

## 6. Conclusion



**Figure 35: Summary of Conclusion**

Source: Own construction, 2012.

Due to the fact that South Africa is geographically well situated and that Gauteng (in SA) is the economic hub within a 3200 kilometre radius, it makes this country the perfect location to invest in new concepts and systems, these concepts and systems includes integrated sustainability and intermodal transportation solutions. This will be ideal for the growth and development of the country. **Figure 35** indicates the whole procedure to get to recommendations and solutions for sustainable and intermodal transport. The text in chapter 7 will elaborate on the solutions and recommendations of the above figure.

The World Bank rated SA 28<sup>th</sup> out of 155 countries in terms of its Logistics Performance Index in 2010, the South African logistics industry features among the top ten logistics over performers. There is without a doubt room for improvement and development, not only in the context of our rating but considering the sufficient opportunities on our doorstep. Intermodal solutions that deliver cost and operational efficiencies within sub-Saharan Africa's supply chain are critical enablers to ensure all mentioned (Imperial Logistics, 2010).

The quality of infrastructure in the freight logistics sector is insufficient to sustain a world class logistics system. The operations on that infrastructure is further, not targeted at fulfilling demand, but rather at tailoring demand around the supply structures and constraints (SA, 2008:28).

The funding of national roads is the only part of the industry to practice sustained re-investment in infrastructure, through a fiscal allocation of R900 mill per annum and R5.2 billion private sector investment in toll road concessions. Airport infrastructure necessary to move airfreight has also improved considerably over the last decade. Secondary roads and assets and infrastructure in ports and rail have however attracted very low levels of investment and the condition of this infrastructure now remains a contributor to inefficiencies in freight logistics and an impediment to national competitiveness (SA, 2008:28).

According to the Daily News (Mbanjwa: 2012), President Jacob Zuma announced that KwaZulu-Natal is among the provinces that would benefit from some major infrastructure projects, these include the improvement of the Gauteng-Durban rail corridor (R200 billion) for the next seven years, and a further R100 billion for projects in the ports, for the same amount of time. The President said that the government would also improve movement of goods and economic integration through a Durban-Free State-Gauteng logistics and industrial corridor.

In rail and ports asset care and renewal of moveable assets such as rolling stock, cranes, represents a significant challenge and under investment in assets contributes to poor reliability and inefficiency. In road freight, asset care remains a problem for the many smaller road freight providers and contributes to poor road safety. For the larger road freight operators' levels of asset care have improved over the last decade, as is proved by the decreasing average age of vehicles owned by larger road freight logistics companies (SA, 2008:28).

The poor quality of the underlying resource base contributes to a lack of integration, particularly between the different modes, and this worsens inefficiencies in the sector. As a result the benefits of integration are being lost through reductions in reliability and an increase in cost to customers (SA, 2008:28). The following table as showed in chapter 3 (**Table 9**) indicates the advantages that intermodal transportation can have on South Africa if it will be incorporate and managed.

**Table 9: Benefits for Intermodal Freight Transport**

<p><b>Principle benefits of intermodal transport:</b></p>	<ul style="list-style-type: none"> <li>• Significant energy cost benefits which will ensure more sustainable transport</li> <li>• Lower transit costs over long journeys (cost effective)</li> <li>• Potentially faster delivery times in certain circumstances (increasing speed of intermodal operations)</li> <li>• Traffic congestion in urban areas can be reduced (if smaller vehicles are used for collection and final delivery and fewer heavy trucks on roads)</li> <li>• A more environmentally acceptable solution to congestion and related problems (emission of noise and fumes, and damage caused to the built environment by vibration etc.)</li> <li>• Reduced consumption of fossil fuels (since the long haul section of the route is more fuel efficient)</li> <li>• Safer transit for dangerous goods</li> <li>• Reduce losses and damages</li> <li>• Road accidents and related costs will be reduced</li> <li>• Separation of freight movements from a ‘people’ environment.</li> </ul>
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Source: Own construction, 2012.

As discussed in Chapter 2 Carter and Rogers (2008:370) stated that an integration of the three dimensions (social, economic and environment) not only positively affects the environment and society but also leads to long-term economic benefits and competitive advantages it includes the following:

- Cost savings due to reduced packaging waste, and the ability to design for reuse and disassembly,
- Reduced health and safety costs, and lower recruitment and labour turnover costs resulting from safer warehousing and transportation and better working conditions,
- Lower labour costs, better working conditions can increase motivation and productivity, and reduce the absenteeism of supply chain personnel,
- Pro-actively shaping future regulation, companies that pro-actively address environmental and social concerns can influence government regulation when this regulation is modelled after a company’s existing production and supply

chain processes, leading to a difficult-to-replicate competitive advantage for companies and their suppliers,

- Reduced costs, shorter lead times, and better product quality,
- Enhanced reputation, agreeable in sustainable behaviour can make an organization more attractive to suppliers and customers.

In Chapter 4 the case study (Gauteng 25 year Integrated Transport Master Plan – **Annexure A**) were discussed, the areas that need attention were identified, the following is how this study of sustainable transport and intermodal transport solutions could be used as a guide to develop the master plan by promoting the success stories of intermodalism and sustainability. **Table 26** will elaborate on the proposed content of the Integrated Transport Master Plan 2025, all these have been discussed in previous chapters of this study, the Sustainable and Intermodal Transportation that have been discussed in Chapter 2 and Chapter 3 the policies and legislation have been discussed in Chapter 4 by making a clear vision on how sustainability, transportation and intermodalism should be able to works in SA, the study cases that were identified were Gauteng and 2 other corridors (Durban and Cape Town).

These areas that were identified by the ITMP25 will have positive feedback and will have a major impact on the growth and development of Gauteng if Sustainable Transport and Intermodal Transport solutions will be implemented, it will make it a sustainable, environmental friendly, cost effective, safe, efficient and effective corridor.

**Table 26: Intermodalism and sustainability's influence on the Gauteng Integrated Transport Master Plan 2025**

<b>Content of the Integrated Transport Master Plan (ITMP25):</b>	<b>The Gauteng ITMP 2025 focusses (specifically on freight transportation):</b>
<b>Current reality</b>	<ul style="list-style-type: none"> <li>● Transport planning is currently fractured and uncoordinated in the Province</li> <li>● The efficiency and productivity of the Gauteng economy is being hampered by congestion on the road network.</li> <li>● International experience has shown that it is not possible to “build one-self out of congestion” by only focussing on the expansion of the road network</li> </ul>
<b>Points of departure</b>	<ul style="list-style-type: none"> <li>● Transport planning must be used as a government intervention</li> <li>● The transport plan must be developed to underpin the Global City Region concept</li> <li>● The proposed Transport Plan must be environmentally sound and sustainable</li> <li>● Key recommendations must be made on what mode(s) of freight transport is preferable for a specific corridor.</li> <li>● The transport network and the utilisation of the various modes of transport must be optimised in order to minimise congestion and maximise service delivery to the economy and the people of Gauteng</li> <li>● The transport plan must give priority to public transport and the movement of freight in the Province</li> <li>● The transport plan must be socially inclusive and transform the Region</li> <li>● Key freight and logistics nodes and corridors have to be considered</li> <li>● Financial support to transport and subsidisation have to be used as a lever and substance for the development of the desired urban form</li> <li>● The implementation of the plan must lead to significant further economic development and job creation</li> </ul>
<b>Legislative and Policy Framework</b>	<ul style="list-style-type: none"> <li>● National Land Transport Act (Act 5 of 2009)</li> <li>● National White Paper on Transport Policy, 1996</li> </ul>

	<ul style="list-style-type: none"> <li>● National White Paper on Spatial Planning and Land-Use Management</li> <li>● Department of Transport: National Freight Logistics Strategy</li> <li>● Department of Transport: National Freight Monitoring Framework</li> <li>● National Transport Master Plan (NATMAP) 2050</li> <li>● Integrated Gauteng Transport Master Plan 2025</li> </ul>
<b>Existing Planning and available data for the Province</b>	<ul style="list-style-type: none"> <li>● Gauteng City Region Growth &amp; Development Strategy</li> <li>● Metropolitan Planning</li> <li>● Strategic freight network</li> <li>● Gauteng Toll Road Strategy</li> <li>● National Rail Network</li> <li>● Subsidised Bus contracts (routes &amp; subsidies)</li> <li>● Gauteng Strategic Road Network, 2010</li> <li>● Gauteng Transport Model</li> <li>● Gauteng Strategic Public Transport Network (2009)</li> <li>● Gauteng Spatial Development Framework and continued land-use modelling</li> </ul>
<b>New data that will be required</b>	<ul style="list-style-type: none"> <li>● Update the PWV- and K-route Transportation Model</li> <li>● Update the various Metropolitan transport models</li> </ul>
<b>Key focus areas</b>	<ul style="list-style-type: none"> <li>● Development of strategic modal transfer nodes and interchanges</li> <li>● Freight routes and logistics centres</li> <li>● Protection of future priority corridors</li> <li>● Future toll road network</li> <li>● Provincial road network</li> <li>● Rail network - Freight</li> <li>● Airports</li> </ul>
<b>Focus on the road network</b>	<ul style="list-style-type: none"> <li>● Road statistics (all three spheres of Government)</li> <li>● Road classification</li> <li>● Re-design the provincial road cross-section: <ul style="list-style-type: none"> <li>- Width</li> <li>- make provision for freight and public transport lanes and facilities</li> </ul> </li> <li>● Draw up standard plans for modal transfer nodes, interchanges and terminals</li> <li>● Road signage &amp; way finding</li> </ul>

	<ul style="list-style-type: none"> <li>● Road Safety</li> </ul>
<b>Optimisation of the current network</b>	<ul style="list-style-type: none"> <li>● For Roads, rail &amp; freight</li> <li>● Taking into consideration future direction &amp; planning</li> </ul>
<b>Maintenance of the existing infrastructure</b>	<ul style="list-style-type: none"> <li>● Develop a pro-active maintenance plan for the Provincial network</li> <li>● Develop a comprehensive road-condition monitoring system</li> <li>● Including PT infrastructure</li> <li>● Including Freight</li> </ul>
<b>Land- use</b>	<ul style="list-style-type: none"> <li>● Develop a comprehensive model on all trip origin and destinations in the province</li> <li>● Develop a model to predict current and future land use in the Province (especially residential growth and future job opportunities)</li> <li>● Including two new mega Cities in Gauteng</li> </ul>
<b>Public Transport Regulatory framework</b>	<ul style="list-style-type: none"> <li>● What are the regulatory requirements and where is there a need to amend or expand these regulations</li> </ul>
<b>Mode specific</b>	<ul style="list-style-type: none"> <li>● Safety &amp; security on public transport modes and facilities</li> <li>● Develop common information, time tables and trip planning tools</li> <li>● Focus on business tourism</li> <li>● Challenges facing the industries</li> <li>● Scholar Transport &amp; people with special needs</li> <li>● Minimum requirements</li> </ul>
<b>Public participation process</b>	<ul style="list-style-type: none"> <li>● Identification of all role players &amp; stakeholders (Interested and affected parties)</li> </ul>
<b>Recommendations</b>	<ul style="list-style-type: none"> <li>● Development of supporting policies and regulations</li> <li>● Capacity requirements at Provincial &amp; Local level</li> <li>● 5 year &amp; 25 year plan</li> </ul>

Source: Own construction from Integrated Transport Master Plan (2025), 2011.

South Africa's transport policy framework will have to be promoted so that a nationwide seamless transportation system can be developed. Rail freight will be increasing after the transport policies are promoted. Railroads will have opportunities to influence the public process in ways that will benefit themselves and their customers.

All of the above mentioned, as well as the theoretical and empirical findings in previous chapters, can all be incorporated in the Integrated Gauteng Transport Master Plan 2025. It identifies problems and solutions on how to encourage South Africa, with focus on Gauteng, sustainable intermodal transportation for the near future.