cITIEs SUPPORT PROGRAMME

Towards sustainable city transport systems

Practice note: Station Management

Bus Rapid Transit (BRT) and City Bus Systems require station management systems. Each BRT station has its own station atmosphere that is dictated by local conditions; however, it is also recognised that all BRT stations and City Bus Systems have a common, universal challenge of offering an optimal customer-focused experience. The purpose of a station management system is to optimise the customers' station safety, security and satisfaction in a fiscally sustainable manner. This practice note will highlight what needs to be in place to ensure consistent station management practices in order to reduce costs and enhance revenue.

Context

The Cities Support Programme (CSP), based in the National Treasury, provides technical support to selected metropolitan municipalities to pursue a programme of urban spatial transformation to support inclusive economic growth and poverty alleviation. An important aspect of this support is directed at the public transport programme. There are three broad areas around which the transport programme is structured:

1) Creating an enabling national legislative, institutional and policy environment for the development of city public transport systems
2) Supporting the planning and roll-out of public transport systems that are efficient, effective, provide value for money, and respond to the transport needs of the poor
3) Ensuring that public transport systems are drivers of spatial change

See the CSP website (https://csp.treasury.gov.za) for updates and the latest materials on sustainable city transport systems.

Working with the National Department of Transport, the CSP is involved in providing support to the cities in creating more financially sustainable public transport systems. This Practice Note is aimed at this, by specifically looking at station management.

Why station management?

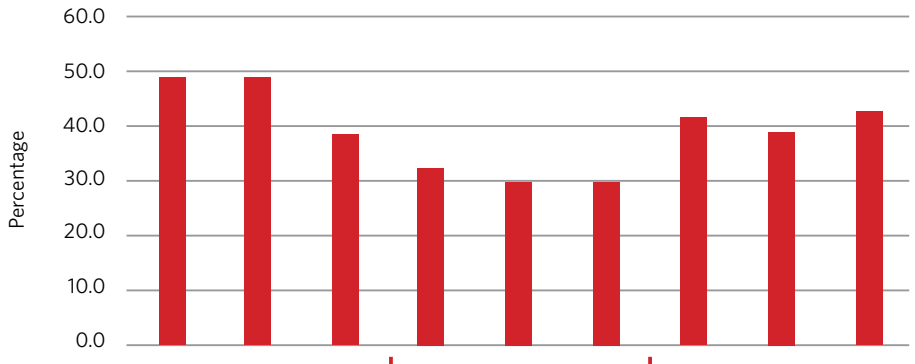
The station is normally the first point of contact with the BRT and City Bus Systems for a customer. Stations and the personnel who work in them set the stage for customers' transit experiences. Their first impressions of the service and treatment that customers receive in the stations are influential factors in developing customer loyalty. The BRT stations and City Bus Systems are also one of the major cost elements of the system as can be seen in the figures that follow below. They need to be appropriately managed in order to keep costs to a minimum, while providing a customer-centric focus.

Improve revenue collection by preventing the following station management inefficiencies:

- Inappropriate use of staff fare gate passes ('over-ride') - staff can use the gate over-ride to allow passengers into the 'fare paid' zone.
- Staff entering through station bus door openings for personal travel
- Passengers tapping out early in the trip, thus only being charged for a shorter journey.
- Passengers being unable to validate tickets because of malfunctioning equipment
- Incorrect fare tables loaded in the fare system

Station costs as a % of total fare revenue

(figures are extracted from 2018/19 - 2020/21 MTEF budget figures)

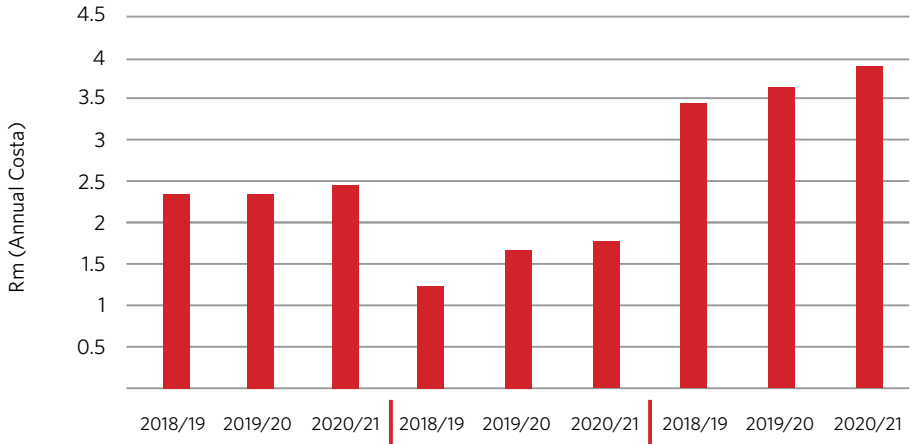


	Station services - Rm	117.2	118.3	128	75.9	84.7	89.8	38.2	40.4	42.9

Cities

Average station services cost per staffed station

(figures are extracted from 2018/19 - 2020/21 MTEF budget figures)

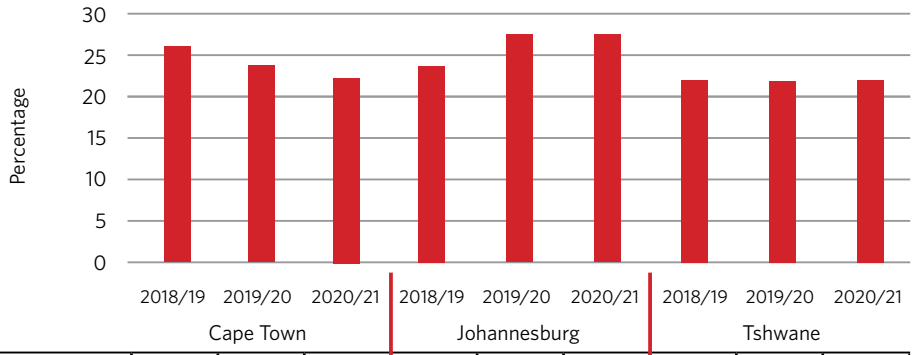


	Average Station services cost per staffed station - Rm	2.34	2.36	2.46	1.24	1.69	1.79	3.47	3.67	3.9

Cities

Station costs as a % of total indirect operating expenditure

(figures are extracted from 2018/19 - 2020/21 MTEF budget figures)



	Station Costs - Rm	117.2	118.3	128	75.9	84.7	89.8	38.2	40.4	42.9

Cities

A. Station design

Station design is an important element during the planning phase to minimise station operating and maintenance costs. The following station design elements should be considered during the planning phase to minimize station operating and maintenance costs:

- *What level of design complexity is required, eg closed or open stations*

The advantages of a closed station is that the risk of fare evasion is reduced and passenger safety is increased. Open stations, on the other hand, do not need to be staffed and therefore there is a greater risk of fare evasion and reduced passenger safety. However, open stations have the advantage of being easier to locate in an existing urban streetscape.

- *High or low platforms*

Low bus platforms are easier to integrate into existing urban environment. High bus platforms channels passengers through station entrances, however high floor buses are then required for those routes. Mixed bus platform heights within the same area limit the ability to utilise buses across different routes.

- *Closed or open fare systems*

The implications of a closed fare collection system is that passengers are forced to have a valid ticket and must pass through a barrier, thereby limited fare evasion. However, operational costs must be considered because automatic fare collection equipment will need to be maintained and/or staff at ticket offices. No physical barriers and or proof of payment required in the open fare collection system.

- *Mix 'n match operations*

The relative high cost of operating feeder routes means that the implementation of hybrid systems where other modes of public transport vehicles, such as minibus taxis, operate some routes should be considered during the design phase. The system will therefore no longer be a 'closed system' with free transfers within stations, but one where external transfers will be required.

- *Station spacing*

Stations have to be optimally placed according to passenger need and cost. Closed stations increase not only direct operating costs, from a station staffing and an overhead perspective, but also increase cycle times of buses by reducing average speeds. Express services, on the other hand, have much longer station spacing resulting in faster average speeds. They generally operate in the peak periods only and are popular with commuters due to the faster travel times.

It is important to consider passenger expectations when planning for station design, keeping in mind the need to balance passenger expectations with the need to minimize costs.

'Closed' versus 'open' stations

BRT and City Bus Systems are typically categorised by their station access and their fare system. Stations are either **'closed'** where there is a physical barrier controlling where passengers may enter the station area or **'open'** where there are no barriers to entry. The fare collection system may also be **'closed'** where the passenger would need to pass by a fare gate or **'open'** where passengers may enter the station platform without passing through a gate.

International station benchmarks

Transmilenio, Bogota	
Year opened	2000
Lines	12
Dedicated	112 km
Stations	142
Platform height	1 m

Metrobus, Mexico City	
Year opened	2005
Lines	6
Dedicated	125 km
Stations	304
Platform height	1 m

BRTRIO, Rio De Janeiro	
Year opened	2012
Lines	2
Dedicated	92 km
Stations	104
Platform height	0.9 m

Transjakarta, Jakarta	
Year opened	2004
Lines	24
Dedicated	231 km
Stations	241
Platform height	1 m

B. Staffing

Staff costs are a major cost component of station operations. The actual number of personnel assigned to a station is largely a function of the size of the station and the functions that need to be performed. The largest determinant of staffing in BRT and Bus Systems is the station arrangement. 'Closed' stations require staff presence when in-service, whereas 'open' stations are not normally staffed. The extensive list of staff required (see below) to service closed stations make them very expensive to run.

Station Staff

'Closed' stations in South Africa typically employ an extensive list of staff to operate optimally making closed stations very expensive to run. The typical categories are listed below (but stations can operate with less positions to save on operating costs):

- Ambassadors
- Cashiers
- Marshalls
- Security
- Cleaners
- Customer relations

Non-Station Staff

In addition to staff located at a particular station there are various other personnel that play a key role in the operation of the stations. These positions apply to both 'closed' and 'open' station arrangements and include roving supervisors and operations control centre (OCC) staff. In general, only the larger systems will have an OCC with a full complement of staff whose functions include actively supporting station management. In the small and medium-sized centres there will be staff monitoring bus movements but station support will normally include the occasional monitoring of CCTV cameras.

Recommended staffing arrangements at low activity stations

- Limit the cashier's kiosk hours
- Roving services, eg ambassadors and cleaners, can manage multiple stations
- Eliminate dedicated customer care centres per station and train cashiers to address customer issues during off-peak times

C. Technology

Ticket vending machines

To eliminate queuing at the Cashiers' window, the use of ticket vending machines (TVMs) should be investigated. These vending machines provide passengers with an alternative means of purchasing tickets or reloading their smart cards. These systems also attempt to cut down on the ever-increasing fraud by passengers and staff.

Advantages of ticket vending machines

- Supplement the cashier at busy stations
- Replacement of the cashier at low activity stations
- In less secure areas, TVM functionality should be limited

Integrated ticketing solutions

As commuters sometimes make use of different transport modes, a 'one card' system can significantly improve the travel experience. Many cities are also exploring integrated ticketing solutions that goes beyond merely transit services to include special offers, discounts on shopping, access to museums, events etc.

Increased use of wayfinding devices

To minimise staff cost, many agencies are resorting to the use of wayfinding devices in the stations.

Wayfinding design tips:

Signage systems should be designed based on human behavior

- Do not make them think - Create a comprehensive, clear and consistent visual communication system with concise messaging
- Show only what is needed - Show information what relevant is to the space, location and / or navigation path
- Remove excessive information - Remove unnecessary elements to create a clear visual environment ahead

Information displays

Information displays should be considered for service information.

Introduction of web apps

Increasingly, passengers use web or cellular based technologies to obtain information and even inexpensive cell phones have the ability to receive service information. BRT stations and City Bus Systems should be considered as locations for Wifi in cities that are rolling out free public Wifi. This could be a strong motivation for commuters to shift to the BRT as their preferred mode of transport.

What can Apps can be used for?

- Trip planning
- Next bus arrival
- Fare purchasing/smartcard recharging
- Complaints
- Marketing/promotions
- Passenger surveys

D. Branding

For the community, stations are the most visible part of the service. The stations therefore represent the 'brand' of the service. Commonly, BRT and City Bus Systems put a lot of effort into building attractive facilities that appeal to users. As station staff are the first people who passengers come into contact with, the 'brand' of the system is dependent on the customer service skills of the staff. In general, one of the greatest challenges of the success of the BRT and City Bus Systems lies on these front-line staff, who are present throughout the system. Looking after staff is critical to building the 'brand' of the various BRT and City Bus Systems.

Creating a positive passenger experience is not a quick fix and requires commitment from the highest level. Effective communication between head office and the stations is key. Employees need to be empowered and provided with training and the tools they need in order to do their work.

Staff is the biggest risk and potentially biggest asset to creating a brand

Typical observations by station staff:

- Boring job
- Over-staffed/underworked
- "It's a pay check"
- Low morale
- Diconnected from head office

Communication

The first step to establish effective communication is to ensure stations are connected to the organisation. This can be achieved by regular face-to face staff meetings and daily contact with the roving supervisor. Opportunities for staff to give feedback and input helps to build an empowered workforce. Likewise, developing passenger feedback opportunities ensure customers feel heard.

Professionalism

Hire the right personality who can be trained for skills instead of hiring for skills. Once the right staff are in place, correct procedures, including reporting for duty, station closing and opening, and reporting (eg incidents), should be followed. Establish clear guidelines for procedures, dress code and activities.

Contracting staff

- Combination of contracting and in-sourcing
- Focus on organisation's strengths and values
- Well written contract with performance management requirements
- Attentive contract management

Recommendations

- Cost-benefit analysis of 'open' versus 'closed' stations on operating and staffing costs
- Consideration should be given to the deployment of roving services, eg security and cleaning, as a cost effective alternative to station-based security guards and cleaners
- An optimal supervisor-to-staff ratio is 15-20 employees to one roving supervisor as this allows the supervisor to effectively manage a reasonable number of employees
- The job performance of station personnel should be monitored by the roving supervisors in order to ensure performance in accordance with training and expectations, noting that this can often be done remotely by using a telephone, for example
- Use of technology to improve the customer experience and/ or reduce the need for staff
- Consistent provision of customer service standards at stations
- Revenue security processes are vulnerable to larceny/embezzlement, card skimming, fraudulent disbursements, reselling of tickets, and unrealized revenue. To combat weaknesses in the system, revenue collection systems need to accountable and rigidly controlled

NATIONAL TREASURY

Private Bag X115,
Pretoria, 0001
Tel: +27 12 315 5944

40 Church Square,
Pretoria, 0002
Fax: +27 12 406 9055

For further information :
Email: Michael.Kihato@treasury.gov.za
Visit: https://csp.treasury.gov.za
Tel: +27 (0)12 315 6515

national treasury
Department:
National Treasury
REPUBLIC OF SOUTH AFRICA

2030 NDP

IUDF
INTEGRATED URBAN DEVELOPMENT FRAMEWORK