

SUSTAINABLE TRANSPORT – THE PEDICAB EXPERIENCE

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ABSTRACT

The Africa on the Move theme of the 2011 SATC conference has a focus topic on sustainable transport and this is especially significant particularly when considering the grassroots initiatives relating to the emerging non-motorised transport initiatives in the Western Cape that promotes job creation and micro enterprise development through the deployment of pedicabs to the streets of Cape Town.

This paper seeks to demonstrate the achievements of a collective effort of several agencies and organisations that has created and enabling platform for pedicab operations in the Central Cape Town area of the Western Cape utilizing a combination of intermediate technologies with zero carbon emissions rating.

The success of the pedicab initiative is important in understanding the role of appropriate sustainable transport technology in the feeder service to the Integrated Rapid Transport network and to the Hotel and Leisure industry of Southern Africa. Furthermore the paper explores the emerging micro-industries for the manufacture of the pedicabs locally in the Western Cape with a review of the latest designs.

The paper is multifaceted and deals with several aspects of pedicabs both from an operational and from a policy perspective and explores the compatibility of this innovative mode of sustainable transport with the DOT Draft Policy on Non-Motorised Transport.

1 INTRODUCTION

Sustainable transport, which follows sustainable development, has to do with green transport issues. Such green transport is well illustrated by the entire Pedicab experience. This mode of transport showcases grass roots initiatives, relating to the emerging non-motorised transport (NMT) sector in the Western Cape, which is gaining in popularity.

The Pedicabs are a critical employment generator and in today's times of high unemployment Pedicabs are an important mode of transport that supports multiple objectives including the promotion of entrepreneurship amongst previously unemployed persons and micro enterprises. Pedicabs provide a good measure of job creation and enterprise development, directly as a result of providing a specialized transport service exclusively for passenger movement.

1.1 The Cycle of the Pedicabs Economy

Cape Town in particular has benefited from the recent achievement of a collective effort of several agencies and organizations that has created an enabling platform for Pedicab operations and is thereby providing riders with an opportunity to earn a living.

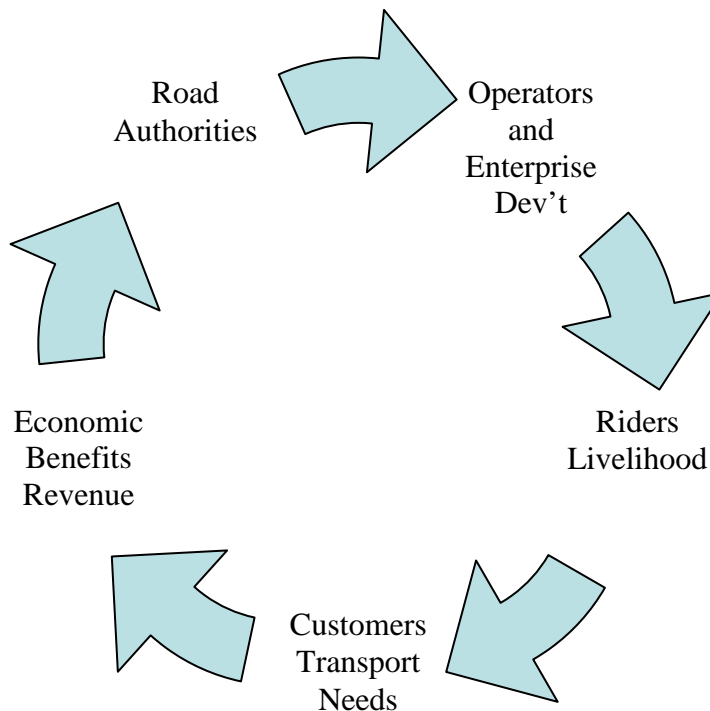


Figure 1 : The Economic Cycle

1.2 History and origins

Rickshaws (being the predecessor to the Pedicabs) originated in Japan and were invented at the end of the nineteenth century by a European missionary who had been based in Japan. The name derives from the Japanese expression *ji riki shaw* which means literally a vehicle of human propulsion.

The first rickshaw appeared in India around 1880 on the avenues of Shimla. By the 1900's a few rickshaws made their way to Calcutta, imported by Chinese traders who used them to transport goods. In 1914 the same Chinese people applied for permission to use the rickshaws to transport people and eventually rickshaws were to be found in many large cities all over Southeast Asia.

“Rickshaws were used in Kwazulu Natal in the past century as a means of passenger transport along the Durban beachfront promenade. Rickshaws were brought into the KwaZulu-Natal province in 1893 by Sir Marshall Campbell (a sugar magnate) to provide comfortable transport for his wife. Today, this situation has changed dramatically as rickshaws are run by the Zulu population and incorporated into their culture, and caters specifically to tourists. There are only about twenty registered rickshaw-pullers in Durban today but in the 1900's there were supposedly many more rickshaw-pullers operating in Durban, where they mostly acted as a way of everyday transport. Today, rickshaws are

only a landmark of the past, and are used entirely as a tourist exhibition. Nevertheless, a ride in one of man-drawn carriages through the magnificent beachfront is a true delight with children and adults alike.” <http://www.durban-direct.com/activity/rickshaw-rides>

Pedicabs therefore originated in China and spread to Southeast Asia, particularly in India where rickshaws also evolved into bicycle-rickshaws. These are human powered non-motorised forms of passenger transport provide small-scale local transport in most cities around the world. The highest concentration of Pedicabs is in India, Vietnam, Thailand, Indonesia, Malaysia and other parts of South, Southeast and East Asia.

In South Africa, most Pedicabs are the “delta type” with the rider in front and the passengers at the back. The pioneers of the Pedicab movement in South Africa are Mr Chris Swanepoel and Mr Roy Nienhaber amongst others who campaigned for the establishment of a local industry. Roy invented his own modern fiberglass Pedicab and Chris experimented with bicycles that were adapted to carry a passenger carriage and are still in operation along Tafelberg Road in Cape Town in the season.

Cyclecabs was formed in December 2008 to meet the aims and objectives based on the vision of the Cape Town Partnership who had the dream to foresee the establishment of an employment generating enterprise using Pedicabs to coincide with the build up to the FIFA 2010 World Cup in Cape Town (host city). The author of this paper was instrumental in setting up the Cyclecabs Company to meet the “green goals” of the host city. This is only mentioned in-so-far as first hand information and experience with Pedicab operations is used extensively in the research of this paper.

1.3 Configuration of the Pedicab

In some parts of Asia the passenger compartment is in front (Indonesia and Vietnam) also known as a “tadpole” tricycle and in most cases the passenger compartment is at the back across the longer axis and the rider is located in the front and is also known as a “delta” tricycle. In the Philippines, the passenger seats are usually located beside the driver.

In most cases the Pedicab is human powered and occasionally electric assist motors are included to make the pedaling easier. Interestingly, in New York City in 2005 there were approximately 220 Pedicabs and today there are approximately 450 Pedicabs, and electric-assist Pedicabs were banned in January 2008 and likewise in Canada permits are denied to electric-assist Pedicabs. The emphasis for this mode of transport is clearly non-motorised transport.

Pedicabs take many forms but essentially consist of a tricycle and occasionally a quadracycle as in the Netherlands examples.



Many different forms and types of Pedicabs exist but essentially each one is an urban transport device suitable for tourist and commuter needs.

The market for Pedicabs is highly specialized and in South Africa tends to be tourist oriented and specialty driven.

A number of locals depend on Pedicabs for travel from the station to their place of work and back.



Cambodian "Tadpole" Cycle Rickshaw. Modern Velotaxi in Hamburg.

Photo 1 : Types of Pedicabs

2 OPERATIONS

The Pedicabs operate from a base of operation where the Pedicabs are stored overnight. The trained riders enter into a service level agreement with the Pedicab owners and the riders hire the Pedicabs for the day on a first come first served basis.

In Cape Town, Pedicab riders pay R20 per day to hire Pedicabs and thereafter operate as entrepreneurs for the day keeping all that they earn. The average cost is R10 to R20 per passenger per ride (trip end). The operations manager generally keeps the fleet of Pedicabs in order and ensures that the riders are in communication via cell phone or radio with the base.

The operations manager can operate a call centre from the base and dispatch Pedicabs to the nearest customer provided the riders stick to their ranks and designated areas of operation and the operations manager is able to dispatch a rider in time for the customer.

Prearranged travel takes place frequently with calls logged with the operations manager who in turn arranges with the riders who will respond to the call.

2.1 Advantages of Pedicabs

The Pedicabs can reach places that motorized vehicles cannot go. The Government Avenue in Central Cape Town is currently an ideal place for Pedicabs as it is a wide non-motorised pathway that is suitable to this slower mode of transport.

In Cape Town a number of premier cycle paths have emerged as a result of the roll out of infrastructure in the build up to the FIFA 2010 World Cup, particularly in Green Point area and surrounds and adjacent to the Integrated Rapid Transit project, Phase 1 from Blaauwberg to Cape Town. These cycle paths are conducive to Pedicab operations as they are generally wide facilities and separated from the adjacent roadway in Class 1 NMT facilities.

There are low barriers to entry into this sector of the transport industry and riders do not require formal K-53 driving permits but are encouraged to take a self guided computer driven training course on the rules of the road. This means that unemployed people can enter the business by being youthful reasonably fit and healthy with some understanding of the road traffic regulations.

The NMT infrastructure is featured in the photo below which shows a bike lane adjacent to the roadway and a pedestrian lane at the back of the sidewalk in red brick paving. There is ample landscaping and street furniture to make the entire NMT experience extremely positive and enjoyable.

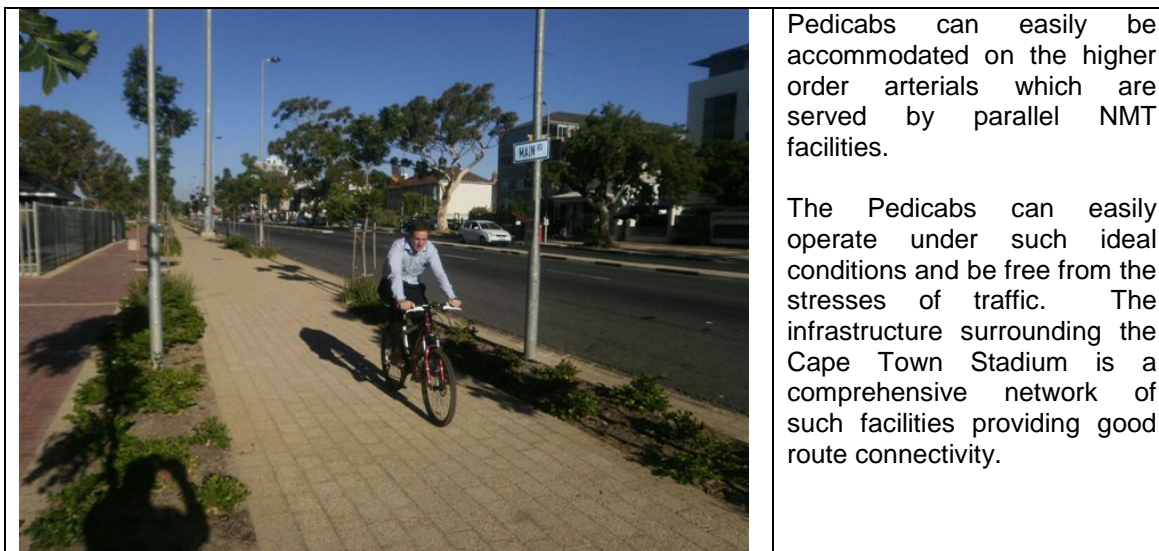


Photo 2 : Cyclepath infrastructure in Green Point



The Pedicabs in the photo are the first Pedicabs to arrive in Central Cape Town and are operated and maintained by Cyclecabs.

Photo 3 : Pedicabs on display in Central Cape Towns



This photo features Alfonso Davids who is one of the first riders to carry passengers in Cape Town on this new mode of transport.

This pedicab was sponsored by the Cape Town Partnership's Central City Improvement District.

Photo 4 : Pedicab in Central Cape Town



Mr David de Waal of the Consul General of the Netherlands sponsored three Pedicabs during the FIFA 2010 World Cup.

Mr Louis de Waal on the right, Chairman of the Bicycling Empowerment Network (BEN).

Both gentlemen are proponents of NMT in Cape Town.

Photo 5 : Cycling Enthusiasts share a moment together.



Alderman Dan Plato Mayor of Cape Town alongside Consul General of the Netherlands Mr David de Waal on route to the launch of the Netherlands Mural for the FIFA 2010 World Cup.

Photo 6 : Cyclecabs in action



Sebenzile Mzweli is a rider with the Cyclecabs company who is the longest serving rider and who has been based at the Cape Grace Hotel in Cape Town.

Here Sebenzile is featured in discussions with a tourist at the intersection of Adderley Street and Wale Street in Cape Town.

Photo 7 :Sebenzile Mzweli in discussions with a potential customer

3 OPERATIONS MANAGEMENT

The operations manager oversees the recruitment of riders and the registration and training of the riders as provided by the Company. A service level agreement is entered into and a code of conduct is abided by. A set of colour coordinated branded cycling clothing is provided to the riders who are self employed and highly motivated entrepreneurs and are generally not employees of the Pedicab company. The Pedicab Company is generally required to carry substantial public liability insurance in order to operate within the City of Cape Town. Cyclecabs carries R10m cover per claim.

The success of the Pedicab initiative is important in understanding the role of appropriate sustainable transport technology. Pedicabs require human effort for propulsion without creating any carbon emissions into the atmosphere and sustain the riders in a dignified and respectable manner.

The riders are generally previously unemployed persons who have been recruited through the Men on the Side of the Road (MSR) project which is a non-governmental organization dedicated to employment generation.

The riders have taken to the enterprise development side of the Cyclecabs transport initiative by hiring Pedicabs from the company to transport passengers from origin to destination. In Central Cape Town the Pedicabs tend to rank at the tourist junctions adjacent to the magnificent Company Gardens and transport tourists along the length of Government Avenue. This is a natural phenomena made possible by the sustainable transport initiative. It is quite an interesting sight and blends well in the urban landscape.

Green Point Park has wide NMT lanes that can easily accommodate Pedicabs.



Pedicabs are conducive to parks with wide central spines and NMT facilities.

Pedicabs have the potential to mobilize children and elderly persons alike.

This form of universal access also allows a broader spectrum of the population the opportunity of experiencing the length and breadth of the Urban Parks.

Photo 8 : Green Point Urban Park – Central Spine

4 MAINTENANCE

The maintenance of Pedicabs is a fairly low tech activity, with most riders learning quickly how to fix a flat tire or undertake minor repairs and adjustments to gears and brakes. For routine maintenance and major repairs the Pedicabs are maintained by Eyethu Cycles cc which is a offshoot of the Bicycling Empowerment Network (BEN) which established independent bicycle dealerships in various parts of Cape Town. This is a substantial employment generator and part of the BBBEE strategy of the Cyclecabs Company in general.

For safety, Pedicabs are fitted with mirrors and a hooter, and have a battery powered set of lights and indicators for use during the evening time.

5 LEGISLATION

The Pedicabs tend to operate in a legislative vacuum insofar as the application for an operating license with the PGWC was not processed and the matter was referred to the City of Cape Town for comment. The City of Cape Town suggested the formulation of an association of Pedicab operators and the result was a draft set of articles of association.

The impact of the fleet of 10 Pedicabs could easily be expanded to 50 Pedicabs in the greater Cape Town area, with operations extending to the West Coast and Stellenbosch Winelands District. With enterprise development the establishment of a series of bases is quite feasible with relatively low entry costs and corresponding commitment from National DOT and PGWC for enterprise development.

6 CONCLUSIONS

One can conclude that the Pedicabs operations are an essential component of the traffic stream and are best accommodated on a separate right-of-way or cyclepath, as evidenced in Cape Town.

The increase in implementation of NMT infrastructure in Central Cape Town, partly as a result of the FIFA 2010 World Cup and partly associated with the Integrated Rapid Transit project makes Cape Town the ideal place for Pedicabs. This is also due to the relentless bicycle advocacy work of the NGO's working together with their counterparts in Government, which combines to provide an enabling environment for this mode of transport.

The Pedicabs operations have low barriers to entry and as a result, unemployed persons who are fit and healthy can easily enter the NMT sector. The deployment of pedicabs represents a considerable investment in the human potential of individuals who are able to earn a living from this vital mode of transport.

In the wake of the FIFA 2010 World Cup, Cyclecabs can be seen as a legacy project, which will hopefully flourish well into the future as the project expands to Stellenbosch and beyond.