SERVICE DESIGN: PRE-TRIP PLANNING FOR INTERNATIONAL VISITORS ATTENDING THE 2010 SOCCER WORLD CUP

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ABSTRACT

The 2010 FIFA Soccer World Cup, a multi-city event drawing visitors from around the world into the existing South African transportation system, provides an opportunity to showcase and learn about the impact of different passenger transport service design strategies. However, bid and subsequent planning documents for the event have focused on macro issues relating to the envisaged public transport systems. Designing passenger transport services for the event requires a good understanding of the different end users at an operational level. For example, there has been limited discussion of how the expected thousands of international visitors might cope with planning and subsequently using available public transport. This paper aims to discuss the challenge to enhance the personal travel experience (in terms of safety) through the access of pre-trip planning resources and highlights opportunities for research and development in trip planning resources. An overview is given of personal safety on public transport systems in South Africa and international visitor public transport use while in South Africa. As a case study, the status quo of pre-trip planning resources in metro Johannesburg (the site of two of the ten soccer stadiums) is then described. This is followed by a discussion of trip planning resource challenges facing 2010 World Cup based on the existing situation if not corrected. The paper concludes that in the current public transport environment, attempting to do pre-trip planning using local public transport systems is fraught with difficulty and is, in some cases, impossible. It is imperative that online resources of South African public transport systems in venue cities meet minimum information standards as a matter of urgency as this will improve service levels and reduce the promotion of only a single mode, road-based private transport, as the system of choice during the event. That non-sustainable scenario has the potential to limit the success of the transport system as well as the regional economic benefit to South Africa.

1. INTRODUCTION

The announcement by Joseph S. Blatter, President of the Fédération Internationale de Football Association (FIFA) on Saturday, 15 May 2004 of South Africa's hosting of the 2010 Soccer World Cup (2010WC) was greeted by euphorious joy throughout Southern Africa. The announcement also marked the commencement of a journey of preparation in which the extent, availability and use of public transport will be pivotal in the success (or failure) of the 2010WC. The hosting of the 2010WC will be the ultimate litmus test for the continent, the success of which will precipitate domestic and regional benefits for years to come. Nevertheless, it has been accepted by 2010WC stakeholders that "transport will be

one of the key factors on which visitors will judge the success of the event" (DOTSA, 2007). Success in this regard can be achieved though the careful service design and consideration of transport operational requirements according to the types of end user, including international visitors. Travel information and the safety environment are two qualities that transport users (especially those new to the transport system) may consider important when making travel decisions.

In order for the transport system to contribute to the envisaged success, it is imperative that accurate, relevant and timely information about transport options be disseminated effectively to potential visitors/spectators. The harnessing of internet and wireless technologies, in particular, has the ability to meet this goal. For a significant proportion of international visitors expected at the 2010WC, access to internet and wireless technologies will be considered the basic tools necessary to facilitate pre-trip planning in a perceived "third world" transport environment. Undeniably, "the internet facilitates and vastly improves communication and that communications technologies more generally are crucial to the success of the [mega] event" (ECMT, 2002). Apart from aiding to plan trip itineraries, the information and communication technology infrastructure has the potential to be effectively used to communicate travel risks, e.g., congestion.

2. PAPER OBJECTIVE

The 2010WC bid and subsequent planning documents have focused on strategic, i.e., macro issues, relating to the envisaged public transport systems, e.g., airports, buses, heavy rail, etc. However, there has been limited discussion of how the expected thousands of international visitors to South Africa might cope while planning and subsequently using available public transport. It is possible that for the first time in South African public transport history, there will be a significant proportion of international visitors that will access and use available public transport systems. This in itself can contribute to the positive picture that such visitors will take back to their home nations of their South African experience (e.g., subways are synonymous with London or New York City).

The use of public transport often provides the quickest and safest way to get to and from mega-events as proven in several mega-sporting tournament host cities, e.g., the summer Olympic Games held in Atlanta (U.S.A) in 1996 and Athens (Greece) in 2004. Despite the extensive macro public transport safety and security initiatives that are planned to be in place, can accessing pre-trip planning resources have the potential to position public transport to be the preferred, rather than a coerced, choice for the international visitor attending the 2010WC? This paper aims to discuss the challenge to enhance the personal travel experience (in terms of real and perceived safety) of the international visitor attending the 2010WC, through the access of pre-trip planning resources and highlight opportunities for research and development in trip planning resources.

3. OVERVIEW

In order to set the context of this paper, overviews are provided for personal travel safety on public transport systems in South Africa, international visitor public transport use while in South Africa, and projected attendance levels at 2010WC. The authors define travel safety as being protected from a harmful non-desirable event during the process of travel. Public transport in a South African context is taken to include high volume [i.e., mass transit] systems operating within metropolitan areas, namely, the bus, minibus taxi, metered taxi and commuter rail systems. However, the minibus taxi, though collectively transporting millions of passengers and accounting for 65 percent of home-based work public transport trips (DOTSA, 2003), does not offer the typical resources associated with

formal high-volume systems, e.g., schedules, seating capacity, etc., and this mode primarily operates within the informal transport system. The relatively high frequency of this mode, however, is such that it generally does not require a timetable. Nevertheless, the ability of the planned 2010WC transport system to cater for different user markets according to language, disabilities, socio-economic status, age and gender is key to its success. From a research perspective, the question is that of identifying and designing an appropriate system to efficiently accommodate the expected visitor/spectator population.

3.1 Traveling Safety on Public Transport

In 2001 Page et al. (2001) published a seminal study on crime and crime prevention on public transport in South Africa. This study was the culmination of an exhaustive assessment of the traveling environment for public transport users in South Africa. It brought to the forefront and codified the extent, type and nature of criminal activity (and the responsive growth in personal and corporate crime prevention strategies) on all public transport modes operated (with the exception of long distance rail and bus services and civil aviation). Key findings of the study of relevance to preparations for the 2010WC are:

- The commuter rail and minibus taxi systems were singled out as fraught with personal security problems, often rendering the 1,900 respondents interviewed in Durban hopeless and helpless in minimizing their potential of becoming the next victims.
- "Onboard crime happens anywhere and everywhere. The physical environment has little impact, it is the potential victim and their vulnerability that determines where the criminal strikes." Focus group participant comment (p.33). Tourists using the commuter rail services (as they would in their home countries) may unknowingly place themselves in the path of a potential criminal.
- There is a direct relationship between the extent of overloading and opportunity for criminal activity. Van der Reis in her study quoted in Page et al. (2001) found that "as the number of standing passengers increased, so too did the commuter's fear of crime." Furthermore, the respondents in the same study "felt relatively safe when everyone was seated."

Some readers may argue that the above findings describe a previous traveling regime and may not be relevant today nor reflect the envisaged traveling environment at the 2010WC. In particular, since 2001 and in preparation for the 2010WC, several initiatives have been put in place to improve the traveling environment for public transport users in South Africa, e.g., reintroduction of the South African Railway Police (in October 2006) and the delineation of which government agency is directly responsible for commuter rail transport security precipitated by recent civil action of the Rail Commuters Action Group. Despite these advances, the authors are unaware of ongoing or current research initiatives that systematically explore the issue of crime and crime prevention on South African public transport systems. Kruger and Landman (2007), however, have explored the issue from an environmental design perspective.

3.2 International Visitor and Public Transport Use while in South Africa

Anecdotal evidence suggests that the majority of international visitors (first time and seasoned) to South Africa do not use available mass transport systems. This is partly due to these visitors 1) not requiring the use of available systems as their friends, family members or a tour agency facilitate travel, 2) staying in or visiting areas where there is limited or nonexistent public transport provision (e.g., Kruger National Park), or 3) having been cautioned not to use available systems even when they are available. Based on a survey of 438 tourists in the city of Cape Town (79 percent were first-time visitors), George (2003) found in response to a question on perceptions of the city's public transport system that 15% of respondents found the system very safe, 24% safe, 41% were unsure, 14%

unsafe and 6% very unsafe. The relatively high figure of 41% of respondents who indicated that they were undecided could suggest that this group may not have had any experience with the Cape Town public transport system.

Several tourist information guides and websites on South Africa speak disparagingly of the public transport options available. For example, the Getting Around webpage of the official South African Tourism website (www.southafrica.net) does not mention minibus taxis or commuter rail systems as public transport options. Describing local bus services, the webpage states "our bus system is by no means as effective or comprehensive as the systems in Europe, but if you do your homework – you can use our public bus system to travel around locally at minimal cost" (South African Tourism, 2007). As this paper will demonstrate, attempting to do one's homework to ascertain the availability of local public transport options in South Africa is a challenging experience.

The minimal use made of public transport systems in South Africa by international visitors may be related to their pre-arrival perceptions, in particular, of crime. Criminal activity is an occurrence that when reported in the media can influence the level of international visitor attraction of the host nation. Moreso, crime against a tourist while using a public transport system is particularly heinous considering that such a visitor may be unfamiliar with the system (exacerbated by limited pre-trip planning) increasing their vulnerability to criminals. It can be noted that the upcoming 2010WC will produce a unique public transport scenario and domestic traveling opportunity for the international visitor, where, for the majority of spectators/visitors:

- Congestion and capacity constraints affecting private transport modes will necessitate travel on public transport; and the
- Active minimization of the potential negative impacts of private transport use (e.g., congestion, vehicle emissions) will necessitate the engagement of the public transport system to the fullest extent to meet a significant proportion of travel demands. The 2010WC is expected to be an active participant of the FIFA Green Goal Initiative, launched at the 2006 FIFA World Cup. This initiative of the United Nations Environment Programme (UNEP) incorporates measurable targets in four key areas: water, refuse, energy and mobility (UNEP, 2005).

3.3 Expected Numbers of Visitors

Approximately 3.3 million tickets will be made available for the 2010WC, of which a projected 700,000 visitors will be international (DOTSA, 2007). Favorable foreign currency exchange rates may also increase the expected number of international visitors and their propensity to combine the 2010WC with travel around the country and Southern African region for sightseeing purposes is likely to be higher compared to previous sporting/conference events in South Africa. However, of these 700,000 visitors, approximately 340,000 (48 percent) are predicted to arrive in South Africa without pre-booked tickets (300,000 of which originate from other African countries). It is possible that these non-ticketed visitors (as independent travelers) may have a greater propensity to consider and use available public transport to facilitate their trip making during the tournament.

It is anticipated that a significant proportion of international visitors (ticketed and non-ticketed) will originate from nations with efficient (and in some cases inefficient) public transport systems. These same visitors may have had personal experiences with their home public transport systems that may precipitate negative perceptions about and limit their likelihood of using the available public transport systems (as a preferred choice) while in South Africa and thereby exercise their preference for private transport modes.

However, what micro initiatives can be considered by 2010WC stakeholders alongside accepted police/security guard presence to enhance the traveling environment for all travelers? The following section discusses the concept of pre-trip planning resources, a proven initiative that has enhanced the travel experience of novice, intermittent and regular users of formal public transport systems worldwide.

4. PRE-TRIP PLANNING RESOURCES

Pre-trip planning enables the potential user of a transport mode to determine the choice of modal options, e.g., subway, road or bus; operating frequencies and journey times; required transfers (i.e., changes of mode); fares/passes available and other information pertinent to the proposed trip. Indeed, the primary function of pre-trip information "involves assisting drivers [travelers] with decisions regarding route planning, travel mode, and the time of day to travel" (Latoski et al., 2003). The benefits in the availability of pre-trip planning resources are numerous, varying from convenience, e.g., there is no need for the traveller to walk to a boarding point to view a timetable as internet resources are open 24/7; cost savings, e.g., a traveller can plan a trip to minimize waiting and/or transfer times; and, with respect to event management, ability to avoid congested routes/modes by offering alternative modal/route choices.

4.1. Pre-Trip Planning and Traveling Security

The continuous growth of the internet and wireless technologies have precipitated the growth of public transport pre-trip planning resources and simultaneously increased the diversity of information available and the variety of dissemination methods employed. Currently in the U.S., would-be travelers have an endless supply of information resources available by which they are able to make decisions about their intended travel. However, unfamiliarity with an intended public transport trip may still pose several challenges. Indeed, several U.S. public transport agencies have recognized that availability of websites offering pre-trip information resources was the best way for new customers to learn about service in their area (Multisystems Inc. & Coogan, 2003). In order to enhance the personal traveling environment during the 2010WC, how can the availability of pre-trip planning resources facilitate an incident-free public transport experience for the international visitor? Several offerings are presented below:

- *Confidence to use the system precipitates actual use of the system*

  The public transport user is more confident about the intended journey. This may lead to a reduction in pre-trip travel anxiety in an unfamiliar area. Information in the form of estimated journey times, arrival and departure boarding points and cheapest fare type, etc., promotes a stress-free trip through the system (even better when the information is multilingual). This positive effect, i.e., minimising the uncertainty of using public transport through the use of pre-trip planning websites, was confirmed by Multisystems Inc. & Coogan (2003).

- *Increasing awareness of trip leads to a decrease in the vulnerability of the user*

  Looking lost or bewildered whilst attempting to use a public transport system can increase the user's vulnerability to become a potential victim of criminal activity. It is expected that first-time users of unfamiliar public transport systems will take some time to become familiar with the system. The length of time required depends on several factors such as experience with public transport, language, system/route complexity and availability of information. However, the longer the period of 'on-site' familiarisation, the wider the window of opportunity for criminals.

- *Obtaining travel information and/or tickets in advance has the potential to minimise waiting times in queues at ticketing, boarding and security checkpoints*

  Information obtained beforehand may result in the user approaching the right queue, asking the right questions and not wasting time by queuing only to be informed that they need to go to another queue. Tickets pre-purchased online may require an effortless validation after which the user can directly board the transport vehicle. Long, circuituous and/or overwhelmed queues are attractive options to pickpockets.

  Queuing in two or more queues to obtain information may increase the stress/frustration levels of the traveler that in turn may lower the traveler's awareness of their surroundings, presenting yet another prospect for an opportunistic criminal. Minimizing the need to queue may also reduce the workload on information center staff who may become overwhelmed by volume of inquiries as well as the homogeneity of questions.

  Online pre-trip planning has the potential to prepare the traveler for any formality that needs to be completed while undertaking the trip, e.g., discarding prohibited items and anticipating ticket inspections and security checks. The would-be traveler is then able to allocate the required time to undertake the trip in order to arrive at the venue/stadium on time and stress-free.

- *Travel security can be enhanced through accurate and objective information in a dynamic traveling environment*

  Multisystems Inc. & Coogan (2003) reported that staff at several U.S. public transport information call centers employed considerable subjectivity when providing itinerary information. This situation may have arisen due to outdated personal knowledge or simply relating information without confirming its validity. For example, a call center agent might respond that the last bus leaves daily at midnight, not realizing that the customer (calling from the bus terminal at 10:15 pm) is requesting the last Sunday bus service that had left at 10:00 pm. Accessing pre- and "live" trip planning resources during the 2010WC will have the potential to afford the user clear, accurate, objective and timely travel information, i.e., the basic level of information required in a dynamic transport environment.

- *Timely travel decisions have the potential to enhance the travel experience*

  It is commonly accepted that "to be forewarned is to be forearmed," and that accessibility to timely travel information will be a contributing factor to the success of the 2010WC (DOTSA, 2006). During special events, demand for public transport is exceptionally high and knowing that a second bus will arrive shortly (through, for example, dynamic information boards at boarding points) enables the traveler to decide whether to get on a densely packed bus or wait for the next one, which may be less crowded (Cluett et al, 2003). In waiting for the next vehicle, the traveler may be offered a more conducive traveling environment, as a less crowded vehicle has the potential to limit opportunities for criminal activity (see section 3.1). It should also be noted that the "literature establishes quite clearly that waiting times are "perceived" to be shorter when the uncertainty of arrival times is eliminated" (Multisystems Inc. & Coogan, 2003).

It remains a research question, however, to illustrate the sensitivity of the different travel market responses to the abovementioned benefits, especially under South African conditions. Such knowledge has the potential to improve passenger transport service

design and delivery and ultimately to increase ridership.

5. CURRENT PRE-TRIP PLANNING DISSEMINATION METHODS

In order to ascertain the current public transport environment for pre-trip planning information in South Africa, it was decided to focus on the Johannesburg metro area. This area is the site for two of the ten stadiums (Ellis Park and Soccer City) where 2010WC matches will be played. The Soccer City Stadium (seating capacity of 95,000) will also host the final match of the 2010WC, which will likely draw the most crowds. Four public transport modes are available in the Johannesburg metro area: commuter rail, buses (formal networks), metered taxis and minibus taxis (a mixture of formal and informal networks). Table 1 presents the current situation with respect to pre-trip traveler information dissemination as of January 2008 for the primary public transport modes in Johannesburg.

Table 1 Current Pre-Trip Traveller Information Dissemination Methods

Information Dissemination Method	Formal		Informal	
	Metrorail Wits	**Metrobus Joburg**	**Metered Taxi**	**Minibus Taxi**
Intelligent transportation systems (Changeable message signs)	Yes, at larger train stations	No*	No	No
Internet	Yes	Yes	Some operators	No**
Kiosks (Ticket offices)	Yes	Yes	Not applicable	Yes***
Telephone information systems (Call centers)	Yes	Yes	Yes	No
Travel information via print media	Yes	Yes	Some operators	No
Travel information via radio/TV	Yes	Yes	No	No
Wi-fi media, e.g., cell phones, podcasts	No	No	No	No
Word-of-mouth	Yes	Yes	Yes	Yes

* Buses do display route information
** The City of Johannesburg has compiled an information brochure available on the city's website.
*** Taxi ranks

Table 1 indicates that available formal transport modes use a variety of travel information dissemination methods. For instance, changeable message boards exist at several major commuter rail stations. Many formal modes have call centers and ticket offices for information retrieval. However, some of these information sources are not open/accessible 24/7 and certain types of timetable booklets have to be purchased (for a nominal fee) or may not be available at the time requested by the traveler. Information transmitted via radio/TV is often sporadic in format such as emergency updates or cancellations. Advanced traveller information systems (ATIS), e.g., wi-fi broadcasts, are not currently engaged by any formal transport provider. The majority of minibus transport networks communicate pre-trip planning information primarily by word of mouth. However, the city of Johannesburg has taken the initiative to document minibus operations and use in the form of brochures made available on the city's website. For example, the brochures explain the different types of hand signals used for hailing and verifying the route of a minibus taxi.

6. CURRENT INTERNET PRE-TRIP PLANNING ELEMENTS

In 2003 a U.S. study was conducted by consultants (Cluett et al., 2003) exploring customer preferences for transit [public transport] ATIS. The study involved collecting data by questionnaires and group interviews of 284 individuals. An issue that this study sought to clarify was what type of static information (i.e., information that does not change over time compared to real-time information) was essential for respondents intending to make a trip not taken before on public transport. The authors propose that the responses of this study group (presented in Table 2 and ranked in order of importance) can be used as a benchmark for the typical international traveler's public transport information needs attending the 2010WC. In populating Table 2, the internet sites of the transport providers and the city of Johannesburg's website were accessed in January 2008. These were: Metrobus Johannesburg (www.mbus.co.za), Metrorail Wits Region (www.metrorail.co.za/Regional-WITS/routes_wits.html), AA Metrocab (www.aa.co.za) and the City of Johannesburg (www.joburg.org.za).

Table 2 Essential (Static) Information For [Online] Pre-Trip Planning For Unfamiliar Public Transport Trips*

Rank	Pre-Trip Information	Metrorail Wits	Metrobus Joburg	Metered Taxi	Minibus Taxi
1	Timetables/scheduled service changes	Yes	Yes	Not applicable	No
2	Route/system maps	Yes	No	Not applicable	No
3	Closest stop or station on my route	No**	No**	Not applicable	No
4	Number/location of transfers on my route	No**	No**	Not applicable	No
5	Trip planning capability	No**	No**	Yes	No
6	Fare/ticket type information	No**	Yes	Some operators	No
7	Alternate route choices	No**	No**	Not applicable	No
8	Park & ride facilities	No**	No**	Not applicable	No
9	Services for passengers with disabilities	No**	Yes	No**	No
	Points (Percentage)	2 (22%)	3 (34%)	2 (33%)	0 (0%)
	Maximum points	9	9	6	9

* adapted from Cluett et al. (2003)
** potentially via call centers. However, this has not been validated by the authors.

It is evident from Table 2 that the online dissemination of pre-trip planning information by the formal public transport providers in metro Johannesburg is very limited. Currently, there are no publicly available integrated route maps superimposed on street maps that would enable some of the static information essentials to be fulfilled simultaneously (e.g., determination of closest stop/station, park & ride facilities and alternate route choices). The limited amount of information that can be currently obtained online is likely to be frustrating to the international visitor planning any trip using public transport. In addition, call centers may not be operational 24/7 or provide information in all desired languages, accessing information kiosks may require a duplicate trip by the would-be passenger and teleconsultants may not have access to ATIS, so the information disseminated by these resources may not meet the prospective traveller's needs. Indeed, the current situation may go someway to explain the limited use of public transport by international visitors to South Africa.

7. DISCUSSION

The preceding sections presented the current state of online pre-trip information resources for public transport systems in metro Johannesburg. Accepting the minimum requirements of public transport information as presented in Table 2, it is clear that the current situation if not rectified in the short term will not be able to meet the information best-practices standards as outlined in the Transport Action Plan for 2010 (DOTSA, 2007). This has the potential to be a negative contributing factor to the attractiveness of domestic public transport provision and use at the 2010WC. Nevertheless, what factors may have contributed to the current state of online public transport information provision in metro Johannesburg? These may be listed as:

- A low level of awareness (by existing and potential users) of the availability of online public transport information resources that in turn influences the demand for them;
- Human, technical and financial resource capacity constraints in the development and maintenance of online resources;
- Low levels of computer literacy (of the typical public transport user) coupled with limited access to computers;
- Relatively high operational costs of information and communication technology in South Africa (South African Foundation, 2005); and the
- Divergent nature of South African public transport systems. Many metro areas have both formal and informal networks, with no overarching transport authority.

The 2010WC bid document strengthened the case for hosting the impending tournament by South Africa's track record of successfully hosting other international sporting tournaments, e.g., Ruby World Cup (1997) and Cricket World Cup (2003) (CSIR, 2003). However, the numbers of spectators were significantly lower (1,100,000 and 626,845, respectively (Wikipedia, 2007)) when compared to the expected numbers to the 2010WC (3.3 million). In addition, coupled to these smaller numbers of spectators there is the possibility that a greater proportion of international spectators at these events may have been part of organized tour groups with inter-venue travel arranged by private transport providers. The reality of this scenario was evident at the World Conference on Sustainable Development (Johannesburg 2002) where "only concessionaires and rental car companies profited from the related transport investment" (DOTSA, 2006). If the projected number of spectators is realized for the 2010WC, past tournament/conference venue successes will have little relevance to the new situation where public transport will have to be engaged. This potential scenario reinforces the importance of available and appropriate trip planning resources.

The hosting of the 2010WC over nine cities will necessitate short to long distance travel between venues by spectators following the successes (or failures) of their teams. Each new venue city will bring with it new challenges for the spectator in terms of public transport system familiarity, modal connectivity and the potential to become a victim of crime while navigating the system. It will be unfortunate if supporters become concerned about their traveling safety and refrain from traveling around the country to follow matches. As each team progresses through the tournament, supporters may be faced with new venue cities requiring them to make immediate travel decisions (due to ticket constraints, seat availability, etc.). Such decisions can be effected timeously online or wirelessly. Therefore, the availability of accurate pre-trip planning information will be pivotal for all travelers in these scenarios, especially when travel takes place outside peak demand or peak frequency periods and to and from venue stadiums situated in cities off the typical tourist circuit, e.g., Rustenberg, Polokwane or Nelspruit.

Gordge (2006) observed that the success evident at the 2006 Soccer World Cup in Germany spurred supporters from neighboring countries to attend the tournament at short notice. The authors argue that the availability of online pre-trip planning information also contributed to such trips being realized. In the case of South Africa, getting there by air may not be an insurmountable obstacle during the 2010WC (the 2010WC bid document described South Africa's excellent commercial aviation networks (international and domestic) (CSIR, 2003)). However, the challenge to the international visitor may arise in understanding how to get around (when private transport use is discouraged or not available) using public transport with limited knowledge of travel options, routes or modes, all of which may be subject to misperceptions of public transport in South Africa. The non-availability of local pre-trip planning information (ideally online) may well discourage the potential visitor to the 2010WC.

The presence of formal and informal transport networks in South Africa produce yet another challenge in the provision and accessibility of pre-trip planning information. Seamless travel between modes cannot be realized if information about available modes is not coordinated. In particular, the lack of information for the informal transport system could be a serious impediment to its effective engagement in the 2010WC. Though minibus taxis are planned to fulfill a proportion of spectator public transport needs, international spectators may want to be assured through a formal information resource (see Tables 1 & 2) that minibus taxis will be available at the time required. Indeed, to minimize modal transfers, spectators striving to lower their travel anxiety and enhance their travel safety may opt for private road transport. However, this option may be inappropriate for long distance travel (taking into account time and cost constraints, air would be best) and road networks/parking garages in venue cities are likely to be heavily congested.

Another aspect of attending a mega-event is being able to travel independently and visit places of interest before, during or after the event. This is particularly important for mobility impaired visitors as it is anticipated that this group of spectators will not be excluded from participating at the 2010WC. The ability to travel independently while attending the 2010WC will add to the overall country experience that may contribute to a positive impression of South Africa. Pre-trip planning information will be imperative for this group. Indeed, receiving information via online resources has the ability for video streaming, interactive route selection, etc., enabling a virtual trip planning experience. One of several benefits of the availability of trip planning resources for the mobility impaired by planning for this vulnerable group makes it safe for all users of any public transport system.

Participation in the Green Goal Initiative by the 2010WC (see section 3.2) will necessitate active monitoring and optimization of resource consumption. During the 2006 Soccer World Cup in Germany, local printing capacity was exhausted and there was a need to outsource internationally. It was also noted that the biggest print runs were for transport information and this situation could be faced in South Africa leading up to the 2010WC (DOTSA, 2006). Indeed, in a dynamic traveling environment such as will be faced at the 2010WC, printed information will have the potential of becoming outdated very quickly. The availability of online pre-trip planning resources will have the potential to reduce paper consumption and so assist in achieving Green Goal targets.

8. RECOMMENDATIONS

In the current public transport environment, attempting to do pre-trip planning using local public transport systems is fraught with difficulty and is, in some cases, impossible. Ideally, the greater the number of methods that pre-trip planning information can be disseminated, the better for the would-be and current traveler. The following recommendations may remedy the situation in the run-up to the 2010WC and beyond:

1. There is an urgent need to standardize formal information resources while simultaneously developing an information resource architecture that incorporates the informal sector. This will entail:
   - Consistency in the type, quality, reliability and accuracy of transit vehicle information provided online by all public transport providers. Though there may be regional differences in transport operations, homogeneity in the types of public transport information provided must be encouraged. The commuter rail provider, South African Rail Commuter Corporation (i.e., Metrorail), is a case in point, where different Metrorail regions provide distinctly different levels and quality of information. Links to these operating regions are often lacking from the corporate headquarters and/or regional network homepages.
   - Consistency in the transport information disseminated among websites of the 2010WC Transport Planning Committee and those of official transport providers/agencies. Public transport information providers at the 2010WC must strive to complement and coordinate with each other rather than compete against one another. It should not be assumed that 2010WC visitors will obtain all public transport information from 2010WC websites and ignore other providers of official public transport information.
   - Despite the intended high frequency of availability of the informal public transport modes during the 2010WC, it is imperative to formalize information about these modes in order for visitors to have interest and confidence in using them. The complete absence of information about these modes has the potential to make visitors hesitant, confused and uncomfortable using them despite any assurances otherwise.

2. Continued development of and access to online public transport resources:
   - Official sites for South African tourism information must identify and ideally provide links to all available public transport modes in a city or region in South Africa.
   - In the least, all South African 2010WC host cities must strive to have a corporate website (if not already) and these websites must make available public transport links directly from their home page (not burying public transport pages several levels down). Too many clicks required to find basic information increases website visitor frustration that may ultimately scupper any interest in their continued search for information.
   - Paper or interactive maps must be prepared that will enable a visitor to locate themselves in relation to tourist landmarks, public transport routes, stations and networks. This will enable some of the static information essentials for public transport use in a new travel environment to be fulfilled simultaneously (e.g., determination of closest stop/station, park & ride facilities and alternate route choices).
   - Development and creation of a central one-stop source for public transport information available before and during the 2010WC. This will require collaboration and coordination between all 2010WC and transport stakeholders. In order to

improve the level of sustainability of this resource after the 2010WC, all public transport providers must be involved in its creation, design and funding.
- Implementation of minimum accountability standards in respect of the quality of public transport information.

3. Explore technology transfer opportunities: As the 2010WC timeline is relatively short, it would be prudent for transport stakeholders in South Africa to identify technology transfer linkages in order to develop an appropriate information resource architecture and possibly implement some of the recommendations made in this paper. Technology transfer (including personnel capacity building) programs are provided by several countries, e.g., U.S. or United Kingdom, and the European Union Framework Programmes may provide a conduit for such initiatives to be realized.

4. Transport research development and capacity building: There needs to be wider dissemination of research and benchmarking findings on the impacts of hosting mega events in South Africa. Unfortunately, permitting consultants to undertake the majority of the research does increase the potential that information developed will become proprietary and have limited public accessibility. Several of the South African documents/reports accessed to compile this paper lacked specific reference sources in the work presented. Continued research with respect to the end consumer of information is also important beyond the 2010WC.

Despite the recommendations' focus on information technology, it cannot be over emphasized from the visiting public transport consumer's perspective that "Inaccurate information is perceived as worse than no information - dependability and reliability are more important than flashy high-tech solutions" (Cluett, 2003). Implementation of any or all of the above recommendations should flow from this fact.

9. CONCLUSIONS

For many international soccer fans attending the 2010WC, a trip to South Africa will be a trip of a lifetime. Many months will be spent in preparing and researching all aspects of the intended trip to minimize any foreseen logistical challenges while simultaneously striving to maximize potential enjoyment of the trip. Pre-trip planning of local public transport systems is also a part of this process. Current pre-trip planning resources are limited and basically nonexistent in the informal transport sector. Therefore it is imperative that internet sites of South African public transport systems in venue cities meet minimum information standards as a matter of urgency to meet the mandate of "developing sites well ahead of the event to provide supporters with very clear information on transport services" (DOTSA, 2006).

In a travel environment where public transport is negatively perceived, appropriate trip planning resources can encourage use and thereby assist in correcting perceptions. The upcoming 2010WC will produce a unique transport scenario and domestic traveling opportunity for the international visitor. However, a number of challenges still remain, time is short and decisions are urgently required. Any delay at this time of preparation may inadvertently result in the "promotion of only a single mode – road-based private transport – in the potential venue host cities" (DOTSA, 2006). This non-sustainable scenario has the potential to limit the success, numbers of would-be international visitors and regional economic benefit derived from the 2010WC. Accepting that the implementation of the 2010WC bid-book transport system is critical at this juncture, the re-investment in South African-focused research will assist in minimizing any potential negative impacts of the 2010WC and provide a lasting knowledge and resource legacy.

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