

# **PUBLIC TRANSPORT LIFESTYLE: HOW TO PROMOTE PUBLIC TRANSPORT ORIENTATED BEHAVIOUR?**

**ENR VAN DIJK and G HITGE\***

Transport Sector, SSI Engineers & Environmental Consultants, PO Box 5195,  
Tyger Valley, 7536

\*City of Cape Town, 12 Hertzog Boulevard, Cape Town, 8000

## **ABSTRACT**

The emphasis in the transport planning domain is shifting from car orientated planning to public transport first. This is not only reflected in new zoning schemes and parking requirements, but also in funding priorities which have facilitated the introduction of new Bus Rapid Transit (BRT) corridors and High Speed Rail (HSR) links in select areas.

Despite the positive movement towards “public transport first”, the debate with regard to making it happen appears to be lacking teeth. This is illustrated by the many municipalities that have set objectives for modal shift to public transport, yet then seldom support their objectives with realistic action plans that address the full spectrum of issues that may be associated with making public transport a lifestyle, or a smart choice for the majority of its residents.

The encouragement of public transport use, and thus a supportive lifestyle, requires not only the introduction of new services and hard infrastructure but also a series of supporting measures outside the transport domain, such as changes to land use and marketing.

This paper defines different areas for improvement which may influence the public transport perception of public transport captives, choice users and the (current) car captives. The proposed improvements may help to position public transport as a logical and smart choice for all.

## **1. INTRODUCTION**

The emphasis in the transport planning domain is shifting from car orientated planning to public transport first. This is reflected in Integrated Development Plans, Spatial Development Frameworks, Land Use Management Systems, and Integrated Transport Plans which:

- prioritise public transport;
- support appropriate densities and land uses; and
- propose Travel Demand Management measures.

In addition, national funding priorities have enabled the implementation of Bus Rapid Transit (BRT) and High Speed Rail (HSR) in South Africa. The completed projects have shown that public transport can provide an appealing transport option and attract a new kind of user to the system. In Cape Town it is estimated that about 17% of the BRT users previously only used the car, suggesting that the new system successfully addresses some of the needs of former car users.

Despite this positive movement towards “public transport first”, the debates appears sometimes to be simplistic and too much focused on the provision of a generic technical solution instead of understanding and addressing a wide range of complementary and, in some cases, contradicting user needs. The introduction of a new system such as BRT or a scheduled bus service will, without incorporating different user needs, not provide an acceptable transport option for all users.

This paper aims to encourage the debate about the need to establish a public transport lifestyle through comprehensive and integrated planning. In doing so, it acknowledges the need to retain existing users while expanding the public transport market. It proposes that a range of factors should be addressed in order to make public transport use the norm rather than the exception for people with a choice of mode.

The next chapter elaborates on the concepts of lifestyle and behavioural choice models, showing that travel behaviour is determined in a number of ways. The third chapter is used to discuss four layers with different dynamics, on which an implementing agency can intervene to influence travel behaviour. The fourth chapter addresses different quality aspects associated with the public transport user perception, showing that there are five quality aspects that should be improved. Chapter five provides a status quo overview of Cape Town, listing pockets of excellence and problems that can be found dispersed over the city. The concluding chapter reflects on the status in Cape Town and provides an overview of issues related to each quality aspect that should be addressed in order to promote public transport first among travellers. The paper concludes with an epilogue that explores briefly how the concepts discussed can be taken forward.

## 2. DEFINING LIFESTYLE IN THE CONTEXT OF PUBLIC TRANSPORT

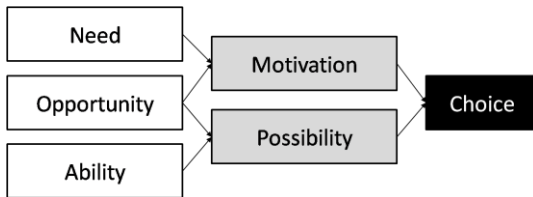
No agreed on definition of Lifestyle in the context of transport exists in the literature. Common in most definitions is the notion that lifestyle is associated with either behaviour or underlying values (Kitamura, 1988). Kitamura acknowledges that an important difference is that behaviour changes according to the environment, while values are typically sustained. This paper focuses on behaviour as this aspect of lifestyle can be influenced within the planning domain.

One popular definition of lifestyle is: *“a characteristic bundle of behaviours that makes sense to both others and oneself in a given time and place, including social relations, consumption, entertainment, and dress. The behaviours and practices within lifestyles are a mixture of habits, conventional ways of doing things, and reasoned actions. A lifestyle defines who you are and how you choose to deal with many conflicts and issues that arise in your life. Although people like to think of a lifestyle as something of their creation, lifestyles are often influenced by many outside factors. Those outside factors often make many people have the same lifestyle...”* (Wikipedia, n.d.)

In transport environment, the mix of habits, values, and reasoned actions may become apparent in activity, trip, modal, and route choice. This principle is reflected in behavioural theory in various forms, for example the Need Opportunity Ability (NOA) model (see Figure 1), which unbundles travel choices (Wee & Dijst, 2002). The three aspects are interpreted as follows:

- **Need** to travel is derived from the desire to access household activities such as employment, education, shopping, social events. It is assumed that these desires are a function of the value system of that household.

- **Opportunity** includes perceived and actual provision of appropriate connections in time (before and after desired activity period) and space (link origin to all desired destinations). The connections are evaluated in terms of factors like quality, affordability and ability to serve the full trip chain.
- **Ability** refers to the physical, economic and intellectual characteristics of the user that determine access to the opportunity.



**Figure 1: NOA model**

Based on Wee & Dijst, 2002

The motivation for a particular choice of mode increases with stronger needs and better opportunities, while acting out the choice is only possible when the ability to do so exists. The strength of a need typically depends on it being compulsory, like a work trip, or voluntary as for a social trip. For the latter, the opportunities may have to be better in order to motivate taking the trip, while weak opportunities may be considered for the former.

For the purpose of this paper, a public transport orientated lifestyle is defined as one where the household members are motivated and have the possibility to choose public transport to access most activities.

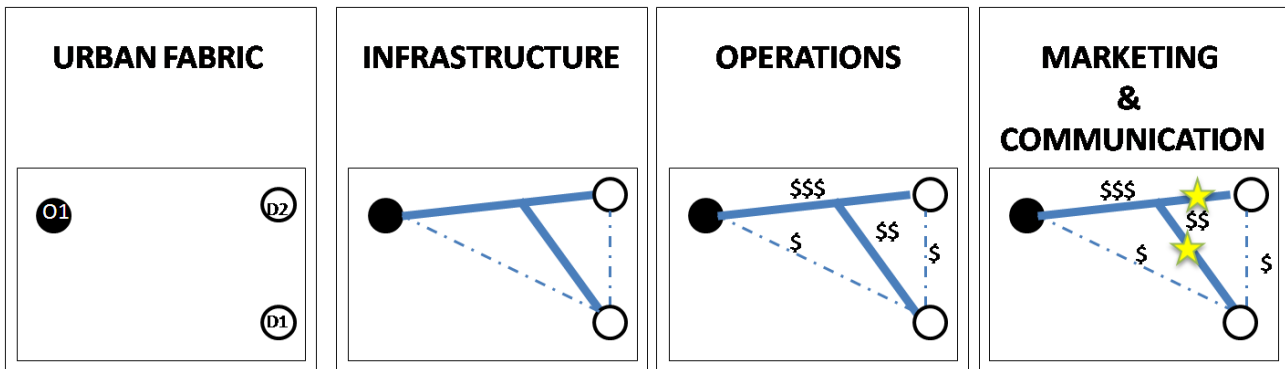
### 3. DEFINING OPPORTUNITIES IN THE CONTEXT OF TRANSPORT PLANNING

As described above, while acknowledging that values change over time, a household's need or desire to travel is assumed to be fixed. The ability or capacity to exercise different choices generally changes according to lifecycle changes, which include changes in age, economic status and physical ability.

Opportunities, however, are co-determined by the land use and the transport planning professions, and consist broadly of four aspects that are widely acknowledged in a diverse body of literature (see amongst other Wegener & Fürst 1999, Meyer & Miller, 2001; Newman & Kenworthy, 1999; Bertolini & Le Clercq 2003.):

- Urban fabric
- Infrastructure
- Operations
- Communication & Marketing

Opportunity is therefore determined by the distribution of activities, availability of infrastructure, appropriateness of operations and level of awareness. If even one of these components is underdeveloped, the opportunity will be limited to fulfil the desires of the household members (see Figure 2). These components together, and not infrastructure and operations alone, therefore determine the actual and perceived opportunity.



**Figure 2: Components determining opportunity**

### 3.1 Urban Fabric

For the purpose of this paper, Urban Fabric is understood to include the distribution of activities, design of neighbourhoods, quality of public realm and all other urban aspects that influence the user’s perception of their environment from an origin or destination to the public transport access point.

It is widely acknowledged that the urban fabric, in terms of spatial distribution of activities and urban design, influences travel behaviour. Appropriate urban fabric is needed to provide public transport in an economically sustainable manner, as a certain user threshold is required (see Wegener & Fürst 1999 and Meyer & Miller 2001). As a result, public transport is likely to provide a better service, and thus a better opportunity for users, in cities that are well designed, have a diversity of land uses at appropriate densities (Cervero, 2004).

Public transport supportive design principles under various banners, including Transit Oriented Development, Smart Growth and Station Area Development, have responded to the relationship between public transport and land use. Empirical studies have shown that greater diversity of land uses in close proximity to primary or feeder services lower the use of private car without taking away access to social and economic opportunities (see Cervero & Kockelman, 1997; Cervero, 2004; Crutis et al. 2009; Bertolini & Spit, 1998).

Changing the urban fabric in support of a public transport lifestyle is a long term process and requires conviction and then strong leadership to drive transformation.

### 3.2 Infrastructure

The transport network enables travel between origins and destinations. Infrastructure has had significant impact on the development of cities, which expanded with the introduction of new infrastructure connections, such as street car and railway connections (Muller, 2004; Newman & Kenworthy 1999). It should be noted that the characteristics of the network only set the scene for operations. For example, a dedicated bus lane can be used by a local bus or an interregional bus service, which have very different service characteristics.

Infrastructure should therefore primarily be seen as theoretical capacity to move from A to B, which does not necessarily have to be utilised to the full extent in an operational

manner. However, even with the same operational capacity, infrastructure alternatives, for example light rail and BRT, are perceived and responded to in different ways in different communities. Infrastructure does therefore indirectly determine choice.

The development of new infrastructure is a lengthy process as a broad set of approvals and processes need to be dealt with. For example, Wright (2004) indicates that a typical BRT corridor takes up to 18 months to construct. In South African context, Gautrain took over 10 years from conceptualising to completion, while similarly, the Khayelitsha rail extension took more than 10 years to complete.

### 3.3 Operations

For the purpose of this paper, 'operations' is used as a broad definition that defines the level of service relative to the existing theoretical infrastructure capacity. Improved operations, with additional services, different alternatives and reliable schedules can increase the motivation to travel. In addition, client focused interventions for special needs travellers can enhance the possibility to make use of the system.

Operations could be changed on relative short notice as mutual agreed by a transport authority and vehicle operator. However, this still requires planning and interaction with relevant stakeholders. The effect of changed operations may be initially limited as lack of clarity may confuse the (potential) user as time tables are unknown or routes have changed.

The planning of operations and communication to users can take months, while the implementation is immediate.

### 3.4 Communication and Marketing




Communication and Marketing for the purpose of this paper is perceived as branding, schedule and other information, as well as campaigns aimed at supporting the sustainability of the service. Communication and marketing may help to ensure that perceived operations is at least matching actual operations. Marketing and information campaigns can increase awareness, change community perception and highlight advantages of a specific service. Lack of image is one of the reasons why public transport users aspire to own a private car (Wright, 2004). Experiences with personalised travel planning also have shown that focused interventions may have a great impact on the use of public transport system.


Communication and marketing could have a permanent and temporal nature and its impact on choice may differ. For example, some marketing interventions are long term, such as a strong, successful brand of a service, while focused promotional actions could be applied to seasons and special events.

### 3.5 Overview

Table 1 provides an overview of the layers listed above.

**Table 1: Land use and transport aspects that co-determine travel behaviour**

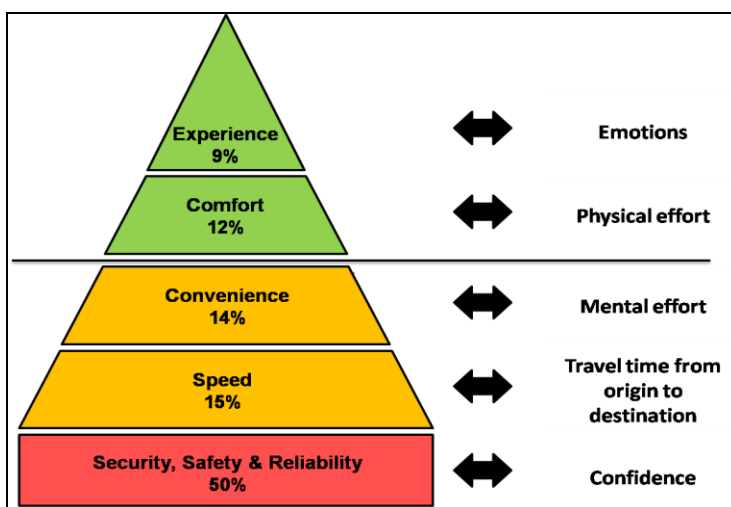
Layer	Type of impact related to decision making	Indicative timeframes
<p>Urban fabric</p> 	<p>Dictates</p> <p>The spatial distribution of activities may determine in which manner household members fulfil their desire to travel.</p>	<p>20 – 40 years</p> <p>Land use change may take a considerable amount of time. This is determined by amongst other investment recapitalisation and complexities in terms of development rights.</p>
<p>Infrastructure</p> 	<p>Enables</p> <p>Infrastructure acts as mobility route which may enable operations that link origin and destinations. Infrastructure may evolve over time e.g. footpath to road, to BRT to LRT, to heavy rail.</p>	<p>5 – 10 years</p> <p>Planning, engineering and approval may take a considerable amount of time.</p>
<p>Operations</p> 	<p>Realises</p> <p>The operations indicate the use of the constructed infrastructure.</p>	<p>6 – 12 months</p> <p>Generally service level planning is implemented on annual basis to keep clarity for users.</p>

<p>Communication and marketing</p> 	<p>Informs</p> <p>Has the ability to highlight service level changes, promotional offers, travel time savings, and carbon footprint reduction.</p>	<p>3 – 6 months</p> <p>The development and implementation of a concise and effective communication and marketing strategy may take a few months.</p>
--	--	--

#### 4. UNPACKING INDIVIDUAL OPPORTUNITIES IN TERMS OF USER PERCEPTION

Opportunities in different forms and shapes, as discussed in previous chapters, are perceived differently by each type of user. For instance, public transport captives and choice users will value different aspects. Research conducted in 2003 in the Netherlands, where public transport is available to both captives as choice users in the system, aimed at identifying the most important quality aspects. It showed that approximately 20% perceived experience and comfort as primary motivation to use the train, while 80% deemed safety & security, speed and convenience as most important. The National Household Travel Survey conducted in South Africa in 2003 showed similar aspects that were highlighted by the different user groups (DoT, 2003).

These five quality aspects (Shown in Figure 3) comprehensively define the user perception, which in turn determines the attractiveness of the opportunity provided. Therefore, these quality aspects should be reflected in land use, infrastructure, operations, as well as communication and marketing in order to influence travel choice of household members. If it is the objective to attract a typical car user, qualities related to the use of the private car should be incorporated into the design of the public transport system.



**Figure 3: Quality aspects associated with public transport use**

Source: based on Van Hagen, 2003.

Table 2 provides practical examples of the characteristics associated with each quality aspect when associated with each opportunity.

**Table 2: Practical examples of how quality aspects can be associated with each opportunity**

	<b>Experience</b>	<b>Comfort</b>	<b>Convenience</b>	<b>Travel Time</b>	<b>Security, Safety, Reliability</b>
<b>Urban Fabric (Activities in time and space)</b>	<ul style="list-style-type: none"> <li>- Sense of space of public space</li> <li>- Quality of urban design</li> </ul>	<ul style="list-style-type: none"> <li>- Easy access without unnecessary barriers</li> <li>- Lighting and sheltered walkways</li> </ul>	<ul style="list-style-type: none"> <li>- Orientation and way finding in station area</li> </ul>	<ul style="list-style-type: none"> <li>- Diversity of land uses in close proximity</li> <li>- Pedestrian friendly environment</li> </ul>	<ul style="list-style-type: none"> <li>- Services in a station area are predictable (appropriate and fixed operation hours)</li> <li>- Crime preventive design principles are applied</li> </ul>
<b>Infrastructure (Actual capacity to provide services)</b>	<ul style="list-style-type: none"> <li>- Sense of space of public transport interchanges</li> <li>- Mode: BRT / LRT / MBT</li> </ul>	<ul style="list-style-type: none"> <li>- Level boarding and alighting</li> </ul>	<ul style="list-style-type: none"> <li>- Orientation and way finding in the station</li> </ul>	<ul style="list-style-type: none"> <li>- Dedicated and semi-dedicated right of way</li> </ul>	<ul style="list-style-type: none"> <li>- Appropriate design standards</li> </ul>
<b>Operations (Actual provided services)</b>	<ul style="list-style-type: none"> <li>- Customer orientated focus</li> </ul>	<ul style="list-style-type: none"> <li>- Appropriate vehicle configuration and seating capacity</li> </ul>	<ul style="list-style-type: none"> <li>- Logic and regular scheduling</li> </ul>	<ul style="list-style-type: none"> <li>- High average operational speed</li> <li>- Limited egress and digress times</li> </ul>	<ul style="list-style-type: none"> <li>- Appropriate safety system and security protocols in place</li> <li>- Visible presence of enforcement in place</li> </ul>
<b>Communication &amp; Marketing (Information sharing and promotion)</b>	<ul style="list-style-type: none"> <li>- Strong brand</li> </ul>	<ul style="list-style-type: none"> <li>- Proactive information sharing</li> <li>- Legibility</li> <li>- Multiple languages</li> </ul>	<ul style="list-style-type: none"> <li>- Easy access to information via diverse media.</li> </ul>	<ul style="list-style-type: none"> <li>- Certainty of waiting time and vehicle trip time (dynamic travel information)</li> </ul>	<ul style="list-style-type: none"> <li>- Reassuring messaging (crime reports)</li> </ul>

## 5. CASE OF CAPE TOWN: ASSESSMENT OF OPPORTUNITIES IN CAPE TOWN

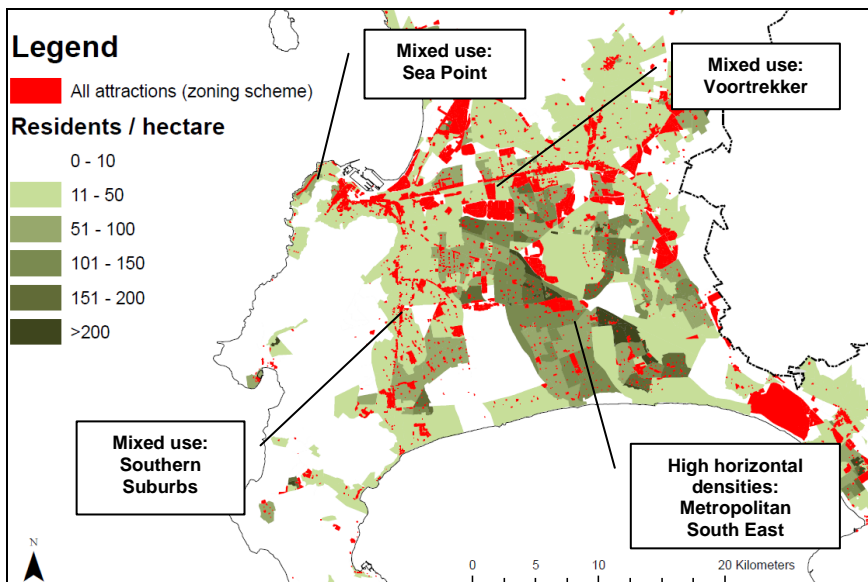
The public transport market will be discussed according to the four layers: urban form, infrastructure, operations and communication & marketing. In this paper, Cape Town will be taken as an example to set the scene and highlight practical examples of both pockets of excellence and concerns that either already provides the opportunity that enable a public transport orientated lifestyle, or have a clear need for improvement.

### 5.1 Urban form

Over the years, Cape Town has become comparable with typical American car-orientated cities, like Los Angeles (OECD, 2009). 96% of the residential areas consist of single-family dwellings (idem). As a result of low density urban sprawl, the average density of the built-up area of Cape Town consists of approximately 13 dwelling units per hectare (du/ha), with densities as low as 3.9 in some suburbs and up to 100 in informal settlements (Cape Town 2009a). Unfortunately the very high density areas are not always in proximity of high capacity public transport. When comparing this to Transit Oriented Development (TOD) guidelines, which range between 17 and 74 dwellings per hectare (Cervero, 2004), it is clear that the majority of areas within the city do not have the densities to support public transport in a viable manner.

There are, however, a few areas in the city, where both densities and mixed used environment exist that could support public transport. Figure 4 shows a few examples.





**Figure 4: Population densities and employment opportunities**

Source: compilation of Census, 2001 and Integrated Zoning Scheme City of Cape Town, 2011.

In addition to the low densities in some areas, open design principles are seldom applied resulting in pedestrian unfriendly built environments. In the larger CBD however, over time, streets have been pedestrianised and new cycling infrastructure has been provided. This improves the attractiveness of cycling and walking which may result in increasing the catchment areas of public transport interchanges.

Seventeen City Improvement Districts exist in the City (Cape Town, 2009b), providing additional services such as security and improved maintenance of infrastructure (including NMT infrastructure). These improvements of urban space not only support walking and cycling to public transport stops but also provide an attractive urban environment to visit, shop, conduct business and work.

The urban environment around public transport interchanges is mostly poor, which creates an experience that is unsatisfying to captive users, and prohibitive to potential new users. Efforts to improve this include high quality finishes of new BRT stations, urban design improvements to Park and Ride facilities, and policy shift towards development that is public transport conducive. However, the actual improvement is only slowly happening, and in some cases only in select areas.

## 5.2 Infrastructure

The backbone of public transport infrastructure established in Cape Town is an extensive commuter rail network. The remaining road based system is mostly in a mixed traffic environment, except for one BRT corridor and a number of BMT / HOV (Bus-Minibus-Taxi / High Occupancy Vehicle) lanes. The system covers the whole city extensively, except for the northern suburbs where the distance to trunk routes is considerable. The infrastructure in Cape Town consists of the following elements (Cape Town, 2009c; Cape Town, 2011):

- 150 km of rail corridors, 108 stations.
- 16 km of dedicated Bus Rapid Transit (BRT) corridor, 17 high-floor stations.
- 130 BRT feeder stops.
- 3 000 bus stops, 1 100 shelters.
- Unlimited MBT stops.
- > 50 km BMT lanes.
- >2000 Park & Ride bays.

Different levels of quality characterise the network. On the one hand, BRT infrastructure is brand new; the road network is in a good condition; and three new rail stations have been constructed in recent years. On the other hand, rail infrastructure is in a poor condition; rail stations look tired; and bus stops, termini and ranks do not offer sufficient protection and provide limited added value to users (such as information, facilities, etc).

### 5.3 Operations

The vehicle fleet is aged and offers limited convenience, comfort and experience to users. Trains are crowded; poorly cleaned and maintained; and there is a lack of seating capacity. The fleet of conventional buses consist partly of old buses with limited quality, except for a limited number of new low floor buses that operate in specific areas. MBT's have been improved as a result of taxi recapitalisation programme but are still characterised by overcrowding and unsafe driving practice. BRT on the other hand provides new buses with both sufficient seat and standing capacity at present.

Only commuter rail and BRT provide regular schedule services throughout the day, conventional bus offers schedule services mainly during peak hours, and MBT provides unscheduled services throughout the day. The BRT is the only form of public transport that provides a consistent service to users through regular intervals during peak and off-peak. Rail frequencies are quite high during peak (10 - 20 minutes depending on the line), but very low during the off peaks (up to 1.5 hours). The conventional bus service is very limited between peak hours. Similarly, the two business express train services only provide a single service during peak hours.

Only the BRT and the business express trains provide travel times that are reasonably competitive with private car during peak hours. Other operations are slow and experience the same traffic conditions as the private car.

There is 24 hour security at BRT stations. In addition, a roaming security team is active during operational hours and CCTV support is present at BRT stations and buses. For rail, CCTV is provided at a limited number of stations and enforcement is done by SAPS Railway Police Unit. In general, no CCTV and security is present at taxi ranks, bus termini, or bus stops. Despite the limited quality of facilities, stations and vehicles are reasonably clean.

There is no integrated ticketing system in place, and each mode has its own ticketing systems. BRT has an electronic fare system, with feeder, trunk and combination rates. Rail has no standard ticket control, except for random checks and checks at some stations such as the Cape Town Station. Rail tickets are provided in single, return, weekly and monthly between origin station and destination station.

### 5.4 Communications and Marketing

The public transport system is not marketed as a whole, and each operator does it own marketing to a greater or lesser extent. There is virtually no coordination and lack of sufficient effort is apparent for most operators. In many cases marketing is targeted at the existing users, with no campaigns to attract new users to the system.

A strong brand has been established by a limited number of services within the public transport arena. The BRT trunk, feeder and stations have obtained strong identity through

concentrated effort. In addition, the Business Express trains have a strong brand. Other components of the public transport system may have established a strong identity, but these are typically not positively associated with high-quality public transport.

There is a transport information centre that provides information to users about all public transport operations. None of the operators publish schedules in print form, which limits access to information that should ideally be available in as many forms as possible. There are several periodical public transport information brochures such as Blitz Magazine and Bus Buzz.

Schedules for rail can be easily consulted via the internet, but information about conventional bus services is scarce as a clear map is not available to potential users. Some commuter rail stations have dynamic travel information systems, but these are not consistently active. In addition, there is a pilot under way for commuter rail with real time SMS notifications.

## 5.5 Concluding remarks on Cape Town System

The urban form, infrastructure, operations and marketing components in Cape Town each show positive examples which, however, only occur at limited parts of the system. Some positive elements include:

### **Urban Fabric**

- Medium density mixed built environments exists, such as the Southern Suburbs, Sea Point, and Voortrekker Road.
- High densities are available in the Metropolitan South East.
- City Improvement District exists where improvements of built environment are pursued, increasing the attractiveness of station areas.

### **Infrastructure**

- The network coverage of higher order public transport (rail and BRT) is quite good, bringing a large share of the city within reach of public transport.
- BRT provides high quality infrastructure and facilities that are brand new and are well design to improve travel experience.
- Some new rail stations have been constructed in recent years.
- Road infrastructure is in good condition.

### **Operations**

- BRT provides consistent time table service throughout the day.
- Operations of Business Express trains and BRT provide services that are reasonable competitive with private car in terms of travel time.
- BRT provides rigid security through CCTV and roaming teams.
- Station areas are generally clean.

### **Marketing**

- Dynamic travel information is displayed at some commuter rail stations.
- BRT and Business Express Trains have a strong brand that appears to be appealing to car users.
- BRT uses smartcard payment which increases convenience of use.
- SMS pilot is underway with cancellation and delay notification for commuter rail users.

Many examples above show that the problem in Cape Town is not the lack of good practice, but rather the lack of integration between the different components; the lack of transferability of best practice between operators; and the lack of coordination between

land use and transport planning. Each of these pockets of excellence is potentially sufficiently conducive to promoting public transport but need to be fully unlocked by combining these elements into one public transport experience. The examples also show that the creation of a public transport lifestyle requires more than a technical solution. The combination of aspects above shows that a more integrated and holistic approach is required in order to effectively enable public transport oriented behaviour.

## **6. CONCLUSION**

The lifestyle we associate ourselves with is depending on our perceptions, experiences, attitude and values. Opportunities must be created, needed and seized by each individual. Different models show that behaviour can be influenced from different angles, which in turn co-determine lifestyle. It is argued that the municipality can intervene within four areas of intervention, being:

- Urban Fabric
- Infrastructure
- Operations
- Marketing

The ability to change these areas of intervention differs as different dynamics underlie each layer. Within each of these layers, the user experience in terms of safety & security; speed; convenience; comfort; and experience should be optimised by implementing interventions that promote this.

This paper provides a framework with issues that should be addressed in order to increase the public transport perception, and thus the likeliness of public transport orientated behaviour by travellers. A total of twenty focus areas have been identified where municipalities can intervene to gradually turn the notion public transport first into reality. This overview could act as a framework for assessment of public transport systems, and indicates a way forward for public transport system development in metropolitan areas.

Despite the fact that each individual intervention shows its merits, it should be noted that only a full package of interventions may provide the optimal environment in which public transport orientated behaviour is the norm rather than the exception.

Additional research is required to reflect and improve this lifestyle framework. This would include additional analysis of behavioural theories.

## REFERENCES

1. Bertolini, L, and Le Clercq, F, 2003, Urban development without more mobility by car?, *Environment and Planning*, 35, 4: 575-589.
2. Bertolini, L, and Spit, T, 1998, *Cities on Rail: the Redevelopment of Railway Station Areas*. London: E & N Spon.
3. Cape Town, 2009a, *Densification Strategy*, City of Cape Town, Cape Town.
4. Cape Town, 2009b, *Special Rating Areas (SRA) / City Improvement District (CID) Levies 2009/2010*. City of Cape Town, Cape Town.
5. Cape Town, 2009c, *City of Cape Town - Integrated Transport Plan 2006 To 2011*.
6. Cape Town, 2011, It is not just about the bus. Lecture at Bus Planning and Operations Management Course, University of Cape Town, 20 September 2011.
7. Cervero, R, Murphy, S, Ferrel, C, Goguts, N, and Tsai, Y, 2004, *Transit-Oriented Development in the United States: Experiences, Challenges and Prospects*. TCRP Report 102. Washington DC: TCRP.
8. Cervero, R, and Kockelman, K, 1997, Travel demand and the 3Ds: Density, Diversity, and Design, *Transport Research*, 2 (3), 199-219.
9. Curtis, C, Renne, JL, and Bertolini, L, 2009, *Transit Oriented Development: Making it Happen*. Aldershot: Ashgate.
10. Department of Transport, 2003, *National Household Travel Survey*. Pretoria: Department of Transport.
11. Kitamura, R, 1988, *Special Report 220: A Look Ahead: Year 2020*, Transportation Research Board, National Research Council, Washington, DC, 149 – 189.
12. Meyer, DM, and Miller, EJ, 2001, *Urban Transportation Planning: A decision orientated approach: 2nd edition*, McGraw-Hill, Singapore.
13. Muller, PO, 2004, *Transportation and Urban Form: Stages in the Spatial Evolution*. In: Hanson, S. & Giuliano, G. (Eds) (2004) *The Geography of Urban Transportation 3rd edition*. New York: The Guilford Press.
14. Newman, P. and Kenworthy J, 1999, *Sustainability and the city: overcoming automobile dependence*. Washington DC: Island press.
15. OECD, 2009. *OECD Territorial Review Cape Town, South Africa*. Paris: OECD Publishing.
16. Van Hagen, M, 2003, *Belevingswaarde stations*. Conference paper submitted to Colloquium Vervoerplanologisch Speurwerk 2003.
17. Wee, B. & Dijst, M, 2002. *Verkeer en Vervoer in hoofdlijnen*. Bussum: Coutinho.
18. Wegener, M, and Fürst, F, 1999. *Land-use Transport Interaction: State of the Art*. Dortmund: IRPUD.
19. Wikipedia, n.d., *Lifestyle (sociology)*. [WWW page] URL [http://en.wikipedia.org/wiki/Lifestyle\\_%28sociology%29](http://en.wikipedia.org/wiki/Lifestyle_%28sociology%29). Visited on 2 May 2012.
20. Wright, L, 2004, *Training Course: Mass Transit*. Deutsche Gemeinschaft für technische Zusammenarbeit (GTZ), Eschborn, Germany.