Research Paper

Economic Development Position Paper On Port Expansion

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There has been much debate around the planned expansion of Durban’s port, most notably in terms of the development of a dig-out port. Some of this discourse has been driven without a clear understanding of the role of the port within the greater Durban economy, and its significance to the people of this city. This paper seeks to add to this discourse by taking a perspective of what serves the interest of the citizens of the city and their future. It also seeks to contribute at a strategic level, to the city’s planning for port expansions.

1. Introduction

Part of the job of being involved in the professional arena of economic development in South Africa includes taking cognisance of the array of despondent faces that gather daily at robots, taxi ranks and along the side of the road. These are the sometimes depressed and sometimes enthusiastic job seekers who wake each day to the possibility of further rejection. The urban streets are also lined with hawkers whose ongoing goals are defined each morning by the task of daily survival, and little more. In the townships and densely settled peri-urban fringes of South Africa, men, woman and children silently go about their lives in search of the bare necessities - the struggle for water, food, sanitation, education, and money to fund a trip into town to look for work. Their struggles are far removed from the relative luxury of union membership and the cry for higher wages which has dominated national consciousness of late. The real challenge for development economics as a set of actions (and not mere idle study or academic critique) is the inclusion of all South Africans into the real economy.

2. Durban at a Crossroads

When one compares Durban with the six other metros in the country, a distinct picture emerges. Across a number of indicators, the rate of poverty and unemployment compares only to the Nelson Mandela Bay Metro, with the key difference being that the population of eThekwini is significantly larger than that of Nelson Mandela Bay, and hence the extent of the challenge is far greater. In summary, eThekwini has the highest number of people living in poverty, the highest number of people on social grant ands the lowest number of employed people (only 22% of the total population is employed). The city also has the lowest per capita income, the second lowest consumption expenditure per household, very high youth dependency and a slow rate of reducing youth dependency, as well as one of the highest rates of migration of skilled professionals. There is a high level of dependency and income levels are low, resulting in low levels of disposable income to spend on consumption goods.

There is also a disproportionately high level of expenditure on property (rates and rent) and travel, further eroding disposable income. Of particular concern is that eThekwini, while being home to the continent’s leading port, ranks only fourth in terms of net exports. Furthermore, eThekwini’s mediocre economic performance, combined with the aggressive growth strategies of the Tshwane metro has meant that Tshwane has replaced
eThekwini as the country’s third largest economy, resulting in eThekwini slipping into fourth place. It is projected that Ekurhuleni may also pass eThekwini by 2016, relegating the City to the number 5 spot.

According to census data eThekwini has performed relatively better than other metros in delivering basic service and housing, as evidenced by the fact that, while KZN has the greatest number of people living in poverty, it also has the lowest number of service delivery protests. Yet the overall economic performance of the city is of great concern, and unless urgent and ambitious programmes are put in place, the resulting social burden will continue to increase and ultimately undermine the financial viability of the Municipality.

Durban is thus at a crossroads and unless it pursues a path that seeks to significantly increase job creation, its long-term future will steer it far from its marketing slogan as ‘the warmest place to be’, or its aim of being ‘Africa’s most livable city’ by 2030. The city’s long term finances may also be questioned on the basis that the level at which property rates are levied must take into consideration the ability of the population to pay.

According to the National Treasury, Durban’s rates charges in relation to the income levels of the population is currently the highest among South Africa’s Metros. The real challenge inherent in the above facts is to grow rates through investment and increase the number of employed people that are able to pay for rates and services. Furthermore, in order to meet the targets set by the National Development Plan, the local economy must double its current rate of job creation. To address the challenge of poverty, unemployment and inequality, formal job creation must be catalysed.

Given the current position outlined above, the future dilemma for the Municipality will rest on the trade-off between providing social services to the poor and the pressure to increase taxes on a relatively small rates base. The deciding factor in eThekwini’s success of failure as a metro will be its ability to increase the rate of inclusion of the unemployed into the economy through transformation, but more importantly, through growing the broader economy.

At the heart of the Durban economy is the port, which, until recently, was Africa’s busiest and largest container port. Determining an accurate estimate of the significance of the port to the local and provincial economy is a difficult task. While the port and related businesses employ about 50000 people, there are numerous firms that depend on the port in one way or another. Manufacturing firms such as Toyota South Africa have chosen Durban as their location due to the presence of the port, as export and import functions are a large part of their business. There are many large as well as
smaller manufacturers which support thousands of local jobs. There are also freight and logistics companies which are involved in the business of sea trade and transport as well as land freight. This includes many maritime firms, and the increasing size of the maritime sector is a clear indication of the growing significance of the port. Component assemblers, retailers and FMCG (fast moving consumer goods) industries all have linkages to the port. To a lesser extent, the tourism sector also has linkages with the port in terms of the growing cruise tourism industry.

3. Employment

Jones (1997) reported that at 1995 levels of port activity, the direct port-ancillary sector accounted for 25000 jobs as well as a further 8000 jobs in establishments which support the sector. At that point it was reported that, using Braby’s data, an estimated 850 firms were directly supporting the port. These ranged from cargo terminal operators, yacht brokers and sailing schools to clearing and forwarding cartage contractors, transportation companies, freight services and warehousing establishments, ship liners and agencies, and cargo agents. The majority of these firms are located in areas that are in close proximity to the port.

In 2006 it was reported that Transnet employed 3300 people directly at the port, estimated to have increased to 4000 in 2011. In 2006, it was estimated that 40000 people were directly employed in port-ancillary activities or jobs supporting these in port-dependant firms (e.g. contract staff). Given the rate of expansion of the transport sector, estimates suggest that this has risen to about 53 000 jobs in 2011.

What is more difficult to determine is the number of jobs in the manufacturing, agriculture and trade sectors which are located within the eThekwini Municipal Area due to the relative advantages of the port. Making various assumptions, we may conservatively estimate that another 50000 jobs in such related sectors owe their presence in the city to the existence of the port. This would bring the total to 53000 jobs directly related to the port and at least another 50000 induced jobs, suggesting a total of 103000 jobs, or about 10% of all employment in the EMA (eThekwini Metropolitan Area).

While such figures offer cold comfort to the indigent and unemployed, the employment of 103000 breadwinners implies that port activities are responsible for about 378000 people in the city having money for food and accommodation, and at least 150000 children who will go to school on a full stomach as a result. The eThekwini Social Accounting Matrix can be used to model a more accurate estimate of employment across the local economy.

Of course, the impact of the port on employment is not limited exclusively to Durban, but is also significant in terms of the provincial and national economy. The port also serves the SADC region and is hence a major influence on the broader economy of this region. Work is currently being done to get a better understanding of this area.
4. Cargo and Manufacturing

Durban’s cargo consists mainly of container and unitised bulk (vehicles) which require large-scale maneuvering and sophisticated cargo handling facilities and storage. The main imports for the greater Durban area during the period 1998-2004 consisted of petroleum, machinery and components, other chemicals and processed food. Durban’s port is also the main import centre for wheat and rice as well as fertilisers and oil cake (animal feed), a number of inputs into agriculture, meat and poultry and paper-related products. Main exports include iron and steel products, chemicals, vehicles and primary products.

A closer look at cargo reveals the following key points:

**General Cargo:** Steel, timber, pipes, granite, fruit and general break-bulk goods. The annual tonnage of general cargo routed through Durban declined between 2005/2006 and 2010/2011. There is also evidence that there has been a general migration of this type of cargo from break-bulk loading to loading-in containers. The same can be said for citrus fruits, where the number of ship calls has decreased from 230 in 2003/2004 to 120 in 2010/2011. The data for Reefer container volume indicates that Reefer ships have increased their container-carrying capacity from 2m tons in 2003/2004 to 5.4m tons in 2010/2011.

**Bulk Cargo:** Maize, wheat, sugar, fertilisers, grains, liquids etc. Most of the bulk cargo loaded out of Durban is routed through the Maydon Wharf terminals, which has led to the development of multiple new bulk loading facilities in the Maydon Wharf and Island View areas. Dry bulk cargo accounts for about 9.5 million tonnes (10.5 million in 2011) while liquid bulk amounts to 28.5 million tonnes per annum. Break-bulk amounted to 2.75 million tonnes per annum in 2012.

**Container:** about 95% of containers handled through Durban are routed through the Durban Container Terminal 1 (DCT1) and DCT2 (formerly Pier 1). There are, on occasion, container vessels that are cleared at the Point’s COMBI sheds. The number of cellular container vessels that call at the Durban port has risen from around 600 vessels in 2003/2004 to 1700 vessels during the 2008/2009 peak. Cargo handled in containers passing through Durban increased from 13.4m tons in 2003/2004 to 51m tons in 2010/2011, a 280% increase in tonnage over this period. The Port handled 33.6 million tons for export in 2012 and 11.2 million tons of import (excluding containers). However, it should be noted that petroleum accounts for 71% of imports and thus skews this picture significantly.

Most major national and chain companies that focus on fast moving consumer goods, have created substantial primary, secondary or staging dispatch facilities in Durban, with linkages to packaging, transportation and related and supporting industries.
The port also has extensive linkages into the manufacturing sector, which is a major employer in eThekwini. Urban Econ and UKZN (2008) reported that the linkage between the city’s manufacturing businesses and the port is growing rather than declining. In addition, most major national and chain companies that focus on fast moving consumer goods have created substantial primary, secondary or staging dispatch facilities in Durban, with linkages to packaging, transportation and related and supporting industries.

Durban has a relatively diversified manufacturing base. While this was not always the case, (in the past there was a high concentration of employment in clothing and textiles), there has been very significant diversification in many manufacturing sub-sector activities. The character of production and the products produced in these enterprises have some significant points of integration with the character of goods handled at the port. The most obvious point of connection is that Durban has a major share of South Africa’s petrochemical and chemical-industrial activities. These firms both generate exports and drive growth in imports. It is noteworthy that, in the past decade, this sector has been the leading driver of output growth in the city. But products handled in the port, whether they be import or export, are also connected with many other manufacturing sub-sectors (automotive, paper plants, food and beverages, etc).

One of the sectors that will benefit the greatest from the development of the new port is the automotive sector. Toyota’s planned ramping-up of production is premised on good production facilities which will be supported by specialised facilities at the new port in order to handle automotive exports. Many of Durban’s sub-sectors also have a close connection with the iron, steel and various alloy products that are traded through the port. The fact that Durban has the country’s second largest metal engineering cluster is no coincidence, and these businesses in turn supply the maritime sector, the chemical sector and the automotive sector, to name a few. In this regard, maintaining the diversity of port handling capabilities, where appropriate, is an important issue. For example, the handling of growing volumes of chemical-related products through liquid bulk facilities is important for Durban (although there are exceptions). A similar case can be made for some types of break-bulk cargos and neo-bulks. Other key economic nodes in KZN, such as Pietermaritzburg and Richards Bay-Empangeni, also have relatively strong ties with processes in the Durban port. Pietermaritzburg has a number of automotive-related firms and a large exporter in the form the Hulet Aluminum plant. Richards Bay and Empangeni also have significant economic activity in the manufacturing category.

5. Problem of capacity

Over 4500 commercial vessels call at the Port each year. There has been an increasing trend towards containerisation, with little growth in other areas of cargo volume. The problem of capacity is discussed within this context of the need for increased capacity for container handling. Containers are measured in terms of twenty foot equivalents (TEUs). However, most containers handled are about thirty to forty feet in length. Hence
TEUs as a unit of measurement should not be equated to number of containers. The current capacity of Durban’s port is approximately 2.9 million TEUs, with the possibility of achieving 4 million TEUs with adjustments and reconfiguration planned or currently being executed. In 2011 the port handled 2.7 million TEUs, a 7.3% rise from the 2.5 million TEUs handled in 2010. However, based on Transnet’s medium growth scenario of 8%, it is anticipated that demand will reach theoretical capacity by 2019. While Transnet has always articulated the need to provide capacity ahead of demand, in reality the demand for container handling tends to grow faster than anticipated and supply processes tend to take longer than anticipated, resulting in congestion and an increased waiting time for vessels, which consequently drives up costs.

Internationally, handy-sized and smaller panamax bulk vessels decreased by 5% in 2001 as a percentage of world fleet, while larger panamax vessels increased by 10%. Mega-vessel tonnage represents an increasing trend and now stands at almost 20% of world container traffic. While the Durban port entrance was increased in order to accommodate the larger size of vessels, the increasing vessel size also means increasing draught (at berths), impacting on shallow ports such as Durban which only allows a maximum clearance of 16m for loaded vessels in ideal conditions. However, in reality the threshold limitations become operational from 12.5 metres, which prevents about 15% of the world’s fleet from accessing the port when they are loaded. In addition, the bulk of orders for new ships are in the large vessel categories.

The larger vessels also allow for greater productivity as they improve the handling speed and volume of TEUs that may be handled at a port. While the current sea trade on the eastern seaboard has not warranted the use of the largest vessels being fully laden, ship owners do not purchase ships with a single route in mind. Hence the larger vessels are still used, and with the growing trade with Africa, the future requires port capabilities that can accommodate these vessels at their maximum capacity. Hence, the planned deepening of berths and channels are vital for the port’s future.

Durban currently handles about 70% of South Africa’s containers. Containers often represent higher value goods than non-containerised cargo and the containerisation of cargo is an increasing trend. Even with the planned deepening of berths and the re-engineering of the container terminals, it is anticipated that the existing port will run out of capacity by 2019. The failure to address the demand proactively may create a choking point in the economy which will ultimately drive up the cost of goods.

**Vehicles:** The number of vehicles handled has been increasing steadily since the 2009 economic recession. In 2012, 456 703 vehicles were handled, making Durban the most important port for vehicle handling.

**Import and Export:** In total, 33.6 million tonnes per annum were imported in 2012 while 11.3 million tonnes per annum was imported. However, petroleum accounted for 71% of imports and thus skews the picture.
6. Planned Expansions

In 2007, Graham Muller and Associates projected that container volumes in a low growth scenario would reach 3.36 million TEUs in 2010. The actual volume in 2010 was substantially lower, at 2.5 million TEUs, owing largely to the slowdown in the global and national economies. This served to ease pressure on port facilities that are fast running out of capacity. Container volumes grew from 1.3m in 2000 to 2.6m in 2008 before dropping to 2.4m in 2009 and increasing to 2.5m in 2010. Generally, the trend has indicated that container volumes appear to grow at almost three times the rate of GDP growth. Transnet’s estimates in the 2050 Shared Vision, forecasts that, at a high growth scenario of 10%, demand would reach 20 million TEUs before 2040, while in the medium growth scenario (8%) it would be 13 million TEUs by 2040 and at a low growth of 5%, approximately 12 million TEUs by 2040.

DCT 1 is the biggest and fastest growing container terminal in Africa and the second largest in the Southern Hemisphere, behind Brazil’s Port of Santos. This terminal experienced a growth of 156% over the last 10 years, expanding from approximately 1 million TEUs to 2.56 million TEUs. The National Ports Authority (TNPA) is planning to spend R21.3 billion on expanding and upgrading the infrastructure of the Durban harbour over the next seven years. The investment programme, which involves a number of separate projects, is designed to create the infrastructure necessary to facilitate an increase in the overall capacity of the port, particularly the capacity of DCT1. Once the DCT1 expansions and re-engineering, as well as that of Pier 1 (DCT2), are completed, the yearly container handling capacity of the harbour will rise from approximately 2.9 million TEUs to between 3.6 and 4m by 2017.

With the work planned for Maydon Warf Container Terminal in 2018, as well as other improvements and the move to larger vessels, port capacity could reach a maximum of 5 million TEUs. The bulk of the capital would be directed towards reconstructing, upgrading and expanding the existing port infrastructure in order to cater for the handling of vessels with a capacity of 9,500 TEUs and larger. The largest vessel which the port currently accommodates (The MSC SOLA) carries 11,660 TEUs, and can enter through the enlarged and deepened entrance, but not if it is fully laden, owing to depth constraints in the channels and the berths. TNPA reports that work is progressing on a critical R3.1 billion berth-deepening and reconstruction project on the facility’s North Quay, where the intention is to deepen the approaches at berths 205, 204 and 203 from 12.8m to 16.5m. The channels would also be widened to 19m in order to accommodate larger ships. The project, which will involve a large-scale dredging programme, as well as a material overhaul of the berths, is likely to be completed in 2017. The figures quoted are indicative for TEUs and exclude bulk, non-container goods.

Beyond 2020, the development of additional capacity would need to occur through the development of new container terminals. Transnet is investing R300 billion in its Market Demand Strategy, although this does not include the R100 billion (total cost of all phases)
needed for the new port to be operational by about 2020. Through Transnet’s freight logistics group’s Market Demand Strategy, rail, port and pipeline infrastructure will be expanded over a seven year period. Development of the dig-out port would probably be tendered out as a Build, Operate and Transfer (BOT) contract that will take between 20 and 30 years to complete. The cost of the first phase of the new port is estimated at approximately R50 billion. The project’s scope involves the building of five automotive berths, four liquid bulk berths and sixteen container berths that would be constructed in four phases and have a total ultimate capacity of 10 million TEUS, with the last phase completed by 2040.

The development of this new dig-out port at the old Durban International Airport (DIA) site is the most feasible option and will add approximately 7.2 million TEUs of capacity in its first phase (however, this may be broken into sub-phases). The development process for the EIA (Environmental Impact Assessment) and fauna relocation and environmental mitigation measures are anticipated to take seven years to complete. Transnet are currently undertaking an extensive programme of cataloguing the biodiversity to ensure that it is protected. The design process has also ensured that the mangroves are maintained. Environmental costs loaded onto an impact model for the Bayhead dig-out, render that option unfeasible in the short to medium term. Bayhead operates under the assumption of a 20 year lag period for EIA and habitat recreation, while yielding about 4 to 6 million TEUs in its first phase. The Bayhead expansion is expected to only expand into land owned by Transnet. In all likelihood, the new port will be developed and managed by the private sector. The potential competition between this new efficient, state-of-the-art port, and the older, incrementally developed Durban Port, run by an SOE, is also very real. Areas of specialisation may be one way of managing this competition.

The development of the new port will also allow for improved port efficiency and hence the ability to achieve these volumes of container handling. Depending on economic growth and long-term growth in container traffic, the option of the Bayhead dig-out may become the long-term option beyond 2040. With the development of Bayhead, the maximum theoretical port capacity, based on the optimum capacity layout, and after the realisation of all phases of the development, would be about 18 million TEUs. However, in reality, environmental constraints and supporting infrastructure would greatly limit the ability to achieve such capacity.

Investment will also be made in new technology in terms of the operating environment and human capital over the seven year period. The aim of this expenditure is to improve efficiency in port operations. Implementation of specific initiatives to grow volumes and use capacity
as it comes on stream, while improving operational efficiencies and growing personnel, is an important aspect of the overall Market Demand Strategy (MDS). The imports and exports which pass through Durban’s harbour contributed about 16% of South Africa’s GDP in 2006. International good practices suggest that high growth in freight volumes are most efficiently dealt with through the merging of ports into streamlined hub ports, where larger vessels can dock and move cargo through efficient transport corridors. This reflects the current approach taken to the problem of capacity in South Africa. Durban currently, and in the future, will remain the hub port, with Ngqura and other ports serving as trans-shipment ports. While Durban is the country’s premier container terminal, expansions are also planned at the Ngqura Container Terminal, which, as discussed, has been earmarked as a trans-shipment hub and will be expanded from 800,000 TEUs to 2 million TEUs by 2018/19 in order to meet anticipated volumes. Ports such as Ngqura have container capacity available to meet demand that cannot be met by Durban. However, carrying lines (shipping companies) accord preference to Durban and are willing to forego time frame inconveniences and inefficiencies in order to dock at Durban.

This preferential treatment is not indefinite but indicates the support that port users provide to the Port of Durban. The Durban and KZN economy serves as an economic destination in itself and is hence preferred over Ngqura and other ports.

7. Costs of the Loss of Advantage

The expansion of port facilities in Durban is the most cost effective and economically competitive decision for the economy. Conningarth Economists (2006) estimated that the cost to the economy of switching from Durban as the premier port to Richards Bay, would amount to almost R9 billion per annum. In addition, the cost of shifting from Durban to any of the other ports along the coastline would have substantial implications in terms of job losses as businesses in KZN and Gauteng would become less competitive.

Not only is Durban the most well connected port of the SADC ports in global terms, it is the most well connected to the national economy. This is due not only to its proximity and connectivity to Gauteng, but also to the substantial local economy within the Durban–Pietermaritzburg region and KZN (the second largest contributor to GDP among the provinces).

Statements around Maputo being a competitor to Durban are largely unfounded. Maputo cannot handle large vessels, nor does it have substantial container facilities. Maputo also supports a much smaller economy and its levels of internal and external connectivity are significantly lower than Durban. Hence it is not a competitor for Durban. Ngqura is a port that could pose competition due to its modern facilities, however it currently serves as a trans-shipment hub and is significantly more costly in terms of servicing the Gauteng region. The immediate regional economy that it services is also significantly smaller. Hence, the cost of the economic inefficiencies as a result of switching container handling to another port would be substantial and ultimately be borne by the South African consumer and businesses.
8. Competitiveness (The Cost of Doing Business)

While South Africa’s industrialisation started as early as 1915, it was only after 1945 that the economy diversified into a number of manufacturing sub-sectors. Between 1945 and 1970 national growth and employment were driven by manufacturing. It was during this period that the Durban economy grew rapidly and manufacturing became the number one employer within the Durban economy. Furthermore, the Harvard papers produced in 2006 illustrated the importance of the manufacturing sector in being able to absorb a large semi-skilled work force and presented the best opportunity to absorb the unemployed into the work force. However, in the last 10 years, manufacturing has become less competitive due to a number of factors as well as the rise of other manufacturing destinations including China, Malaysia, Korea, Brazil and Turkey. This has lead to a lagging manufacturing sector which has been consistently underachieving in the recent past. One of the key factors affecting competitiveness of export manufacturing is the high costs of logistics.

Logistics costs have often been highlighted as an important factor impacting negatively on the competitiveness of South African business. According to the 8th State of Logistics report, logistics costs accounted for 12.7% of GDP in 2010, down from 13.5% in 2009. Transnet’s MDS aims to lower this by a further 0.5% of GDP. The report also noted the high externality costs experienced nationally. The national costs for road accidents were estimated at R13.8 billion per annum (while CO² emissions would have added another R6.5 billion to the transport bill if these emissions were taxed). The changing nature of global supply chains in favour of flexible operations and time-sensitive movement, as well as the challenges associated with risk (from disasters and political uncertainties), has become an important consideration for supply chains. While it is difficult to compare logistics costs across countries due to the different methodologies used, comparisons with countries using similar methodologies points out that the logistics costs to the South African economy is significantly higher than in most other middle income countries. A comparison with Brazil highlights the fact that even the costs associated with rail are significantly higher in South Africa, which is an important factor in the debate on road versus rail freight.

It has become evident that freight volumes at Durban are growing faster than the local and national GDP. In fact, freight growth has consistently been almost twice GDP growth, which is largely a global phenomenon caused by the specialisation of economies. Considering South Africa’s high cost structure and its vulnerability to transport costs, this trend poses a threat to the sustainability of current transport systems. In particular, corridor transport saw the largest growth in terms of tonnes, increasing by 7.4%. The greatest growth in terms of tonne-km was observed for metropolitan road freight, which increased by 6.1%. Without intervention, the country may face a crisis in freight volume and road capacity which would be similar to the recent energy sector crises, with demand volume outstripping supply. Such a scenario would result in ripple effects across the economy, accompanied by job losses. Durban’s port presents the lowest inland logistics costs and is thus important in terms of the competitiveness of the national economy.
South Africa’s competitiveness in international markets has been strongly dependent on the costs and efficiency of its maritime supply chains for the export of commodities and raw materials. The supply chain is made up of multiple modal links which are managed to achieve ‘just-in-time’ delivery as an essential requirement of their cost efficiency. The movement of cargo in the Durban port is one of the most important links in the South African maritime supply chain. Barriers or challenges to the development of the port and the consequent disruption in the functioning of the chains will have an impact on both the local and national economies. In South Africa there is a tendency to associate supply chains with the distribution and acquisition of goods. Successful competition in global markets requires production to be integrated into supply chains that begin with the acquisition of raw or input materials and terminate with the delivery of products to consumers. The manufacturing firms that compete successfully globally are efficiently integrated into supply chains in which production is only one activity in the chain. The most successful integration is achieved when all the link providers in the chain contribute to the single purpose of delivering the product to the place where it is needed, at the lowest cost, rather than serving their own ends as profit-seeking third parties.

The integration model of South Africa’s maritime supply chain has not yet developed to the extent of those of many of the country’s competitors in global markets. However, the rise in exports by the local automotive industries in recent years is necessitating the efficient management of supply chains stretching through SA’s ports, from component manufacturers in several countries to buyers of vehicles in other countries. It is important to emphasise that the routing of containerised cargo in supply chains is usually determined by liner companies in accordance with the economics of their logistics and not by the geographic hinterlands of the ports. Liner companies generally determine the ports that they will use according to their business interests, and some container terminals built by port authorities around the world have failed to attract traffic. Competition in the liner trade requires these companies to be constantly conscious of the advantages to their business of the rapid and timely delivery of cargo. Thus, ports will often be chosen in relation to saving voyage time at the cost of longer overland transport if the cargo can be delivered more quickly. Shorter voyages enable savings in both the operating and capital costs of ships, and quick and reliable deliveries of cargo enable savings in the costs of inventory holdings by cargo owners.
The trend in global trade is to pit supply chains against each other, with failure by countries to facilitate comparative international supply efficiency for their exporting industries impacting detrimentally on their economic growth. Ports are usually the most important strategic link in these international supply chains and in the past few decades numerous stakeholders such as district councils, business and individuals have invested huge amounts in them. These partnerships have been formed in order to ensure seamless interfaces between shipping links, port terminals and overland transport.

The port of Durban is well located in relation to the economic activity in the SADC region and has infrastructure linkages with much of South Africa’s adjacent countries to the north and, in accordance with global trends, should be developed as the major link in efficient international supply chains of containerised cargo serving South Africa. Therefore it has become necessary to have substantial investment, not only in the port, but in country-wide rail and road links that enable cargo to move seamlessly and rapidly through the port terminal.

It is estimated that 65% of current South African imports and exports of general cargo move through the Port of Durban, most of it in door-to-door supply chains managed by logistics providers – mainly liner companies. The port has never functioned optimally as the key link in the supply chain needed to promote growth due to the frequent delays to shipping that have persisted for many years. These delays have several causes, including the unscheduled bunching of ship arrivals. The effect has been to preclude the tight, reliable and punctual scheduling necessary for international supply chain efficiency.

The automotive industry is one sector in which international supply chains are required to deliver components just-in-time. Many of these are structured to link vehicle manufacturers in Gauteng to other ports by rail, although Durban is better located for this purpose. Durban is potentially the port through which all South Africa’s major maritime supply chains of containerised products between the interior and suppliers or customers overseas should be linked. Supply chains that have diverted through other ports will revert to Durban if seamless, punctual and reliable cargo flows can be assured. Unlike their European counterparts, South African customers are yet to benefit from both the economies of scale achieved by the integration and from the enhanced value of the place-and-time utility of the goods carried, attributable to the reliability and punctuality of the transport process. These qualities depend, in the first instance, on the ability of port terminals to ensure that cargo moves between ship and land and through the port in a smooth manner.

This seamless movement of containers through the port is indispensable to efficient supply chain operation. The problem at Durban Container Terminal is that it takes a long time to remove containers from the quayside, with the lower rate of throughput resulting in congestion. By increasing the number of cranes, as well as the rate of container removal by employing cranes and trains departing in quick succession, the capacity of 10 container berths should be adequate to accommodate at least twice the throughput.
The interception of exports from elsewhere in South Africa by local industries for final processing provides additional scope for supply chain structuring that can establish local industries as global competitors. The key characteristic of supply chains needed for that purpose is the reliable delivery of the processed goods at the final destination at pre-arranged times. Apart from delays in the berthing of ships and the handling of containers at the container terminal, slow customs procedures, road traffic congestion, inadequacies in the supply of rail services and a lack of reliable electronic data transfer facilities, as well as interruptions in power and water supplies, are all impediments to the efficient functioning of supply chains. Without such deficiencies, Durban and its environment would have the potential to rival the major processing regions of the world. Since these regions depend upon the proximity of container terminals as links in supply chains that vie for leadership in throughput efficiency, it would be in the interests of the local community to support a more efficient logistics and transport process.

10. Inland Transport, Carbon Efficiency and Quality of life

The transport sector currently accounts for 10.5% of South Africa’s national carbon footprint. The Eskom Integrated Demand Management Programme and the Industrial Energy Efficiency project are two key initiatives which will enable this to change. However, the transport sector also needs to play a key role in reducing its carbon footprint. The fundamental change that needs to occur is the switch of cargo from road to rail. Currently the cost structure of rail, as well as related handling efficiencies, has fueled the demand for road-based transport. While the impact of the rising sea level has been written about as a potential catastrophic eventuality for the development of a new port, even the highest projected scenario in terms of sea level rise modeling is not likely to pose challenges that infrastructure development cannot factor in and accommodate.

The real issue for climate change is the reduction of the carbon footprint and increasing the carbon efficiency of the port. There are many case studies in this respect. The port of Los Angles undertook an initiative to reduce its carbon footprint and build community relationships. This resulted in an overall reduction in its carbon footprint by about 70%.

Increasing the use of rail, creating better efficiencies in movements and processes, introducing energy efficiency in buildings and machinery, and looking at new generation ships that are more efficient are all steps towards this goal. Apart from the obvious issues around rail discussed here, some local examples of improved environmental efficiency in logistics includes the Green Logistics Hub project in Paarl. This is a sustainable logistics hub developed by Imperial Cargo, with a payback period for the power system installation of 6.5 years and an annual energy-usage saving of 44%. Thus, it is not
over-ambitious to target the total carbon footprint of the existing and proposed new port to be within the current carbon footprint of the existing port. The key challenge involves the fact that more than 75% of total freight is transported by road, with less than 25% going by rail. Major rail flows include export-coal, steel and containers, while road flows are mainly agriculture, including processed foods as well as containerised goods and goods disaggregated from containers. Piped products consist mainly of refined fuels and methane-rich gas.

Transnet estimate that freight volumes on the Durban-Gauteng corridor will grow from 762 mtpa (million tons per annum) in 2011 to 1927 mtpa in 2041. Road freight is estimated to grow over the same 30 year period at 2.7% per annum, which means that road freight will grow by 123% to approximately 1.2 billion tons by 2041. Over the same period the growth on rail is planned to be higher, at 3.5%, putting the overall growth at 220% and approximately 690 million tons per annum. Containerised goods represent a small percentage of that volume. This implies that, by 2041, rail will account for roughly 58% of freight. While this will be a substantial growth, it still results in more than double the current volume of freight being directed towards road. Transnet’s rail improvements will focus on Bayhead and the Kings Rest wagon terminals and the Race Course. This will be followed by the dig-out port (by 2020 terminal 1 will be completed; 2023 terminal 2; 2031 terminal 3 and 2036 terminal 4). Thereafter the Bayhead dig-out wagon terminal will be built. Durban-to-Gauteng rail capacity is to be ramped up from 18mtpa to 84mtpa. Expenditure on rail is estimated at R43bn. However, only R1.2bn is planned to be spent by 2019.

However, switching freight from road to rail is not simply an infrastructural issue. Many freight companies point to the operational inefficiencies in the availability of rail wagons and locomotives as key challenges to this switch. While large increases are often quoted for rail usage, these are coming off a small base. While there are about 10-11 block trains from the Durban Container Terminal to Gauteng daily, in the late 1970s and early 1980s it was approximately 30 block trains per day. This is despite today’s improved infrastructure. Cargo owners are in search of reliability, even more so than speed, and if cargo handling is done reliably, this in itself will be an incentive to shift towards rail. Problems arise when the deviation rate becomes too great due to inefficiencies in the system. This is as much an issue of the management of operations as it is about rolling stock and infrastructure.

The large reliance on road-based transport not only carries a huge carbon footprint, but an even greater cost in terms of the burden of road accidents which carry the immeasurable cost of the loss of human life,
as well as the high cost of medical care. On 5 July 2012, the *Mercury* newspaper reported that there were 7000 truck accidents in a single year. Placing the bulk of freight on road has created a huge friction between heavy freight vehicles and passenger transport. This also results in the cross-subsidisation of road infrastructure from light motor vehicles to heavy (which are largely responsible for the degeneration of roads). It also creates a cross-subsidisation from general ratepayers to freight, as rates are used to offset the huge cost to local roads by heavy vehicles. Road transport should only be the preferred mode over short distances in order to serve the local economy and for goods that are not suitable for rail, and not for long-haul transport. While SANRAL’s consolidation of freight and passenger transport onto a single route may make financial sense for its balance sheet, it is not however, to the economic or social benefit of the region. The ETA (eThekwini Transport Authority) is at the initial stages of undertaking a freight planning exercise which it is hoped will provide more innovative ways of dealing with road-based freight. This includes the proposed development of a dedicated freight route from the port to Camperdown. Beyond Camperdown, SANRAL is proposing the widening of the existing N3 to cater only for increased traffic, but not for the separation of heavy freight from passenger vehicles. We must also learn from the possible impacts of e-tolling in Gauteng which is anticipated to lead to the problem of spreading freight traffic from the national/major roads to various other smaller routes. Catering for this national traffic must be dealt with by the relevant spheres of government and their SOEs (State Owned Enterprises). The City should not accept solutions that compromise the quality of life of its citizens.
Some of the main roads that handle high volumes of freight around the port include Maydon Road, South Coast Road, Victoria Embankment, Shepstone Road and Point Road, as well as Edwin Swales, Bayhead Road and Langeberg Road. It is noted that most of the main freight roads operate above 60% of theoretical capacity during morning and afternoon peak hours, and at 80% in key times (7:15am-8:15am and 4:15pm-5:15pm) while 100% capacity is reached during afternoon peaks (up to 5:45pm), particularly when there are minor incidents.

The current model of a 75:25 road-rail split is central. Short-term interventions which include the uMhlatuzana Arterial are also key, as is the Kangela Road bridge and the need to enhance the capacity of the South Coast Corridor. Traffic-counts over a defined period revealed that the intersection of South Coast Road and Solomon Mahlangu Drive handled 68013 vehicle movements (on 24 May 2012), of which 14 401 were heavy vehicles. The intersection of South Coast Road and Bayhead handled 29 526 vehicle movements, of which 13 442 were heavy vehicles. It is clear that the back-of-port road infrastructure plans proposed by the ETA is critical to improving traffic flow and access in general.

Both the production and consumption of inland freight is concentrated in Gauteng, while the coal products from the Newcastle area and manufacturing activity in Durban-Pietermaritzburg are also significant. In order to achieve greater carbon efficiency and increase logistics efficiencies, it would be more desirable for a larger economic concentration to be centred around the greater Durban area. This would create economic and logistics efficiencies while increasing the carbon efficiency of the economy in general.

Most large ports around the world are supported by inland hubs that act as points where cargo is cleared, de-stuffed, re-configured and directed further into different distribution channels and networks. Cargo that is bound for the local economy may be treated differently from that which is bound for inland destinations that are further afield. There are efficiencies garnered from handling inland cargo by rail and maximising the distance over which rail is used. While the Strategic Infrastructure 2 plans generally point to an over-supply of inland hubs in Gauteng, there is a stark absence of such hubs in the greater Durban area, where freight volumes are highest.

The development of an inland hub or dry port at Cato Ridge has been an area of discussion for some time. The possible provision for such a facility is reflected on the Cato Ridge Local Area Plan. The recently mooted change in the Customs Act, which makes it a requirement to clear cargo at the port of entry, would lend support to the motivation for Cato Ridge, allowing for clearing in this area rather than at City Deep.
in Gauteng. Cato Ridge as a possible location for transit cargo to be worked on will also allow for growth of other logistics, as well as allowing clearing and forwarding companies to develop and grow. It could form a customs secure zone which then creates the possibility of becoming an attractive location for local export/import-dependant manufacturing firms. The potential for a Special Economic Zone (SEZ) along the N3 corridor would also become a distinct possibility, as all of the ingredients for a successful SEZ that would benefit the KZN region are present. While the initial proposal for an SEZ along the N3 in KZN was rejected, based on a lack of clarity on the details of the concept, this could change in the future if Cato Ridge becomes a dry port.

There are many employment opportunities that are directly associated with the operations of clearing, forwarding, re-packaging, etc, of containers. For cargo that is in-bound to the Durban economy, there is a tendency for firms to shift their operations closer to the port. Containers are cleared at DCT and then move to warehousing-type operations for clearing and forwarding agents. When the containers are de-stuffed, they are often shifted to another location for re-consolidation, as this allows for better use of transport space (more cargo can be packed onto trucks in that way and the benefits of capacity utilisation are enjoyed over a greater distance). The freight distribution and movement, both of inland-bound freight as well as freight that is locally bound, requires significantly greater attention.

Recently, there has been an increase in private sector investment in freight hubs. This should be welcomed, as it allows government to redirect spending to other supporting processes which are important enablers in the business supply chains. The design and operations of the past itself will be an important aspect in ensuring that the dig-out is a leading green port, globally.

A key factor illustrated here is that there is not necessarily a linear relationship between the development of port capacity and environmental impact. Depending on the choices that are made in the development of the port and the logistics system, it is possible for the enhanced capacity to occur within the carbon footprint of the current port. All too often, environmentalists are so busy fighting the detailed issues in development that they lose the opportunity to make a meaningful impact on global warming and quality of life.

11. Rail Plans

Transnet rail plans entail a R43 billion expenditure up to 2050. However, by 2019 only R1.2 billion is to be spent, mainly on rolling stock and other minor interventions. By 2025, the new Cato Ridge-to-Durban bypass rail line is to be developed. R42 billion (of which R23 billion is private-sector investment) is earmarked for Gauteng inland terminal development from 2013. It is estimated that R8.5 billion will be required (but is unbudgeted for) in order to improve rail yard facilities in Durban. These include Pier 1 and Pier 2, Bayhead yard and terminal, Kings Rest and Wentworth yard. These are all
steps in the right direction. However, in themselves they will not produce the desired operational efficiencies that logistics companies need in order to enable the switch. For this to happen, the overall management system must work well. The fact that these are not budgeted for also raises very serious questions.

12. Connectivity

To understand the significance of the Durban port requires an understanding of its connectivity and function. Durban rates as the port with the greatest connectivity in the SADC region and is also on par with ports such as Mumbai, Santos and Rio de Janeiro. Striving to build and maintain regional maritime connectivity should be a priority for South Africa. This has significant implications for the way local ports and even ports within neighbouring countries relate to one another. The competitiveness of the macro-level logistics system is greatly improved by higher levels of connectivity. Ports that are well connected into the global network offers supply chains greater accessibility to global markets as well as flexibility and reliability. According to the United Nations Liner Shipping Connectivity Index and the Georgia Institute of Technology, Durban and Mauritius outshine other ports in the SADC by a significant margin, with ports such as Maputo representing significant deviation costs. Hence, opinions that refer to Maputo as a competitor to Durban are seriously misplaced.

Ngqura, on the other hand, can accommodate the largest ships without any deviation costs, but the disadvantage is that it does not have terminal status. Ships have a reason to call at the Port of Durban as eThekwini is a destination for cargo in itself. Ngqura thus performs more of a trans-shipments role and ships would prefer calling on a single port. However, calling at Durban as the hub and then transferring trans-shipments traffic to other ports is a second option.

However it may be examined, the Durban proposition makes sense as the regional hub as there are solid reasons for ships to call at the Port of Durban – Durban is the largest economy on the coast while also being the most accessible to Gauteng. Durban’s economic future is in its own hands, and the success of Durban as a port depends more on the successful implementation of plans than on competition from other ports. However, should it fail, there are other destinations that are more than willing to capture the benefits of increased shipping and the economic prosperity for their people that accompany these opportunities.
13. Port Management

The variety of goods handled at the port has often created demand for space and the need to space-prioritise – particularly for high value goods – and move towards space efficiency. But improving capacity through efficiency and management is a lot more complex than simply the development of large-scale infrastructure. It includes the types of vessels that dock, facilities that accommodate vessels and their movements, cargo handling facilities and equipment, internal infrastructure for the transferring of cargo including rail yards and trucking facilities, infrastructure outside the port that allows for smooth flow, hubs that allow for de-stuffing/reconfiguration and modal change (prevalent in supporting most large ports around the world) and port processes, as well as the relevant skills and human resources. Productivity has improved over time, with the handling rate currently at about 23 gantry moves per hour.
The increased size of vessels has contributed greatly to productivity improvements, as well as shortening dead time by improving the supply of captains to ships, making more tugs available, etc. While the port entrance was deepened in order to handle larger vessels, the depths at berths still need to be deepened in order to accommodate these larger vessels when they are fully laden. The result is that these larger vessels are currently not able to berth when they are full. The deepening will happen on a rolling basis and is currently in progress, although some environmental objections have been raised. Ngqura is currently constructed to the latest specifications and is hence able to handle these vessels and fares better than the Durban facilities in that respect. Within the next five to 10 years, sea trade will be such that the port will have no option but to be able to cater for such vessels. While a number of factors have been highlighted above, a fundamental issue is that productivity levels are still below international norms. Apart from a myriad of other issues that fall within the categories mentioned above, the issue of work relations and human resource constraints is also worth mentioning as a critical factor.

The largest port in the world is Shanghai which handles 32 million TEUs per annum. This port has experienced an annual growth in volume of 9.3%, while overall growth in volumes at all Chinese ports was 11.2%. The port of Singapore handles 29.37 million TEUs with an annual growth of 6.1%. The list of the top 10 container ports is dominated by Chinese ports and all of China’s top 10 ports handle volumes greater than 4.5m TEUs and are experienced varying degrees of growth, with the port of Suzhou experiencing 28.6% growth between 2010 and 2011. Malaysia may be comparable to South Africa in terms of the size of its economy. The Port of Tanjung Pelepas in Malaysia currently handles 7.5 million TEUs and is experiencing a 15% annual growth. The Port of Los Angeles handled 7.9 million TEUs in 2011, down from 8.5 million in 2006, but has experienced steady growth since 2009.

Internationally, port cities have adopted varying approaches to their development path. The following key points are noteworthy for Durban:

- Ports have planned and developed capacity in anticipation of demand. Waiting for growth and then developing capacity will have a profoundly negative impact on the economy.
- These ports are supported by efficient movement systems based largely on an efficient rail system.
- The ports are supported by a distribution network of inland hubs that focus on cargo reconfiguration and distribution.
- The logistics system is efficient and well managed and friction with passenger traffic is minimal.
- Ports, mainly in Europe and those that have reached a mature stage of development and which do not experience much growth, have set aside areas for recreational and leisure activities. These ‘people’s ports’ are key tourist assets to the local economy. This is particularly true where ports are in close proximity to the city centre.
- Ports can have a major impact on the local economy, setting up cost advantages for export and import-related firms (including manufacturing activity) and attracting significant investment into the port-city region. A number of cities have used access to their ports as the catalyst for economic development and job creation. Ports stand out as one of the most significant stimulators of an economy. In many countries, the largest economies are centred around the country’s main ports. This makes both economic sense and promotes carbon efficiency.
- While carbon efficiency programmes have not been deliberately pursued by many ports, the experiences of a few ports suggest that there is great potential in this arena. Promoting carbon efficiency could also have positive impacts for the green industries sector.
- There is significant room to improve port handling rates and productivity at Durban, as well as a sustainable reduction in port charges.
15. Skills

Port and related industries have a large potential to address the problem of youth unemployment that is faced by the country as a whole and the eThekwini region in particular. The 2011 Census results paint a picture of a largely young population in the greater eThekwini area, as well as the huge migration of skilled youth to Gauteng. Among all age categories of unemployed people, the youth (under 35 years) have the highest levels of unemployment. Skilled youth are the most important category of employment for Durban as they represent the future of the city. The loss of a skilled workforce has a direct impact on the rates base of the Municipality and its ability to deliver services to the city in general, and to poor areas in particular.

The expansion of the port and the development of the new port will double the number of jobs and opportunities in port and related industries over the next 15 to 20 years. This positive impact will ramp-up gradually and the youth need to be ready to take advantage of these opportunities. Even children at primary school level need to be exposed to the maritime sector and its possibilities. Transnet has committed R7.6 billion over the next seven years towards skills development as part of their Market Demand Strategy (MDS). This will result in increased intake in schools of excellence, bursaries and grants; training of technicians, apprenticeships and engineering bursaries. Partnerships need to be established with tertiary education institutions, from the University of KwaZulu-Natal to the Durban University of Technology, the University of Zululand, other colleges, etc, with the aim of ensuring that our local youth benefit from these programmes and that their futures are made brighter by the presence of opportunity and hope.

The University of Kwa-Zulu Natal has taken a proactive step and has formally opened its own Maritime Unit which recognises Maritime careers in Law, Economics and Commerce. Qualifications range from graduate degrees to Honours and Masters Level of study. Schools also have a critical role to play. Currently only New Forest High School in Montclair and Sithengile High School in Clermont have incorporated Maritime studies into courses, with subjects such as Nautical Science and Maritime Economics available in their syllabus. In addition, the Durban University of Technology offers courses, but these are limited to diplomas aimed at individuals already employed as trainees in the maritime industry. The system aims to educate students while simultaneously allowing them to gain the ‘hands on’ experience lacked by full-time students. Discussion initiated by the City has led to interest being generated in the proposal of an undergraduate degree.

Industry involvement, focusing on the formation of learnerships and trainee programmes is essential, and

Transnet has committed R33 billion over the next seven years towards job creation and skills development. Partnerships need to be established with tertiary education institutions, with the aim of ensuring that our local youth benefit from these programmes and that their futures are made brighter by the increased presence of opportunity and hope.
individuals need to be offered opportunities in maritime careers, both in the public and private spheres. Disciplines in the maritime field such as sea-based employment need to be promoted as young individuals are deterred by negative perceptions of employment at sea. In addition, those qualified tend to seek employment overseas. These individuals should be retained through the offering of incentives. For example, carrying lines such as Grindrod offer internships encompassing further levels of accredited studies, the scope of which is not limited to marine sea-based employment but also to finance, management, trade, transport and logistics. Training the City’s youth is fundamental for sustainable employment. Investment should also be made in capacitating and up-skilling the labour force, as this is key to ensuring efficient trade in and around the port, and will ensure that local people benefit from port-related opportunities. This could also have a profoundly positive impact on empowering black youth in particular.

A proud example of dedication and commitment inspiring our youth is the fact that Transnet graduated eight competent marine pilots during 2007-2009 in Durban alone in response to the skills shortage. The new dig-out port will certainly give rise to employment opportunities and make a huge difference to the fight against unemployment. The MDS is expected to create 588,000 job opportunities nationally (per annum) at its peak in 2016/17.

16. Lifestyle

Durban also enjoys a reputation as a significant tourism destination. It rates as the number one destination for domestic tourism, while Johannesburg, Cape Town, Tshwane and Ekurhuleni outperforms the City in terms of international tourist numbers. At the heart of Durban’s tourism appeal is its inner city beachfront, as well as other smaller tourism nodes along the coast, such as Umhlanga.

The potential impacts of increased freight capacity on the lifestyle appeal of the city cannot be ignored, but must be planned for and managed. A key aspect of this relates to the need for a greatly improved rail system, as well as the road-based freight route and freight plans. In addition, the development of the dig-out port presents the inner city with a unique opportunity that will make previously functionally disconnected areas of the port available for recreation and leisure, thus facilitating integration into the offerings of the inner city. Key areas forming the interface of the inner city and port, including the Point area and Victoria Embankment (Margaret Mncadi Avenue), need to be dedicated to leisure and recreation, which will provide the inner city with a unique and unparalleled tourism opportunity. This includes the development of a cruise terminal which will greatly boost tourism. Currently the water’s edge on the southern boundary of the inner city is greatly under-developed and largely isolated from the adjacent city centre. The physical and functional integration of these spaces will greatly improve property values and play a significant role in inner city regeneration. Thus, it presents opportunities to enhance the lifestyle offering of the inner city. This will bring significantly greater tourism products and hotel and leisure opportunities that could enhance the character of the Victoria Embankment area. Durban and Cape Town are the major Cruise tourism ports, with Durban handling a peak of 197 244 passengers in 2011, decreasing to 157 132 in 2012.
17. Durban and its role in Africa

Africa has a population of approximately 1 billion and is rich in resources. However, due to political instability, it has long been viewed as a continent with little hope of economic prosperity. More recently, many of its critics have changed their views and Africa is now viewed as the next key investment destination. South Africa has been a major facilitator of growth in Africa through its peace-keeping efforts, governance programmes and technical assistance through government departments and state-owned enterprises, which include financial institutions such as the Development Bank of Southern Africa and the Industrial Development Cooperation. South Africa has also been instrumental in the creation of a Free Trade Zone, which is set for implementation by June 2014. This Free Trade Zone consists of 26 countries with a combined population of nearly 600 million people and a collective Gross Domestic Product (GDP) of approximately US$1 trillion. The premier port that will serve this Free Trade Zone is the port of Durban.

South Africa remains the largest economy on the continent, with Nigeria in second place. However, the four biggest economies after South Africa are growing much fastest than South Africa. Nigeria, being the continent’s most populous country, is now one of the fastest growing economies in the world and has been listed among the world’s fastest growing GDPs from 2011 to 2015. It has also attracted more investment than South Africa and is expected to replace South Africa as Africa’s largest economy in the next few years. Additionally, resource-rich countries in Africa have attracted significant investment from China. Angola has become China’s largest trading partner in Africa and now has the lowest unemployment rate among the Big 5 economies in Africa. The Democratic Republic of Congo was previously a country riddled with civil conflict but is now taking advantage of its natural resources. In a few years this country will be a key engine for growth on the continent. Kenya is an economy that has found its niche in consumer goods, agro and horticulture products and petroleum. An important source of future growth for Kenya is the construction of a port in Ethiopia and the trade corridor between the two countries. Many of these countries are taking advantage of their relationship with China and India. Ernst and Young has estimated that the number of Foreign Direct Investment (FDI) projects in Africa grew 27% from 2010 to 2011, and has grown at a compound rate of close to 20% since 2007. Of the world’s 10 fastest growing economies, seven are from Africa. However, it must be noted that Africa is growing from a small economic base. The combined GDP of all African countries is still smaller than that of Brazil. Regional integration remains a critical factor for accelerated and sustainable growth. Creating larger markets with greater critical mass will not only enhance the African investment proposition, but is also the only way for Africa to compete effectively in the global economy. In order to achieve this improved integration, the infrastructure gap needs to be bridged. If this is achieved, it will be a key enabler of regional integration, growth and development. In terms of infrastructure, these African countries are not yet able to develop their own modern, well connected port facilities. Thus, the port of Durban presents the opportunity of achieving substantial economies of scale in order to serve Africa’s growth agenda.
A notable feature of many of the fastest growing African countries is their willingness to make investment deals happen. Added to this is the relatively low cost of labour and lower levels of government bureaucracy. Hence, despite shortages in infrastructure and generally lower standards of built environment, they are able to attract significantly greater investment. South Africa’s advantage is its well developed infrastructure, sophisticated financial system and a strong, well developed sector focusing on consumer goods and services, as well as tourism. These areas present South Africa with an opportunity to contribute to, and benefit from, Africa’s accelerated growth.

There is a vast body of literature that posits that cities act as points of connectivity within a globally connected village. These points exist as hierarchies and are the pivotal economic hubs and opportunities within the global economy. Often the real points of economic convergence and competitiveness are not the geo-political boundaries of countries or provinces, but cities that are connected to each other across the globe. Cities can act as gateways to greater geographical areas in less-connected regions. In terms of the movement of goods, Durban certainly has the potential to act as a gateway to Southern Africa, and to use this position to diversify into other areas and sectors. Durban, which is at the apex of a logistics and development corridor in the SADC region, has a significant role to play as a logistics hub that is central to the future of Africa’s development. However, it remains the most expensive port among the world’s top 100 ports in terms of docking charges.

18. Strategic infrastructure projects

The Durban-Free State-Gauteng development corridor, which includes port, rail and road projects, is called SIP 2, and is one of 17 key strategic infrastructure projects identified for the country’s long term development and growth. Currently the projects listed in SIP2 focus almost exclusively on freight and logistics. However, the President’s 2012 State of the Nation Address referred to this corridor as a ‘development corridor’ and not merely as a logistics corridor. There have been some attempts at incorporating rural projects into the programme, and there has also been a significant move to develop an SEZ in the Free State, as well as several industrial projects in Gauteng (including the Roslyn Industrial and Automotive Park). However, the only project in KZN that seeks to build on a modern logistics platform is the proposed Dube Trade Port SEZ. It is critical that the modern freight logistics platform being proposed through SIP2 be used as a platform to develop industries that support the City’s job creation efforts.

In this regard, the development of the Durban-Pietermaritzburg-Umgeni (Howick) corridor should be viewed as a key area of growth, along with the prioritised development of an automotive logistics park. The automotive sector is one of the key sectors that will benefit from the development of a specialised container port at the DIA site and a concerted effort must be made to assist that industry in its growth efforts. The real benefits for Durban of a new port will be the locational advantage for business, and not simply in providing an efficient conduit for goods to Gauteng.
19. Conclusion

Based on the foregoing, it is clear that the port expansion is in the best interest of the people of the City. However, how this should occur and where the emphasis should be placed, is not a given. The following key conclusions should inform the City’s decision-making processes:

**Decisions on such a critical project** that affect the future of the City should be made from a perspective that has the interest of the whole City and its people in mind. It should further be driven by sound information and analysis rather than misinformation. The political will of government and communities should be focused on addressing the real challenges that the city faces, rather than being blinkered by any narrow agenda.

**The development of the dig-out-port** is both necessary and desirable for the long-term future of the city. It is fundamental to addressing the problems associated with port capacity and will also drive industrial growth in the region.

**The port and related industries** is a major contributor to jobs in the city. The development of the new port will double that impact and bring a new economy with great potential for a better life for the people of the region.

**The City is at a crossroads** where the expansion in rates has been outstripped by social transfers. It has been illustrated that this is increasingly resulting in a small number of rate payers being taxed to an ever greater extent. Unless the City undertakes initiatives that double the current rate of job creation, it will fall short of the national job creation targets and the sustainability of social programmes (such as dealing with service delivery backlogs) will be threatened. The time has come for positive decisions that will place the City onto a growth path and act as a catalyst for job creation. The dig-out port is a major potential enabler of such growth.

**While the City in principle supports the development of the dig-out-port** and port expansion plans, it must place pressure on national government to make a radical shift towards rail. Growth rates such as 9% per annum are coming off a low base and are not sufficient. The cost of an inefficient rail system is borne by the city and its people. The real challenge for the City is not to oppose the possibility of a prosperous future, but to work with National Government in ensuring that plans meet local as well as national objectives. The current plans and strategies...
are still conservative in making this shift and many projects that may facilitate this remain unfunded. Making this shift is as much a management and operational challenge, as it is an infrastructural one.

In order to maximize on the potential offered by the port expansions, the City must develop its own plans that use this logistics platform to drive Durban and KZN’s agenda for job creation. The City must avoid simply playing the role of a conduit of goods, but must take up its role as a gateway destination that is chosen by local and international firms for its lifestyle and unique economic opportunities. Current plans remain fragmented and are driven by line departments without a holistic view.

The port expansions offer a unique opportunity to the lagging manufacturing sector which continues to be one of the largest private sector providers of jobs. The existing skills profile of the labour market is such that many people will not be able to enter the skilled labour market. Manufacturing growth offers the opportunity to absorb semi-skilled labour and train the unskilled in order to be able to enter the labour market. The City must use this platform as the basis for a renewal of labour absorption into the formal manufacturing economy.

Given the youthful population in the city and the very high levels of unemployment among the youth, this project presents a unique opportunity that will see a doubling of the maritime industry. Transnet has committed R7.6 billion over the next seven years towards skills development in South Africa as part of their Market Demand Strategy (MDS). Partnerships need to be established with education institutions from the Sithengile School in Clermont to UKZN, from local colleges to the Durban University of Technology, the University of Zululand, etc, with the aim of ensuring that our local youth benefit from these programmes and that their futures are made brighter by the presence of opportunity and hope. Programmes must be started at school level to make children aware of the possibilities and to build the maritime culture. Leadership must put such opportunities, which create a brighter future for the youth, at the forefront of development.

Partnerships also need to be built with business and labour in order to ensure that local businesses and Durban’s people get maximum benefits from the large capital and operating expenditure that will be channeled into infrastructure development and maintenance.

The development of the dig-out-port will lend support for the dedication of frontage between the existing port and the inner city, towards recreation and tourism use, and building the notion of a ‘people’s port’. The dedication and integration of port frontage
along Margaret Mncadi Drive (Victoria Embankment) through to the Point, with the CBD, for leisure and tourism, as well as the development of a state-of-the-art cruise terminal, will both stimulate the tourism industry and contribute to the revitalisation of the inner city. It will improve property values in the inner city and add to the lifestyle choices of residents of the region.

While the Durban economy as well as the South African economy has not been experiencing growth, other African countries have been attracting significant levels of investment and resultant growth. Of the world’s 10 fastest growing economies, seven are from Africa. While some of this growth has been in resource sectors, the willingness to attract investment has also been a significant factor. However, many of these countries cannot provide the infrastructure they need in order to drive their growth. South Africa’s modern logistics infrastructure can serve a number of neighbouring countries, and thus Durban, in particular, can position itself as a gateway into the SADC region. Associated with this are opportunities in the trade, manufacturing, tourism and logistics sectors. Durban can use this to assist its own growth objectives. In this regard, the free trade agreement between 26 African Countries is particularly significant.

The Urban Econ document illustrated that Durban is the main export port in South Africa in terms of value. While imports are greater than exports, this is skewed mainly due to the import of petroleum and crude oil. Other imports such as vehicle components are inputs into manufacturing and assembly processes and are not destined for final consumption. Various other imports are also inputs into other processes such as oil cake (which are important components in animal feed etc), wheat and machinery that assists in the pulp and paper industry, etc. Exports include many processed products such as vehicles, wood and pulp, paper, iron ore and non-alloy steel, sugar, petroleum oils, pipes, etc. Apart from the maritime and logistics sectors, other sectors that will expressly gain from the dig-out-port include the automotive sector, machinery and component manufacturing, processed foods, paper and other related sectors exporting containerised goods. In general terms, value addition is an important government policy and the designation of products for local procurement as well as the preferential pricing of raw materials (initially iron and steel), which are inputs for local product development, are important steps in the right direction.

Even by the most optimistic projections of growth in rail’s share of freight, the levels of road-based freight is anticipated to double by 2030. The friction between freight and passenger transport, as well as with the residential areas near the port, is unacceptably high. Transport interventions in the back-of-port area need to be prioritised. The development of a freight plan for the city and the development of a freight route dedicated

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to inland-bound freight must be prioritised. Despite SANRAL’s focus, the City’s fundamental position must be based on the separation of freight and passenger traffic. The high cost to the City in terms of road infrastructure, but more importantly, in terms of decreased quality of life (including loss of life and medical expenses) and the cost to the economy as a result of this friction, is great. A model may be constructed to quantify and illustrate such costs, should it be required. The substantial impact of increased freight will have an enormously negative impact on the city. A dedicated freight route should be developed by the time the new port becomes operational (2020-2022).

**Emphasis must be placed on co-ordinated planning** for the ‘new economy’. This must build on the opportunities of a modern world-class logistics platform (the two ports; Dube Trade Port and possibly at the dry port at Cato Ridge) in order to catalyse growth in the manufacturing and services sectors that benefit from port capabilities. Hence there are three critical plans that should form the basis for Durban’s future:

- **An infrastructural plan** which is based on all the fundamental principles discussed in this paper (such as freight modeling, separation of passenger and freight, increased container-handling capacity, etc).
- **A management and operational plan** which addresses the issues of efficiencies, as well as the management and operation of the overall logistics system (and its carbon efficiency).
- **An economic plan** which seeks to inform the infrastructure plans and capitalise on the opportunities offered by the logistics platform. Durban’s global connectivity should enable it to use the mantra of ‘supply chain optimisation’ as its core value proposition in order to attract firms. This will be especially true for firms targeting Africa, but also for any products made locally and delivered globally. The lifestyle appeal that the City will seek to enhance and expand will serve as a key area of focus, while other destination factors such as local skills, cost of doing business, sectoral clusters, etc, will form the third area of focus of Durban’s appeal. This plan will also seek to capitalise on land for development in key corridors, such as Durban-to-Umgeni, as well as to maximise procurement opportunities for Durban-based firms.

From all of the points above, it is evident that the port expansion, including the development of the dig-out port, will have a widespread benefit for the people of the region. However, the resulting infrastructure needs to be carefully planned and managed, with the interests of Durban’s people at the forefront. This requires a substantial shift to rail and the separation of freight and passenger traffic (on road). It also requires a clear plan by the City to maximise on the potential for job creation. The port expansion represents a unique opportunity for the City’s youth, and an improved ability to retain skilled young professionals within the city. It will have a positive impact on the tertiary education sector, the tourism industry and inner city regeneration efforts. Most of all, it will stimulate a sluggish economy into creating opportunities in the formal economy for despondent job seekers.
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