CONTENTS

1. INTRODUCTION

At the height of South Africa's preparations for the 2010 World Cup, Parliament passed the National Land Transport Act 5 of 2009, setting the stage for a transformation of public transport within South Africa. The requirements for hosting the World Cup had created a sense of urgency for the nine host cities to establish transport systems that would accommodate thousands of football fans from around the world, and the National Land Transport Act empowered them to manage those systems going forward.

Early phases of new transport projects were completed quickly and successfully to accommodate the unprecedented number of visitors; now that the event has passed and the tourists have returned home, it remains for the national, provincial, and local governments to build on this foundation to create sustainable transport systems that will serve South Africans for many years to come.

What will this legacy be, who will benefit, and who will build it? The National Land Transport Act has devolved much of the responsibility for public transport from the national and provincial governments to local cities and municipalities. As all three spheres of government continue to adjust to their changing roles, it is important to consider what governments can, should, and have sought to achieve through public transport. Devolution represents both a risk that important transport objectives may fall by the wayside, and an opportunity to re-emphasize objectives that may not have been fully appreciated in the past.

2. IMPACTS OF PUBLIC TRANSPORT

Individuals who are impacted by public transport can be classified into one of three groups: transit captives, choice riders, and non-riders.

Transit captives are individuals who must commute for education, employment, or necessary services, but cannot use a private vehicle due to income, age, disability, or other factors. They are reliant on public transport to meet their basic mobility needs. According to the Southern African Bus Operators Association, approximately 80 percent of the South African population is transit captive. (1)

Choice riders are those who have access to a private vehicle, but choose to use public transport for its convenience, its lower cost, or out of concern for the environment. Efforts to increase public transport ridership often focus on choice riders, since they are responsive to improvements in cost or convenience.

Non-riders are those who do not use the public transport system, but benefit indirectly from its impact on their communities. For example, they may be commuters who benefit from reduced congestion, or home-bound individuals who rely on a well-functioning, integrated transport system for the efficient delivery of goods and services.

Public transport has a number of social, economic, and environmental impacts on all three groups.

2.1. SOCIAL IMPACTS

The social impacts of public transport are most keenly felt by transit captives, who are often members of vulnerable populations, including the elderly, the poor, the disabled, and children. These populations may depend on public transport for the provision of basic human rights.

The existence of public transport services is a necessary, but insufficient, condition for meeting the mobility needs of vulnerable populations. When the cost of available public transport is too high, whether in terms of fares, commuting time, or risk of personal safety, individuals are limited in their opportunities for education and employment. Many who are willing and able to work may remain unemployed because they cannot afford to travel to locations where their skills are needed. Those who are not qualified to work because they lack education and training are likewise unable to travel to locations where the necessary education and training are available. By addressing these issues, affordable public transport plays a vital role in the economic empowerment of vulnerable individuals.

Affordability is a function of both fare levels and fare structure. Public transport fares may be assessed per trip (as on most subway systems), per distance (as on metered taxi service), or based on an extended time period (daily, weekly, or monthly passes). The selection of one of these fare structures can have unanticipated effects on different populations. For example, one study of travel patterns in the United States has shown that high-income households tend to make much longer public transport trips than low-income households. When fares are charged on a per trip basis, this disparity results in travel by the poor subsidizing travel by the rich. (2)

In South African cities, where restrictions by the Apartheid regime resulted in dense populations of low-income individuals living far from employment centres and other services, a per-trip fare structure would be more favourable to the poor than a distance-based fare.

Similarly, since low-income individuals are often transit captives and are much more likely to use public transport on a daily basis than choice riders, the availability of weekly or monthly fares as an alternative to per trip fares can also be an advantage to low-income households.

Some choice riders, although they have access to vehicles, should not operate them under certain circumstances. These include elderly people whose driving abilities have deteriorated, young people whose skills are not fully developed, and people whose abilities are temporarily impaired due to alcohol. For these riders, the availability of public transport enhances public safety. The presence of high-risk drivers on public roads is one reason that public transport can be much safer than travel by private vehicle.

In the United States between 1995 and 2008, there was an annual average of 41 920 highway fatalities, or about 0.58 fatalities per hundred million passenger kilometres travelled. By comparison, there were only 265 annual public transport fatalities during this period, or about 0.37 fatalities per hundred million passenger kilometres. (3) This represents a 60 percent improvement over highway travel.

In South Africa, where over half of all households use public transport on a regular basis (4), only five percent of transport fatalities in 2008 (including collisions with pedestrians) involved public transport vehicles (buses, trains, and minibus taxis). (5) Between fifteen and seventeen percent of non-pedestrian transport fatalities in 2008 involved public transport vehicles. (6)

While the social impacts of public transport have the greatest impact on public transport patrons, the economic and environmental impacts affect riders and non-riders alike.

2.2. ECONOMIC IMPACTS

Public transport benefits local economies by providing transit captives with affordable, convenient means of accessing education and employment opportunities. To the extent that it also attracts choice riders and reduces the need for travel by private vehicle, public transport can further support economic growth by relieving road congestion. The Texas Transportation Institute has estimated that in 2009, the total cost of congestion in urban areas of the United States, including both wasted time and wasted fuel, was $115 billion. In urban areas with populations greater than three million, the cost of congestion averaged about $4.4 billion per city. Public transport is estimated to have reduced total congestion costs by $19 billion. In urban areas with populations greater than three million, the average saving in congestion costs by public transport was nearly $1.1 billion per city. (7)

The benefits of congestion relief are felt by both commuters and commercial drivers. Commuters who spend less time waiting in

traffic are both more productive at work and more likely to spend time and money on leisure activities. They also have more discretionary income because they use less fuel. Taxis are able to complete more trips and increase profits. The costs of moving freight also decrease as commercial trucks can complete trips both more quickly and more predictably.

As observed during the 2010 World Cup, public transport can also be critical to the tourism industry, which plays an important role in local economies. The World Travel and Tourism Council estimates that tourism contributed about 9.2 percent of the global gross domestic product (GDP) in 2010. (8) By providing convenient, low-cost, easy to understand travel options, public transport enables urban tourism and expands the geographic area in which tourists are likely to spend money. In regions with limited public transport, tourists are more likely to limit their activities to areas within walking distance of their accommodations. Public transport allows tourists to travel freely throughout a city, so that their spending is more likely to benefit local communities.

In addition to its enabling role, public transport is an industry in its own right. The Southern African Bus Operators Association estimates that the bus section of the South African public transport industry directly employs about 30,600 people, with another 153,000 people indirectly dependant on the South African bus industry. (1) The American Public Transit Association has estimated that, under the current spending policies in the United States, every billion dollars spent on public transport results in the creation of about 30,000 jobs. (9)

2.3. ENVIRONMENTAL IMPACTS

Even at times and places where traffic congestion is not a major economic concern, the replacement of private vehicles with high-occupancy forms of transport can have important environmental benefits. The most direct benefits are related to reductions in fuel consumption and vehicle emissions.

As previously noted, the majority of public transport patrons do not have access to a private vehicle, and thus do not represent a reduction in the number of total vehicles on the road. However, even when choice riders represent a minority of public transport patrons, they can still reduce transport-related greenhouse gas emissions and fuel consumption.

As shown in Table 1, the typical diesel bus is much less fuel efficient than a typical passenger car. Furthermore, the carbon content of diesel is higher than that of the petrol used by most passenger cars. As a result, the fuel consumption per kilometre travelled by a bus is about three and a half times that of a private car, and a bus's carbon emissions are nearly four times that of a car.

Table 1: Vehicle emissions and fuel consumption by cars and buses.

	Private Car[1]	Diesel Bus[2]	Required Replacement Rate[3]
Fuel Efficiency (km/l)	8.63	2.55	
Fuel Consumption per km (l)	0.12	0.39	3.4
CO_2 Emission per litre (kg)[4]	33.31	38.23	
CO_2 Emission per km (kg)	0.27	1.05	3.9

1. Source of fuel efficiency data: (10)
2. Source of fuel efficiency data: (11)
3. The number of private cars that a bus would need to replace in order to represent an environmental benefit
4. Source: (12)

If all drivers were to replace their cars with their own private buses, the environmental consequences would be unquestionably negative. However, if a public bus provides service along approximately the same route that many drivers travel, and this service results in at least four drivers choosing to ride the bus rather than driving their own car, then the bus service would result in a net reduction in fuel consumption and greenhouse gas emissions. The environmental benefits are even greater if a public transport provider uses more fuel-efficient or alternative-fuel vehicles than standard diesel buses, such as the 'green' buses on Johannesburg's Rea Vaya bus rapid transit system. (13)

The benefits of reducing fuel consumption and carbon emissions are immediate and incremental. A sustained policy of investment in public transport can also have important long-term environmental benefits. When an urban area develops together with an extensive public transport system, it requires less road capacity to accommodate daily traffic volumes. Space that would have been devoted to roadway capacity can instead be used for more environmentally-friendly uses such as parks and green space.

3. PURPOSES OF PUBLIC TRANSPORT

The discussion so far has focused on the possible impacts that public transport can have on a community. Which of these benefits are actively sought by public transport agencies, and which are simply side-effects? If all spending on public transport resulted in all possible benefits in equal measure, this distinction would be unnecessary. However, the decisions faced by public transport providers regularly require them to place priority on one benefit at the expense of another. In order to ensure that these trade-offs are made intentionally, decision-makers must

make clear choices about the purposes of public transport, with an understanding of how these purposes might occasionally conflict.

Walker (14) has proposed that public transport planners may choose one of two competing types of goals: *patronage goals* and *coverage goals*. He suggests that these two types of goals are mutually exclusive, and recommends that elected officials allocate a portion of available funding to patronage goals, leaving the remainder to be spent on coverage goals. Litman (15) refers to the same distinction as *efficiency-justified transit* and *equity-justified transit* and emphasizes that a public transport provider is obligated to provide both types of service.

3.1. PATRONAGE AND EFFICIENCY

Patronage or efficiency goals are met by maximizing ridership. These goals may take the form of actual ridership targets, or they might be financial targets, such as minimizing government subsidies or maximizing farebox recovery rates (the proportion of operating expenses that can be funded through passenger fares). Patronage goals may also attempt to address problems such as traffic congestion or pollution by reducing the number of private vehicles on the road.

In order to meet patronage goals, a transport service provider will typically focus on providing service to choice riders. To be successful, patronage service must present a clear advantage over private vehicles. Routes must be as direct as possible with few intermediate stops, and service must be provided in places

and at times when the greatest number of people is likely to require it.

Privatization, deregulation, or lack of funding tend to encourage profit-maximizing behaviour on the part of service providers, which is likely to result in an over-emphasis on patronage goals at the expense of coverage and equity goals.

3.2. COVERAGE AND EQUITY

Coverage or equity goals aim to maximize the number of people who have access to public transport. In order to meet coverage goals, public transport providers may incur significant expenses, such as the installation of wheelchair lifts in buses, or the construction of accessible rail stations. Although these expenses have only a minimal impact on ridership or revenue, they allow transport providers to serve segments of the population that they could not otherwise serve.

Coverage goals may also require that routes be planned to serve remote or isolated neighbourhoods, particularly those where residents have few other transport alternatives. Such routes may be indirect and meandering, with frequent stops. Coverage-based services may also be provided throughout the day, rather than being limited to peak travel periods.

Since coverage focuses on transit captives, it is unlikely to reduce the number of vehicles on the road. Furthermore, since it serves remote or isolated areas during-off peak hours, it may be typified

by empty or nearly empty buses that are not financially self-sustaining.

3.3. Impacts of Competing Objectives

In general, the social benefits of public transport are most likely to be achieved through the pursuit of coverage goals, while the environmental benefits of public transport can best be achieved through the pursuit of patronage goals. The economic benefits of public transport can be achieved through a combination of coverage and patronage goals. The advantages of a mobile, educated workforce and widespread tourism result from coverage. Increases in efficiency and productivity that result from congestion relief are best achieved through patronage. Direct job-creation can more effectively be achieved through coverage goals, since coverage-based services generally require more routes and more drivers than do patronage-based services.

4. Objectives of Transport Agencies

In practice, do government agencies with responsibility for public transport place a greater emphasis on coverage or on patronage? Do they view transport as a means of delivering primarily social, economic, or environmental benefits? While the results of transport policy may be mixed and difficult to measure, the intentions of an agency can be presumed based on its public statements regarding its mission, vision, purpose, or strategy.

A survey was taken of statements by six government agencies with responsibilities for public transport. Three municipal agencies (from New York City, Vancouver, and London) and three national agencies (from the United States, Canada, and the United

Kingdom) are represented. One statement was chosen from each agency to broadly characterize the values that the agency seeks to deliver. In most cases, the agency's mission statement was used. Failure to mention a benefit does not necessarily indicate that the agency does not recognize its importance, but simply suggests that it is not currently pursuing that benefit as a primary objective. Appendix A provides brief descriptions of the agencies included in the survey and the statements used.

All six agencies referred to economic growth as a primary objective, and safety was mentioned by five of the six agencies. Environmental protection, quality of life, and efficiency were the next most common objectives; each was mentioned by three agencies.

Of the twelve objectives that were mentioned by at least one agency, four are associated with economic benefits. These are economic growth, efficiency, cost-effectiveness, and reliability. Of these, efficiency, cost-effectiveness, and reliability can best be achieved through patronage goals. The general objective of economic growth can best be achieved through a combination of those patronage factors, as well as the increased access to education and employment that comes from the achievement of coverage goals.

Four of the twelve objectives are related to social benefits. These are safety, quality of life, cleanliness, and equity. Equity is best achieved through coverage goals. The objective of quality of life, if it is assumed to apply equally to all members of a community, is also best achieved through coverage goals. Safety and cleanliness are not a direct result of either patronage or coverage, and can be

provided by either type of service. However, since they are achieved through expenses that do not necessarily result in a proportional increase in revenue, they are less likely to be achieved when patronage goals take the form of purely financial targets.

Three objectives are related to environmental benefits. Every national agency mentions general environmental protection, and two cities specify emissions reduction. The United States mentions reduced fuel consumption, although they relate it more to national security than to environmental concerns. Environmental benefits are best achieved through patronage.

Sustainability is usually defined to include social, economic, and environmental benefits, although the popular usage of the word most commonly refers to environmental benefits.

Five of the six mission statements included at least one objective from each of the three categories. Overall, the objectives that transport agencies identify in their mission statements reflect a fairly balanced pursuit of social, economic, and environmental objectives. These objectives are evenly divided between those that can be met by pursuing coverage goals and those that can be met by pursuing patronage goals.

5. TRANSPORT OBJECTIVES IN SOUTH AFRICA

Beginning with the 1996 White Paper on National Transport Policy, the South African government has been admirably articulate in defining its vision for transport in South Africa. Both

the National Land Transport Transition Act 22 of 2000 and the National Land Transport Act 5 of 2009 require each sphere of government to prepare a transport planning document every five years. The national government prepares a National Land Transport Strategic Framework, provincial governments prepare Provincial Land Transport Frameworks, and local planning authorities prepare Integrated Transport Plans. These documents provide both detailed transport planning frameworks and broad statements of mission and vision.

Mission and vision statements from the most recent planning documents by the national government, three provincial governments (Gauteng, Western Cape, and KwaZulu-Natal), and three local governments (Johannesburg, Cape Town, and Durban) show how the objectives of South African transport agencies may differ from those of comparison agencies (the US, Canadian and British agencies mentioned above), and what differences appear between spheres of government. The South African mission statements included in the survey are shown in Appendix B.

Only one South African mission statement referred to a goal of general environmental protection, and none referred to the more specific environmental goals of reduced emissions or reduced fuel consumption.

Four objectives were unique to South African transport mission statements. Three of these unique objectives – accessibility, affordability, and social development – aim to provide social benefits and are most likely to be met through coverage goals. The fourth, accountability, is similar to sustainability in that it encompasses social, environmental, and economic aspects.

Overall, a comparison between South African transport agencies and the comparison agencies suggests that South African agencies place a much higher priority on the social benefits of public transport than on environmental benefits. This may reflect an accurate assessment of the nature of the problems that South Africa faces. South Africa's carbon emissions per capita are less than half of the average of that in the comparison countries. (16) However, South Africa's income inequality, as measured by the Gini Index[1], is nearly double that of the comparison countries. (17) Thus, South Africa's emphasis of the social benefits of transport would appear to be an appropriate response to the specific challenges that South Africa faces.

A major effect of the National Land Transport Act is to devolve responsibility from the national and provincial governments to local cities and municipalities. A comparison between the objectives of local transport agencies and those of national and provincial agencies suggests that there is general agreement between spheres of government on the objectives of public transport. Any shift in policy from the pursuit of social benefits in favour of environmental and economic benefits, or from coverage goals in favour of patronage goals would not be the result of a fundamental difference in philosophy. Rather, such a shift is likely to result from unintentional oversight, political pressure, or scarcity of resources.

6. CURRENT PUBLIC TRANSPORT PROJECTS

How well do current public transport projects align with the expressed intentions of the government? Three major public transport projects are currently in various stages of

[1] The Gini Index is a measure of statistical dispersion commonly used to measure income inequality. It can range from a value of zero (total equality) to one hundred (total inequality).

implementation in urban areas of South Africa: Cape Town's MyCiTi Integrated Rapid Transport System, Johannesburg's Rea Vaya Bus Rapid Transit (BRT) System, and Gauteng's Gautrain.

6.1. REA VAYA

The Rea Vaya system in Johannesburg initially grew out of the city's first integrated transport plan, published in 2003. This plan proposed an inner-city distribution bus service with 28 public transport nodes to be developed at locations throughout the city. (15) These plans were established as a long-term planning strategy, to be implemented gradually as funds became available. However, when South Africa was awarded the 2010 FIFA World Cup, it became apparent that plans for public transport would need to be upgraded and accelerated.

In 2004, the primary public transport provider within Johannesburg was Metrobus, a bus company that is wholly owned by the City. Initially, the city explored the possibility of meeting the needs of the World Cup by expanding Metrobus services to areas that were currently reliant on minibus taxis. This proposal, called the Strategic Public Transport Network (SPTN), met with resistance from taxi operators who feared the impact it would have on their business. In response to these concerns, the city proposed a separate, high-quality bus company that would engage existing taxi operators both as employees and shareholders. (19)

In spite of efforts to engage the taxi industry, the months leading up to the project's completion saw strikes by minibus taxi operators who continued to feel threatened by the new service.

Strike action often coincided with violence against buses and bus operators. (20)

Phase 1A of the project was completed in time for the world cup. It comprises a circular route in the inner city, a trunk route connecting the inner city to Soweto, and several feeder routes within Soweto (refer to Figure 1). Phase 1B is currently under construction, and will include a second trunk route connecting Parktown and the University of Johannesburg to Soweto and to the city centre. Phase 1C will connect Parktown and Sandton. (19)

No details regarding future phases have been announced, but the city has stated that the long-term vision for the system is that Rea Vaya bus routes will eventually be located within 500 metres of 85 percent of the city's population (refer to Figure 2). (19)

In describing the reasons for the BRT system, the 2011 Rea Vaya End of Term Report refers to three distinct objectives. First, the system should correct the imbalances created by misguided apartheid planning. Second, by replacing minibus taxis (which in many cases ran on low-quality, high-pollutant fuel) with higher-occupancy, energy-efficient buses, the new system should reduce the total number of vehicles on the road and the resulting greenhouse gas emissions. Third, the system should enable equitable economic growth. (19)

Although the system is still in its initial phases, it seems to have performed well with regard to these social, environmental, and economic objectives. Although any rapid transport system would

normally be classified as a patronage-based service, the integration of trunk and feeder routes, with the coverage-based goal of bringing a Rea Vaya route to within 500 metres of 85 percent of the population, reflects an appropriate balance between patronage and coverage.

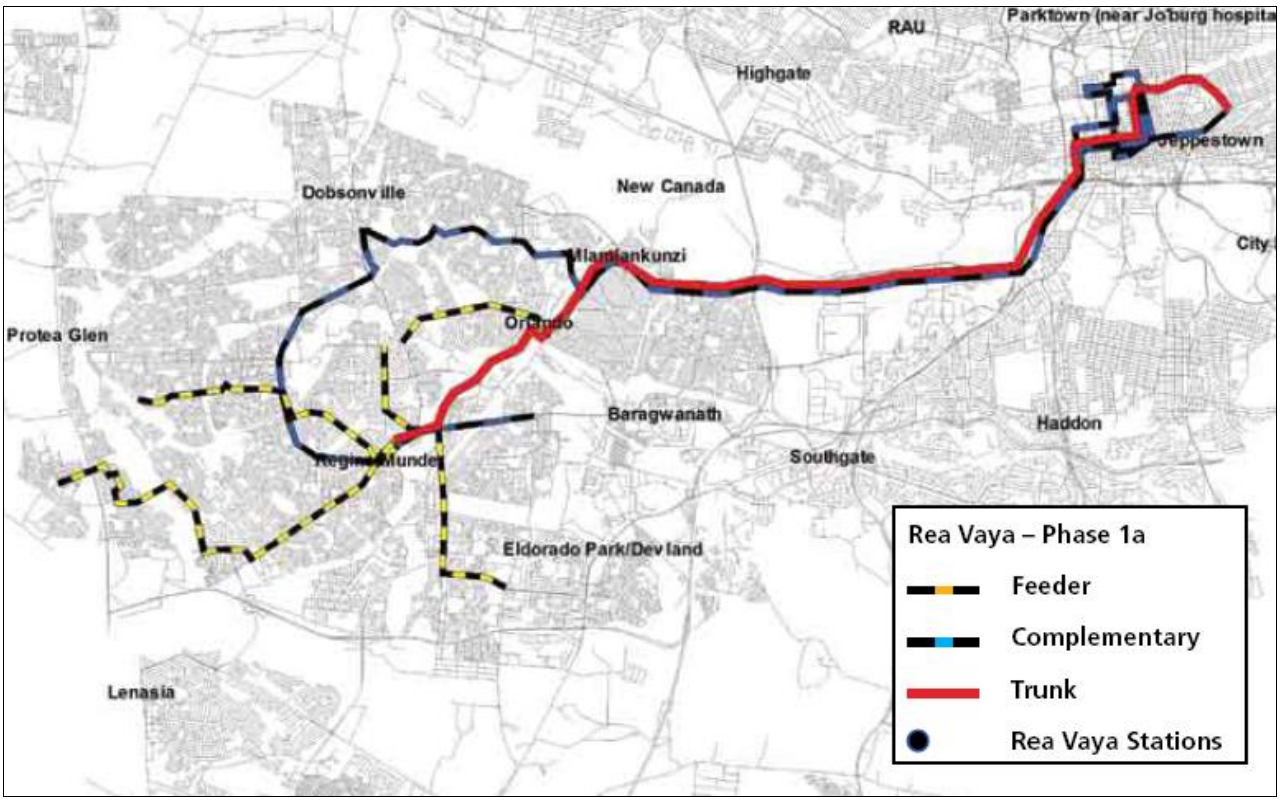

Figure 1. Implementation of Rea Vaya Phase 1A (19)

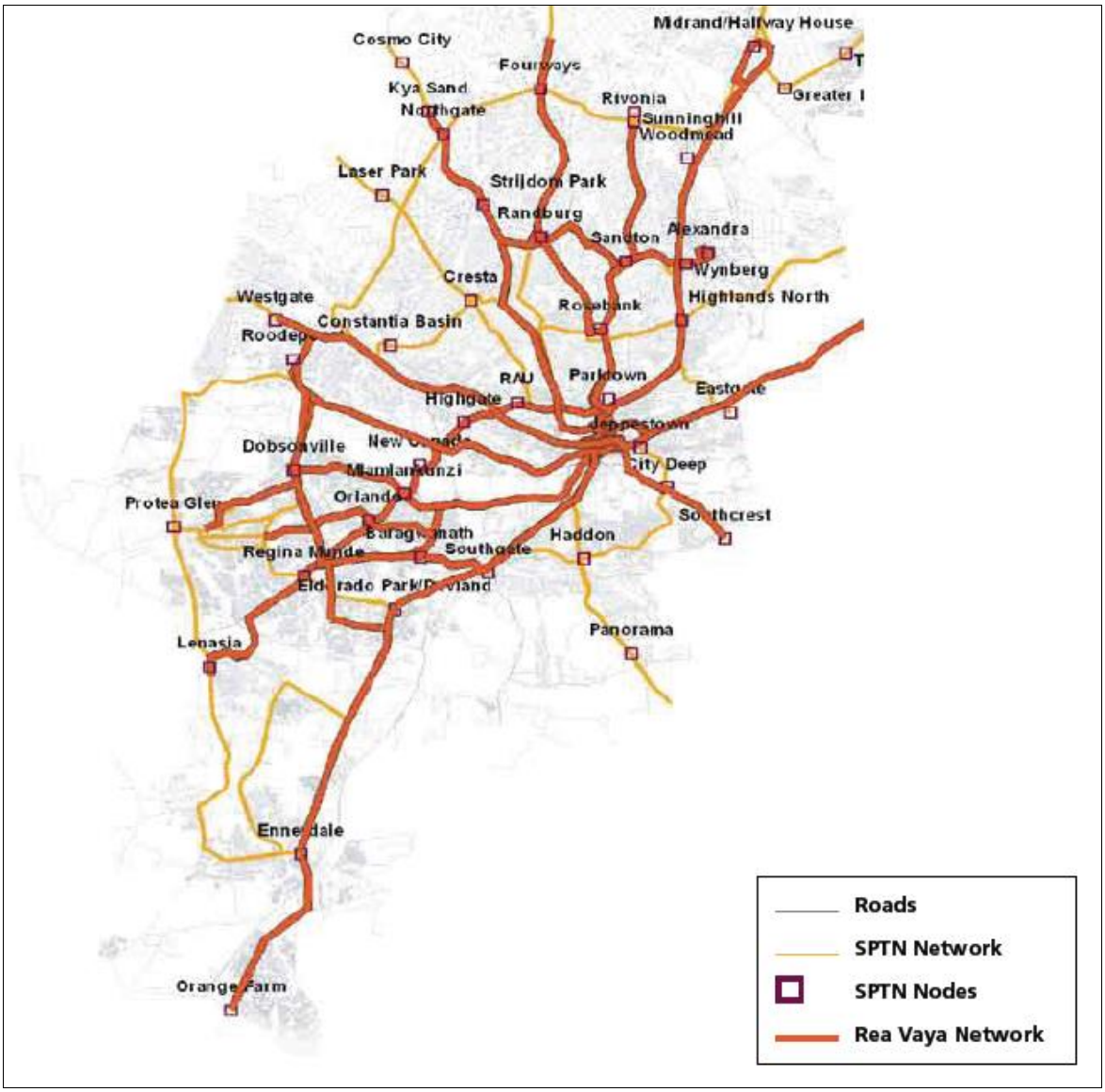

Figure 2. Proposed Rea Vaya Network, All Phases (19)

6.2. MyCiTi

The City of Cape Town also responded to anticipated needs of the World Cup with the implementation of the BRT system. The city first proposed the concept of a city-wide bus rapid transport system in its 2007 report *City of Cape Town – Public Transport Implementation Framework*. Thereafter, the concept was referred to as IRT (integrated rapid transport) to emphasize the city's vision for an integrated system that would include BRT, improved rail services, and a network of pedestrian and bicycle paths. An IRT project office was established within the

department of transport in October 2007, with the understanding that a separate municipal entity would eventually be created to manage operations of the IRT system. (21)

Phase 1 of the MyCiTi IRT system is currently in the final stages of implementation and will connect the central city to areas along the west coast. Phase 2 will extend the service to the southeast, including areas such as Khayelitsha and Mitchell's Plain. Phase 3 will include the Durbanville area, and Phase 4 will serve the Delft/Helderberg area (refer to Figure 3). Upon completion of Phase 4 it is anticipated that 75 percent of the population of Cape Town will live within 500 metres of a MyCiTi route. (19)

Figure 3. Phasing Plan for MyCiTi BRT System (21)

Like Johannesburg, Cape Town has established an eventual coverage-based goal that will cover the majority of the city upon system completion. Unlike in Johannesburg, where the first routes connected the inner city to outlying townships, the first Phase of the MyCiTi system primarily serves more affluent areas. The IRT project office has given two reasons for this decision. First, the areas served by Phase 1 represent the largest part of the city that is not served by the Metrorail system. By extending BRT service to these areas, MyCiTi was making public transport available to people whose transport options were limited to private cars. Second, the city cited the need to establish a more lucrative route in order to eventually generate the necessary funds to bring service to areas that would generate less revenue. (21)

Thus, the routes planned as Phase 1 of the MyCiTi system were justified by both coverage (bringing service to areas with few transport alternatives) and anticipated patronage (the need to establish financial viability).

The MyCiTi webpage describes the motivation for the BRT system in terms of the spatial layout of the city and lists three spatial characteristics that drive the need for an integrated transport system. First, low-density development results in greater distances between residential and employment centres. Second, the Apartheid planning policies have resulted in large populations of low-income people at the edges of the city. Third, the geography of the city centre is constrained by mountains and oceans, making it impossible to relieve congestion by constructing additional road capacity. (22)

While the goal of congestion relief suggests that planning was driven by patronage goals, the emphasis on service to low-density areas and isolated townships suggests that implementation of the entire system will strike a balance between patronage and coverage. Although the phases of the system that are already being implemented will represent only minimal progress towards the city's coverage goal, Phase 2 will be a much more significant step.

Unfortunately, the timing of Phase 2 implementation depends upon the financial success of Phase 1. The City's transport planners need to choose between improving financial performance by reducing the coverage-justified service in Phase 1, or delaying service to the Phase 2 area. If Cape Town can sustainably fund the entire IRT system as currently envisioned, it could be an effective means of progressing towards the city's socio-economic development goals.

6.3. GAUTRAIN

The Gautrain system is a rapid rail transport system complemented by several feeder bus routes. There are several key differences between the Gautrain rapid rail project and the bus rapid transport projects that are being implemented in Johannesburg and Cape Town. The most obvious differences are the project's mode (rail) and scope (provincial). On a more basic level, Gautrain has a very different set of objectives than either the Rea Vaya or the MyCiTi systems. In fact, the concept for Gautrain did not originate in a department of transport, but in the Gauteng Department of Economic and Financial Affairs. In the earliest stages of project planning, it was emphasized that the project would be "first and foremost an economic development initiative and then a transport initiative." (23)

The project's initial conception predates the Rea Vaya and MyCiTi projects by several years. As early as 1997, it was identified as one of four economic development projects that the Gauteng province envisioned for the purpose of positioning Gauteng as a globally competitive 'smart province.' This initial wish list grew to include ten mega-projects that became the Gauteng Spatial Development Initiative (SDI) programme in 1998. Over the next two years, ownership of the project shifted from the provincial Department of Economic and Financial Affairs to the national Department of Trade and Industry, and then back to the province. (23)

In 2000, Gauteng's SDI programme was re-named the Strategic Economic Infrastructure Investment Programme (SEIIP), and was subsequently rebranded as the Blue IQ initiative. Blue IQ was officially launched in March 2001 as a ring-fenced unit with a separate budget and financial vote, with political accountability remaining with the MEC for Financial and Economic Affairs. (21) Blue IQ was incorporated as Blue IQ Investment Holdings in 2003, and is wholly owned by the Gauteng Provincial Government. (24)

Gautrain's Environmental Impact Assessment was approved by the provincial Department of Agriculture, Conservation, Environment, and Land Affairs in 2004, and a tender for the construction and operation of Gautrain was awarded to the Bombela consortium in 2005. Blue IQ handed the Gautrain project over to the Gauteng Department of Transport (DOT) in 2005. (22) Construction on the project began the following year.

Upon completion, Gautrain will include three rail lines with services between ten stations. Eight of these ten stations will be served by Gautrain feeder and distribution bus routes. Phase 1 of the project, which includes the airport line and the east-west commuter line, has already been completed. A north-south commuter line is under construction as Phase 2 of the project, and is currently scheduled for completion by the end of 2011.

The beneficiaries of the Gautrain project will be tourists and commuters who currently rely on private vehicles. Gautrain is unlikely to represent a significant step towards improving the mobility of the millions of transit captives who live in Gauteng; however, in some respects this cannot be viewed as a failure of the project itself, since service to transit captives was never its objective.

Since the provincial Department of Transport was not directly involved in the earliest stages of project planning, it is not surprising that the project does not seek to deliver the non-economic benefits of public transport. However, the project has become the largest single activity of the department, representing just over half of the DOT's budget for the five-year period from 2009 to 2014. (25) Since the Gautrain is purely a patronage-based project, this creates an imbalance between coverage and patronage.

7. CONCLUSION

Public transport can be a powerful tool to address social, economic, and environmental concerns, and government agencies in various parts of the world have recognized its diverse

benefits. In South Africa specifically, all three spheres of government seem to display broad agreement on the objectives of public transport, and have placed a particular emphasis on the social benefits that public transport can provide.

In general, projects originating within local departments of transport strike an appropriate balance between competing objectives. Imbalances have resulted from outside forces such as funding constraints or major projects that are conceived by separate departments. In spite of these shortcomings, the outlook for public transport in South Africa is positive. It would appear that the best-conceived projects, in terms of the potential for social impact, are those that originate at the local level and are supported by financial and technical resources from the provincial and national governments. As local cities and municipalities continue to take on the responsibilities delegated to them by the 2009 National Land Transport Act, more cities can be expected to replicate the most successful elements of the projects currently being implemented.

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APPENDIX A: SURVEY OF MISSION AND VISION STATEMENTS

The following statements were analyzed to determine common objectives of government transport agencies.

METROPOLITAN TRANSPORTATION AUTHORITY (NEW YORK CITY)

The Metropolitan Transportation Authority (MTA) provides transport services within New York City and the surrounding area. The MTA has adopted the following mission statement:

> *The MTA preserves and enhances the quality of life and economic health of the region we serve through the cost-effective provision of safe, on-time, reliable and clean transportation services. (26)*

TRANSLINK (VANCOUVER, BRITISH COLUMBIA, CANADA)

TransLink is the local agency responsible for planning, financing, and managing all public transport in the greater Vancouver area, with shared responsibility for regional roads and bridges. In 2003, TransLink consulted with its employees, customers, and stakeholders in its development of the following mission statement:

> *We plan, finance, implement, and champion an integrated transportation system that moves people and goods safely and efficiently, supporting Greater Vancouver's regional growth strategy, air quality objectives, and economic development. (27)*

TRANSPORT FOR LONDON

Transport for London is the government agency responsible for all transport services in the greater London area and is tasked with implementing the Mayor's Transport Strategy, which is based on the following vision:

> *London's transport system should excel among those of global cities, providing access to opportunities for all its people and enterprises, achieving the highest environmental standards and leading the world in its approach to tackling urban transport challenges of the 21st century. (28)*

UNITED STATES FEDERAL TRANSIT ADMINISTRATION

The Federal Transit Administration provides technical and financial assistance to state and local governments for public transport projects and currently operates under the authority of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005. With regards to public transport, the act describes its purpose as follows:

It is in the interest of the United States, including its economic interest, to foster the development and revitalization of public transportation systems that–

(1) maximize the safe, secure, and efficient mobility of individuals;

(2) minimize environmental impacts; and

(3) minimize transportation-related fuel consumption and reliance on foreign oil. (29)

TRANSPORT CANADA

Transport Canada is the department within the Canadian government responsible for transportation regulation, policies and services on a national level. Funding for public transport projects is managed through Transport Canada's Surface Infrastructure Programs Transit Group. The Surface Infrastructure Programs Transit Group describes its purpose as follows:

Safe, sustainable and efficient public transit systems are essential to Canada's economy, environment and quality of life. While urban transit infrastructure is a shared municipal and provincial/territorial responsibility, the Government of Canada recognizes that making urban transportation more sustainable and efficient is a significant challenge that requires the cooperation of all levels of government. As such, the federal government makes considerable investments in urban transit across Canada, through a number of existing cost-sharing infrastructure programs. (30)

UNITED KINGDOM DEPARTMENT FOR TRANSPORT

The Department for Transport in the United Kingdom provides capital funds for local public transport projects through its newly-established Local Sustainable Transport Fund. In the White Paper released with the launch of the Local Sustainable Transport Fund, the Department for Transport identified the fund's vision as follows:

Our vision is for a transport system that is an engine for economic growth, but one that is also greener and safer and improves quality of life in our communities. (31)

Table A-1: Goals referenced in statements of mission, vision, or purpose by transport agencies.

	National Agencies			Local Agencies		
	USA	Canada	UK	New York	Vancouver	London
Economic						
Economic Growth	x	x	x	x	x	x
Efficiency	x	x			x	
Cost-effectiveness				x		
Reliability				x		
Social						
Safety	x	x	x	x	x	
Quality of Life		x	x	x		
Cleanliness				x		
Equity						x
Environmental						
Environmentalism	x	x	x			x
Reduced Fuel Consumption	x					
Reduced Emissions					x	
Multipurpose						
Sustainability		x				

APPENDIX B: SOUTH AFRICAN TRANSPORT MISSION STATEMENTS

NATIONAL

NDOT MISSION STATEMENT

Lead the development of integrated efficient transport systems by creating a framework of sustainable policies, regulations and implementable models to support government strategies for economic, social, and international development. (32)

PROVINCIAL

GAUTENG MISSION STATEMENT

To provide an environmentally sustainable road infrastructure and integrated transport systems and services that are reliable, accessible, safe, and affordable and which promote socio-economic development in Gauteng. (25)

WESTERN CAPE VISION STATEMENT

An equitable, sustainable, economically efficient and safe integrated multimodal transport system that allows citizens to access opportunities in a dignified manner, in support of the provincial goal of creating an open opportunity society for all in the Western Cape. (33)

KWAZULU-NATAL MISSION STATEMENT

We will provide the public with a safe, integrated, regulated, affordable and accessible transportation system, and ensure that, in delivering our mandate, we meet the developmental needs of our province, and we will promote transparent and accountable government, plan in accordance with the needs of our customers, and ensure effective, efficient and transparent delivery of services through co-operative governance and the appropriate involvement of the public through regular and accurate reporting. (32)

LOCAL

JOHANNESBURG VISION STATEMENT

A safe and efficient transportation system, with a public transport focus, that will support a world class city; connecting businesses, people and places in a sustainable and cost effective manner and through this, improve the standard of living and quality of life of all the cities inhabitants and the overall competitiveness and growth of the city's economy. (18)

CAPE TOWN VISION STATEMENT

To provide a world-class sustainable transport system that moves all its people and goods effectively, efficiently, safely, and affordably. (34)

DURBAN MISSION STATEMENT

To provide and manage a world-class transport system with a public transport focus, providing high levels of mobility and accessibility for the movement of people and goods in a safe, sustainable, and affordable manner. (32)

Table B-1: Comparison of foreign and domestic transport objectives by sphere of government.

	Comparison Agencies		South African		
	National	Local	NDOT	Provincial	Local
Economic					
Economic Growth	3	3	x	1	1
Efficiency	2	1	x	2	3
Cost-effectiveness		1			1
Reliability		1		1	
Social					
Safety	3	2		3	3
Quality of Life	2	1			1
Cleanliness		1			
Equity		1		1	2
Accessibility				3	1
Affordability				2	2
Social Development			x	2	
Environmental					
Environmentalism	3	1		1	
Reduced Fuel Consumption	1				
Reduced Emissions		1			
Multipurpose					
Sustainability	1		x	1	1
Accountability				1	

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