

# **INCREASING PUBLIC TRANSPORT MARKET SHARE IN SOUTH AFRICA: THE OPTIONS**

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## **Abstract**

Public transport in South Africa is facing increasing pressures as the need to do more with less increases. It must continue to attract new riders and retain existing ones as well as ensure support from the community at large. Marketing plays a critical role not only in assisting it to meet its objectives, but also to ensure its continued viability. To maximize its effectiveness, marketing must be viewed as a comprehensive process through which transit agencies develop and provide transit services and communicate its benefits to their employees, patrons, and the general public. While marketing strategies go a long way in building transit ridership, combining them with information and communication technologies is much more likely to engender long-term sustainability. However, this requires the forging of partnerships between transport authorities and operators in consultation with their customers. This paper highlights some of these issues.

## **INTRODUCTION**

### **Public transport crisis**

The crisis facing public transportation in South Africa is well-known and well documented. For purposes of this paper, however, it has been deemed important to revisit some of the issues. Access to public transport is reduced by long walking distances and long waiting times largely due to inadequate service and route coverage, as well as poorly arranged schedules. Convenience is thus severely compromised. Transit conditions lack comfort mainly because loading conditions often hinder people from boarding at the desired time as crowding imposes relatively severe discomfort. It is also characterised by poor supply levels at peak hours, operation on uneconomical routes, and low operating speeds resulting from traffic congestion along major routes and the consequent high operating costs. In the taxi industry, the destructive competition through over-trading, long off-peak periods, little or no re-investment and unsavoury business management principles, has tended to exacerbate the already tarnished image of public transport<sup>1</sup>. Furthermore, public transport is not only under-funded, but it is also costly, particularly for the poor, who are captive users. They typically expend more than twenty per cent of their total income on transport, whereas the acceptable norm is a maximum of ten per cent.

It is also pertinent to observe that increasing car ownership trends, the sometimes blatant disregard for traffic regulations, insufficient policing and enforcement and the interference of bus stops with general

traffic flow has the effect of aggravating the situation. And yet, even in this poor state, public transportation not only plays a critical role currently, but it is also expected by policy makers to play a much more decisive role in shaping the socio-economic landscape of South Africa. The rationale behind this is that the provision of effective passenger transport services is vital not only for the sustainability and growth of business and job creation, but also for discouraging sprawling land use, which is inimical to sustainability. It is not surprising, therefore, that improving and encouraging the use of public transport is one of the cornerstones of the national Department of Transport's [NDOT] Moving South Africa [MSA]<sup>2</sup> transport strategy.

### **Socio-economic and spatial chasm**

The scenario described above is further complicated by the socio-economic and spatial chasm that characterises the South African society. The new South Africa inherited large social differences, which appear to be inherently destined to be entrenched. For example, in the city of Pretoria, as in many other cities, progressive ideas, not only in public transport terms, but also in other sectors, are being developed and implemented in the context of the old city which was based on the model of spatial and social segregation<sup>3</sup>. This view is supported by evidence from the MSA<sup>2</sup> project which established that urban passenger transport described a system oriented towards commuting from segregated townships, racially separated bus systems and unregulated taxis. This has led to an ineffective public transport system with long journey times and high costs. It is also pertinent not to lose sight of the fact that, at the national level, the situation is likely to be worsened by the spectre of rapid urbanisation resulting from natural population growth and migration triggered off, in part, by the unequal national distribution of resources, economic activities and the quality of life.

### **Public expectations and the role of marketing**

In view of the foregoing, the public transport industry is facing increasing pressures as the need to do more with less increases. It must continue to attract new riders and retain existing ones as well as ensure support from the community at large. Small wonder then that the NDOT, through its white paper<sup>4</sup> and the resultant strategy<sup>2</sup> has sought to elevate and strengthen the role of public transport. Marketing could play a critical role in assisting the transit industry to accomplish its objectives. However, to maximize its effectiveness, marketing must be viewed as a comprehensive process through which the transit industry develops and provides customer-oriented services and communicates the benefits to its employees, patrons, and the general public. Thus the development of cost-effective marketing techniques by the industry cannot be over-emphasised.

## **PROBLEM STATEMENT**

### **Public transport performance gaps**

As indicated above, public transport is the thread that ties together many aspects of modern existence.

People depend on it, and they often spend a significant proportion of their income on it. Clearly, it is paramount to get it on the right footing. The MSA<sup>2</sup> project established that, measured against specific national objectives for cost, journey time, and public transport usage chronicled in the white paper<sup>4</sup>, the existing urban public transport system exhibits significant performance gaps, particularly with regard to the needs of key customers groups. However, there is no doubt that in a developing economy context, an efficient and effective public transport system is the key to a cost-effective and sustainable circulation system. Evidently, there is a strong link between achieving this end and, the introduction into this matrix, of technology-based and marketing solutions as elaborated elsewhere in this paper.

### **Future transport operating environment**

In order to assess the magnitude of the problem, it is necessary to sketch the future scenario in which public transport will operate:

- The highway network in South Africa is unlikely to be increased to a capacity sufficient to cope with even low-growth forecasts of vehicle-kilometres. The severe decline of road funds over the last decade bears testimony to this inevitable trend. It is envisaged that this will lead to growing congestion especially at urban junctions and interchanges on the trunk road network. There will, however, be an increasing demand for improved efficiency and value for money from transit;
- Extensive traffic congestion will slow down road-based public transport considerably thereby rendering it unattractive. The economic consequences of the reduced number of passengers willing to use public transport are immense as are the negative implications in terms of productivity resulting from the reduced commercial speed; and
- The intensity of rush hour traffic and the need to move large numbers of people quickly as well as the need to deal with off-peak periods, particularly with regard to manpower and equipment, will necessitate innovative ways of striking a balance.

### **Special user needs**

Although mobility and accessibility are critical elements in determining the quality of life for persons with disabilities, the elderly and the economically disadvantaged, these elements have not attracted sufficient attention from either the public or the private sectors, for example, the small print on timetables or signage which is often placed too high at a bus stop, auditory announcements [only or none at all], and lack of pre-trip information to enable a person to plan a journey before setting out.

### **Public transport information requirements**

Information dissemination to customers is critical to the successful operation of public transport services and in maintaining and stimulating demand. Because existing sources of information are fragmented, it is often a daunting task for a prospective passenger to access the right information<sup>5</sup>.

Timetables are not available from most operators, and where they are available, the quality is often poor or difficult to comprehend. In addition, because information dissemination processes are mainly paper-based, problems relating to presentation, distribution and accuracy abound. It is therefore necessary to develop systems that will be sufficiently flexible to appropriately respond to user needs.

### **Incompatibility of the current transit system components**

The lack of modal integration has led to inefficiencies, and, by implication, ineffective service provision. In the Greater Pretoria Metropolitan Council [GPMC] area, for example, rail-based transit is either non-existent in some places or is inadequate in terms of coverage and frequency, in others. Feeder services, which are not closely integrated with the train services, carry only a limited proportion of peak period customers. Thus achieving integration has been hampered by the incompatibility of the total transit system components where operators have tended to be supply-driven rather than customer focussed. For instance, it would appear that financial and operating pressures that discourage long range, system-oriented decisions have resulted in operators resorting to short-term, bottom-line-oriented business strategies. South Africa's planning of public transport practise has thus been fragmented, incoherent and piece-meal<sup>6</sup>.

## **RATIONALE FOR THE DEVELOPMENT AND DEPLOYMENT OF ICT**

### **Marketing alone is not enough**

While marketing strategies have a positive effect on transit patronage, it is equally important to improve both the service and the physical facilities by, for instance, introducing information and communication technologies [ICT] to engender sustainability. However, this requires the forging of partnerships between transport authorities and operators in consultation with their customers. The savings resulting from the use of these technologies could lead to improved services and reduced future capital requirements and operating costs. For example, information systems facilitate tariff integration and the forging of revenue share agreements. However, it is also pertinent to note here that much of the impact of these technologies will depend upon whether they are indeed appropriate, that is, technologies which address the real issues in public transport as opposed to technology-driven processes.

### **ICT: A tool for improving consumer satisfaction**

It has been argued that ICT is the new engine for modern transport processes, fuelled by the expanding resources and needs of an information-based society<sup>7</sup>. As an enabling technology, it is often the vehicle for realising what is envisaged for the public transport sector by the white paper<sup>4</sup>. ICT refers to methods and processes aimed at increasing the effectiveness, efficiency and capacity of existing transportation systems, including information processing, communications, control and electronics. It is pertinent to emphasise the fact that many of these technologies have been observed to

save lives, save time, and save money<sup>3</sup>. ICT attributes include, but are not limited to:

- Collecting and transmitting dynamic information on traffic conditions and transit schedules for travellers [home, en route, office];
- Improving transit security and productivity through tracking and dispatching systems that dynamically re-route vehicles to accommodate changes to customer needs; and
- Improving access to information on the availability, schedules, and proximity of transit.

The benefits of ICT solutions are mainly increased efficiency, lower costs and higher productivity levels, which could translate into increased reliability, shortened travel times, more convenience, less maintenance and financially sustainable transit systems<sup>3</sup>. Another role of ICT is computer-aided analysis of services and operations, route profitability, crew productivity and formulation of future growth policies including location of new terminals, fleet expansion, and so on. ICT technology deployment could result in higher consumer satisfaction, the ability to promote public transport, limiting urban sprawl, more efficient cities and lower infrastructure demands<sup>8</sup>.

### **Using ICT for the monitoring and performance evaluation of operations**

The limited availability of financial resources, coupled with the losses incurred in the operation of public transport systems in South Africa, necessitate constant monitoring of activities in this sector. This means that performance monitoring in transit undertakings, using standard efficiency and effectiveness indicators, is crucial in strategic and tactical planning and decision making, especially in the rationalisation of routes, services, and related operations. This requires the use of models which are, more often than not, information-intensive which underlines the importance of ICT.

### **Improving fare systems on rail transit**

The function of collecting fares on rail transit systems is usually split from the controlling function to ensure that passengers tender valid tickets. In order to be more efficient, however, an integrated electronic fare collection system from which operators could obtain valuable information for planning and management, could be utilised. It is critical though to determine values, value for money and cost-effectiveness, before a decision is made one way or the other, for example, is the revenue lost through fare evasion significant enough to warrant investment in new technology designed to arrest such evasion given the often expensive capital equipment and training as well as the loss of jobs characteristic of this move? Impacts of the proposed technology deployment could be modelled using virtual reality technology to enhance decision-making.

## **PUBLIC TRANSPORT SERVICES MARKETING CONCEPT**

### **Factors influencing patronage**

Although historically the transit industry has given short shrift to marketing activities, it is increasingly recognised as a sure means of attracting additional patrons to transit services. Because transit provides a service, it should naturally be concerned with how customers view and evaluate the services it supplies with a view to improving their quality. Marketing should thus concentrate on the needs of existing and potential transit customers with the objective of satisfying those needs with a range of suitable products and services. The successful development of an effective transit service is thus heavily dependent on the extent to which marketing principles are utilised. In this regard, criteria used to develop, assess and select marketing techniques could include, cost-effectiveness, ease of implementation, and community support. External factors to be considered should include, economy and customer demographics, while internal factors should include the service itself, staff size, financial constraints and culture. Customer satisfaction could be achieved through emphasis placed on each controlled element of the marketing mix for each target segment of the market. It is these elements of the marketing mix for services which have been neglected by operators<sup>9</sup>, as enumerated below:

- Finding out what customers need, including their public tastes over time [*marketing research*];
- Providing the service at an acceptable range, levels and quality measured in terms of the service characteristics such as frequency, reliability, comfort and safety [*product*]. Since travel is a derived demand, as the types and levels of those activities that require passenger transportation change, so can the demand for public transport service be expected to change;
- Providing the service at an acceptable price measured in terms of the fare systems, levels, fare discounts, concessionary fares, and subsidy [*price*].
- Providing service where and when it is needed on good facilities such as routes, termini and stops and ticket sale and information sources [*distribution/place*]. Not all time savings are equal though, for instance, the time spent getting to and from motorised transport, or waiting for the vehicle to arrive or depart appear to be more onerous than the time spent actually travelling in the vehicle;
- Telling customers about the services provided using relevant methods of communicating such as advertising, sales promotion activities, publicity, public relations and the provision of timetables and fares [*promotion*];
- Public transport is produced and consumed simultaneously, the driver and various operating staff are necessarily part of the production process as well as the front line sales and public relations personnel and hence need to behave as such [*people*]. In other words, public transport personnel influence the service delivery process through their behaviour [*process*]. In addition, the market for transit services comprises of individuals with heterogeneous tastes, and the level of demand can be expected to vary between different geographic and socio-economic subgroups of the population; and

- While transit is an intangible and instantly perishable product, for instance, seat kilometres not sold on a particular trip cannot be stored or resold. Physical presence is also clearly an important element of the marketing mix in respect of the vehicle and its environment, colour, furnishings, destination display, cleanliness, and protection from the elements [*physical evidence*].

### **Markets served by public transport**

There is a need to define the markets served by public transport to ensure proper targeting, for example, journey-to-work, student travel, discretionary trips during the off-peak [pensioners, persons with disabilities, and so on], private hiring, and premium services [airport transfers] markets. The journey-to-work market provides the base load for most transit operators and determines the size of their fleets. Distinct sub-markets include, suburb to city centre, home to suburban workplaces, and feeder travel to and from city rail. These markets can further be segmented to reflect the diversity of each category. Relentless suburban shopping and employment centre development in South Africa creates changes in travel patterns so that there is an on-going need to match passenger requirements and services provided.

### **Factors affecting mode choice: Services marketing**

At a theoretical level, services marketing is predicated upon the view that public transportation is a service that consumers purchase. And, as a service, it is intrinsically intangible, but it has tangible manifestations such as the vehicle, a train seat, or a waiting area. The critical question is how to market this intangible service through promotion of the tangible aspects<sup>10</sup>.

### **Factors affecting mode choice: Cultural perspective**

The cultural perspective relates to how purchased goods or services have a cultural meaning, and how these services satisfy both a need for consumers to communicate intangible information about themselves, and a need for them to realise personal goals and ambitions<sup>10</sup>. The point made is that an ideal travel mode not only serves transportation needs, but also confers status and prestige upon the user, as well as communicate that person's financial and spatial freedom to others. In contrast, public transport use, while it satisfies the transportation need, confers upon the user the image of being poor or of lower class, and the published schedules and routes are the antithesis of freedom of movement.

### **Factors affecting mode choice: Reinforcement perspective**

The reinforcement perspective is a psychological analysis of the inherent transportation rewards and punishments. It is postulated that transportation systems confer immediate rewards [convenience and privacy] primarily to private car users<sup>10</sup>, but that the punishments for using the automobile [maintenance costs and pollution] are delayed temporally. The rewards for using other modes



[reduction in pollution and congestion] are delayed while their abundant punishments [longer travel times, and exposure to inclement weather] are immediate. Consumer behaviour is also affected by who actually receives the benefits, the individual or society. It is clear from the above that the benefits of private car use accrue to the individual, whereas society receives the disadvantages. In contrast, alternatives to the private car yield benefits to society, whereas the individual receives the majority of the disadvantages.

## **BUILDING PUBLIC TRANSPORT PATRONAGE**

### **Customer-orientation**

Passenger needs are generally for convenient, comfortable, safe, reliable and economic transport, as enumerated in the white paper<sup>4</sup> The level of these needs often change over time which has, curiously, the effect of spawning a truism: the better passengers are served, the better they will expect to be served. How best then can the transit industry serve these needs given the financial and historical circumstances which have characterised the industry?

- Public transport best serves its customers where fares and routes are integrated and where it offers access to a wide range of destinations with easy transfers achieved through purpose-built interchanges [where passengers can change modes in safety, and protected from the elements];
- Public transport must gain preference in the road system appropriate to its much more economic use of road space in order to compete with the private car.

Most operators pay lip service to customer-orientation. To become truly customer focussed, it is necessary for operators to internalise policy objectives, such as, developing customer-oriented values, committing to change, gaining full organisational involvement, committing to training and development, and monitoring performance<sup>11</sup>.

### **Integration of marketing research into transit management**

Public transport in South Africa is operating in a tough economic environment and increasingly it faces belt-tightening, lay-offs and elimination of nonessential services and programmes. A key policy objective is thus to cost-effectively acquire new riders and to retain existing ones. An effective market and customer research programme could make a significant contribution to clarifying and finding solutions to such a policy objective<sup>11</sup>. However, despite evidence to the effect that marketing research is a critical cog in gaining market share by becoming more customer-oriented, very few public transport operators in South Africa presently undertake rigorous market and customer research. Even fewer of them act on the results of the research, largely because it has not been integrated into the key strategic and policy decisions of the industry. Thus market and customer research is central to customer-orientation by way of:



- Generating information about customers' current and future needs and the factors affecting them;
- Assisting the organisation in reconciling these customer needs with what the organisation is capable of and willing to present to the market;
- Monitoring the effects of the activities designed to meet selected customer needs in achieving goals and objectives; and
- Managing change by integrating market and customer research into transit management.

Pioneering customer satisfaction research by Peters and Waterman suggests that both satisfied and dissatisfied customers dramatically affect a firm's bottom line<sup>11</sup>. The authors enumerated contributing factors, as follows:

- One hundred satisfied customers generate twenty-five new customers;
- For every complaint received, twenty other customers feel the same way but do not bother complaining; and
- The cost of getting a new customer is five times as great as the cost of keeping a satisfied customer.

Even though this research relates to a different client base, it is nonetheless clear that customer retention is an important factor in increasing revenues due to the higher costs of getting new riders. Loyal customers provide word-of-mouth advertising for the operator. Hence the first step in retaining existing customers and attracting new ones is adapting the service to customer needs.

#### **Adapting the service to customer needs: Mainstreaming paratransit**

The GPMC is currently experimenting with a smartcard-based system termed *Taxilink* complete with colour coding which is supported by appropriate regulations, including the formalisation of the industry with a view to upgrading service levels. The colour coding system is based on two elements, namely, the colours on the vehicle to inform the users about the vehicle's authorised route[s], and the bar-code system, which contains information about the vehicle, owner, driver and routes. The same technology can be used to access ranks. This pilot project has since won rave reviews from the industry and users. In order to bring all operators into the fold, however, it is prudent to deploy an effective and far-reaching marketing strategy. The effective implementation of *Taxilink* is likely to significantly reduce and ultimately eliminate the turf wars characteristic of the industry.

#### **Adapting the service to customer needs: Modal integration through timed transfer**

Timed transfer refers to schedules arranged such that transit vehicles on two or more routes meet at predetermined times at a central location to exchange passengers [akin to the spoke and hub concept

of the airports]<sup>13</sup>. This idea could be promoted through brochures, flyers, maps, vehicle signage, bus schedules, scratch cards [tickets, hampers], news releases, radio advertisements and personal discussions with passengers to inform them about the system. Management could schedule a series of photo opportunities and radio talk show appearances.

### **Adapting the service to customer needs: Achieving public transport integration**

The underlying aim for intermodal transport is to optimise the effectiveness of the current and required transport networks and services. This means that transfers should be encouraged only at locations with the highest transfers [railway stations] and where it will be beneficial to the passenger [in terms of shorter travelling time or less costs]. It is thus not surprising that performance objectives of public transport, such as improving speed and service levels, lowering systems costs and better safety levels can only be fully realised within the context of a totally integrated public transport system undergirded by ICT. It could also entail improving connections between modes by reducing or eliminating the barriers experienced by travellers in transferring from one mode to another. These are barriers of cost, lack of information, inconvenience, feelings of risk and discomfort, and reliability which entails finding out what people want, how they will react to changes, and what prices they are ready to pay. It could also mean developing better infrastructure, such as interchanges and information centres and improving security by making public transport modes and stations safer both from the point of view of personal security and from accidents, including freedom from feelings of insecurity and risk.

Most public transport operators lack any economic incentives for integrating fares largely because of the subsidy they receive from the government. This is exacerbated by the fact that there exists fare level differentials between the same modes and between different modes as well as differentials in terms of fare systems [flat fares per month versus zonal fares] and subsidy mechanisms [deficit, ticket subsidy and contract systems] in the same metropolitan area, which presents problems in terms of route rationalisation, through ticketing and integration of services. However, successful integration means that the users of the system perceive it as a single system, for example, information must be available about tariffs, routes and timetables of the system. This information should be available at different places and should be presented in static and dynamic forms [written, oral, telephonic and media, including the Internet].

### **Maintaining existing client base**

Public transport operators have to be responsive to a wide range of objectives and influences, including concerns about maintaining established services, balancing budgets [in which user revenues are usually a minority component], legal constraints, public safety; and social equity and political considerations<sup>11</sup>. Responding to marketplace signals about demand is often well down the list of priorities. Nevertheless, in balancing the many competing objectives, the factors affecting demand

should not be taken for granted. The policy prescriptions that can be inferred from travel demand research can be characterised thus:

- Concentrate good services on the most responsive areas and groups [low-income, largely townships dwellers];
- Focus on providing good service and not be overly concerned about fare levels; and
- Set aside research and development budgets to induce innovations in public transport infrastructure and services provision.

<b>PERCEIVED PUBLIC TRANSPORT PROBLEMS AND POTENTIAL SOLUTIONS</b>	
<b>Problem</b>	<b>Service Improvement Strategy</b>
Crowding on all modes, difficult to get off	Demand responsive operations; Computer-aided dispatch; Increased frequency
Long waiting time	Dynamic scheduling; Improve route structure; Traveller information systems
Inadequate protection from the elements	Data to support planning; public/private partnerships; Customer-orientation
Modes not clean	Data to support planning, Customer-orientation
Modes do not adhere to timetable where there is one	GIS or GPS-based vehicle identification; Location and monitoring systems; Improve route structure and information dissemination
Lack of timetables	Advanced traveller information systems
Uncomfortable seats	Data to support planning; Customer-orientation [increasing comfort]
No space for parcels	Data to support planning; Customer-orientation
Too far to walk [home to mode]	Data to support planning; GIS-based AccessMap & AccessFlow; Feeder services; Fare integration; Services coordination
Shortage of modes at certain times	Demand responsive transit operations; Vehicle maintenance & automated reporting; CSIR's VIPS [licenced] and PTSM
Fares too high	Integrated ticketing; Electronic ticketing; Smart cards; Integrated transit management
Safety on modes	Improved transit security [emergency access to centre]
Safety at stations	Improved transit security [closed circuit TV; security guards]
Too many transfers	Integrated transit management; Data to support planning; Fare integration; CSIR's PTSM, Service coordination [timed transfers]; Tailored schedules
Lack of information and knowledge about services	Info dissemination: Bus stop/station information; Traveller information centre; Computerised and real-time information systems; Touch screen technology judiciously located
	Marketing: Fare incentives; Education; Image Advertising; Cooperative promotions

### **Adapting the service to customer needs: Attracting infrequent riders**

Does building transit ridership have more to do with getting people to ride transit every day, once a week, or a few days a month? This basic question has profound implications for transit marketing, pricing strategies, and transit financing. The transit industry has long focussed on regular riders, large numbers of trips, and daily commuting. Captive and public transport dependency concepts are also common in the industry's view of its markets. However, recent research challenges these views<sup>14</sup>.

Results from on-board surveys, fare structure changes and the transit subsidy [commuter check] suggested that the infrequent riders are a critical transit market and, perhaps, the key to building public transport patronage and revenues.

### **Application of marketing techniques: Direct marketing**

The deployment of marketing techniques such as direct marketing is critical to building public transport patronage. For example, the Tri-County Metropolitan Transportation District of Oregon [USA] has been mailing promotional packets complete with mail back cards for ten free public transport tickets to new residents since 1989. While the average response rate to the promotion has been thirty-two per cent, sixty-four per cent of the new riders continued to use transit one year after the initial mailing<sup>13</sup>. Pre-paying and the perception of a discount naturally builds ridership. South African operators should assess this option.

### **Service improvement and customer perception**

It is pertinent to realise that the level of service provided is not always constant. In fact, [for a fixed level of supply] it declines as demand increases. This decline in the quality of the product becomes most marked when the demand is approaching capacity. Perceptions about the level of service change too, for instance, the New York City Transit Authority embarked on project in 1992 involving service improvements in the areas of reliability, station and car amenities, customer information, employee recognition, and personal security, which was accompanied by a marketing campaign. The project was evaluated with a view to assessing whether subway services improvements had a positive effect on travellers' perceptions, whether there were links between service performance measures and customer perceptions, and whether service improvements had a positive impact on ridership<sup>12</sup>. The result showed that changes in riders' perceptions do properly reflect changes in the level of service.

### **Communication: Influencing customer and industry behaviour**

It is of little value if improvements in service level is not communicated to existing and potential users alike. Better communication could thus potentially be an important strategy for increasing patronage. It is therefore imperative to improve communication both vertically and horizontally between the various levels of Government, individual operators and their organisations and with passengers by, for example, establishing public transport fora as well as building the capacity of fora members to understand and respond to public transport issues [including facilitating conflict resolution]. Communication could also be through advertising, which can serve two important goals in selling services. It creates awareness [services you do not know, you do not buy] and it influences perceptions [services you do not like, you do not buy]. In this regard, what customers, government, the public and industry suppliers see, read or hear about public transport contributes to the subjective chance to get much more interested.

Communication can be enhanced by establishing traveller information centres complete with dedicated route planning telephone services, complemented by the judicious location of web-based touch screen technology applications, and manual or computerised information kiosks at hotels, malls, airport, intermodal transfer facilities, and busy pedestrian areas. The traveller information centres could provide a service for a group of operators. If travellers are informed so that they are able to make informed decisions about when, how and even if to travel, it is postulated that this will influence behavioural changes by way of a modal shift in favour of public transport.

## **OBSERVATIONS AND COMMENTS**

### **Stakeholder perception**

The development and deployment of ICT and marketing strategies are generally perceived to be not only unaffordable, but also a waste of scarce resources, that is, the opportunity cost is too great to overlook. This is also premised on the understanding that, because government often has to foot the subsidy burden for the provision of services, it is averse to risking major capital investment in uncertain new technology. This is true in some cases, particularly with regard to initial capital investment. However, once operational, most have proven to be cost-effective and efficient in the longer-term. Care should thus be taken, when investigating alternatives, to carefully evaluate long-term life cycle advantages of these instruments compared with the comfort zone epitomised by the status quo.

### **Public transport's poor image**

Public transport in South Africa is plagued by many problems that render it largely unattractive. The majority of its patrons are, of necessity, those who have no access to alternatives and therefore captive to it. However, what also needs to be understood, especially by public transport operators, is that when people have a choice of transport mode, they generally react to the poor standard of public transport by using alternative modes. In addition, if perpetuated indefinitely, this poor image could produce an ingrained negative attitude towards public transport [which would appear to be the current situation in South Africa]. This could have long-term deleterious implications for the economy. In view of the foregoing:

- The immediate and continuous objective should be to nurture a public which perceives public transport as a practical, realistic and economical alternative to the use of private cars; and
- It is imperative to maximise the cost-effective management and utilisation of the existing infrastructure, which necessarily entails the introduction of ICT undergirded by an effective marketing regime.

### **Pro-active development and deployment**

It is also important to understand that captive public transport patrons are unlikely to pressure government for incremental change, let alone fundamental restructuring of public transport. They generally have no exposure to alternatives. What this means is that public transport authorities and operators have to take the initiative. However, Government will continue to question the value of ICT in public transport particularly in terms of its funding, hence the noticeable absence of enthusiasm for it. Affordability considerations, especially in small concerns, could hinder the development and deployment of marketing and ICT strategies. Each potential application should thus be considered on its own merits, taking due account of competing priorities, cost-benefit implications and the cost of alternative solutions to the problem in question. This therefore calls for the need to pursue innovative funding mechanisms. However, it is paramount for the industry to invest in ICT and marketing strategies where it anticipates the generation of profits. Thus the development and deployment of ICT must intrinsically be consumer-led.

### **Service expansion and improvements**

Incremental expansion and service improvements can be implemented by operators of any size, and can be easily tailored to fit any agency's circumstances. These include improving the quality of the offered services [better on-time performance, reduced transfer time, coordination with neighbouring systems, and so on], as well as improving the quantity of service [such as adding feeder bus services or expanding reverse commute services]. It is also critical to concentrate capital expenditure and operating subsidies on the disadvantaged communities as they constitute the largest and consistent market. The affluent, who are usually passengers by choice, are but a small component of transit riders, most of whom are fairly satisfied with the current level of service. It would therefore be expensive to attract additional users from these communities.

### **Education and training**

The development and deployment of ICT and marketing strategies is predicated upon the existence or pro-active development of skills in both disciplines. There is therefore a need for extensive education and training in this area. In this regard, multimedia technology [complete with text, images, sound, motion pictures, and so on] offers an alternative way of delivering instruction to meet training needs in transit.

### **Law of diminishing returns**

It is germane to point out that in seeking to improve public transport services, the law of diminishing returns should not be ignored. Once a public transport service has been improved to a level which is acceptable to eighty-five per cent of its potential users, additional improvements will be costly, and are likely to have a negligible effect on patronage.

## **CONCLUDING REMARKS**

One strand of thought that filters through this paper is that on the one hand, South Africa is facing, and will continue to endure the harmful effects of congestion, road accidents and deleterious environmental impacts involving all modes of transport. On the other hand, there is neither the money nor, in some cases, the space to build a new infrastructure. In addition, public transport is operating in a crisis situation, underfunded and costly to its captive users. Against this background, the transit system is likely to continue facing pressure largely emanating from the rapid urbanisation involving natural population growth and migration engendered, in part, by the skewed national distribution of resources, economic activities and the quality of life, as well as the perceived opportunities brought about by the new political dispensation. It is thus imperative that new solutions are generated to ensure sustainable accessibility and mobility, and, by implication, development.

While marketing and ICT cannot solve all the problems related to entrenching public transport sustainability, they are destined not only to be more visible, but also to significantly influence the industry in the future. Their development and deployment, however, requires partnerships to be forged between the public transport industry itself and the relevant levels of Government in consultation with their clients with a view to working in concert to improve the image and quality of service, to provide the required comfort, reliability, passenger information and safety which could foster a modal shift in favour of public transport. Partnering and collaboration are thus decidedly critical for capturing synergism, leveraging resources, and accelerating progress in the provision of a vital service to the South African society.

## **RECOMMENDATIONS**

In order to increase public transport market share in South Africa, the transit industry in collaboration with the relevant levels of Government should seek to:

- Develop a well-defined and widely shared objective relating to the improvement of public transport undergirded by ICT and an effective marketing regime, which would imply fewer objections as well as stakeholder acceptance and blessing to experiment;
- Adopt a customer-oriented and commercially-based approach supported by high levels of operational efficiency, including initiating quick responsiveness to customer and community needs;
- Pro-actively communicate, educate, and publicize these efforts through an extensive outreach programme involving a broad cross-section of participants to ensure consensus and support;
- Develop appropriate human resources through on-the-job training and support as well as through institutions of higher learning. In order for this training to be successful, there is need for proper planning and market research; and



- Focus on measurable results that yield tangible benefits to the traveller.

## REFERENCES

1. MASHIRI, M.A.M., Baloyi, D. & Khumalo, S.G. 1998. **Accessible transport and community development: The Greater Pretoria Metropolitan Council experience.** Proceedings of the Urban Transport in Developing Countries Conference [CODATU VIII] entitled: Urban Transport Policy: A sustainable development , September 21-25, 1998, pp 705-708.
2. SOUTH AFRICAN NATIONAL DEPARTMENT OF TRANSPORT. 1998. **Moving South Africa.** Pretoria.
3. MASHIRI, M.A.M. 1999. **Application of ICT in public transport: A preliminary investigation.** Technical Report TR-99/028, Division of Roads and Transport Technology, Council for Scientific and Industrial Research [CSIR], Pretoria.
4. SOUTH AFRICAN NATIONAL DEPARTMENT OF TRANSPORT. 1996. **White Paper on National Transport Policy.** Pretoria.
5. GREATER PRETORIA METROPOLITAN COUNCIL. October 1997. **The marketing of public transport: Final Report.** Metropolitan Public transport Division [prepared by Ian Morton & Associates and Rodger Smith & Associates].
6. WALTERS, J. 1998. **The role of institutional structures at metropolitan level in South Africa in organising public bus transport.** Proceedings of the eighth conference on Urban Transport in Developing Countries [CODATU VIII], en titled: *Urban transport policy: A sustainable tool.* Cape Town, South Africa, September, 1998, pp 901-910.
7. MOTTL, T.O. 1997. **Information, infrastructure and ITS.** ITS Quarterly, Vol. 5, No. 2.
8. VENTRE, J.H. Britz, C. and Homes, X.T. 1996. **Application of First World principles and high-technology solutions for public transport in Third World countries.** Proceedings of the eighth conference on Urban Transport in Developing Countries [CODATU VIII], titled: *Urban transport policy: A sustainable tool.* Cape Town, South Africa, September, 1998, pp 21-25.
9. BOOMS, B.H. & Bitner, M.J. 1985. **Marketing strategies and organisational structures for service firms.** In: Cowell, D.W. *The Marketing of Services.* William Heinemann Ltd., London, pp 57-75.
10. EVERETT, P.B. & Ozanne, L.K. 1993. **Marketing theory and urban transportation policy.** Transportation Research Record, No. 1402, pp 51-56. Transportation Research Board, National Research Council. National Academy Press, Washington, DC.
11. TRANSIT COOPERATIVE RESEARCH PROGRAM. 1998. **A handbook: Integrating marketing research into transit management.** TCRP Report 37, The Federal Transit Administration, Transportation Research Board, National Research Council. National Academy Press, Washington, DC.
12. CHARLES RIVER ASSOCIATES. 1994. **Comprehensive line improvement study.** Final report for the Metropolitan Transportation Authority, New York.
13. AMBRUSO, P. C. 1993. **Cost-effectiveness of direct mail marketing to new residents.** Transportation Research Record, No. 1402, pp 43-50, Transportation Research Board, National Research

Council, National Academy Press, Washington, DC.

14. ORAM, R.L. & Stark, S. 1996. **Infrequent riders: One key to new transit ridership and revenue.** Transportation research Record, No. 1521, pp 37-41, Transportation Research Board, National Research Council, National Academy Press, Washington, DC.