

**UNIVERSITY OF KWAZULU-NATAL**

**COLLEGE OF HUMANITIES**

**School of Built Environment and Development Studies**

**ASSESSING THE INCLUSION OF PEOPLE WITH PHYSICAL DISABILITIES IN THE ETHEKWINI  
TRANSPORT SYSTEM: THE CASE STUDY OF UMLAZI DISTRICT, Z SECTION**

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Masters of Town and Regional Planning

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## DECLARATION

I, Nokuzola Tracey April, declare that this is my own original work and all the sources used are quoted and acknowledged by means of references. This work has never been submitted to any other University or College.

Signed: \_\_\_\_\_

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Signature: \_\_\_\_\_

Date: \_\_\_\_\_

## DEDICATION

This work is dedicated to everyone suffering from low self-esteem, not believing they are worth anything; those with a disadvantaged background; those who've been told that they would never amount to anything; and those who have no direction in life. I have been there; I know how it feels like. Just know that you are worth much more than you can ever imagine. You determine your fate. You have the power to shape your future, and doing so will present you with challenges, but those only mean that you're going somewhere. Keep trying and keep going, until God reveals to you what exactly your destiny is or what you're made to be. The future is in your hands, shape it the positive way.

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## ABSTRACT

The purpose of this study was to assess the inclusion of people with disabilities in the transport system of eThekweni Municipality, specifically people living in Z section of Umlazi Township. A mixed method of research was executed with a sample of participants selected using both Snowball Sampling and Random Sampling methods. The participants consisted of residents of Umlazi with disabilities, their immediate family members, community members, local councillors, local taxi operators and municipal employees (particularly those from the Department of Transport). The findings revealed that people with disabilities facing challenges of mobility and transportation, which negatively affect all spheres of their lives, but most importantly the perception of these people by those surrounding them greatly influenced these challenges in the sense that they are seen as liabilities particularly by taxi operators. Recommendations that have been described focus on policy enforcement and inclusive planning, that would take care of their needs and eliminate some of these perceptions.

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# **CHAPTER ONE: INTRODUCTION AND BACKGROUND**

## **1.1 Introduction**

People with physical disabilities have been reported to be facing exclusion/discrimination within their societies, particularly perpetuated by the built environment (Sherman, 2012). This research is about the inclusion of people with disabilities in the transport system of eThekweni Municipality, particularly in the Umlazi Township. A person with a physical disability refers to one with a physical impairment which has a substantial and long term effect on their ability to carry out day-to-day activities (Sherman, 2012). People with disabilities face difficulties with mobility such as the inability to manage stairs, to walk, or sometimes to physically perform absolutely any activity on their own and they may require assistance to carry on with the normal day-to-day activities; for example walking, washing or eating (Sherman, 2012).

These conditions may be caused by genetic mutations from conception, in which one is born with; diseases one could be diagnosed with such as stroke or Amyotrophic Lateral Sclerosis (ALS); and they could be caused by accidents. This research will look at how people with disabilities can be accommodated in movement/displacement with reference to mobility/transportation; people with disabilities occupy a part of the population that is greatly oppressed, whereas they are capable of everything that any 'normal' human being is capable of, besides their impairments. For a long time people with disabilities have faced exclusion in their communities; being treated as different, not normal. This dissertation aims to investigate and assess the inclusion of people with physical disabilities in the eThekweni Municipality transport system.

In a census report of 2011, KwaZulu-Natal was shown to have one of the highest rates of people with disabilities in comparison with other Provinces in South Africa, as shown in Tables 1 and 2 (Africa, 2011). In these figures it has been shown that people facing the highest prevalence of physical impairment are the poor people living on the outskirts of the cities, i.e. poor areas. Based on the aforementioned facts, the context of this research is based within a township in the Province of KwaZulu-Natal, looking at whether government/planners include (or accommodate) those with physical disabilities in their development/transportation projects.

**Table 1: Number of persons with disabilities by Province and sex**

Province	N			%		
	Male	Female	Total	Male	Female	Total
Western Cape	96 549	90 301	186 850	4,4	3,9	4,1
Eastern Cape	173 229	199 037	372 266	5,8	5,8	5,8
Northern Cape	23 620	23 353	46 973	5,9	5,5	5,7
Free State	87 758	97 619	185 377	6,8	6,9	6,8
KwaZulu-Natal	219 685	250 903	470 588	5,0	5,0	5,0
North West	105 169	106 054	211 223	5,8	5,7	5,8
Gauteng	164 588	167 023	331 611	3,7	3,8	3,8
Mpumalanga	87 319	94 874	182 193	5,8	5,8	5,8
Limpopo	124 128	144 774	268 902	5,2	5,0	5,1
<b>South Africa</b>	<b>1 082 043</b>	<b>1 173 939</b>	<b>2 255 982</b>	<b>5,1</b>	<b>5,0</b>	<b>5,0</b>

Source: (Lehohla, 2004)

**Table 2: The disabled by type of disability, KwaZulu-Natal and South Africa, 2001**

Disability	KwaZulu-Natal		South Africa	
	N	%	N	%
Sight	110 937	23,6	577 096	25,6
Hearing	67 004	14,2	313 585	13,9
Communication	17 971	3,8	75 454	3,3
Physical	123 853	26,3	557 512	24,7
Intellectual	45 451	9,7	206 451	9,2
Emotional	55 883	11,9	268 713	11,9
Multiple	49 489	10,5	257 170	11,4
<b>Total</b>	<b>470 588</b>	<b>100,0</b>	<b>2 255 981</b>	<b>100,0</b>

Source: (Lehohla, 2004)

The KwaZulu-Natal Department of Transport states “our mission is to provide the public with a safe, integrated, regulated, affordable and accessible transportation system, and ensure that, in delivering on our mandate, we meet the developmental needs of our province, and promote transparent and accountable government, plan in accordance with the needs of our customers, and ensure effective, efficient and transparent delivery of services through cooperative governance and the appropriate involvement of the public through regular and accurate

reporting” (Department of Transport South Africa, 2012). This statement claims the Department is concerned with the inclusion of every citizen in their transport system, making it efficient for the people. By including every citizen in their plan encompasses every human being living in South Africa, including those with physical disabilities. The aim of this research is to investigate whether this objective has been carried through, and if not, the consequences of ignoring the physically disabled.

## **1. 2 Background**

The issue of people with physical disabilities has been raised internationally, policies have been put in place such as South Africa’s Integrated National Disability Strategy (1996), and organizations formed, but practical applications of such seem to be close to non-existence. The European Conference of Ministers of Transport (1991) published a report concerning the exclusion of people with physical disabilities (European Conference of Ministers of Transport, 1991). According to this Report, people with mobility impairments, which also refer to those with physical disabilities, have been reported to experience great exclusion from the Built Environment. Planners have shown ignorance to the needs of people with physical disabilities, hence the streets built and the transportation modes used do not accommodate those with disabilities. The rural/periphery areas in South Africa show the worst scenarios of such negligence. During the South African apartheid era people with physical disabilities who were non-Caucasian experienced higher forms of exclusion than their Caucasian counterparts, who, although were still discriminated and excluded due to their impairments, experienced far better lives in better environments where their needs could be catered to.

It is now twenty years of democracy, but South Africa still has very little to show in relation to those with physical disabilities and their exclusion, not only in their societies, but also in governmental offices. A major influence on the discrimination of people with physical disabilities has been shown to be the Department of Built Environment. This Department is responsible for creating or structuring space and creating or maintaining identity. The exclusion of the physically disabled in this Department leads to people with disabilities being viewed as ‘aliens’ or not belonging in the same society or space with able-bodied people.

Transport is a major service that activates the community or space as a whole, and for an area to be effective, transport needs to be efficient. Lack of access to transport deprives one of their freedom or exercising their freedom and having access to all spheres of life, such as social, economic, political, and other basic services needed by an individual. South Africa, especially KwaZulu-Natal, is dominated by the private sector in public transport provisioning, in particular taxis. Taxis have been proven to not being accommodating to people with physical disabilities, be it on crutches or wheelchairs. This report touches on the costs of an inefficient transport system; the consequences faced by the affected (that is the person with a disability, their immediate family and their community); the price paid by the Country as a whole; and the policies being broken in the process without having anyone to fight for or stand up for the rights of people with disabilities.

### **1. 3 Problem Statement**

The Integrated National Disability Strategy, Chapter 2 Section 9 of in the South African Constitution guarantees the right to freedom from discrimination based on a number of social criteria, including disability (Africa, 2000). This means people with physical disabilities have a right to be treated equally and to enjoy the same rights as all other South African citizens. South Africa as a democratic Country ensures all citizens equal rights, whether physically, mentally, or emotionally disabled. It has been evident that the people with physical disabilities may not have been included in a lot of development processes experienced by South Africa, more especially with regards to the transportation system. Firstly, the streets built may not be accommodating to people with disabilities, with pavements not accommodating a wheelchair; a person in crutches; a blind; or an elderly person. The texture or surface of the roads, especially in the disadvantaged areas of KwaZulu- Natal, may not be suitable for the modes normally used by the disabled.

Other major setbacks are the modes of transportation used in the area. They may not be suitable for those with disabilities, for example, the taxis, buses and rail transport used on a daily bases in eThekweni Municipality. These modes of transport do not seem to be accommodating of those with disabilities as they do not have enough space for their 'supporting tools', such as

wheelchairs and crutches. If people with disabilities are deprived of such access, they may face difficulties travelling to work, school, health care or recreational areas.

## **1. 4 Research Questions**

Main question: Is the eThekweni Municipality transportation system accommodative to those with physical disabilities?

1. To what extent do transport planning policies protect and accommodate the physically disabled?
2. How friendly is place-making in eThekweni, particularly in Umlazi?
3. What are possible causes of the exclusion of people with disabilities?
4. Do those with physical disabilities feel included in the development implemented around them?
5. What should be done for people with physical disabilities to feel accommodated in transport planning, and particularly in their mobility and access to desired destinations on a daily basis (in buses, taxis, rail, etc.)?

## **1. 5 Research Objective**

The main objective of this research is, to assess the extent to which people with physical disabilities are made to feel included in the mobility and transport system of eThekweni Municipality with particular reference to Umlazi Township.

1. To promote a transport system that accommodates everyone, especially people with disabilities;
2. To promote handicap friendly forms of transport that may have a positive influence on the environment and the well-being of those who are physically disabled

3. To improve the area's transport planning objectives and the livability and economic status of those impacted by this issue;
4. To promote compact neighborhoods; and accessibility;
5. Adaptation of modes of transport that cater for the physically challenged

## **1.6 Justification of the Research**

Transport is a substantial facilitator of sustaining livelihoods, thus an effective transport system leads to communities that are accessible and sustainable (Mashiri, 2005). It is an essential service needed by everyone to access necessary facilities. Therefore the inability to provide such a service efficiently may infringe one's right to an accessible environment. The problem of excluding people with disabilities does not only affect the immediate family, but the whole community, the Province, and the Country as a whole. This problem increases the feeling of being a burden by those with disabilities to their families as they require assistance in every movement they might attempt to make. This causes individuals with disabilities to feel lonely and different, as they realize that they do not fit in with the 'normal' people, which therefore affect their psychological and emotional wellness negatively.

Financial constraints are also visible in these situations. The costs of finding alternative transport for the individual is expensive to the family and dangerous for them to travel alone on a road not designed for them. This leads to higher unemployment rates of those with disabilities than able-bodied people; thus a higher number of uneducated people with disabilities. And lastly, designing a transport system accommodating to those with disabilities may benefit the environment. For example, there would be less private cars used for people with disabilities who cannot use public transport, this could benefit the people, and the Country's economy.

The exclusion of people with disabilities in the built environment does not only deprive the disabled of the equal rights but also goes against the Disability Rights Charter of the South African Constitution. According to this law, "persons with a disability have the right to experience equal opportunities in all spheres of life and they shall be protected against

exploitation and all treatment of an abusive or degrading nature, and people with disabilities shall be entitled to represent themselves in all matters affecting them and resources shall be available to enable them to fulfill this role” (SAHRC Report, 2002: 17). Most importantly, adequate and affordable transport shall be made available to people with disabilities. And with regards to the built environment, all new environments shall be accessible and safe to people with disabilities, and all reasonable steps shall be taken to make existing environments accessible and safe.

In a study conducted by Statistics South Africa on the motor impairments, in a form of walking and climbing stairs difficulties, within section Z of Umlazi, the findings showed approximately 260 people had reported difficulties; 170 reported having some difficulties, 62 reported having a lot of difficulties, and 27 reporting complete inability to perform these activities (Africa, Disability, 2014). In a study assessing geography by assistive devices and medication, out of the 13 799 residents, 320 individuals reported using a wheelchair and 393 reported using a walking stick or a frame in section Z (Africa, 2014).

## **1. 7 Outline of the study**

This dissertation has been divided into six chapters as indicated in the subsequent paragraphs.

**Chapter one** provides an introduction and background of the research study with an outlines of the research problem statement; together with the main research questions, objectives, justification of the study and outline of the study. Finally, a summary to the chapter is presented.

**Chapter two** outlines the key concepts and theoretical approaches underpinning the research problem; including physical disability, transport system, accessibility/ walkability and place making design.

**Chapter three** presents the literature reviews. This reviews the previous studies in relation to people with physical disabilities and transport system.

**Chapter four** provides the methodology of the study. The core of this chapter provides procedures undertaken to collect information needed and analysis.



**Chapter five** discusses the analysis and findings from the Umlazi District Section Z case study. This includes discussions of the findings.

**Chapter six** presents discussions conclusion and the recommendations to the study.

## **CHAPTER TWO: CONCEPTUAL AND THEORETICAL FRAMEWORK**

### **2.1 Conceptual Framework**

#### **2.1.1 Introduction**

In this section, various concepts that may better explain the problem and a better environment for the physically challenged, will be illustrated and elaborated. These are concepts popular within the field of urban planning and the built environment as a whole.

#### **2.1.2 Physical Disability**

A medical definition of disability is a physical or mental impairment that limits one or more of the major life activities, such as walking, hearing, seeing or simply behaving normally, of an individual (Watermeyer, 2006). This indicates the need for rehabilitation or medical intervention for people with such limitations. A social definition on the other hand defines disability as a condition caused by the way society is organized rather than a person's impairment (Watermeyer, 2006).

The medical model ignores the responsibility or role played by the surrounding environment (the family, community, school/work, and the built environment) in the disablement of the person with impairment from contributing to the society as much as their non-disabled peers. This view perceives people with disabilities as aliens, not normal, and not belonging to normal societies. Such perception has led to most communities developing a separate place or environment to send people with disabilities which may be away from the society of non-disabled people. Many families with disabled loved ones may feel isolated from the community and deprived of community support and in most cases this is seen as a curse to the family or a punishment of some sort. This view has caused government or development officials to not see the necessity to cater for the needs of people with impairments in development, as their conditions may be seen as issues that need to be solved or conditions not welcomed in able-bodied societies.

The social model, on the other hand, tackles what may be seen as the core/basis of such discrimination. This model stresses the role played by the surrounding environment to causing disability to people with impairments. If the surrounding environments were to cater for the needs of physically challenged people, these people would have no limitations to reaching their goals or being productive in their societies just as much as their non-disabled peers are. Such environments narrowed down may be: the beliefs that people have about people with disabilities; the built environment that may be the major cause for disabling environment; the communities and disability organizations; and the immediate family. The South African Constitution (1996) uses the social model to define disability, in order to tackle all the major causes of the discrimination against people with disabilities, and for inclusive development to occur.

### **2.1.3 Transport System**

A transport system, or transportation system, is typically a network of roads, streets, pipes, aqueducts, power lines, or nearly any structure which permits either vehicular movement or flow of some commodity (Boyce, 2013). A transport network is used for transport network analysis to determine the flow of vehicles (or people) through it within the field of transport engineering, typically using Mathematical Graph Theory. It may combine different modes of transport, for example, walking and car to model multi-modal journeys.

### **2.1.4 Accessibility/Walkability**

Todd Litman (2014) defines accessibility as ‘the ease of reaching goods, services, activities and destinations, which together are called opportunities, and may also be defined as the potential for interaction and exchange (Litman, 2014). This means that accessibility refers to the ability to access or use facilities that one needs, which may be buildings, roads, shops, health facilities, etc. Walkability on the other hand refers to friendliness of an environment to walking as a transport mode of choice. Walking is associated with good health, therefore the environment that supports walking may be referred to as healthy environments (Litman, 2014). This concept

stresses the need to plan for the people not for cars, increasing the chances of better sidewalks usable to the physically challenged.

Planning that is driven by accessibility is characterized by the compactness of development. This means that accessible neighborhoods emphasize compact development with all necessary facilities or resources within close distances from each other, easily reachable to the locals. Accessibility/walkability driven designs are characterized by short distances, development that is people-centered instead of motor vehicle-centered. These designs provide more space for people and less space for roads, encouraging cycling and walking as major or frequently used transport modes. In such designs, 'roads' may be safe and accommodative to everyone, including physically challenged people, in such a way that the sidewalks would be wider, smoother, and people's needs would be accommodated more than the use of cars. In such designs the use of automobiles may be seen as irrelevant, which would be the main aim of the concepts of accessibility/walkability.

### **2.1.5 Place-Making Design**

Place-making refers to urban design that prioritizes pedestrians more than motor vehicles (Spaces, 2012). In this type of design, places are designed for people, encouraging non-motorized modes of transport therefore promoting walking and cycling. In place-making communities are believed to have identity built by the social processes within the locals, so the place-making design goal is to emphasize and encourage these identities in areas and encourage public places as the main activators of the area.

## **2.2 Theoretical Framework**

### **2.2.1 Introduction**

This section shows a theoretical perspective of approaching the issue at hand. Various theories and approaches may be used to understand and try to solve the issue of interest. These include Environmentalist Theory of Child Development, Smart Growth Theory, Compact City and Advocate Planning.

### **2.2.2 Environmentalist Theory of Child Development**

“Theorists like John Watson, B.F. Skinner and Albert Bandura believe that the child’s environment plays a part in how the child learns and the behavior that they develop. Human behavior, development, and learning are thought of as reactions to the environment” (Tate, 2010)

According to environmentalists, the child's environment shapes learning and behavior; in fact, human behavior, development, and learning are thought of as reactions to the environment (Tate, 2010). In other terms, one’s environment shapes the way they think, feel and behave. In this Theory, for a child to be intellectually competitive, their environment (home, school, community, etc.) needs to provide them with a domain that reinforces learning and sharpening their competitiveness (Tate, 2010). With the case of physically challenged people, this Theory reinforces the social definition of disability, that people are disabled by their environments; the attitudes surrounding them, not by their impairments.

The 21st Century planning has witnessed the emphasis on compact development, accessibility and walkability in planning for sustainable cities. Such concepts have been greatly influenced by the likes of Sir Ebenezer Howard (1898) in his Garden City model and the likes of Jane Jacobs (1958) in her emphasis on developing for people instead of motor vehicles. The following theories emphasize these concepts.

### **2.2.3 Smart Growth Theory**

At the United Nations Conference on Environment and Development (UNCED) held in 1992, Smart Growth Theory was developed as a vision of Agenda 21. The Smart Growth Theory aims to enhance quality of life, preserve the natural environment, and save money over time (Design, 2011). Blakeman (2003) refers to the Theory “as a set of planning principles and development principles that result in more efficient land use and transport patterns (Blakeman,

2003). Smart Growth has ten defining principles (Blakeman, 2003):

1. Mixed land use
2. Take advantage of existing community assets
3. Create a range of housing opportunities and choices
4. Foster walkable close-knit neighborhoods
5. Promote distinctive, attractive communities with a strong sense of place, including the rehabilitation and use of historic buildings
6. Preserve open space, farmland, Natural beauty, and critical environmental areas
7. Strengthen and encourage growth in existing communities
8. Provide a variety of transportation choices
9. Make development decisions predictable, fair, and cost-effective
10. Encourage citizen and stakeholder participation in development decisions

Although not mentioned or included in the principles, the Smart Growth approach may be sensitive to the mobility needs of people who are physically challenged. This Theory emphasizes cities developed for people, fostering walkable close-knit neighborhoods, and citizen participation, which may be accommodative to physically challenged people and affords them a chance to participate and influence development that affects them.

In 1995 South Africa developed the Urban Development Strategy (UDS), following the defeat of Apartheid, to fix the damages caused by the system on South African cities (Theart, 2007). In the UDS, certain visions and strategic goals were identified to ensure the development of sustainable cities. According to Theart (2007) these strategic goals were:

- To create efficient and productive cities with less poverty and sustained by dynamic economies;
- To reduce existing infrastructure and service disparities

- To provide better housing and shelter and greater security of tenure for urban residents
- To encourage affordability growth of local economies
- To tackle spatial inefficiencies especially the mismatch between where people live and work and to improve the quality of the urban environment
- To transform local authorities into effective and accountable local government institutions
- To establish safe and secure living and working environments

These goals are in line with the Smart Growth principles (Theart, 2007). And as promising as this may sound, twenty years into democracy South African cities still display the Apartheid legacy and they have characteristics of poorly designed cities with continuing urban sprawl, which is related to low densities, poor public transport system and automobile oriented neighborhoods (Theart, 2007).

### **2.2.3 Compact City**

A Compact City is a theory that promotes accessibility and multiple land-uses (Neuman, 2005). It promotes mobility and it emphasizes mixed land-use and dense cities, promoting accessibility. Shrivastava (2009) described it as a multi-functional dense development (Shrivastava, 2009). The main characteristics of a Compact City are: central area revitalization; high density development; mixed-use development; services and facilities; hospitals; schools; parks; leisure and fun. Such development increases or promotes sustainability of a city or neighborhood (Neuman, 2005).

### **2.2.4 Advocacy Planning**

Advocacy refers to the public support of a policy or a public representation of someone (Angotti, 2007). Advocacy planning refers to the representation of marginalized people in the public sector by a professional planner or organization of planners. An advocate planner

directly interacts with the community of interest and in the planning process these individuals and their values are included. The planner is not biased and they do not impose the cultures and ideas in communities, but instead they stand for the community's values and represent them fully. The main aim is to enhance social processes through improving the environment (Angotti, 2007). Physically challenged people may have representatives, but what has been seen as a major problem, especially within their organizations is that they do not collaborate with other 'similar' (in a sense of representing a minority, disadvantaged or an oppressed group organizations) such as feminist and HIV/AIDS organizations. This has led to them not being as loud or noticed in the political sphere and in the society, as other organizations.

Paul Davidoff's "Advocacy and Pluralism in Planning" appeared in the Journal of the American Institute of Planners in 1965. Its main points were (Angotti, 2007):

- The planner is not solely a value-neutral technician; instead, values are part of every planning process.
- City planners should not attempt to frame a single plan that represents the "public interest" but rather "represent and plead the plans of many interest groups." In other words, planning should be pluralistic and represent diverse interests, especially minority interests.
- "citizen participation" programs usually react to official plans and programs instead of encouraging people to propose their own goals, policies and future actions. Neighborhood groups and ad hoc associations brought together to protest public actions should rightly do their own plans.
- Planning commissions set up as supposedly neutral bodies acting in the public interest are responsible to no constituency and too often irrelevant. There is no escaping the reality that politics is at the very heart of planning and that planning commissions are political.



- Urban planning is fixated on the physical city: “The city planning profession’s historical concern with the physical environment has warped its ability to see physical structures and land as servants to those who use them.” Davidoff said that professionals should be concerned with physical, economic and social planning. In a line that was relevant to the founding of the Hunter College urban planning program, he said: “The practice of plural planning requires educating planners who would be able to engage as professional advocates in the contentious work of forming social policy.”

According to Angotti (2007), Davidoff’s Theory was matched by his practice; he founded the Suburban Action Institute, which challenged exclusionary zoning in the suburbs. He was a member of Planners for Equal Opportunity (PEO), the first national organization of advocacy planners (Angotti, 2007). Physically challenged people have organizations representing them, but it does not seem as if they have an advocate or an advocate planner. This would be a planner that solely represents people with disabilities and caters mainly for their needs; representing them in the built environment department and in politics. This is very important in South Africa as politics seems to rule everything; therefore people need to be represented in politics in order to have their voices heard and participate in developing their environments.

Williams (2006) argued that South African planning ignores the needs of the economically disadvantaged, and as a result Community Development workers were developed by the government to take the role of advocate planner (Williams, 2006). These people represent people from the marginalized areas of South Africa to the government by using community participation to inform development.

### **2.2.5 Conclusion**

In conclusion, the exclusion of people with disabilities have been mainly informed/influenced by the medical perspective of what disability is. With the social perspective, more inclusive planning can occur, leading to a change in people’s perceptions of those with disabilities. Psychology shows that the environment one leaves in has a major influence in their development; thus putting most

responsibility of inclusion to planners, as this could also change the stigma associated with the disabled. Using the right theory and concepts such as Compact City, Smart Growth Theory, etc., life can be made better for the disabled, their families and the community as a whole. This would not only impact the social context, but the economic and environmental aspects as well. The next chapter reviews the body of literature that examines or touches this matter, and assesses the perceptions of this issue globally and locally.

## **CHAPTER THREE: LITERATURE REVIEW**

### **3. 1 Introduction**

This section is about the body of literature accessed that is related to the study. By definition, a literature review is the effective evaluation of selected documents on a research topic (Nordquist, 2014). Therefore in this section scholarly materials about the topic of this research's interest will be read, analyzed, evaluated, and summarized. This will be divided into different categories with an aim to tackle every angle of the problem of interest and understand the various aspect of it. This section will also include the various concepts related to the research topic and the theories applicable to the problem.

### **3. 2 Transportation as a Catalyst for Social Exclusion**

Transportation disadvantage can be seen as an equivalent to social exclusion. Socially excluded people or people experiencing social exclusion generally have to deal with a disabling transportation system (Wixey et al, 2005). Poor societies are usually poorly planned, with essential resources located further from the residents, requiring a form of travelling using motor vehicles. Transportation disadvantage may be situations where public transportation is poor, close to non-existence or inefficient, and/or situations where public transport is beyond the affordability of the people who need it, therefore failing to fulfill its very purpose. Public transport refers to the use of taxis, buses, trains and ferries, that charge set fares, run fixed routes, and are available to the public. The purpose for the existence of public transport is to provide mobility to those who do not own private vehicles, and is also considered an alternative to private vehicles. It provides economic opportunities and equalizes access to resources amongst citizens, more useful to the poor than the advantaged.

During the Apartheid era in South Africa people classified as non-Caucasians faced discrimination and social exclusion. These other races were located on the outskirts of cities, having to travel long distances to get to town or access necessary resources. South Africa was facing racial segregation then. Today, this country is faced by the widening gap between the

rich and the poor, and as seen in the apartheid era, the poor seem to be located on the outskirts of the city, having to travel long distances to town for employment and/or other resources. With such discrimination and exclusion going on, people with disabilities, such as those with physical disabilities, may be caught in between. This paper examines such effects on them, but most importantly in this section, the correlation between social exclusion and transportation disadvantage. Various researchers have conducted studies to assess whether this is true or a myth and this section acknowledges a few.

Detox and Armoogum (2010) conducted a study on mobility barriers for people with disabilities; encompassing those with motor impairment, visual impairment, and hearing impairments, and concluded that people with disabilities travelled less than 'able-bodied' people (Detox & Armoogum, 2010). This was found to be caused by the available modes of transport which were unaccommodating to those with disabilities; people with motor disability experiencing more difficulties than those with other disabilities (Detox & Armoogum, 2010). They also found that these people are rarely included or considered when planning transportation system. Most of the time they will have to use private cars specially designed for them, or in other cases government-provided modes of transport that accommodate them. This further causes exclusion from the rest of the society, creating or emphasizing the sense of being alienated. Physically disabled people were reported to experiencing more difficulties than those with other disabilities, as they require special designs for their comfortability (Detox & Armoogum, 2010). Such a problem is a global issue, also evident in South Africa where the taxi industry dominates public transport, especially in low-income communities.

In a unique departure from other studies, Lucas (2011) wrote a paper exploring the relationship between transport and social disadvantage in the development context, the key difference being income poverty is absolute and where there is much lower access to both private and public transportation generally (Lucas, 2011). This study (Lucas, 2011) aimed to explore whether the concept of social exclusion remains valid when it is the majority of the population that is experiencing transport and income poverty compared with the minority who do so in advanced economies. Lucas (2011) found that low-income communities or peripheral areas

experienced poor transport system, and in most cases the modes of transport used are costly, worsening their economic situation (Lucas, 2011). As with the situation in South Africa, people living in low-income communities or peripheral areas tend to experience difficulties with transportation, whether it is private or public. This is evident in South Africa, where in the poorest places the most expensive modes of transport (taxis) are the only option for travelling.

A mixed method study was conducted by Shergold and Parkhurst (2012) evaluating transport-related social exclusion amongst older people in the rural side of England (Shergold and Parkhurst, 2012). The aim of the study was to determine the role played by transport in social exclusion. Shergold and Parkhurst (2012) stressed that rural areas and people of old age are associated with a higher risk of social exclusion, with accessibility identified as having an important facilitating role (Shergold and Parkhurst, 2012).

Shergold and Parkhurst (2012) stressed that rural-dwellers have to travel further to access 'rural services' than other people living in cities or suburbs. These services are usually necessary ones such as hospitals, doctors, dentists, pharmacy, etc. Rural dwellers are forced to travel long distances in order to access such services, which is normally quite costly (a common case in all low-income societies globally). In a 2001 report on rural transport, the Commission for Integrated Transport (CfIT, 2001) noted that less than two-thirds (60%) of rural households lived within 13 minutes walking distance of a food store compared to 82% nationally (CFIT, 2001). If such necessary resources are located far from rural dwellers, it makes it difficult for them to access such services or employment for that matter. In the case of rural-dwellings in England, Shergold and Parkhurst (2012) stressed this limits the ability of older people to be active in the community and exercise their right to access essential resources. They concluded that transport does not cause or lead to social exclusion but it does have an impact on it (Shergold and Parkhurst, 2012). For example, the people mostly not accommodated by public transport travel less, and in addition these people become excluded or devalued in societies as the case of older people and those with disabilities.

Although a direct correlation between social exclusion and transportation disadvantage has not been found, socially excluded people tend to face difficulties with public transportation,

whether it is its affordability or its efficiency. Church et al. (2000) grouped the more particular factors that may limit the mobility of socially excluded people into seven main categories, which are:

- Physical exclusion: this factor refers to the physical barriers caused by the inaccessibility of the transport system and the built environment. The nature of the transport system and the built environment excludes certain groups of people because of their physical and/or psychological difficulties (Church et al, 2000).
- Geographical exclusion- poor transportation provision is one the factors that contribute to urban social exclusion and deprivation, alongside peripherally and inaccessibility resulting from poor transportation. This was cited by studies in Britain and the rest of Europe, although no systematic attempt to find the correction between exclusion and inaccessibility. But it has also been argued that inaccessibility may not always have negative impacts, for example, the case of Athens where spatial isolation has resulted to the development of strong local information networks within some local communities beneficial to community cohesion, and that regeneration and new transport initiations (*Vrychea and Golemis, 1998*). Correspondingly, Grieco (1994) “noted that in the context of east London that more isolated communities have local labor market information networks and that regeneration and new transport initiatives can open up these areas to labor market competition that is problematic for local residents” (Church et al, 2000). But it can be argued that such situations are incredibly rare in London, where complex economic and social conditions mean that most individuals are unlikely to be able to carry out all their activities within their immediate local area (Church et al, 2000).

- Exclusion from facilities: there is a correlation between social exclusion and the lack of access to services such as good shopping, financial, leisure, health and educational facilities, in which areas with high levels of social exclusion often lack such services due to time and income constraints and the flight of some of these facilities from problem areas (Leyshon and Thrift, 1995 and Countryside Agency, 2000).
- “Land use trends such as the growing popularity of out of center facilities and supermarkets can make it difficult for people without a car to access these facilities. In some situations this has combined with the ‘flight’ of supermarkets from poorer areas to create ‘food deserts’ i.e. areas where local residents do not have access to cheap and nutritious food. A survey of unpopular local authority estates in the UK (Power and Tunstall, 1995) found that none had a supermarket or range of shops whilst no more than five out of a sample of twenty had a Post Office, a clinic, a launderette or a chemist” (Church et al 2000:186).
- Economic exclusion: Income and transport networks are crucial for accessing labor market information, and constraints on accessing these may negatively impact the geographical extent of job search and on work travel patterns. It is increasingly accepted that, while many of the factors limiting the capacity of unemployed people to identify vacancies and secure employment stem from their lack of social networks connecting them to employed people and to deep-seated prejudices on the part of employers, problems of physical access and travel costs (both monetary and temporal costs) remain (Bottomley et al., 1997). In the recently completed evaluation of the Job Finders Grant (Dickinson and Broome, 1998) nearly 30% of those who received a grant and obtained a job used the grant to pay their travel costs. In South Africa this has been seen as one of the main causes of high unemployment in rural or periphery areas (Church et al, 2000).

- *Time-based exclusion*: transport networks constraints cause difficulties in arranging commitments to allow adequate time for travel, particularly for careers. Notions of time poverty affecting high and low income groups in different ways are rather simplistic (Boulin, 1993). A growing body of evidence suggests that careers in social groups prone to social exclusion are particularly constrained by time in mobility decisions. A study by the Policy Study Institute (Bryson et al., 1997) of lone mothers used a range of indicators to examine the nature of multiple deprivation and hardship facing lone mothers. The problems of arranging childcare were often linked to the need to travel. A more detailed local case study of women in dual adult households in a deprived area of Sheffield (Smith, 1997) indicated that decisions to participate in the labour market were influenced by the interaction between household structure, supporting social networks, and the nature of jobs including their location (Church et al, 2000).
- *Fear-based exclusion*- In the 1980s the Home Office Standing Conference Report on the Fear of Crime studied the nature of 'fear' in public and private spaces and discovered the intricate variety of attitudes towards public spaces ranging from gratification, through apprehension and awareness, fear and worry, to fear uttered as terror (Home Office, 1989). Latest research (Department of Environment, Transport and the Regions, 2000) shows how the nature of individual 'fear' in public spaces differs strikingly according to social characteristics, particularly gender, and highly impacts on how public spaces and transport facilities are used (Church et al, 2000).
- *Space exclusion*: Security and space management approaches regularly discourage certain socially excluded people from using public and quasi-public transport spaces. The design, surveillance and management of public spaces can reduce 'fear' people have towards them, thus increasing accessibility to vulnerable people (Oc and Tiesdell, 1997). Similarly, certain types of surveillance and management of public transport spaces can weaken any sense of ownership amongst excluded groups, especially the young (RATP, 1995).



- In all the seven factors listed above, only a few can be tackled by modifications to the nature and availability of public transport services. For example, existing evidence for London (Meadows et al., 1988) suggests the nature and success of job search is influenced by the individual's access to transport but improvements in public transport may have only a very marginal impact on job search compared to adjustments in labour demand and supply, the acquisition of new skills or adjustments to unemployment benefits. The mobility of lone parents may be far more influenced by childcare provision, levels of welfare benefits and informal support networks (Smith, 1997; Church et al, 2000).

Church et al. (2000) clearly shows here that the issue of inaccessibility is faced by those facing social exclusion, but not everything may be the product of poor transport; other factors do exist that play a part in other unfavorable outcomes, e.g. unemployment (Church et al, 2000).

### **3. 3 Built Environment Ignoring Physically Challenged**

The built environment is defined as the human-made or human-altered space in which individuals live out their daily lives (Rosso, 2011). An interesting study related to this topic was done by Thomas (2007), on the relations between people with 'disabilities', politics and the built environment. The purpose of the article was to replace the notion of accessibility as being a purely technical design issue with the idea of its being a socio-political issue, in which standards of design are one essential element (Thomas, 2007). According to Thomas (2007), equality of opportunity and an end to discrimination against people with disabilities has not made the same political headway as anti-sexism and anti-racism, but within the planning profession a great deal of attention and appreciation has been paid to the concept of accessibility. In this sense, disability is viewed as a design problem, whereas Thomas (2007) argues it is actually a socio-political problem. He stresses that although policies have been developed, their success is hindered by the planners and other development professionals whose attitudes towards the

inclusion of people with physical disabilities are different (Thomas, 2007).

With the help of the built environment, living conditions can be better for persons with physical disabilities and their families. Streets designed for the people, instead of motor vehicles, encourage mobility, and are associated with higher connectivity leading to shorter pedestrian distances and may be more assistive in such issues (Rosso et al, 2011). Such design reduces traffic and results in safer streets, and proximity to destinations such as retail establishments, parks, and green space. When people have mobility limitations, they not only feel isolated and loss of social ties, but they also suffer depression and other adverse mental health outcomes. According to Rosso, Auchincloss and Michael (2011) these people are also at higher risk of health service utilization and institutionalization. Therefore mobility is not only a result of impairment or any single cause but it is also influenced by the environment. These restrictions affect a person's ability to complete purposeful actions and fulfill role expectations (Rosso et al, 2011). According to Rosso et al, it is unknown if adults choose neighborhoods with less demanding environments (Rosso et al, 2011).

Imrie and Hall (2001) in their study on the role of attitudes and practices of property developers and related agents in facilitating or constraining disabled people's access in the built environment, stress the role played by the built environment in social division (Hall, 2001). According to Imrie and Hall planners and developers seem to be unsympathetic to and ignorant of the needs of people with disabilities, and this is evident at all stages of the design and development of the built environment. The main issue these researchers raised was that developers do not consult with people with disabilities to understand their needs and include them in their development projects, and the greatest disappointment is that these developers are not legally obliged to consult with these people, showing just how the government itself may be ignorant of the needs of those with disabilities (Hall, 2001). Therefore developers have limited knowledge of the needs of people with disabilities and regard them as a 'minor consideration' in building projects. More legislation catering and protecting people with disabilities in all spheres are still needed (Hall, 2001). This is another issue investigated in this paper, to see the extent to which people with disabilities are included and represented in government. There have not been any articles or publications concerning such a problem in the

South African context, further motivating the importance of this research.

### **3. 4 The Experience of Physically Challenged People in Low-Income Societies**

In 1999, Ellen Groce (1999) published an article titled an overview of young people living with disabilities: their needs and their rights, stressing those adolescents are deprived the right to be active in their lives and their communities (Groce, 1999). She found that discrimination of 'disabled' people is worse when one belongs to a minority group or an oppressed group, such as blacks under the apartheid government in South Africa. He then argued that the main cause of disability is not one's impairments, but the disabling attitudes surrounding them (Groce, 1999).

Adolescents and youth with disabilities are among the neediest of the world's children, often lack basic health care and are not allowed to attend school or to find a job (Groce, 1999). Above this, Groce (1999) also stresses that this youth is at greatly increased risk of physical and psychological abuse and sexual exploitation, when compared to their non-disabled peers. Groce (1999) emphasized the deprivation of the youth of their rights to participate in their families and their communities. Although attempts have been made to end discrimination against disabled youth, this has been followed by an increase in their inferiority along the years. Such a problem has been a result of the ignorance to perceive the youth as equal and having similar needs with their non-disabled peers. Organizations that represent or advocate for disabled people tend to group the youth with children or adults, ignoring their unique needs and the significance of their developmental stage (which is a stage where they are supposed to be realizing their future but instead they face discrimination and prejudice). As a result, Groce (1999) found that after the age of 12 most of these young people become inactive in organizations (Groce, 1999).

Groce (1999) looked at the inclusion of youth and adolescents with disabilities in the Convention on the Rights of the Child article 2 and 23. Article 2 calls on the States parties to "respect and ensure the rights set forth in the Convention to each child within their jurisdiction without discrimination of any kind, irrespective of the child's or their parent's or legal guardian's race, color, sex, language, religion, political, or other opinion, national, ethnic or

social origin , property, disability, birth or other status”. And article 23 states that children, adolescents and youth with disabilities are guaranteed (Groce, 1999):

- The right to a full and decent life, to ensure dignity, self-reliance and participation in the community;
- The right to education, training and preparation for life skills and employment;
- Access to health services;
- Access to rehabilitation services and recreation; and
- The right to special care and assistance, appropriate to the child’s condition

Of course some, if not most of these needs may be met, but the sense of being alienated and different from the rest of the able-bodied people is the basic and major cause of disability. People with disabilities are mostly disabled by the surrounding attitudes, stigmas and discrimination, than they are by their impairments. Groce (1999) found that this situation is worse to disabled youth living in disadvantaged communities and developing countries, when looking at it at a larger perspective. In this study they found some of their participants, particularly from South Africa, stressed more about the price paid by their families by having a child with a disability. Families with disabled members, according to the study, may find life very expensive and exhaustive as they have to travel most of the time in order to access proper medical facilities (Groce, 1999). The impact of transport was overlooked by Groce (1999), especially the cost of travelling in poor societies. A perfect example for these findings is South Africa and people with disabilities who are black. These people face great oppression, but most of it is perpetuated by past planning/apartheid planning. Black poor people were moved to the periphery areas which were not appetizing in the sense of residing in them, as evident in the steepness of Umlazi Township. By these people living in such conditions, people with disabilities experienced worse consequences of such segregation (Howell & Lazarus, 2003).

Vickerman and Blundell (2010) conducted a study on the experiences of disabled students in the higher education, particularly within the United Kingdom's Higher Education Institutions (HEI) (Blundell, 2010). This study aimed to evaluate policies against the exclusion of disabled students in HEIs and the students' experiences under such policies. They found that disabling attitudes from the HEIs staff and those involved in employment, accompanied by the discomforting physical environment were the main causes of difficulties faced by 'disabled' students (Blundell, 2010). This study shows that in the United Kingdom the discrimination of students with disabilities may have been condemned through policies such as the Special Educational Needs and Disability Act 2001 (SENDA) and Disability equality duty (DED). But the major concern underlying the discrimination of students with disabilities was the inaccessible environment and the inaccessible built environment around them, especially inaccessible buildings and the uneven understanding of these students within the institution by staff and non-disabled students (Blundell, 2010).

Another study similar to Blundell (2010) was conducted by Domingo (2012) stressing that the main cause of disability is social exclusion, the attitudes surrounding those with impairments, not the impairment itself (Domingo, 2012). With such attitudes found in a HEI, the professionals produced will have the same attitude on the field, further excluding those with disabilities in future development. In such an environment people with disabilities feel inferior, not belonging and not comfortable to participate in social activities or interact with other people (or students in this case). This will also affect their academic performances, thus limiting them from showing their full potential academically and in other activities.

Mannan et al (2012) conducted a study titled Core Concepts of Human Rights and Inclusion of Vulnerable Groups in the Disability and Rehabilitation Policies of Malawi, Namibia, Sudan, and South Africa (Mannan et al, 2012). In this study, the researchers report on the development of EquiFrame, a novel policy analysis framework that was used to evaluate the disability and rehabilitation policies of Malawi, Namibia, Sudan, and South Africa. The policies were assessed in terms of their commitment to 21 predefined core concepts of human rights and inclusion of 12 vulnerable groups. Hasheem et al found that disability is a factor of social exclusion, and not of

impairment (Mannan et al, 2012). With these programs, it can be ensured that no development takes place without properly accommodating those with disabilities

### **3. 5 Perceptions of people with disabilities**

In South Africa people believe in the notion of *Ubuntu*, which refers to a social system of interrelatedness whereby people's humanity is determined not by their personal qualities, but in terms of how they relate to all in their community (Gubela Mji, 2011). This notion stresses the interconnectedness way of being, opposing the Western individuality approach of life. In this way, one's feeling of importance or belonging to a society is greatly influenced by people's attitudes toward them. One relates to the immediate community, and if they seem different or their culture does not approve of them (as in most cases), they will feel alienated and disabled by these attitudes (Gubela Mji, 2011). With this understanding, people with disabilities would equally participate in their societies as their peers if the attitudes towards them are positive and the spirit of Ubuntu applies to everyone.

South Africa is a multicultural, multi-racial and multilingual country, with a wide range of different values, different beliefs and different traditions. Due to such diversity there are different perceptions, attitudes and practices related to disability (Masasa et al, 2005). Masasa, Irwin-Carruthers and Faure (2005) showed that people have different ideas on what causes disability, which include alcohol consumption during pregnancy, premature birth and/or disease infection during pregnancy (Masasa et al, 2005). In their results, they showed that black people dealt better with disability than other races. But they also have their own beliefs on what causes disability, such as incest taboo, witch craft, God's punishment, etc. (Masasa et al, 2005).

### **3. 6 Conclusion**

Issues such as the definition of persons with a disability remain major challenges that influence developers and other government officials to bypass the needs of people with disabilities in their projects and objectives. Advocacy planning was developed to cater for such issues, having

planners that would represent disadvantaged groups, in this case physically challenged people, in politics and in the Department of Built Environment as a whole. But such representation has seemed to shrink as time went by, mainly caused by the alienation between organizations representing minorities; disability organizations alienate themselves from other organizations, such as women organizations, children organizations, AIDS, etc., which have gotten the public's attention, leading to people with disabilities to continually being less represented in major spheres that play vital roles in their lives and how they are perceived in societies.

Although there have been designs, such as compact design, place-making design etc. which may be seen as inclusive to people with disabilities, these people still need to be put in mind and their needs be considered as essential in the development of new urban designs instead of just fitting them by accident or chance in already developed designs mainly for able-bodied people.

Accessibility is a basic element to a productive society, and to a dignified and productive individual. Equal accessibility to resources may be the key factor to achieving equality in our societies, since it seems to distinguish between different classes of the society. With regards to the literature reviewed in this paper, these articles illustrate the interconnectedness of social exclusion, transportation disadvantage and low income societies, which affect people with disability more than their abled-body peers. It has been a great challenge to access articles looking at this problem within the South African context, which has led to the perception that people with disabilities tend to be ignored when it comes to development, not only in South Africa, but in most developing countries.

## **CHAPTER FOUR: METHODOLOGY**

### **4. 1 Introduction**

In this chapter, the research design, research approaches, study site, target population, sampling method, sampling and sample size are discussed. In addition, it presents information on data collection and the data analysis that was used for this research.

### **4. 2 Research Method**

In this study, a mixed methodology was used for more accurate and holistic results. A mixed methods research, sometimes referred to as mixed methodology/ multi methodology research, is a methodology that “combines elements of qualitative and quantitative approaches (e.g., Use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the purpose of breadth and depth of understanding and corroboration” (Clark, 2011). It offers you the best of both worlds: the in-depth, contextualized, and natural but more time- consuming insights of qualitative research coupled with the more-efficient but less rich or compelling predictive power of quantitative research. A mixed methods research was developed in the early 1990s, seen as providing the most complete analysis of problems (Clark, 2011).

The advantage of using mixed methods research, as mentioned above, is the holistic nature of the method. It encompasses the strengths of both qualitative and quantitative methods; providing both statistical and in-depth data. Creswell and Clark (2011) also emphasized the mixed methods research provides strengths that offset the weaknesses of both quantitative and qualitative research (Clark, 2011). For quantitative method, questionnaires were used for statistical use, and for qualitative method more in-depth interviews were taken, in order to understand the feelings and thoughts of the study group.



### **4.3 Data sources**

In research there are primary and secondary sources of data. Clarke (2005) points out that, secondary research involves the examination of studies conducted by other researchers, while primary is about the study of a subject through first hand observation and investigation. Therefore, in this study, the researcher used articles, government publications, agencies' publications and books in order to collect relevant information. On the other hand, the researcher, the current study used semi-structured interviews, questionnaires and observation coupled with photographs to collect pertinent information. This enabled the researcher to collect original data from key informants.

### **4.4 Sampling Method**

Sampling refers to the process of selecting a few from a bigger group to become the basis for predicting a fact. A method viewed as best suitable for sampling in this study is Snowball Sampling. This method is used when the desired sample characteristic is rare (McGarty, 2003). It may be extremely difficult or cost prohibitive to locate respondents in these situations. Snowball Sampling relies on referrals from initial subjects to generate additional subjects. While this technique can dramatically lower search costs, it comes at the expense of introducing bias because the technique itself reduces the likelihood that the sample will represent a good cross section from the population. Advantages of using Snowball Sampling is one is able to gather a sample of hidden populations, especially when dealing with very sensitive issues (Katz, 2006). One major disadvantage about the method is that the sample may not be the best representative of the population of interest, as was the case with this research, but one can get the closest sample to the one desired (Katz, 2006).

In this study, snowball sampling was very useful in reaching participants with disabilities, as it was difficult to find the sample needed. Participants gave referrals to other people with the characteristics needed for the study. This made the study more manageable, as participants were phoned to arrange meetings in time. The sampling method made the process quick and effective. Some of the disadvantages of using this method was that it produced a sample of participants of one category. For example, participants in this study were all employees as none of them new/or could think of younger participants to diversify the sample. Secondly,

participants came from different sections of Umlazi, and not only the desired Z Section.

#### 4. 5 Case Study: Umlazi

The American Psychological Association reported the rate of physically challenged people is highest in low- and mid-income societies than is in high-income societies (Association, 2014). The study area for this paper is Umlazi district, the second largest township in South Africa. Umlazi is a low- mid-income community, an area of 47.46 km<sup>2</sup> and has a population of 419 389 people (eThekweni Municipality, 2008). This area is characterized by formal and informal housing.

**Figure 4.1: Locality Map**



Source: Google maps

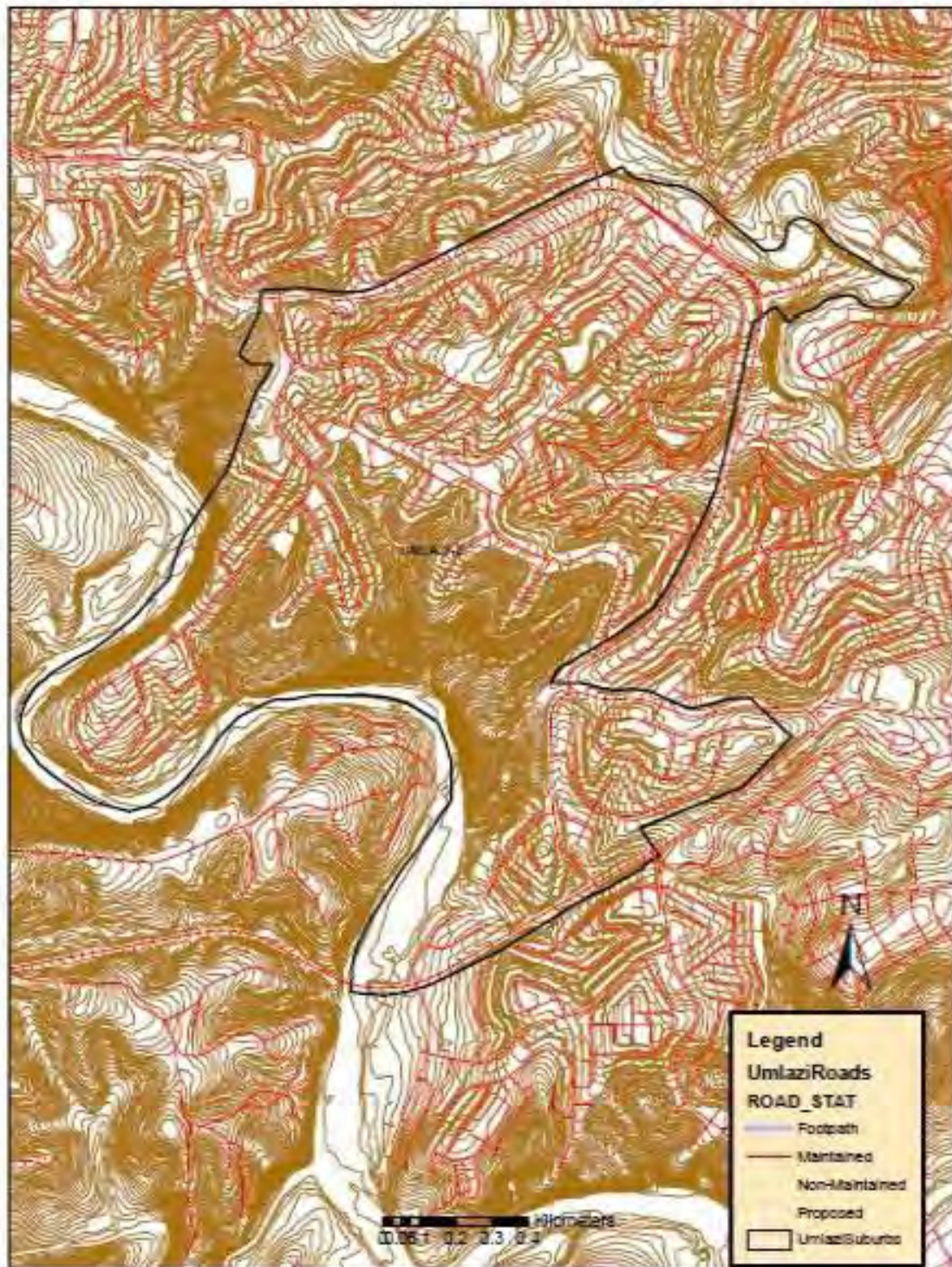
Umlazi is on the south coast of KwaZulu-Natal, located south-west of Durban. This area was developed as a township in the 1940s, and this was later reinforced through the Group Areas Act of 1950. Poor people living in the City of Durban were forcefully moved outskirts of Durban by the Apartheid government. Black Zulu-speaking people were moved to places such as

KwaMashu and Umlazi, to name a few, and these are hilly, not so attractive areas. Z Section is located on the south-west of Umlazi, Figure 4.1 shows this area is very hilly, an obvious challenge faced by those with disabilities.



*Figure 4.2*

## Umlazi Z Section Contours Map



*Source: N.T. April 10/10/2014*

In a study conducted by Statistics South Africa on the motor impairments, in a form of walking and climbing stairs difficulties, within Z Section of Umlazi, the findings showed about 260 people had reported difficulties; 170 reported having some difficulties, 62 reported having a lot of difficulties, and 27 reporting complete inability to perform these activities (Africa S. S., Geography by Assistive Devices and Medication: A Wheelchair for Person Weighted, 2014). And in a study assessing geography by assistive devices and medication, out of 13 799 residents, 320 individuals reported using a wheelchair and 393 reported using a walking stick or a frame in Z section (Africa, 2014).

Available transportation modes in the area are mostly taxis, buses, private automobiles, cycling, walking and rail. According to Statistics South Africa, physically challenged people living in poor societies inescapably have more grim issues than their wealthy equivalents, as they lack resources to improve their circumstance (Statistics South Africa, 2012). Transport planning has been viewed as having a major influence in the inclusion or exclusion of certain people in the society; therefore if people with disabilities were included or accommodated in transport planning they would be able to live a 'normal' life and be treated like a 'normal' person (Church, 2000). This statement then influenced the research to be taken in the low- to middle-income

society in South Africa, but also societies with less access barriers. Participants needed for the study are: ten physically challenged people, five family members, five community members, five public transport operators, a counselor, and the manager of transport authority coordination. According to Statistics South Africa (2012) this area's demographics are as follows:

**Table 3: Space-Time Research Disability: Age groups in 5 years by Population group and Gender for Person weighted, Umlazi Z**

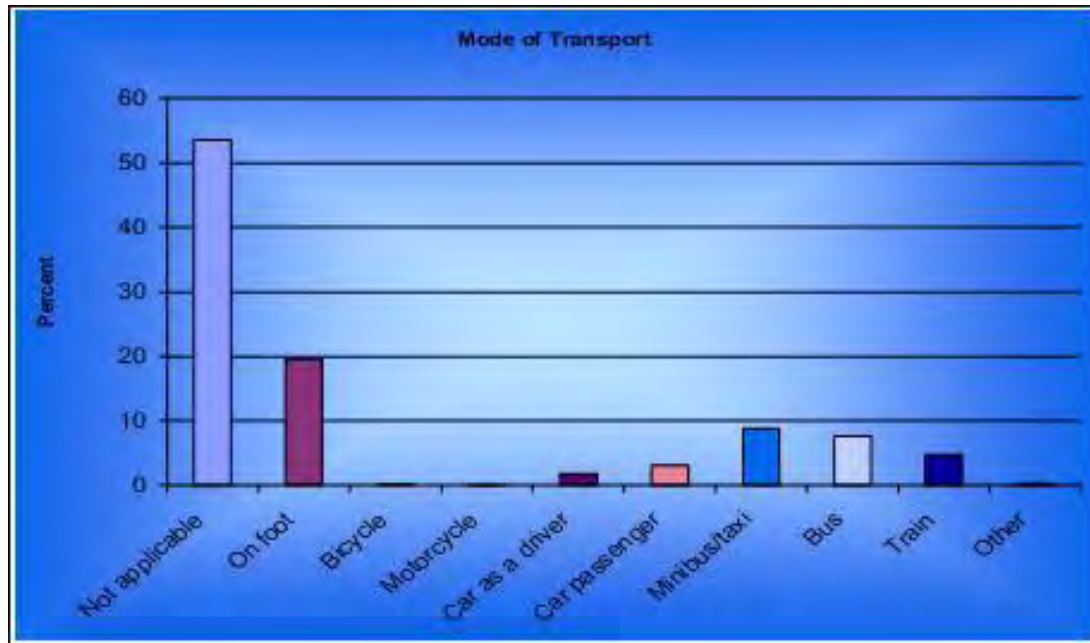
Age Groups	Black African		Coloured		Indian or Asian		White		Other	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
00 - 04	663	613	-	4	-	-	-	-	2	-
05 - 09	558	509	-	1	-	3	-	1	-	-
10 - 14	613	575	-	-	-	-	-	-	1	1
15 - 19	798	761	1	-	-	1	-	1	-	-
20 - 24	884	890	1	1	1	1	-	-	-	1
25 - 29	809	829	2	1	1	-	-	-	-	-
30 - 34	545	602	-	2	-	-	-	-	-	-
35 - 39	447	464	-	-	1	2	-	-	1	1
40 - 44	319	377	-	-	-	-	-	-	1	1
45 - 49	284	404	-	-	-	-	-	-	-	-
50 - 54	270	344	-	-	-	-	-	-	-	-
55 - 59	182	283	-	-	-	1	-	-	-	-
60 - 64	130	212	-	1	-	-	-	-	-	-
65 - 69	55	108	-	-	1	-	-	-	-	-
70 - 74	33	82	-	-	-	-	-	-	-	-
75 - 79	18	44	-	-	-	-	-	-	-	-
80 - 84	6	26	-	-	-	-	-	-	-	-
85+	7	15	-	-	-	-	-	-	-	-

*Created on 09 June*

*2014*

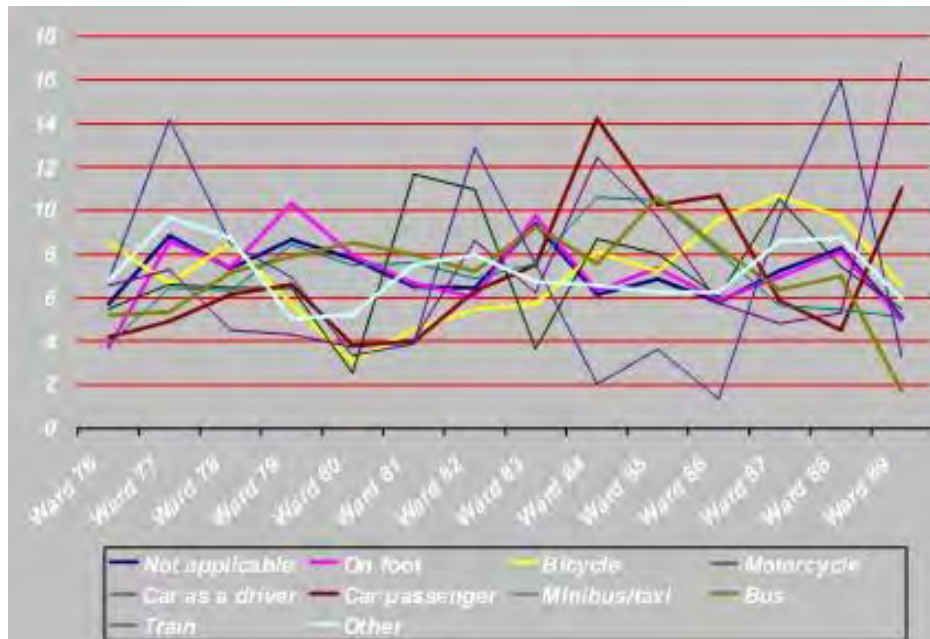
Available transport modes in the area are mostly taxis, buses, private automobiles, cycling, walking and rail. Residents travel to Mega City Mall for their shopping needs. According to Statistics South Africa, physically challenged people living in underprivileged societies inevitably have more issues than their wealthy equivalents, as they lack resources to improve their circumstance (Statistics South Africa, 2012). Transport planning has been viewed as having a major influence in the inclusion or exclusion of certain people in the society; therefore if physically challenged people were included or accommodated in transport planning they would be able to live like 'normal' people and be treated like a normal person. This statement then influenced the research to be taken in the poorest society in South Africa, but also society with easier access. Participants needed for the study are: 10 people with physical disabilities, 5 family members, 5 community members, 5 public transport operators, a counselor and the manager of transport authority coordination.

**Figure4.3: Mode of transport commonly used in Umlazi**



Source: (Lehohla, 2004)

**Figure4.4: Mode of Transport by Ward**



Source: (Lehohla, 2004)



In the graphs above, *Figure 4.2* shows the various modes of transport used in Umlazi, and *Figure 4.3* illustrates these various modes of transport according to the wards; our case study is situated in Ward 85 (Section Z within the Umlazi Township). In the case study the most used mode of transport to the least used are: car passenger, car as a driver, minibus/taxi, bus, motorcycle, bicycle, travelling on foot; and train being the least used or less available in our case study.

#### **4. 6 Key informants**

In this study, interviews and questionnaires were administrated to the key informants presented in the following table. Table 4 below and figure 4.5 below show the percentage breakdown of their respective contribution to the study.

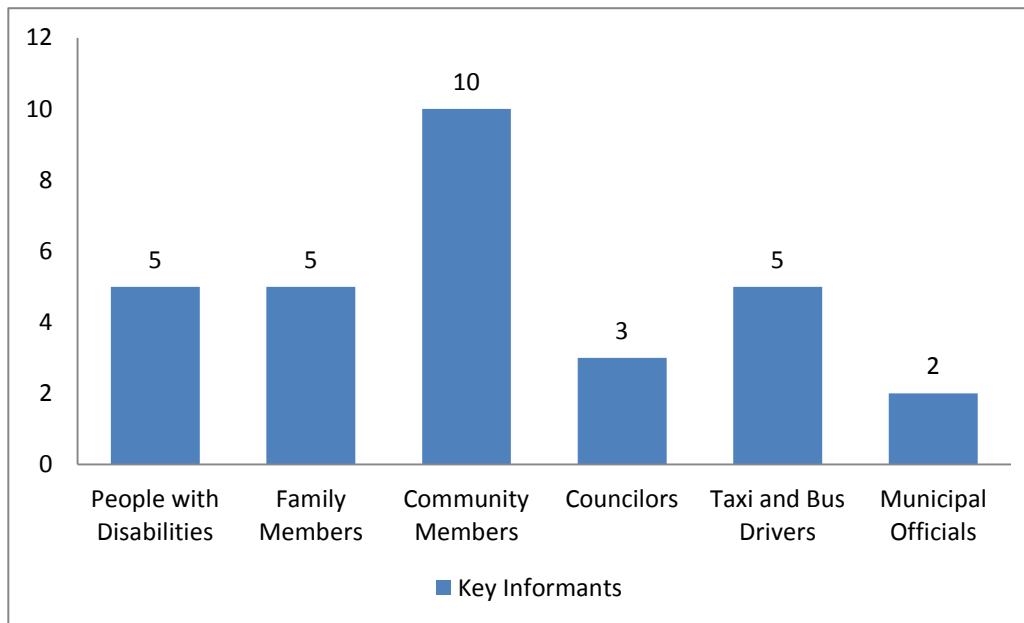
*Table 4: Key Informants*

<b>KEY INFORMANTS</b>	<b>NUMBER</b>	<b>PERCENTAGE%</b>
<b>People with disabilities</b>	5	16.7
<b>Municipal officials</b>	2	6.7
<b>Councilors</b>	3	10
<b>Community members</b>	10	33
<b>Family members of disable people</b>	5	16.7
<b>Taxi and bus drivers</b>	5	16.7
<b>TOTAL</b>	<b>30</b>	<b>100</b>

*Source: Author, 2014*



**Figure4.5: Key Informants**



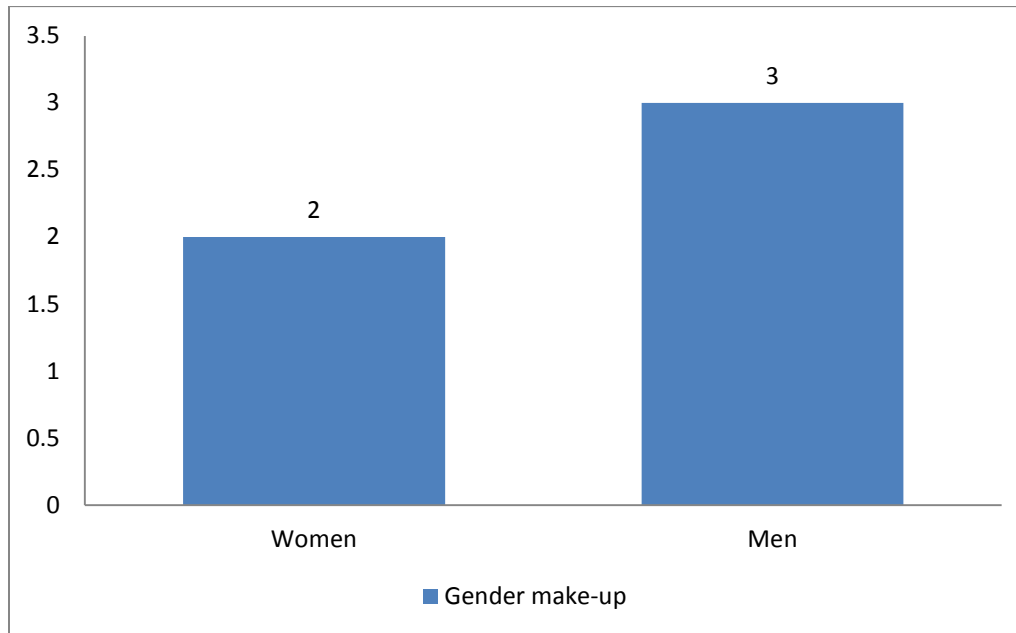
#### **4. 7 Sample**

- Participants with physical disabilities

The first people surveyed were people with physical disabilities themselves, in order to understand their day to day transport use. The researcher needed to understand how physically disabled people traveled, and whether they viewed transport organization surrounding them as inclusive or not. Questionnaires and one-on-one interviews were taken with them in order to give statistical data and in-depth information on whether their surrounding environments are accommodative to them.

In all previous studies on similar topic, little has been said about people with physical disabilities living in townships. As much as Umlazi has an organization representing the disabled, this research will assess their involvement in politics which greatly affects their environment.

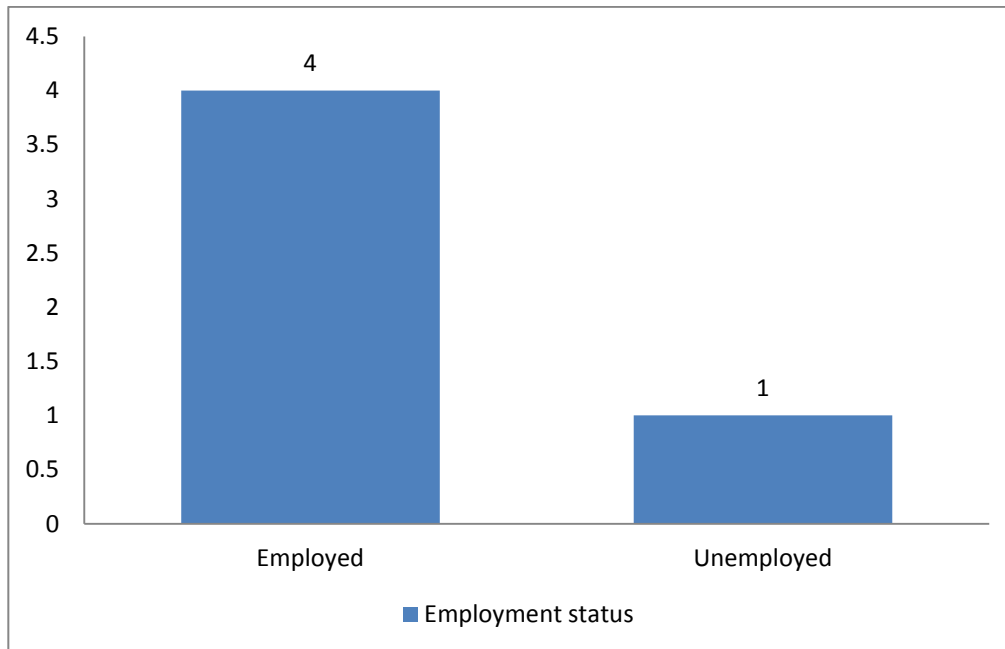
**Figure4.6: The gender make-up of the sample of those with disabilities**



*Source: April 2014/10/15*

Five participants were selected to participate. The reason for such a small number of participants was that the research does not focus mainly on their experiences but also, and mostly, the attitudes surrounding these people towards their impairments, as these are the main causes or influences on development or planning that occurs in communities. Of the 5 participants, 1 was on crutches caused by an accident; and 4 were in wheelchairs, two female participants born with their disabilities and two males were disabled as a result of accidents. All participants were between the ages of 24 and 34.

**Figure 4.7: Employment status of the sample**



*Source: N. T. April 15/10/2014*

- Immediate families or caregivers of the physically challenged

Disabled people have always been viewed as people who seek or need assistance to carry on normal daily activity. This is excessively so when transportation and travelling are the case; e.g. a person in a wheelchair needs a person to push them or put them in the various transportation modes when travelling. People who are mostly affected by such issues are the members of the immediate family members. Some of the past literature shows that the disabled were mostly viewed as punishment or curse to the family, as they are thought to 'suffer more from the person's impairment.

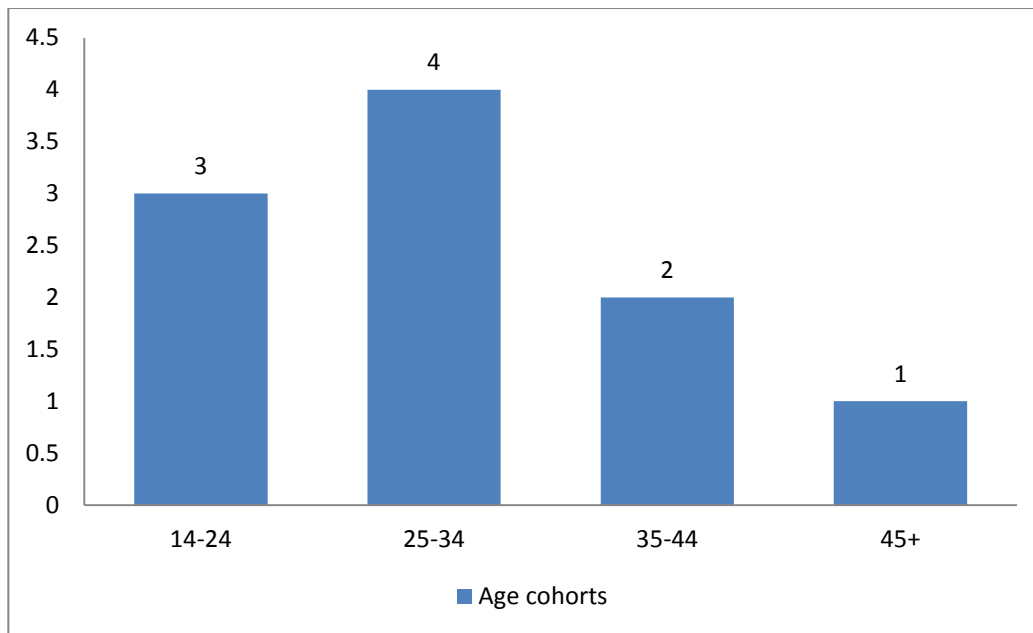
Although this belief dominated people's thoughts in the past, human rights and education have immediate tried to erase such beliefs. But most importantly, studies show that if the environments could be accommodative to the physically disabled, the immediate family would

feel less stressed by their loved one's condition. This is also emphasized by the socialist definition of disability which stresses the attitudes surrounding the physically challenged person as the main cause of disability. And as mentioned before, people who are physically disabled are said to be mostly found in poor communities, but most importantly their families may be driven to poverty due to travelling costs. Therefore, the researcher conducted one-on-one interviews with members of the immediate family to assess the efficiency of eThekweni Municipality's strategies to accommodate physically disabled people in transportation. Some of these strategies are: disability friendly buses such as City Movers, Dial-a-Ride, and Sukhumi. These strategies have been praised and viewed as very efficient in the City. The researcher investigated their efficiency in the outskirts of Durban, by getting the views of members of the immediate family or their guardians.

- Locals or Community Members

In the social definition of disability, the attitudes of the surrounding people are stressed as the cause of disability, not the impairment itself. The researcher saw the need to understand the attitudes and knowledge that people living within the community, without impairments, have about physically disabled people. The perceptions of the physically disabled people and their involvement in creating a welcoming, non-discriminative environment were looked at. Most importantly, the researcher also sought to understand the people's perception of the government and the inclusion of physically disabled people in government projects.

**Figure4.8: Age cohorts of the sample**



*Source: N. T. April 15/10/2014*

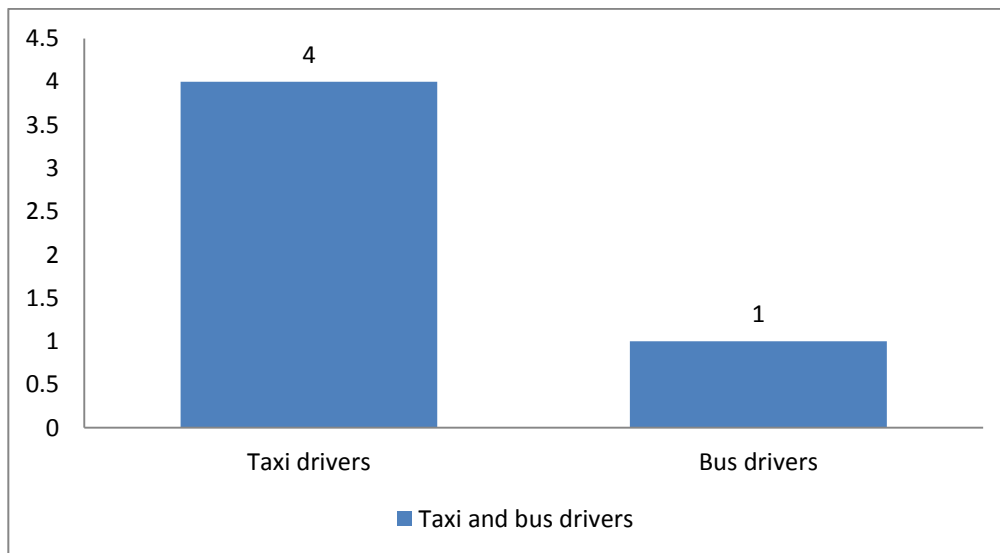
- Councilors

A Councilor may refer to a locally elected person to represents citizens in the government. These people may represent a particular political party that normally dominates the area, and they are voted for by the local citizens to represent people living in that community, district or city to the government. A Councilor is a mediator/advocate; they are a medium connecting the government and the people, but most importantly they represent the needs of the people. Their goal is to satisfy/please the people more than the government, but also aim to ensure that development proposed by the government reaches the people and benefits them. This is the main reason they were included as participants in the survey. As they are meant to represent the people, the researcher's goal for interviewing them was to see whether they represent the physically disabled as much as they represent everyone else; in other words the researcher aimed to assess whether the mobility needs of physically disabled people were viewed as essential in the Councilors' eyes.

- Municipal Employees, particularly within the Department of Transport

Municipality workers, in this paper, refer to those working for the government within the Department of Transport, particularly those involved with People Movers, Dial-a-Ride, and Sukuma buses. The perception of people with disabilities within the department itself may say a lot about the development implemented, but also the aim was to investigate the emphasis on the inclusion of people with disabilities in development by the department through policy or other means.

**Figure4.9: Taxi and Bus Drivers in the sample**



*Source: N. T. April 15/10/2014*

In the interview, the researcher aimed to assess the extent to which taxi and bus operators were aware of the physically disabled's needs in transportation. The interview also aimed to understand the operators' perception of the physically disabled, the state of existing taxis in the accommodation of the physically disabled, and what they feel needs to be done to emphasize the inclusion of these people in transport planning and the design of transportation modes.

## **4. 8 Data Collection Instruments**

As stated in the previous sections, primary and secondary data were collected in assessing the inclusion of people with physical disabilities in the eThekweni transport system. In this regard, primarily data were collected by means of interviews and questionnaires, which allowed participants to answer the research questions without being influenced on their opinions. Furthermore, secondary data sources include information collected from other researchers in different literatures as noted which also include journal articles, evaluation reports, policy documents, case studies, and census data. The selection of different data collection tools was motivated by the diversity of key informants as indicated above, considered essential to assess the relevant data necessary for the study.

## **4. 9 Data Analysis**

Typology Development mixed method strategy was used to analyze data. Caracelli and Greene (1993) state in this strategy “analysis of one data type considers the homogeneity within and heterogeneity between subgroupings of data on some dimension of interest, yielding a set of substantive categories or typology” (Greene, 1993). To serve as a framework of the study the Concerns-Based Model was used. This Model assumes that change is carried out by individuals, and to understand the adoption and implementation of policies in this paper, the Model has two central dimensions: Stages of Concern about the Innovation (SoC), and Levels of Use of the Innovation (LoU). We often concern about how-to-do-it before addressing self-concerns, as in the beliefs and perceptions that individuals have about the innovation that may hinder its success. This Model helps to understand for innovation to succeed, the key players in it (in this case the community, councilors, and municipal workers) need to be in line with and comfortable about the innovation (Greene, 1993).

## **4. 10 Limitation of the study**

Some of the difficulties encountered during the study are: finding the right authorities to give permission to conduct the study in the study area; finding physically disabled people of different

generations and occupation, as respondents were found through snow ball sampling; getting councilors who were willing to participate in the study. Another major setback was the fact that some people (especially adults) did not take the researcher seriously as she is a young woman, and the people in the area are known as traditionalists. Men felt a bit intimidated by a young woman researching such a sensitive subject, as a result some of them refused participating saying that they would participate if the researcher was a bit older and more experienced.

#### **4. 11 Conclusion**

In conclusion, a mixed methods research was chosen for this study to gather both in-depth and statistical data. This will lead to an understanding of how the society perceives and understands the needs of people with disabilities. Using this method will also illustrate the impact ignorance has on the needs of people with disabilities and on their families, specifically in terms of transport issues. Although many researchers disapprove of the mixed methods research and claim it is new, this method is able to cover almost all the disadvantages of both qualitative and quantitative methods, therefore being the most accurate one. The method is time consuming, requires skills and mastering of the other methods, and it is costly, but the results it produces makes it worth the challenges.



## **CHAPTER FIVE: FINDINGS AND DISCUSSIONS**

### **5.1 Introduction**

In this chapter the findings of the research study are presented and discussed. The discussions and findings emanate from the desk top review and in-depth interviews and results from questionnaires that were administered to key informants.

### **5.2 Data Analysis**

This section discusses the information gathered through field work or surveys done site of the study and the interviews with respondents of the groups of interest mentioned in the previous chapter. This information will be graphically illustrated, representing the quantitative side of the study, and great in-depth discussion will be demonstrated to represent the qualitative side of the study. To better organize the data, it has been grouped into themes, which are:

Theme 1: Environmental/ Spatial Accessibility

Theme 2: Transport Efficiency

Theme 3: Community Participation

Theme 4: Acknowledgement of the Issue

Theme 5: Protection of the Disabled's Rights

Under each theme data will be grouped into quantitative and qualitative data, as both these methods were used for this study to complement each other. For a smooth flow of data, statistical quantitative data is displayed first, followed by in-depth qualitative data:

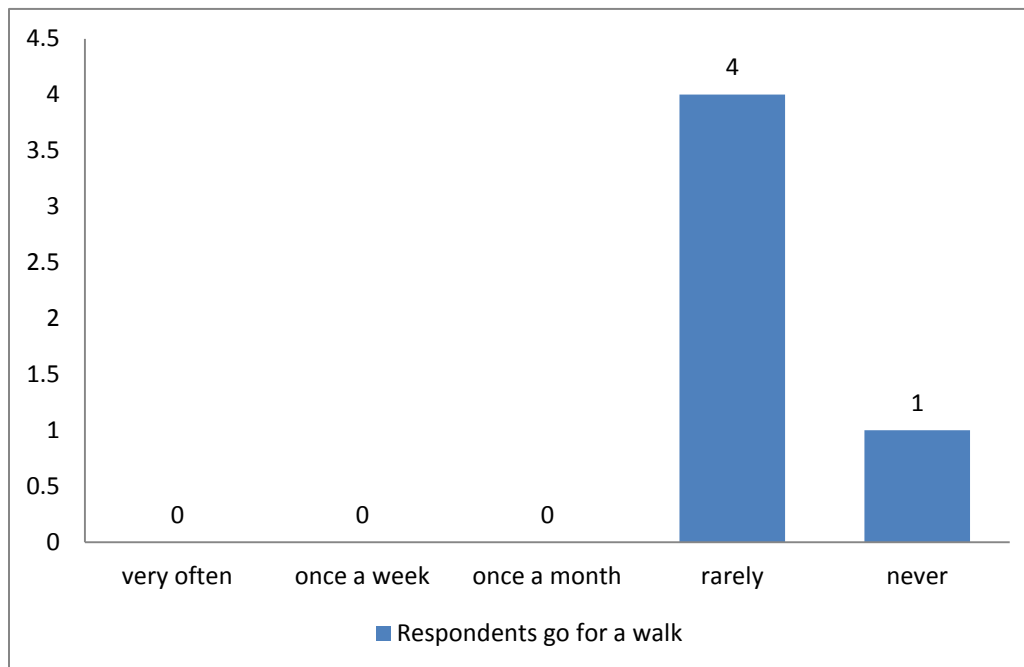
### 5.2.1 Environmental/ Spatial Accessibility

Under this theme responses related to the accessibility of the environment or community is shown.

#### ***Respondents with disabilities: Quantitative data***

When respondents with disabilities were asked on how often they go out for a walk/drive, 4 out of the 5 respondents said they rarely go out and one of them said she never goes out unless it was for a very important reason, as displayed in Figure 4.2.

**Figure 5.1: A diagram showing the number of time respondents go for a walk**



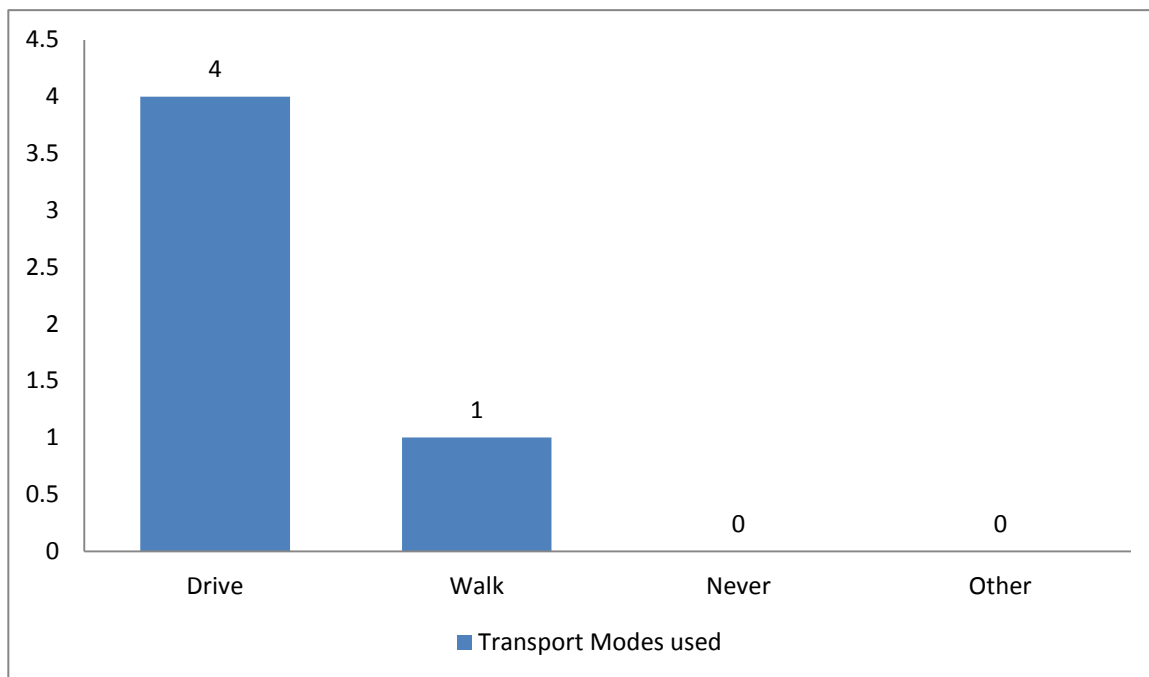
Source: N. T. April 15/10/2014

According to Figure 5.1, respondents appear to have a less social life than their able-bodied counterparts. This differed according to the tool used for mobility. More of those in wheelchairs did not go out when compared to those in crutches, as the environment was crueler or excluding to them. These respondents appeared to having difficulties going out with friends.

Another difference was between genders, where male respondents reported having some form of social life in the sense of leaving one's home for other reasons other than work or health related purposes. Those who did not leave their homes much did report having friends visiting them. Whereas with the women, they did not leave their homes for any other reasons other than work, health and other necessary purposes. None of the female respondents reported having any friends visiting them, but just family and relatives.

Responding to the question of how one gets to/or reaches the local shops, 4 out of the 5 respondents reported using motor vehicles to reach health facilities or local clinics as shown in Figure 5.2, in which most used private instead of public transport.

**Figure 5.2: The transport modes used by respondents to access local shops**

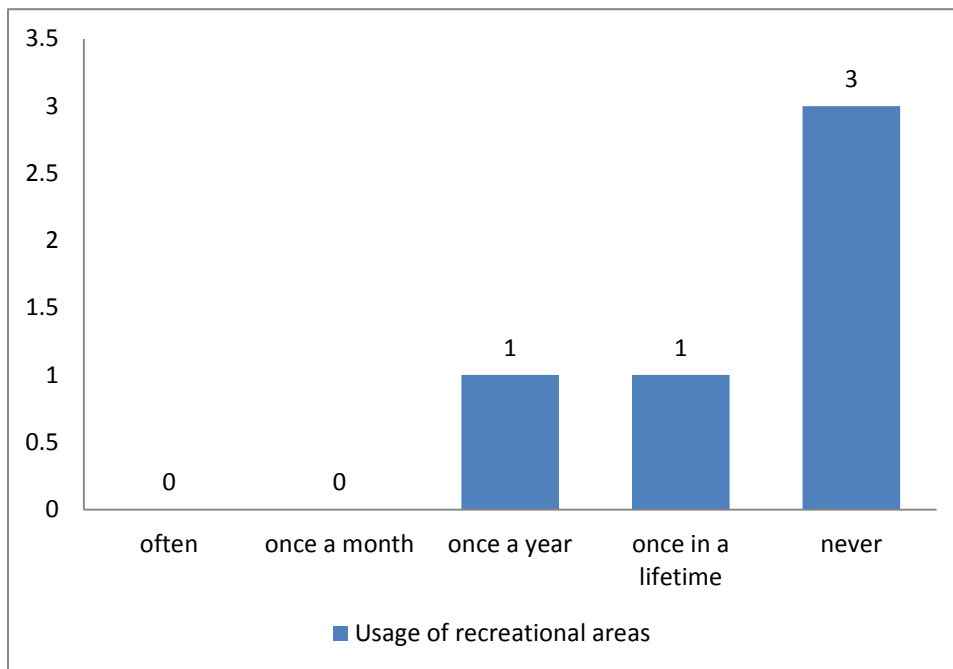


Source: N. T. April 15/10/2014

A question about using recreational areas was presented to respondents and most of the respondents did not use them, refer to Figure 5.3. 3 of the 5 respondents said they never visit the recreational areas, while 1 said they do it but once in a lifetime and the other one

responded going at least once a year. When comparing possible influences to such outcome, it was found that those who actually use recreational areas are those who acquired disability later on in life and were not born with it.

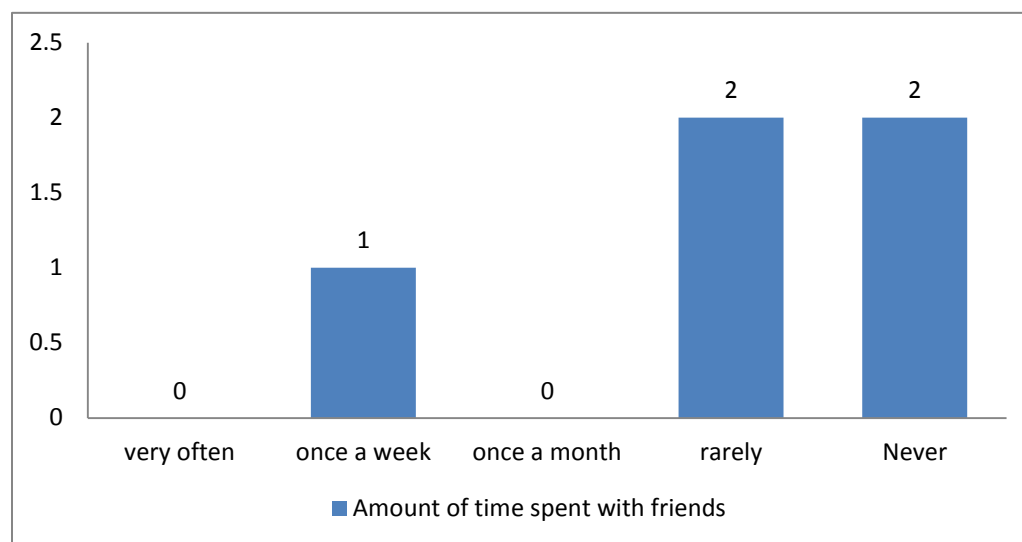
**Figure 5.3: The number of times respondents use recreational areas**



Source: N. T. April 15/10/2014

Respondents were asked as to how often they hung out with their friends and their responses showed that they rarely spend time with friends when compared to their able-bodied peers. Figure 5.4 shows the responses given by the respondents.

**Figure 5.4: The amount of time respondents spend with friends**



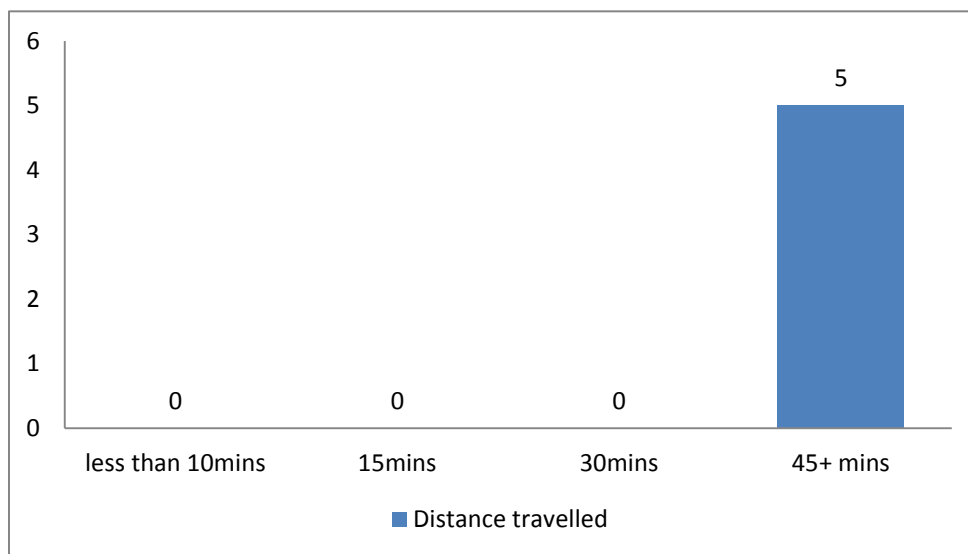
*Source: N. T. April 15/10/2014*

In their responses, 2 responded not spending some time with friends at all, and these two were born with their impairments. They reported having their families as their friends. The other 2 said they rarely spend time with their friends, while the one who responded to spending a lot of time with their friend is a male participant that got their impairments through an accident. His friends were still in touch with him and would visit him quite often.

Figure 5.4 shows the responses from people with disabilities. When able-bodied peers were asked the same question, totally different answers were received, with the graph skewed on the left side than the one in Figure 5.4.

Figure 5.5 shows the distance travelled by the respondents to get to school or work. As shown below, all the respondents reported traveling more than 45 minutes to work (as participants still in school were hard to reach).

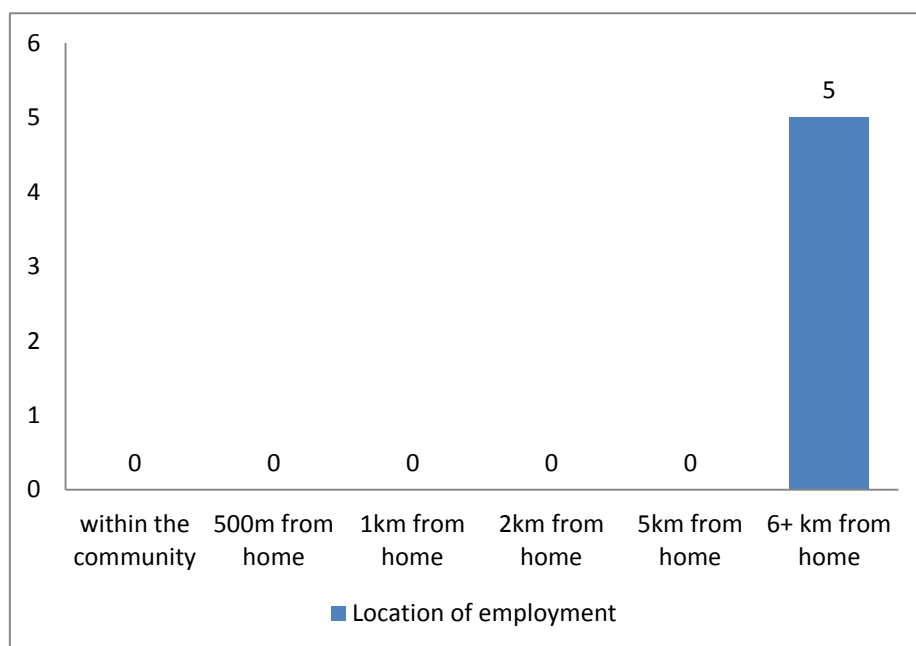
**Figure 5.5: The distance travelled by respondents to school/work**



Source: N. T. April 15/10/2014

When respondents were asked about the location of their work, all of them worked or had previously worked 6 kilometers away from their homes. None of these respondents worked within their community, as displayed in *Figure 5.6*.

**Figure 5.6: Location of the respondents' place of employment**



Source: N. T. April 15/10/2014

## **Qualitative Data**

### ***Councilor***

The Councilors were asked how they saw the road networks in their community in the sense of being safe to everyone, especially people with physical disabilities, and they all showed great concern the roads are not at all designed to accommodate these people. One of the respondents' comments is as follows:

*Councilor 1: Our roads are not safe at all to, especially to people in wheel chairs. I mean these roads are not even safe for kids and abled adults, but I can imagine how worse it is for those in wheel chairs. Although there are sidewalks, they are too narrow and have a rough surface making it even harder for those in wheel chairs. The steepness of the area is also a major setback for accessible and useable roads especially for those in wheelchairs.*

### ***Persons with disabilities***

To the question of whether the individuals feel that their community is accommodating to its physically disabled residents, participants responded as follows:

*Participant 3: NO, I can't use these roads, unless I can only use the one right in front of the house which is a bit better than other roads, thus I rarely use them.*

When asked what they have noticed in their community that encourages exclusion of those with physical disabilities, particularly in transportation, these were their responses:

*Participant 5: Some malls are wheelchair friendly thus accommodating to people with disabilities*

Respondents were asked about the accessibility of their environments, such as their homes, church, local clinic, community hall, local schools, open spaces, recreational, local shops and work places, most participants reported experiencing difficulties accessing most of these facilities,

even though most of them they had been using for years and others, their life time. These responses are shown below:

a) Your home:

*Respondent 1: My home is not accessible to me. I never stay alone in the house because I can't even go outside in our yard, as the surface is not usable in a wheelchair. It is difficult to access my own home as you can see outside; therefore I need a person to help me when I go to work and when I come back. Leaving the yard is just impossible as you have seen that the entrance is very steep and rough on the surface.*

**Figure 5.7: The entrance to one of the respondents' home**



Source: N. T. April 10/10/2014

Figure 5.7 shows the entrance of respondent one's home, the one on the right. The design of the entrance did not require an expert to say that it is not accommodating



b) Church:

*Participant 4: Church is accessible at the entrance, but the pulpit is not at all. But I appreciate the fact that wheelchairs were at least considered at the entrance.*

c) The local clinic:

*Participant 3: The building of the clinic itself is not accessible to people in wheelchairs, in the waiting room and entrance there are steps, making it extremely difficult to access them.*

d) Community hall:

*Participant 5: not sure, I have never used it*

e) Schools:

*Participant 7: local schools are not right for people with any disabilities, worse for people in wheelchairs; although these may be accessible to people on crutches, they are not designed or safe for them as well.*

f) Open spaces:

*Participant 2: there isn't any that I know of around here*

g) Recreational Fields:

*Participant 1: never used them*

h) Local shops:

*Participant 3: the Myandu mall is accommodating to us and wheelchair friendly, but restaurants at the mall are not wheelchair friendly; Megacity is also accessible and wheelchair friendly, I do not need assistance when using the mall.*

i) Work:

*Participants 1: some parts such as the entrance are wheel chair friendly, but others such as toilets are not really that wheelchair friendly. I have to get up the wheelchair outside the toilet and try to go in without it as the door will not shut properly if I use it. This may not be that much of an issue for me because I can leave my wheelchair and use the toilet, although it is uncomfortable, but it is a huge problem to people who cannot do this.*

### **Community**

Locals or community members were asked how they felt about physically disabled residents residing in the same environment as everyone else, and these are some of their responses:

*Participant 5: I feel like they need to be living in their own place where they would be best taken care of there and everything would be suited for them. In that way they wouldn't be abandoned by family members who go to work or tortured when trying to use public transport.*

*I feel like they deserve to interact with us, but now the environment is not suitable for them therefore it is not safe for them to reside in the same community as normal people. It is not fair that people with disabilities are not accommodated in our communities because they also belong in the same space we live in.*

When the locals were asked if they felt the community accommodated residents with physical disabilities, they replied:

*Participant 2: Our community does not accommodate people with physical disabilities as you can see that on the roads the sidewalks are one sided, narrow with a rough surface. Most of our buildings, including the local clinic, schools, church buildings and community halls are inaccessible to those with physical disabilities. But we do have some malls that*

*try to accommodate them in every way they could.*

Figure 5.8 shows the nature of the sidewalks, which are one sided, and not seem comfortable for those with disabilities.

**Figure 5.8: sidewalks on only one side of the road**



*Source: N. T. April 10/10/2014*

### ***Taxi drivers***

Local taxi drivers were asked if they felt the access roads they use were safe for those with physical disabilities to use without assistance, and they responded:

*Driver 1: These roads are not at all safe to people with disabilities, most especially those in wheelchairs.*

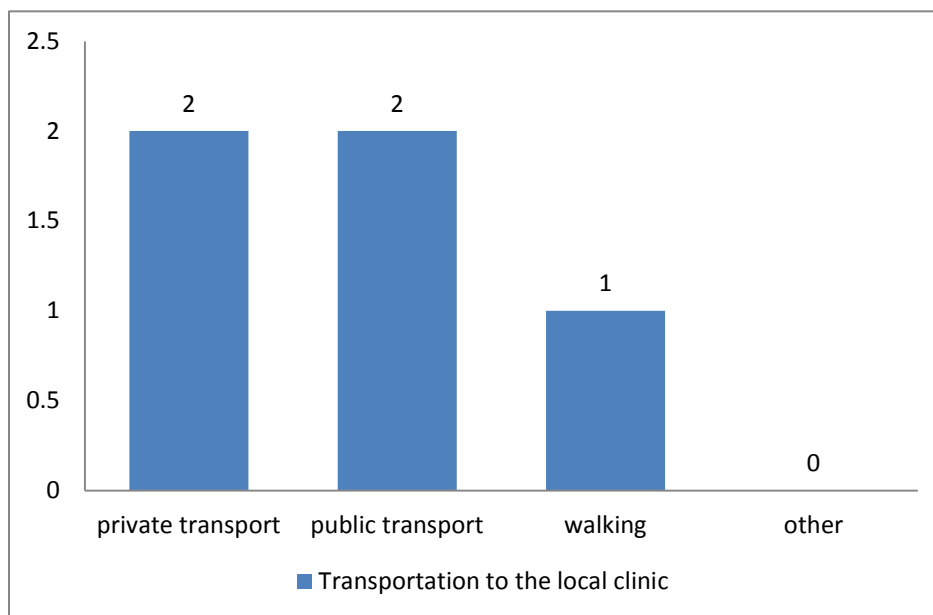
*The way they are designed only accommodates “normal” individuals.*

## 5.2.2 Transport Efficiency

### Quantitative Data

Figure 5.9 shows the transport mode used by the respondents with disabilities to get to local clinics. This diagram shows that most of these respondents use motor vehicles to access these facilities, of which private transport is equivalent to public, as 2 respondents reported taking private transport to the clinic, 2 taking public transport and one responded being able to walk to the local clinic.

**Figure 5.9: Transport modes used by the respondents to access the local clinic**

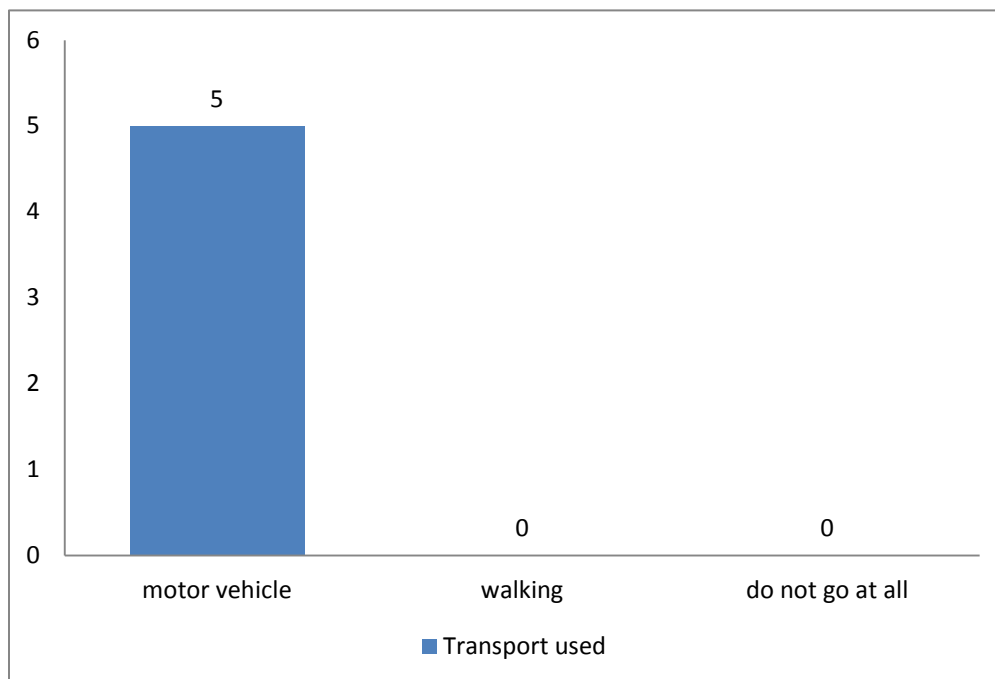


Source: N. T. April 15/10/2014

Such difference between the use of public and private transport may be caused by the fact that the most popular modes transport in the area, which are taxis, are not accommodating to people with disabilities, and this may increase the use of private transport by disabled people.

Figure 5.10 show that all respondents with physical disabilities use motor vehicles to get to educational or employment destinations.

**Figure 5.10: Transport mode used by respondents to access school/work**



Source: N. T. April 15/10/2014

### **Qualitative Data**

Respondents with disabilities were asked if the transportation introduced by the eThekweni Municipality, which are buses that are friendly to the physically challenged, (such as Dial-a-Ride, Sukuma buses and People Mover) was efficient to them, and they replied:

*Participant 1: Dial-a-ride – in the morning gets to town by 07:00 and afternoon 14:00 and*

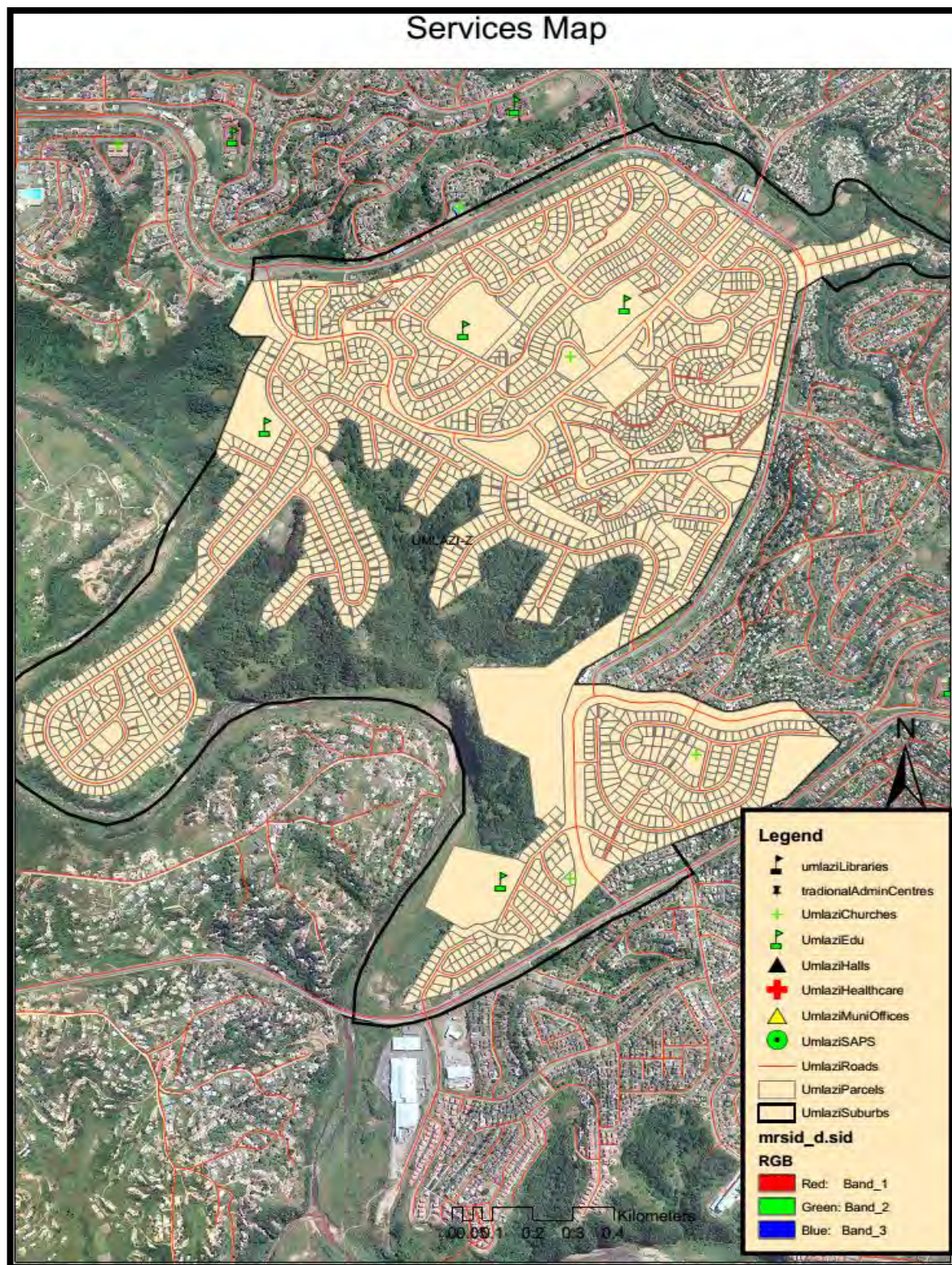
*16:45, and sometimes after 17:00, going via Lotus Park next to Ispingo, Umlazi, Wentworth and then work during the day one has to make a private booking where they count according to per kilometers. When you go to Durban CBD you pay R150 and to megacity R80. This is not how they advertise themselves, as they claim to charge R2 per kilometer. Maybe they count from Pinetown to your destination as they are located there. During weekends, people would be late for work as only one driver working and transporting everyone who uses this transport.*

*Sukuma is a big bus and it cannot access the small access roots, one will have to travel to the main road. Not operating on weekends or during the day.*

The map in figure 5.11 is a service map showing the location of major services within the community in proximity with the residents.



Figure 5.11



Source: N. T. April/15/10/2014

### ***Taxi drivers***

The opinions of the taxi drivers on how accommodating their vehicles were to those with physical disabilities, such as those in crutches and wheel chairs (e.g. the entrance, seats and space within your vehicle) were examined, as they responded:

*Driver 3: Honestly my sister our vehicles are not at all suited for the people with disabilities, but they do use them.*

When asked as to what measures they had taken to accommodate the physically disabled, or made them feel comfortable in their vehicles, they replied:

*Driver 4: We try by all means to assist them when they use our taxis. A lot of them use our taxis funny enough, but we accommodate them as much as we can; we try to help them to get into the taxi, especially those in wheelchairs. The issue we usually face is with the passengers worrying about being late for their destinations, but either than that we try by all means to help them use our taxis.*

Drivers were asked just how often people with physical disabilities use your vehicle, they replied:

- a) Those using crutches- *very often*
- b) Those in wheel chairs- *often*

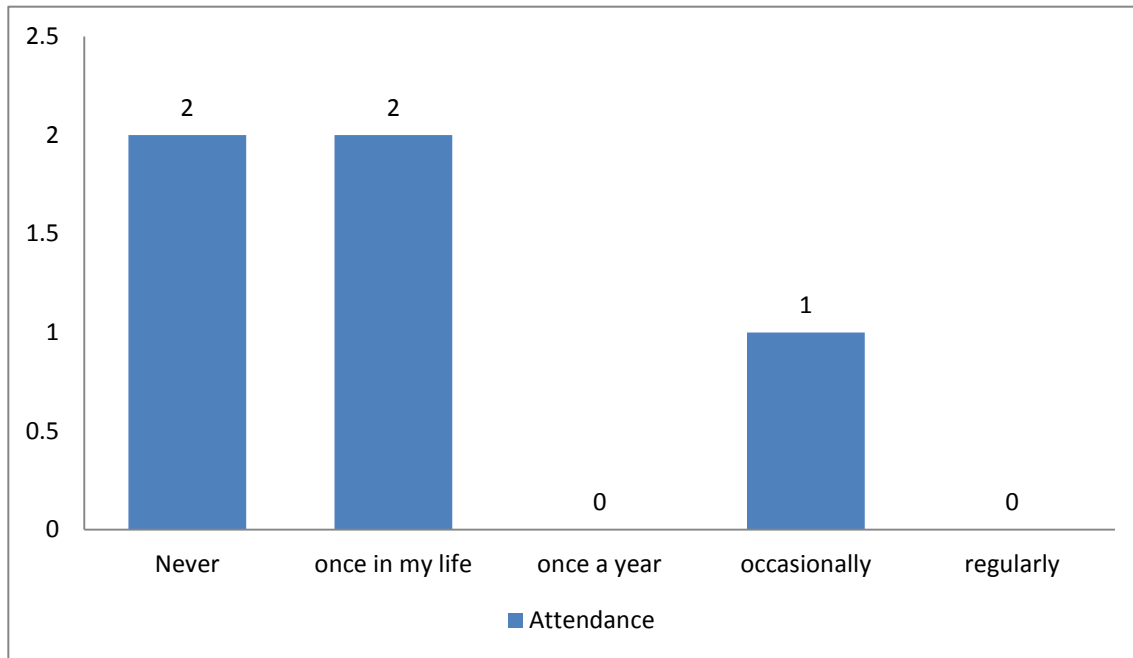
### **5.2.3 Community Participation**

#### **Quantitative Data**

Respondents with physical disabilities are not fond of local/community meetings. Of the 5 respondents, 2 of them have never attended local/community meetings; 2 of these respondents have done so at least once in their lives and one attended occasionally as illustrated below, see Figure 5.13.



**Figure 5.12: Number of times the respondents attend local/community meetings**

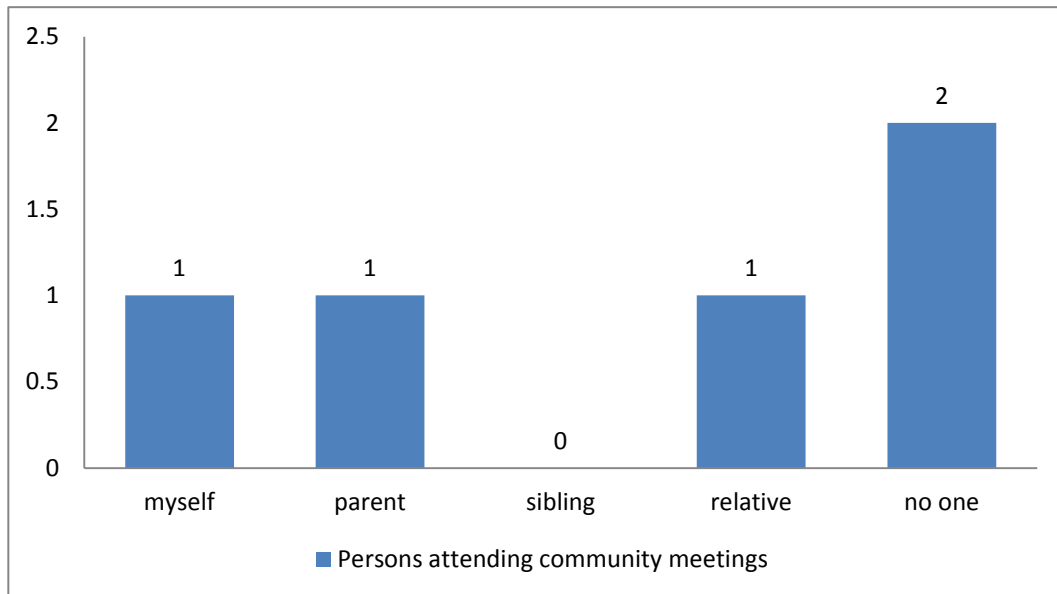


*Source: N. T. April 15/10/2014*

From the survey, it was discovered that those who attended the meetings occasionally were the respondents in crutches and the ones in wheelchairs who have attended these once in their lives were those who became disabled later in their lives due to accidents. The two respondents who have never attended these meetings were the ones born with their disabilities.

The same respondents who reported never attending these meetings ever also indicated that no one in their families attended the meetings, as shown in Figure 5.13.

**Figure 5.13: Persons attending community meetings in the lives of those with disabilities**



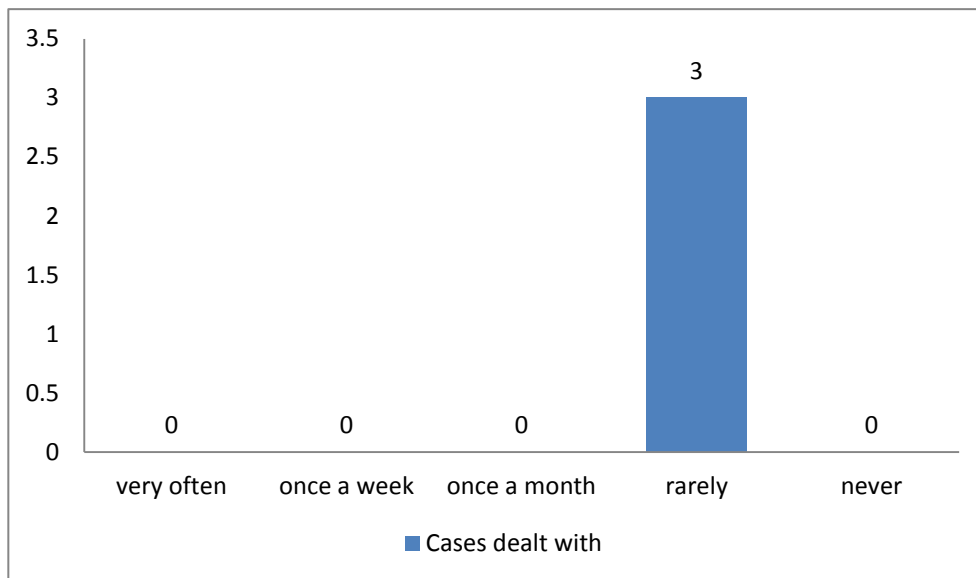
*Source: N. T. April 15/10/2014*

Out of the other 3 respondents, some had parents attending these meetings, others relatives, and some themselves.

### **Councilors**

The community Councilors seemed to be dealing with fewer issues concerning people with disabilities than expected. Figure 5.14 shows the Councilors reported rarely dealing with cases involving those with disabilities.

**Figure 5.14: Cases dealt with by councilors concerning people with physical disabilities**



Source: N. T. April 15/10/2014

## Qualitative Data

### Community

Community members were asked if they have assisted/or fought for the rights of the physically disabled, and they replied:

*Ay, we haven't done anything to be honest.*

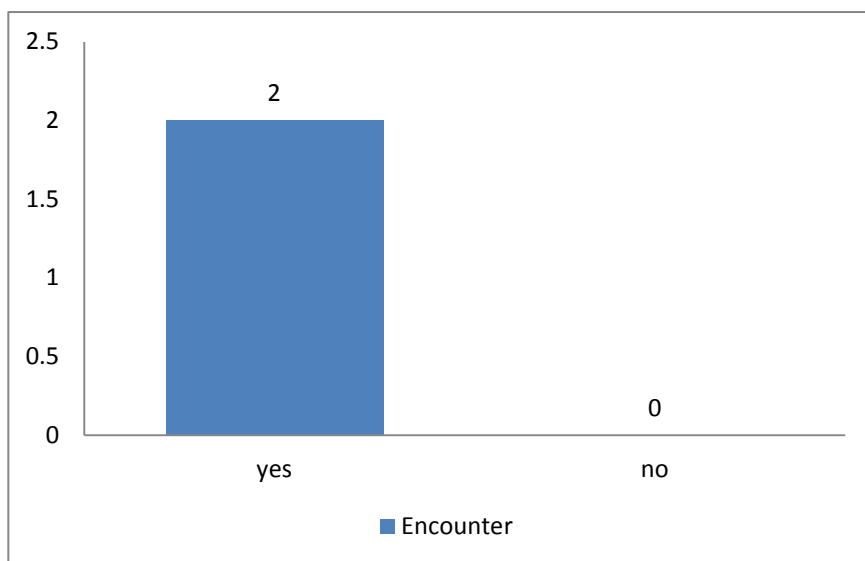
## 5.2.4 Acknowledgement of the Issue

### Quantitative Data

#### The Municipality

The municipal officials were asked if they knew of any persons with physical disability, excluding the elderly; Figure 5.15 shows the responses.

**Figure 5.15: the encounter of people with disabilities with the municipal officials**

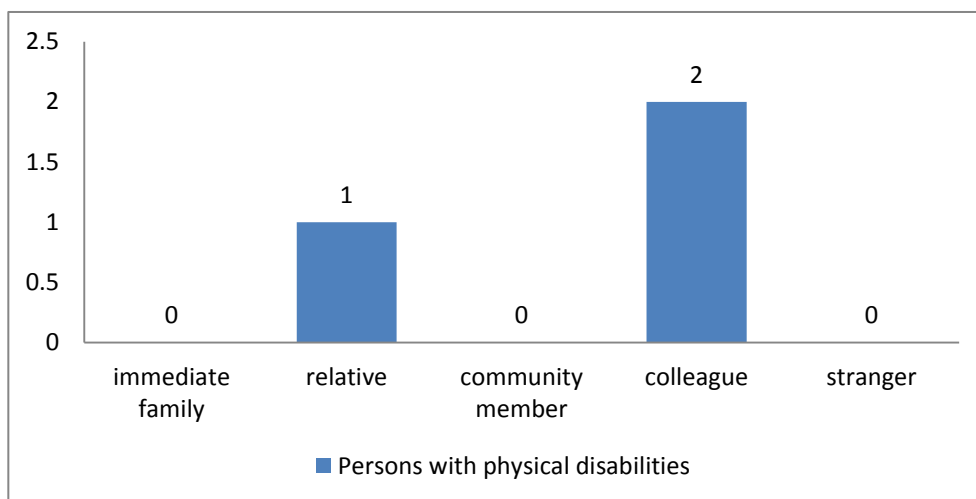


Source: N. T. April 15/10/2014

Both respondents reported knowing someone with physical disabilities.

When asked to specify the relationship these officials had with the persons with disabilities in their lives, both the officials indicated having colleagues with disabilities that they were in contact with. One of the officials later reported having a relative in a wheelchair, as shown in figure 5.16.

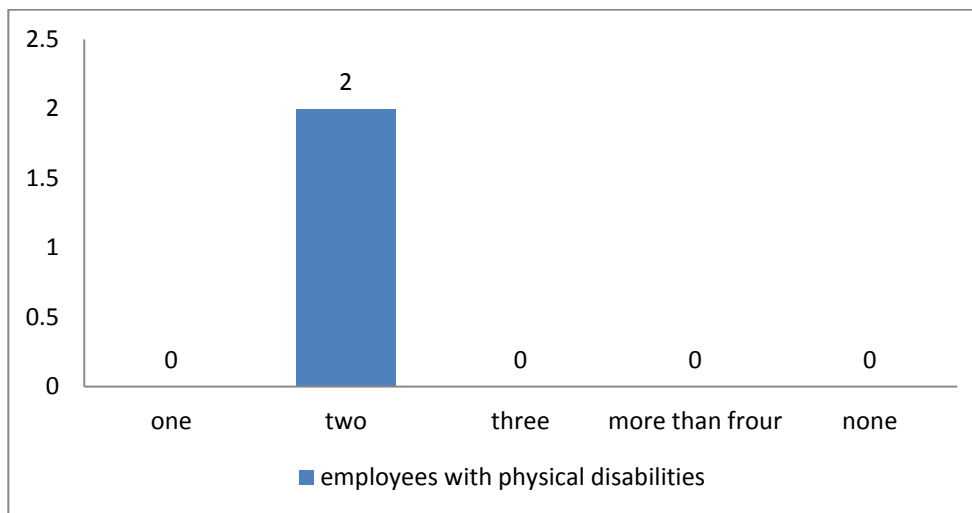
**Figure 5.16: A diagram showing physically disabled people in the officials' lives**



Source: N. T. April 15/10/2014

The officials were asked the number of colleagues with physical disabilities, as they had indicated that they had, and it was found that the Department of Transport planning in eThekweni Municipality had 2 employees with such disabilities. Figure 5.17 illustrate these figures

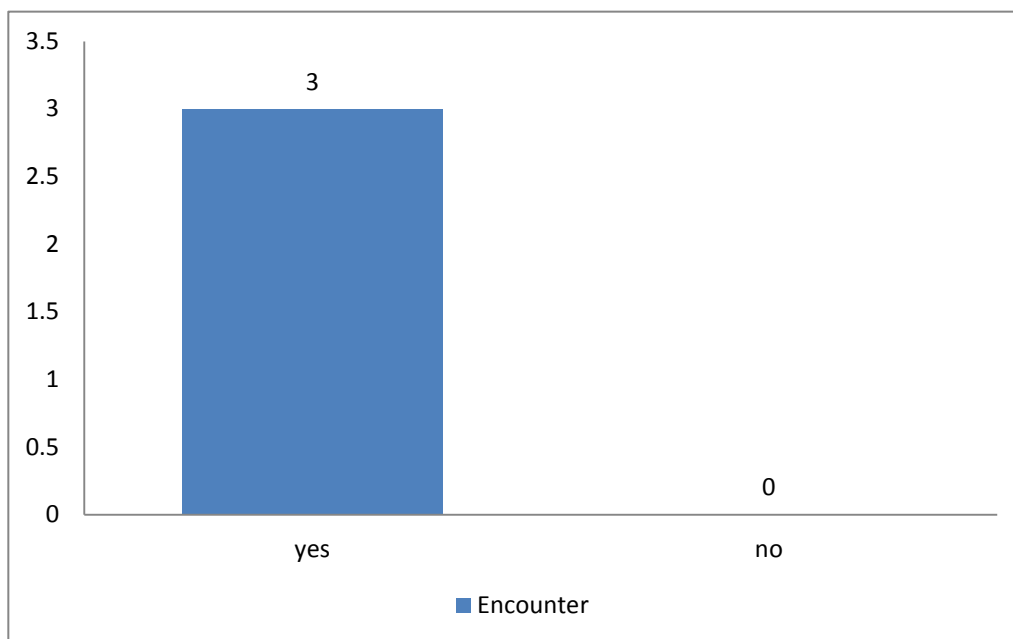
**Figure 5.17:** *A diagram showing the number of employees with physical disabilities in transport planning*



Source: N. T. April 15/10/2014

Councilors were asked if they knew persons with physical disabilities at a personal level, excluding the elderly, as this would determine their sensitivity (to a certain extent) to the issues faced by those with disabilities. All three councilors reported knowing a person or two with disabilities in their lives, and one of them (councilors) was in a wheelchair himself.

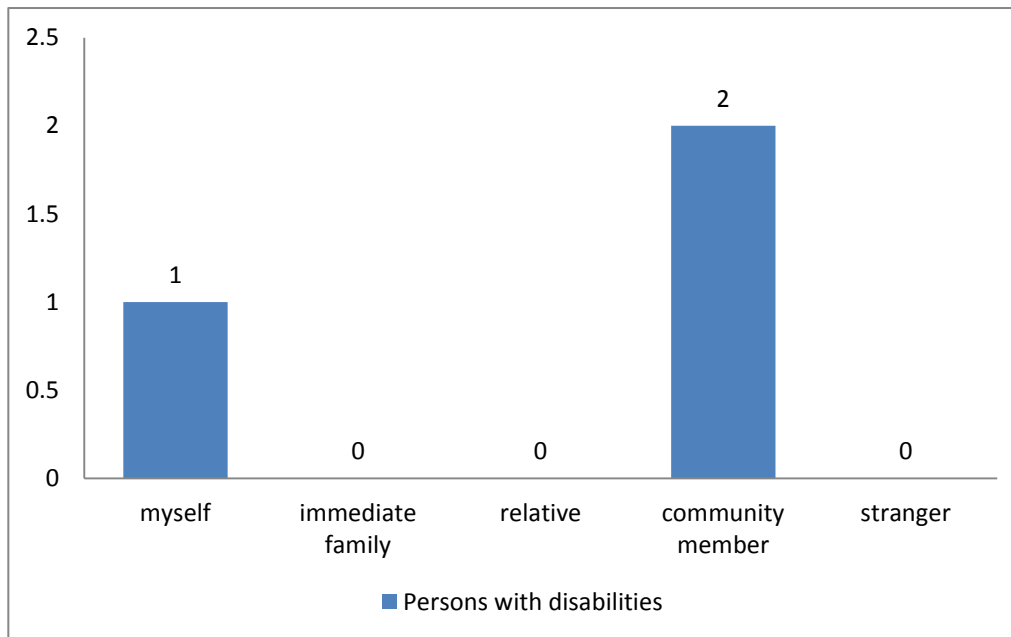
**Figure 5.18 The encounter with persons with disability by the councilors**



*Source: N. T. April 15/10/2014*

When asked to specify the relationship they had with these people in their lives, 2 of the councilors reported these people as being community members they occasionally see and sometimes talk to, whereas the other councilor reported himself as being the person with a physical disability he is in contact with. Figure 5.19 illustrate these findings.

**Figure 5.19: Persons with disabilities in the councilors' lives**



Source: N. T. April 15/10/2014

### **Qualitative Data**

Councilors were asked whether they had participated or implemented projects to enforce/encourage the accommodation of those with physical disabilities; they responded:

*Councilor 1: There have been plenty of projects concerning people with disabilities that I have participated in. There is one that was just a month ago, I'm not sure what it was about, but it had nothing to do with transport issues*

When these Councilors were asked if they ever had a person with physical disability or their family complaining to them about exclusion related issues, they replied as follows:

*Councilor 3: Yes I have, but their issues are the same as everyone else, I have not had specific problems particularly concerning them. I have witnessed that the one problem they are facing is with the roads and their accessibility, as you have mentioned. But either than that there have not been any complains specifically regarding them. We do include them in our development projects, but it would be an insult if an able-bodied person claims to represent them therefore requiring a person with a disability to represent them. At the moment as we are providing housing to the people, we have special designs for them in the case of a person with a disability in need of housing thus making it easy for them to access their homes. We have a Councilor in a wheelchair by the name of Simon. Every time we deal with issues concerning people with disabilities in our area, he is the man we usually contact, as he can relate to these people, understand them and deal with these issues accordingly. But at the moment there haven't been any of these houses here at Umlazi Z section. The system of providing these houses has been slow but will eventually get there. Let's not forget that Umlazi was formed during the Apartheid era and the aim was not to make living comfortable for the previously oppressed, in fact it was the opposite, and people with disabilities were not accommodated for during this era, as they were seen and treated like babies who needed to be taken care of for the rest of their lives. As a result, they were allocated into special homes and assigned people to assist them. Now the government is trying to regain their dignity. Portable evidence of such change will still take a long time as implementation can not only take place here in our area only but in the whole country, and let's not forget that more prejudice was caused by the apartheid government for years thus making it more difficult to make a quick change.*

With the question of whether the Councilors communicate at any level with residents with physical disabilities of their community, their response was:

*Councilor 2: Yes, like I interact with every community member, so as with the ones with disabilities.*



## ***Community***

Locals or community members were asked if they knew or had been in contact with a person with physical disability, excluding the elderly, and some of their responses were:

*Participant 1: Yes, I've some here in our community*

*Participant 4: No, not really. I've seen maybe one or two in our community but I don't know them*

*Participant 2: Yes, I have a relative in a wheelchair*

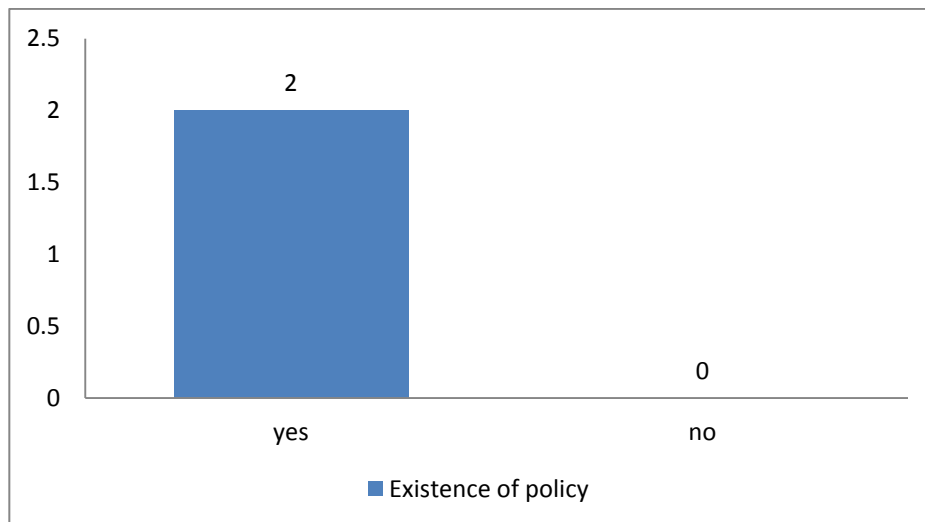
## **5.2.5 Protection of the rights of the disabled**

### **Quantitative Data**

#### ***Municipality***

The Municipal officials were asked if they had policies protecting the rights of those with physical disabilities, they reported having such policies, as illustrated in Figure 5.20.

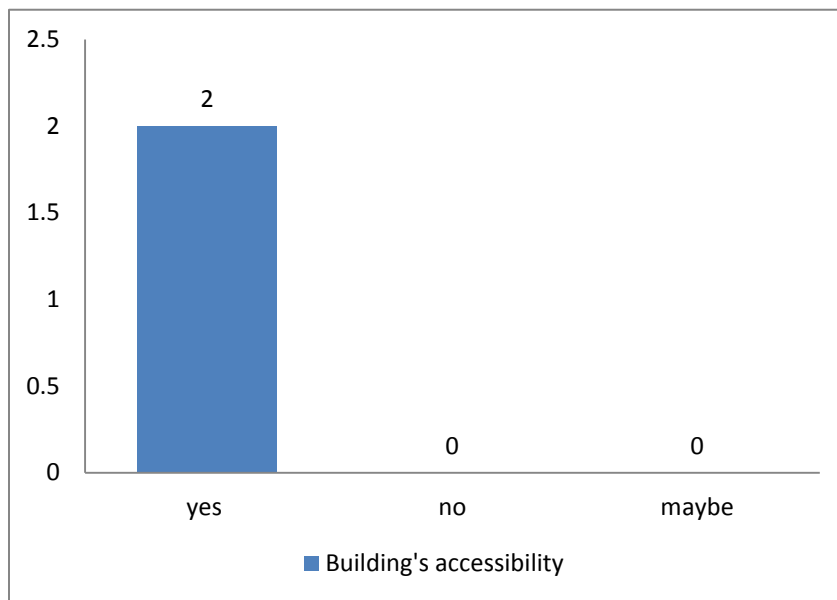
***Figure 5.20: the existence of policies protecting the rights of the physically disabled in transport planning***



Source: N. T. April 15/10/2014

When asked about the accessibility of the Department building, both these officials claimed that the Department building is accommodating to those with physical disabilities. Figure 5.21 illustrates these figures.

**Figure 5.21: The accessibility of the department's building to the physically disabled**



Source: N. T. April 15/10/2014

### Qualitative Data

Municipal officials were then asked if they thought the Department of Transport was inviting to people with physical disabilities who would like to work there, and they responded:

*Official 1: Our Department is very inviting to people with disabilities. You may not have seen it but there is an entrance specifically designed for them, it's on the other side of the building and it goes straight to where these people with disabilities work.*

When asked about the number colleagues with physical disabilities they have in their Department, they replied:

*Official 2: There are two physically disabled employees in this building, not sure of the other buildings but they also have employees in wheelchairs.*

### **Community**

When community members were asked how they would accommodate people with physical disabilities in their community if they were to be involved in transport planning, some replied:

*Participant 5: I would assist them in their day-to-day activities, and also encourage my friends and family to do the same. And if I was government, I would assign people to assist them and take care of them in their homes. I would build schools for them and transport specially designed for them.*

With the question on the influence of one's perception of the physically disabled, community members responded:

*Participant 3: Culture has made me think that people with disabilities are more like a punishment from God, and they deserve to stay at home and be taken care of by their families. You see these people as being half-men or half-women because there are activities they cannot perform*

On the question of the influence of religion on perception of the physically disabled, participants replied:

*Participant 1: Religion emphasizes the need for a cure for people with disabilities, as you hear in the bible scriptures saying that Jesus healed the physically disabled, the deaf, and so on. It shows that there's no room for them in our societies unless they are healed.*

When asked about the influence of the government on perception of the physically disabled, they replied:

*Participant 2: Well the government has done nothing to challenge these beliefs about these people, instead they just worsen things by putting steps in buildings, creating narrow*

*sidewalks, building homes in steep areas and not create ramps, and many more things like that.*

### **Taxi drivers**

Taxi drivers were asked whether the government had done something to emphasize the accommodation of the physically disabled in their transport modes, be it workshops, incentives, or a policy every vehicle owner and/or driver has to abide to, their responses was:

*Driver 1: The government hasn't done anything to force us to accommodate these people in our vehicles, instead what we have seen are those special buses provided for them. These buses are used by adults and school children, so I think they are quiet useful and efficient to them.*

## **5.3 Discussion**

### **5.3.1 Theme: Spatial/Environmental Accessibility**

The area of Umlazi as a whole is very unfriendly to people with physical disabilities, especially those in wheelchairs. People with disabilities, as mentioned in the previous chapter, complain about not being able to “live” in their own communities. They require assistance to reach any destination of interest at the time, be it a nearby tuck shop or a local clinic, worsening the feeling of being a burden and helpless. Those in wheelchairs, most importantly, need people to push them around, as the roads are not designed to accommodate them. Figure 5.22 shows the roads of Umlazi and the visible unfriendliness to those with disabilities.

**Figure 5.22: the roads of Umlazi, Z section**



*Source: N. T. April 10/10/2014*

These roads are steep, but most importantly have narrow, rough sidewalks, if any at all. The community Councilors know about the issue, they acknowledge it but they do not see it as their responsibility, or even possible, to change the state of things. From the interviews, some of the Councilors displayed ignorance of the fact that people with disabilities have unique needs, which must be attended to. The excuse of trying to treat people with disabilities equally by not addressing their unique needs does not only further disadvantage them, but it also inferiorates them more. Some feel that issues concerning people with disabilities need another person with a disability to solve these issues, as they would understand and identify with these people. Such mentality shifts the role of the Councilor as a representative of the people to now a representative of some people thus others requiring their own representative. This further causes separation and exclusion within the society, with the perception that people with

disabilities need their own Councilor because they are special cases and different from the rest of society. Figure 5.23 shows some of the access roads to the residents and their unfriendliness those with disabilities

**Figure 5.23: Access roads**



*Source: N. T. April 10/10/2014*

### **5.3.2 Theme: Transport Efficiency**

Although eThekweni Municipality has tried to bridge the transport gap between the people with disabilities and those without by introducing Sukuma and Dial-a-Ride, it seems as if transport is still not efficient or reliable enough for people with disabilities. In some cases there are not enough drivers to drive these vehicles, delaying the arrival of people to their predetermined destinations. In other instances, there are not enough vehicles to be driven, also causing a delay as the vehicle available would have to pick up each and every individual that uses this transport. From these problems, layoffs have resulted, in increased unemployment rates of people with disabilities.

People who use this transport are only limited to travelling to- and from- employment, as these operate early in the morning and in the afternoon after work. Thus anyone who needs to use the transport will have to conform to the operating times. Those seeking social travelling would have to pay extra, the amount a meter taxi would charge, be it the cause of travel is essential or not, one cannot travel during the day or on weekends.

Some roads are not suitable for these vehicles, especially the Sukuma, requiring people to travel or walk long distances to reach the bus stop. Public transport, both buses and taxis, are absolutely not accommodating to people with disabilities, be it in crutches or wheelchairs. Using these is uncomfortable, time consuming and sympathy drawing, further causing inferiority to these people.

### **5.3.3 Theme: Acknowledging the issue**

Through this study, it can be concluded that the issue is acknowledged in every sphere possible, but not much is being done about it. According the municipal officials, they have done everything possible, but they cannot perform miracles.

The community members also see the inferiority of these people, but they still perceive them with medical perspective of disability meaning. Thus people with disabilities are still seen as patients that need to be taken care of by other people. This is very problematic, as the community members are the future Councilors, municipality employees, NGO leaders, and community representatives in some other manner. Their perceptions have the power to determine the future of people with disabilities; whether they will be valued more than they already are currently and if more could be done to push the boundaries for these people.

### **5.3.4 Theme: Protection of the rights of the disabled**

As much as the Councilors recognized the need to treat everyone equally regardless of their

disabilities, they missed the fact that there are some bridges that need to be gapped before seeing them the way they did. For example, democratic/ or post-apartheid South Africa did not just start treating people equally, but the previously oppressed had to be leveled with the ones previously advantaged. Such act infringes with the Disability Rights Charter of the South African Constitution. A disabled person has a right to experience equal opportunities in all spheres of life and they shall be protected against exploitation and all treatment of an abusive or degrading nature (Disability Rights Charter of South Africa, 1991). Disabled people shall be entitled to represent themselves in all matters affecting them and resources shall be available to enable them to fulfill this role. Most importantly adequate and affordable transport shall be made available to disabled people. And with regards to the built environment, all new environments shall be accessible and safe to disabled people, and all reasonable steps shall be taken to make existing environments accessible and safe.

## **5.4 Conclusion**

In conclusion, findings gathered from the field show that people with disabilities face great discrimination in public transport. The attitudes surrounding them seem to also be a bit disabling as people do not see the need to stand for the rights of those with disabilities. A major challenge for planners is that apartheid planning worsens the difficulties faced by those with disabilities living in the periphery areas or the previously Bantu stands. The next chapter further discusses these findings, relates them to the research objectives and questions that guided this research.



# **CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS**

## **6.1 Introduction**

On assessing the inclusion of people with physical disabilities in transport, this study has shown that people with disabilities are facing more discrimination than one would imagine. This section will discuss the findings, compare with literature where necessary and include recommendations.

## **6.2 Reflection on the study objectives**

The purpose of this research was to assess the extent to which people with physical disabilities are made to feel included in the mobility and transport system of eThekweni municipality with particular to Umlazi Township.

The researcher sets primary objectives as follow:

1. To promote a transport system that accommodates everyone, especially people with disabilities;
2. To promote handicap friendly forms of transport that may have a positive influence on the environment and the well-being of those who are physically disabled;
3. To improve the area's transport planning objectives and the livability and economic status of those impacted by this issue;
4. To promote compact neighborhoods; and accessible.
5. Adaptation of modes of transport that cater for the physically challenged

From the above objectives, this research firstly investigated the historical treatment of people

with disabilities by society and whether they have ever been seen as part of the society or not. Secondly, it assessed the objectives of the Department of Transport and whether these have been achieved and if those with disabilities have benefited or felt included in these plans. Thirdly, the effectiveness of transport in people's lives was assessed and the consequences of lacking access to appropriate modes of transportation or more accommodating modes of transport system investigated. The necessity for this step was to prevent future exclusion of people with disabilities as these very citizens are the future councilors and planners who will later formulate policies and implement projects for development. The research also looked at the possible methods or designs that could be used by transport planners to better accommodate people with disabilities and make their lives better. And lastly, advantages and limitations of these were evaluated looking at the South African context, eThekweni Municipality in particular, with regards to the impact on the environmental, the social, the economical and the psychological aspects of life.

It resulted that the first objective was analyzed and answered in chapters 3 and 5. The common was that inaccessibility to public transport may cost the individual with a physical disability and their family a lot more than alienation. This would deprive them of their rights and affect them financially.

The second objective was covered in chapters 3, where transportation was viewed as the "activator" of a place's livability and economy. More interestingly in chapter 5 respondents showed that the inaccessibility of transport to people with physical disabilities affects the well-being of a person and their feeling of belonging in their society; strains the family's finances and worsens the situations in those families that are not well-off; affects the community as well as there will be members who do not contribute financially and/or participate in communal activities; and most importantly it affects the province, as the employment rate will be affected and the number of citizens who contribute in the economy compared to existing citizens will be negatively affected. This also encompasses the third objective, as the livability and economic status of the impacted people have been said to be affected.

The fourth objective was also covered in chapters 3 and 5, and the following are the key points: in

chapter 3 the Compact City and Smart Growth Theories emphasize compact neighborhoods to improve accessibility. In such neighborhoods, facilities and necessary services will ideally be reachable to everyone, as these cities will be planned for people and not automobiles, thus creating enough space for mobility. The respondents in Chapter 5 complained about how scattered the place was (also affected by the steepness of the area), thus making it difficult to access necessary services and requiring automobiles to access such necessities.

Finally, the objective five was covered in chapter 6, it reveals an indication of way forward to cater for the physically disabled people. It is revealed that making the already existing buses that accommodate for the disabled the official public buses will not only make transport available throughout the day and every day of the week, but would also unite the society, thus making everyone feel belonging to the society.

### **6.3 Conclusion**

In conclusion, people with physical disabilities are still facing difficulties when accessing transport or accessing necessary facilities due to exclusion in transport planning. The area of Umlazi is not at all accommodating to people with disabilities, especially those in wheelchairs. The transport system on the other hand disables people further, as they are unable to participate in some activities and events due to such limitations. These people therefore feel as if they are not important or needed in their societies as no one shows any interest in fighting for their inclusion or rights. Some who claim to be representing them eventually lose their passion for helping people and grow passion for either money or power (but usually these go hand-in-hand), according to some of the respondents. People's attitudes towards them are the most crippling than all. These attitudes further disable those with disabilities, especially since these are the same people who work (or will work) for government, NGOs, development companies, etc., and with these attitudes no difference will be seen any time soon unless they are changed. People seem to not understand the word 'equality' or being treated equally, and unfortunately even those in power did not show an understanding of such. More awareness needs to be raised and word needs to be spread or else the loved ones with disabilities will be marginalized forever. The next section proposes some actions to be taken that may assist in solving this problem.

## **6.4 Recommendations**

There need to be policies put in place to enforce the inclusion of people with disabilities in everything, especially and including development. Failure to do so must result to some form of punishment or penalty. Planners need to be held accountable for the protection of the rights of these people, especially in the built environment and how accessible every resource or land use is to them.

An integrated transport system is needed. Instead of having Sukuma and the Bus Rapid Transit (BRT) operational at the same time, the Municipality could make Sukuma (with a different title though, as this one may be controversial) available to everyone, those with disabilities and those without. In this way transport would be available to everyone throughout the day and even on weekends, but most importantly people with disabilities would be part of the society and the society would become one instead of being separated according to the ability of one's body.

People may be exclude people with disabilities as part of the society but the greater responsibility lies with the planners. People follow the leader, thus if planners and the government could make the needs of people with disabilities their priority, then the rest of the society may recognize their value and roles in society. There is no need for waiting on a planner with a disability to fix a problem that is visible to the eye of an able-bodied planner. Shifting the responsibility will not help anyone and those with disabilities need to be given a chance to live and become future planners, Councilors and government officials, business owners, etc., but they must be shown that they matter and they have equal potential to do anything as anyone else does.

## BIBLIOGRAPHY

Africa, R. D. (2000). *Situation Analysis of Disability Integration in 18 National Government Departments*.

South Africa: The Office on the Status of Disabled Persons.

Africa, S. S. (2011). *Prevalence of Disability in South Africa*. South Africa: Census.

Africa, S. S. (2014, June 9). Disability. Durban, KwaZulu-Natal, South Africa.

Africa, S. S. (2014, June 9). Geography by Assistive Devices and Medication: A Wheelchair for Person Weighted. Durban, KwaZulu-Natal, South Africa.

Angotti, T. (2007). *Advocacy and Community Planning: Past, Present and Future*. Brooklyn: Planners Network.

Armoogum, J. & Dejoux, V. (2010). Mobility Barrier for Disabled People. *Transport Research*, 1-10.

Association, A. P. (2014, April 24). *Disability and Socioeconomic Status*. Retrieved June 8, 2014, from American Psychological Association:  
<http://www.apa.org/pi/ses/resources/publications/factsheet-disability.aspx>

Blakeman, J. (2003). *Smart Growth and Transportation in Small Communities*. Milwaukee: University of Wisconsin-Milwaukee.

Blundell, P. V. (2010). Hearing the Voices of Disabled Students in Higher Education. *Disability and Society*, 20-32.

Boyce, D. (2013). Transportation System. USA: Northwest University

Brian Watermeyer, L. S. (2006). *Disability and Social Change: A South African Agenda*. Cape Town: HRSC Press.

Church, A. Frost, M. & Sullivan, F. (2000). Transport and Social Exclusion in London. *Transport Policy*, 195–205.

Clark, J. W. (2011). *Designing and Conducting Mixed Methods Research*. California: SAGE Publications.

Design, C. P. (2011). *Smart Growth: A Guide to Developing and Implementing Greenhouse Gas Reductions Programs*. United States: U.S. Environmental Protection Agency.

- Domingo, M. C. (2012). An overview of the Internet of Things for people with disabilities. *Network and Computer Applications*, 584-596.
- EThekweni Municipality, (2008). *Umlazi: Local Development Plan*. Durban: KA Economic Development Consulting CC
- Greene, V. J. (1993). Data Analysis Strategy for Mixed-Method Evaluation Design. *Educational Evaluation and Policy Analysis*, 195-207.
- Groce, N. E. (1999). An Overview of Young People Living with Disabilities: Their Needs and Their Rights. *Inter-Divisional Working Group on Young People Program Division*, 1-24.
- Gubela Mji, S. G. (2011). An African Way of Networking Around Disability. *Disability and Society*, 365–368.
- Hall, R. I. (2001). An Exploration of Disability and the Development Process. *Urban Studies*, 333–350.
- Mannan, H., McVeigh, J., Amin, M., MacLachlan, M., Swartz, L., Munthali, A. & Rooy, G.V. (2012). Core Concepts of Human Rights and Inclusion of Vulnerable Groups in the Disability and Rehabilitation Policies of Malawi, Namibia, Sudan, and South Africa. *Disability Policy Studies*, 66-81.
- Katz, H. (2006). *Global Surveys or Multi-national Surveys? On Sampling for Global Surveys*. University of the Negev: Israeli Center for Third-sector Research (ICTR)
- Lehohla, P. (2004). *Provincial Profile: KwaZulu-Natal*. Pretoria: Statistics South Africa.
- Litman, T. (2014). *Evaluating Accessibility for Transportation Planning: Measuring People's Ability to Reach Desired Goods and Activities*. Brooklyn: Victoria Transport Policy Institute.
- M. Mashiri, D. M.-Z. (2005). *Improving the Provision of Public Transport Information for Persons with Disabilities in the Developing World*. Cape Town: University of Cape Town.
- McGarty, S. A. (2003). *Research Methods and Statistics in Psychology*. London: Sage.

- Neuman, M. (2005). The Compact City Fallacy. *Planning Education and Research*, 11-26.
- Nordquist, R. (2014, January 23). *Literature Review*. Retrieved August 21, 2014, from About Education: <http://grammar.about.com/od/il/g/literaturereviewterm.htm>
- Parkhurst, I. S. (2012). Transport-related Social Exclusion in Rural Southwest England and Wales. *Rural Studies*, 412- 421.
- Rosso, A. L., Auchincloss, A. H. & Michael, Y. L. (2011). The Urban Built Environment and Mobility in Older Adults: A Comprehensive Review. *Journal of Aging Research*, 1-11.
- Burke Johnson, A. J. (2007). Toward a Definition of Mixed Methods Research. *Journal of Mixed Methods Research*, 111-133.
- Sherman, S. S. (2012). Design Professionals and the Built Environment: Encountering Boundaries 20 Years After the Americans with Disabilities Act. *Disability and Society*, 51-64.
- Shrivastava, P. A. (2009). *Exploring Compact City: Reconfiguring the Compact City*. Master of Architecture, 1-58.
- Spaces, P. f. (2012). *Place-Making and the Future of Cities*. United Nations: UN-HABITAT.
- Tate, J. a. (2010, March 17). *Environmentalism Theory*. Retrieved June 10, 2014, from Behavioral Psychology Child Development: <http://bpcd-jadenandtate.blogspot.com/2010/03/environmentalist-theory.html>
- Theart, A. (2007). *Smart Growth: A Sustainable Solution for our Cities?* Stellenbosch: University of Stellenbosch
- Thomas, H. (2007). Disability, politics and the built environment. In H. Thomas, *Planning Practice & Research* (pp. 22-26). United States: Taylor & Francis Online.
- Transport, E. C. (1991). *Transport for People with Mobility Handicaps: Policy and Achievements in Europe*. Europe: European Conference of Ministers of Transport.

Williams, J. (2006). *Community Development Workers as Advocacy Planners in South Africa? A Bourdieuan approach*. Western Cape: University of Western Cape

Wixley, S., Jones, P., Lucas, K. & Aldridge, M. (2005). *Measuring Accessibility as Experienced by Different Socially Disadvantaged Groups*. University of Westminster



## **APPENDICES**

## **APPENDIX A: INTERVIEW GUIDE**

### **Questionnaires**

With these questionnaires the researcher aims to statistical data assessing:

- the comfort of people with physical disabilities in their environments
- the sensitivity of the community counselors and the municipality workers to the needs of the physically disabled
- personal influences on the counselors and the municipality employees in their sensitivity to people with physical disabilities

In these questionnaires participants' anonymity will be ensured, and their identity needed for academic purposes, will be confidential and shall remain within the university and the researcher. Participation is voluntary and no incentives will be provided for participating. These questions are sensitive to people's religion, culture, values and norms. Any discomfort experienced by the participant should be reported immediately to the researcher in order for these issues to be addressed or change to be made in the interview. Participants are required to be as honest as possible, and not worry about any judgment or mistreat from the researcher because of their response

### ***People with Physical Disabilities***

This questionnaire aims to assess the extent to which people with physical disabilities are comfortable in their surrounding environment. This will be understood in how much they use local facilities and which facilities may be accessible to them.

1. How often do you go out for a walk/drive?

Very Often	Once a Week	Once a Month	Rarely	Never

2. How do you get to the local shops?

Drive	Walk	Never	Other, specify

3. How often do you use local recreational areas?

Very Often	Once a Month	Once a Year	Once in my life	Never

4. How often do you hang out with your friends?

Very Often	Once a Week	Once a Month	Rarely	Never

5. How long does it take to get to school/work?

Less than 10min	15min	30min	45min	45+ min

6. My school/work is located.....

With the community	500m from	1km from home	2 km from home	5 km from home	6+ km from

7. How often do you attend local/community meetings?

Never	Once in my life	Once a Year	Occasionally	Regularly

8. Who attends local/community meetings in your family?

Myself	Parent	Sibling	Relative	No one

### ***The Municipality***

This questionnaire aims to assess the possible influences on the municipality workers' perceptions of people with physical disabilities. This would explain the extent to which the department would protect or accommodate people with physical disabilities.

1. Do you know of a physically disabled person, excluding the elderly?

Yes	No

2. A physically disabled person in my life is:

Immediate Family	Relative	Community Member	Stranger	Don't Know Any

3. How often do you deal with cases involving people with physical disabilities?

Very Often	Once a Week	Once a Month	Rarely	Never

4. Do you have policies protecting people with physical disabilities?

Yes	No

5. How many physically disabled employees do you have in your department?

1	2	3	More than 4	None

6. Would you say the department building is accommodating to people with physical?

Yes	No	Maybe

### ***The Counselors***

This questionnaire aims to assess the sensitivity of community counselors to the needs of people with physical disabilities.

1. Do you know of a physically disabled person, excluding the elderly?

Yes	No

2. A physically disabled person in my life is:

Immediate Family	Relative	Community Member	Stranger	Don't Know Any

3. How often do you deal with cases involving people with physical disabilities?

Very Often	Once a Week	Once a Month	Rarely	Never

4. Is there any physically disabled counselor that you know?

Yes	No

## ***Interviews***

The interviews aim to gain in depth information on the perception of people with physical disabilities in the society and will assess:

- a) The experience of people with physical disabilities' immediate families with transportation and the attitudes surrounding them, and also understanding government's influence in the transportation challenges they face
- b) The attitudes of the community members and their participation in disabling the persons with physical disabilities in the community
- c) The attitudes of the community counselor towards people with physical disabilities and their sensitivity to their needs
- d) The attitudes of the municipality employees and the extent to which the department of transport tries to cater for people with physical disabilities

In these interviews participants' anonymity will be ensured, and their identity for academic purposes, will be confidential and shall remain within the university and the researcher. Participation is voluntary and no incentives will be provided for participating. These questions are sensitive to people's religion, culture, values and norms. Any discomfort experienced by the participant should be reported immediately to the researcher in order for these issues to be addressed or change to be made in the interview. Participants are required to be as honest as possible, and not worry about any judgment or mistreat from the researcher because of their response.



### ***Community Members***

This interview aims to get an insight of how the community perceives people with physical disabilities, and possibly understand how the community can contribute/participate in the inclusion of people with physical disabilities. As Vickerman and Blundell have argued, the attitudes surrounding the individual are the main causes of disability, not the impairment itself (Blundell, 2010). In this case, the researcher will be assessing how disabling or enabling the attitudes of the community members may be.

1. Do you know of a person with a physical disability, excluding the elderly?
2. How have you been in contact with a physically disabled person in your life?
3. How would you accommodate people with physical disabilities in your community if you were to be involved in transport planning?
4. How has culture influenced you on your perception of the physically disabled?
5. How has religion influenced you on your perception of the physically disabled?
6. How has the government influenced you on your perception of people with physical disabilities?
7. Do you feel the community accommodates residents with physical disabilities?
8. How have the community assisted/or fought for the rights of people with physical disabilities?

### ***Counselors***

This interview aims to assess the community counselor's attitude towards people with physical disabilities, which may influence the exclusion of people with physical disabilities in community development projects implemented locally. The counselor's awareness of people with physical disabilities and the level of contact between these individuals will be looked at as well. And finally assessing the extent to which the government emphasizes the awareness of people with physical disabilities needs by the counselors.

1. Which projects have you implemented or been involved in to accommodate people with physical disabilities?
2. How do you see the road networks in your community in the sense of being safe to everyone, especially people with physical disabilities?
3. Have you ever had a person with physical disabilities or their family complaining to you about exclusion related issues?
4. Do you communicate at any level with residents with physical disabilities of your community?

### ***People with Disabilities and their Families***

In this interview, the experience with transportation of the immediate family of people with physical disabilities will be assessed. The accessibility of the environment they live in, the community assistance they've experienced and the efficiency of existing transportation strategies to assist in travelling with a person with physical disabilities will be looked at. The researcher also seeks to assess the effectiveness in low-income communities of existing transportation strategies to assist people with physical disabilities.

1. How long have you lived in this community?
2. Do you feel that it is accommodating to residents with physical disabilities in the community?
3. What have you noticed in the community that encourages exclusion of people with physical disabilities, particularly in transportation?
4. How accessible are the local facilities to people with physical disabilities?
  - a) Your home
  - b) Church
  - c) The local clinic
  - d) Community hall
  - e) Schools
  - f) Open spaces
  - g) Recreational Fields
  - h) Local shops
5. How do you travel to access health facilities for you or your loved one?
6. How accommodating are local bus stops to you?
7. The eThekweni municipality introduced buses that are friendly to the physically challenged, which are Dial-a-Ride, Sukuma buses, and People Mover. How have these assisted you in:

a) Travelling to the CBD with a physically challenged loved one

- b) Travelling locally, whether to clinic, school, or any other local trip requiring transport
  - c) Travelling to the local mall, Mega city
- 8. What other assistive modes do you use to transport your loved one, locally or to other places?
- 9. How does the government assist in transporting people with physical disabilities and their loved ones?
- 10. How can the government assist in making it easier for you to travel with the physically disabled loved one (whether on foot or vehicle)?
- 11. How sensitive has the community counselor been to your transportation-related challenges?

### ***Taxi and Bus Operators***

In this interview the researcher aims to assess the extent to which taxi and bus operators are aware of people with physical disabilities' needs in transportation. The interview also aims to understand the operators' perception of people with physical disabilities, the state of existing taxis in the accommodation of people with physical disabilities, and they feel needs to be done to emphasize the inclusion of these people in transport planning and the design of transport modes.

1. In your opinion, how accommodating are your vehicles to people with physical disabilities, in crutches and wheel chairs (e.g. the entrance, seats and space within your vehicle?
2. What measures have you taken to accommodate people with physical disabilities or make them feel comfortable in your vehicles?
3. How often do people with physical disabilities use your vehicle?
  - c) Those using crutches
  - d) Those in wheel chairs
4. How do people in wheel chairs use your vehicle, when using it?
5. Do you feel the access roads you use are safe for people with physical disabilities to use without assistance? Explain
6. What has the government done to emphasize the accommodation of people with physical disabilities in your transport modes, be it workshops, incentives, or a policy every vehicle owner and/or driver has to abide to?
7. What do you think needs to be done to emphasize the accommodation of people with physical disabilities in transportation; in roads design and transport modes used in low-income communities?

## ***Municipalities***

In this interview the researcher aims to assess the inclusion of people with physical disabilities in the eThekweni Municipality policies, especially with regards to transportation. In addition, the interview aims to assess the attitudes of the municipality employees towards people with physical disabilities, and the efficiency of existing strategies to cater for those with physical disabilities

1. In your opinion, how is the department of transport inviting to people with disabilities who would like to work here?
2. How many colleagues with physical disabilities do you have?
3. Have you ever dealt with cases involving people with disabilities and exclusion in transportation, whether in modes or road networks?
4. What policies do you have to emphasize accessibility and comfort ability of people with disabilities in:
  - a) Roads Construction
  - b) Transport modes
5. The eThekweni Municipality introduced the dial-a-ride, Sukuma, and people mover buses to accommodate those with physical disabilities. How effective would you say this approach have been, in terms of improving the mobility of people with physical disabilities and their employment rates?
6. What other strategies do you have in place to assist people with physical disabilities from low- to middle-income communities on the outskirts of Durban, e.g. Umlazi?
5. Since Dial-a-ride costs R2 per kilometer, does the government intervene in cases of people who live far from the CBD, to whom the mode may be beyond their affordability?
6. What measures has the department of transport taken to ensure safety and comfortability of people with physical disabilities when using streets, particularly in Umlazi?

7. What future plans does the department have to ensure accommodation of those physical disabilities in future developments, especially in transportation?



## **APPENDIX B: INFORMED CONCENT DOCUMENT**

### **Consent Document**

This consent form is for a research project on the inclusion of physically challenged people in the KwaZulu-Natal transportation system, particularly in Umlazi Z section. This research will be carried out by Nokuzola Tracey April, doing her Masters in Town and Regional Planning (MTRP). The interviewer should have the interviewee read this form carefully and ask any questions the interviewee may have. Before the interview can start, the investigator and the interviewee should sign two copies of this form. The interviewee will be given one copy of the signed form.

### **Consent for Participation in Questionnaire and Interview Research**

I volunteer to participate in a research project conducted by Ms. N.T. April from the University of KwaZulu-Natal, Howard College. I understand that the project is designed to gather information about the inclusion of physically challenged people in the eThekweni transportation system, particularly in Umlazi Z section. I will be one of approximately 30 people being interviewed for this research.

1. My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty.
2. I understand that most interviewees may find the discussion interesting and thought-provoking. If, however, I feel uncomfortable in any way during the interview session, I have the right to decline to answer any question or to end the interview.
3. Participation involves being interviewed by the research student from the University of KwaZulu-Natal. The interview will last approximately 30-45minutes. Notes will be written during the interview. An audio tape of the interview and subsequent dialogue will be done. If I don't want to be taped, I will not be able to participate in the study.
4. I understand that the researcher will not identify me by name in any reports using

information obtained from this interview, and that my confidentiality as a participant in

this study will remain secure. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

5. Authorities and elders from my community will neither be present at the interview nor have access to raw notes or transcripts. This precaution will prevent my individual comments from having any negative repercussions.
6. I understand that this research study has been reviewed and approved by the Institutional Review Board (Human Social Sciences) at the University of KwaZulu-Natal. For research problems or questions regarding subjects, the Institutional Review Board may be contacted through \_\_\_\_\_  
\_\_\_\_\_
7. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.
8. I have been given a copy of this consent form.

\_\_\_\_\_  
My Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
My Printed Name

\_\_\_\_\_  
Signature of the Investigator

For further information, please contact:

Ms. Nokuzola T. April

Cell No: 073 868 2687

E-mail: [ntapril90@gmail.com](mailto:ntapril90@gmail.com)

## APPENDIX C: FIGURES AND TABLES

**Table 1: Number of persons with disabilities by province and sex**

Province	N			%		
	Male	Female	Total	Male	Female	Total
Western Cape	96 549	90 301	186 850	4,4	3,9	4,1
Eastern Cape	173 229	199 037	372 266	5,8	5,8	5,8
Northern Cape	23 620	23 353	46 973	5,9	5,5	5,7
Free State	87 758	97 619	185 377	6,8	6,9	6,8
KwaZulu-Natal	219 685	250 903	470 588	5,0	5,0	5,0
North West	105 169	106 054	211 223	5,8	5,7	5,8
Gauteng	164 588	167 023	331 611	3,7	3,8	3,8
Mpumalanga	87 319	94 874	182 193	5,8	5,8	5,8
Limpopo	124 128	144 774	268 902	5,2	5,0	5,1
<b>South Africa</b>	<b>1 082 043</b>	<b>1 173 939</b>	<b>2 255 982</b>	<b>5,1</b>	<b>5,0</b>	<b>5,0</b>

Source: (Lehohla, 2004)

**Table 2: The disabled by type of disability, KwaZulu-Natal and South Africa, 2001**

Disability	KwaZulu-Natal		South Africa	
	N	%	N	%
Sight	110 937	23,6	577 096	25,6
Hearing	67 004	14,2	313 585	13,9
Communication	17 971	3,8	75 454	3,3
Physical	123 853	26,3	557 512	24,7
Intellectual	45 451	9,7	206 451	9,2
Emotional	55 883	11,9	268 713	11,9
Multiple	49 489	10,5	257 170	11,4
<b>Total</b>	<b>470 588</b>	<b>100,0</b>	<b>2 255 981</b>	<b>100,0</b>

**Table 3: Space-Time Research Disability: Age groups in 5 years by Population group and Gender for Person weighted, Umlazi Z**

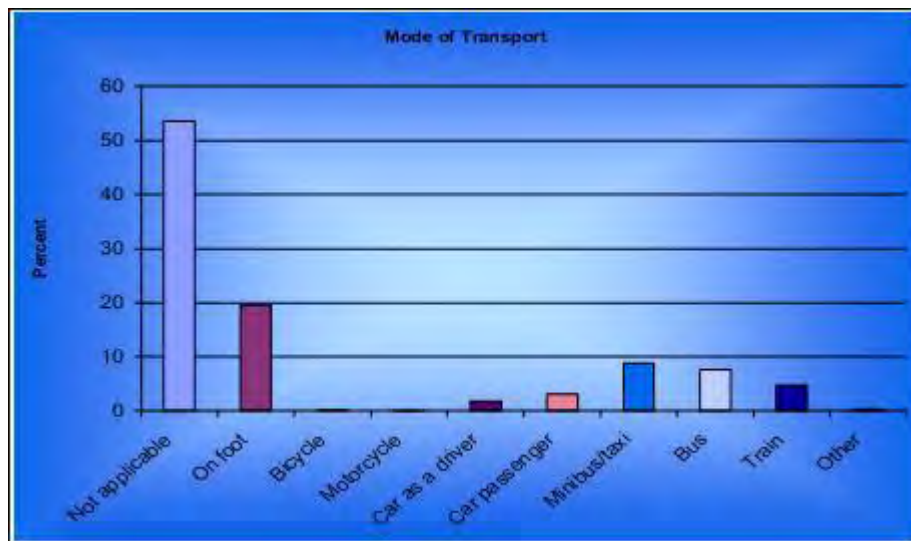
Age Groups	Black African		Coloured		Indian or Asian		White		Other	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
00 - 04	663	613	-	4	-	-	-	-	2	-
05 - 09	558	509	-	1	-	3	-	1	-	-
10 - 14	613	575	-	-	-	-	-	-	1	1
15 - 19	798	761	1	-	-	1	-	1	-	-
20 - 24	884	890	1	1	1	1	-	-	-	1
25 - 29	809	829	2	1	1	-	-	-	-	-
30 - 34	545	602	-	2	-	-	-	-	-	-
35 - 39	447	464	-	-	1	2	-	-	1	1
40 - 44	319	377	-	-	-	-	-	-	1	1
45 - 49	284	404	-	-	-	-	-	-	-	-
50 - 54	270	344	-	-	-	-	-	-	-	-
55 - 59	182	283	-	-	-	1	-	-	-	-
60 - 64	130	212	-	1	-	-	-	-	-	-
65 - 69	55	108	-	-	1	-	-	-	-	-
70 - 74	33	82	-	-	-	-	-	-	-	-
75 - 79	18	44	-	-	-	-	-	-	-	-
80 - 84	6	26	-	-	-	-	-	-	-	-
85+	7	15	-	-	-	-	-	-	-	-

**Table 4: Key Informants**

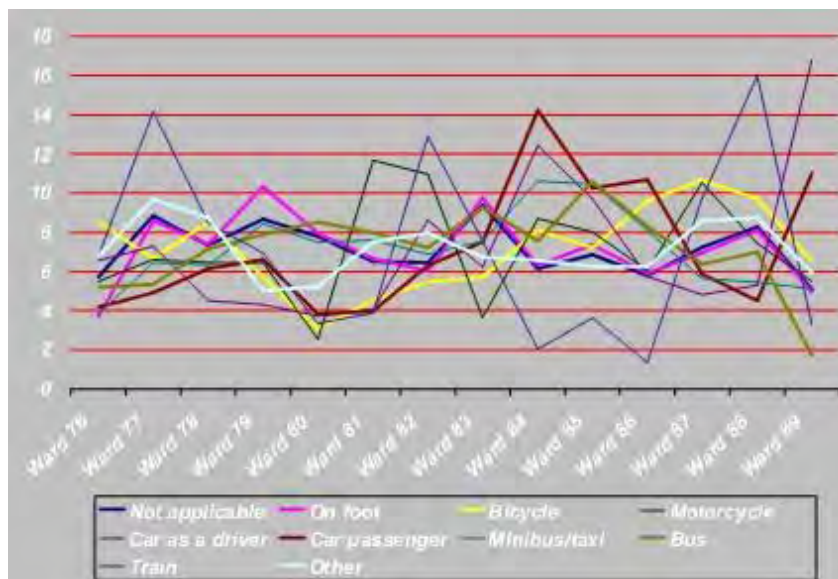
KEY INFORMANTS	NUMBER	PERCENTAGE%
People with disabilities	5	16.7
Municipal officials	2	6.7
Councilors	3	10
Community members	10	33
Family members of disable people	5	16.7
Taxi and bus drivers	5	16.7

<b>TOTAL</b>	<b>30</b>	<b>100</b>
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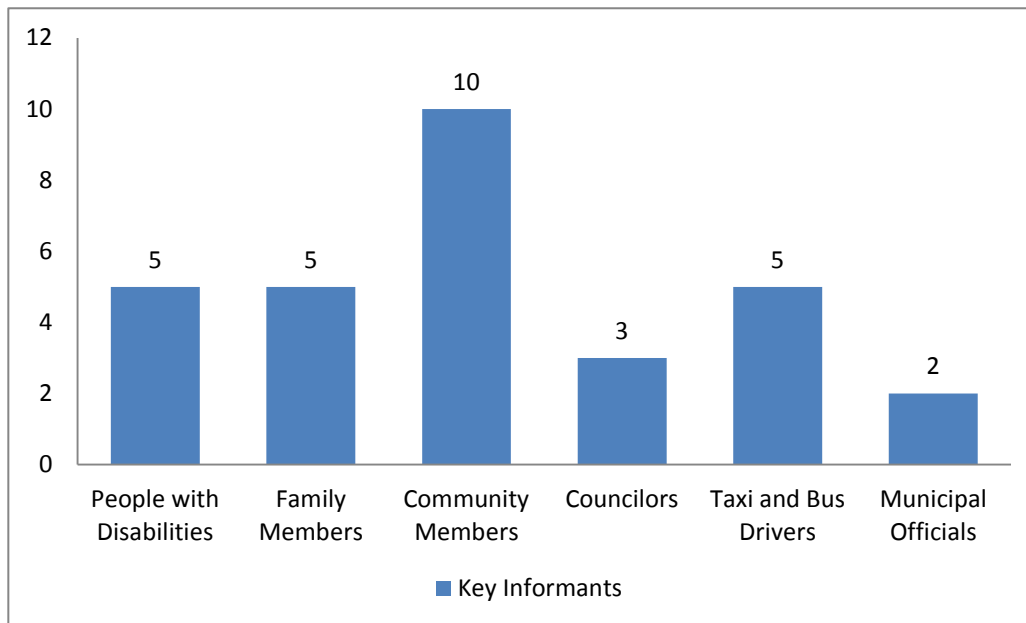
**Figure4.2: Mode of transport used in Umlazi**



**Figure 43: Mode of Transport by Ward**

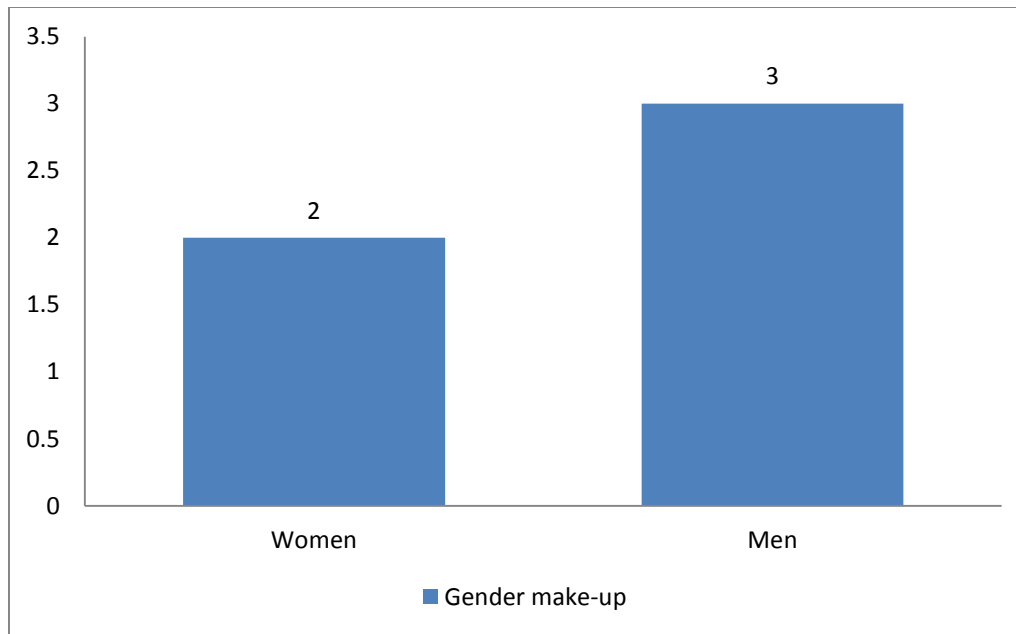


**Figure4.5: Key Informants**



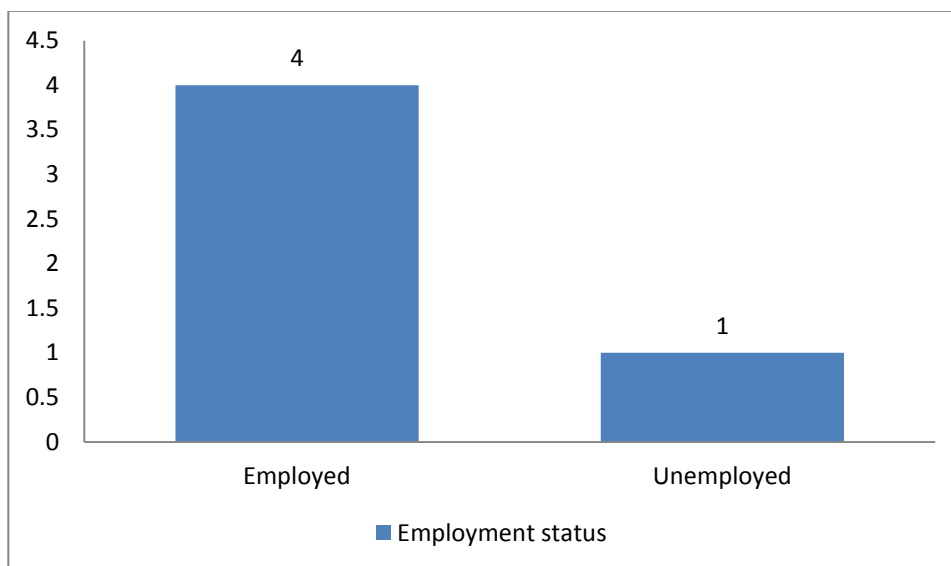
**Figure4.6: The gender make-up of the sample of those with disabilities**





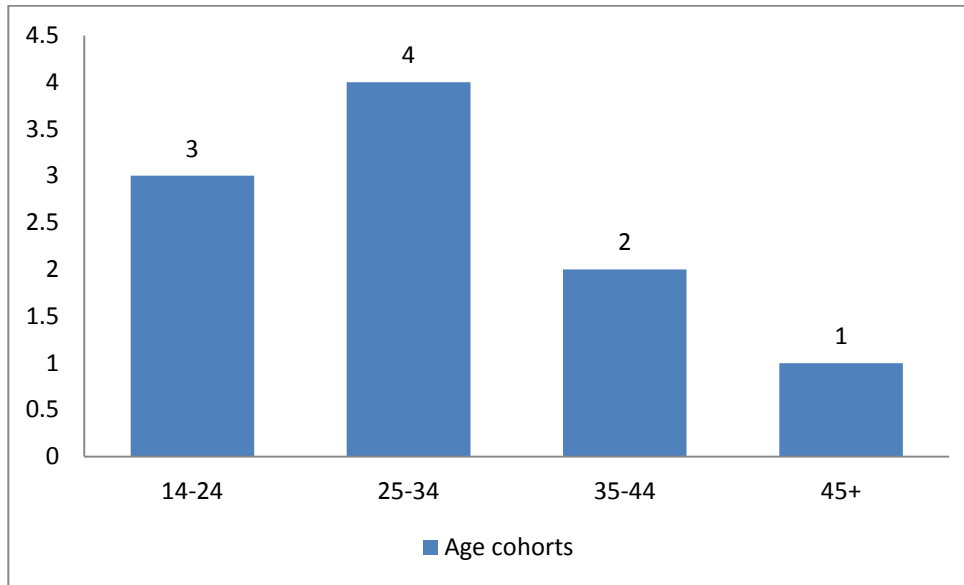
Source: April 2014/10/15

**Figure 4.7: Employment status of the sample**



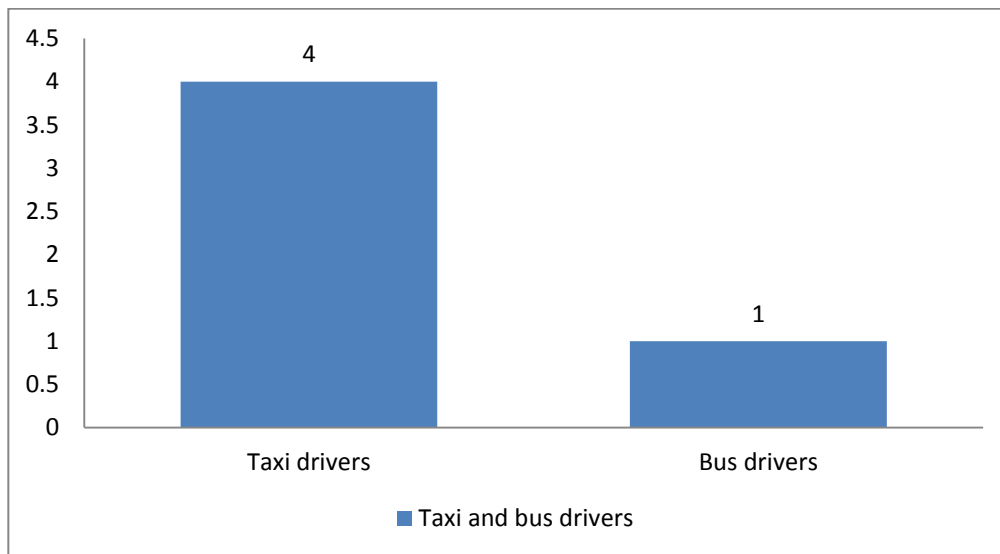
Source: N. T. April 15/10/2014

**Figure4.8: Age cohorts of the sample**



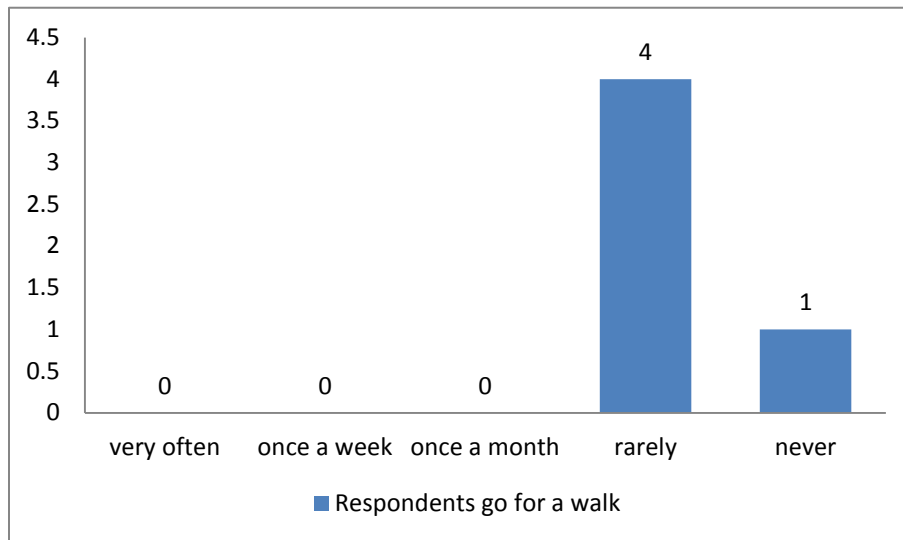
Source: N. T. April 15/10/2014

**Figure4.9: Taxi and Bus Drivers in the sample**



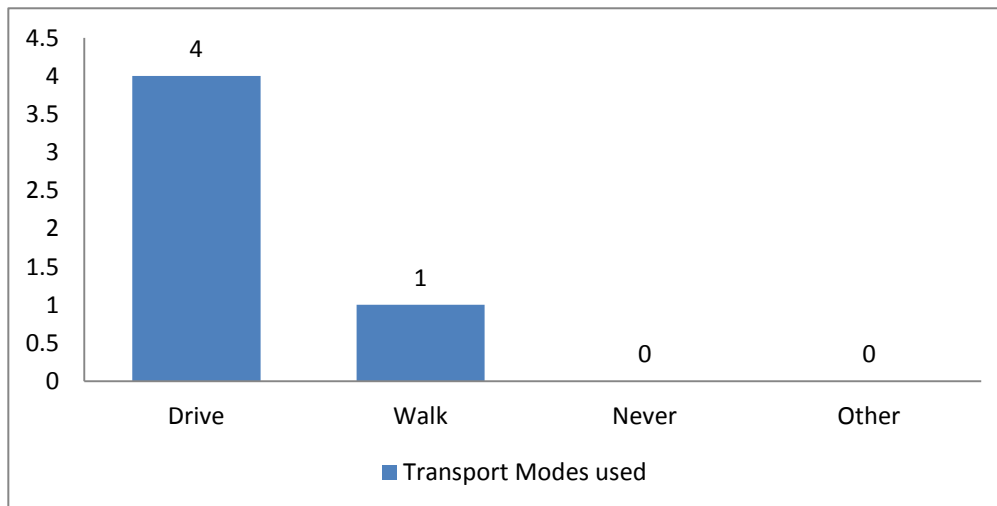
Source: N. T. April 15/10/2014

**Figure 5.1: A diagram showing the number of time respondents go for a walk**



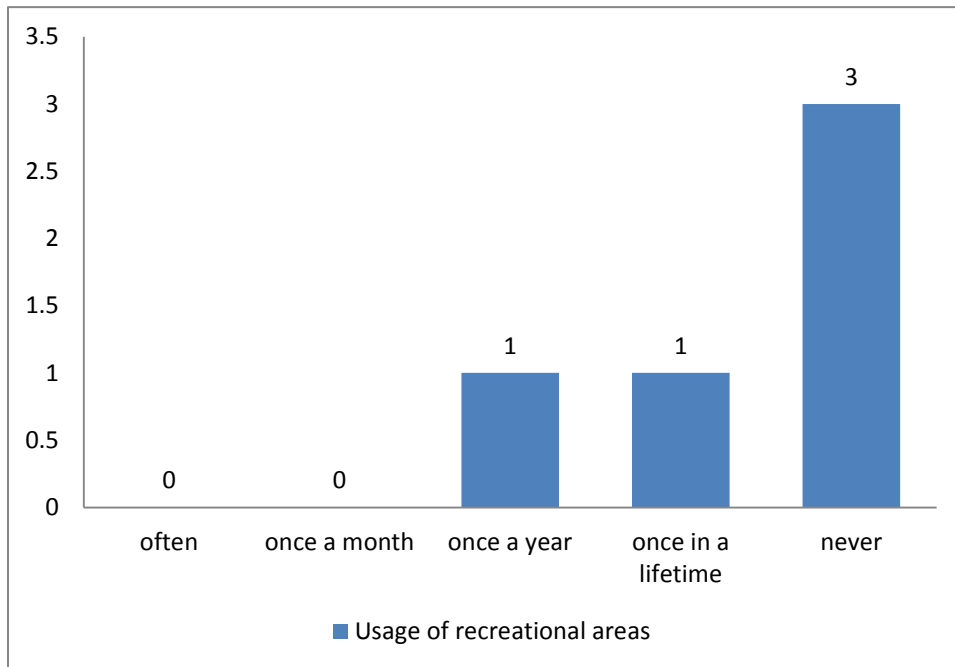
Source: N. T. April 15/10/2014

**Figure 5.2: The transport modes used by respondents to access local shops**



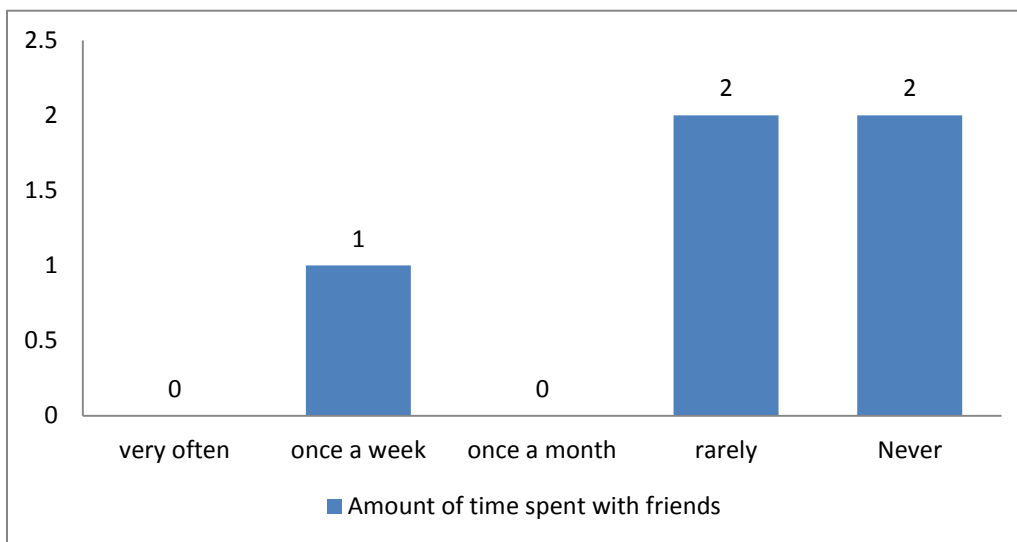
Source: N. T. April 15/10/2014

**Figure 5.3: The number of times respondents use recreational areas**



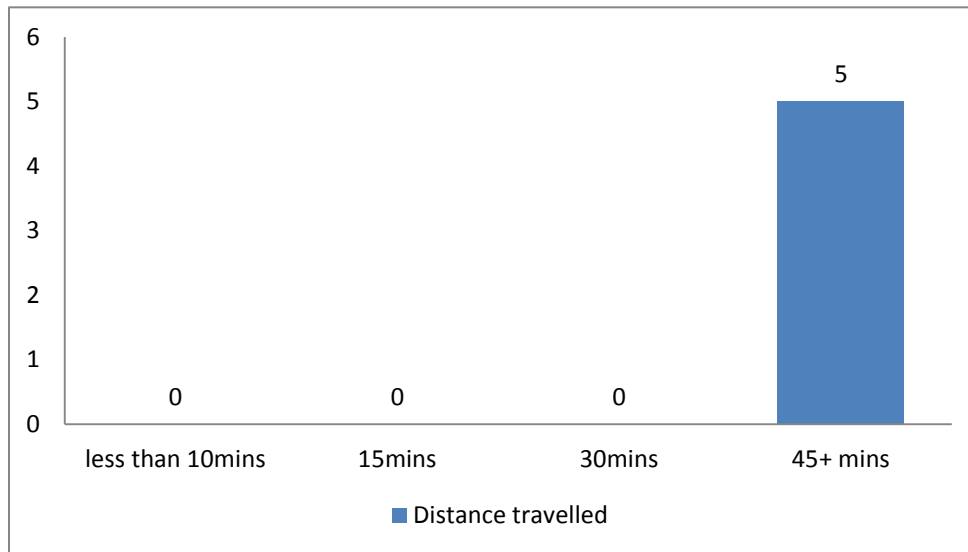
Source: N. T. April 15/10/2014

**Figure 5.4: The amount of time respondents spend with friends**



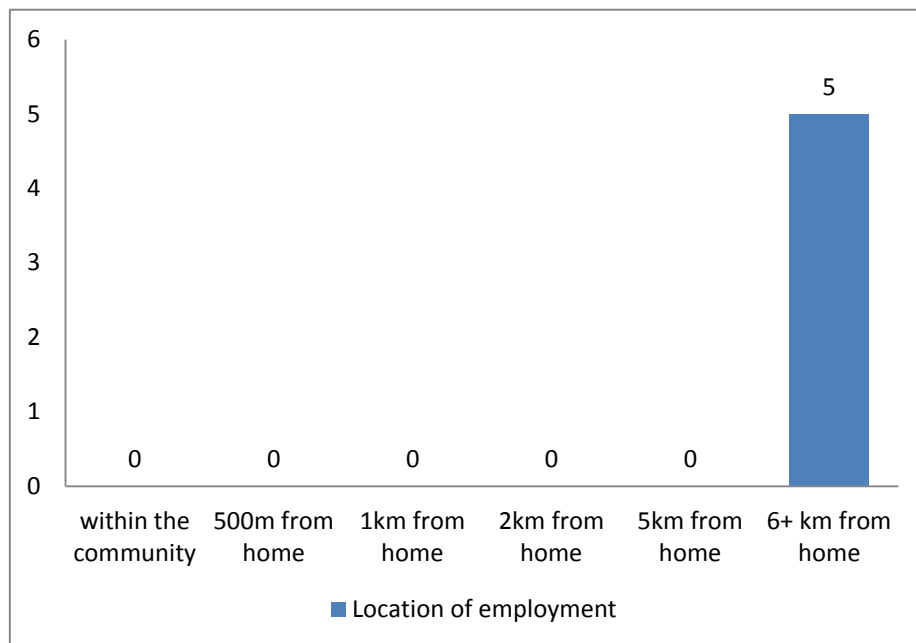
Source: N. T. April 15/10/2014

**Figure 5.5: The distance travelled by respondents to school/work**



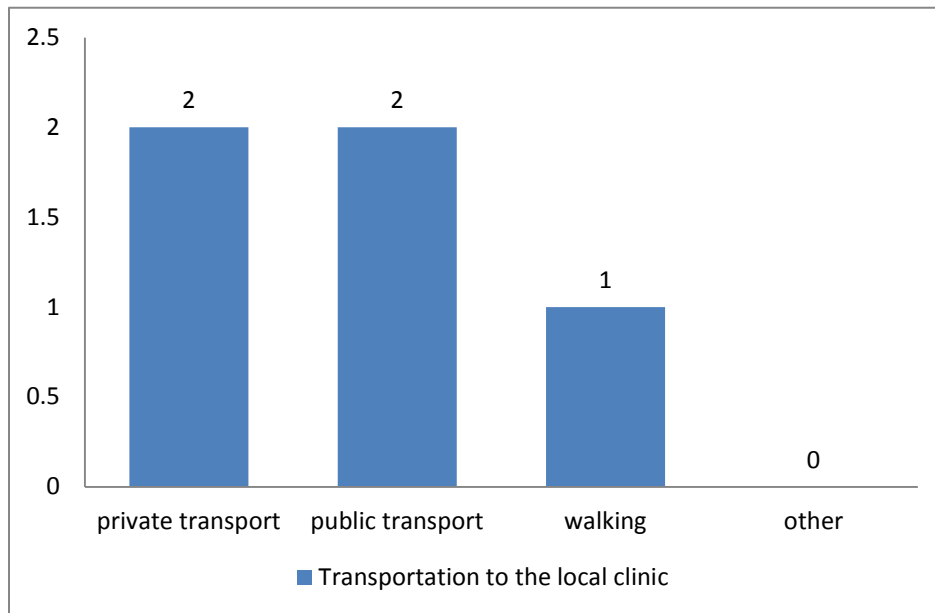
Source: N. T. April 15/10/2014

**Figure 5.6: Location of the respondents' place of employment**



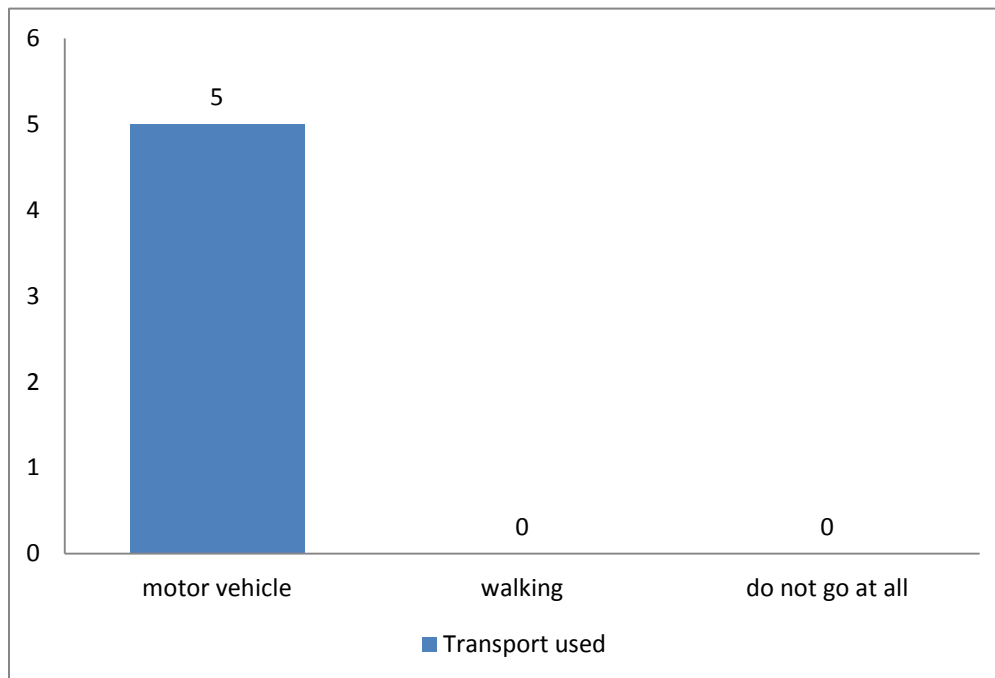
Source: N. T. April 15/10/2014

**Figure 5.9: Transport modes used by the respondents to access the local clinic**



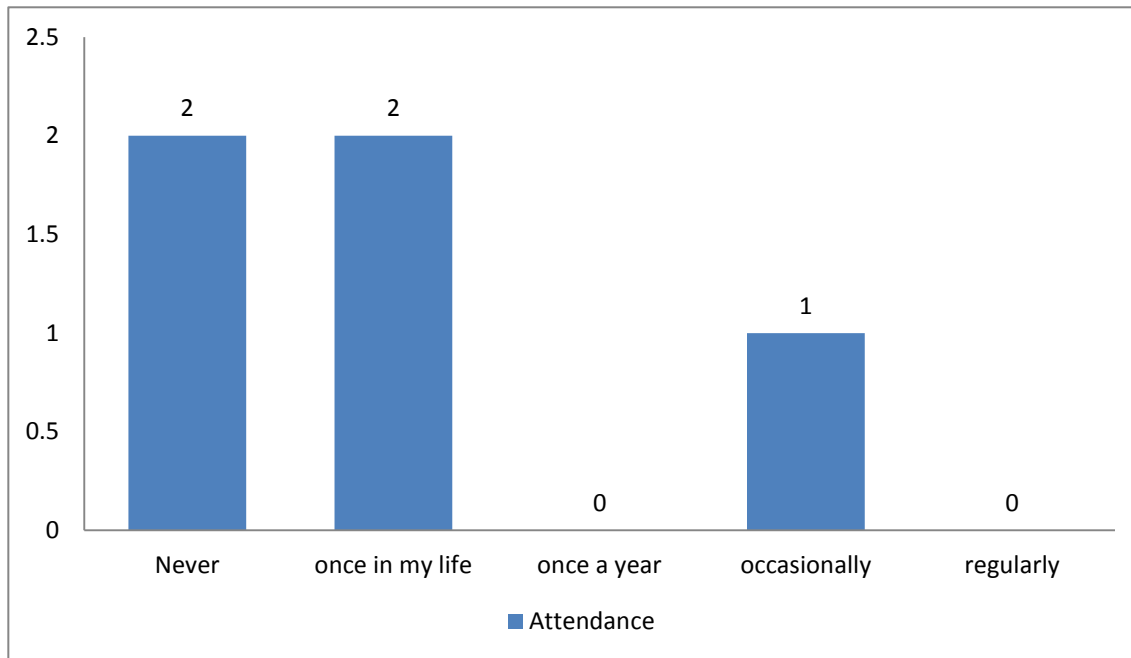
Source: N. T. April 15/10/2014

**Figure 5.10: Transport mode used by respondents to access school/work**



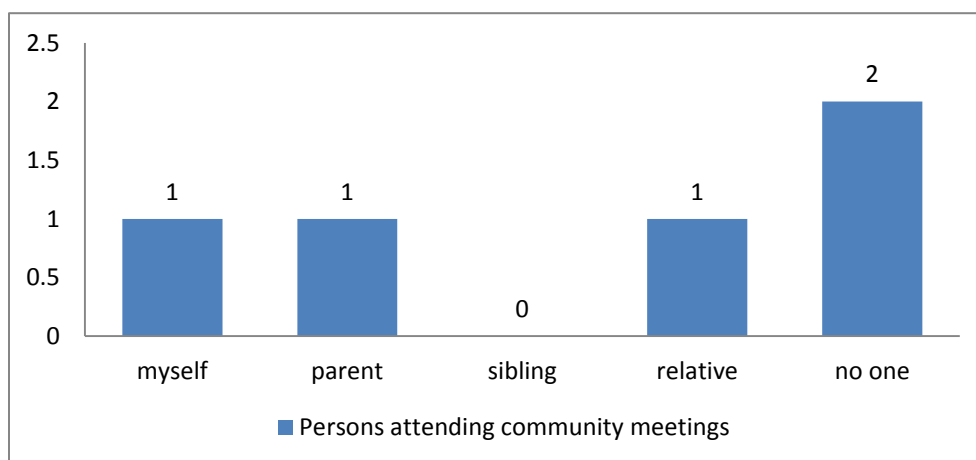
Source: N. T. April 15/10/2014

**Figure 5.12: Number of times the respondents attend local/community meetings**



Source: N. T. April 15/10/2014

**Figure 5.13: Persons attending community meetings in the lives of those with disabilities**

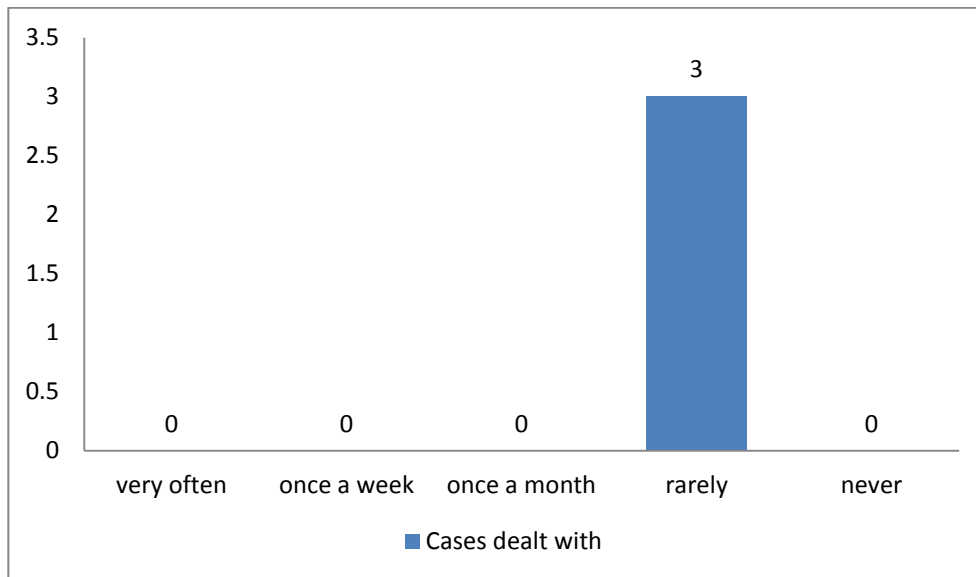


Source: N. T.

April

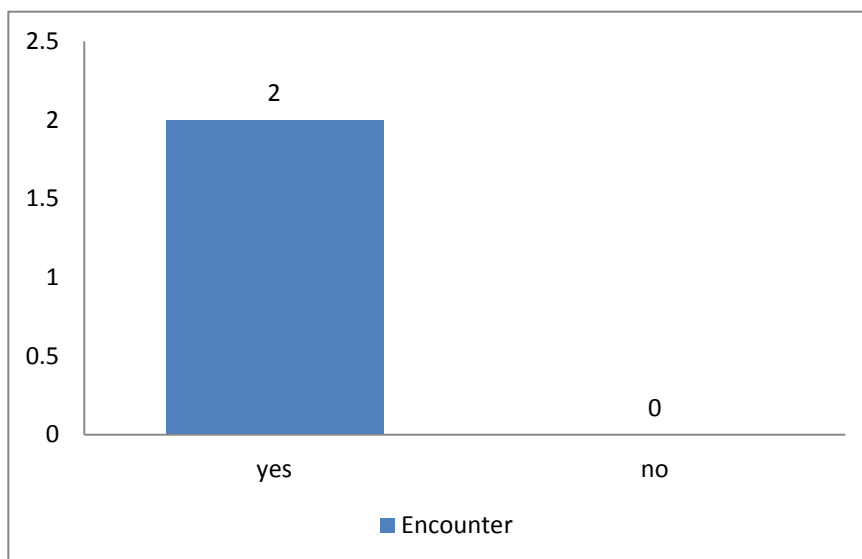
15/10/2014

**Figure 5.14: Cases dealt with by councilors concerning people with physical disabilities**



Source: N. T. April 15/10/2014

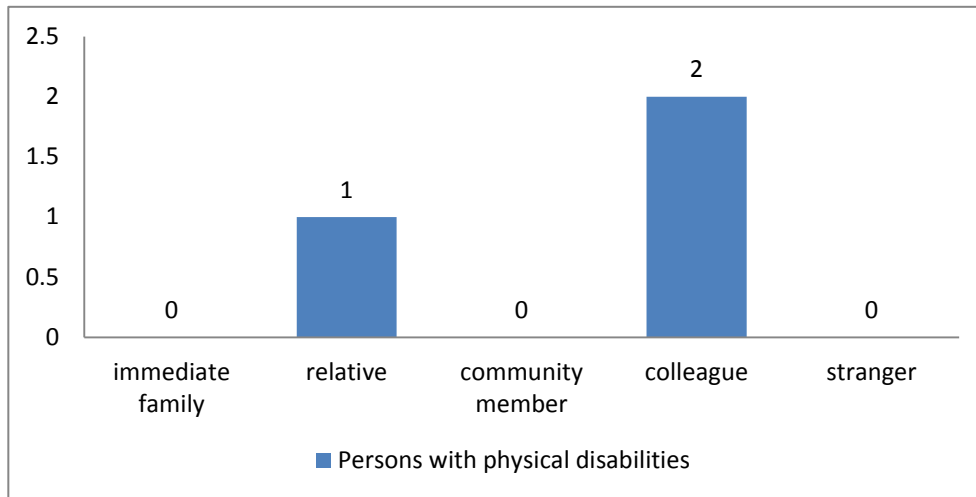
**Figure 5.15: the encounter of people with disabilities with the municipal officials**



Source: N. T. April 15/10/2014

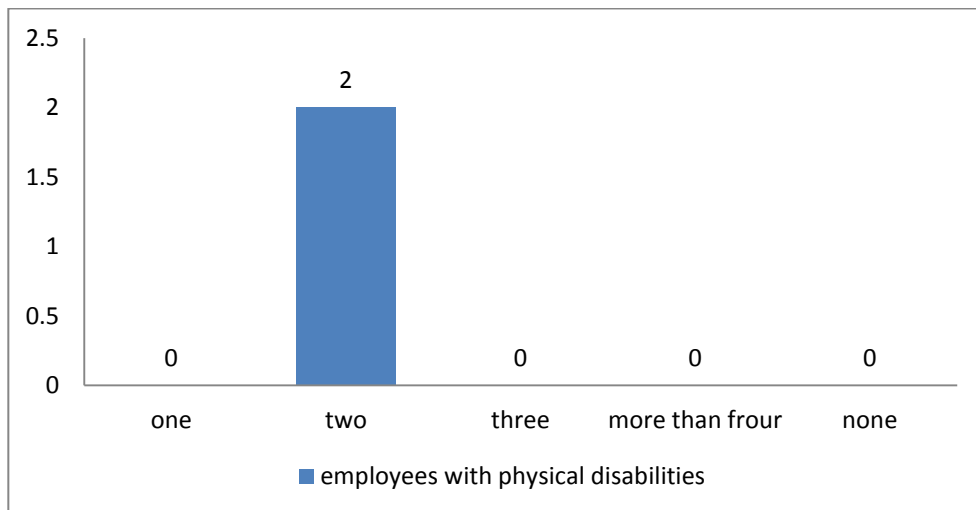


**Figure 5.16: A diagram showing physically disabled people in the officials' lives**



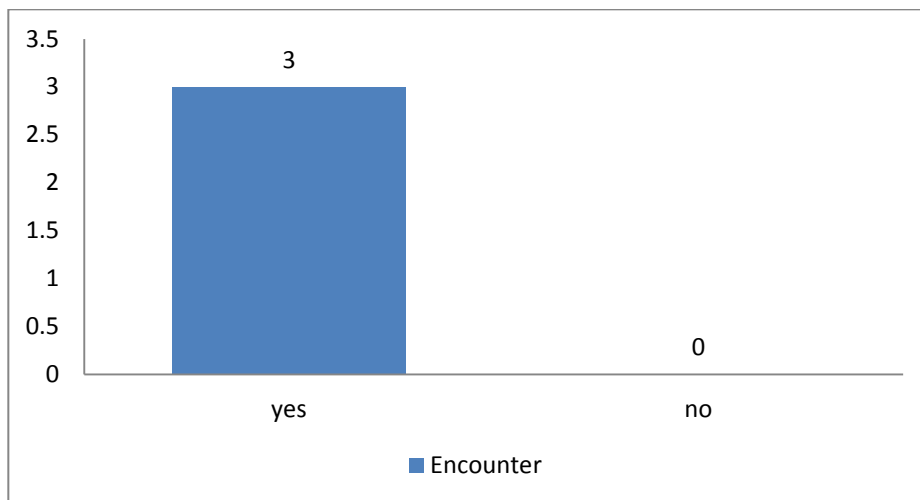
Source: N. T. April 15/10/2014

**Figure 5.17: A diagram showing the number of employees with physical disabilities in transport planning**



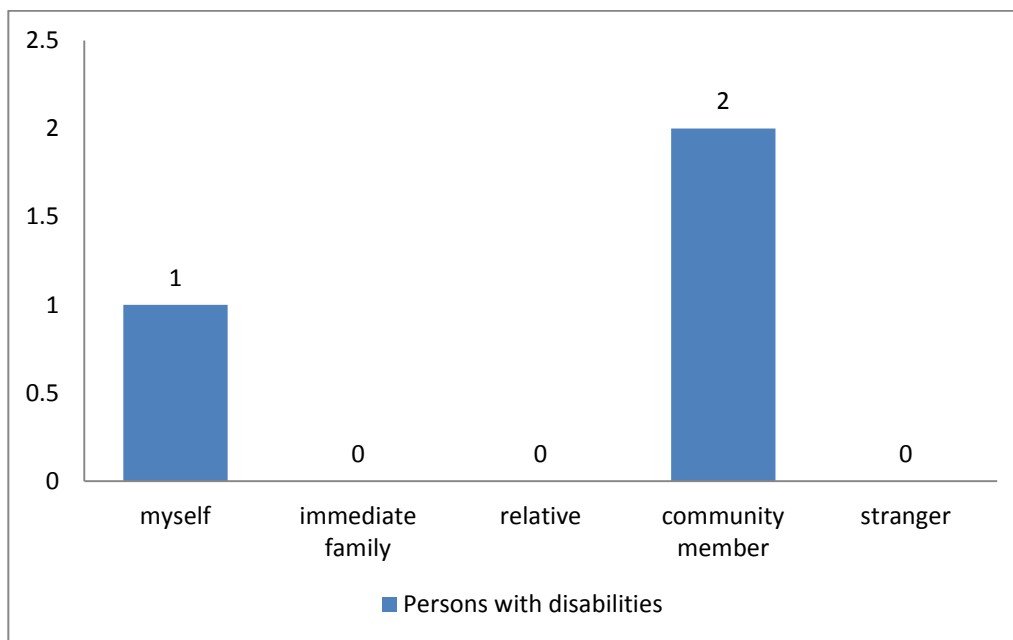
Source: N. T. April 15/10/2014

**Figure 5.18 The encounter with persons with disability by the councilors**



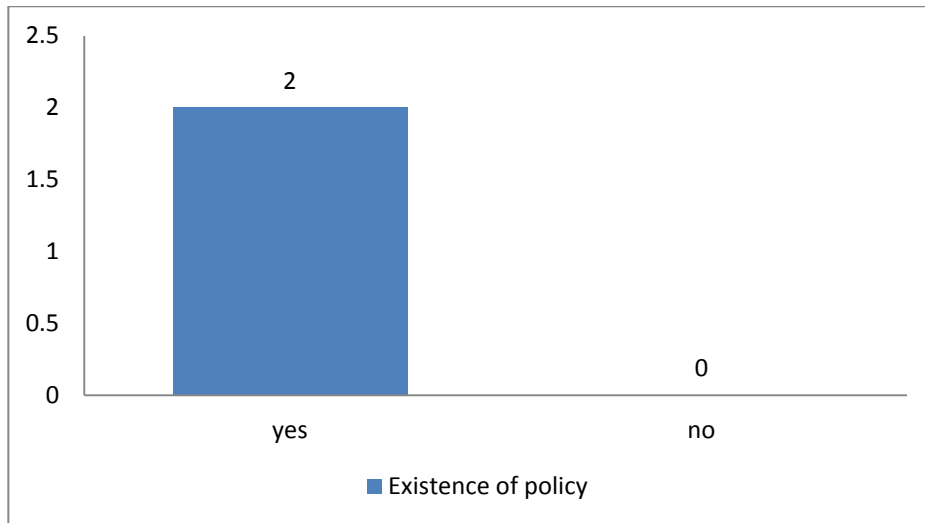
Source: N. T. April 15/10/2014

**Figure 5.19: Persons with disabilities in the councilors' lives**



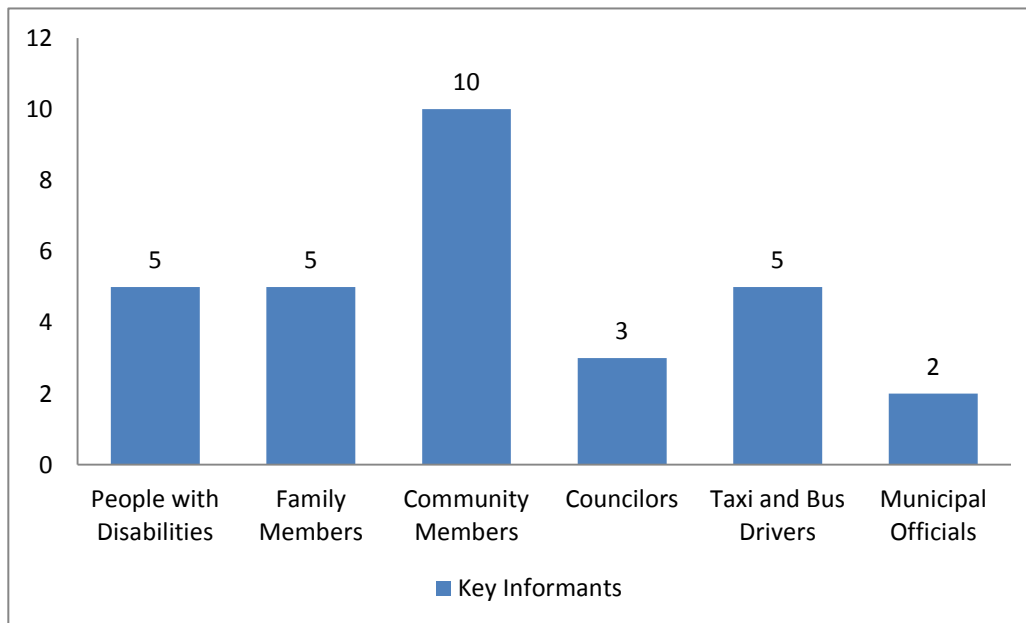
Source: N. T. April 15/10/2014

**Figure 5.20: the existence of policies protecting the rights of the physically disabled in transport planning**

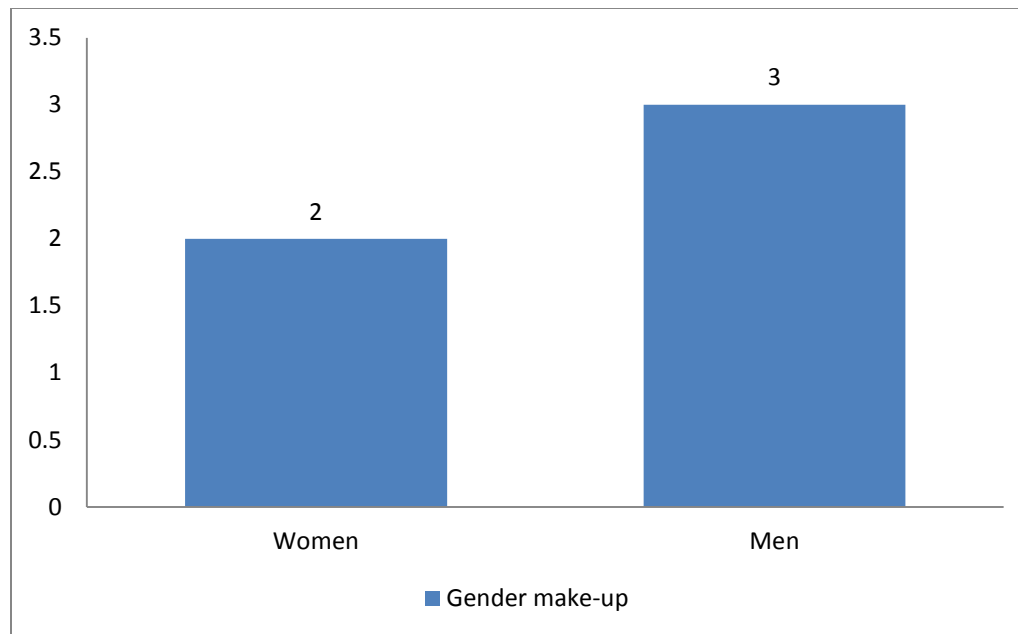


Source: N. T. April 15/10/2014

**Figure4.5: Key Informants**

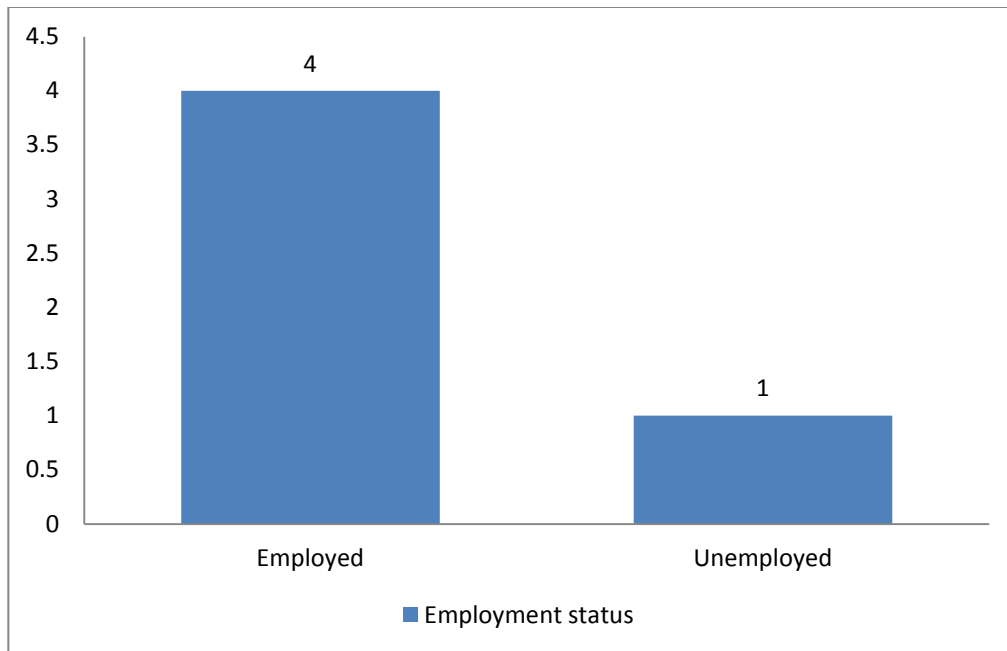


**Figure 4.6: The gender make-up of the sample of those with disabilities**



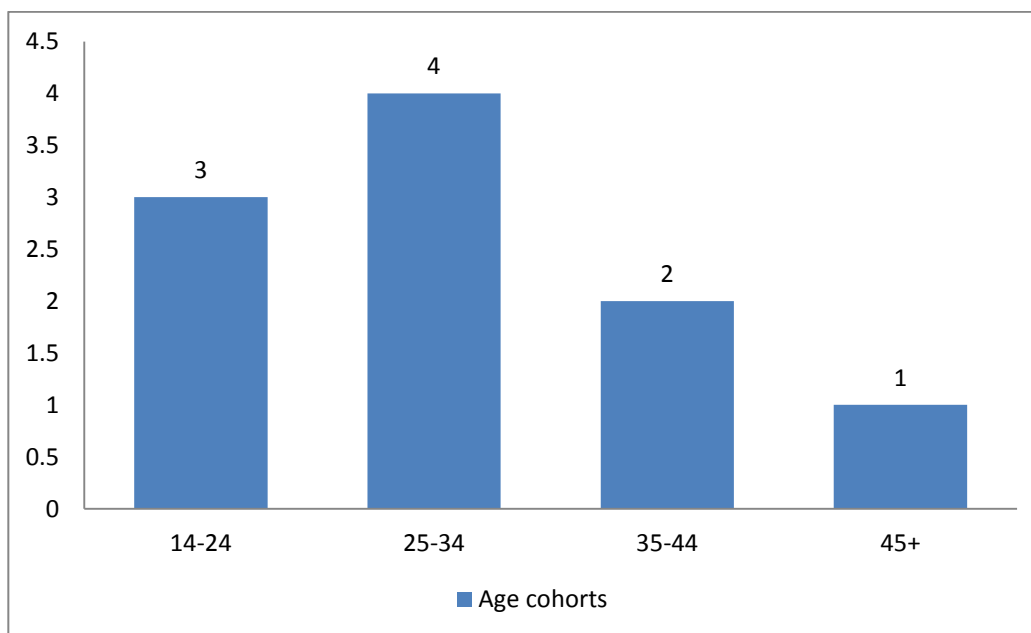
Source: April 2014/10/15

**Figure 4.7: Employment status of the sample**



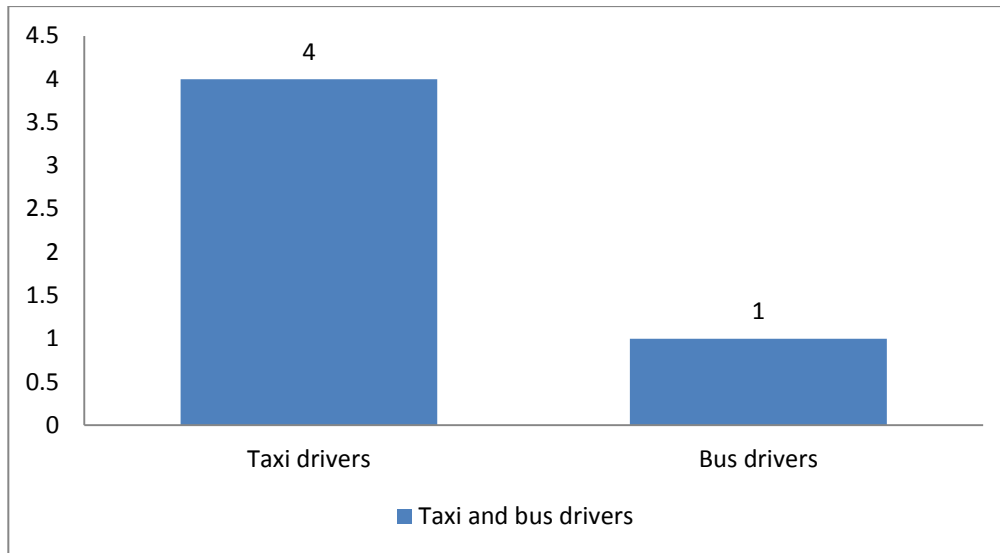
Source: N. T. April 15/10/2014

**Figure4.8: Age cohorts of the sample**



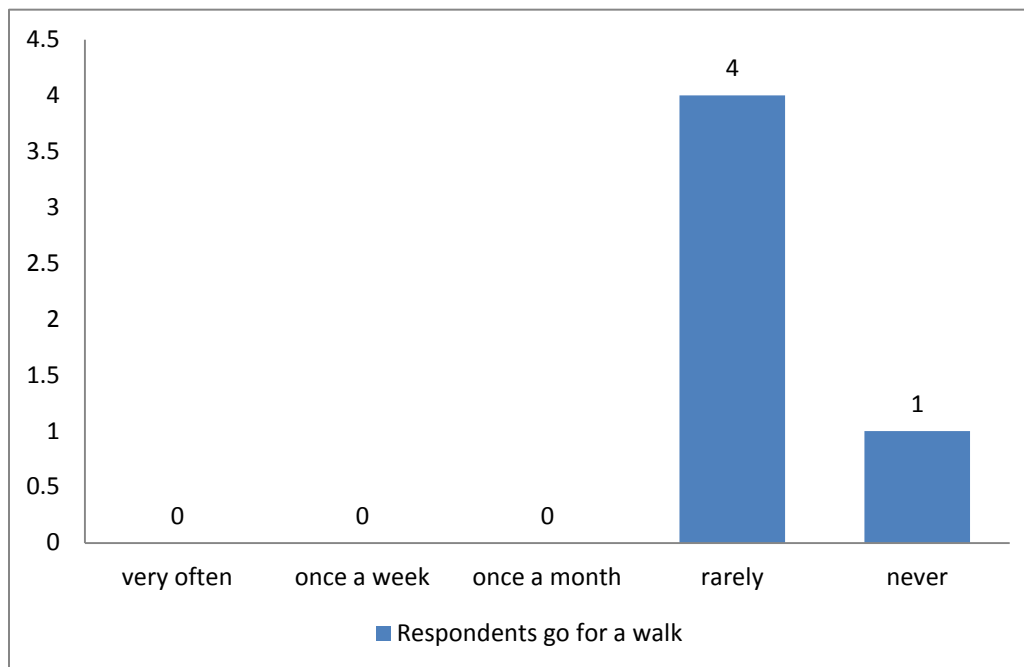
Source: N. T. April 15/10/2014

**Figure4.9: Taxi and Bus Drivers in the sample**



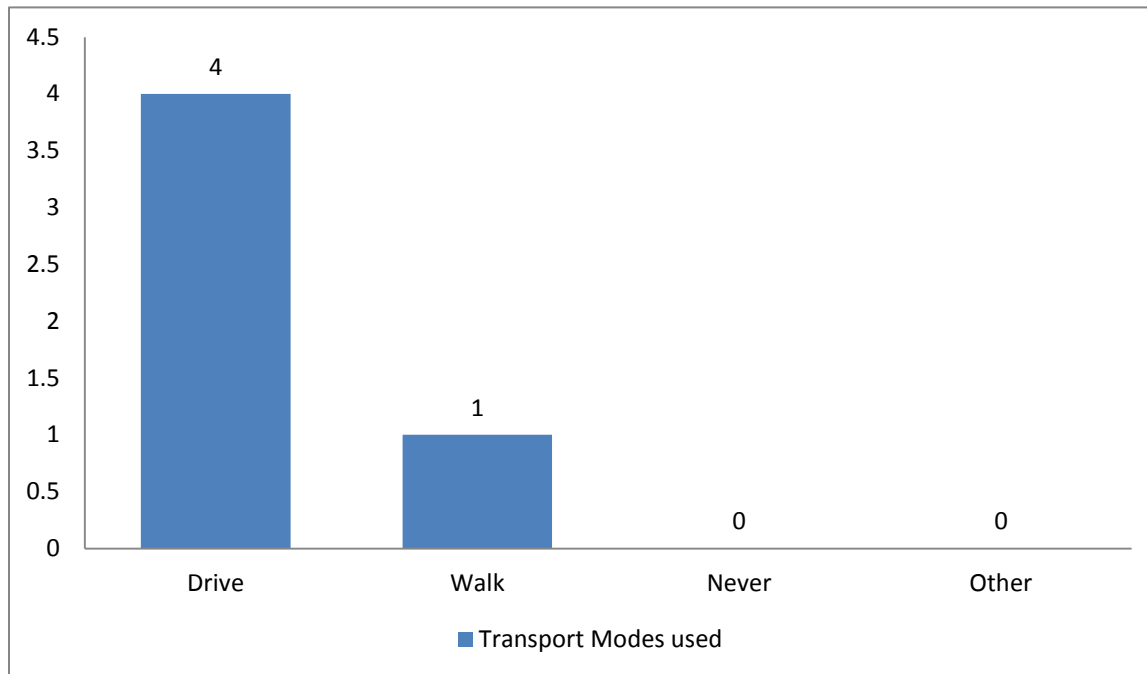
*Source: N. T. April 15/10/2014*

**Figure 5.1: A diagram showing the number of time respondents go for a walk**



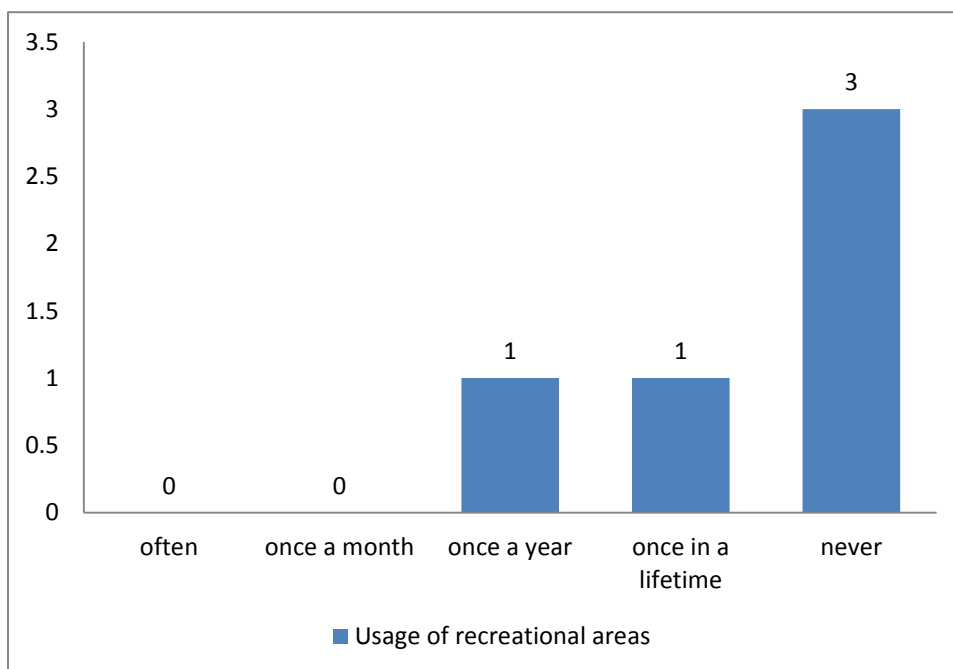
Source: N. T. April 15/10/2014

**Figure 5.2: The transport modes used by respondents to access local shops**



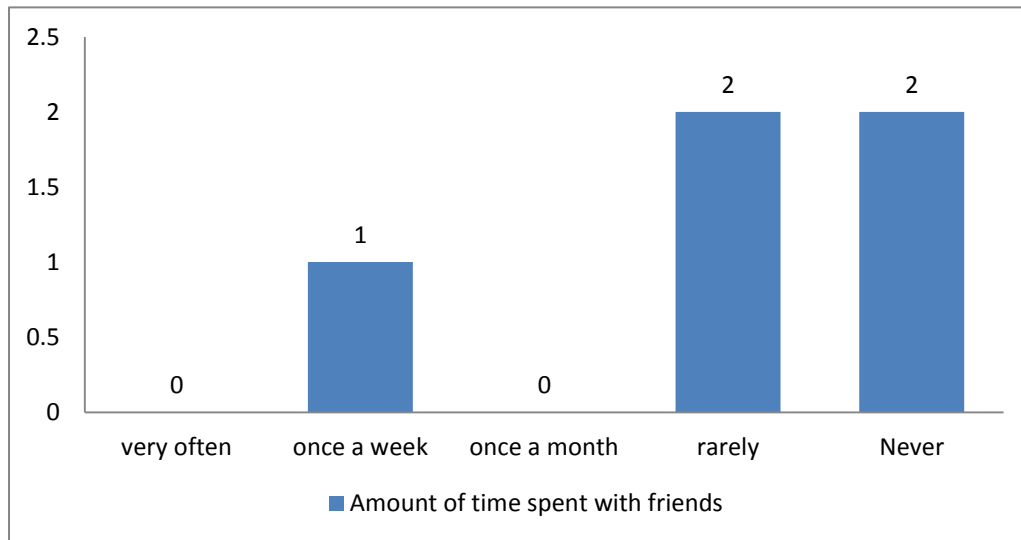
Source: N. T. April 15/10/2014

**Figure 5.3: The number of times respondents use recreational areas**



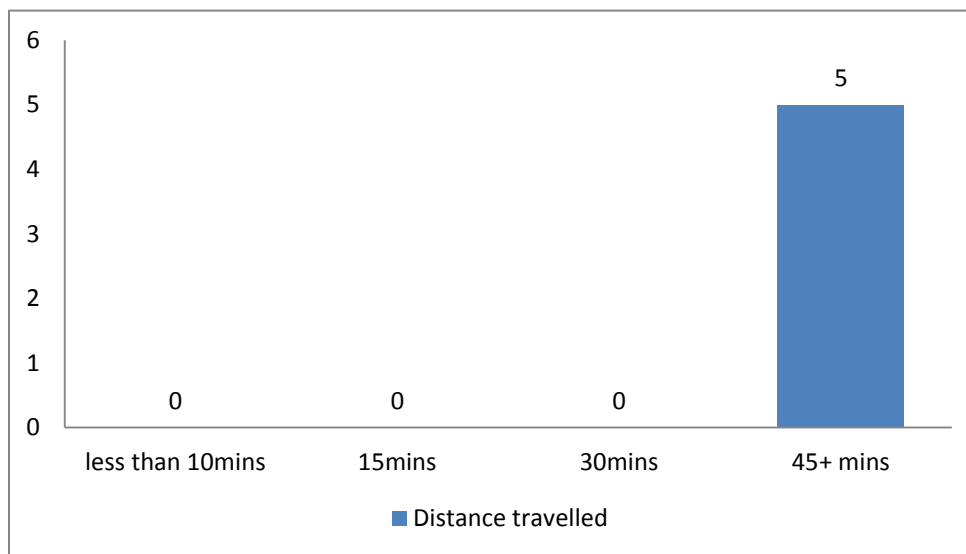
Source: N. T. April 15/10/2014

**Figure 5.4: The amount of time respondents spend with friends**



Source: N. T. April 15/10/2014

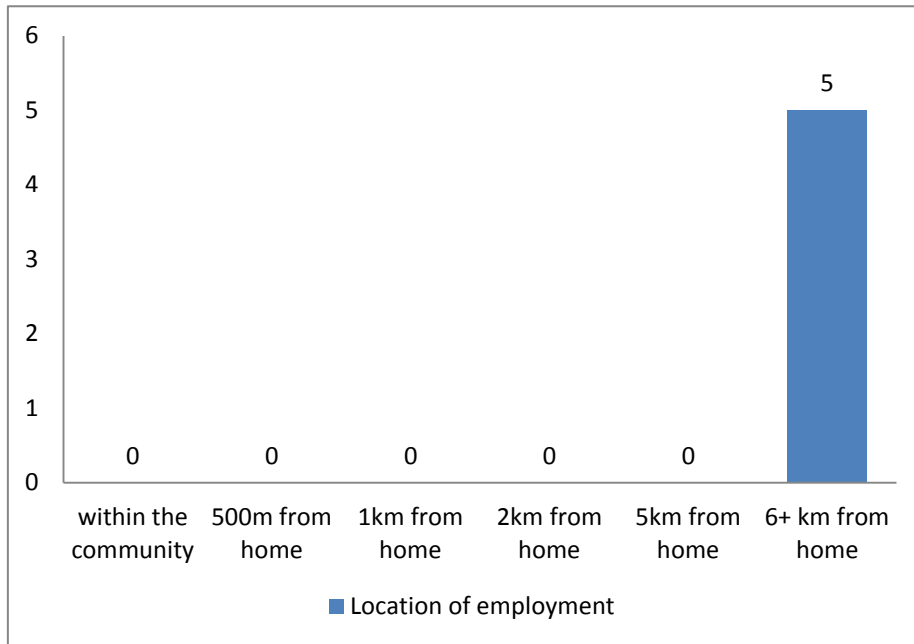
**Figure 5.5: The distance travelled by respondents to school/work**



Source: N. T. April 15/10/2014



**Figure 5.6: Location of the respondents' place of employment**



Source: N. T. April 15/10/2014

**Figure 5.7: The entrance to one of the respondents' home**



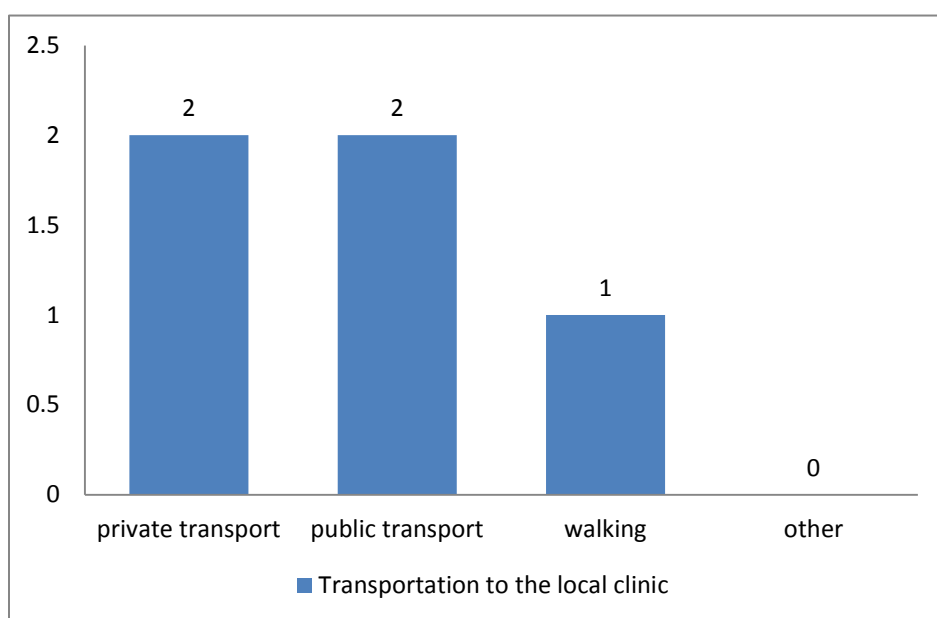
Source: N. T. April 10/10/2014

***Figure 5.8: sidewalks on only one side of the road***



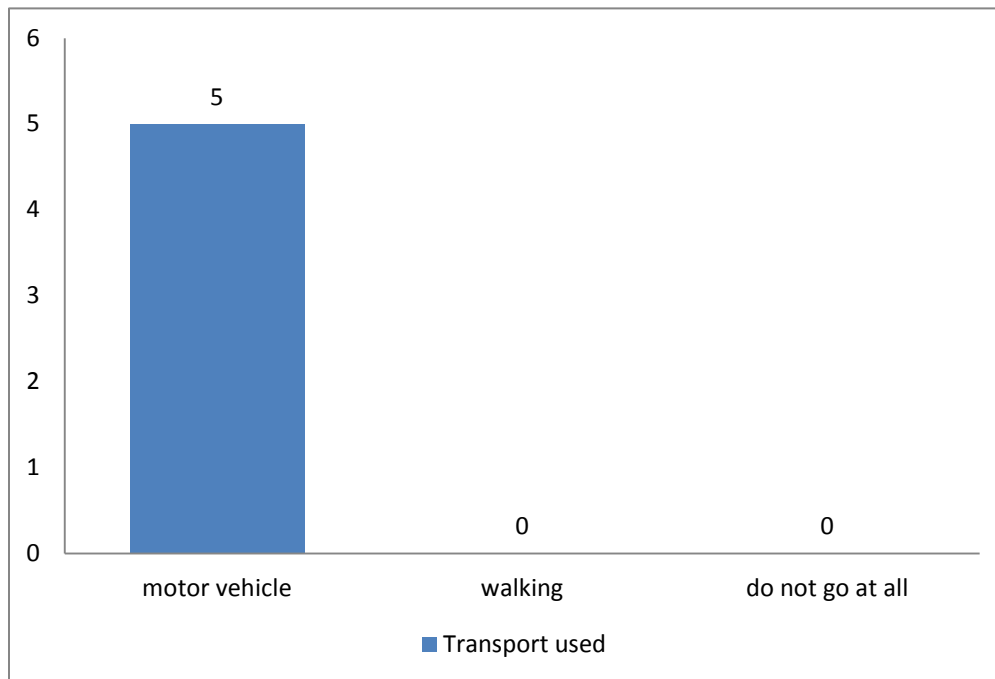
Source: N. T. April 10/10/2014

**Figure 5.9: Transport modes used by the respondents to access the local clinic**



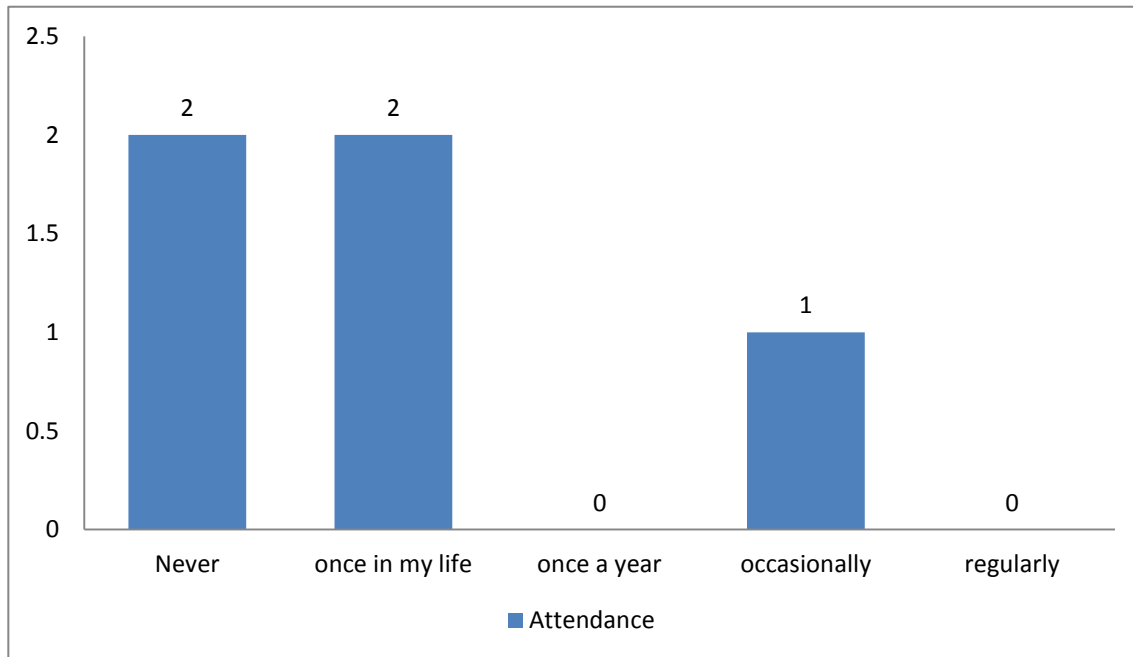
Source: N. T. April 15/10/2014

**Figure 5.10: Transport mode used by respondents to access school/work**



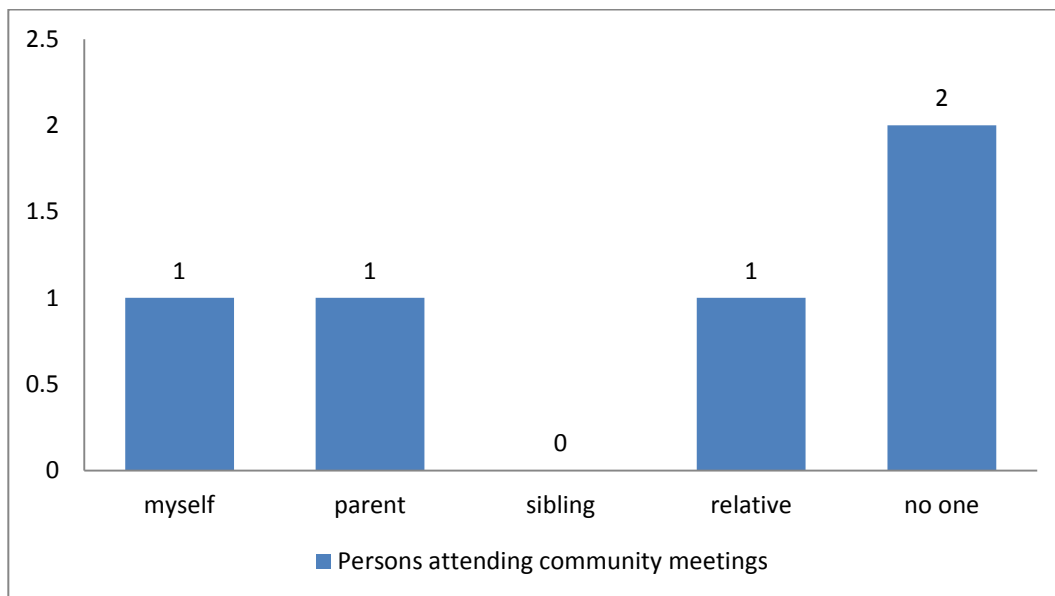
Source: N. T. April 15/10/2014

***Figure 5.12: Number of times the respondents attend local/community meetings***



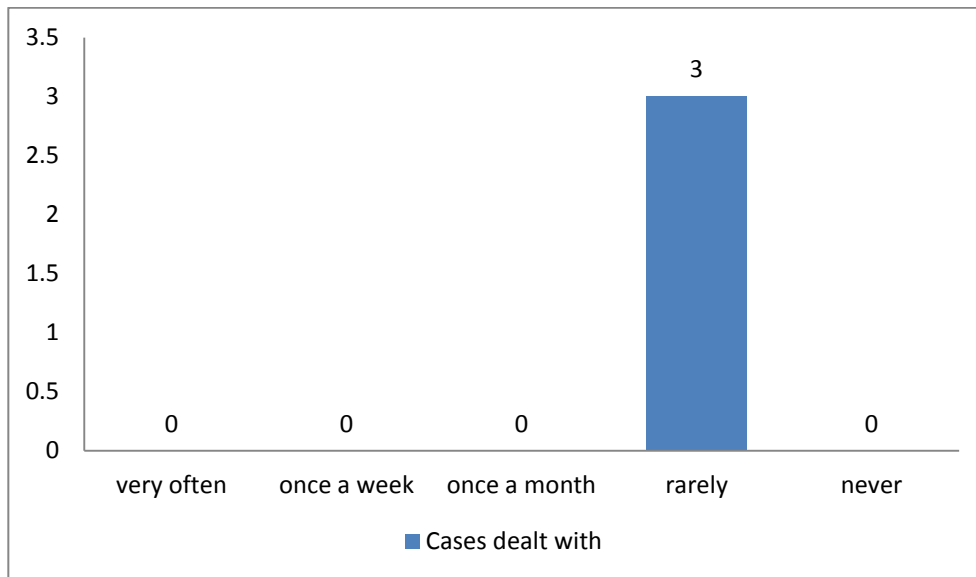
Source: N. T. April 15/10/2014

**Figure 5.13: Persons attending community meetings in the lives of those with disabilities**



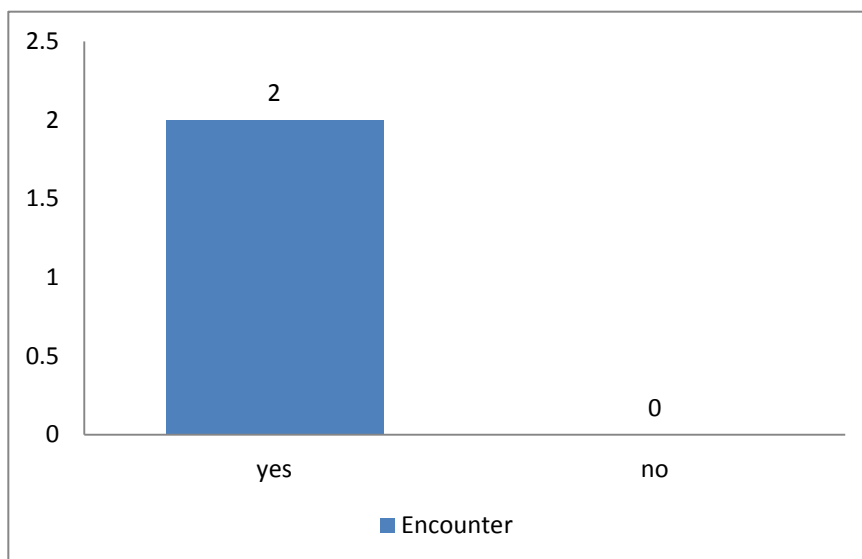
Source: N. T. April 15/10/2014

**Figure 5.14: Cases dealt with by councilors concerning people with physical disabilities**



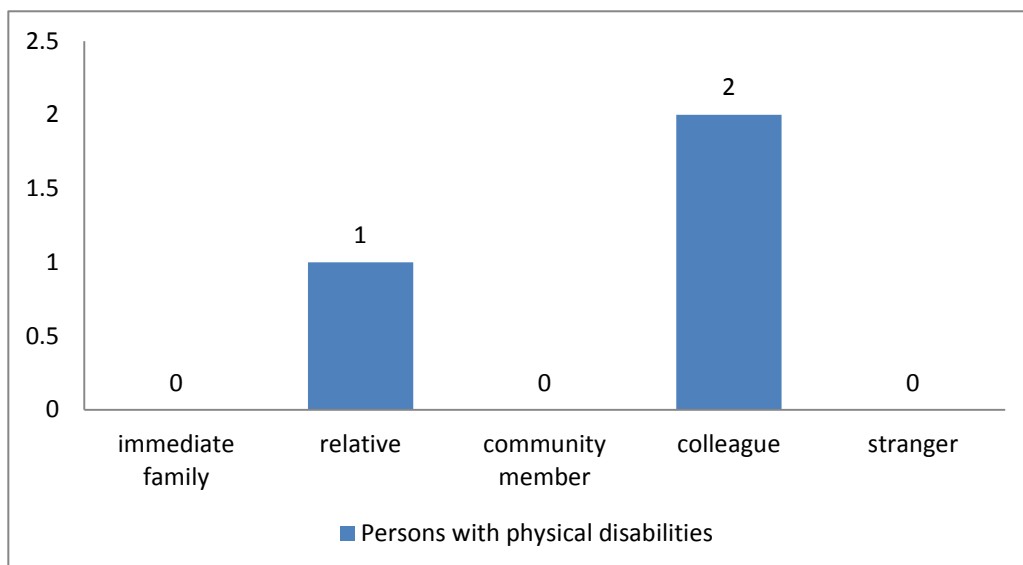
Source: N. T. April 15/10/2014

**Figure 5.15: the encounter of people with disabilities with the municipal officials**



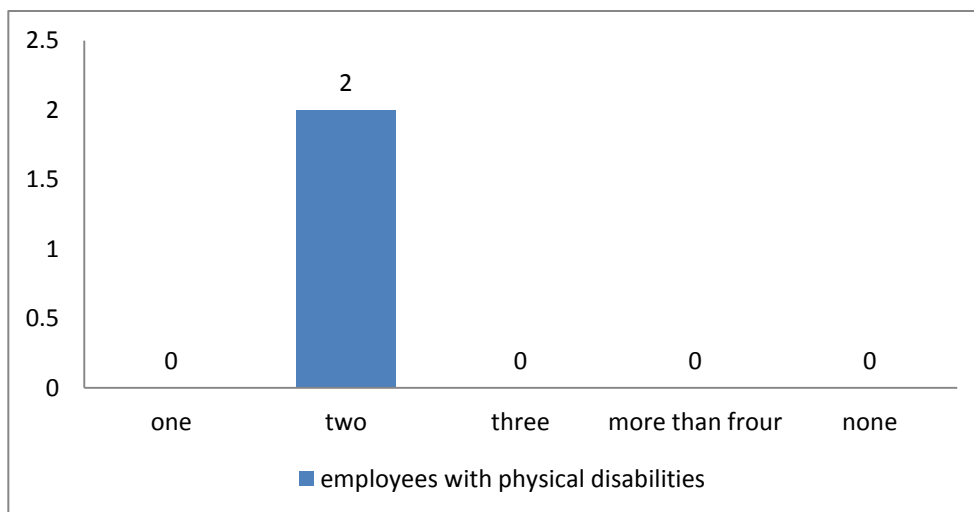
Source: N. T. April 15/10/2014

**Figure 5.16: A diagram showing physically disabled people in the officials' lives**



Source: N. T. April 15/10/2014

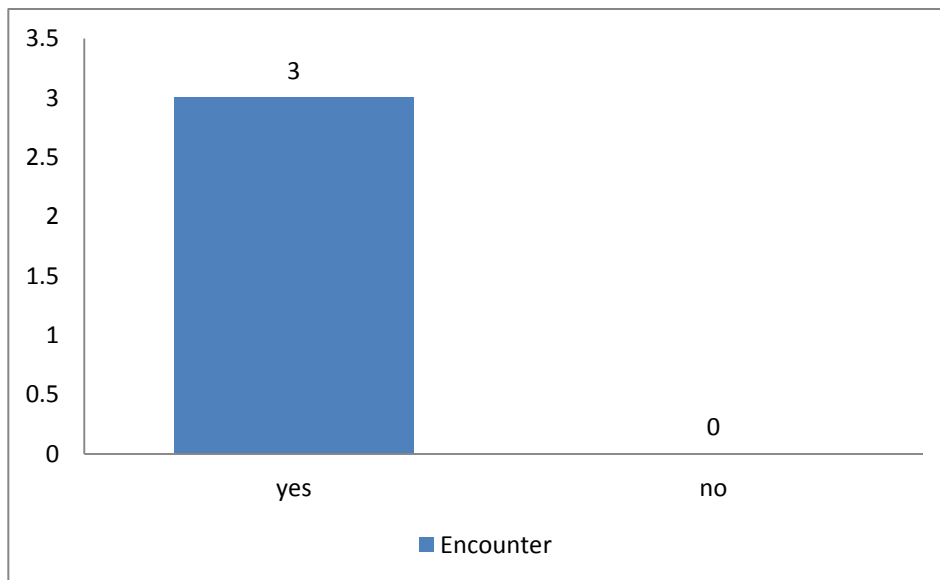
**Figure 5.17: A diagram showing the number of employees with physical disabilities in transport planning**



Source: N. T. April  
15/10/2014

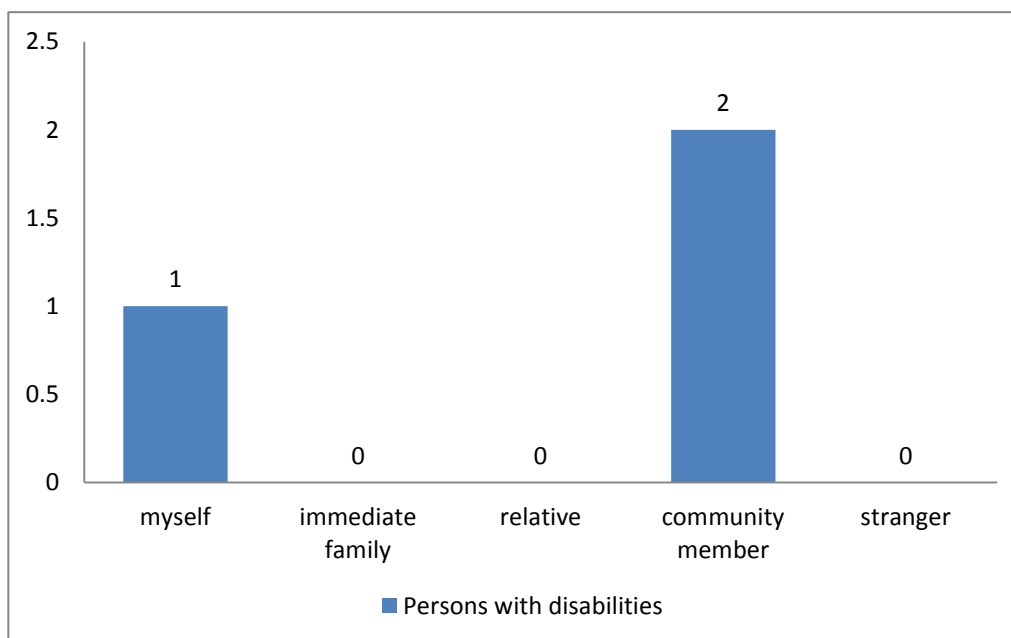


**Figure 5.18 The encounter with persons with disability by the councilors**



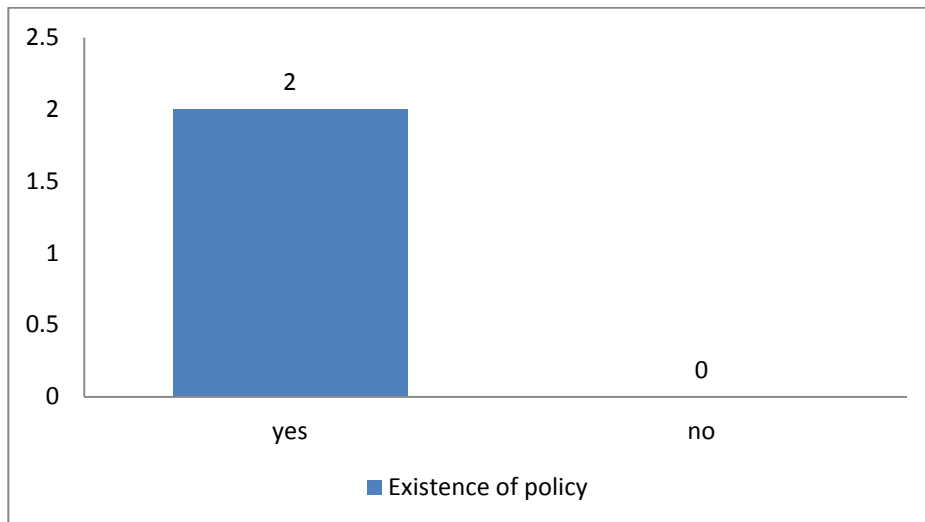
Source: N. T. April 15/10/2014

**Figure 5.19: Persons with disabilities in the councilors' lives**



Source: N. T. April 15/10/2014

**Figure 5.20: the existence of policies protecting the rights of the physically disabled in transport planning**



Source: N. T. April 15/10/2014

## APPENDIX D: MAPS

**Figure 4.1: Locality Map**



**Source: Google Maps**

Figure 4.2

## Umlazi Z Section Contours Map

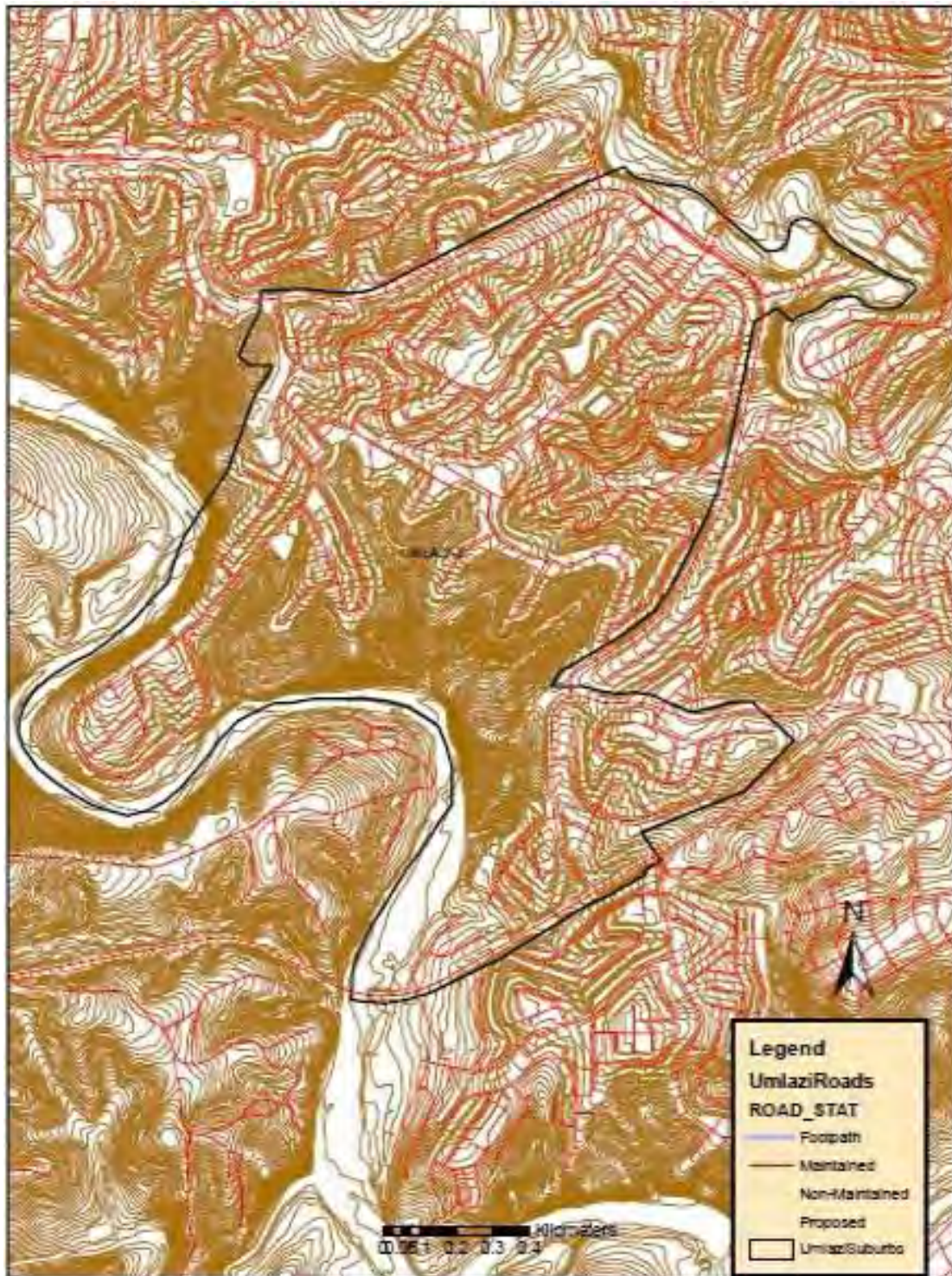
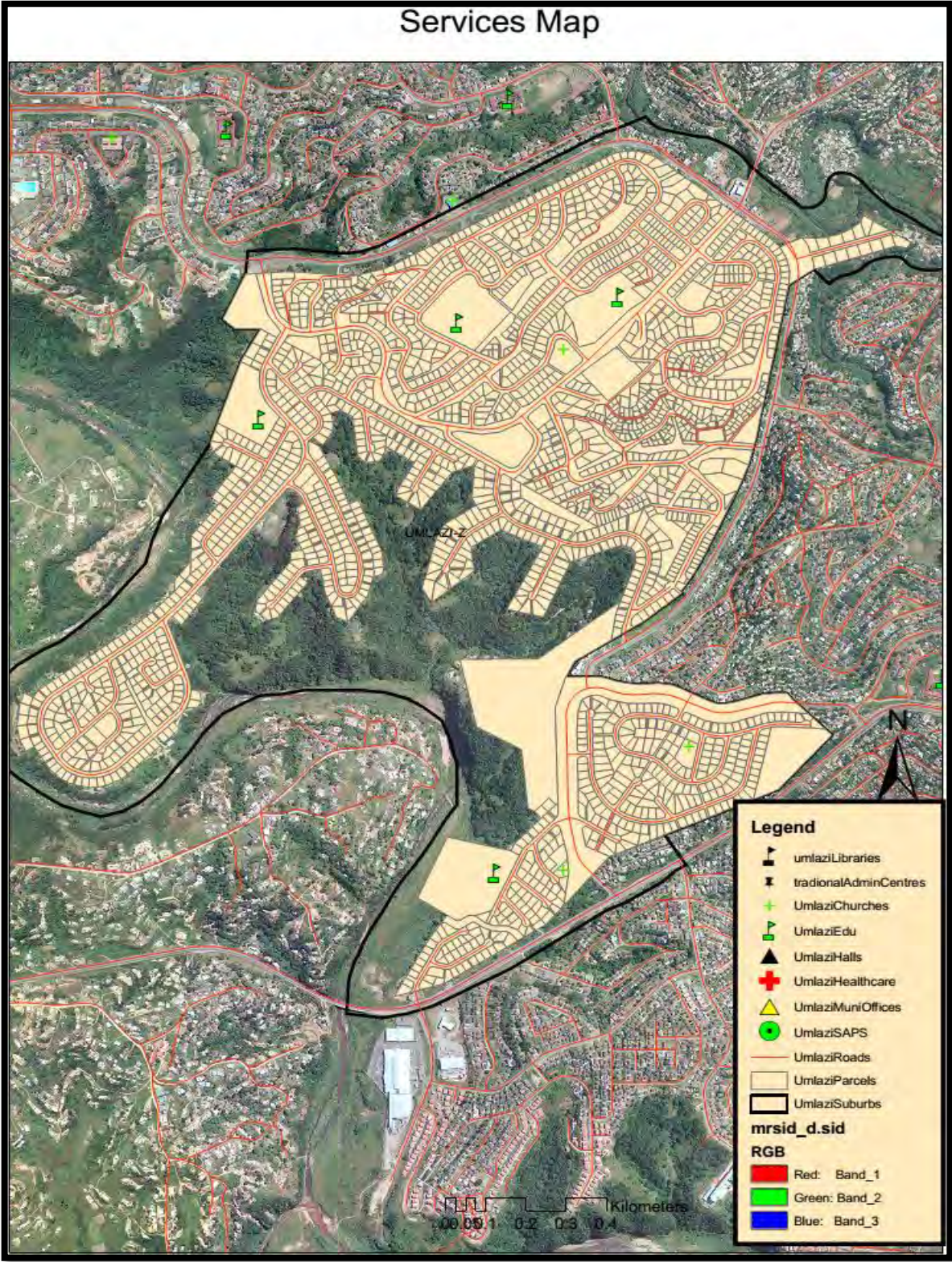




Figure5.11





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## APPENDIX E: PICTURES FROM THE FIELD

*Figure 5.7: The entrance to one of the respondents' home*



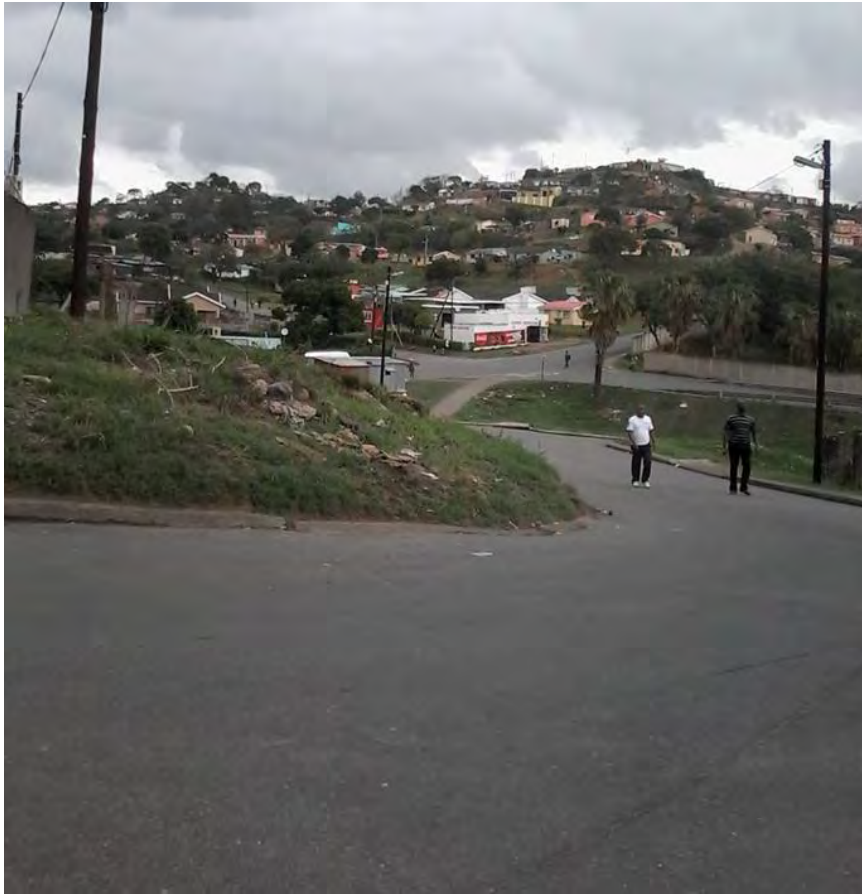
Source: N. T. April 10/10/2014

*Figure 5.8: sidewalks on only one side of the road*



Source: N. T. April 10/10/2014

***Figure 5.22: the roads of Umlazi, Z section***



*Source: N. T. April 10/10/2014*

**Figure 5.23: Access roads**



Source: N. T. April 10/10/2014