UNIVERSITY OF NAIROBI
COLLEGE OF ARCHITECTURE AND ENGINEERING
SCHOOL OF THE ARTS AND DESIGN

BDS 413: PROJECT CONCEPT PAPER PRESENTATION

DETAILED ILLUSTRATIONS INSPIRED BY TINGA-TINGA IN ADDRESSING THE ISSUE OF URBAN TRANSPORT CONGESTION IN NAIROBI.

MURIHE ERNEST ZIRO

B05/33519/2015

LECTURER: Dr. LILAC A. OSANJO
SUPERVISOR: Ms. FRANCESCA ODUNDO OTWIRI

Table of Contents

CHAPTER 1
INTRODUCTION

1. INTRODUCTION:

1.1 BACKGROUND OF THE STUDY

The narratives we develop to make sense of the world play a central role in shaping our decisions about how to solve problems, and they determine whether or not a topic is even put on the table for consideration. Environmental narratives that focus exclusively on the harm humans are causing to the biosphere without equal consideration for human needs are insufficient. Narratives that offer up simple causal models are incomplete because they fail to deal with the interactions among social equity, the economy, and the environment.

Sustainability is a complex phenomenon that does not yield itself to a simple solution or explanation, but achieving a sustainable future is possible if we can change how we think about it. We need to move beyond crisis explanations to ones that focus on our ability to develop scientifically based, adaptive management systems.

Given the long-time evolution has had to produce our current biological makeup, changing human behaviour will not be easy. But attempting social, economic, and political change without taking our nature into account will add to the difficulty. A significant amount of research from the fields of psychology, neuropsychology, and the cognitive sciences has demonstrated that we are hardwired to be unduly optimistic, we underestimate risk, we resist altering our beliefs, attitudes, and habits, we look for facts to confirm what we already know and, we are literally blind to what is happening before our very eyes because we are hardwired to see what we expect to see.

Communicating possible solutions and their consequences is an art. The messages we send each other must take a certain form. Human beings are storytelling creatures. For most of our history, stories have been the most effective and efficient mode for conveying information. The science writer Michael Shermer describes our brains as pattern-seeking belief engines. We assume there is a relationship between cause and effect, which gives our own lives meaning, and makes sense out of seemingly random events. We are hardwired to pay attention to narrative, not to cost-benefit analysis.

Narrative + Emotion = Action. It is important to remember that not only do members of different polity parties require different narratives to mobilize but so do different generations. Today's millennials, have a different worldview than their parents or grandparents. Millennials are confident, connected, and open to change. This means they understand the need for constant adaptation, an essential requirement if we are to achieve a sustainable future. They identify their use of technology as one of things that distinguishes them from past generations. But it is not just that they use technology; their social lives are fused with it.

Over 75 percent of this group have created a profile on a networking site and describe themselves as close to others because of that, they are the most liberal generation of all. They think the government needs to provide financial help to those who need it and unlike those older, they are much more satisfied with the overall direction of the country, even though they are entering a difficult job market. Generally, they think they'll be Okay. However, they tend to get their news from famous celebrities and icons. Humour serves as an antidote to daily news that reports on drought, starvation, global social injustices, and war. Millennials are sceptical and do not want to hear all of the reasons things are falling apart. They need

positive stories for them to engage, and issues need to be framed to connect with values they already hold.

Not all narratives lead to effective actions. As the foregoing discussion indicates, narratives capable of mobilizing people need to be framed in a manner that reinforces the values and beliefs people already have. Virtually all-human societies value the notion of community and family, and the meeting of basic human needs. New narratives must embrace such values. New narratives must have a positive focus, on what can be accomplished rather than the doom that will follow if people fail to act. New narratives must tell people: Your actions can make a difference right now and they will make a difference for the future of your children and grandchildren. Effective narratives must imbue people with a sense of empowerment. We must create a civic space that permits people to act. In order to succeed in transforming the world, people need resources, whether material or human. Finally, the story people are buying into must establish a clear link between the actions people can take and the goals to be achieved. This will not be easy, but it is possible. Sustainability Mary Ann Liebert, INC, Vol. 6, No. 6, December 2013.

Urbanization is a process that involves the spatial distribution of people. For a very long time, it has been noted to raise alarming problems ranging from physical, environmental, social, and economic to political and governance issues in a country. With the advancement in technology and demand to adopt new technology, global climate change has become a headache to urban planners and managers as it is really threatened many cities survival especially in the third world countries whose vulnerability is so high to contain the effects of climate change.

Kenya is rapidly urbanizing with an expected average growth rate of 3.9 per cent per year. The population shows remarkable shifts in urbanization levels having increased from 8 per cent at independence to 19 per cent in 1989 and 19.4 per cent in 1999. Urbanization is estimated to have reached over 25 per cent in 2007 and is projected to account for about 32 per cent of the total population. This growth is largely due to a high level of rural-urban migration fueled by rural poverty and a dwindling of the per capita ownership of farming and grazing land. The urbanization process in the country has also been uneven dominated by one primate city- Nairobi, with a population of about 2 million. Adopted from the resettlement policy framework for Nairobi Metropolitan Improvement project (NaMSIP), By Architect David Iluve Kithakye, December 2011.

Nairobi is the most urbanized region in Kenya; it faces several development challenges, which if unattended to, will hinder the region from the benefits of urbanization and realization of the Nairobi Metro 2030 Vision of creating a World Class African Metropolis by 2030. The main metropolitan challenges include uncompetitive metropolitan economy caused by high cost of land, high cost of infrastructure, inadequate skilled manpower, poor safety and security and poor performing institutions, inadequate Infrastructure and Utilities arising from poor service connections, poor network accessibility, inadequate capital investments and inadequate operations and maintenance, poor quality of Life resulting from poor access to medical services, poor quality of housing, inadequate access to housing, poor access to education services and ineffective spatial planning regime, poor Safety and Security caused by poor public and individual safety, internal strife, regional instability, inadequate emergency services, negative public image, poor business environment and ineffective metropolitan Governance due to inadequate capacity in governance institutions, poor client focus, weak and uncoordinated efforts of various institutions. Adopted from the resettlement

policy framework for Nairobi Metropolitan Improvement project (NaMSIP), By Architect David Iluve Kithakye, December 2011.

This paper explains why we need a narrative for sustainability, one grounded in how humans can see how the world we live in works. The narratives we develop to make sense of the world play a central role in shaping our decisions about how to solve problems, and they determine whether or not a topic is even put on the table for consideration. Narrative plus emotion results to action. Today's millennials have a different worldview than their parents or grandparents. Millennials are confident, connected, and open to change. This means they understand the need for constant adaptation and representation, an essential requirement if we are to achieve a sustainable future. They identify their use of technology as one of things that distinguishes them from past generations. But it is not just that they use technology; their social lives are fused with it. Over 75 percent of this group have created a profile on a networking site and describe themselves as close to others because of that, they are the most liberal generation of all. Millennials are skeptical and do not want to hear all of the reasons things are falling apart. They need positive stories for them to engage, and issues need to be framed to connect with values they already hold.

Sustainability is a complex phenomenon that does not yield itself to a simple solution or explanation, but achieving a sustainable future is possible if we can change how we think about it. We need to move beyond crisis explanations to ones that focus on our ability to develop scientifically based, adaptive management systems.

This paper will therefore explore the available opportunities of illustrating traffic congestion in Nairobi engaging current problems faced with road users. This is deemed to be important since planning is a multi-sectorial exercise, which can accommodate integrated ideas, which are needed for preservation of biodiversity and other ecosystem services.

1.2 PROBLEM STATEMENT:

This paper explains why we need a narrative illustration for sustainability, one grounded in how humans make decisions and also in how the world we live in works.

1.3 RESEARCH OBJECTIVES:

1. To investigate how narrative illustration design techniques can influence change in communicating transport issues in Nairobi.
2. To investigate how illustrations can influence transport problems in Nairobi.
3. To find out how narrative illustration can communicate transport problems.
4. To investigate the feeling and emotions inspired by a narrative illustration design.

1.4 RESEARCH QUESTIONS:

1. How can narrative illustration design techniques be applied in narrating change in communicating transport issues in Nairobi.
1. How can a narrative illustration influence transport problems in Nairobi?
2. How can the transport problems be communicated through a narrative illustration?
3. What are the possible feelings and emotions that a narrative illustration brings to the public?

1.5 SIGNIFICANCE:

The study ensures that the audience gets entertained and informed using the most creative illustration methods possible. The study will refer mainly to secondary information. This will include information on concepts, techniques, design processes, tools, technologies and skills. The chosen concepts are investigated by learning more on them and how they have been applied by professionals before. The most practical and effective design process is formulated with the consideration of the project, its constraints such as the time allocated to execute the project. The researcher finds out how illustration design can be merged to communicate traffic problems in Nairobi using detailed illustrative methods.

This research will assist in adding on to existing literature on the discipline while also giving insight on the importance of illustrations in communication.

1.6 JUSTIFICATION OF THE STUDY:

The audience need to have a story that relates and identifies to hem to their day to day problems that they face while on transit in the Nairobi Central business district.

1.7 LIMITATIONS AND SCOPE OF THE STUDY:

The general purpose of this study is to communicate about transport issues to the public audience using illustrative methods. The population sample are the audience that move in an out of the city using public means and private means. The time and duration taken during this study will be done in 6 weeks of quantitative research. Topics discussed include; Narrative for sustainability, urbanization, motorization, design thinking and design for sustainability

1.7.1 Geographical:

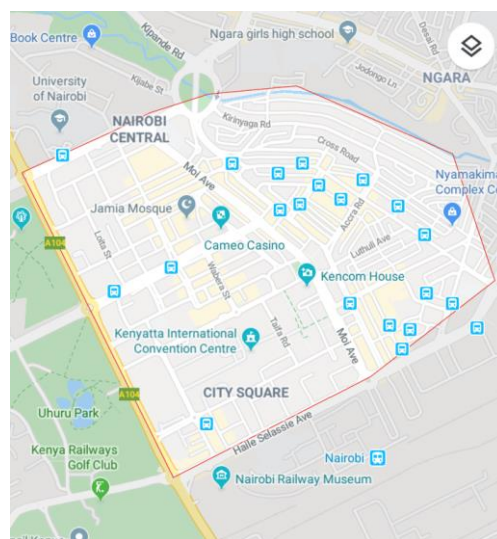The research is done around central business district Located in Nairobi-Kenya.

Figure 1. Source- google maps

1.7.2 Concept:

This study revolves around illustration techniques and presentation methods. It involves the independent variables of painting, printing, digital media, book illustration and photography. The independent variables influence the outcome of the dependent variable that is the site.

1.7.3 Content:

The study will rely mainly on primary sources. More information will be acquired from secondary sources. All materials, data and ideas will be applied in the creation of the illustrations through print and digital.

1.7.4 Definition of Terms:

I.   CBD refers to central business district.
II. Matatus refers to common public transport vehicles moving in and out of the town.

1.8 EXEMPLARS:

The works of the two exemplars mentioned below echo the function of illustration that is to connect every new generation of humans to the humans who lived before them, through culture. Through their work, they contribute toward the development of human society by stimulating the imagination, expanding our awareness of and perspective on ideas, stimulating contemplation and introspection, and challenging us to question the world we generally take for granted through a form of communication which transcends the everyday and typically functional forms of communication.

1.8.1 MARLENE SINICKI

She an art director and project manager of dozens of strategic design projects that provide voice and vision to the collective stories of companies, organizations, institutions and communities. A creative catalyst and skilled facilitator, she draws on aesthetic engagement to spark collaboration and transformation. She has designed websites, presentations and social marketing.

She is also a documentary filmmaker, written and edited a series of poetic short videos that are inspirational and biographical. She is curious about what makes people unique and specializes in stories that explore identity while illuminating broader social issues.

Her visual storytelling experience spans multiple disciplines, including illustration, painting, graphic design, photography and presentations.

Ideas of nature seen from the abstracted edge of perception enliven her artwork, connecting meaning making and the arts as well as design that spark positive change. The intent of her art is to spark a breakthrough of concern and passion for the environment.

She is currently developing art projects about sustainability and climate change by illustrating complex environmental issues in fresh and vital new ways. Her hopes are to ignite conversations, stimulate self-reflection and encourage sustainable living within natural limits,

inspired by organic forms and personal geographies, she creates painting by nature and illustrations of people.

She draws inspiration for her digital illustrations from activist poster art and billboards. She uses bright colours, flat surfaces and graphic forms creating immediacy with her subject: sustainability.

1.8.2 ALEXANDRE MAGNIN:

He is sustainability consultant and illustrator. He specializes in animated films and illustrations about sustainability in order to communicate socio-environmental responsibility and to create lasting sustainable change.
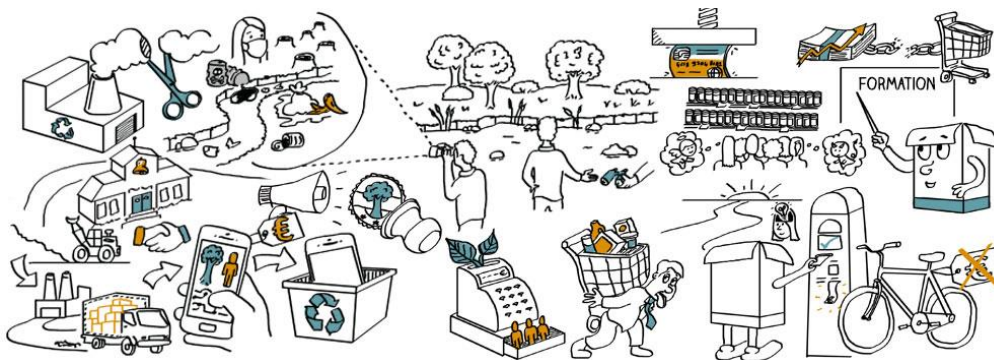
CHAPTER 2
LITERATURE REVIEW

2.1 THE EMERGING MIDDLE CLASS:

For a long time, the middle class in Kenya was anybody who could afford the average lifestyle: a month's shopping and a Double M ride to town instead of the 14-seater matatu; a rental house with sizable rooms, running water, hot shower and two or three electronic gadgets. But today, this class has developed a taste for the finer things in life. From the places they dine to the cars they drive not forgetting the homes they live in.

These are the people you will find traveling out of town frequently to attend fancy social events, sporting events that often turn into drinking jaunts. Trendy shops such as Deacons, Woolworths, Truworths, Identity, 4U2, Mr Price, Mr Price Home, Angelo, Adidas, Life Fitness and Babyshop are sprouting at various corners of the city. Kentucky Fried Chicken, although shunned by the affluent in the West, has come to get a slice of the growing middle class in Kenya who have embraced it.

A report released in early 2012 by Youth Dynamix revealed that the Kenyan youth spend Sh64 billion annually on luxury goods. Over Sh65 billion of the youth's money goes to entertainment and outings annually while a further Sh24 billion is used on mobile airtime. These figures may have fluctuated by now, but still serve as an important indicator of the youth trends in Kenya.

Top-of-the-range vehicles like Porsche Cayenne, Chrysler and Jaguar have become common on the streets of Nairobi, adding to the existing expensive brands such as Range Rover, BMW, VW and Subaru. The 2009 census report indicated that the number of registered vehicles more than doubled from 611,268 in 2001 to 1,221,083 in 2009.

According to African Development Bank, the middle class is anybody with an annual income exceeding Sh390,000 ($3,900) or who spends between Sh200 ($2) and Sh2,000 ($20) a day. The upper class (those who spend above Sh200,000 a month) stood at 3.6 per cent in 2011 up from one per cent in 2007. Experts at Deloitte attribute the rise of this middle class to social and demographic factors that are driving the new consumerism on the continent.

In a recent report titled The Rise and Rise of the African Middle Class, Deloitte argues that the growth of African economies is trickling down and people have more disposable income. Their spending patterns are also being dictated and shaped by media and other influences as Africa "opens up".

2.2 URBANIZATION

Urbanization in Kenya is proceeding at a rapid pace. Population census results show that between the census years urban areas grew substantially, averaging 5.4 percent per annum between 1962 and1969, and reaching 7.9 percent per annum between 1969 and 1979. This has caused the urban population to double in ten years and the proportion of population living in urban areas to increase from 9.9 percent in 1969, to 15 percent in 1979.

Based on the last census done the urban population has reached 47,564,296 million as of 2019. Finding the investment required to develop the infrastructure for this population presents daunting challenges one that the central Government, on its own, will find difficult to finance and execute. The responsibility for providing infrastructure and services will

therefore mainly fall on the shoulders of the municipalities, which are ill equipped to take on this obligation.

The Government of Kenya is aware of these problems and is currently examining possibilities for local government reform as part of a broader program of decentralization and privatization. The Government's rural-urban balance strategy provides a blueprint for simultaneously stimulating growth of urban centers and their agricultural hinterland that is consistent with the country's macro-economic objectives. However, given the rate of population growth and the threatened explosion of Kenya's major cities, the Government clearly recognizes that efforts must be intensified to meet the objectives of this policy. Accordingly, the Government is undertaking a major initiative to strengthen local authorities by upgrading management capabilities and consolidating and expanding local revenues.

Urban transport planning as a continuing and integrated process is not carried out in Kenya. A comprehensive urban transport plan was developed as part of the Metropolitan Growth Strategy for Nairobi 2030, this was the last time that any in-depth analysis of urban transport demand was carried out. In the intervening period the population of Nairobi has doubled and development has taken place with very little investment in public transport systems. The impact is clearly visible on traffic congestion. Considerable densification of the central area has taken place in the past ten years without consideration of transport needs. This has led to a severe under-supply of parking space and lack of capacity on the road network in the Central Business district. Public transport supply is inadequate and very little has been done to improve the efficiency of buses and matatus.

If past trends continue, the population of Nairobi will increase by the turn of the century. A strategy to deal with all aspects of this growth is urgently needed. This could best be achieved through a detailed review and update of the Metropolitan Growth Strategy. This review should pay particular attention to the transport capacity constraints of the central area and the development of district centers, which would relieve pressures in the city center.

2.3 MOTORIZATION

The motor vehicle fleet in Kenya increased by the modest rate of 3.3 per cent per annum over the past decade. However, the rate of motorization (vehicles per head of population) in Kenya is increasing rapidly.

The number of buses has grown at a rate of about 5 per cent per annum since 1980. Future growth of the vehicle fleet will be affected by import liberalization policies. Import liberalization has increased the number of passenger cars in the vehicle fleet but public transport has remained the prime mode of transportation. Majority of residents living in the larger urban areas are dependent on public transport to gain access to job sand services as the city expands. Currently, significant numbers of low-income workers are unable to afford public transport fares. The provision of adequate footways is also of fundamental importance since this is the most frequently used mode of transport in Kenya's urban areas. The large numbers of pedestrians are also a reflection of the lack of public transport supply and low incomes. Improved tracks for bicycles could also improve travel conditions for many of the urban poor.

2.4 DESIGN THINKING

The myth of creative genius is resilient. We believe that great ideas pop fully formed out of brilliant minds, in feats of imagination well beyond the abilities of mere mortals. It is the result of hard work augmented by a creative human-centered discovery process and followed by iterative cycles of prototyping, testing, and refinement that brings out a great effective design.

The design process is best described metaphorically as a system of spaces rather than a predefined series of orderly steps. The spaces demarcate different sorts of related activities that together form the continuum of innovation. Design thinking can feel chaotic to those experiencing it for the first time. But over the life of a project participants come to see that the process makes sense and achieves results, even though its architecture differs from the linear, milestone based processes typical of other kinds of business activities.

Design projects must ultimately pass through three spaces i.e. the exhibit "Inspiration, Ideation, Implementation". We label these "inspiration," for the circumstances be they a problem, an opportunity, or both, that motivate the search for solutions; "ideation," for the process of generating, developing, and testing ideas that may lead to solutions and "implementation," for the charting of a path to market. Projects will loop back through these space, particularly the first two more than once as ideas are refined and new directions taken.

Sometimes the trigger for a project is leadership's recognition of a serious change in business fortunes. In 2004 Shimano, a Japanese manufacturer of bicycle components faced flattening growth in its traditional high-end road racing and mountain-bike segments in the United States. The company had always relied on technology innovations to drive its growth and naturally tried to predict where the next one might come from. This time Shimano thought a high-end casual bike that appealed to boomers would be an interesting area to explore. IDEO was invited to collaborate on the project.

During the inspiration phase, an interdisciplinary team of IDEO and Shimano people designers, behavioral scientists, marketers, and engineers worked to identify appropriate constraints for the project. The team began with a hunch that it should focus more broadly than on the high-end market, which might prove to be neither the only nor even the best source of new growth. So it set out to learn why 90% of American adults don't ride bikes. Looking for new ways to think about the problem, the team members spent time with all kinds of consumers. They discovered that nearly everyone they met rode a bike as a child and had happy memories of doing so. They also discovered that many Americans are intimidated by cycling today by the retail experience by the complexity and cost of the bikes, accessories, and specialized clothing; by the danger of cycling on roads not designed for bicycles; and by the demands of maintaining a technically sophisticated bike that is ridden infrequently. This human-centered exploration which took its insights from people outside Shimano's core customer base led to the realization that a whole new category of bicycling might be able to reconnect American consumers to their experiences as children while also dealing with the root causes of their feelings of intimidation thus revealing a large untapped market. The design team, responsible for every aspect of what was envisioned as a holistic experience, came up with the concept of "Coasting." Coasting would aim to entice lapsed bikers into an activity that was simple, straight forward, and fun. Coasting bikes, built more for pleasure than for sport, would have no controls on the handlebars, no cables snaking along the frame. As on the earliest bikes many of us rode, the brakes would be applied by backpedaling. With

the help of an onboard computer, a minimalist three gears would shift automatically as the bicycle gained speed or slowed. The bikes would feature comfortably padded seats, be easy to operate, and require relatively little maintenance.

Three major manufacturers Trek, Raleigh, and Giant developed new bikes incorporating innovative components from Shimano. But the design team didn't stop with the bike itself. In-store retailing strategies were created for independent bike dealers, in part to alleviate the discomfort that biking novices felt in stores designed to serve enthusiasts. The team developed a brand that identified Coasting as a way to enjoy life. ("Chill. Explore. Dawdle. Lollygag. First one there's a rotten egg.") And it designed a public relations campaign— in collaboration with local governments and cycling organizations that identified safe places to ride.

Although many others became involved in the project when it reached the implementation phase, the application of design thinking in the earliest stages of innovation is what led to this complete solution. Indeed, the single thing one would have expected the design team to be responsible for the look of the bikes was intentionally deferred to later in the development process, when the team created a reference design to inspire the bike companies' own design teams. After a successful launch in 2007, seven more bicycle manufacturers signed up to produce Coasting bikes in 2008.

This therefore drives this project in designing illustration best exploiting the design thinking process to communicate a problem for change.

2.5 DESIGN FOR SUSTAINABILITY

Design for sustainability is part of the bigger picture of sustainable development, a subject which has received considerable media attention in recent years due to a range of worldwide crises which have manifested themselves as political problems: climate change, famine, disease and poverty.

The evolution of sustainability has been described as a series of three waves, with peaks and troughs of activities that contribute to the momentum we see today. The first wave occurred in the 1960s and 1970s with the birth of the Green Movement and the rise of Non-Governmental Organizations (NGOs), such as Friends of the Earth and Greenpeace, which focused on driving change via government policy and regulation.

The second wave occurred in the 1980s, set off by a range of economic crises brought on by the collapse of the Berlin Wall and environmental catastrophes from Bhopal to Chernobyl which prompted a range of legislation and environmental, health and safety standards. At this time NGOs used a number of high profile business transgressions to catalyze public debate and drive regulatory and market responses. The concepts of auditing, reporting and engagement within business entered the mainstream (Sustainability, 2006).

The new millennium saw the start of the third wave of sustainability. Unrest in the Middle East and elsewhere had led to a growth in anti-globalization, open in the guise of anti-Americanism. The first World Social Forum, organized in opposition to the World Economic Forum brought together activists and NGOs from around the world, campaigning on issues such as trade justice and debt, and increasingly united on issues of water scarcity and exploitation. In the wake of another set of high profile business fiascos such as corporate

governance and liability became a hot issue for top management and for financial markets. Meanwhile, businesses started to explore new partnerships with NGOs, for example Greenpeace and Shell shared a platform at the Johannesburg Summit, and also Greenpeace formed a joint venture with Innogy to create the Juice wind power brand, which recently began to feed power generated by a huge offshore wind farm into the national grid (Sustainability, 2006).

Since the late 1960s when Victor Papanek (1971) first blamed the design profession for creating wasteful products and customer dissatisfaction, there has been a growing feeling in many environmental circles that design and manufacture is responsible for many of the man-made stresses imposed on the planet. A fact that is well illustrated by the fact 80 per cent of products are discarded after a single use and 99 per cent of materials used are discarded in the first six weeks. Though this trend is expected to start to change with the introduction of new product focused environmental legislation, the fact still remains that mainstream product design draws on scarce resources to create and power products which often have little or no consideration for impact on society and the environment.

The concept of design for sustainability first emerged in the 1960s when Packard (1963); Papanek (1971); Bonsiepe (1973) and Schumacher (1973) began to criticize modern and unsustainable development and suggest alternatives. The second wave emerged in the late 1980s and early 1990s and coincided with the green consumer revolution. Writers such as Manzini (1990); Burall (1991), Mackenzie (1991) and Ryan (1993) began to call for design to make radical changes. This wave continued to gain momentum towards the end of the 1990s and early 2000s as design for sustainability became more widespread. Though there has been a long history of designers being motivated and interested in improving the environmental and social impact of the products they produce, there has been a lack of opportunity within the industrial context with case studies only starting to emerge from electronic and electrical companies in the early 1990s when companies such as Philips, Electrolux, IBM and Xerox began to promote the work they had done in this area. Although large industry commitment to integrating environmental and social issues into product development has continued to be on the rise there has been little evidence of widespread opportunity for this type of holistic thinking, in the commercial design industry.

Research in the field of design for sustainability is now well established, though it can still be considered a new area. Most of the developed nations now have some form of active research into design for sustainability, covering issues such as: implementation of legislation, eco-innovation, corporate social responsibility, product service systems, eco-redesign, impacts of user behavior, design for disassembly and reverse manufacturing.

Design for sustainability offers a new and broader context for designing. Birkeland (2002) encapsulates this by presenting a new vision for design, which is: Responsible; redefining goals around needs, social/eco equity and justice. Synergistic; creating positive synergies; involving different elements to create systems change. Contextual; re-evaluating design conventions and concepts towards social transformation. Holistic; taking a life cycle view to ensure low impact, low cost, multi-functional outcomes. Empowering; fosters human potential, self-reliance and ecological understanding in appropriate ways. Restorative; integrates the social and natural world; cultivates a sense of wonder. Eco-efficient; proactively aims to increase the economy of energy, materials and costs. Creative; represents a new paradigm that transcends traditional boundaries of discipline thinking. Visionary;

focuses on visions and outcomes and conceives of appropriate methods, tools, processes to deliver them. Design for Sustainability A Practical Approach
Tracy Bharma and Vicky Lofthouse, 2016.

2.6 NARRATIVE FOR SUSTAINABILITY

The narratives we develop to make sense of the world play a central role in shaping our decisions about how to solve problems, and they determine whether or not a topic is even put on the table for consideration. Environmental narratives that focus exclusively on the harm humans are causing to the biosphere without equal consideration for human needs are insufficient. Narratives that offer up simple causal models are incomplete because they fail to deal with the interactions among social equity, the economy, and the environment.

Sustainability is a complex phenomenon that does not yield itself to a simple solution or explanation, but achieving a sustainable future is possible if we can change how we think about it. We need to move beyond crisis explanations to ones that focus on our ability to develop scientifically based, adaptive management systems.

Given the long time evolution has had to produce our current biological makeup, changing human behavior will not be easy. But attempting social, economic, and political change without taking our nature into account will add to the difficulty. A significant amount of research from the fields of psychology, neuropsychology, and the cognitive sciences has demonstrated that we are hardwired to be unduly optimistic, we underestimate risk, we resist altering our beliefs, attitudes, and habits, we look for facts to confirm what we already know and, we are literally blind to what is happening before our very eyes because we are hardwired to see what we expect to see.

Communicating possible solutions and their consequences is an art. The messages we send each other must take a certain form. Human beings are storytelling creatures. For most of our history, stories have been the most effective and efficient mode for conveying information. The science writer Michael Shermer describes our brains as pattern-seeking belief engines. We assume there is a relationship between cause and effect, which gives our own lives meaning, and makes sense out of seemingly random events. We are hardwired to pay attention to narrative, not to cost-benefit analysis.

Narrative + Emotion = Action. It is important to remember that not only do members of different polity parties require different narratives to mobilize but so do different generations. Today's millennials, have a different worldview than their parents or grandparents. Millennials are confident, connected, and open to change. This means they understand the need for constant adaptation, an essential requirement if we are to achieve a sustainable future. They identify their use of technology as one of things that distinguishes them from past generations. But it is not just that they use technology; their social lives are fused with it.

Over 75 percent of this group have created a profile on a networking site and describe themselves as close to others because of that, they are the most liberal generation of all. They think the government needs to provide financial help to those who need it and unlike those older, they are much more satisfied with the overall direction of the country, even though they are entering a difficult job market. Generally, they think they'll be Okay. However, they tend to get their news from famous celebrities and icons. Humor serves as an antidote to daily news that reports on drought, starvation, global social injustices, and war. Millennials are

skeptical and do not want to hear all of the reasons things are falling apart. They need positive stories for them to engage, and issues need to be framed to connect with values they already hold.

Not all narratives lead to effective actions. As the foregoing discussion indicates, narratives capable of mobilizing people need to be framed in a manner that reinforces the values and beliefs people already have. Virtually all-human societies value the notion of community and family, and the meeting of basic human needs. New narratives must embrace such values. New narratives must have a positive focus, on what can be accomplished rather than the doom that will follow if people fail to act. New narratives must tell people: Your actions can make a difference right now and they will make a difference for the future of your children and grandchildren. Effective narratives must imbue people with a sense of empowerment. We must create a civic space that permits people to act. In order to succeed in transforming the world, people need resources, whether material or human. Finally, the story people are buying into must establish a clear link between the actions people can take and the goals to be achieved. This will not be easy, but it is possible. Sustainability Mary Ann Liebert, INC, Vol. 6, No. 6, December 2013.

2.7 NAIROBI

The city of Nairobi is situated at the southern end of the agricultural heartland of Kenya. The present administrative boundary covers an area of 696 square kilometers, expanding from 3.84 square kilometers in 1910. Other official physical expansions occurred in the years 1921, 1926 and 1964. It is by far the biggest administrative county in Kenya, and also the most important in terms of the activities and functions it performs. Apart from being the capital city of Kenya, it is the largest urban center not only in Kenya, but also one of the largest in Africa as a whole. Currently, there are eight administrative divisions in Nairobi. These are Central, Makadara, Kasarani, Embakasi, Pumwani, Westlands, Dagoretti and Kibera.

Nairobi is in many ways an archetype of the African colonial city, having purely colonial origins, which shaped its structure and management at the time of Kenya's transition to independence. Nairobi was born of the European colonial project and was a means of entry into newly colonized land: the railway line. Like other African cities, after independence Nairobi was characterized by a rapid increase in rural to urban migration, accompanied by the proliferation of small-scale trade and petty commodity production, including unserviced and unauthorized housing.

Nairobi was first established as a transportation centre, which later grew to become an administrative centre. The site was chosen by the Kenya-Uganda Railway (KUR) constructors in June, 1899 (when the rail line reached Nairobi) because it offered a suitable stopping place between Mombassa and Kisumu. There was adequate water supply from the nearby Nairobi River and the Mbagathi River; ample level land for railway tracts, sidings, quarters; an elevated cooler ground to the west suitable for residential purposes; an apparently deserted land offering freedom for land appropriation; and the area was free from tropical diseases Cited from Blevin & Bouczo 1997; Boedecker 1936; Foran 1950; Owuor & Obudho 1997; Wamsley 1957.

By the end of 1899, the colonial government of Kenya had selected a site on the high ground north of the Nairobi River and away from the railway station to be the administrative

headquarters. This marked the beginning of Nairobi's growth into an administrative and transportation centre (Achola 2002; Morgan 1967). Once the railway depot was established, certain spatial patterns began to emerge the railway station, a shopping centre, housing quarters and the Indian bazaar (Obudho and Owuor 1991). This layout basically followed the 1898 Plan for a Railway Town and the 1899 Plan for Railway Staff Quarters (Nevanlinna 1996). Nairobi was going to be a railway town for Europeans with mixed European and Asian trading posts. It laid the foundation of the physical appearance of Nairobi as it is today, directly expressing the notions of segregation of the town's functions as well as segregation by class and race (Emig & Ismail 1980).

The city was first incorporated in 1900 as the township of Nairobi. This marked the birth of local government in the town (Tiwari 1981). By this time, the city had already become a large and flourishing area with settlements consisting mainly of the KUR buildings, separate residential areas for Europeans and Indians, and a small African settlement in Eastlands (Owuor & Obudho 1997). In 1905, Nairobi was confirmed as the capital of the country (Nairobi Urban Study Group 1973) with seven distinct zones. These were the railway centre, the Indian bazaar, the European business and administrative centre, the railway quarters, the dhobi or washerman's quarters, the European residential suburbs, and the military barracks outside the town (Tiwari 1981). The zoning of the city was a result of the Plan for a Settler Capital, which further enhanced segregation, enclaves and spatial limits to the interest and advantage of the European settlers.

The first comprehensive plan of the city (Nairobi Master Plan for a Colonial City) was commissioned in 1948 but was never adopted fully. The plan laid down guidelines for Nairobi's future development and earmarked land for major uses as well as making important proposals for extensions to the road network. Using the concept of functionalism, the plan was to create a modern national city to cater for industrial expansion and the growing numbers of African wage earners working in the industries. The plan also used the garden city concept to divide residential areas into neighborhood units.

In March 1950, Nairobi became a city by the Royal Charter of Incorporation. Up to this period, Nairobi was not free from rapid urbanization problems, which have persisted to date. Some of the earliest urbanization problems in Nairobi include transportation (Hake 1977), housing (Blevin & Bouczo 1997, Obudho 1987), drainage and sanitation (Tiwari 1981), water and sewerage (Nairobi City Council 1974), overcrowding, poor sanitation and unhealthy living conditions (Achola 2002).

The Nairobi Urban Study Group (NUSG) was formed in 1973 to develop the 1973 Nairobi Metropolitan Growth Strategy to guide the growth and development of the city to the year 2000 (Nairobi Urban Study Group 1973). The NUSG consisted of local Nairobi City Council staff and consultants from Britain, while the metropolitan growth strategy was funded by Nairobi City Council, the government, World Bank and the United Nations. However, very little was achieved in terms of implementation of the recommendations given by the NUSG.

The 1973 Nairobi Metropolitan Growth Strategy recommended, among others, decentralization and development of alternative service centres; modifying, upgrading and extension of the road network; formulation of realistic housing programmes; and extension of the city boundary to the west and northeast as and when required, as well as encouraging the growth of satellite towns surrounding the city, i.e. Thika, Athi River and Machakos (Nairobi Urban Study Group 1973). As much as the 1973 Nairobi Metropolitan Growth Strategy was a

tool for state intervention, it supported the interests of the hegemonic class alliance of the local bourgeoisie and the multinational corporations (Anyamba 2004; Emig & Ismail 1980). The interests of the urban majority seem to have been neglected as segregation was enhanced based on economic and class lines as opposed to racial and class lines. In the process, the urban majority were marginalized further and informalization thrived since the late 1970s to date (Anyamba 2004).

As the city grows both in size and population, the provision of urban services has not been, and will not be able to keep pace with the demand despite the numerous policies, plans and strategies that have been adopted to date. Faced with the problems of poor services or lack of it in some areas, city residents have resorted to self-help efforts or community-led management initiatives as a means of accessing such services as sanitation, water supply, garbage collection and security in their neighborhoods. Participation and partnerships of all kinds have emerged towards improving the urban environment – more often than not leading to new forms of urban governance. Nairobi City Council is therefore encouraging public-private partnerships in urban management and provision of urban services to its residents. Examples of such public-private partnership initiatives in Nairobi include the Nairobi Central Business District Association (NCBDA), neighborhood associations, and community policing.

Most recently (in 2008), the (coalition) government of Kenya created a Ministry of Nairobi Metropolitan Development charged with the development issues of the Nairobi Metropolitan Region, aiming at area-wide governance interventions. Specifically, the Ministry is in-charge of roads, bus and rail infrastructure; creating an efficient transport system; replacing slums with affordable low-cost and rental housing; enforcing planning and zoning regulations; facilitating efficient water supply and waste management infrastructures; and promoting, developing and investing in sufficient public utilities, public services and infrastructure.

Responding to urban growth projections and in an attempt to address current and future Nairobi metropolitan region challenges, the Government of Kenya is preparing an ambitious Nairobi Metro 2030 vision to spatially redefine the Nairobi Metropolitan Region (NMR) and create a world class city region envisaged to generate sustainable wealth and quality of life for its residents, investors and visitors. The plan's elaboration and implementation falls under the responsibilities of the newly established Ministry of Nairobi Metropolitan Development. The vision of the NMR is to create the best-managed metropolis in Africa, providing a dynamic and internationally competitive and inclusive economy supported by world-class infrastructure and a skilled labour force. Based on the core values of innovation, enterprise, sustainability, co- responsibility, self-help and excellence, the strategy is to optimize the role of the NMR in national development by building on existing strengths, including Nairobi's hub function in air transportation, the large number of regional and international bodies already present, and its educational and research institutions. Nairobi Metro 2030 seeks to brand and promote Nairobi as East Africa's key gateway city by creating a framework for comprehensively addressing a broad range of policy areas, including the economy, trunk and social infrastructures, transportation, slums and housing, safety and security, and financing. The proposed NMR covers the 3,000km2 that depend on Nairobi's regional core functions for employment and social facilities. Planning will initially involve a 40km radius, despite Nairobi's functional outreach covering 100km or more. Apart from Nairobi Municipality itself, the NMR vision affects 14 other adjacent independent local authorities. Nairobi Metro 2030: A Vision For a World Class Metropolis, First and Foremost in Africa and the World. Ministry of Nairobi Metropolitan Development, 2008.

CHAPTER 3
RESEARCH METHODOLGY

3.1 RESEARCH DESIGN

Research design is a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings. In other words can be described as a plan that describes how, when and where data are to be collected and analyzed. In this particular research, the researcher conducts his study using a well-defined plan that involves facts and current trends facing the audience at hand. His research is a six week research using qualitative research methods that are backed up with facts and photographic evidence.

This study explains why we need a narrative illustration for sustainability, one grounded in how humans make decisions and also in how the world we live in works. This study focuses on the use of illustration that appeal to communicating the transport congestion problems faced in Nairobi Central Business District. The research approach is non-experimental, qualitative, and descriptive.

3.1.1 Non-experimental

Non-experimental research is used in studies whose purpose is description and where it is unethical to manipulate the independent variable. Non-experimental research is suitable for this particular study for several reasons. The research constraints such as time, personnel and the type of participants, make this non-experimental research more feasible. Qualitative studies do not interfere with the natural behavior of subject being studied therefore the type of research questions would not be appropriate for an experimental research.

3.1.2 Qualitative research

Qualitative research approach is a systematic subjective approach used to describe life experiences and situations to give them meaning. In other words it focuses on the experiences of people as well as stressing uniqueness of the individual, a form of social enquiry that focuses on the way people interpret and make sense of their experience and the world in which they live. The researcher uses the qualitative approach to explore the behavior, perspectives, experiences and feelings of people and emphasize the understanding of these elements with the current transport problems being faced in the city.

The researcher uses this approach to adopt a person-centred holistic and humanistic perspective to understand human lived experiences without focusing on specific concepts. The researcher focuses on the experiences from the participants' perspective. In order to achieve the emic perspective, the researcher became involved and immersed in the study. The researcher's participation in the study adds to the uniqueness of data collection and analysis. Complete objectivity is impossible and qualitative methodology is not completely precise because human beings do not always act logically or predictably. The rationale for using a qualitative approach in this research is to explore and describe the opinion of the artist using illustration to demonstrate traffic congestion in Nairobi. This study involved three phases, namely the narrative and interpretative phases.

3.1.2.1 Narrative phase

The narrative phase involves planning the research design. The researcher was the main data collection instrument.

3.1.2.2 Interpretative phase

The empirical research phase involves data collection, analysis and interpretation. Data collection included qualitative information that was collected during a focus group observation. The researcher also searched articles to understand the context of the topic under study, for the purpose of providing a view of reality that is important to participants.

3.1.3 Descriptive research

Descriptive research is designed to provide a picture of a situation as it naturally happens. Here, it has been used to justify current practices and make judgment and also to develop theories that are practical. For the purpose of this study, descriptive research has been used to obtain a picture of the artists' opinion using illustration to address the issue of transport congestion issues in Nairobi metropolitan.

3.2 POPULATION SAMPLE

With regards to the study area, the geographical location for the study will be Nairobi Central business district area, where traffic congestion problems are strongly present. Population sample represented in this research is the general public audience that move in and out of the central business district using public means and private means of transportation.

3.3 DATA COLLECTION INSTRUMENTS

Research tools in any educational research refer to the instruments, which are used for gathering data (information) from respondents. According to this particular research paper, the data collection tools were, primary data collection which include qualitative data collection and secondary data collection which includes use of public books, journals and online portals and observation. However, for the purpose of this study, several instruments were employed to gather data - public books, journals, online portals, use of observation and web surveys that are listed on the reference section at the end of this research paper.

3.4 DATA ANALYSIS

After the data was collected, the researcher gathered together information from all sources and observations. Made photocopies and prints of all recording forms to guard against loss, accidental erasure, or other problems. Entered narratives, numbers, and other information into a computer program, where they were arranged and/or worked on in various ways. From these, the researcher identified and interpreted findings which may assist meet the objectives of the research.

3.5 DATA PRESENTATION

The researcher after organizing the data collected and interpreting them, came up with presentation methods to explain the findings as will be shown in the next chapter.

CHAPTER 4
FINDINGS

4.1 INTRODUCTION

This chapter discusses the findings of the research after the analysis of the collected data. The discussion demonstrates the views of the commuters on the various issues as presented by the researcher and is organized as per the objectives. In addition, the findings from primary data are backed-up by relevant secondary data to highlight the similarity or differences on the same cases.

4.1.1 How illustration design techniques can influence change in communicating urban transport issues in Nairobi.

Illustration brings visual interest and personality to design, but doesn't photography do the same thing just as well? Not always, mainly because generic stock photography is often difficult to feel connected to. Illustration is seen everywhere, its working possibilities are endless. It influences the way we are informed and schooled, what we buy and how we are persuaded to do things. It gives us opinion and interpretation. It provides us with entertainment and tells us tales. It is seen on advertising billboards, posters, in newspapers, magazines, in books of all description, on packaging, even on postage stamps. It can be animated, used in motion pictures and television, as well as online, in e-books and as state of the art interactive imagery.

The term illustration is mysterious to many, in spite of its history and status as an important and influential discipline of visual communication, it is often confused with fine art, most likely because many illustrators use the same methods for producing imagery as fine artists, both will utilize autographic traditional techniques such as drawing, painting, etching, photography, film and sculpting and will also employ contemporary, state-of-the-art digital media. Furthermore, the visual languages used by illustrators will often mirror genre and subject matter that have been dependent of fine art practice for many years i.e. figurative and pictorial realism, abstraction and surrealism, to name but a few. But, that's where the similarity ends.

The difference between illustration and fine art is that fine art tends to be cultivated for its own sake and appeals to the minds and emotions that experience it. Its conception and production are usually driven by a subjective rationale, expressing opinions, influences or experiences of the artist, but often without recourse for any commercial drivers such as publication. Also, the work is produced to be accessed in its original crafted form, normally in galleries, but could be seen in other prescribed venues, for example, as site-specific public art.

Illustration, on the other hand, is contextualized visual communication commissioned for target audiences, often reproduced in large quantities and distributed via the ever-expanding creative, media and communication industries.

What is meant by contextualized visual communication? Context means frame of reference or the situation within which something exists or happens. The broad parameters of illustration define its work, the nature and thrust of its messages, and the reach and impact on its given audience. Without context, an image cannot be classed as illustration. Context defines the reason for the image in the first place and underpins the essence of the whole brief. To successfully meet the requirements of any brief, the completed imagery should impart the required message in accordance with the context.

The best illustration doesn't just visualize history; it shapes it. It is the potency of illustration and the strength and originality of its messages that define its true reason for being. Illustration has over the years had a significant and influential effect on society and incited a diversity of audience reactions and emotion. This can be exemplified by the impact and significance it has had by helping to devise new forms of creative expression through the vast gamut of the entertainment and literary world, such as children's books, comics, films and performance; by contributing to economic and cultural prosperity through advertising, the media, design, corporate and service industries; and by helping to preserve, conserve and present cultural heritage through education, knowledge exchange, museums and documentary broadcast.

People connect with illustration every day of their lives, and in most instances are not aware that it is illustration at all, the organizational and company corporate logos that instill recognition in our subconscious, imagery that adorns the packaging of products and services that entice and lure the information and identification systems that provide instruction and direction; the news media illustrations that comment, confound, infuriate and captivate. It is, however, to the past that we must look to see just how potent and influential illustration has been, often for commendable reasons but unfortunately, not always for the good.

Illustration has a significant role in bridging the gap between the sciences and humanities, practically every concept, every societal, scientific and cultural theory, process and morphology all this has been subjected to the illustrator's research, scrutiny, analysis, description and visualization. The power and effect of illustration in communicating the transport congestion issues in Nairobi is immense in terms of human understanding for disciplines and practices and behavior.

Illustration has a more responsive audiences for stimulating imagery that feeds the imagination, satisfies the thirst for new knowledge and promotes every sort of information available in the global marketplace.

4.1.2 Investigating how illustrations can influence urban transport problems in Nairobi.

More people relate more with visual communication be it digital or using traditional media. Being an illustrator means that you will influence people and their perspectives on life. You have an influence on how they might move through their lives. You have the power to change their mindsets and steer behaviour. Illustrators can use this to their advantage, to do well and make this world a better place for all of us. Through illustration we can make people think about and act on the impact we have on society and our city.

These days, illustrators have a much bigger influence on a product and service level inside companies and are accepted to play along into the mass media.

One of our biggest challenges today is to combine digital and traditional technology into a single customer experience. When we think and act convergently, we increase the influence we might have on people's lives.

The combination of more individual data turning into more personalised experiences enables a greater amount of influence we can have on these individuals. With all these different

elements in place, all of them having an influence on the final outcome and experience, it's easy to lose sight of what our responsibilities are as illustrators and to recognise what experience or shift in behaviour we're indirectly designing.

As illustrators, we need to start thinking about the system that products and experiences are part of and start designing for the ultimate end-goal that we have in mind. Technology and data will only rise even further, which often strikes fear in the hearts of people. The use of data opens up so many opportunities when used with good intentions in mind. Technology and data can have a great and positive impact on mankind, the earth and future societies. The combination of all these elements playing together has the potential to make us more conscious to our environment than ever before. As Illustrators we're not designing products anymore, we're designing systems that eventually will influence human expectations and enable a change in behavior toward our environment.

4.1.3 How narrative illustration can influence change.

Narratives of change can be considered part and parcel of social innovations, defined as change in social relations, involving new ways of doing, organising, framing and or knowing in at least two ways. First, narratives of change convey alternative ways of doing, organising, framing and or knowing, and they promote social relations supporting these. Second, they not only convey but also constitute alternative ways of framing the world. We can argue that narratives of change, as shared ideas on how change can be brought about, make for a relevant and interesting object to a better understanding of transformative change. Many initiatives aspire to contribute to transformative change, and these aspirations inspire actual projects and activities. Gaining insight into how such aspirations are created and shared contributes to our understanding of how social change is driven.

We cluster the review along the research question: 1) narrative content, 2) social production of narratives and 3) their role in social change processes.

4.1.3.1 The content of narratives of change: context, actors, plot

We use the concept of narratives to get a sense of how social innovation initiatives perceive the world and their own role. As such, we are interested in the content of their stories about change. Researchers have distinguished different elements of narratives to be considered in a content analysis. By way of example, Fischer (2003, building on Burke 1945) suggests to distinguish agents, act, scene, agency and purpose. Studying these allows us to answer the following questions: Who does what, when and where? How was it done? And why? Altering this for our purposes of analysing narratives of change, we suggest that important elements are: 1) how is the status-quo and a desired goal or future to-be described (context), 2) who is considered to be involved in changes (actors), and 3) how is change occurring (plot).

4.1.3.1.1 Context in narratives

As suggested above and elsewhere (cf. Benford & Snow 2000), narratives have a role to play in sense making and the construction of meaning. Frames have been presented as 'simple narratives' which outline problems, diagnose causes and suggest solutions (Roe 1994). Narratives of change can be considered to contain such simpler narratives, or narratives within narratives, describing undesirable developments in the past, problematic present situations as well as attractive future scenarios. In other words, narratives describe past,

current as well as future states and position them in space (where) and time (when). Thereby, the scene it set and justification is delivered for the activities carried out by various actors, including the social innovation initiatives.

4.1.3.1.2 Actors in narratives

We take actors to be agents that perform acts – these can be human or non-human. Analysing actors in narratives allows an understanding of who engages in activities furthering or hindering desired societal change. In narrative analysis, we can distinguish between actors, the roles that are ascribed to them and how they are represented. An analysis of power relations in societal change processes is based on the following actor categorisation: firstly, actors are clustered according to the following sectors: government, market, community or Third Sector and secondly, actors are considered at different levels of aggregation: sectors (as outlined), individual (e.g. social entrepreneur, citizen) or organizational actors (e.g. firm, municipality). This distinction proved useful and informs the analysis of actor types occurring in the narratives discussed here. While actors are referred to in different roles, such as citizen, they also play a particular part in the actual narrative, e.g. protagonist, supporter, antagonist, beneficiary, powerholder (cf. Greimas narratological model in Basten 2012).

Actor roles can also be described in terms of cultural archetypes, such as hero, anti-hero, and underdog. In terms of representation, Basten (2012) suggests to distinguish between round and flat characters, where round characters are represented as complex, with nuances and capable of learning, while flat characters are simple, stereotypical and strictly defined. In addition to actor types, the particular parts they play in the plot is considered in our analysis.

4.1.3.1.3 Plot in narratives

With plot, we refer to the actual storyline: how do events and activities lead from the current to a future situation, i.e. the desired end-goal of actors' efforts described as a changed context. The plot is thus creating an element of sequencing – one of the main criteria of narratives. Generally speaking, "narrative is taken to mean a sequence of events in time" (Berger 1997, quoted in Andrews et al. 2003: 3) and contingency is a "fundamental criterion of narrative" as "stories demand the consequential linking of events or ideas" (Salmon and Riessman 2008: 78). Narratives provide important devices for ordering temporal sequences, which has been argued to be an important source of agency and reflexivity, i.e. the capacity of "breaking with the dominance of the past over the future"4 (Lissandrello & Grin 2011, citing Beck et al. 2003:12). The plot, in other words, describes how current givens are or can be challenged and transformed including a different set of social relations involving new understandings, practices and institutions. This sequencing of events and activities occurs against the contextual setting (when and where) and explains how this setting is (to be) changed.

4.1.3.2 The social production of narratives

A constructivist approach to narratives implies understanding them as socially produced. It requires paying attention to the socio-cultural context and structural conditions, as well as the actual interaction through which a narrative is produced. In the social interaction approach to narrative analysis, narrative accounts are contingent on time, space, interlocutors, previous talk and action. As such they are momentous co-constructions of narrators and audience.

Narratives are considered relatively stable and habitual and, at the same time, emergent and situational responses in a given setting. Thus, narratives cannot be abstracted from their context, neither from the immediate social nor from the wider societal and are always attached to broader discourse activity (De Fina and Georgakopoulou 2008a).
The role of narratives in social change processes

Narratives can be understood as stories about and productions of social life (Davies 2002). They draw upon and contribute to a variety of social macro-processes, such as the legitimisation of knowledge or action, the inclusion or exclusion of social groups, the enactment of institutional routines, the perpetration of social roles, etc. (De Fina and Georgakopoulou 2008a: 382). Broadly speaking, literature distinguishes between three different roles that narratives can play in social change processes: narratives 1) trigger imagination, 2) are expressions of cultures and 3) are resources for empowerment.

Narratives have the capability to extend a given culture, its norms and restrictions and as such are crucial for creative potential and the most powerful device to subjunctivize the world (Brockmeier 2009: 228). Narrative imagination is then a fundamentally social enterprise.

4.1.4 Investigating the feeling and emotions inspired by a narrative illustration design

Emotional arousal guides attention so that people's attention tends to be drawn to objects and images that are arousing. Attention is sometimes thought of as a spotlight that directs limited processing resources to the most relevant stimuli. If affect signals value or motivational significance, then we might expect affect to influence attention. For example a short illustrated story of an individual moving through the congested city of Nairobi pin-pointing the significant places that an individual in real-life relates to what is being narrated in the illustration.

In psychology of art, the relationship between art and emotion has newly been the subject of extensive study thanks to the intervention of esteemed art historian Alexander Nemerov. Emotional or aesthetic responses to art have previously been viewed as basic stimulus response, but new theories and research have suggested that these experiences are more complex and able to be studied experimentally. Emotional responses are often regarded as the keystone to experiencing art, and the creation of an emotional experience has been argued as the purpose of artistic expression. Research has shown that the neurological underpinnings of perceiving art differ from those used in standard object recognition. Instead, brain regions involved in the experience of emotion and goal setting show activation when viewing art.

4.1.4.1 Meta-emotions

The optimal visual artwork creates what Noy & Noy-Sharav call meta-emotions. These are multiple emotions that are triggered at the same time. They posit that what people see when immediately looking at a piece of artwork are the formal, technical qualities of the work and its complexity. Works that are well-made but lacking in appropriate complexity, or works that are intricate but missing in technical skill will not produce meta-emotions. For example, seeing a perfectly painted chair or a sloppily drawn image of Christ on the cross would be unlikely to stimulate deep emotional responses. However, beautifully painted works of

Christ's crucifixion are likely to make people who can relate or who understand the story behind it weep.

Noy & Noy-Sharav also claim that art is the most potent form of emotional communication. They cite examples of people being able to listen to and dance to music for hours without getting tired and literature being able to take people to far away, imagined lands inside their heads. Art forms give humans a higher satisfaction in emotional release than simply managing emotions on their own. Art allows people to have a cathartic release of pent-up emotions either by creating work or by witnessing and pseudo-experiencing what they see in front of them. Instead of being passive recipients of actions and images, art is intended for people to challenge themselves and work through the emotions they see presented in the artistic message.

4.1.4.2 Liking and comprehensibility

Pleasure elicited by works of art can also have multiple sources. A number of theories suggest that enjoyment of a work of art is dependent on its comprehensibility or ability to be understood easily. Therefore, when more information about a work of art is provided, such as a title, description, or artist's statement, viewers will understand the piece better, and demonstrate greater liking for it. Experimental evidence shows that the presence of a title for a work increases perceived understanding, regardless of whether that title is elaborative or descriptive. Elaborative titles did affect aesthetic responses to the work, suggesting viewers were not creating alternative explanations for the works if an explaining title is given. Descriptive or random titles do not show any of these effects. Furthering the thought that pleasure in art derives from its comprehensibility and processing fluency, some authors have described this experience as an emotion. The emotional feeling of beauty, or an aesthetic experience, does not have a valence emotional undercurrent, rather is general cognitive arousal due to the fluent processing of a novel stimuli. Some authors believe that aesthetic emotions is enough of a unique and verifiable experience that it should be included in general theories of emotion.

4.1.4.3 Knowledge emotions

Knowledge emotions deal with reactions to thinking and feeling, such as interest, confusion, and surprise. They often stem from self-analysis of what the viewer knows, expects, and perceives. This set of emotions also spur actions that motivate further learning and thinking.

4.1.4.4 Interest

Interest in a work of art arises from perceiving the work as new, complex, and unfamiliar, as well as understandable. This dimension is studied most often by aesthetics researchers, and can be equated with aesthetic pleasure or an aesthetic experience. This stage of art experience usually occurs as the viewer understands the artwork they are viewing, and the art fits into their knowledge and expectations while providing a new experience.

4.1.4.5 Confusion

Confusion can be viewed as an opposite to interest, and serves as a signal to the self to inform the viewer that they cannot comprehend what they are looking at, and confusion often necessitates a shift in action to remedy the lack of understanding. Confusion is thought to

stem from uncertainty, and a lack of one's expectations and knowledge being met by a work of art. Confusion is most often experienced by art novices, and therefore must often be dealt with by those in arts education.

4.1.4.6 Surprise

Surprise functions as a disruption of current action to alert a viewer to a significant event. The emotion is centered around the experience of something new and unexpected, and can be elicited by sensory incongruity. Art can elicit surprise when expectations about the work are not met, but the work changes those expectations in an understandable way.

4.1.4.7 Hostile emotions

Hostile emotions toward art are often very visible in the form of anger or frustration, and can result in censorship, but are less easily described by a continuum of aesthetic pleasure-displeasure. These reactions center around the hostility triad: anger, disgust, and contempt. These emotions often motivate aggression, self-assertion, and violence, and arise from perception of the artist's deliberate trespass onto the expectations of the viewer.

4.1.4.8 Self-conscious emotions

Self-conscious emotions are responses that reflect upon the self and one's actions, such as pride, guilt, shame, regret and embarrassment. These are much more complex emotions, and involve assessing events as agreeing with one's self-perception or not, and adjusting one's behavior accordingly. There are numerous instances of artists expressing self-conscious emotions in response to their art, and self-conscious emotions can also be felt collectively.

4.1.4.9 Sublime feelings

Researchers have investigated the experience of the sublime, viewed as similar to aesthetic appreciation, which causes general psychological arousal. The sublime feeling has been connected to a feeling of happiness in response to art, but may be more related to an experience of fear. Researchers have shown that feelings of fear induced before looking at artwork results in more sublime feelings in response to those works.

4.1.4.10 Aesthetic chills

Another common emotional response is that of chills when viewing a work of art. The feeling is predicted to be related to similar aesthetic experiences such as awe, feeling touched, or absorption. Personality traits have been shown to be predictors of a person's experience of aesthetic chills, especially a high rating on openness to an experience. This counters the effect of fluid intelligence, where those with higher amounts of fluid intelligence are less likely to experience chills. Experience with the arts also predicts someone's experience of aesthetic chills, but this may be due to them experiencing art more frequently.

4.2 POPULATION INCREASE AND VEHICLE OWNERSHIP

Transport is key for the growth of a country's economy. However, the rapid urbanization rate in Kenya, population surge is being experience in most of the cities with Nairobi carrying the heaviest burden of both population and vehicle increase, MOSOTI, 2015. A study carried by

KIPPRA indicates that of the approximately 2 million registered motor vehicles in Kenya in 2013, about 60% were within the Nairobi Metropolitan Area, KIPPRA, 2015. This authenticates the findings of this study as most commuters blamed increase in population and vehicle ownership (49.33%) for traffic congestion.

From the study, it was established that the high population growth in Kenya is in the Nairobi central business district area. Increase in private car ownership was linked to the growing economy and the fact that public transport is unreliable, inefficient and inconvenient. The respondents hinted that with a private car, one can easily avoid traffic by changing the route which is not applicable when one is using public transport.

4.2.1 Possible causes of traffic congestion in Nairobi CBD

These findings concur with Elisongo, 2013 and Olagunju, 2015 who attributes traffic congestion to population increase which creates an imbalance in the travel supply-demand and increasing traffic snarl-ups.

4.1.6.1 Poor traffic management and road design

Nairobi CBD does have traffic control lights and given the many U-Turns and roundabouts on it, vehicles still end up blocking each other as they try to maneuver through. In fact, a bigger number of civilians blame traffic congestion on poor traffic management while others associated with road design especially roundabouts. Lack of designated market areas and NMT facilities has contributed to the massive invasion of the road space by hawkers and pedestrians which many a time lead to traffic snarl-up and accidents. Poor traffic management includes poor control of the lanes, intersections and approaches to flyovers and underpasses as well as insufficient modern technologies for effective traffic management (World Bank, n.d.). Traffic management measures are urgently required to tame congestion in the CBD. The measures may help lower travel times, increased frequencies, increased patronage, lower fares, or a combination of all these (Transport Research Laboratory, 2002).

4.1.6.2 Longer commuting due to housing affordability (Travel Distance)

The study found out that the approximate distance covered by the commuters on their day to day journey was 6-10 Km in the morning hours while others covered 11-15Km. A study carried out by Planner Mairura Omwenga revealed that the travel distance rose from 0.8km in 1970 to 25km in1998 with the current travel distance averaging between 30 and 40km (Omwenga, 2011). Most of the civilians in Nairobi travel for work and business related trips which are concentrated within the CBD. Aligula et al (2005) postulated that concentration of work places in few employment centers as it is the case with Nairobi where all the offices and services are concentrated within CBD tends to increase average trip lengths.

4.1.6.3 Inadequate road capacity and uncivil driving behavior

Nairobi CBD road's carrying capacity has been over stretched due to the surging demand for transportation and the many estate sprouting in its surroundings. The study found out that uncivil driving behavior and inadequate road capacity contributes to most of the congestion issues experienced in the city. The many junctions and roundabouts that connect to in and out of Nairobi CBD cause interruption of the fleet flow on the dual carriageways resulting to massive traffic jams. In addition, encroachment of road space along roads by illegal roadside

markets and rogue bodaboda riders not only hampers the smooth flow of traffic but also endangers the lives of pedestrians, Waithaka, 2017.

Uncivil driving behavior also contributes to traffic congestion through tailgating, refusing to let a car merge or letting too many cars merge, sudden change of lanes, denying pedestrians their right of way, driving on the wrong lane among others (Arnott, 1994). Goodyear, (2012) notes that traffic congestion can be reduced by 25 to 30 per cent by combining the right traffic management systems with disciplined driving.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Findings

The purpose of this study was to address the issue of traffic congestion in Nairobi metropolitan particularly around the Central Business District. The objectives of this study were to investigate how narrative illustration design techniques can influence change in communicating transport issues in Nairobi, to investigate how illustrations can influence transport problems in Nairobi, to find out how narrative illustration can communicate transport problems and lastly to investigate the feeling and emotions inspired by a narrative illustration design.

Besides the design suggestions floated to be implemented on the transport development in Nairobi metropolitan vision 2030, the researcher recommends illustrative communication modules that the public audience can get to see and relate to frequently, learning and engaging emotionally therefore resulting to behavioral change toward the transport issues being faced in the Nairobi CBD. The suggestions tabled are as follows.

Creating a narrative book illustration story that people can relate with. The researcher will create a character designed through considering the current trends in digital media. Trends are a phenomenon that grabs hold of the interest of consumers and creates a whirlwind of excitement for brands. By knowing what is trending in the design industry, the researcher offers the viewers innovative and creative ideas for their needs instead of relying on the basics. The researcher therefore creates a story board with the character moving about in the Nairobi CBD pin-pointing significant places that are faced with traffic congestion. This narrative would bring life and emotions to readers and viewers in the long run advocating for change.

The researcher will create unique patterns for print illustration that civilians can purchase and wear at any given time. The researcher suggests that these patterns created can also be used in digital media advertising for a brand that is subjected to dealing and handling transport development in Nairobi and Kenya at large. The patterns can be used as branded merchandise on different fabrics and surfaces.

The researcher will thus develop paintings, drawings and photograph catalogue that will be used to address the transport congestion problem. The researcher also proposes that for the experience to be all encompassing, all the senses must be engaged in the viewing of the art pieces.

REFERENCES

i.   World Bank. (n.d.). Retrieved July 17, 2018, from Identification of Causes, Types and Locations of Traffic Congestion: documents.worldbank.org, curated pdf

ii. World Bank. (2014, June 26). Time is Money, especially on Cairo's Streets. Retrieved from The World Bank: http://blogs.worldbank.org/arabvoices/time-money-especially-cairo-streets

iii. World Bank. (2016). Kenya Urbanization Review. Washington, USA: The World Bank.

iv. World Bank. (2017, August 02). Traffic jams, pollution, road crashes: Can technology end the woes of urban transport? Retrieved from The World Bank: Transport for development: https://blogs.worldbank.org/transport/traffic-jams-pollution-road-crashes-can-technology-end-woes-urban-transport

v.   econsultancy.com, taking-advantage-of-trends-in-social-media, By Joel Windels October 22nd 2014

vi. https://en.wikipedia.org/wiki/Art_and_emotionThe Power and Influence of Illustration Achieving impact and lasting significance through visual communication by Alan Male

vii. wikipedia.org, Art and emotion

viii. Narratives of change: How Social Innovation Initiatives engage with their transformative ambitions, TRANSIT Working Paper #4, October 2015, By Julia M. Wittmayer, Julia Backhaus, Flor Avelino, Bonno Pel, Tim, Strasser, Iris Kunze

ix. Resettlement policy framework for Nairobi Metropolitan Improvement project (NaMSIP), By Architect David Iluve Kithakye, December 2011**.**

x.   Sustainability, 2006

xi. Design for Sustainability A Practical Approach, Tracy Bharma and Vicky Lofthouse, 2016.

xii. Sustainability Mary Ann Liebert, INC, Vol. 6, No. 6, December 2013.

xiii. Blevin & Bouczo 1997; Boedecker 1936; Foran 1950; Owuor & Obudho 1997; Wamsley 1957.

xiv. Achola 2002; Morgan 1967

xv. Nevanlinna 1996

xvi. Emig & Ismail 1980

xvii. Owuor & Obudho 1997

xviii. Nairobi Urban Study Group 1973

xix. Tiwari 1981

xx. Hake 1977

xxi. Blevin & Bouczo 1997, Obudho 1987

xxii. Nairobi City Council 1974

xxiii. Achola 2002

xxiv. Anyamba 2004; Emig & Ismail 1980

xxv. Nairobi Metro 2030: A Vision For a World Class Metropolis, First and Foremost in Africa and the World. Ministry of Nairobi Metropolitan Development, 2008.

xxvi. Burns and Grove 2003:195

xxvii. Parahoo 1997:142

xxviii. Politiet al 2001:167

xxix. Polit et al 2001:178

xxx. Burns and Grove 2003:19

xxxi. Parahoo 1997:59

xxxii.   Holloway and Wheeler 2002:30
xxxiii.   Field & Morse 1996:8.
xxxiv.   Streubert & Carpenter 1999:17
xxxv.   Holloway & Wheeler 2002:3
xxxvi.   Burns and Grove 2003:201
xxxvii.   KIPPRA, 201
xxxviii. Elisongo, 2013 and Olagunju, 2015
xxxix.   World Bank, n.d..
xl.   Transport Research Laboratory, 2002.
xli.   Omwenga, 2011
xlii.   Aligula et al 2005
xliii.   Waithaka, 2017
xliv.   Arnott, 1994
xlv.   Goodyear, 2012