

# TOWARDS A MODAL INTEGRATION STRATEGY FOR GAUTENG

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## 1. INTRODUCTION

The new National Land Transport Transition Bill (NLTTB), tabled in Parliament early in 2000, compels the national Minister of Transport and the provincial Ministers (MECs) of Transport to promote public transport and facilitate the increased utilisation of public transport. It also requires that transport plans must be so developed as to “give higher priority to public transport than private transport by ensuring the provision of adequate public transport services and applying travel demand management measures to discourage private transport”.

The intention of government is clear. Previously it was mostly policy statements, but now it is also legal obligations, that illustrates the seriousness of government to promote public transport, provide adequate services and facilities, enhance its use and give priority to it over private transport. One of the basic requirements to achieve this successfully is that the public transport services, facilities and infrastructure must be fully integrated, namely that modal integration must be achieved.

Although the concept of modal integration has been supported for many years by most authorities and operators, it has not generally been applied in practice. In South Africa fragmented public transport systems are common, as well as aspects such as the utilisation of an unsuitable mode on certain routes and the duplication of services. Modal integration can play an important role in alleviating some of these problems and making our public transport systems more effective and efficient.

The Gauteng Department of Transport and Public Works (Gautrans) in 1999 initiated a process to develop a modal integration strategy for Gauteng in conjunction with the Metropolitan and Services Councils of Gauteng. At the time of the writing of this paper, the second draft discussion document has been prepared and the consultation process is well advanced. The development of a provincial modal integration strategy for Gauteng is very timeous, considering the requirement of the NLTTB that each Public Transport Plan must contain a modal integration strategy.

Although the different elements of modal integration may seem relatively simple, modal integration is complex and not easy to plan and implement. Full commitment from all the authorities, operators, modes and other stakeholders is necessary. There is much vested interest in the public transport industry and related authorities and everybody will have to change –

some more than others. The potential rewards, however, make it not only necessary, but also worthwhile.

This paper commences with a discussion of the definition and elements of modal integration. Thereafter, a short explanation follows of certain past and present modal integration activities and projects in Gauteng. This is followed by short discussions on the constraints in the way of modal integration, and the concept of modal niches. After a short discussion on certain principles and departure points, the main elements and focus areas of a possible modal integration strategy are discussed. A few closing thoughts are presented at the end of the paper.

## **2. DEFINITION AND ELEMENTS OF MODAL INTEGRATION**

Modal integration is the integration of some or all of the different public transport modes (mainly the minibus-taxi, bus and train modes) into the public transport system in such a way that these modes support and complement each other and that they operate as a co-ordinated public transport system, while providing an effective, efficient and affordable service to the user.

It is recognised that this definition may not cover all possible modes, and also do not directly address or mention such aspects as accessible transport (transport for people with disabilities), and park-and-ride. The viewpoint was, however, that if the aspects mentioned in the definition can be addressed successfully, then in most cases modal integration would be largely achieved.

The modal integration elements, or those issues which should preferably be addressed in order to provide an integrated and co-ordinated public transport system, include

- An integrated network
- with integrated schedules
- and proper transfer facilities,
- a common ticketing (“through-ticketing”) and integrated fare system, and
- a combined information system.

It will not always be possible to achieve all these aspects in one project or in one area, but as many as possible should preferably be addressed.

## **3. CURRENT AND PAST MODAL INTEGRATION ACTIVITIES, PROJECTS AND POLICY STATEMENTS – THE STATUS QUO**

### **3.1 Internationally**

Modal integration is fairly common in countries with a good public transport system and a tradition of high public transport usage. France is a good example, but it was only after the Act on Domestic Transport was promulgated in 1982 that modal integration really got off the ground. It, *inter alia*, allows for the harmonious complementary development of the various public transport modes, and co-operation between authorities and operators. The public transport system of Paris is a good example of modal integration. The underground train system, the regional suburban train system, the bus system, and smaller systems such as the two light rail lines, are all interlinked and integrated, with regard to networks, scheduling, information systems, through-ticketing and transfer facilities. Many other cities in France also have good modal integration examples.

Munich in Germany, is one of the cities which measured the savings and improvements brought about by comprehensive modal integration; and those were significant.

### **3.2 South Africa and Gauteng**

In South African comprehensive modal integration does not exist. Over the last decade or two, a number of interesting and important projects were launched which contained some of the elements of modal integration. In Gauteng, the Mabopane Pretoria Corridor Project addressed, *inter alia*, the integration of the bus and rail services and through-ticketing. The Lekoa Vaal modal integration pilot project, undertaken during 1996/97 and funded by the French government, proposed an integrated multi-modal passenger transport system with a high-density corridor, HOV lanes, bus-taxi integration and eventually a light rail system. Parts of the proposals with regard to the subsidised bus contracts, are currently being implemented. Johannesburg had a Buxi (Bus-taxi) demonstration project along the Louis Botha Avenue corridor where valuable lessons were learnt. The South African Rail Commuter Corporation (SARCC) recently provided excellent and extensive transfer facilities at Park Station in Johannesburg. Similarly, very good inter-modal transfer facilities were provided at a number of stations in the East Rand, also supported by very good modal integration planning by the Eastern Gauteng Services Council (EGSC).

Cape Town also has a number of good modal integration examples. It is, however, important to realise that all of the above examples, although excellent in their own right, were not comprehensive and sustained integrated public transport systems. Much has, however, been learnt which can be applied in future modal integration in our country,

### **3.3 Gauteng structures and activities**

Gautrans, right from its inception in 1994/95, identified the importance of public transport and of modal integration. It, therefore, created a specific sub-directorate for modal integration in its Directorate for Public and Urban Transport.

A Gauteng Modal Integration Committee was established in June 1995 with membership from Gautrans, the six metropolitan/services councils and the rail, bus and minibus-taxi industries. It operated until 1997. In November 1997 Gautrans held a Gauteng Transport Policy Conference and one of the four breakaway sessions comprehensively discussed modal integration.

Early in 1998 the Transport Co-ordination Committee (TCC), which is a co-ordinating committee between the province and the metropolitan/services councils in Gauteng, established a working group on modal integration (Working Group 8). The objectives of TCC Working Group 8 include the development of a modal integration strategy for the province, the development of short term action plans including pilot/demonstration projects, arranging conferences/workshops, monitoring progress with modal integration, and the promotion of modal integration in general. This working group has so far held 8 meetings and has achieved much.

On 15 April 1999 a provincial conference on modal integration was held in Gauteng, attended by approximately 100 representatives from all role players. At the end of the conference a number of important conclusions were made and the decisions taken included,

- general support for modal integration by all authorities and operators present,
- that a modal integration committee for public transport operators should be established,
- and that a modal integration strategy for Gauteng should be developed.

The first draft discussion document on a modal integration strategy for Gauteng was completed late in 1999.

### **3.4 Government Policies**

Modal integration is one of the priorities of all three levels of Government.

- The vision of the 1996 White Paper on National Transport Policy includes “fully integrated transport operations and infrastructure which will best meet the needs of freight and passenger customers...”

The strategies to attain the policy goals of the White Paper, identified two key thrusts namely the promotion of integration and intermodalism, and then the assurance that modal, spatial, institutional and planning integration is critical to transportation policy.

- Moving South African (MSA) – The Action Agenda (1999) is a 20-year strategic framework of the National Department of Transport for transport in our country. One of their strategic principles is to integrate services and value chains, including the creation of integrated services in corridors through multi-intermodal solutions. One of the key targets for Urban Passenger Transport specifically includes the planning for and the encouragement of the integration of modes.
- The 1997 Gauteng White Paper on Transport Policy commits the Province to co-ordinate and ensure an efficient integrated public transport system for the Province, including, *inter alia*, the integration of the scheduling and through-ticketing of taxis, buses and trains.
- Most metropolitan authorities actively support the co-ordination and integration of multi-modal public passenger services, infrastructure and facilities.

### **3.5 National Land Transport Transition Bill**

One of the most important pieces of legislation on public transport in South Africa for many years, the National Land Transport Transition Bill was tabled in Parliament early in 2000. This legislation provides for the promotion and development of integrated public transport modes and systems, and related matters such as integrated fare and ticketing systems. It further states that every planning authority must prepare a public transport plan with a view to developing and implementing the integration of public transport services; and that each such plan must contain strategies for modal integration and fare systems for public transport.

#### 4. CONSTRAINTS IN THE DEVELOPMENT OF MODAL INTEGRATION

As mentioned before, modal integration is supported by most roleplayers and the concept and principles of modal integration are fairly simple. Why has modal integration then not really come off the ground in our country? What are the current constraints? The following are a few of the most important factors inhibiting modal integration.

- **The absence of suitable legislation.**  
As mentioned before, even in a country like France with good public transport services and facilities and high public transport usage, suitable legislation was necessary to promote and empower modal integration. The NLTTB will largely address this constraint.
- **Fragmented institutional management.**  
Different authorities are responsible for different modes and the co-ordination is not sufficient. The creation of Transport Authorities through the NLTTB, together with the co-ordinating role played by Gautrans, should partly solve this problem. Only after rail has been devolved will this constraint have been fully addressed.
- **The absence of public transport plans with modal integration content and strategies**  
This will also now be addressed by the NLTTB and the planning process provided for in the legislation.
- **The formalisation and regulation of the taxi industry**  
This is also being addressed at present, albeit slower than anticipated.
- **The financial viability and other issues in the taxi industry**  
This includes profitability, the general condition of the vehicles, a lack of training and capacitation, lack of trust, violence, uncertainty and fear that they will lose through modal integration, *inter alia*, because of a perception that they will only be allowed to do feeder services. Many of these issues are currently being addressed through e.g. the recapitalisation process, training, conflict resolution, and above all, by making the taxi industry fully part of the process to develop a modal integration strategy.
- **The inflexibility of tendered bus contracts**  
This aspect is being addressed through a bus contract transformation project which assists SMME's, PDI's, small bus operators, and even partly the taxi industry to become involved in subsidised bus contracts.
- **The isolated planning of rail services**  
This is being addressed through the work done by the Gauteng Rail Planning Co-ordination Committee and will in future also be addressed by rail concessioning and the later devolution of rail associated functions.
- **A lack of financial and other resources**  
This, *inter alia*, leads to a lack of adequate modal integration facilities, such as transfer facilities.

As can be seen, many of the constraints are being addressed, and as soon as the different pillars have been put in place, modal integration can be implemented properly.

## 5. MODAL NICHEs

Internationally, ideal niches for each main public transport mode have been developed and are generally accepted:

- Rail: Ideal for the transportation of high volumes of passengers in urban situations or over relatively long distances. MSA says rail generally becomes viable in corridors of over 30 000 passengers per direction per day.
- Bus: Most suitable for medium to high passenger volumes, independent of distance.
- Taxi: Internationally seen as best for low passenger volumes and for feeder systems.

In South Africa, the minibus-taxi has been used virtually for all types of trips over all types of distances. Due to historical reasons and the entrenched positions of most modes, the above typical hierarchical system is very difficult to achieve in South Africa and may even be inappropriate in some instances.

The 1999 Gauteng Provincial Conference on Modal Integration came to the conclusion that a standardised niche is not really applicable in South Africa at this stage. The issue to be considered is the most appropriate mode, given the specific demand for travel and the specific local circumstances. A long list of possible criteria to select the most appropriate mode were also identified.

In Moving South Africa one of the key strategic actions identified, was the optimal deployment of modes to meet customer service requirements. This, *inter alia*, requires determining the appropriate mode and service pattern for customers. This choice not only takes into account the economic cost of the different modes, but also factors in the service characteristics of the modes (e.g. speed, comfort, accessibility, etc.), travel patterns, needs and preferences.

## 6. PRINCIPLES AND DEPARTURE POINTS

The following are some of the principles and departure points in developing a modal integration strategy. Some of them can also become objectives.

- 6.1 Public transport must be promoted and be given higher priority than private transport. Sufficient facilities and services must be supplied, including transfer facilities
- 6.2 Modal integration must assist with the better utilisation of scarce resources and expensive infrastructure.
- 6.3 Customer needs must be met. The main focus should first be on the movement of people and not on the modes.
- 6.4 The co-ordination and integration of transport and land-use is a crucial pre-requisite for providing effective integrated public transport to all.
- 6.5 All stakeholders must understand and accept the necessity for and advantages of modal integration. They must co-operate and support each other. This applies to the different government levels and the different modes.

- 6.6 The optimal deployment of modes should be implemented rather than the traditional hierarchical niche application. The appropriate mode should be determined.
- 6.7 Funds must be made available for modal integration, from *inter alia* government, through public-private-partnerships (PPPs) and user-pay applications.
- 6.8 There must be clarity on the policy of government with respect to the financial and economic support of public transport.
- 6.9 Public transport, including the taxi industry, must be formalised and regulated.
- 6.10 A legislative framework must be in place on national and provincial level.
- 6.11 The right institutional structures must be in place, so that most of the public transport issues and all modes in a metropolitan area can be dealt with by the same body.
- 6.12 Public Transport Plans should be the foundation for the development and implementation of modal integration strategies and plans.
- 6.13 Modal integration can not be planned and implemented in isolation, but must be part of a holistic transport and public transport plan and strategy.

## 7. **PROPOSED OUTLINE OF A MODAL INTEGRATION STRATEGY FOR GAUTENG**

The development of a modal integration strategy was approached by identifying different strategy focus areas and then determining the different modal integration strategy needs within each one. The following strategy proposals are not complete but form a framework on which the strategy can be built.

### 7.1 **Legislation**

- It is important that the NLTTB pass through Parliament and be promulgated and implemented as soon as possible.
- Gautrans will then accordingly have to amend its Framework Act and at the same time ensure that sufficient provision is made for modal integration in the Gauteng Public Passenger Road Transport Bill (GPPRTB) which is currently being developed.
- The NLTTB and the GPPRTB makes provision for regulations to be drawn up and issued by the MEC. Modal integration regulations are necessary.

### 7.2 **Funding**

- A holistic funding strategy is necessary. Government should assist with the funding of modal integration. Provision should also be made for PPPs.
- The Gautrans policy development on financial and economic support for public transport should be finalised so that there can be more clarity about who will be assisted, how and under what conditions.
- Special modal integration funding incentives should be investigated.

### **7.3 Planning**

- Holistic integrated transport planning is necessary, including the development of a public transport plan, catering for all modes of public transport.
- The public transport plan must include a modal integration strategy and proposals, and is therefore the basis for implementing modal integration in the region.
- Guidance must be given to Transport Authorities through modal integration planning guidelines.

### **7.4 Institutional**

- Transport Authorities are the institutions responsible for planning and implementing modal integration in their respective areas. They should therefore be established as soon as possible. Their functions and responsibilities in relation to those of the provincial government must also be finalised as soon as possible.
- Modal integration committees must be established or continued with such as TCC WG8 between Gautrans and the Transport Authorities, and also committees for modal integration inside the metropolitan authorities/transport authorities.

### **7.5 Implementation**

- The main implementation of modal integration is through the implementation of the public transport plans. Funds should be made available.
- Initially a few pilot or demonstration projects should be implemented to test and/or demonstrate specific aspects and modal integration in general.
- Criteria must be developed to select the pilot/demonstration projects.

### **7.6 Regulation and Control**

- All modes of public transport must be regulated. The completion of the formalisation of the taxi industry is thus critical.
- Continued enforcement of permissions and permits is necessary, as well as general law enforcement.
- Modal integration regulations are considered necessary.

### **7.7 Consultation, marketing and education**

- Consultation on and co-ownership of modal integration is critical as there are so many stakeholders and vested interests. It is critical that the three main modes are fully supportive and involved.
- A marketing/information document on modal integration must be prepared and made available for general use, as part of a wider marketing strategy.

### **7.8 Guidelines, norms and standards**

- Guidelines and standards should be developed and made available on such aspects as the planning process, corridors, selecting the appropriate mode, modal economies, and the different modal integration elements.

## 7.9 Monitoring and evaluation

- It will be necessary to monitor and measure performance and make adjustments to plans and strategies where necessary.
- Data collection and clarity on criteria will be necessary.

## 7.10 General

- The provincial government must play a leading role with regard to the promotion of modal integration, consultation, co-ordination, legislation, guidelines and monitoring.

The proposed modal integration strategy is also schematically shown in Figure 1.

## 8. CLOSING THOUGHTS

The main goal is to develop and successfully implement a truly integrated, affordable and accessible public transport system for the province. But then public transport must be promoted much more than at present. Some of the problem areas need to be addressed before many people will actively start using public transport. Comprehensive modal integration must be promoted jointly with public transport and the use of public transport. Both the carrot and stick, incentives and disincentives should be used. This includes the financial and economic support incentives and requirements. Future subsidised bus contracts should, for example, directly or indirectly accommodate modal integration. Public transport services and projects should only qualify for financial and economic support if such service or project is in line with an approved public transport plan, which includes a modal integration strategy.

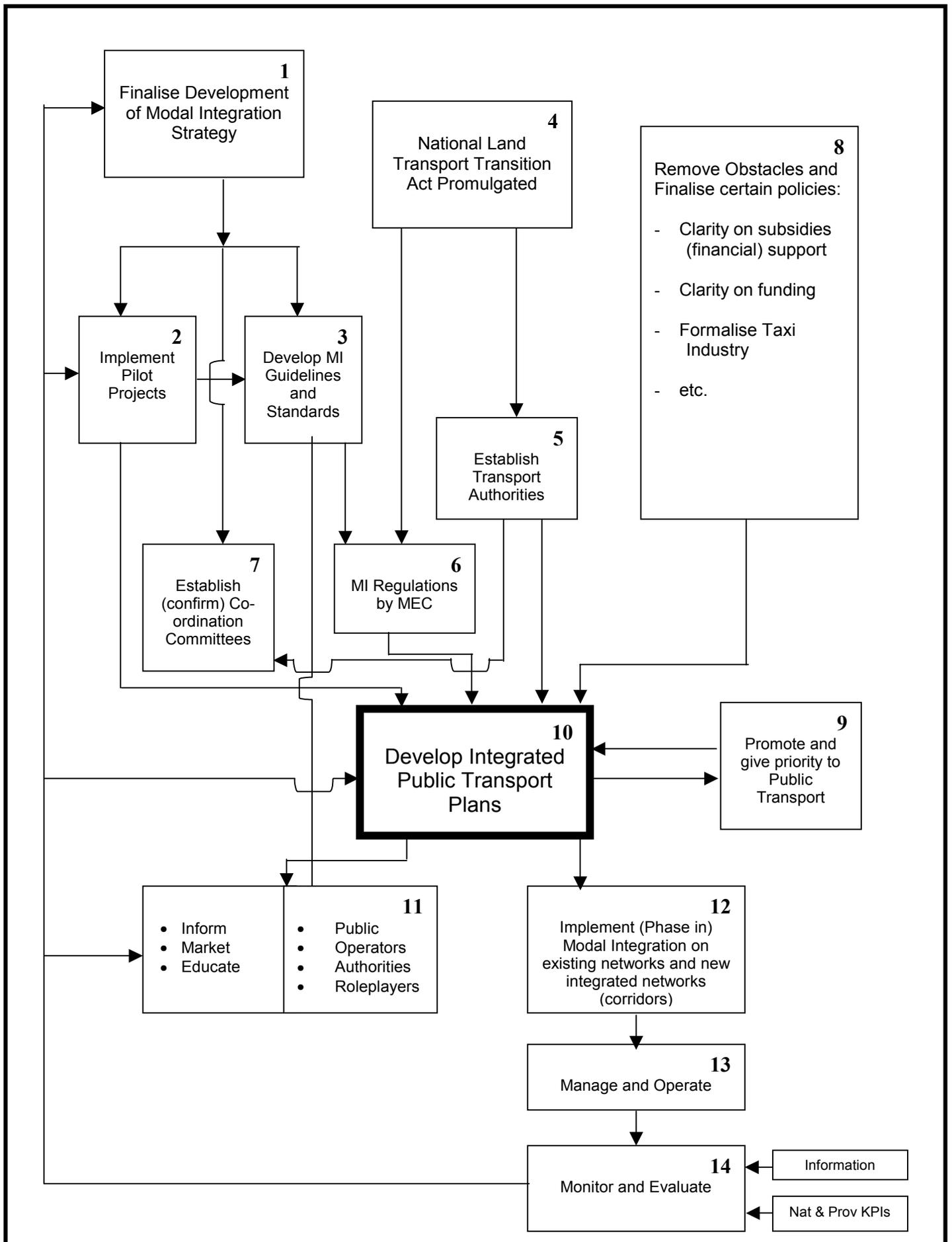
Modal integration can be phased in. Low-cost-high-impact measures such as integrated information systems and integrated scheduling should be considered as soon as possible. Integrated ticketing and fare systems should also be considered, especially in the light of the smart card implementation in the taxi recapitalisation project. Such a smart card system could become a requirement in future subsidised bus contracts, and rail concessioning. Further pilot projects on such aspects as integrated ticketing and fare systems may be of great value.

In conclusion, there are many benefits of modal integration. Benefits to the user can include greater accessibility, reduced travel time and short waiting times, improved levels of convenience, and possible reduction in tariffs. To the authorities it can, *inter alia*, mean possible lower levels of subsidy, savings of up to 25% and more, more value for money, better utilisation of existing infrastructure and facilities, a better structured and ordered public transport system, and improved service delivery. To the taxi operator the benefits of modal integration can include improved vehicle utilisation, improved patronage in the off-peak, access to financial assistance, improved income through e.g. integrated ticketing, reduction of destructive competition, etc.; with similar type benefits to the rail and bus operators. And then there are also benefits to the community at large which can include reduced impact on the environment, reduced traffic congestion and improved quality of life.

Modal integration is, therefore, not only worthwhile but also very necessary. A provincial wide modal integration strategy can assist in achieving such modal integration, but then all roleplayers and stakeholders, including decisionmakers and politicians, must support it and be committed to it.

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4. Gauteng Department of Transport and Public Works and TCC Working Group 8, A Strategy for Public Transport modal Integration in Gauteng, First draft discussion document, November 1999.
5. National Land Transport Transition Bill as tabled in Parliament and published in Government Gazette, No. 20868 of 7 February 2000.



**FIGURE 1: PROPOSED MODAL INTEGRATION (MI) STRATEGY AND ACTION PLAN**

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## ABBREVIATED CURRICULUM VITAE OAW VAN ZYL

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<b>Name</b>	<b>OLAUS ALBIN WERNER VAN ZYL</b>
<b>Qualifications</b>	B.Sc. Eng (Civil)(Pretoria), M.Eng. (Transportation)(California), Pr.Eng.
<b>Date of birth</b>	17 June 1944
<b>Marital Status</b>	Married
<b>Profession</b>	Civil Engineer
<b>Position in firm</b>	Managing Director of Khuthele Projects and Head of the Airports Division
<b>Specialisation</b>	Transportation, Policy and Legislation, Airports, Institutional
<b>Nationality</b>	South Africa
<b>Years of Experience</b>	22 engineering and transportation 7 institutional

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### KEY QUALIFICATIONS

Joined BKS in December 1967, became an Associate of BKS in March 1973 and a Director in March 1978, working as a Transportation and Traffic Engineer.

Left BKS in March 1988 to become MEC (Provincial Minister) for Local Government and Regional Services Councils in the Transvaal Provincial Government. Later also served as MEC for Roads and for Institutional Development and Negotiations. In 1994 after the new Constitution and dispensation was introduced, was the MEC (Provincial Minister) for Roads and Public Transport in the Gauteng Provincial Government, until June 1996.

Joined BKS again in August 1996 working in both the Airports Division and Transportation Engineering Division. In February 1998 became managing director of the new empowered and affirmed firm Khuthele Projects (Pty) Ltd, mainly operating in the field of transportation, business services and development.

He was also Town Councillor, Mayor and Chairman of the Management Committee of Randburg Town Council for 11 years, President of the Organised Local Government organisation for Transvaal, and member of the National Municipal Organisation UME.

**Major Projects:** As provincial minister directly involved in the formulation of the National White Paper on Transport Policy; the Gauteng Provincial White Paper on Transport Policy; investigations and negotiations on the apportionment of transport functions between the three levels of government; and in the establishment and transformation of the Gauteng Provincial Department of Transport.

White Paper on National Policy on Airports and Airspace Management. Pretoria-Witwatersrand-Vereeniging Transportation Study; assisting National Department of Transport with implementation of the Urban Transport Act; transportation studies for several towns and cities in Southern Africa; Gauteng Toll Road Strategy, commercialisation and development of Wonderboom Airport, PPP study for Rand Airport. Development of a national policy on aircraft noise and engine emissions. Development of a Strategy for the Integration of Public Transport Modes in Gauteng, several aspects around the taxi industry, including the formalisation process, training and the recapitalisation. Several traffic management projects for the Gauteng Provincial Government. Appointed as project leader (April 2000) for the feasibility study on the SDI High Speed Rail Link between Johannesburg and Pretoria.

As MEC for Local Government and as councillor involved in local government legislation, policy, administration, finance, service delivery and many demarcation exercises.