarise the intentions of the Dissertation while carefully concluding and recommending a way forward.

Each chapter is carefully designed and integrated into the proceeding chapter so as to give logical sequence in the flow of argument throughout the entire dissertation statement. This chapter will also include an appendix section and bibliography.

1.11 SUMMARY

This chapter has attempted to introduce the study, its intentions and how those will be achieved. It has summarised the research problem, a precise research question including sub-questions and a precise hypothesis for this entire study. Giving a bird's eye view of the entire exercise, this chapter concludes with the structure of the dissertation in which each chapter is briefly outlined.

The next chapter will describe the *methodological framework* for this study.

CHAPTER TWO:
"METHODOLOGICAL FRAMEWORK"

2.1 INTRODUCTION

The preceding chapter of this dissertation served to integrate the work done in the previous module (research proposal and methodology) which forms the basic foundations of this dissertation exercise. This chapter will now broaden the methodology that has been formulated during that stage of the development of this exercise into a proper methodological framework suitable for pursuing this particular study.

In essence therefore, this section will present the various methods by which data for developing this study will be collected, and also describe the manner and purpose for which each particular set of information acquired will be utilised to further the interest of this study. It will show how the acquired information will be used to achieve the objectives of this dissertation and also indicate where such pieces of relevant information will be accumulated.

There are many ways by which an individual can accumulate information. When searching for information one needs to distinguish between various sets of information. For example there is what can be termed secondary information and what is termed primary information.

2.2 SECONDARY INFORMATION

Secondary information consists of a wide range of readily available volumes of facts, opinions and theories. This is an important set of quantitative/qualitative information that could be retrieved from readily available sources and be processed to accumulate knowledge.

This data can be collected from secondary sources such as books from library, general publications, Newspaper articles, journals, media sources and public authority reports.

Because of time limitation (resulting from the available time given to complete this study), it will be impossible to explore as wide a range of resources as the author would like. Therefore the author has categorised information into various bodies of literature which will help ensure that the literature consulted cover an adequate range of the aspects of data necessary for understanding the problem of research.

These include (and by no means limited to this list) the following primary bodies-:

- ◆ Industrial History (Durban): Precedent
- ◆ Industrial location and decentralisation
- ◆ Land use planning
- ◆ Agglomeration of small firms
- ◆ Service industries
- ◆ Inner-city revitalisation
- ◆ Spatial restructuring
- ◆ Industrial property market

2.3 PRIMARY INFORMATION

The second set of information is primary information. Unlike secondary data, the latter type of data is not readily available but it is produced through a range of mechanisms and techniques that can be followed in the process of data collection.

Primary information is quantitative and qualitative and therefore allows one to develop empirical facts about certain statements or claims made in relation to certain phenomenon. This data can serve as basis to measure variables in a research study such as the one at hand. According to Dixon (1988:52) "a variable is a concept that varies in amount or kind and ...measurable". A research study tries to measure or sometimes describes variables.

This type of data can be accumulated from the use of primary sources such as the use of questionnaires, survey, observation techniques, and interviews.

In order to satisfy the objectives of this study, both sets of data collection (secondary and primary) will be used. As a student the author has access to library institutions and these will be used to retrieve appropriate (ie. useful for understanding and explaining the problem of this research) material from library books, journals and publications. For purposes of primary data collection the author has conducted three sets of surveys plus interviews.

2.3.1 SAMPLING METHODS

There are approximately 300 small light and service industries distributed in the studied area of Congella. The study assumed that because the study area consists of too many industries and also because there is a limited time to accomplish this research study, not all industries will be surveyed. Since the variable being research, can be broken down into categories (i.e sectors), the study adapted a stratified-cluster method of sampling.

A stratified-cluster sample, representative of the different sectors, sizes and types of operations will therefore be drawn to conduct surveys and make generalised statements about the rest. Another reason is to enable the study to make accurate projections, claims and conclusions from its findings.

A stratified cluster sampling begins the process by randomly selecting clearly defined units from the whole and then randomly selecting subjects from these smaller units. For example, clearly distinguishing between large-scale manufacturing and smaller units of light and service industries in Congella. Thereafter categorise between different sectors within an industry type and geographic locations.

This strategy is most helpful in descriptive research when subjects must be interviewed in person. Thus a pollster might randomly select several states, then randomly select certain communities or geographic units within those states, and only then randomly select subjects from these smaller units.

The personal survey identified more than twenty-one multi-unit development premises scattered all over the study area (See multi-unit development map). The survey was then conducted with tenants from these multi-development units. Within a single multi-development unit, subjects for research were selected according to different sectors and not just distributing questionnaires with all subdivisions in a multi-development unit.

Industries were categorised into eight different sectors. Questionnaire distribution covered all the identified sectors. Industrial tenants were stratified by sector. The survey also catered for those tenants that are not located in the multi-unit development premises. Eight basic sectors were identified as: (in the hierarchy of concentration)

- Motor related sector
- Clothing sector
- Print and Chemical sector
- Social Development Service sector
- Food Processing sector
- Engineering and Electrical appliance sector
- Textile sector
- Tertiary Service Enterprise sector (comprising such activities as shoe-makers, dry cleaners, key cutting firms)

The first five sectors were given priority attention because they are more prevalent than the last three. Thirty questionnaires were distributed among the top five sectors, while only ten questionnaires were allocated to the last three.

2.3.2 PERSONAL OBSERVATION SURVEY

The first survey was conducted prior to the submission of the proposal to pursue this study. This was also repeated during the mid-year vacations. It was done during busiest hours of the day (08h30am to 16h30pm).

The survey involved a systematic observation. The methodology involved walking through the study area and occasionally stopping at certain points to observe such things as changing patterns of traffic volumes, disturbances and taking notice of parking inconveniences in busy areas while registering all the names of the property agencies appearing on the **"TO LET"** adverts. The purpose was to get a better understanding of the exact circumstances occurring in the area.

This observation helped the author to acquaint himself with the study area while observing the routine patterns of change resulting from daily activities. (ie. how they occur and in what intensity?). Through this survey, the study could confirm (at a superficial level though), the existing land use types.

From this survey, the study was able to identify different patterns in everyday traffic, areas where parking was in short supply, areas with access problems, various types and sectors of industries distributed and developing in the study area. It also helped the author to identify the relevant property agencies dealing with industrial property in the study Area.

2.3.3 LAND USE SURVEY AND MAPPING

The second land use survey involved two-visits at the Durban city council collecting relevant street layout map, and zoning maps followed by a site visit to identify the existing land uses. This data enabled the study to develop a land use map.

This survey also involved mapping areas with large-scale manufacturing as well as those that are characteristic of the emerging multi-unit development pattern. With the assistance of the Berea Town planning scheme a land use map was also reproduced.

Photos of important views and features were taken to substantiate the visual and graphic illustrations during analysis of research responses.

2.3.4 TENANT QUESTIONNAIRE SURVEY

A self-administered questionnaire survey was conducted with tenants locating in the multi-development units and also those who have relocated or established within the study area. The tenants comprised smaller light and service industries, selected from all the sectors that occur in the studied area.

The survey was done with a total sample of forty tenants, thirty from the top five dominant sectors (motor, clothing, print & Chemical, Social Development Services and Food Processessing) and ten from the less frequent sectors such as Engineering, Textiles and Tertiary Services. A total of forty questionnaires were distributed and filled-in by the

selected forty tenants from both multi-development units and those smaller light industries that are located outside of the emerging multi-development formations.

Industries were stratified by sector. The survey attempted to foster fair distribution in terms of space location, age of firm, type industry and sector.

To ensure spatial/ geographic representation in the survey, questionnaires were distributed evenly across the breath and width of the study area.

This survey also included an attached section that was directed to industrial property agencies dealing with industrial property in the area of Congella.

2.3.5 INDUSTRIAL PROPERTY AGENT QUESTIONNAIRE SURVEY

A self-administered survey was conducted with property agents dealing with industrial property in Congella. In order to get suitable subjects for the survey the study had to establish whether agencies, being selected to participate, were actually directly involved with the Congella industrial property?. Examining the **"TO LET"** adverts in some of the premises advertised in the area helped to identify relevant agencies. This included listing down Agency names and contacts. Thereafter, a tedious follow-up search for their physical addresses was done in order to set appointments for interviews and distribution of questionnaire.

Amongst the agencies who were given questionnaires to fill-in, are:

- JHI Isaacs
- RMS Colliers
- Marriott Properties
- African Properties and Max Prop.

Amongst this five, the top three (in no sequence of hierarchy) completed the questionnaires fully. The latter two failed to complete filling-in questionnaires citing reasons of lack of time and busy schedules. This was inspite of the fact that an appointment was made for this task.

Another important source of primary data for this research was the use of interviews. Different sets of interviews were conducted with the representatives of the property market.

Interviews were also held with representatives from these property agencies; JHI Isaacs, RMS Properties, Marriott Properties including an informal chat with the industrial agent for Marx Prop. With the exception of Max prop, interviews were conducted during the same appointment set to complete questionnaires. This was done using a tape recorder and note pad. The tape was retrieved later for processing of its contents during analysis stage.

Managers from three of the existing large scale manufacturing industries in Congella were interviewed. This followed after the identification of the existing older large scale-scale manufacturers in the area, setting appointments to interview cooperative managers.

This task revealed a lack of cooperation among these busy individuals. Out of nine attempts, only three interviews

were secured. These included managers from:

- Air Control
- Magnetic
- BB Bakeries

The author also consulted with some three key informants who are experts currently involved in industrial research around Durban and the South industrial basin. These included; Mr Roy Wilkonson and his colleague Mr Glen Roberts (Urban Strategy Department); Ms Rich (CSIR) and Prof. Freund (Economic History Department, UND).

These interviews were used to collect more information to help substantiate a broader view of this research's problem.

Some valuable and useful raw information has been accumulated through primary research interviews and surveys.

2. 4 SUMMARY

This chapter has set the methodological context within which relevant and adequate information has been collected in order justify (with valid and acceptance empirical evidence) certain statements and claims made by this dissertation. However, it is important to remind that this particular dissertation is an "exploratory" work and therefore will not be bound to accept or discard hypothesis. The study objective is to describe and explain for purposes of informing likely planning responses to the land use implications of the 'change' in the use of space in the Congella industrial area.

The chapter argued that this dissertation would rely on both the secondary and the primary sources of data collection to

accumulate information. In addition three key informants have been consulted to consolidate their views and develop a broader understanding of this research's problem.

The accumulated data will be processed and an interpretation of the results will be presented in the fourth chapter that deals with response analysis from surveys. It will also lay the empirical basis from which scientific claims about the variable being researched will be made.

The next chapter develops a conceptual framework.

CHAPTER THREE:

"TOWARDS A CONCEPTUAL FRAMEWORK"

3.1 INTRODUCTION

Chapter two has laid the methodological basis for this research. The purpose of this chapter is to provide a conceptual framework within which my research thinking will be based. This framework is understood to consist both of the theoretical and the conceptual aspects. This chapter subdivides into two interconnected parts. It will therefore begin by giving a brief theoretical context, and thereafter provide a detailed conceptual framework so as to develop a sound argument and articulation of events and explanations as one begins to tease the research topic into finer analytical detail.

There are many schools of thought and philosophies from which one can extract explanatory tools (theories, concepts, techniques, etc.). This study seeks to explore the planning implications for the change in the use of industrial space. By implications, from face value, the nature of the challenge here requires that one is capable of positioning oneself (theoretically/conceptually) in relation to the dominant forces of knowledge production.

There are many epistemological ways by which people's behavior and their interactions with space (World around them) can be explained. For example, there is a positivist view founded on the belief in scientific reasoning (knowledge for positivists, is a function of deductive

reasoning based on a set of scientific laws). The realist view by contrast is based on the belief that knowledge is a human construct and therefore a function of critical rationality about the world's reality.

All these views shape the beliefs and perceptions that comprise our knowledge. Knowledge is a complex process that is essential for continuous existence of Man and the world around. With knowledge one is able to theorise and explain the world processes.

The purpose of the research is to develop appropriate conceptual framework for accumulating knowledge about the causes and implications of the emerging spatial shift in the Congella industrial area. Therefore, a neo-classical account will be adapted here as a theoretical basis from which explanations of the emerging change (in the use of industrial space from formally large scale manufacturing into smaller units of light and mostly service type outlets) in Congella, will come.

Scott (1981:109) makes the point that " neoclassical theory provides a set of tools by means of which the economic consequences of planning actions can be predicted" (e.g. Allocation of land among competing uses using market principles). The neo-classical account provides valuable tools by means of which planning implication for the change in the use of industrial space in the Congella area can be described and explained.

Neo-classical theory is not an omnipotent explanatory framework, yet it is an appropriate and valuable source of explanation when dealing with variable circumstances that

are economically founded or spatially so. Such is the change in the use of industrial space (by implication an economic space) which influences and is reciprocally influenced by economic forces.

It is also recognized in this study that the forces that shape the 'change' in Congella are more complex than simple economics. Therefore it is envisaged that deficiencies will exist in applying this theory. In order to cover for those deficiencies the study will flexibly draw from other sources of explanation (i.e. Fordism/Postfordism, Globalisation).

3.2 PART ONE: BRIEF THEORETICAL CONTEXT

NEO-CLASSICAL THEORY

Neo-classical theory is a very broad theory that originated from economics. McCarthy and Smit (1984:26) argue that, "this theory (neo-classical) began as a reaction to the classical economics of Ricardo and Marx. Instead of concerning itself with the circumstances and conditions of production, neo-classics shifted the focus of study on to the preferences, needs and actions of individual consumer".

Neo-classical theories make certain assumptions about the situations or an event that they explain. They then, attempt to formulate models based on deductive reasoning from a set of principles. For example in the case of 'change' in spatial use in Congella, a land use model would first assume existence of certain relationships and underlying principles. These are generalised assumptions, which will allow the resultant model to be duplicated elsewhere.

Healy and Ilbery (1992) list four general assumptions made by the neo-classical models-:

- ◆ There is an identifiable order to the material world. That is, land use should follow a unilinear and identifiable pattern of change over time and space.
- ◆ Industries (people) make rational decisions and react similarly to given stimuli.
- ◆ They assume existence of a free market condition in which individuals participating in this market has complete knowledge and seek to maximise their profit or satisfaction.
- ◆ They also assume that economic activity takes place within a freely competitive manner and on a uniform (isotropic) surface.

The neo-classical approach has been widely used in the 1950's and 1960's to develop theories about land use planning (eg. McLoughlin, Smith etc), explain Location patterns of urban facilities, and to develop Rent Theory.

Most of the neo-classical models of land use tend to over-emphasize the importance of variables such as distance and costs of transport in their quest for explanation. See (Von Thunen: 1826; Christaller: 1933; Webber 1929; 1966; Burgess: 1923; Daniel: 1986 etc). The neo-classical models are descriptive in nature and therefore appropriate to conceptualise this particular study. This being that this is only an exploratory exercise and therefore will only attempt to highlight (describe) and explain the process of industrial change in Congella for purposes of informing likely planning responses.

There has been much criticism leveled against neo-classical theorists for being too descriptive and less explanatory. This study will however, attempt to detail its explanation

by borrowing from other tools of explanation when necessary. The neo-Marxist critique of this theory centres on the neo-classical assumption of an existence of a condition of perfect markets in which forces of competition are balanced. (See Smith: 1977; McCarthy & Smit: 1984; Harvey: 1989; including Harrison: 1997 etc). These theorists argue that this view is idealist and utopia because, they believe that markets are inherently flawed with imperfections. Therefore, the application of this theory on, for example, effects of industrial change on land use planning must not take the existing economic circumstances as given.

THE GLOBAL INFLUENCE: *FLEXIBLE PRODUCTION REGIME*

South Africa, Durban and Congella in particular are part of an increasingly technologically sophisticated and knowledge-intensive world. The sophistication of the communications network has rapidly spread the effect of globalisation and virtually undermined the physical distance factor between a city in Europe and a village in South Africa. As part of an increasingly globalising South Africa, it is important to also conceptualise the emerging industrial change in Congella within the global and flexible production trends affecting the area.

Two important trends are noticeable;

- Trend towards smaller production units and increased demand for smaller premises.
- Increasing sophistication in industrial and labour production.

Flexible production is a facet of post-Fordism. By post-Fordism this study refers to a particular regime of

accumulation which began after the decline of the popular fordist regime, around early 1970's.

Fordism refers a regime of mass production that was associated with rapid industrialisation in the developed world. It was typified by such activities as large-scale manufacturing and mass production. To achieve mass production, industries were designed to have wide horizontal (spacious) buildings to accommodate the working machinery. In addition flexible production techniques were used in order to produce high volumes with lesser time.

When the logic of Fordism began to crumble in the late 1960's industries began to search for alternative paths of development. Industrialisation was in crisis. It was during this period that the era of mass production faced some serious setbacks. According to Scott (1988), cited in Todes, (1993:24) the Fordist regime of accumulation that was dominant in developed countries after the Second World War has been in crisis since the late 1960's.

During the early 1970's a new and flexible regime of accumulation began to emerge. It is argued by Todes (1993) that, "flexible accumulation involves the use of technology and production system which can be adapted to specialised market demand, and to a range of tasks".

Unlike the Fordist regime, flexible production featured new ways of dealing with the crisis. Remarkably, the size of production spaces gradually reduced. Flexible methods of production were employed. This era manifested in the rise of specialised small firm development and subcontracting arrangements.

Instead of speculative mass production, industries began to produce for target markets.

This change in the organisation of industrial production also manifested in the shift from high labour intensive to emphasis on semi skilled and skilled labour force able to perform in the increasingly computerised world.

The emergence of flexible production regime had wide implications for the development of urban space including land use planning. Scott (1988) identified four main areas that reflected impact from flexible accumulation.

- ◆ Flexible and design-intensive craft industries [furniture, ceramics, and wearing apparel] have developed rapidly in inner cities of major metropolitan areas.
- ◆ Development of high technology industry in new industrial areas, close to major cities.
- ◆ Expansion of the service sector in the 1980's, has reinforced suburban location. At broader international scale, this is seen to reinforce the development of major international centres (World cities) such London, Tokyo, New York etc.
- ◆ Flexible production systems are being introduced into manufacturing. Thus, leading to the development of new forms of production space and to the decline of older centres associated with traditional forms of mass production.

Flexible production regime is also associated with the gains of clustering and external economies. Clustering of industrial activities results in advantages of collective efficiency. Schmitz (1992:72) defines 'collective

efficiency' as "competitive advantages derived from local external economies and from joint action".

This notion of external economies was introduced by Marshall to present advantages arising from the concentration of many small businesses of similar character in particular localities. Goodman (1989) citing Marshall (920-921) argues that external economies are the unintended consequences of a particular action. External economies also imply that the actions of one agent can unexpectedly influence other agents within their localities, and vice versa.

While this discussion recognises the impact of globalisation, it also acknowledges the fact that the scale at which changes occur in the Congella industry need to be taken into consideration.

3.3 PART TWO: CONCEPTUAL FRAMEWORK

This section will attempt to identify appropriate concepts that will enhance the conceptual understanding and narrower analysis of the research problem. The concepts that have been identified in this framework are by no means, the only ones available to simplify the course of understanding the problem at hand. However, adequate (in terms of the scope and time available to accomplish this exercise) list of key concepts has been chosen for the purposes of this framework. These include bid rent curves, location concept, land use distribution concept, and Property Markets concept.

3.3.1 BID RENT CURVE CONCEPT

The bid rent curve provides an important descriptive measure which can be used understand the economic logic of

industrial mobility within central areas. Using rent as a decision-making determinant, it explains why certain types of industries decentralise and why others maintain their constant relationship to the city centre (CBD) for their survival.

This concept will be applied here in relation to the significance of central industrial location, versus operational costs within central urban areas.

Alonso introduced bid rent curve in his text (1964) "Location and Land Use". It originates from the debates that were formally inspired by Christaller's 'Central Place Theory'.

Like many other neo-classical tools of explanation, this concept makes certain assumptions that -:

- The metropolitan area consists of a single core.
- Major city activities are concentrated in the core
- The firm (including small manufacturing) strives for central area spaces so that sales volumes and total revenue increase as one locates closer to the core.
- Land prices (rent per square metre) increase with distance towards the core and conversely, as the firm revenue output declines as sales fall off; operation costs (rent) declines.

Although central location provides better access to clients and market, firm must strive to strike a balance between higher rent and accessibility as well market potential.

The following graph illustrates and summarises the bid rent curve concept.

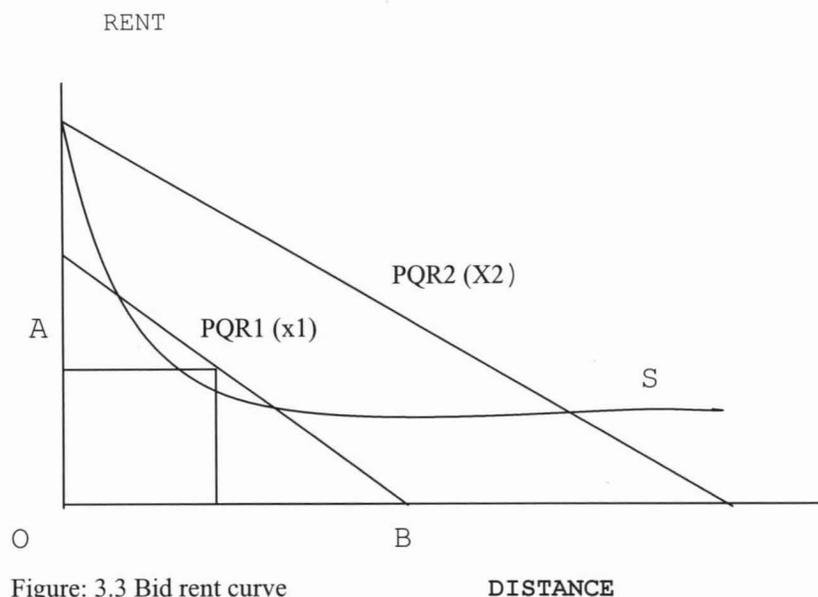


Figure: 3.3 Bid rent curve

DISTANCE

"Bid Rent Curves" PQR1 and PQR2 represent profit rent at X1 and X2, respectively. Since profits are higher the lower the rent (price of land) $X1 > X2$.

Most firms tend to prefer PQR1, because it is associated with higher levels of profit and greater access to market.

Curve S represents the structure of land prices and resultant rent levels facing the firm.

The downward sloping of the curve (tangent) indicates that land prices and rent structure will decrease with distance away from the centre or core. Which means that as one firm moves further away from the centre (transitional zone, for example) the costs of operation declines with distance.

Therefore OB distance from the centre represents an area in which a firm (including small manufacturers) could trade-off centrality but could still be able to make a profit.

According to this model, therefore, site rents distribute economic activities spatially according to the need for accessibility coupled with cost minimization in terms of rent or cost of operation. Hence older buildings in the transitional zone attract most of the smaller first time industrial establishments as opposed to expensive modern structures in the CBD.

3.3.2 INDUSTRIAL LOCATION CONCEPT

The account will attempt to give a Durban specific and an international account on the development and theorising of this concept. Maasdorp and Pillay (1997:36) argue that, "because of the dynamics of urban change the optimal location of a firm may change over time."

It is therefore important to have a brief look of this concept of industrial location in order to set the context within which trends in industrial location change could be understood. Location of industries involves complex processes.

Industries locate and relocate in pursuit of a wide range of objectives that have both economic and political as well as planning implications. There are several models that have been developed to explain and describe how processes of industrial location unfold over geographic space. (Rostow's stages of growth model, Friedmann: 1966, Young: 1974).

To a large degree, the explanations for the location and relocation of industries within urban context tend to be economic.

For example, industries make decisions to locate or relocate due to, among others, the following reasons:

- ◆ Expansion of the industry, therefore a subsequent need for more space in areas away from the city centres.
- ◆ In search of more accessible locations to sources of labour (but within centrally located residential areas) and raw material supply.
- ◆ Due to increasing land prices in central area, nearer to the city centre and availability of cheaper rental spaces in older inner city and suburban locations.
- ◆ A planned relocation program. (decentralisation)
- ◆ Looking for better access to consumer market (in the case of small scale service industries selling low order goods that are often required on regular basis by consumer.)
- ◆ Due to locational advantages (i.e. Agglomeration, cheaper rents, accessibility etc.)

There are varying interpretations of the causes of industrial location. These vary according to particular geographic, time and economic contexts. While some models of industrial location focus on transport as the sole determinant and barometer of location patterns, there are those that emphasise the economic and spatial attributes (i.e. Rent and accessibility factors).

Young (1974) attempted to explain the trends in industrial location, with particular reference to suburban location. He developed a model of intra-metropolitan location for the expanding firm with two alternative behavior patterns.

- ◆ To either extend its existing premises.
- ◆ To relocate to more spacious suburban area and therefore jeopardise the existing locational advantages (accessibility).

3.3.2.1 Young's Model

Young, make some general assumption for this model. For example, that, industries undergo an uni-linear development path through four stages of growth. These included infant, early youth, late youth and early maturity.

Infant stage

He argues that an industry at this stage has recently been started and beginning to show profits usually rents a 100m² or so of the upper floor accommodation in the fringe or fringe areas of the CBD. The characteristics of this stage of development are summarised as follows:

- ◆ Delicate...struggling to survive as an establishment.
- ◆ Maximisation of profit and minimization of cost of rent.
- ◆ Central location for access to market and advertisement.
- ◆ Few workers and machines

Most of the new light and service industrial outlets (Family owned clothing firm, shoemaker and key repairs, etc) established in the former large-scale manufacturing locations (premises) in the Congella area will suit the above criteria.

Early Youth

- ◆ Slight relief in terms of steady profit and quest for more space
- ◆ Firm expansion in terms of more machines and more workers to increase production.

It is at this stage that the decision to relocate begins to emerge whereby CBD establishment will slightly move into the fringes (inner city) to occupy spaces that have been left by recently relocated/ decentralised large establishment.

Late Youth

- ◆ The firm finally establishes itself in the industry and its products are well recognised by the market.
- ◆ Less dependence on locally oriented markets.
- ◆ The in-coming firm is in the stage to even own its rented building.

Early Maturity

- ◆ Consolidation of asserts (Building expansion or renovation, management decentralisation, work forces expansion).
- ◆ Diversification of production lines.

At this stage, the firm has grown to the level where the location constraints are no longer a problem. The establishment can now relocate anywhere and still prosper.

This is a useful model in that it provides a framework within which trends in industrial location and factors shaping location decision could be described at a general level. It covers significant concerns about the location of industrial establishments.

It can be used to explain location of industry in Durban with some modifications to suite local context. What are the factors that need to be considered? Why are certain locations preferred to others?

However, the time and geographic context of this study requires a more sophisticated model of explanation which will also be able to account for those firms that do not relocate or expand but rather begin as new establishments and remain small scale operators. Scott (1982) reject Young's model on the basis arguing that there is no valid reasons why some smaller firms remain small and successful. It fails in terms of exposing the weakness of previous tools of explanation that were based on idealist assumptions.

This model is also relevant in the study in terms of its account for the particular location demands set by emerging establishments at various levels in its developments age.

Young's model is a useful conceptual tool that can be used to understand the causes and decisions underpinning location and relocation dynamics of industries within cities.

3.3.3 LAND USE DISTRIBUTION

This concept has been widely used in urban studies, especially by Geographers, Planners and Economists (eg. Von Thunen:1826, Burgess:1925, Christaller:1933, Hoyt:1939, Harris and Ullman:1945, McLoughlin:1956, Webber:1966, Young:1974, McCarthy and Smit:1981 and 1984).

During the 1920's, Burgess developed a land-use model in order to describe city structure. Since its inception, Burgess model has been widely applied in land use planning.

As a result of this model, three concepts, the concentric zone concept, the sector concept and the multi-nuclei concept were introduced into the multiple-nuclei theory.

3.3.3.1 Concentric zone concept

Burgess (1925)'s concentric zone concept makes certain assumptions about the city. For example, that:

- ◆ The city consists of a series of concentric zones (i.e. CBD, Zone of transition, Zone of workmen's homes, Zone of better residences and the commuter zone).
- ◆ Land uses distribute spatially according to their need for centrality and type of function [i.e. need for accessibility to the market especially by smaller industries (service and retail) and sources of supply (raw materials and labour for large manufactures), agglomeration economies (service and large manufacturing plants) centrality].

McCarthy and Smit (1984:18) argue that, "this concept provides valuable insights in terms of understanding the processes that influence changes in the distribution of land uses over space".

However, models based on it tend to be too simplistic and they also depoliticise the land use issue. It is important when explaining and describing "land use" changes to apply holistic models that are sensitive to the political, economic as well as social dimensions.

This is so because Planning is concerned with all the above-mentioned aspects and therefore any investigation into the planning implications (resulting from the change in the use of industrial space in Congella) will suffice only if it is aware of the impact of these aspects on the resultant processes.

Burgess model was proposed before the rise in car mobility, and therefore, it fails to predict the influence of car mobility on industrial land use patterns. Hence unable to provide solutions to induced traffic congestion.

3.3.3.2 Sector Concept

It is based on Hoyt's (1939) sector theory that was itself, a modified version of Burgess model. This model simply modified the concentric zone model to accommodate the transport factor. Hoyt assumed that city growth would take place along transport axis outwards. So, land uses would similarly follow on the trend. For example, land uses were assumed to locate according to Christaller's principle of bid-rent. The more the distance increases out of the city the lesser the prices of land.

Large-scale industrial uses which are associated with problems of pollution and congestion and also relatively less reliant on CBD accessibility would be better off in the fringes than smaller light industries that require close links with the CBD for their survival.

In terms of this model, transport mobility and improved transport infrastructure results in permeability of metropolitan areas and allows movement of industries.

Instead of locating an establishment in more expensive premises nearer to the city centre, a public transport and goods transportation system could be improved to allow operation relocation into cheaper suburban and urban fringe.

The model also argues that to reduce costs of transport (for workers) decentralising large plants will benefit from locating closer to sources of raw material and labour.

The sector model is a useful tool to describe and explain how land uses respond to market demands and how cities expand over time.

However, it does not say much except for one thing, adding a transport dimension into Burgess concentric zone model.

3.3.3.3 Multiple Nuclei concept

This concept originated in the writings of the early 1930's and further developed into a theory by Geographers (Harris and Ullman:1945; Burgess:1967; Hartshort:1980).

The model assumes that there is a series of nuclei in the patterning of land uses as opposed to a single central core postulated by Burgess and Hoyt. Scott (1981:96) citing Harris and Ullman (1945) argues that," the rise of separate nuclei and differentiated districts within the city reflects a combination of four factors-:

- ◆ Certain activities require specialised facilities and locations;
- ◆ Similar forms of activities group together;
- ◆ Certain activities are detrimental to each other; and
- ◆ Certain activities cannot afford high rents.

According to this model, the behaviour and functioning of certain industrial activities produce varying spatial patterns. For example, the agglomeration of activities results from the tendency by similar activities to locate in

close proximity to other similar industrial activities as themselves. It is therefore a useful model for describing land use distribution and resultant patterns.

The city structure concepts provide useful information for understanding land use distribution within older inner city areas like Congella.

3.3.4 DENSITY, PARKING, ACCESS CONTROLS AND ZONING PLANS

These controls are designed such to prioritise public interest over individual needs. Public safety, health conditions, environmental concerns, and public welfare are protected by imposing land use controls such as density, parking and access control measures such that they override certain individual property rights where the development is deemed to pose danger to the environment, community or its adjacent neighborhood.

A set of (often) specified development controls in industrial areas include (the list is only limited to those needed for this discussions. There are many other applicable development controls not spacificied here) the following:

- Density
- Parking
- Access and Loading off-loading

Density

Density is regulated so as to control intensity, prevent congestion and overcrowding of people or traffic movement. Well-managed human densities may be a plus factor for developing thresholds. Different types of land uses vary in terms of densities they generate therefore, it is important to control the production of densities.

Parking

The Town Planning Scheme makes provisions for the creation of safer and adequate parking facilities. It encourages creation of on-site parking bays, construction of parkade where necessary and the demarcation of street parking (public parking) areas as well as areas where such activities are condemned. The provisions of permission to create parking facilities vary in different land use areas. (See appendix for detail). This is also due to the fact that the need for parking also varies in different land use areas. For example, parking requirements for a residential land use area different sizes and quantities of space that must be set aside for parking as opposed to commercial land uses such as industrial areas.

In an industrial area for example, high traffic densities may result in increased pressure on the available land for parking purposes that may necessitate additional regulatory specifications.

Access Points

Access controls are imposed to improve the user-friendliness of a development area or industrial premises. The planning scheme makes provisions to promote safe and user-friendly traffic activities inside and off the premises. It is important to control the access by vehicular transport into and off the industrial site.

Large-scale manufacturing sites are normally designed with two access points, one entrance and exit. This allows

delivery vehicles as well as off-loading and loading transport to operate smoothly inside industrial premises. Sometimes these premises are developed with an extra access for rail transport.

Where an application for rezoning former large-scale site (e.g. into smaller subdivisions) has been approved, the rezoning plan may advise the creation of new access points if for example, the additional access points are required as a result of subdivided industrial premises or buildings.

Zoning Plans

Zoning plans are developed to control and regulate the development of land uses. These plans specify the uses to which certain parcels of land, in an urban area, may be put to. Broad categories of often-specified uses include Residential, Commercial, Industrial, Educational, Government institutions and others.

A zoning plan may prescribe the various land uses permissible in certain prescribed areas. This plan consists of categories of zones represented on a map by a system of colour codes showing prescribed use zones.

Broad categories include open space, recreational, industrial, residential, shopping and others. Industrial zones such as Congella for example, are normally represented by a purple colour code. A zoning map tells which uses are compatible and which ones need to be separated.

While zoning controls serve important planning requirements, there has been some criticisms leveled against this development management device. Some critics argued that the zoning plan, by fostering separation of incompatible land

uses, has made itself an obstacle to spontaneous development.

This critique argues that cities need to celebrate diversity and that mix-land uses make a sound economic and social sense. (See Jane Jacobs:1962)

3.3.5 INDUSTRIAL PROPERTY MARKETS CONCEPT

This concept refers to a particular market that deals with exchanges between those who sell and those that buy or lease industrial properties in urban areas. Industrial property market's stakeholders include:

- ◆ Property companies (i.e. Insurance agents, brokers, real estates agents' etc.)
- ◆ Practitioners (i.e. Owners of property units or premises, buildings, business operation).

There is a close market exchange relationship between practitioners and property companies. The relationship between these companies and institutions is not just a factor of production, but rather an investment medium. It is investments in the sense that it could elicit investment income from selling rent or lease contracts to property markets.

The rent factor is one of the central influences of the trends in the industrial property market. During the late 1980's industrial property rents grew up rapidly, not only to large-scale industries that required large tracts of land for their operation but also to the smaller ones.

This trend has shifted in the late 1990's because it is reported that this is a period of stagnation in property investments from rentals and leases throughout the country. According the Rode's Report on the South African Property Market (vol 11;No:2, 1998), " in line with the slowdown in manufacturing production and general economic activity, industrial rental growth also deteriorated sharply during the first quarter of 1998 compared the last quarter of 1997. Countrywide, industrial rentals fail to report any real growth".

Industrial property developers have also played a significant role in urban regeneration, especially in the older inner city areas. Approaches to inner city regeneration vary in many respects. One of the common approaches is the property-based approach that emphasises the rehabilitation of the derelict building fabric to stimulate the image of the area and attract outside investors.

Robinson and Shaw (1997:178) confirm that property based approaches undoubtedly do have an important part to play in regeneration.

However, some critics of this approach have argued that regeneration programs need to be concerned with more than just regenerating the property fabric but also be diverse enough to incorporate aspects of environment and social development so as to create efficient and rejuvenated (transitional) inner city areas. Shaw (1997) further argues that, "regeneration problems go far beyond, and are much deeper than, just outworn or derelict buildings. Property-based regeneration just isn't enough".

Oxford (1994:24) believes that in industrial property dealings, location is also important, an industrial property located next to a motorway junction or intersection is always likely to be in demand.

In his study 'vacant industrial premises (VIP) and the local industrial property arena', Ball (1994:152) makes the following conclusions:

- ◆ Vacant industrial premises are the least researched aspects of industrial property in the old industrial areas.
- ◆ These spaces are often assumed by the start-up new industries/small business avoiding initial capital costs for owner-occupier or rent.
- ◆ Successful refurbishment and re-use of vacant industrial buildings is more likely to occur in some localities than in others. Therefore is important to focus on local micro scale when assessing the VIP issue.

Understanding the concept of industrial property markets provides useful information within which the emerging trend towards dominance of vacant large industrial premises in the older inner city (transitional) areas can be explained.

3.4 CONCLUSION

Chapter three has positioned the study within the existing a theories and broader concepts. It has attempted to provide a detailed conceptual framework that will inform the basis of analysis for this particular research.

It has done so by dividing this chapter into two parts, "brief theoretical context and the conceptual framework respectively".

The study is eclectic in its theoretical positioning because, the author believes that a single theory cannot suffice (as a theoretical basis) to explain and describe adequately all the processes and factors that shape the "change" in the use of industrial space in the inner-city area of Congella. While the neoclassical account has been adapted as a theoretical basis for understanding this particular research's problem, deficiencies are envisaged. Hence flexibly borrowing from other sources of explanation.

The next chapter will introduce the Case Study.

CHAPTER FOUR

Introducing the case study: Congella Industrial Area'

4.1 INTRODUCTION

The previous chapters (1,2 & 3) served to lay the basis in terms of introducing the study, setting it within appropriate methodological and conceptual framework. This chapter will present the case study "Congella Industrial Area". This chapter will begin by locating the study area within a metropolitan context. It will provide a brief history of industrial development in this area, tracing its origins and influential trends.

4.2 CONGELLA IN THE METROPOLITAN CONTEXT

Congella lies in the transitional zone (See McCarthy and Smit:1984, citing Burgess' land use model), just under two kilometers from the CBD of Durban (See the locality map). It is situated on the southern edges of the city. Maydon Wharf surrounds it on the east, Umbilo and Glenwood areas on the west and Mobeni on the south.

The area plays a significant role in enhancing the transportation corridor linking the Southern Industrial Basin with the city centre.

Congella industrial area has a good transportation network ranging from railway lines, major arterial roads (ie. Sydney and Umbilo roads and Gale street and others) and access roads and quick easy access to both the Southern Freeway and the Western Freeway.

These linkages have been reinforced by the re-routing of the Sydney and Umbilo roads to facilitate the smooth flow of traffic into and out of the city. Congella has played an important catalyst role in the development of industry in the entire metropolitan area. It continues to offer a viable location to significant industrial activities, not only to Durban, but also to the country.

4.3 DEFINITION OF THE STUDY BOUNDARIES

The exact study boundaries comprise of the area between Francois road (South) and Moore road (towards CBD) as well as Umbilo road (East) down to the Southern railway line (West).

4.4 HISTORY OF INDUSTRY IN CONGELLA

Congella is an older inner city industrial area. Two stakeholders, the South African Railway and the Durban City Council originally owned most of what comprise industrial land in Congella, today. During the beginning of the 20th century, most of this land remained undeveloped.

1990's-1920's

During this stage Durban was still a small city of about 3643,72ha and a population size of 76000. It had hardly

developed manufacturing industry except for localised exceptions along Point road, near the harbour and the Brickhill-Ordinance roads. The Durban City Council undertook a reclamation scheme in order to facilitate a speedy growth of manufacturing industry and most importantly to provide a bulk storage facility for the harbour (see Valodia 1998).

It appeared that land in the central city areas was not adequately available for industrial development.

Late 1920's to Mid-1940s

The authorities began to release land for further industrial development in areas closer to city centre. The harbour played a catalyst role in manufacturing development. Congella was identified and subsequently zoned for the development of industry as early as 1927. According to Katzen(1961:2) land owned by South African Railway and City Council was made available (on favourable terms) for industrial development at Congella, for example, Durban City Council (DCC) land along Gale street and Sydney road in 1927 was allocated to manufacturing industries that were designed to especially solve the problems of storage for the harbour.

The existence of transportation infrastructure such as railway linkage between industries and in-land market played a central role in speeding up the process of growth. Consequently, most of the large-scale older manufacturing plants are located along the railway line.

Post World War II

Congella grew rapidly as a large-scale industrial centre. Consequently the area became congested and the problem became accentuated and warranted immediate intervention. Due to increasing pressure from competing land uses in the inner city locations such as Congella, valuable and limited industrial land was quick to reach its capacity.

By 1959, McWhither observed that all available industrial land in the Maydon Wharf and Congella areas had been alienated and there was hardly any room for expansion on existing sites there.

According to Katzen (1961), manufacturing land use recorded a total increase of about 27,5% between 1949 and December 1954. One reason for this increase in the development of manufacturing industries was the fact this sector had traditionally (even today) served as the core of Durban's economic development. The South Durban SEA study (1998) by CSIR confirms that Durban is more dependent on manufacturing than any other major South African city, with manufacturing contributing 30% of its GGP.

The above situation (together with other factors not mentioned) resulted in a complex process of spatial change occurring. Subsequent to rapid development had been the concentration of industrial activity in Congella. Katzen(1961) argued that, "in no other town in the Union have the industrial activities of the city been so concentrated in one spot". He adds that all the major industries had their headquarters at Congella.

Congella industrial activity has been affected by global changes in times, technology and spatial development processes. Morris (1998) identifies three major globalisation influences that had affected industry in Durban as; (including industrial activity in Congella)

- The **globalisation of consumer tastes**, reflected in more rapidly changing patterns of consumer demand, and a demand for more varied products.
- The **globalisation of trade**, reflected in global policy (eg GATT).
- **Globalisation of competition.**

Congella industrial activity has been influenced and shaped by changes in technology, time and space. As part of a broader industrial system (Durban), the Congella area is also indirectly influenced by external influences affecting the city's industry at large.

4.4.1 TRENDS INFLUENCING INDUSTRY IN CONGELLA

In particular, Congella has been affected by decentralisation and general shifting trend in the organisation of production spaces. (The focus here will emphasise the post world war II trends.)

Despite setbacks manifesting from limited industrial land for further development, manufacturing remained the core of Congella's industrial growth. During the 1950's manufacturing industries continued to grow in other unrestricted areas further down the Southern Industrial basin.

The following table illustrates,

Land in use for manufacturing in recognised industrial areas, and in scattered areas around the city of Durban between December 1949 and December 1954.

AREA	DECEMBER 1949	DECEMBER 1954
Maydon Wharf	191,1	197,8
Congella	134,9	134,9
Mobeni	47,1	127,8
TOTAL	692,5	850,1

Source: Katzen (1961)

Table: 4.4.1a

According to the above table, manufacturing land use continued to grow in other areas with more available space. Congella began to face rising demand for industrial space as a result of the shortage of land supply for further industrial development. Morris et al (1998) citing McCarthy (1993) argue that a shortage of industrial land in the immediate vicinity of Durban resulted in a noticeable decentralisation, or suburbanisation of industry by the 1960's.

According to Valodia (1998:6) the period 1966 to 1972 saw industrial economy of Durban growing at a phenomenal rate. However, Addleson et al (1989) points out that, "in other areas of South Africa's metropolises the mid-1960's were characterised by market induced decentralisation resulting in lower levels of metropolitan industrial growth, the trend in Durban differed".

The 1970's saw an overall decline in Durban's industrial sector, in response to international and national

recession. Addleson (1989) confirms that the industrial sector of Durban declined in the 1972 to 1979 period when national growth in output was very similar to that of Durban. During the same period traditional manufacturing sectors like clothing, textile and Food, reported low levels of output. Some of these activities were located in the older inner city areas like Congella.

The rent rates for manufacturing land also went up. By 1980's Congella industrial scene was characterised by fluctuations in property costs and escalation in rent rates. Brian Cole from RMS (one of the leading property agencies) argues that, "on smaller units we're hearing number we've never heard before. Space of 500m² or less has risen from R6,50/m² about six month ago to R7,50/m² and R8/m² or R9/m² in extreme cases".

By late 1980's, land for further industrial (manufacturing) purposes had virtually disappeared in Congella. Van Heerden (1989) [an agent from Durban Estate], remarks that, "we have little or no industrial land left in the city. The remainder of the old abattoir site, just over 3ha located in the junction of Williams and Sydney roads, will be marketed shortly. But the council might restrict the use of site, it may not be available for industry".

Due to scarcity of more land for industrial development, especially large manufacturing plants in Congella, the area underwent a period of relative decline. While in some other similar and adjacent inner-city areas like Warwick Triangle and Point-Harbour Development Area there were visible deliberations by urban authorities, to pursue urban renewal

projects, very little (if anything at all) occurred in Congella. Instead, speculations by smaller manufacturing and service firms (mostly first time, struggling to survive-type establishments) have increased dramatically in the last few years.

The late eighties and early 1990's had been characterised by massive changes not only in industrial technology but also in the manner in which industries functioned and organise on space. The recent changes (Congella industry in particular) that are mainly in response to global influence involve remarkable reduction in the size and nature of function of industrial activity. The Congella industry also reflects some visible shift towards dominance of service sector.

4.4.2 CHANGE TOWARDS SMALLER UNITS "A new industrial ethos"

The late 1980's saw a growing trend towards the dominance of smaller industrial units in areas closer to city. During the early 1990's, Bloch (1993:7) observed that the development and use of industrial space broadly shifts towards... "high degree, owner occupied, to a greater use of suburban industrial space, with greater involvement by the real estate or property industrial developers and investors in actually providing space for sale or lease".

By mid-1990's there were visible indications of the movement of large manufacturing industries away from Congella, further down the South Coast (Mobeni and Jacobs) and other new industrial locations like Phoenix, Pinetown areas.

In 1991 about 63% of Durban's economic net output originated from light industry while it also accounted for almost 68% of total manufacturing employment (See CSS; 1991), as cited in Netshitomboni (July 1998). This trend was also observed in Europe. Cullen (1998:3) reports that, in Europe also, "one third of all employees are found in firms with 9 or fewer staff and a further third in firms of between 10 and 249 employees".

Associated with these emerging industrial trends is a post-fordist feature of multi-unit development on single sites. In his study covering an area adjacent to Congella, Boettiger (1994) claims that one particular type of built form that can be argued as being associated with post-Fordist production system has manifested itself in recent trends in the industrial property markets, is that of multi-unit development on single sites.

The change towards smaller industrial units is gradually emerging as a popular phenomenon, not just restricted to Durban but rather becoming more popular in other areas as well. In Johannesburg for example, the Financial Mail, March 31, (1995:86--90) reports that, RMS Syfrets Industrial divisions Peter Partfitt sees major opportunity for the conversion of larger industrial buildings into smaller units.

There is also a noticeable spatial change in Congella whereby smaller light and mostly service industries, organise and convert formerly single large manufacturing premises into multi-unit developments.

Some of these premises are vacant buildings that are left by former large manufacturers that have just moved away.

4.4.3 DECENTRALISATION OF LARGE-SCALE MANUFACTURING

There is consensus (both personal observation survey and property agent survey) that large-scale industries (mostly manufacturing) are decentralising out of the Congella area into other emerging industrial parks around the Durban Metropolitan scale (ie. Phoenix, Jacobs-Mobeni, Pinetown and Springfield etc).

According to Mr Lance Mindry of RMS Colliers, "the trend is to locate some business further to the north and west of Durban. The clothing and electronic industries that were traditionally located in the area (Congella) moved to these areas. Both sectors have experienced tough trading conditions in Congella for the past five years, hence the emergence of vacancies". (Response to D of property agent survey: See appendix).

Interviews with Marriott Properties (Mr. Craig Coetzee) and JHI Properties industrial property consultant Mr. Brian Wood, maintained that major industries are gradually moving out of the area and this perpetrates structural decline of major industry. Figure 4.4.3 below, together with the abandoned former Shell site as well as the "to let adverts" provide a bird's eye view into the deeper process of decentralisation.

Picture showing vacant premises that have been left by a recently decentralised large-scale industry in Umbilo Road.



Figure: 4.4.3

In addition, tenants of William's Road example (B) of a Multi-Purpose development unit, indicated that before the area was subdivided into smaller units, it used to be occupied by a single major footwear manufacturing (PANAMA SHOES), which decentralised in 1993. Decentralisation in Congella tended to concentrate within manufacturing.

4.4.3.1 EXISTING LARGE SCALE MANUFACTURING PREMISES

While the discussion of this chapter may seem to highlight the fact that smaller light and service industries are growing at a rapid pace within the study area, there is still a significant portion land that is claimed by large-

scale manufacturing. Congella is characterised by the diversity of industrial activities.

The existence of large scale manufacturing in Congella necessitated infrastructure development to support industrial needs. To operate effectively, large-scale industries require certain inputs from the environment in which they locate.

The existing large-scale manufacturing in Congella, exhibit some tendency to locate along the railway line.

This is due to the fact that, primary large-scale manufacturing essentially requires good transport linkages in order to transport and access bulk raw material as well as link with market.

(See figure 4.4.3.1, below)

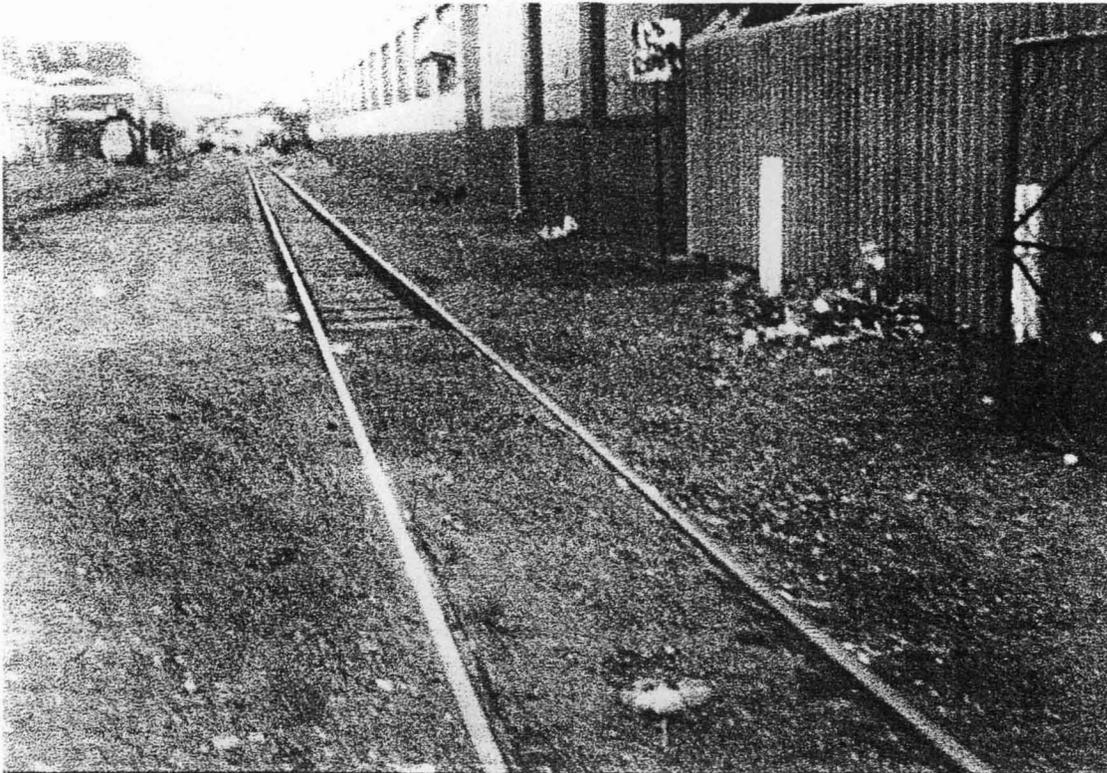


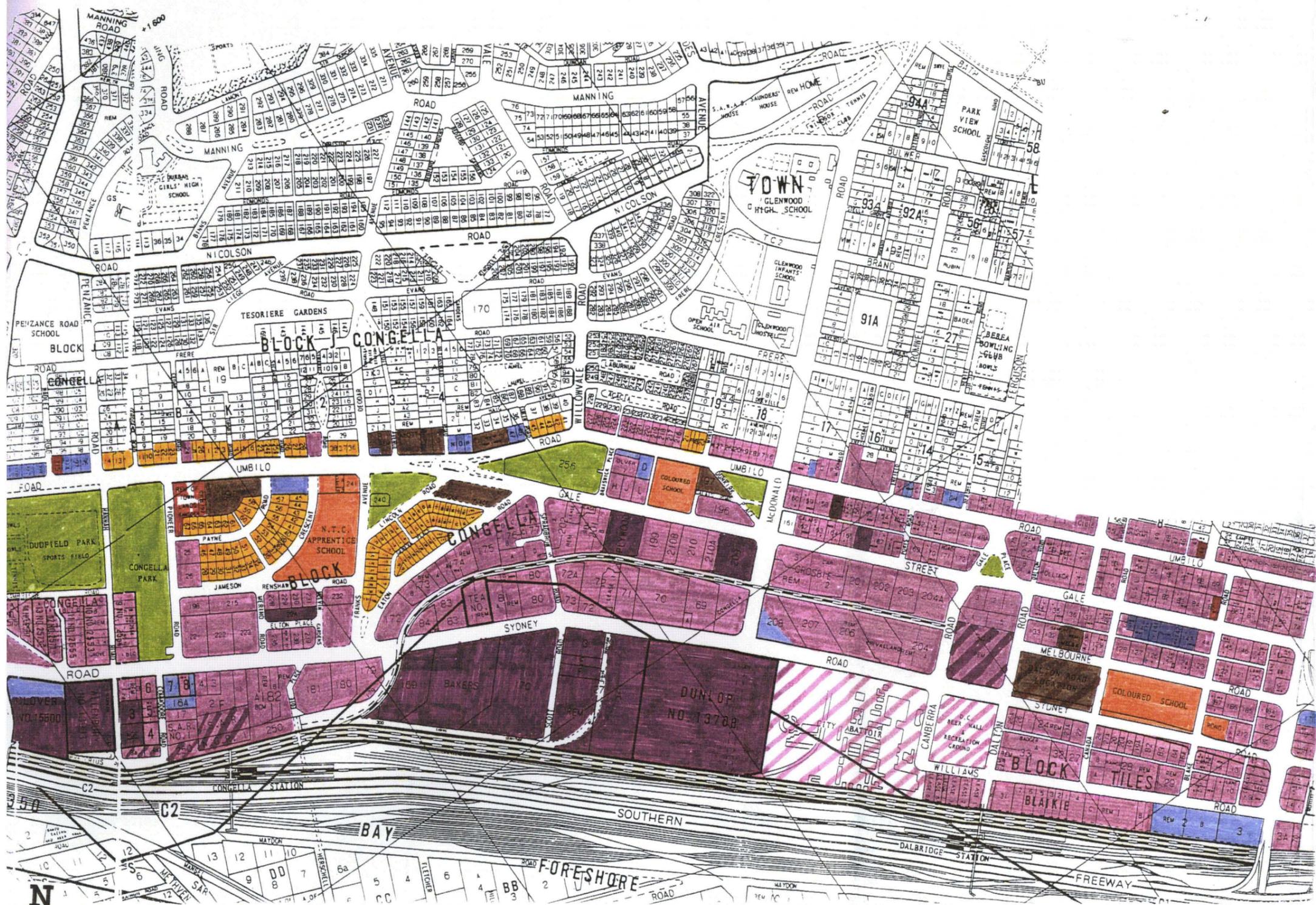
Figure 4.4.3.1

Railway line connecting large-scale industries to the market and raw material (bulk) suppliers.

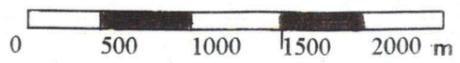
Accordingly, the dominance of these premises is in the vicinity of the Sydney road and the southern railway boundaries. Examples of these include Dunlop, BB Bakeries, Marine industries, Chandlers and Marine. In most cases, these premises are owner-occupied.

4.5 EXISTING LAND USES

In terms of the Berea Town Planning Scheme the majority of the study area is currently zoned for industry. The scheme also consists of some amendments that allows for some residential and general business 2 uses.



-  Light Industry
-  Vacant Premises
-  Recycling & Waste
-  Large Scale Manufacturing
-  Retail Shopping
-  General Residential
-  Educational Institutions
-  Flats
-  Cluster Housing [Hostel Dwelling Units]
-  Church
-  Government Institution
-  Recreational



According to the personal observation survey conducted earlier this year, the study area consists of the following broad mix-land uses:

- ◆ Residential
- ◆ Commercial
- ◆ Educational
- ◆ Recreational and,
- ◆ Industrial.

The residential land uses range from flats, cluster housing units to single detached dwelling units. The cluster housing units include the Dalton Hostel located at the Sydney road and Dalton road intersection. The flats are scattered all over the area (mostly occupying older buildings), while the single detached units are mostly located at the upper areas of Umbilo road. (See Land use map)

The study area is characterised by varying types of industries such as manufacturing and service. Manufacturing is subdivided into large scale and light manufacturing. The large-scale manufacturing is concentrated in the area (nearer to the railway line) of the study area. Light manufacturing is primarily and related to the clothing and printing sectors.

Service industry, in Congella mainly comprises repair-type activities. These activities vary from fixing air-conditioners, refrigerators, processing of readily finished products (i.e. printing services) and mostly car related repairs and some retailing outlets (selling car-parts). The

service industry is the fast growing industry in the study area. Within the service industrial sector the motor service is the most dominant category.

The arrangement of industrial activities in Congella has resulted in the development of unique production space. The study refers to these as "multi-purpose development units.

4.6 MULTI-PURPOSE DEVELOPMENT UNITS

The study area is also characterised by a unique pattern of multi-purpose development units. These developments are created through the subdividing of former large manufacturing buildings or factories into several smaller industrial units. This conversion of former large-scale manufacturing premises, is common among older buildings.

The process of development of the multi-purpose unit initially takes the form of a single light industry renting or buying a portion of the existing operational space (eg. industrial building or premises). With time, the property (or land) owners extend invitation to other smaller industries (through advertising, involving property agents) to buy or lease the remaining property.

It is common (but not always) for bigger subdivision to precede smaller units during the process of initiating a multi-tenanted development unit. Normally the incumbent relocates from other area in search of bigger space.

In the case of Congella, this can either involve activities such as light clothing manufacturing, print or motor industry related activities.

The latter industries to occupy the premises tend to be smaller service industries like battery centres, air condition or refrigerator repairs and key cutting sorts. These are normally beginners (struggling -to-survive type industries) and therefore just requiring smaller space to operate.

The emerging multi-purpose development units are growing throughout the study area, with concentrations in the vicinity of the strip between Williams road and Sydney Road, Gale street and Umbilo Road, especially in the areas of Calais Road. Another concentration is visible along Commodore road and the scrap yard area.

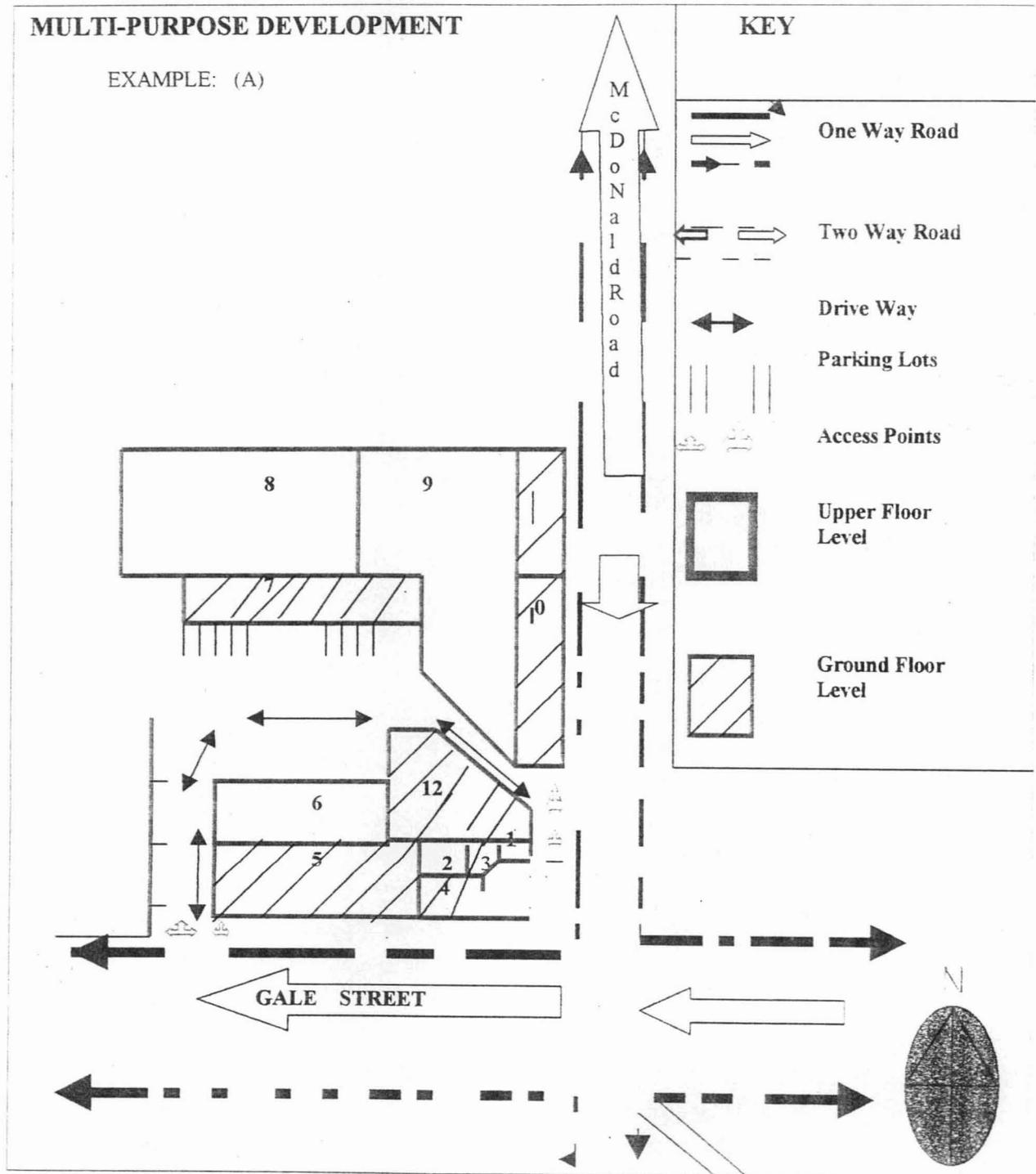
The study estimates that more than twenty-one newly emerging multi-purpose development units exist in the study area (Observed during land use mapping. See Map 4.3a).

The following two examples have been selected to illustrate a multi-purpose development unit within the study area.

Example (A) [figure: 4.6(a)] occur at the intersection between Gale and McDonald road. Example (B) [figure; 4.6(b)] occurs at the lower ends of the Williams roads just nearer to Blake road.

Example: A (Gale Street: Lot 296)

Figure 4.6(a) below illustrates an emerging rise of small-scale industry in a formerly large-scale industrial area, showing a developing multi-purpose unit in Congella.



BRIEF DESCRIPTION:

As opposed to the earlier observation by Bloch (1993:7), this particular multi-purpose development unit (shifting trend in industrial space) is completely not owner-occupied. The industrial premises are not owner-occupied. All tenants rent from JHI (the agent). In line with earlier observation (decentralising large large scale manufacturing) made by this study, the converted premises were formerly owned by a single bulk storage industry that has relocated in 1989.

ACCESS POINTS

The premises have two access points, one exiting into Gale street and the other exiting into McDonald. The McDonald entrance/exit point opens up to a robot intersection. Access into these premises is often hampered by high traffic volume from Gale Street.

PARKING

There are about nine on-site parking spaces serving all the internal industries including the clothing firms occupying the first floor (of this two-floor building). This includes both the lateral (using the length of the car to create space for passing traffic) and side parking (diagonal linear). For most part, visitors and customers park along Gale Street. The front of the Building along McDonald side is always filled with parked visiting clients' cars coming to the four service (1,2,3&4) industries congested in this corner.

(See Figure: 4.6a)

No:	Type of industry	The year of establishment into current premises.	Name of industry
1	Battery centre	1997	SABAT (100m2)
2	Wholesale trading	1997	Receiving and Dispatch (100m2)
3	Gear box repairs	1995	Gear Box Exchange (250m2)
4	Panel beaters	1996	Victor Motors 300m2
5	Electrical :service	1989	Lunen OSRAM Electrical
6	Clothing: Manufacturer	1993	Gala Clothing
7	Chemical industry	1987	Laboratory & Scientific Laboratory CC.
8	Clothing : manufacturers	1996	Graduate Clothing
9	Clothing manufacturers	1997	Screen Spectrum (clothing Manufacturers)
10	Textile trading	1998	Dartprop Textiles (200m2)
11	Clothing traders	1998	MD Clothing
12	Print : service and manufacturers	1997	Graphiti Print (200m2)

Figure 4.6a below is an elaboration of Example (A). It shows an example where a formerly single large scale manufacturing premises has been subdivided to serve diversified smaller units of light (Clothing manufacturers, electrical suppliers, chemical industry) and Service (motor repairs, printing and battery centre) industries.



Figure: 4.6a

A photo of the Gale Street/McDonald road multi-development unit, taken from corner Gale and McDonald.

Example: B (Williams Road: Lot 106)

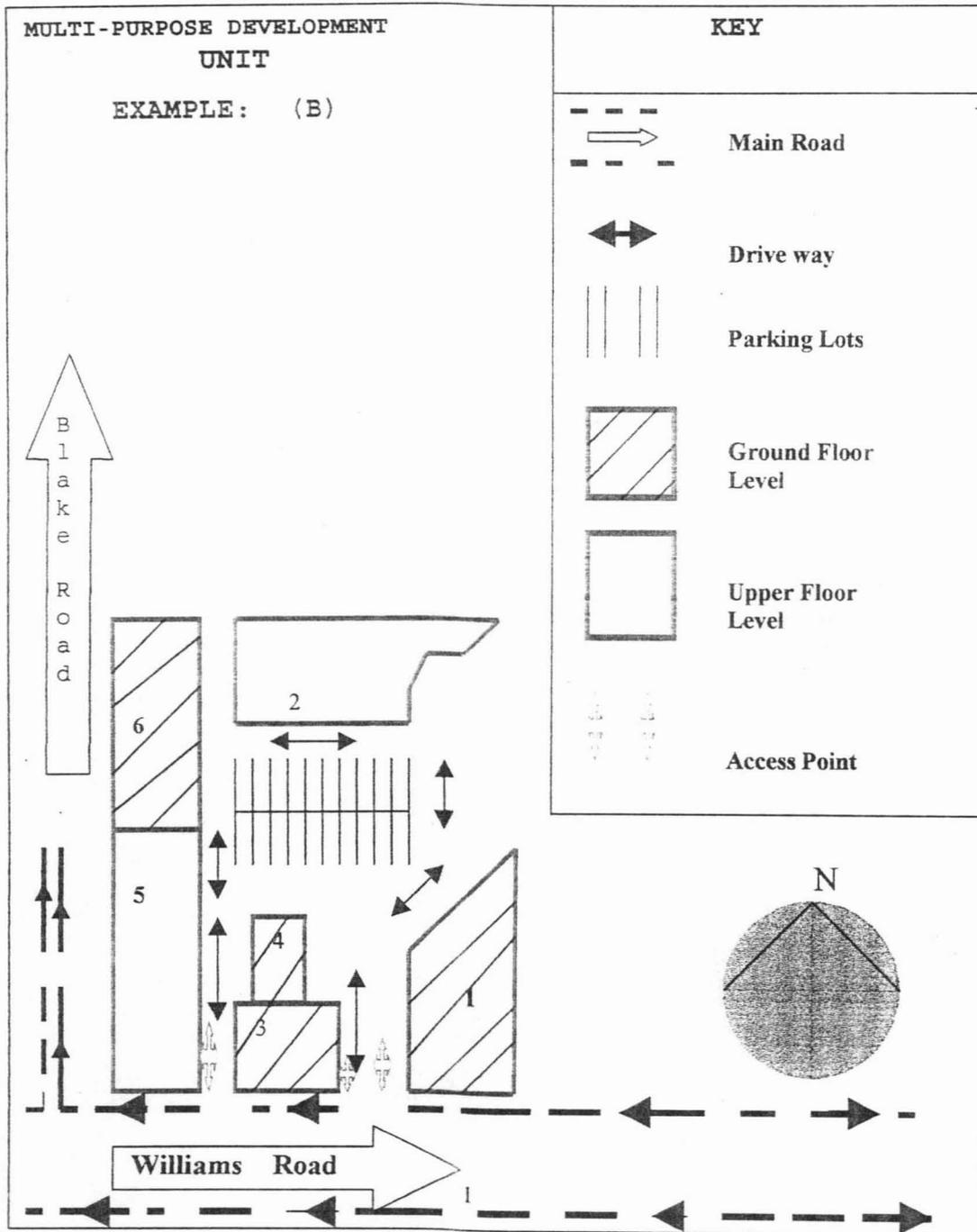
In the figure 4.6(b) overleaf, a formerly single large-scale manufacturing unit has been subdivided and converted into a multi-purpose development unit. The trajectory of this multi-purpose development reflects the impact of flexible production systems.

It fits neatly into Scott (1988) observation that:

*There is development of new technology industries closer to city areas, and that,

*Flexible production systems are being introduced into manufacturing. Leading to the development of new forms of production space and the decline older centres associated with traditional forms of mass production.

The diagram shows the existing arrangement of subdivisions within a multi-development unit.



BRIEF DESCRIPTION

The premises belong to TRANVAAL FARMING propriety. This land was originally leased on long term to PANAMA SHOES. Panama shoes used to occupy the whole premises. This large scale shoe manufacturing decentralised in 1993.

The site consists of four detached building blocks. These blocks are located at the edges of the site so that the space in-between is left empty to increase parking facilities for loading and off-loading vehicles. Part of one block (the one adjacent to entrance points) has been removed to create more parking.

EMERGENCE OF A MULTI-PURPOSE UNIT: Subdivision & Conversion

During 1993, one block was rented to two smaller scale industries (Shanon Clothing & Golden Greek Foods) by the Transvaal Farming. In the following year RPM Shoes and Mechweld Engineering took the remaining two blocks. The last block was occupied during 1997/8 by smaller service industries (Maitlind Refrigeration and Platinum motor repairs, respectively).

The latter industries to come onto these premises are the smallest of them all.

ACCESS POINTS

This multi-development unit consists of two access points, both exiting into Williams road. Access by vehicular traffic in and out of these premises does is relatively safe. This is partly due to the fact that the whole unit is not located along busy road with high

traffic volume bothering at all times, which is the case in those that are located along arterial (Umbilo and Sydney) Roads.

PARKING

Unlike the other example from Gale Street, this particular multi-develop unit has adequate parking facilities. The removal of the portions of one building seems to have met all the parking needs.

BUILDING DESIGN

The existing horizontal buildings designed to suit the requirements of the former large scale manufacturing activities, are a plus factor for creating subdivisions since it becomes easier to construct additional entrances and also make interior partitions.

In horizontal linear buildings it is easy to install necessary machinery for industrial purposes. Mechweld for example, did not struggle to install the machines they use for welding since they occupy ground space.

Unlike the other example in Gale street, density (resulting from increasing numbers of people, intensity of activities, and cars visiting) on space is low.

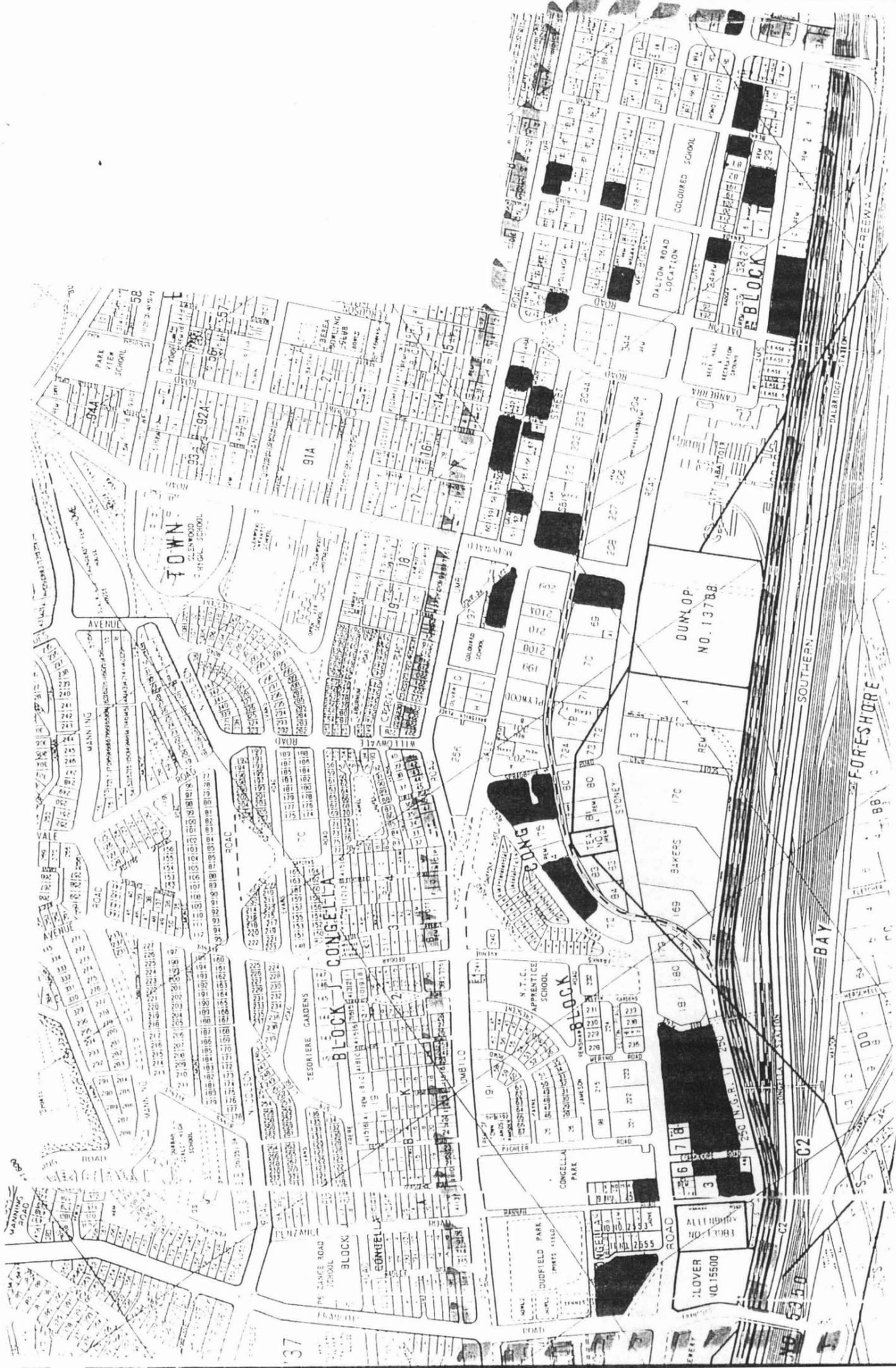
No:	Type of industry	Year of establishment into current premises.	Name of industry
1	Engineering	July 1994	Mechweld Engineering
2	Clothing	1994	RPM Shoes
3	Refrigerator repairs	1997	Matlind Refrigeration
4	Motor repairs	August 1998	Platinum Motor repairs
5	Clothing	1993	Shanon Clothing
6	Food Industry	1998	Golden Greek Foods

Multi-purpose Development MAP

4.3a

STUDY BOUNDARY

MULTI-PURPOSE
DEVELOPMENT UNITS



4.7 ON-SITE LOCATIONAL DYNAMICS

This section looks at the arrangement of industrial activities of different kinds within multi-development premises. It tries to understand the dynamic relationships within the boundaries of industrial premises.

Electrical and Engineering (manufacturing, service and wholesale outlets), Motor repairs, Food industries, Textile and the Social Development Service sector are normally found on ground floor spaces. These sectors have a tendency of locating in spaces that allow them access into the street, such that they open to front street locations. (Also see the multi-development unit examples)

In most cases, especially along Gale and Umbilo roads, these outlets operate as retailers and wholesalers. In terms of their locational preferences, they favour locations that prioritise access to clients and suppliers.

The Tertiary Enterprise sector, (which involves services such as shoe-making, leather repairs, Key-cutting repairs, Dry cleaning services etc), shows a unique and characteristic pattern of arrangement within a multi-development setting.

These smaller industrial enterprises sublet within another business, renting a few square metres, just enough to use one or two machines. The survival of these industries depends to a large degree on being known by clients.

Therefore, often favour spaces within a retailing environment but close enough to where clients live. Typical examples are found along Umbilo road, Gale and Sydney (especially around Dalton Hostel) roads.

4.8 SUMMARY

This chapter has presented the case study. It has shown that Congella is a relevant study case for pursuing this research. It argued that Congella is centrally important to the development of industry in Durban. The chapter also alluded, briefly, to the trends that have shaped Congella industry.

The next chapter will present research analysis and findings from questionnaire surveys and interviews conducted to produce empirical evidence for this study.

CHAPTER FIVE

"ANALYSIS AND INTEPRETATION OF RESEARCH RESPONSES"

5.1 INTRODUCTION

The previous chapter served to introduce the case study and also provided some preliminary analysis. This chapter will deal with the processing of primary information gathered through the use of questionnaire surveys and interviews.

The purpose being to produce qualitative and quantitative scientific facts based on accumulated first hand data using conventionally accepted research tools such as primary research (i.e. Questionnaire Surveys and Interviews).

Through these facts, this study could then be able to make conclusions, claims, and recommendation statements based on informed findings about the variable being measured in this exploratory work dissertation. The following section will present results of the questionnaire survey done with industrial tenants while integrating (in the course of discussion) the results from the analysis of property market research survey and interviews.

5.2 INDUSTRIAL TENANT SURVEY

An industrial survey was conducted using a sample of 40 industrial tenants located in Congella industrial area. The survey was done using self-administered questionnaires.

The reason for administering the questionnaires in person was to monitor the process and avoid living questionnaires with tenants for longer periods that might otherwise result in some questionnaires getting lost.

5.2.1 SAMPLING METHODS

The study observed that the studied area comprised of approximately 250-300 smaller light industrial and service industries. In addition to the observation survey, Brabby's directory of business: 1996/7, was used to count smaller industrial businesses located within the study area. Due to constraints resulting from the limited time available to complete this study, a stratified cluster sampling was drawn from among these 250-300 industries.

This method was used to select suitable subjects for this research. Industries were stratified in terms of sectors (using eight broad sectors mentioned in the previous section) and areas of location. This includes both those industries that locate within multi-purpose development units as well as those that are located in other settings.

The survey covered almost all the existing multi-purpose development units identified in map 4.6. Questionnaires were also distributed to other smaller light and service industrial units developing within the study area but not inside developments units.

A deliberate effort was taken in an attempt to distribute questionnaires such that they reflect a fair representation of the diverse geographic location and variations in terms of different sectors of industry being studied.

The following table 5.2.1 illustrates the spread of survey across the width and breath of the study area through the display of questionnaire distribution according to physical addresses.

QUESTIONNAIRE DISTRIBUTION BY ROAD ADDRESSES

ADDRESS	No. of Survey Distributed	%
Calais Road	4	10
Canada Road	2	5
Commodore Road	2	5
Elly Road	2	5
Hannah Road	1	2,5
Gale Street	9	22,5
Spradbroom	2	5
Sydney Road	7	17,5
Umbilo Road	6	15
Williams Road	5	12,5
TOTAL	40	100%

Table: 5.2.1

5.3 SPATIAL DISTRIBUTION OF INTERVIEWED TENANTS

The motor related activities, the clothing manufacturing and print industries are the most dominant in the area. Together, they accounted for 60%.

Of this 60% the motor related industries account for the most share (46%), followed by 29% and 25% of clothing and printing, respectively.

The motor related activities (especially, car repairs and car parts retailers) account for 27,5 % of the total industrial land use area within the surveyed area.

(See table: 5.3 below).

DISTRIBUTION PER SECTOR

SECTOR	No:of industries	%age
Motor	11	27,5
Clothing	7	17,5
Print	6	15
Soc.Dev.Serv(ie. Funeral,Security)	5	12,5
Textile & Chemical	4	10
Engineering	2	5
Tertiary Service Enterprise	3	7,5
Food	2	5
Total	40	100%

Table: 5.3a

The distribution of motor related activities in Congella vindicates the multiple nuclei model's assumption that similar activities group together. Motor activities in this area are mainly spread in and around the vicinity of Dunlop tyre manufacturers.

While by contrast to this sector, the clothing sector activities seem to cluster in the vicinity of Gale Street and Umbilo Road. Most of the clothing manufacturers are concentrated in the relatively older buildings.

The Gale Street/McDonald example (A) of a multi-development unit shows that clothing tends to utilise upper floor spaces or upper floor stories where they occupy buildings with more than one floor.

Mr Lance Mindry (November: 1998), an industrial property consultant at the RMS Colliers in Durban, believes that the reason why most clothing manufacturers in Congella occupy upper floors (2nd floor upwards) is due to the fact that these floors have lower rates of rent than the ground floor space. Mr Mindry, describes the rent structure of Congella property as follows:

RENT RATES IN CONGELLA

Building Floor	Rent in R/M2
Ground Floor	R15
1ST Floor	R8
2nd Floor	R7
3rd Floor	R6
4th and more storeys	R5

Table: 5.3b

This study also confirms Ullman's (1945) assumption that certain activities cannot afford high rents. Hence locating in cheaper floors.

5.4 NATURE OF INDUSTRIES

This section attempts to present a portrait of the Congella industries. It gives a description of the type of activities and Classification, age of industries, patterns of behaviour, their size, performance output and general characteristics.

5.4.1 TYPE & CLASSIFICATION

Congella consists of varied industries and therefore it is important to present a breakdown of these industries to avoid skewed generalisation. The industrial tenants surveyed can be classified into two basic categories; services (involving sub-categories like retailing, trade and

wholesaling activities as well as repairs and processing), and manufacturing.

Service industries are the most common type of land use in this area while the wholesaling outlets forms the relatively least popular in this category. Manufacturing is generally found within the clothing and print (including stationary) sector.

Even though there are some manufacturing activities in other sectors such as Food and the manufacturing of funeral assessories, it is not significantly established.

When comparing service to manufacturing, the survey reflected that services accounted for 67,5% as opposed to a 32,5% manufacturing.

Even though, chapter four argued that manufacturing is central to Durban's entire economy, the emerging industries in Congella are inherently service oriented.

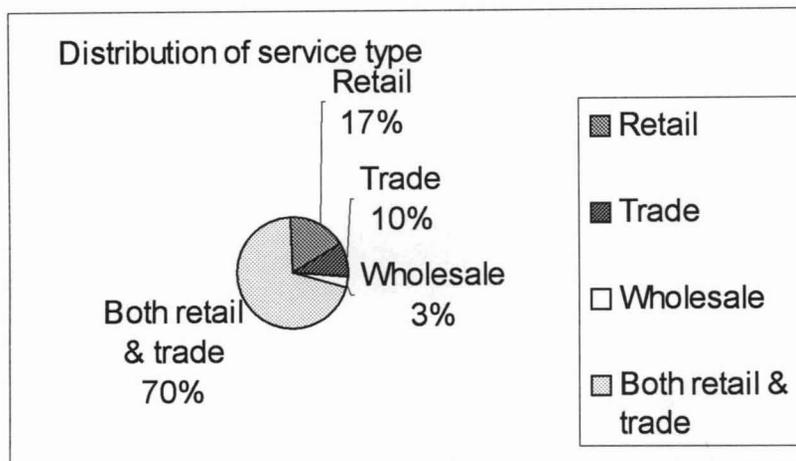
The service industry varies significantly within itself. Of the 67,5% of services in the studied area, 70,4% are repairs (fixing machines, refrigerators, and the general motor repairs), the remainder is accounted for by such activities as engineering, chemical, electrical and food processing.

Distributions of services in the studied area also vary according to the clients they serve. According to the study the emerging service industries in Congella can be further categorised into retail, trade and wholesale.

In the latter category some industries fall into both categories because they sell both to public (individual

clients) and traders. Figure 5.4.1 reveals that the majority of service industries in the surveyed area are involved in both retailing and trade activities.

Figure: 5.4.1



5.4.2 AGE OF ACTIVITIES

The study reveals that the majority of activities, among the surveyed sample is relatively new establishments and have recently located in Congella. About 60% of the surveyed industries are under five years old.

The majority of these activities relocated into their current areas of location. When asked whether an industry relocated or started in its current occupation, the survey revealed that 65% of the surveyed tenants started elsewhere and has just come into their new locations. Some of these activities came from within Congella but just shifted into better and bigger premises while an estimated 30% decentralised from the city.

5.4.3 INDUSTRIAL ENVIRONMENT

"Nothing is experienced by itself, but always in relation to its surroundings, the sequences of events leading up to it, the memory of past experiences" Lynch (1975:1)

INDUSTRIAL SPACE

The study observed that among the various sectors comprising the industrial tenants' sample, the quantity and quality of space required tends to be linked to the functioning of the industry. For example, in terms of the motor and clothing sector activities tend to emphasise quantity when they value industrial space.

By contrasts, other sectors such as tertiary enterprise services, printing, textiles and engineering services prioritises accessibility of industrial premises in relation to clients and suppliers. For example Kem Knit CC (one of the surveyed tenants located at 50 Hannah Road) points out that: (direct response from survey)

- ◆ Need to respond to growing demand
- ◆ Road is narrow
- ◆ Loading and unloading problems

THE CONGELLA ENVIRONMENT

The survey reveals that tenants within the studied multi-purpose development units share varying perceptions with regard to their surrounding industrial environment. As an ideal environment to pursue business (industrial activity), the majority of industrialists who participated in the survey graded the environment as fairly accessible, using a continuum good to bad.

When asked to grade the Congella industrial environment in which industries located, the survey indicate that 22,5% viewed it as poor, and 52,5% perceived the environment to be relatively fair while only 25% graded it as suitable and good. Figure 5.4.3, illustrate.

GRADING CONGELLA INDUSTRIAL ENVIRONMENT from GOOD to BAD

Grade	No of Votes	%
GOOD	10	25
FAIR	21	52,5
BAD	9	22,5
TOTAL	40	100

Table:5.4.3

The area is viewed to have both pull and push effects. In terms of the pull effects, the area provides a good transportation infrastructure, ideal for supporting industrial development, and some cumulative advantages resulting from its natural proximity to city centre.

Congella industrial environment present industries with relatively cheaper costs of operation than city locations, for example. In terms of the operational needs of industries, the existing building design was viewed by many (72,5% of those tenants who participated in the survey) as suitable, especially because it provided more space than previous locations. Therefore, ideal for new establishments which are still in the infant stage of development in terms of Young's model. It has been shown that about 60% of these establishments are under five years old.

In terms of the "push" effects the survey reveal a number of issues ranging from high crime incidences, lack of adequate parking space and traffic congestion etc.

5.5 INDUSTRIAL PROPERTY AGENTS QUESTIONNAIRE/INTERVIEW

A self-administered questionnaire survey was conducted with property agencies dealing with industrial property in Congella. About five different agencies were identified for research. Only three completed the forms in full due to academic reasons.

The surveyed and interviewed agencies include JHI Properties, Marriott and RMS Colliers. Two did not return questionnaires.

METHODOLOGY FOR SELECTING SUITABLE SUBJECTS

The selection of suitable agencies was done by observing the "TO LET" adverts from properties that are advertised and also within the surveyed multi-purpose development units. From this exercise, a list of agencies with their corresponding telephone numbers was compiled. Thereafter, appointments were arranged for interviews and questionnaire distribution.

All the agencies consulted, confirmed dealing with business property in Congella. The survey and interviews also revealed that all the participants were personally involved in selling, letting of properties in Congella. Therefore, they were suitable candidates for the survey.

5.5.1 FACTORS INFLUENCING CONGELLA INDUSTRIAL CHANGE

In terms of the main trends affecting Congella industrial property, the survey revealed the following: (Direct responses)

- ◆ Lack of developable land

- ◆ Trend is to locate industry further to the north and west of Durban.
- ◆ Clothing and Electronics were traditionally located in the area (Congella), both sectors have experienced tough trading conditions and hence resultant vacancies. (This statement is reiterating the fact that large-scale manufacturing is gradually decentralising from the studied area).

In line with changing global trends, the property agency survey indicated that, dominant industrial changes affecting Congella over the past two decades, include:

- ◆ Rationalisation of operations in part due to new technology. (This point was also highlighted by industrial managers from Air Control, Magnetic and BB Bakeries)
- ◆ Downsizing
- ◆ Declining property and low levels of security
- ◆ Suburbanisation of activities and increasing focus on services.

In addition, among the 40 sampled industrial tenants within multi-purpose development units, 30% indicated that they started from inner city relocations and relocated because of rising cost of operation in the city. Because Congella is an older inner city area, it therefore provided an ideal location point at which smaller industries can trade off centrality but can still make profit, just as Christaller's model [figure 3.3: (bid rent curve)] explains.

According to JHI and RMS Colliers, the current rate of rent applied in Congella ranges from R15 in the ground floor location to R5 in the fourth and above floors.

5.6 GENERAL PROBLEMS ENCOUNTERED BY INDUSTRIES

The study revealed a number of fears and problems facing industrial tenants at Congella. Among the issues frequently raised were lack of security and high crime rate, congestion, traffic problems and lack of adequate parking.

CRIME

The lack of security and rate of crime in the area is probably the most common complaint amongst the industries locating in Congella, especially the lower parts of the area between Sydney Road and the southern railway line. All interviews from property agents and managers of Air Control, BB Bakeries, Magnetic agreed that crime in the area is very high.

In an interview with Air Control, the manager indicated that, if there were enough funds available, he would not hesitate to relocate to Berea South for reasons of lack of security in the area where he is located. (46 Hannah Road). He complained that he is wasting a lot of money on hiring 24 hour security services, and was nevertheless broken into four times in two months and lost valuable property such as computers, faxes and machines.

TRAFFIC CONGESTION

The problem of traffic congestion in the area relates mostly to those industries that are located along the busiest arterial roads such as Umbilo, Sydney and Gale Street.

To a large degree this problem relates to two things, entrance into the traffic system when moving out of industrial premises along the road, as well as general parking problems.

Access by cars into some of the multi-purpose development premises that locate along Sydney (in particular nearer to the intersection at Sydney/McDonald Road) and Gale Street (See figure 4.6a). Cars moving out of individual tend to spend up to five minutes sometimes, just waiting for the closest robot to slow down traffic volume before they could swiftly join the traffic (Observed by the author during site visit).

Even though this might seem a lesser problem considering the fact that Umbilo and Sydney roads have been rerouted to prioritise transportation access into and off the city centre, it is a potential problem.

Difficult access into industrial premises located along busier roads is potential inconvenience to delivery trucks, especially along Umbilo, Sydney road and Gale Street.

Being close to important traffic routes is also a plus factor when considering the advantage of increased thresholds.

In fact, the study has repeatedly alluded to the fact that accessibility to clients and ease of access by (being visible) clients is essential for the growth of the emerging smaller industries in Congella.

LACK OF ADEQUATE PARKING

Parking is another problematic issue in Congella. The study reveals that, there is inadequate supply of safe public parking as well as on-site in Congella. This situation is reflected in the phenomenal linear street parking (double parking). Where it occurs on busy roads, the tendency is to cause major disturbances in the smooth flow of traffic.

Industries were asked whether industries have adequate parking for customers, workers and staff cars. Amongst the 40 industries surveyed 72,5% voted "no", and only 27,5% were satisfied about their parking facilities.

5.7 EMERGING PATTERNS OF INDUSTRIAL BEHAVIOUR

LOCATIONAL PATTERNS

The emerging patterns of industrial location and relocation within the study area subscribe to neoclassical land use and rent models. In line with industrial location patterns postulated by early exponents like Hoyt, Christallers and others, industrial location patterns among the surveyed smaller industrial tenants, are induced by rent and cost minimisation factors.

For example, the reasons cited by industrial tenants for relocating into the Congella area, highlighted the following: (in their sequence of frequency)

Question posed: why have you chosen to locate in this area ?

- ◆ Need for bigger space
- ◆ Relative low rates of rent
- ◆ Access to clients and supplies

FUNCTIONAL PATTERNS

Due to constant pressure to adjust and adapt to the changing environment, the study reveals some unique patterns of organisational and functional behaviour within the emerging smaller industries at Congella.

In line with flexible production influence Congella industries have started to downsize and rationalise their operations. In an interview with the manager of Magnetic, it was revealed that there is a tendency among industries with formerly large premises to subdivide buildings and sublet to smaller outlets. He explained that the whole block (42, 43, 44-46 Hannah road and the area to the area facing the railway line) within which Magnetic industry is located formally belonged to the South African Railway Services. It was later sold to Magnetic who subdivided it to accommodate five different outlets linked to the electronic industry. (Refer to map 4.5a, for locating the specific area)

Reasons put forward for the emerging change towards a higher degree flexible smaller industrial units varied from labour related problems to neo-technological influences.

LABOUR RELATED ISSUES

For example, Prof. Freund from the Economic History Department at the University of Natal argued that, with increasing labour disputes in our country, fewer industries want anything to do with problematic unions.

Therefore, they choose to downscale their work sometimes subcontract in order to avoid having to deal with organised work forces. The survey done with smaller light and service industrial tenants shows that the majority (67,5%) employ less than 15 workers and only 3% (from clothing sector) among the small industrial tenants surveyed had more than 31 workers.

Table 5.7 measures industries by size of its employees.

SIZE OF INDUSTRY BY NUMBER OF EMPLOYEES

No. of Workers	No. of Industries	%
0 to 15	27	67,5
16 to 30	10	25
31 +	3	7,5
TOTAL	40	100%

Table 5.7

It has been reported before that the service industry accounts for the majority (67,5%) of employment within the surveyed emerging multi-purpose development unit' tenants. Significant portions of these workers are semi-skilled technicians operating as panel beaters, refrigerator repairers, engineering technicians and so on. (Observed during self-administered tenant's survey).

This is a plus factor for the emerging small-scale service economy in Congella in that it will improve threshold, as worker income status will increase.

Therefore, justify the need for the provision of ancillary services such as banks, personal services (coffee shops, restaurants, salons/barber etc.) and hawker stands.

NEO-TECHNOLOGICAL IMPACT

Due to increasing spread of technology, even smaller industries are doing the bulk of their work (especially service type) on computer, fax and telephone. Therefore, "only a limited workforce is required to make deliveries (driver) and receive or take orders by phone". (From the interviews with Air Control and Magnetic managers)

The introduction of computers, improvement of telecommunications has opened up new opportunities for growth and flexible specialisation. Both the property agent's questionnaire and interviews with Industrial managers, revealed that manufacturing activities were gradually shifting towards smaller production spaces.

5.8 ISSUES OF AGGLOMERATION AND CLUSTERING

It appears that smaller light and service industries in the study area are beginning to acknowledge and appreciate the existence of other industries producing the same products or providing the same services as themselves, within the same proximity of location.

Asked whether industries knew about the existence of some other industries producing the same products or services as them, in their vicinity, only one industry answered "NO". In fact, the majority indicated that they relate positively with their competitors.

Responses to questions about the advantages of association and adjusting to existing competition revealed the following:

- ◆ Positive competition. (ie, it fosters improvements on delivery efficiency in terms of speed and quality standards) [Evidence from interviews with Air Control, Magnetic and BB Bakeries]
- ◆ Less relevance [i.e. no bearing on the performance of industry concerned]
- ◆ Fears of being overtaken. (i.e. a few first time establishments are sensitive about the threat of losing potential customers to other competitors)

By contrast to the industrial cluster postulated by Marshall (in Goodman 1989) with external economies (i.e. implying that actions of one agent can unexpectedly influence other agents, and vice versa), the emerging industrial concentrations in Congella have not yet developed strong inter-firm linkages.

In fact, the industrial tenant's survey revealed that the majority of surveyed industries are in fact family-type businesses. At least 20% of the surveyed tenants claimed to be involved in partnership with other businesses (ie. as franchises). An estimated 75% are family owned establishments. The remaining 5% are start-up businesses (self) normally run by a single owner manager.

In addition, they do not have established market relations beyond simple subsistence relations. About 72,5% of the emerging smaller industries in the studied area produce or provide service to their immediate surroundings (ie. within Congella).

However, 17,5% claimed to have clients all over the Durban metropolitan area and only about 10% claimed to produce for nation-wide market as well.

However, there are positive indications for the development of a sustainable cluster to initiate economies of scale. The motor related sector and the clothing sector are relatively better positioned to develop a cluster environment because of the indirect existence of backward and forward linkages that result from locational advantages of locating closer to major established manufacturers in the same industry.

The existence of Dunlop (an old and established large-scale tyre manufacturing) and motor industries such as Volvo and a range of dealers in close proximity create a favourable environment for a motor service cluster.

Among the surveyed motor related outlets only 17,5% indicated to have branches in other areas. This is indicative of the lack of strong external linkages within the Congella motor related service firms.

5.9 SUMMARY

Chapter five provided a detailed analysis of the primary research surveys and interviews. This chapter has carefully presented the results of the industrial tenant survey and property agent's survey and tried to integrate these, with the material that came from other primary sources such as the Property Agent interviews survey and sets of interviews with key informants.

The analysis made use of different topics to tease the material into simpler and more detailed report on specific issues that concern the key questions of this research study. It did so in such a manner that it lay favourable basis for developing conclusions, scientific findings, claims and recommendation statements on particular future states.

The use graphic illustrations, visual material, statistical tools, and commentaries serviced to enrich the aims of this chapter.

The next chapter will summarise the whole dissertation and draw some conclusions and recommended statements for this study while also providing insight towards like planning responses to this research's findings. It will also hint a way forward by suggesting future studies that should be undertaken.

CHAPTER SIX:

"CONCLUSION AND RECOMMENDATIONS"

6.1 INTRODUCTION

The aim of this chapter is to summarise the intentions and the deliberations of this entire dissertation. The purpose of this study is to investigate the planning implications for the change in the use of industrial space from being large scale manufacturing into light and mostly service industries, using Congella as a case study. This dissertation is also concerned with the change from large single factory to multi-development subdivided units.

The main research question being to investigate whether the impact of this emerging change in the use of industrial space at Congella necessitate any Planning response and if so, what form of response.

The dissertation is divided into six chapters serving the following purposes, introducing the study, developing a methodological framework, conceptualising the study, presenting the case study, analysing the research responses as well as this concluding chapter, in their respective sequence.

Besides time, one of the limitations of this study is that it is an exploratory exercise and therefore deals with the variable at a superficial level.

It describes and explains the planning implications for the emerging spatial change in Congella only to the extent of providing insight to likely planning interventions.

6.2 CONCLUDING COMMENTS

Industry is not a static activity and therefore undergoes metamorphosis as it is affected or influenced by its quest to grow, produce more, become dynamic and to defend itself from competition. This dissertation has shown that the Congella industrial area evolved through changes and has been shaped and influenced by both internal and external processes of spatial change. It a unique trend in the use of industrial space by which large scale manufacturing that predominated the area in the early years of this area's industrial development (See McWhither:1959, and Katzen:1961), is gradually overtaken by accelerating scale into smaller units of light and service industries locating in the area.

The trend is characterised by two things. Firstly, the shift from single large manufacturing premises towards multi-purpose development spaces wherein smaller units of light and mostly service industries subdivide formerly large scale manufacturing buildings or factory into smaller units.

In fact, the findings of this study confirms an earlier conclusion from a study of the locational aspects of small firms in Umbilo that argued, "the trend that is emerging is towards refurbishment and subdivision of existing properties in response to a growing demand (Gqwetha:1995)"

Secondly, the Congella industrial change is characterised by the dominance of service type industries. The study reveals that the majority of space is occupied by service industries (67,5%) of various sorts compared to light manufacturing industries.

The majority of which relates to the growing motor industry-related activities in this area. Service activities consist

of mostly (70%) a mixture of both retailing and trade. There is also a small minority (3%) that could be categorised as wholesaling outlets.

The clothing sector appears to be a significant sector amongst the emerging small-scale manufacturing industries despite the recent setback by the decentraliation (moving north and to other newer industrial areas within the metropolitan area) of large scale industries in this sector. (Lance Mindry from RMS Colliers, Tenants at the multi-development unit 206 at Williams Road). The study revealed that among the emerging and surveyed smaller industries, clothing accounts for higher employment ratios and it is only second (with 29%) to motor related services in terms of the extent of distribution.

The survey conducted with industrial tenants in the subdivided factories in Congella revealed that industries are young, small in size and have just relocated into the area from either central city locations or within Congella itself. Some of these smaller units of light and service industries have just started in business.

The study shows that these smaller industries are mostly targeting vacant spaces (premises) that formerly served the now decentralised and relocated large-scale industries. For example, the multi-purpose development unit (A) discussed in chapter 4.

Some of these industries locate in spaces that have been created through sub-dividing the existing large-scale manufacturing premises into smaller units leased to small-scale outlets relating, in most cases to the original line of operation. One good example is the Magnetic company, an established electronic industry that has down-sized and

subdivided its original premises for lease by five different smaller electronic service (repair type) outlets.

Another example is at the corner of Gale street and McDonald road intersection, wherein a multi-purpose development is taking place in a single former manufacturing premises. (See Example B in chapter 4)

This study has shown that this change has raised some general planning implications.

6.3 GENERAL PLANNING IMPLICATIONS

The shift from formerly large scale manufacturing into units results has shown implications such issues as parking, access points, accessibility, traffic, socio-economic factors (labour related changes) and crime.

PARKING

The study has shown that as a result of increased employment densities, and the rising number of smaller unit operations, greater demand for more parking facilities has been generated.

There is a need to identify safer public parking areas, and also to encourage the development of on-site parking facilities in areas where buildings or factory has been subdivided to lease.

Development units must be designed with adequate parking facilities for worker's cars, delivery vehicles and visitors. Where land is in short supply for this development, a compromise must be reached wherein a portion

of the area covered by buildings must be sacrificed to create safer parking facilities.

ACCESS POINTS

The majority of the former manufacturing premises were designed with a single access point and sometimes an additional railway access for loading and off-loading vehicles. With increasing emphasis on smaller production units in Congella, these premises are being altered to facilitate multi-tenanted development units.

The resultant implication for subdivided buildings and industrial premises is the generated demand for more access points into the various subdivisions.

There is a need to monitor the subdividing of factory buildings and premises with regards to the orientation of access points to busy roads. Poorly designed access points towards busier roads may result in unnecessary traffic inconveniences such as experienced in the example discussed in chapter 4. (See figure: 4.6a)

ACCESSIBILITY

The study has shown that the change within an older inner city area like Congella industrial area has critical implications for the accessibility of the emerging small-scale industries that rely on central access for their survival.

It has been shown that the majority of small-scale industries depend on their continual access to consumer market and suppliers for their success. The decentralisation of large scale manufacturing industries in this

strategically located inner city environment provides locational advantages (ie. Being closer to consumer market and suppliers) to the on-coming smaller light and mostly service outlets.

SOCIO-ECONOMIC ISSUES

These include such implications as blighting, change in the nature of employment and size of labour force as well as agglomeration of motor services.

The study has argued that this change takes place in a transition zone. This is a strategic area for economic activities it is also an area that experiences economic blight problems. These include the reducing levels of economic activity due to decentralising activities and changing industrial environment such as characterised by older buildings and other social problems which frustrate the economic life in this transitional area.

The change towards the dominance of smaller industrial units in an area that formerly hosted large-scale manufacturing generates implications for the resultant property markets and declining economic investment.

It has been revealed that a number of older large industrial buildings are in dire need for renovations. Due to the fact that the majority of these buildings and premises do not directly belong to their occupants who are leased as tenants, it is not easy to effect the required renovations. The results in the demand for further renovations to a number of older industrial buildings in Congella.

SHIFT FROM UNSKILLED TO SEMI-SKILLED WORK FORCE

The change from high labour intensive large scale manufacturing production into flexible and specialised small-scale industry in Congella demands flexible labour force. The primary research has shown that there is a trend towards emphasis on a semi-skilled workforce as compared to a large unskilled workforce that occurred in the former large-scale industries.

This has a positive implication for the dissemination of trade-related skills and income mobility for workers. It also implies improved thresholds and therefore generated wants for diversity in terms of the provision of additional land uses such as ancillary services like banks, salons, coffee shops, restaurants and hawker stands as well as more parking needs for workers with cars.

AGGLOMERATION OF THE MOTOR SERVICES

The study has shown that the emerging change towards smaller industrial units in Congella is dominated by service type industries. Among the service sector, the motor related outlets are prevalent.

The Motor service sector is clustered around the older large scale manufacturing tyre company (Dunlop) located in the area. This has important bearing for the development of a developed cluster and external economies. However, in contrast to the Marshallian cluster, Congella motor service sector does not have strong linkages that are necessary to foster the development of external economies. For example, the study revealed that there is very little cooperation and no collaboration among the existing motor service cluster.

Under these circumstances it may not be wise to foster the development of a Motor cluster due to the lack of institutional arrangement necessary to facilitate this development.

CRIME PROBLEM

Respondents who participated in the primary research complained about the lack of adequate security and surveillance in the Congella industrial area. As a result of this situation, the business sector has been severely victimised by crime. The study revealed alarming rate of burglaries and theft.

The implication here is that with increasing crime rate in the area, business confidence reduces and therefore the potential level of disinvestment will rise.

This section has raised the general planning implications resulting from the emerging industrial change in Congella. The next section will, as have been promised, recommend a way forward in terms of foreseeable planning response and future studies.

6.4 RECOMMENDATIONS

The study consists of various sets of recommendations aimed at highlighting key areas that should inform planning interventions. Some recommendations will suggest possible interventions to be made and some will propose future studies.

Revitalisation Program

An inner city revitalisation program for the Congella area is recommended to revive the economic life of this strategically located industrial area.

Unlike other surrounding older inner city transitional areas, Congella has never been given the attention it required for improving its economic life. Other surrounding inner city areas of Durban, such as the Point area, Victoria Embarkment, Umngeni and the Warwick Triangle did receive closer attention from local planning authorities (they were identified for renewal programs).

This program must be undertaken by the city council. The program must encourage the development of sustainable multi-purpose development units and focus on SME development.

This program should also pay attention to the fears raised by local industrial tenants such as lack of security. This may include the effecting crime prevention strategies (ie. Overnight patrols, subsidizing security industry (by local council and Durban chamber of commerce) operating in the area on a short term) and encouraging mixed-land use (including residential flats) to revitalise the economic life in the area.

More Parking Facilities

In order to deal with short supply of parking, two things needs to be done. One, in terms of improving parking within the subdivision multi-purpose developments, on site parking facilities must be created during the subdividing of premises. This could be done by sacrificing a small part of

area covered by buildings (having calculated the costs) in order to develop shared (centrally located) parking. In addition more public parking facilities must be developed in safer and controlled areas.

For example, the Durban City Council could consider rezoning the recreational site in front of the waste recycling plant in Sydney (Consult the land use Map) and convert it into a controlled public parking area. This recreational facility is not utilised but rather misused as a dumping area.

It is centrally located in the area and easily accessible which makes it even more suitable for public parking. It is also located in the vicinity where there is greater concentration of conversion of former large-scale buildings into smaller multi-tenanted units.

Another potential area that could be improved for more public parking is the piece of land at the intersection of Canberra Road and Gale Street. This area too is underutilised and can offer a safe public parking environment. In addition there are valuable spaces such as the railway reserves that could be utilised to increase public parking.

However, this will require slight intervention from the local authorities such as the city council in terms of providing financial resources for maintaining the area. This could involve hardening the surface and effecting painting marks that demarcate parking lines.

Regulation of access points

The study recommends that stricter regulation measures must be taken by the local zoning section of the Durban City Council in order to encourage the design of safer entrance points into the multi-unit development units. At least no access point should be allowed to exit blindly into busy roads. Orientation must be towards less busier roadsides where possible.

To improve access tenants within converted multi-development units must take responsibility in terms of co-ordinating internal circulation system and also collaborate on the existing loading zones adjacent to their operations.

In order to encourage safer access points the local planning authorities must carefully examine plans in the rezoning applications so as to pick up these mistakes at early stages of the development. However, this does not mean that local authorities do not examine applications thoroughly but rather highlighting the consequences if not seriously considered in the processing of applications.

Encourage development of ancillary land uses

Planners at the development control section must take cognisance of the implications of the changing industrial employment in Congella. The fact that better paying semi-skilled employment is increasing in the area must be recognised with the view to facilitating positive responses to consent applications submitted and requiring additional

(ancillary uses like banking, shopping etc) land use zones within this industrially zoned area.

The study has shown that due to rising income and expenditure levels, more ancillary activities are demanded. There is increasing demand for the development of such activities as banks, salons, restaurants etc.

This is also important in terms of diversifying and rejuvenating the economic life of this older inner city area while encouraging interaction among users of this area.

Cooperation on Property Development

A cooperation between city planners and property dealers in this area is vital. Due to insufficient cooperation between the two professionals, speculators in the property market have taken advantage of the growing demand for smaller industrial space in Congella. These speculators involve in the subdividing of industrial premises into smaller units with little or no consideration of the dangerous implications of their transactions. For example, to future property values, layout and on-site design and resultant problems such as poor access points, congestion and increased demand for additional parking as well as general socio-economic issues like crime.

With a close cooperation between the two professionals, some of these mistakes could be prevented. There should be deliberate efforts by developers (in both planning firms and property agencies) involved in the Congella industrial area, to forge links in an attempt to co-ordinate the redevelopment of this area through revitalisation.

Planners also need to work closely with traffic engineering section when designing plans for public transportation system in order to avoid the resultant disasters typified by the recurring accidents at the corner of Dalton road and Sydney.

6.5 RECOMMENDED FUTURE STUDIES

- *Factors Influencing the Development of a Motor Service Cluster in Congella.* This study may be initiated by a private developer or could be commissioned by the city council with the view to identifying new opportunities for development in this particular area.
- *An Urban Renewal Scheme for a strategically located Inner City Industrial Area: Case of Congella.* This study must be undertaken by the city of Durban as part of the regeneration program in line with the regeneration projects done for other inner city areas like Warwick Triangle, Point area, Umngeni and others. Congella should be no exception.
- *Towards Small Medium Enterprises: A mix land use node for the greater southern industrial development zone.* This study could be linked to the existing study done by Cullen and Associates (1998) which proposes the development of an industrial zone within the Southern Industrial Basin.

This section has highlighted the general planning implications and alluded to the subsequent (reactive and proactive) interventions that city planners, property developers as well as general planning agencies should

undertake. It has suggested two sets of recommendations such as likely responses and further studies.

Therefore, this dissertation has accomplished its main purpose of investigating the planning implications for the change in the use space from being large scale manufacturing into smaller subdivision units of light and service industries in Congella.

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**Questionnaire: Changes in the use of Industrial Space in Congella
(Service & Light Industries)**

for

Master of Town & Regional Planning
Natal University-Durban

NB: Any information given will be treated with confidentiality.

Please indicate choice with an **X** mark where applicable.

1. DEMOGRAPHIC DATA (DD)

Gender

1	Male	
2	Female	

Race Group

1	White	
2	Indian	
3	Coloured	
4	Black	
5	Other, specify	

Position Held

1	Owner/Manager	
2	Branch Manager	
3	Assistant Manager	
4	Other, specify..	

Business (Street) Address

.....

2. INDUSTRY TYPE (IT)

(a) How would you classify your business operation

1	Service Industry	
2	Manufacturing	
3	Other,specify...	

(a) If (1), can your business be categorised as :

1	Retail (Selling direct to public)	
2	Trade (Selling to other industries/factories/ wholesale)	

(a) What does your industry produce/manufacture or repair.

(eg. Repair gear-box, tyre repairs, exhaust pipe specialist, painting & printing etc.)

.....
.....

(b) Who are your regular customers/clients ?

.....
.....

(c) Where are your regular customers located?

.....

(d) How often do your customers/clients visit your business premises?

1	Daily	
2	Weekly	
3	Monthly	
4	Other (specify)	

(a) What is the status of your business ?

1	Family Business	
2	Self owned	
3	Branch Plant	
4	Other, specify	

(a) Does your business have branch/es established elsewhere?

1	Yes
2	No

(a) When did you establish in these premises ?

.....
.....

(b) Did your industry relocate or started into the premises it currently occupies?

1	Relocated	
2	Started	

(a) Where were you first located before you establish in these premises?

.....

(b) Why have you chosen to locate in this area?

.....
.....

(c) Do you experience any discomfort with the area you located in? Are there any specific problems, elaborate?

.....
.....

(d) How many workers does your business employ?

.....

(o) What facilities exist in close proximity to your firm in order to supplement workers social needs (eg. Restaurants, Coffee shops, Recreational spaces etc.)

.....

(p) Do you have adequate parking space for workers and management?

1	Yes	
2	No	

(q) Do visiting cars (for customers/clients) have sufficient parking space?

.....

3. INDUSTRIAL SPACE (IS)

(a) How much space does your industry require for its current operation?

.....

(b) How much of that quantity of space is currently available?

.....

(c) What is the amount of: (give figures and percentages where appropriate)

1	Site size	
2	Site coverage	
3	Building coverage	
4	Operational space (%)	
5	Space allocated to office use (administration)	
6	Space for storage purposes	
7	No. of floors in the building	
8	No. of floors utilised by your operation	
9	Rent per square meter	

(d) How has your business needs for space changed over time, and why?

.....

(e) In your own opinion, is the building space you currently occupying suitably designed to meet the operational needs of your industry?

1	Yes
2	No

(f) If yes, what are the advantages?

.....

(g) If no, what do you think should be done to improve the situation?

.....

 (h) Have there been any alterations in the original state of buildings/site facilities as a result of the change in your operational requirements of space?

Elaborate:

.....

(i) Grade the following in relation to design & conditions of facilities.

NB: 1—Very Good, 2—Good, 3—Fair, 4—Bad, 5—Very Bad,

		1	2	3	4	5
1	Access in/out					
2	Loading/ off-loading access point					
3	Parking Space					
4	Pavement					
5	Building Orientation (roads)					
6	Floor space					
7	Building shape					
8	Environment within which you are situated. eg.Congella					
9	Interior Subdivision					

4. OPERATION RELATED QUESTION

(a) Grade the following aspects:

		Very bad	Bad	Fair	Good	Very good
1	Quality of premises					
2	Quantity of space					
3	Suppliers access					
4	Ease of access to Market /clients					
5	Rent rates					
6	Building arch. (shape & material construction)					
7	Locational advantages					

(a) Are there any other firms within your vicinity (Congella) that supply the same services as your industry?

1	Yes	
2	No	

(a) How do you relate with the above firms?

.....
...

(b) What advantages or disadvantages accrue to being part of a cluster of service firms offering similar or complimentary goods/services as you?

.....

!!Thank you for your cooperation !!!

THIS SECTION MUST BE FILLED BY PROPERTY AGENTS OR REAL ESTATE PROFESSIONAL

PLEASE ASSIST THE STUDENT BY FILLING THE FOLLOWING QUESTIONARRE AS PART OF COURSE REQUIREMENTS FOR THE DEGREE *MTRP-Natal University*.

NB: Any information given will be treated with confidentiality

(a) Are you dealing with business property at Congella?

1	Yes	
2	No	

(a) Area of involvement within the Congella area

1	Selling properties	
2	Letting premises	
3	Real Estate Agent	
4	Property Developer	
5	Other, specify	

(a) How long have you been involved in this business?

.....

(b) What are the main trends within the Congella property market, Explain?

.....
.....
.....

(c) What are the prospects for the emerging service industries in this area?

.....
 (d) From your experience, what are the dominant industrial changes experienced in the Congella area over the last two decades?

(e) What is the dominant form of property ownership-exchange?

1	Leasing (short term)	
2	Leasing (long term)	
3	Selling (whole premise)	
4	Selling (subdivisions)	
5	Other, Specify	

(a) What is the current rate of rent per square metre in Congella area?

(b) What are the general complaints from your clients regarding industrial properties at the Congella area?

(c) How do the existing zoning plans and Town planning schemes regulating development in the area affect property markets?

(k) Are there any specific problems regarding the above?

Explain.....

(l) What is the general response of the property markets to the problems listed above?

(m) How have changes in the metropolitan economy over the last five years affected industrial property (ie. Land price, space competition etc.) in Congella.?

.....
.....

!!! THANK YOU FOR YOUR INVALUABLE CONTRIBUTION !!!

GLOSSARY OF TERMS

'Existing building'- means a building lawfully erected before the material date, a building erected in accordance with plans which were approved by the council prior to that date, or a building erected in accordance to any authority duly granted by the council between the material date and the date of introduction of the existing Town Planning Scheme for the area in which the building is erected.

'Existing use'- means in relation to any building or land, a continuous use of that building or land for any purpose of substantially similar character for which it was lawfully being used at the material date, or, in the case of a building erected in accordance with plans approved before the material date, and which was not being used at that date, a continuous use of such building for any use for which it was designed, or whereafter the said date the council has authorised the use of a building, or, land for any purpose, a continuous use of or land for the purpose authorised, provided that:-

- (a) Discontinuance of the existing use of a building or land at any time after the material date for a continuous period exceeding 18 months shall be deemed to interrupt the existing use
- (b) Where on the material date, a person who with the consent of the council, was using any land for the purpose of an extractive industry or the deposit of waste material, or refuse or any other purpose of a similar nature, was legally entitled to use the neighbouring land for such purpose, whether before or after the material date.

'General industrial building'- means an industrial building other than a noxious industrial building, light industry building or service industrial building.

'Ground floor storey'-means that storey of a building to which there is an entrance from the outside on, or near the level of the ground and where there is more than one such storey, the lowest of such storeys.

'Industrial building'- means any building or portion of a building used or constructed or designed or adapted to be used for industrial purpose.

'Industrial purpose'- means in relation to any land or building the use thereof for the manufacture, production, extraction, adaptation, alteration, renovation, repair, processing or servicing of any article or material and shall include the use thereof-:

- (a) As a factory as defined in the Machinery and Occupational Safety act no:6 of 1983as ammended;
- (b) For the stacking, storing or preparation for resale of scrap material;
- (c) As an office, ...or for any other purpose which is incidental to or reasonably necessary in connection with the use thereof as a factory, builder's yard or scrap yard; but shall not include the use of any land or building as a petrol service station.

'Light industry'-means an industry which can be carried on in a light industrial zone without causing nuisance to other properties in such light industrial zone or to the general public or without detriment to the amenities of other use zones by reason of noise, vibration, smell, fumes, smoke, soot, ash, dust, grit, traffic generation or other causes.

'Noxious industrial building'-means an industrial building used or constructed or adapted to be used for purposes of any trade, business or occupation which, by reason of fumes, gases, vapours, dust, smell, noise,

vibration or other causes, is deemed by the council to be or likely to become, injurious or a source of danger, nuisance, discomfort or annoyance to the neighbourhood.

'Plot area ratio'- means the ratio of total floor area of the building to the total area of the subdivision on which the building is or is to be erected.

'Service industry'- means an industry of the kind referred to in the definition of the "light industry" but of a type in which not more than eight persons are engaged and which caters for specifically for the essential day-to day needs of a residential area.

In Congella, however a mention need to be made that this definition will be loosely applied to define as service industry, also those industries that do engage more than eight persons.

'Special building'- means a funeral chapel, certified reformatory, industry school,...and any other type of building or use not specifically referred to in these regulations. For example, in the case of Congella, funeral parlor buildings etc.

'Subdivision' or 'Site'- means any piece of land which has been allotted an individual description in the records of the survey-general and includes a remainder and also any group of subdivisions tied by a notarial deed in restraint of free alienation in favour of the council.

Harvey et al (1981:187) defines 'subdivision' as "the division of a lot, tract or parcels or other divisions of land for sale, development or lease.

OFF-STREET PARKING FORMULA FOR SPECIAL SHOPPING, GENERAL SHOPPING AND GENERAL BUSINESS 2 ZONES

In the case of shops and offices in Special Shopping, General Shopping and General Business 2 zones, the following formula is to be applied :

- (i) There shall be within the curtilage of the site sufficient parking facilities to provide one parking space for every 15 square metres of total floor area of such shops and offices, provided that where such total floor area exceeds the equivalent of 30% of the area of the site, parking for such excess floor area shall be provided at a rate of one parking space for every 30 square metres of such excess; and provided further that in the case of shops or offices converted to use as such or extended in size, the parking facilities in accordance with this paragraph shall be based only on the total floor area of such converted or extended area of shops or offices and shall be provided at a rate of one parking space per 15 square metres of total converted or extended floor area up to the equivalent of 30% of the area of the site, unless already provided at this rate, whereafter the rate shall be one parking space for 30 square metres of the total converted or extended floor area;
- (ii) Where the total extent of the shopping zone in which the site of the building is situated, whether or not such zone is intersected by any street, is less than one hectare but greater than one half of a hectare, there shall be within the curtilage of the site sufficient parking facilities to provide parking spaces at the rate of 75% of the requirements of paragraph (i) hereof and 60% of such requirements where the total extent of such shopping zone is one half of a hectare or less.
- (iii) The requirements of paragraphs (i) and (ii) hereof shall not apply in respect of General Shopping zones in the Point Lanes area and General Business 2 zones where there shall be within the curtilage of the site sufficient parking facilities to provide one parking space for every 30 square metres of the total floor area of such shops and offices.

The total floor area and the area of the site shall be calculated in accordance with Clause 23(7) of the Town Planning Scheme Regulations.