

Sustainable Transportation



7 Sustainable Transportation

Transportation is one of the main contributors to the carbon emissions created through the hosting of a major event. The carbon footprint calculated for COP17/CMP7 as discussed in Section 4.1 has shown that the transport-related emissions contributed 78% of the national footprint. Whilst the international travel was unavoidable, the local transport footprint would have been far greater had a comprehensive local transport plan not been put in place.

Transportation does not only relate to the movement of people but also goods and services. However, for the sake of this report, the focus is on the movement of delegates and non-delegates. For further information on the full local transport footprint, please refer to the local carbon footprint report produced by the eThekweni Municipality (www.durban.gov.za).

Transport planning had to factor in a high degree of uncertainty about the actual number of delegates and visitors attending the Conference and thus the planning process required a certain amount of flexibility and adaptability to enable the system to expand or contract as deemed necessary.

7.1 Travel to South Africa

Delegates and non-delegates arrived in Durban using various modes of transport although the statistics are not available on the different modes of transport. The mode of transport was clearly influenced by economic and spatial factors. There were caravans that travelled through Africa ferrying non-delegates to South Africa to participate in the rich assortment of side-events that enveloped the main event. Trains and coaches were used to transport people from all over South Africa as the most economical and carbon efficient methods of transport.

Delegates coming from abroad typically flew into South Africa, either landing in OR Tambo and taking connecting flights or flying directly to King Shaka International Airport. According to the UNFCCC, 17,423 badges were issued and it can therefore be safely assumed that as many delegates flew to South Africa. If one excludes the South African delegation, then it is assumed that 16,180 delegates took long haul flights to the country. On average, each participant travelled 6,600km return to attend the event.³ Unfortunately, no information is available on the other modes of transport to South Africa.

An important observation was the reduction in use of private aircraft, which is probably the most carbon intensive method of travel for individual passengers. Whereas dignitaries typically use private aircraft to attend international meetings and conferences, there was a distinct trend towards using commercial airlines as a

³ This is calculated by dividing the total kilometres flown (114,955,017km) by the total number of active badges issued by the UN (17,423).

means of carbon reduction, befitting of a high profile international event addressing climate change.

7.2 Overview of Intra-City Transportation

In the planning of the intra-city transportation system that required for the efficient movement of COP17/CMP7 delegates and non-delegates, provision was made for the transportation needs of approximately 25,000 delegates and another 15,000 non-delegates although ultimately there were considerably less delegates than anticipated. To accommodate the influx of visitors, different systems were put in place to accommodate their varied transportation requirements, and in doing so, avoiding private vehicle usage as much as possible.

Table 27. Overview of main elements of COP17/CMP7 transportation system

Motorised transport	Description
Airport shuttle service	Transport delegates and non-delegates from airport to accommodation.
City-Wide Congress Shuttle	Transport delegates from accommodation to Central Transport Hub.
VIP transportation	Transport dignitaries to the UN Precinct.
Media transport	Transport media from the Mustering Field to the UN Precinct.
People Mover System	Transportation of non-delegates around the City and the different venues.
Non-motorised transport	Description
Pedestrian walkways	Nine walkways developed to support pedestrian activity and cycling.
Bicycle rental system	Rental bicycles for delegates (for free) and non-delegates (pay).

It is estimated that approximately 2,500 delegates were transported on a daily basis.

7.3 Motorised Transport

The Motorised Transportation Plan made provision for the transportation requirements of delegates, the media and non-delegates. Key planning activities were common to all three, such as the signage, security, the airport shuttle service, and traffic management. The specific transportation requirements of each were addressed individually.

7.3.1 Airport shuttle service

In terms of the generic elements, the introduction of an airport shuttle service was an important sustainability option. It comprised ten 37-seater buses departing every 15 minutes. It was made available to transport all participants from the King Shaka



International Airport to the Central Transport Hub (approximately 35km) with stops at Gateway, Umhlanga and the beachfront for a nominal fee. This service was extended to anyone and not restricted to delegates.

7.3.2 Transporting delegates

Transporting delegates between their accommodation and the UN Precinct was made possible through the establishment of a Central Transport Hub in close proximity to the UN Precinct and the provision of an exclusive COP17/CMP7 shuttle service comprised of both bus and mini-buses, free of charge to delegates. The shuttle service was comprised of two systems: 1) the Park-and-Ride shuttle from the old drive-in to the Central Transport Hub and 2) the Congress shuttles across the city and to the Central Transport Hub.

The Park-and-Ride System

A park-and-ride system was established in a remote parking area available to the north of the UN Precinct in a former drive-in parking lot, where delegates could park their cars and board a shuttle bus to the Central Transport Hub, which was a 2km journey.



Five 80-seater buses were used during peak times and mini-buses during off-peak times. Both operated on a basis of demand.

Twenty-four seater electrical vehicles, which were supplied by Renault and Nissan, were made available in both peak and off-peak periods operating on the basis of demand. They were situated at the park-and-ride facility and delegates could make use of them on request to travel to the Central Transport Hub. Nissan funded the cost of the installation of an electricity charging point at the park-and-ride facility.

The City-wide Congress Shuttle

The City-wide Congress Shuttle operated from 21 November to 11 December 2011 and was the chief mode of transport for delegates. The shuttle comprised 80-seater buses that were utilised during peak times and covered fourteen routes and 42 stops at key nodes informed by the location of hotels and guest houses. The distance from each stop to the Central Transport Hub can be found in Appendix 5.



During off-peak times, a minibus service, comprised of 40 minibuses supplied by the eThekweni Municipality, typically operated on a 30-minute basis.



Figure 28: Branded COP17 Shuttle Service.

The operating schedule is presented in Table 28.

Table 28. Congress Shuttle schedule

Periods	Service
06h00-10h00	80 coaches at 10 to 15 minute intervals.
10h00-15h00	40 minibus fleet at 60 minute intervals.
16h00-19h00	Minibuses on standby at the Central Transport Hub outside the UN Precinct with 60 minute intervals on demand.

The performance of the shuttle service is described in Table 29.

Table 29. City-wide Congress Shuttle service

Shuttle Service	Bus	Mini-bus
Fleet	80	40
Total number of trips	12,237	Statistics unavailable
Total kilometres travelled	364,759	79,970
Total number of trips on peak days	687	Statistics unavailable
Total kilometres travelled on peak days	20,478	Statistics unavailable
Number of bus drivers	110	Statistics unavailable

Unfortunately, the uptake of the service was poor and it is estimated that no more than 2,500 delegates made use of it on a daily basis which is less than 20% of the potential number of users. The limited use of the service was not related to the quality of the service as those that did make use of it were complimentary about the service. There are other factors at play such as shuttle services provided by the hotels to and from the venue, a possible delay in the timely communication of the transport plans due to delays in uploading information to the COP17/CMP7 website prompting delegates to organise private transport (such as rental cars) and a suspected unwillingness by delegates to walk to shuttle stops with a preference for a door-to-door service. Since this has not been tested in any scientific way, this remains a matter of speculation.

7.3.3 Transportation of dignitaries

The transportation of dignitaries and their support staff also complied with sustainable transportation principles as they were transported in both shuttle buses and hybrid or energy efficient vehicles as shown in Table 30.

Table 30. Transportation of dignitaries

Target Groups	Hybrid or Energy Vehicles	Shuttle buses
High-ranking dignitaries	BMW's and hybrid Lexus	
Foreign Ministers and their support staff		10 Nissan Primastars (9-seaters) 10 Toyota Quantums (15-seaters).
Protocol and support	10 hybrid Toyota Auris	

Transport for dignitaries was coordinated from a South African Police Service (SAPS) Operations Centre in liaison with DIRCO to ensure that all protocol requirements were met.

7.3.4 Transporting the media

A media shuttle service comprising four 80-seater buses was provided from the Mustering Fields parking (adjacent to King's Park) to the UN Precinct. The shuttle was scheduled to depart every 15 minutes provided that there were passengers. The service was not very popular with the media and the uptake of the service was lower than anticipated. No statistics were available on the number of trips made or the number of journalists transported.

7.3.5 Transporting non-delegates

The People Mover bus service offered city-wide public transport including transport to the different venues to non-delegates through a comprehensive set of transport routes. It is part of the existing public transport of Durban and is a special-needs, high frequency service, with air-conditioned buses running every five to fifteen minutes. In preparation for COP17/CMP7, three additional stops were created for the Botanical Garden, the Green Hub and the Central Transport Hub.

7.3.6 Other forms of transport

Whilst there are no verified data on other uses of transport, delegates and visitors made use of metered taxis and hired cars. The local carbon footprint report has estimated that 3,500 cars were rented over the period and that 131 registered meter taxis were used in addition to the systems put in place.

7.4 Non-Motorised Transport

The foundation for the planning of non-motorised transportation for COP17/CMP7 was the eThekweni Non-Motorised Transportation Plan, which consisted of a Walking Plan and Bicycle Plan.

7.4.1 Pedestrian Activity

Nine priority walking routes were developed for the FIFA World Cup 2010™ linking key nodes in the city. These routes were upgraded for COP17/CMP7 and additional signage erected. Pedestrian activity was further supported by tremendous police visibility, ensuring the safety of delegates and visitors to the city. In addition to these walking routes, typical delegate pedestrian activity included walking from the Central Transport Hub through the CCR Expo to the UN Precinct and to the bus stops for the delegate shuttle. In spite of the measures put in place to ensure the safety of delegates and visitors, there was limited pedestrian activity.

7.4.2 Cycling Activity

The Bicycle Plan consisted of the development of new infrastructure, bicycle parking infrastructure; an electronic bicycle hiring system; and a fleet of 650 bicycles.

The upgrading of the cycle lanes, the establishment of bike rental infrastructure and the supply of bikes was made possible through a collaborative effort of different role-players. The main funders were GEF and the German Development Bank (KfW), while their domestic partners were DEA and DOT.



Figure 29: GEF-parked bicycles for UNFCCC COP17.

The fleet was comprised of 300 bicycles through funding secured from the GEF and a further 350 were supplied by the Department of Transport. KfW Development Bank funded the infrastructure upgrades and other essential requirements.

New infrastructure

In preparation for the hosting of the 2010 FIFA World Cup™, eThekweni Municipality prioritised pedestrian lanes and a bicycle lane, which extended along the main beachfront. In preparation for COP17/CMP7, an additional lane was added running from the Botanical Gardens, past the ICC and to North Beach. The new lane is also a shared bicycle / pedestrian lane.

This infrastructure was well received with the only recommendations for improved signage at key decision points and retaining the banks in particular areas to prevent soil being washed down on to the bicycle/pedestrian lane.

Bicycle Parking Infrastructure

During the planning of NMT infrastructure, provision was made for bicycle parking. The following four key points were identified: Central Transport Hub (immediately adjacent to the main COP venues), North Beach, the Green Hub and Ushaka Marine World. Bicycles could also be returned to any one of these four points. In addition, secure parking facilities were provided at Botanical Gardens, Wilsons Wharf, Moses Mabhida Stadium and Suncoast. The bicycle station at the Central Transport Hub was by far the most popular parking station as it was the area from which delegates could access public transport to and from their accommodation.

Bicycle Hiring System

A bicycle hiring system was put in place to manage the fleet of bicycles for the duration of the event. The system was designed to manage the process of hiring and returning the bicycles, maintaining them and managing the balance of the bicycles between the different sites. The system also included physical infrastructure to rack the bicycles.

In total, 714 people used the bicycle system and these were mostly delegates. A total of 1,319 bicycle hire transactions took place, which peaked on 4th December during which no negotiations took place at the UN Precinct. Most users only required their bikes for a short period of time. There was a substantial reduction in use after COP17/CMP7 despite the fact that the system was promoted to holiday-makers over the summer holiday season.

Bicycles

Two types of bicycles were used for the system. The GEF funded bicycles were more sophisticated bicycles with twenty one speeds, protection over the chain, a bicycle light and reflectors. These bikes were supplied in two types (men's and ladies') and there were several different sizes. The Shova Kalula (yellow) bicycles, which are designed for use by school children in rural areas, were smaller in size and had only one speed. Whilst there was a

preference for the GEF/UNIDO bicycle, some novices preferred the Shova Kalula bikes for its simplicity and the fact that they did not have to change gears.

7.4.3 Lessons learnt

In piloting the system, there were several important lessons learnt that would need to be applied to the system to ensure the effective uptake of the bicycles for future events and in implementing a sustained bike hiring system.

- **Construction of temporary bike rental infrastructure.** The bicycle hire stations infrastructure could be improved by providing more shaded area for the staff, space to leave pamphlets or information for distribution to people renting bicycles, and space to sign terms of conditions slips.
- **Deposit scheme.** Only credit cards were accepted and there were no facilities for accepting cash. More flexibility should be allowed to enable different methods of payment factoring in the risks associated with accepting cash.
- **Registration process.** The registration process can be made more efficient by locating the barcodes in areas that permits quicker barcode reading with scanners.
- **Returning bicycles.** The keys for the bicycle locks must be factored into the registration system so that these are returned with the bike.
- **Bicycle system software.** A link between the credit card machine and the system is required so that deposits and refunds can be tracked. Furthermore, the reports generated by the system must provide all the information needed by the staff using the system and the managers monitoring the system.
- **Bicycle maintenance.** The hire process must include a method of tracking problems with bikes so that faulty bikes are not issued to users.

In general, the use of the service was limited and the lesson here was the importance of strengthening the advertising and marketing the facilities, and ensuring that they are easily identifiable.

7.4.4 Legacy

A comprehensive bicycle rental management system was put in place for the duration of COP17/CMP7. On the completion of the conference, the eThekweni Municipality extended the bicycle hire period until early January 2012 to provide bicycle hire services over the peak holiday season. Based on the experiences of COP17/CMP7 and the holiday hire period, eThekweni Municipality has started the process of steadily establishing a permanent bicycle hire system.

This system was initiated by first creating a closed bicycle hire system for municipal staff only. Once this system is working effectively, the municipality will invite other appropriate entities to join the system so that their staff or students can use the system as

means of transport between areas. The system will be expanded in conjunction with the expansion of the cycle path system that is required to support the new users. In addition to the closed bicycle hire system, eThekweni Municipality plans to collaborate with existing commercial bicycle hire companies to design a simple system to assist in the connecting up of the different hire systems so that clients hiring bicycles from one site can return these to another site.

The experiences of testing various systems and also investigating approaches used in other cities will ultimately lead to the design and implementation of a fully integrated system for bicycle hire throughout the city.

The Department of Transport redistributed the yellow Shova Kalula bicycles loaned to the bicycle rental system to school children in disadvantaged areas as part of its Shova Kalula programme.

7.5 Communication of transport initiatives

The transport initiatives were primarily communicated by means of the COP17/CMP7 website and a delegate booklet produced by the eThekweni municipality, the COP17 Durban City Guide. This booklet included maps indicating the different transport options. Please refer to Appendix 6 for the maps that were distributed to delegates and visitors to the city promoting the transport services.

In addition, Thompsons Travel, which was the official travel agent for COP17/CMP7, published information on its website and provided their guests with maps that showed the delegate shuttle service.

An overall lesson is that the effective, early and sustained communication of the transport initiatives is crucial for the enhanced uptake of transport services. There was a level of disappointment with the uptake of both the motorised and non-motorised initiatives, especially as when used by delegates and visitors were praised. The poor uptake has partly been attributed to the communication of the availability of the services.

No event is complete without the provision for transport. Chapter seven captured the modes of transport applied in minimizing and avoiding the generation of carbon emissions. The contribution of transport-related carbon emissions to an event's footprint is always significant. The largest share of the national carbon footprint was attributed to unavoidable long-haul flights. It is with local transport whereby event organisers have better control, and building on from the experiences of the 2010 FIFA World Cup™, the transport workstream had a very good basis to work from. It put in place a comprehensive public transportation system that catered for the transportation needs of the different types of visitors (delegates, non-delegates and media) displacing the need for high-emitting private transport. The transportation plan comprised both motorised and non-motorised elements and highlights included the use of electric and hybrid cars as well as a bicycle fleet, free of charge to delegates. Without the implementation of the transportation plan, Durban would have been congested and the transport-related emissions of the local carbon footprint higher.