

ITEM A-TP OC (01-2015) CM 26/01/2017	EMM IRPTN FARE POLICY, FARE STRUCTURE AND DISCUSSION
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RESOLVED

1. **That** the contents of the Transport, Planning Oversight Committee report on EMM IRPTN Fare Policy, Fare Structure and Discussion Document, **BE NOTED**.
2. **That** the contents of EMM IRPTN Fare Policy, Fare Structure and Discussion Document attached hereto as **Appendix** of this report with its **Annexures A-H**, for the Ekurhuleni Bus Service and the Ekurhuleni BRT, **BE APPROVED**.
3. **That** a workshop on the EMM Fare Policy, Fare Structure and Discussion Document **BE ORGANIZED** for all Councillors before the end of February 2017.
4. **That** the department **CONDUCTS** a further public participation during the pilot phase of the BRT system before embarking on the full scale of the BRT system. The additional public participation should **BE CONDUCTED** during the first three months of the pilot phase.

**EKURHULENI METROPLITAN MUNICIPALITY
TRANSPORT PLANNING AND PROVISION DEPARTMENT**

INTEGRATED RAPID PUBLIC TRANSPORT (IRPTN) FARE POLICY

110348-TRAN-PLY-03-0001 Version B

ITEM: TRANSPORT PLANNING AND PROVISION

**TRANSPORT PLANNING AND PROVISION DEPARTMENT: INTEGRATED RAPID
PUBLIC TRANSPORT (IRPTN)**

1. PURPOSE OF THE REPORT

The Fare Policy is intended to:

- Guide all decisions about the fare system applicable to the services provided by, or contracted by, the EMM.
- Guide the development and implementation of an Automated Fare Collection (AFC) system.
- Inform the specifications for the AFC system.
- Guide the approach to the integration of operators outside EMM's contractual scope, such as the PRASA services, or those of Gautrain, into a common fare system.
- Set the principles for the setting of the public transport fares that are published in terms of the EMM's annual public transport tariff schedule.
- Provide the framework for the Fare Business Rules which will define the technology requirements and set-up, the interface of customers and the system, and the manner in which fares are calculated and the system operated.

The **Fare Policy** will be reviewed from time to time to accommodate changes in policy as the EMM public transport system matures and expands

2. STRATEGIC PRIORITY

1	x	Good governance / Public participation
2		LED / Poverty Alleviation / Job Creation
3	x	Urban Renewal
4		Safety and Security
5		HIV / Aids
6		Skills development
7	x	Infrastructural and maintenance backlogs

3. WARDS AFFECTED

- All wards, phased over time.

4. IDP LINKAGE

- Implementation of an integrated transport system.

5. INTRODUCTION

BACKGROUND TO THE FARE POLICY

This Public Transport Fare Policy for the EMM has been prepared following the distribution of several versions of a document entitled Fare Policy for the EMM: Discussion Document. The Discussion Document was intended to canvass views and inputs prior to the finalisation of a Fare Policy. It explains in much more detail the origins of various concepts and the thinking behind them.

OVERVIEW

The Ekurhuleni Metropolitan Municipality (EMM) is planning an Integrated Rapid Public Transport Network (IRPTN) as envisaged in the national Public Transport Strategy approved by Cabinet in 2007. A bus rapid transit (BRT) system will be implemented in phases, commencing in 2016. The BRT and the PRASA rail network, currently being upgraded, will form the primary IRPTN. This network, as well as the present Ekurhuleni municipal bus services, plus the network of other public transport services that may be run by or contracted by the EMM in the future, are referred to in this document as the “EMM Public Transport services (EMM PT services)”. They are all intended to share a common fare system. Presently the EMM operates only the municipal bus services operated out of the Boksburg and Germiston depots which carry only a moderate number of passengers

(about 1,3 million passengers in 2013/14). This will change over time, however, as the EMM contracts bus companies to supply the BRT and other services. This document sets out the fare policy for this fare system.

The EMM PT services will also interface with other public transport systems such as the City of Johannesburg's Rea Vaya BRT, the Passenger Rail Agency of South Africa (PRASA) rail services, and Gautrain. The Fare Policy is thus cognisant of national and provincial policies concerned with fare integration of various public transport systems and modes, including the national Regulations Relating to Integrated Fare Systems and the Gauteng Integrated Transport Master Plan (GITMP) of 2013 which promotes the concept of "One Province One Ticket". To this end, the EMM PT services will be using EMV smartcards with the public transport data structure required by the national regulations so as to enable interoperability and fare integration with other services.

SCOPE OF THE FARE POLICY

The Fare Policy will be applicable to all the public transport services administered by the EMM, referred to as "EMM Public Transport (EMM PT) services". These may be services provided directly by EMM or services contracted by it. The scope includes the BRT services planned for implementation from 2016, as well as more standard road-based services that the EMM may contract. The aim is also to enable fare integration with other transport operators outside of EMM control in the longer term, such as PRASA, Gautrain, City of Johannesburg and City of Tshwane.

This document sets out the main policies in relation to the EMM PT fare system. A fare system can be understood as having the following main components, each of which is dealt with in this document:

- Fare policy principles;
- Fare system technology;
- Fare structure;
- Fare levels;
- Fare types and products;
- Access control and fare evasion;
- Distribution strategy;

- Data requirements policy; and
- Institutional arrangements.

The Fare Policy is one document among several that will describe the fare system as a whole. It must be read in conjunction with them. The other documents that have been developed or will be developed in due course are the following:

- Concept of Operations: A document describing the characteristics and principles of the proposed IRPTN system.
- Fare System Business Rules: Describes in detail all the procedures according to which the Automated Fare Collection System will operate, in particular those which govern the calculation of the fares, the customer interface and the operation of the system.
- Fare System Distribution Strategy, setting out the network through which the smartcards may be obtained and where value and products may be loaded onto them.
- Annual EMM Public Transport Tariff Schedule: Before the start of each municipal financial year, as part of the annual budget process, a report and schedule will be submitted to Council, after public comment has been sought, setting out the proposed fares and charges for the public transport services administered by the EMM.
- A Fare Brochure will be published and made available to passengers. This will provide factual information about the different fares and products, how and where to obtain smartcards and load value or travel packages, minimum balance requirements, card costs, bank load fees, a passenger's obligations (e.g. to tap in and out), the penalties that will be deducted from the card for non-compliance, refund policy and the appeal processes where passengers believe a mistake has been made. It will also cover procedures for staff and passengers to follow in the event of irregular events, for example, if a card is lost during the journey; the procedures of fare deduction that are followed when the system is off-line, e.g. due to power failures or system malfunction; and so on. The issuing bank's terms and conditions of relevance to passengers will also be covered in the Brochure. The Brochure will also set out Conditions of Carriage.
- By-law setting out fare-related offences and penalties.

FARE POLICY REVIEW

The Fare Policy will be reviewed from time to time to accommodate changes in policy as the EMM public transport system matures and expands over time. This document is intended primarily to set the framework for the initial launch of the system, as well as to provide the basis for the development of related documentation and the system specifications.

6. FARE POLICY PRINCIPLES

LEGAL AND POLICY BASIS FOR EMM PT FARE POLICY

Several laws and policy documents have informed the objectives and principles for the EMM's PT Fare Policy and include:

- White Paper on National Transport Policy of 1996
- Public Transport Strategy of March 2007
- EMM Comprehensive Integrated Transport Plan (CITP) for 2013-2017
- Local Government: Municipal Systems Act no 32 of 2000
- Local Government: Municipal Finance Management Act no 56 of 2003
- National Land Transport Act (NLTA) of 2009
- NLTA Regulations Relating to Integrated Fare Systems of 2011
- Division of Revenue Act (DoRA) of 2014

FARE POLICY OBJECTIVES AND PRINCIPLES

Drawing on the above policies and laws, the following objectives will be served by the EMM's fare system:

- To set and structure fares in such a way as to maximize ridership;
- To set fares that are affordable to households in EMM;
- To treat all passengers fairly in the application of fares;
- To generate adequate revenue to cover direct operating costs so that EMM PT remains sustainable for the metropolitan economy, within the constraint of what passengers can afford and bearing in mind the low-density nature of the EMM and the long travel distances that are an apartheid legacy;

- To reduce travel times through streamlined fare collection and pre-board payment;;
- To create a fare system that is integrated between modes and between municipalities;
- To incentivise off-peak travel as part of the objective to manage travel demand;
- To minimise the inconvenience of transfers through a single, seamless fare from the start of the journey to the final destination; and
- To operate and manage fare collection independently of the public transport operators.

The fare system will be designed and implemented in such a way as to:

- Set equitable (fair) fares, i.e. the fare paid must be related to the value of the public transport service purchased (in terms of factors such as distance travelled, comfort, and safety, security and travel time).
- Make the fare system understandable and convenient for passengers.
- Encourage passenger loyalty.
- Reduce the operating costs of fare collection and control through efficiencies.
- Enable the EMM IRPTN and public transport to remain competitive with other modes of transport.
- Give priority to the prevention of fare evasion.

7. FARE SYSTEM TECHNOLOGY

THE EMV AFC SYSTEM

An automated fare collection (AFC) system will be introduced on the EMM PT network to serve initially the existing municipal bus services and the new IRPTN services. The system will comply with the Regulations Relating to Integrated Fare Systems published by the national Department of Transport in June 2011. The fare system will thus be contactless smartcard-based, using EMV standards. The smartcard will be interoperable with EMV-based systems that may be introduced by other public transport operators in EMM as they replace their legacy systems in line with the national regulations. While smartcards will be the primary payment device, other contactless payment devices may also be configured for use in the AFC system, such as those using Near Field Communications

and other technologies. References in this document to “smartcards” may thus also be taken to include other such payment devices.

Passengers using EMM PT will enter the system by presenting a contactless smartcard to an AFC validator (called “tapping in”). Once their journey is complete, they will leave the system by again presenting the smartcard to a validator (called “tapping out”). Value will be stored on the smartcards, reflected as an amount of money in the electronic purse, or as a travel package.

The system will record where and when the passenger entered and left the system and deduct the correct amount from the purse or a package on the card, according to the Fare System Business Rules. This system will be able to accommodate different fare structures and levels.

The principles regarding the operation of the fare technology and system are listed below. The details will be set out in the Fare System Business Rules.

- The AFC will operate from day 1 of the IRPTN Phase 1. There will be no interim non-electronic system.
- Passengers will need to have pre-purchased a travel package or value and loaded this onto their smartcard before entering the system. The reason for pre-purchase is to prevent delay of the bus on boarding and to remove the opportunity for any driver theft or collusion with passengers.
- No driver on an EMM PT bus will be allowed to receive cash from passengers or to handle cash.
- All passengers will tap in at the start of their journey and also tap out of the system at the end of their journey. Tap-in and tap-out will take place at either fare gates at stations, or at a validator on a feeder or complementary bus when passengers enter or exit at the kerbside.
- A minimum fare, also called an “Access Fee”, will be deducted before a passenger may enter the system. This will also purchase an initial distance of travel.
- Global Positioning System (GPS) technology in the validators on the buses and at station fare gates will identify the location of passengers’ entry and exit

points. This information will be used to calculate the correct fare according to the fare structure.

- The system will enable free transfers from one vehicle to another within the network administered by EMM, as long as they occur within a defined transfer time period and within the overall journey time limit (both will be set in the Fare System Business Rules). This applies to both closed transfers and open transfers. Closed transfers are those made between routes within a station, while open transfers are those made between routes after having checked out elsewhere in the system. “Free” transfers means that the minimum fare (“access fee”) is paid only once for the full journey.
- Management statistics will be derived from the use of the AFC validators and GPS and the tap-in, tap-out system.
- Because cash fares are not an option, a single- and return-ticket option will be developed and made available to passengers who do not wish to acquire an EMV smartcard. This could take the form of a disposable, non-reloadable contactless single-trip card (ticket) or a bar-coded ticket dispensed by the TVMs and readable by the validators. These will be charged as a flat fare, so that simpler technologies such as bar codes may be used. The cost of such tickets will be set at a level that is no less than the maximum fare on the system.

8. FARE STRUCTURE

All EMM PT services will use the AFC and will have a common fare structure. The term “fare structure” refers to the relationship between the fare paid and the distance travelled on a public transport route. There are two main types of structure:

- A flat fare structure means that any journey made on the system is charged at the same price, regardless of the distance of the journey.
- A distance-based fare structure means that journeys of different lengths are charged at different prices, according to distance travelled.

Detailed consideration has been given to the revenue and affordability implications of different fare structures in EMM, and the various advantages and disadvantages of each in the EMM context (see the Fare Policy Discussion Document for details). As a result of this analysis, the most suitable structure for the EMM IRPTN and other public transport

services it administers is regarded as a distance-based, stepped fare structure. The following features describe how it is visualised:

- The length of each passenger’s journey will be measured by the system based on where he or she taps in and out.
- The fare applicable to the total journey distance will be charged, regardless of whether the passenger used one or several buses in the course of the overall journey.
- A minimum fare or “access fee” and a maximum fare or cap will be set. The minimum fare will allow access to the system, and also purchase an initial distance up to a certain trip length. Thereafter, as the distance travelled increases, the fare charged increases in steps, according to the distance band into which the overall journey falls. Once the maximum fare is reached though, there is no further charge for additional distance travelled.
- A time element will be built into the system to enable free transferring: the access fee is charged only once and as long as the passenger makes transfers within a particular time limit, and completes the total journey in a particular time limit, the fare will only reflect the price of one trip of a particular distance. The GPS-based AFC system that will be introduced is well-suited to handle such a structure and will be specified to ensure it can manage it.
- Fare rates per km in the higher distance bands will be lower than in the lower distance bands in order to address inequalities brought about by apartheid settlement patterns. The maximum fare cap has the same objective.
- The following distance bands or fare steps are illustrative of what is envisaged:

Fare stage	
1	Minimum fare (Access Fee) and applicable to all trips less than 5km in length
2	>5km – 10km
3	>10km -15km
4	>15km -25km
5	>25km – 35km
6	Maximum fare, applicable to all trips longer than 35km

- Having only six fare stages means that there are only six standard fares on the system (apart from discount, concession and premium products), which enhances the simplicity and understandability of the system. This is also similar to the minibus-taxi fare system and the rail fare system, so will not be unfamiliar to passengers.
- The maximum fare cap and the reduced km rate for longer trips mean that those who travel excessively long distances because of the apartheid legacy and the EMM's low density are not unfairly penalised.
- The distance-based fare, however, means that the many passengers making short trips such as schoolchildren and unemployed people travelling locally in residential areas, will not pay a flat fare that is higher than what they would pay if the trip was based on distance. (Fifty percent of the IRPTN Phase 1A journeys are likely to be less than 10km, based on modelled estimations made.)
- The time limit within which the journey must be completed will be defined in the Fare System Business Rules as well as the time limit within which transfers must be made. Consideration must be given to the need to close any loopholes for fare evasion or misuse. For example, the time limits should not allow a passenger to make a forward and return journey as if these were one journey, paying for only one distance band when in fact the one-way journey is several distance bands, as is the return journey. As such, the free transfers will only apply in one direction of travel, to ensure that passengers do not make a return journey for the price of the shortest single trip.

It is noted that the flat fares currently charged on the Ekurhuleni Municipal Bus Services will need to be amended to distance-based fares when the new system is introduced to those routes.

FARE LEVELS

The fare level is the amount of money charged for using a service. Fares that are too high for the target market will reduce and limit ridership, and in turn revenue. Fares that are very low will increase ridership but limit revenue. The objectives of the EMM are therefore important in determining where the fare level should be pitched.

Alternative fare structures and levels were modelled to test the fares that may need to be charged in order to meet the objectives outlined in the Fare Policy. Details are provided in the Fare Policy Discussion Document.

Various categories of fares may be charged by EMM PT:

- Standard fares, with no discount
- Discounted standard fares
- Discounted fares, where a reduction on the standard fare is offered as part of a travel package
- Premium fares, where an increase on the standard fare is charged
- Concessionary fares, where a special category of traveller is offered a reduced fare

It is intended that discounted fares be made available as an option to all passengers buying travel packages, and also for off-peak travel by standard fare users. One of the EMM's transport policies is to encourage off-peak trip making as a travel demand management measure. Setting fares lower in the off-peak will greatly aid this. Many passengers may be able to make their trip in the off-peak rather than the peak, e.g. for shopping, visiting friends, administrative chores, etc. Pensioners may typically be able to use an off-peak discount as they do not need to commute to work. Schoolchildren would be able to use the off-peak discount for their afternoon journey from school to home. In the off-peak there is considerable system capacity that can generate revenue exceeding the marginal cost. The off-peak could be defined as between 9:00 and 15:00 and after 18:00 on weekdays, and on weekends and public holidays.

Premium fares would be higher than the standard fare, and the system may be configured to deduct a Premium fare at specific locations or on particular occasions (e.g. should the system wish to charge a premium fare to airport travellers or special event patrons etc.).

Fare levels in EMM will be set closer to system inception in 2016, and will be the subject of an annual public transport tariff report to Council for approval as well as be published for public comment as required by law.

CONSIDERATIONS AND FACTORS IN SETTING FARE LEVELS IN EMM

Factors that will be considered in setting fare levels are:

- Insofar as EMM will be withdrawing competing bus and minibus-taxi services from the IRPTN routes, fares should be pitched at similar levels to those of the replaced services, as a matter of fairness.
- The fares need to be affordable otherwise many objectives of the IRPTN are defeated, such as growing public transport ridership.
- The national grant conditions of the DORA funding for the IRPTN require that direct operating costs are covered by fare revenue, or by fare revenue plus the EMM's own resources. The extent to which the EMM is able to subsidise the fares is an important factor in setting fares.
- Long-distance journeys caused by the legacy of apartheid settlement patterns require that the cost of such journeys is mitigated.

As such, the following factors will be taken into account in setting fares for the EMM PT services:

- What the target market can afford to pay.
- The fares of the competing services (bus and minibus-taxi) that may have been withdrawn from the routes.
- The quality of the service, and the direct operating cost of providing the service.
- EMM funding available to cover that portion of the service cost that is not covered by fare revenue.
- The objective to strongly support public transport and to attract new ridership.
- Additional fare costs imposed by the bank-based EMV cards on passengers and the EMM, such as load fees, bank transaction charges, third-party vendor commissions, minimum balance requirements, and card purchase costs.
- Fare rates per km in the higher distance fare bands or stages should be considerably lower than in the lower distance bands in order to mitigate long travel distances brought about by apartheid settlement patterns.
- Fairness to people travelling long distances due to apartheid settlement legacies through the setting of an affordable, capped, maximum fare.

CONSIDERATIONS AND FACTORS TO BE CONSIDERED IN FARE INCREASES

Fares may only be increased at the start of each financial year, according to the Municipal Finance Management Act. Fares may be adjusted annually after publishing the proposed adjustment for public comment.

In considering annual fare increases, the same factors would need to be considered as those applied when setting the initial fares (see above), as well as the actual increase in the previous year in the operating costs (wages, fuel, etc.), that may be different to the average inflation rate.

A fare increase should not be introduced for the Ekurhuleni Municipal Bus Services at the same time as the new AFC is introduced. Consideration will be given to introducing the new AFC system onto the EMM Municipal Bus Services several months prior to the IRPTN system opening and prior to the new municipal financial year. This could serve as a useful piloting of the new system, before it goes live on the IRPTN Phase 1 services. The annual fare increase could then be introduced a few months later, and not “taint” the new system’s reputation.

In addition, if the new IRPTN fare levels are higher than those applicable to the municipal bus services at the time the AFC is introduced, then different fare levels may be set for these services for a transition period until fares can be fully harmonised with the IRPTN fares (this could be achieved through the creation of a travel package specific to the municipal bus services).

BANK-BASED CARD FEES

There are fees and costs related to the use of smartcards, including a load fee payable to the bank when value or travel packages are loaded, as well as the cost of the card medium itself. It is intended to make available discounted travel packages that will absorb the load fee (see “Fare Types and Travel Packages” below for details).

Regarding the cost of the card medium, it is intended that this cost be waived for people acquiring their first smartcard, in an area where the relevant services are being introduced and for a defined period, as long as the user pays for a minimum amount of value or a

travel package to be loaded on their first card. This will be defined in the Fare System Business Rules. A registration system will be introduced requiring proof of identification and to keep records of first card recipients. Replacement cards will be provided for a fee that covers the cost of the card and associated administration.

Travel package/s will be introduced from Day 1 of the system starting. This means passengers can enjoy discounts.

Penalties for improper use of the system (e.g. not tapping in or out) will be necessary to make the system function properly. A requirement that passengers maintain a minimum balance (such as an amount equivalent to the maximum fare) will also be necessary. If the minimum required balance is set at below the maximum possible fare, and a journey exceeds the distance covered by the minimum balance, the amount owed will need to be deducted upon the next tap-in by the user. How these penalties and charges will be applied will be described in the Fare System Business Rules but will be very well communicated to passengers to avoid dissatisfaction.

To deal with all these issues, the marketing and communication around the AFC system in EMM will ensure that passengers are fully aware of the various charges and penalties, the minimum balance requirement, the advantages of buying travel packages rather than loading small amounts into the electronic purse, and of the cost of the card if the first smartcard has to be replaced. A Fare Brochure for passengers has been proposed earlier in the document to explain these issues, as well as give all the facts and options about what can be loaded on the smartcard.

FARE TYPES AND TRAVEL PACKAGES

The bank-issued smartcards will have an electronic purse, into which cash can be loaded. This can be used for the pay-as-you-go standard fares, but also for small value purchases at outlets accepting the particular banking partner's EMV cards. . In addition, a range of travel packages may be defined by EMM which can be loaded on the card. The current EMV transport data structure allows for up to three packages to be loaded on one card (but these may be selected from a larger number of packages).

Travel packages are integrally related to fare policy as their price will incentivise or discourage particular ways of using the system.

The fare types and travel packages will be reviewed on an ongoing basis. For system-start-up, however, it is intended that the following fare types and packages be implemented:

- Pay-as-you-go in the form of stored value in the electronic purse portion of the smartcard. Standard Fares are charged if the purse is used. It is intended for less frequent users, and not restricted to a specific time period or route or journey distance. An off-peak discount can be offered on the Standard Fares paid from the purse. This is also the interoperable portion of the smartcard, so journeys on other modes can be paid out of this purse.
- A travel package option based on points rather than cash value that gives a discount for bulk purchase as well as an additional discount for off-peak use, but that is not restricted to a specific time period or route or journey distance. The package can be bought for a particular price (e.g. R80, R100 etc.) that determines the number of points and thus the amount of travel. While the package will still attract load fees by the banking partner, these are absorbed in the package price, and because of bulk purchase are spread over many trips and covered by the discount. The package will not restrict passengers to a particular origin and destination (which for example the Rea Vaya 10 and 40-trip packages do) and so mimics the pay-as-you-go concept but at a discount.
- A single and return ticket will also be available for passengers who do not wish to purchase an EMV smartcard. This will be charged as a flat fare and the cheapest practical ticket or payment medium will be selected for this option so as not to make it unaffordable for the occasional user. The fare will not be less than the maximum fare on the system.

- The following table compares the possible features of the pay-as-you-go option and the EMM travel package:

	EMV-portion of smartcard: Pay As You Go Stored Value Fares	EMM portion of smartcard: Travel Package
Description	Cash is loaded on the EMV-purse of the card and the fare deducted based on the cash price of the trip.	Points are loaded on the card (into a product “bin” on the card) and the fare-equivalent of a certain number of points is deducted from the point purse.
Other applications	The cash in the EMV purse may be used to pay for small-value retail purchases at participating retailers as well as for the EMM public transport system.	EMM public transport only
Payment medium	Bank-issued, EMV smartcard	Bank-issued, EMV smartcard
Discounted fares in peak	No – Standard Fares apply	Yes
Discounted in off-peak	Yes	Yes
Load fees	Percentage of transaction cost, with set minimum, paid to the banking partner and cost borne by passenger	Percentage of transaction cost, with set minimum, paid to the banking partner and cost absorbed in the package price. Due to bulk purchase, load fees per trip are far lower, and absorbed in the discount offered.
Minimum value that must be loaded	Can be a small amount	Discounts are based on bulk purchase, so minimum value needs to be set above a defined minimum

		amount – as per annual EMM Fare Tariffs.
Minimum balance to be retained on card	May be none, depending on the Fare System Business Rules: but user will not be permitted to access the system with a negative balance.	May be none, depending on the Fare System Business Rules: but user will not be permitted to access the system with a negative balance.
Denomination of value on the card	Rand and Cent	Points, where one point is equivalent in value to one Rand.
Flow of revenue	To the AFC service provider's banking partner, refunded to EMM after reconciliation and deduction of the bank's load fees and bank's transaction fees.	Directly to the EMM, but the load fees must be paid to the AFC service provider's banking partner. No transaction fees are payable to the bank, only load fees.

The current EMV smartcard data structure has three “bins” or “loading areas” for travel packages, so users may load an EMM PT package, as well as travel packages of, for example, PRASA and Gautrain as and when they adopt the bank-issued fare media. A Rea Vaya or MyCiTi travel package could be loaded as these two systems already use the EMV smartcards. (Bank fees flow to the banking partner involved in each city's AFC system, however, rather than of the city where the trip is made, and the banks still need to reach fee allocation agreements in this respect.)

Other fare types that may be made available in due course may include the following:

- A day package – a flat charge for any amount of travel during one 24-hour period, e.g. that can be used by a job seeker or a tourist
- Premium service fares, such as for special events or airport services
- Combined travel and park and ride fare package
- Travel package that also rewards frequent use (gives loyalty points)

- Complimentary passes: The EMM may apply fare payment exemptions to certain people (e.g. people who need to travel on the system for inspection purposes, service delivery, security etc., or people receiving complimentary passes for marketing purposes). The eligibility for these will be set out annually in the Tariff Report and also described in the Fare System Business Rules.

EXEMPTIONS FROM PAYMENT OF FARES OR CHARGES

The following are exempt from the need to pay a fare or from charges on EMM PT:

- Accompanied children below a certain age. Administratively, this could be managed by issuing concessionary cards for children. Alternatively the exemption could be granted to children below a certain height (to be specified in the Conditions of Carriage and facilitated by a height chart situated next to the fare gates). This is simpler to manage and control, and almost all new systems introduced over the last 15 years have used a height-based rather than an age-based system.
- Guide dogs, hearing dogs and service dogs travelling with their owners or handlers.
- Luggage or parcels compact enough to be carried on a passenger's lap in the peak, or larger items, including bicycles, in the off-peak, spare space permitting.

Conditions of Carriage will comprise part of the Fare Brochure, and these will set out the rules in this regard in more detail.

CONCESSIONARY FARES

Many public transport systems offer a range of discounts or concessionary fares to target groups such as schoolchildren, students and pensioners. Other groups include military or police personnel, unemployed people or indigent people. In EMM the minibus-taxis do not offer any concessionary fares. The EMM Municipal Bus Services do presently offer discounts to scholars, pensioners and adults buying coupon-tickets,

The factors to consider in deciding whether to offer concessionary fares are:

- The ability of certain target groups to afford the service relative to other users.
- The cost of administering a discount or concession.
- The extent to which concessions open the system to fraud.
- Current practice of existing operators.
- The incentives and disincentives that the system wishes to introduce for various kinds of travel.

These considerations are discussed and analysed in detail in the Fare Policy Discussion Document. It concluded that it may be wise if the EMM does not initially apply a system of concessionary fares for particular target groups given the additional administrative costs, the opening of the system to fraud and fare evasion, and the fact that the majority of passengers, rather than just particular target groups, have affordability issues. The fact that fares will probably be significantly subsidised through the discounted travel packages already recognises and addresses the low incomes of many potential passengers. The majority of users will come from minibus-taxis, where passengers enjoy no concessions and will thus not have expectations of them. Once the AFC system is operating, however, a passenger profile may be compiled through a customer survey, and the use of the system by different age groups and for different trip purposes can better inform the need for any fare concessionary policies. This profile is also essential to calculate the revenue implications of concessionary fares.

IF CONCESSIONARY FARES ARE LATER INTRODUCED

- Concessions are given to people over the age of 65 rather than “pensioners” per se, as this is more easily verifiable than whether a person has a pension and simpler to apply.
- Concessionary fares apply only in the off-peak.

For EMM Municipal Bus Service users, the new fares and travel packages will be a change from what they are used to. However, the current discounts enjoyed will be replaced by the off-peak and travel package discounts proposed for the new system. Care will be taken when increasing tariffs over the next two years on the municipal bus services to bring them

into alignment gradually with the overall EMM PT tariffs likely to be charged so that any increases that may result are not large or sudden.

9. ACCESS CONTROL AND FARE EVASION

Fare evasion is a factor in all public transport systems has and needs to be minimised as far as possible.

In the proposed EMM PT fare system, passengers will be required to begin any journey by presenting the card or payment device to a validator (smartcard reader) at a station fare gate, or in the bus if boarding at a kerbside bus stop. Both stations and buses will have AFC validator machines where the card must be tapped to open the gate (station) or record entry on a bus.

Passengers are required to end each journey with a tap out at the validator in the station or in the bus at the exit bus stop.

If a passenger does not tap out, a penalty will be deducted from the value on the card the next time they use their card. This will be the cost of the maximum fare on the system.

The fare gates at the BRT station entry and exit points will provide very effective barriers to fare evasion on the trunk buses. Fare evasion is easier at kerb-side bus stops where passengers board feeder or complementary buses, or on the current municipal bus services, as there is not a physical gate as such. Effective measures will be implemented to address this, including on-bus camera detection of fare evaders and roving fare inspectors with portable ticket validators to check that passengers have tagged in.

Section 90(1)(k) of the NLTA states that a person is guilty of an offence if, where the person is conveyed as a passenger in the course of public transport, he or she fails to pay the fare due for the journey when payment is requested by the driver or conductor.

The bylaws will be amended if necessary to introduce penalties for fare evasion that are sufficient to deter passengers from evading payment, including enabling criminal prosecution and fines. The responsibilities of the bus companies and their drivers in regard to managing fare evasion at kerbside entry and exit on the buses will be set out in their contracts with the EMM.

10. DISTRIBUTION STRATEGY

For many passengers, the shift from the cash-only fares of minibus-taxis to the electronic payment system will be a major change. Travel will not be possible unless one has been able to load value or a package on the smartcard.

To reduce inconvenience to passengers, the aim is to provide easy access to a good network for the issuing of fare media (smartcards) and for obtaining travel packages or loading value, so that passengers are not stranded without being able to load their cards or inconvenienced in finding sites to do so. This is of particular importance to passengers entering the system via a feeder service, rather than at a station.

It is also vitally important that the system is always on-line and that uninterrupted power supply equipment is available at all top-up locations.

One of the reasons why the national DoT has required bank-issued fare media is that the network of personnel and equipment that can issue the fare media and load value is theoretically extended. The potential sites become not only the BRT station cashiers or station ticket vending machines (TVMs), but also bank branches, bank cash-accepting ATMs, and retailers who have bank-issued point of sale devices. Third-party vendors may also purchase TVMs and issue and re-load fare media.

The EMM will develop a Distribution Strategy, setting out where the smartcards may be obtained and where value and travel packages may be loaded onto them. This may follow an incremental approach, starting with the BRT stations and the existing Ekurhuleni Municipal Bus Service fare service points, and then being extended. The following policy principles will be followed.

OBTAINING AND ACTIVATING A SMARTCARD

To enhance accessibility, the new smartcards will be obtainable from cashiers at all the BRT stations, the existing EMM Municipal Bus Service fare service points, and any EMM PT customer care centres that EMM may establish. These will not be for the exclusive purpose of EMM PT, but will be existing EMM customer care centres enhanced to offer EMM PT services.

The smartcard-issuing fee may be waived for first-time users in situations authorised by the Head of Department – such as for a defined period in the area of opening of a new service – as long as a minimum amount of value or a minimum number of travel package points are paid for by the user and loaded on the card, as defined in the Fare System Business Rules. A registration process will also be defined, to capture the ID number of the user in a system database, along with the encoding of the personalised PIN. This is so that the user can use a PIN to load value at ATM machines e.g. for Internet Banking or transfers of funds to the card from a bank account. A user who loses their first card must pay for the full cost of a second card and the ID number will enable the system to check whether a first-time card has previously been issued. The customer may also elect upon registration to provide a cell-phone number so that EMM PT information via SMS can be received.

For privacy reasons, anonymous smartcards will also be available should a customer prefer not to register their ID details. However, this means that outstanding balances on lost cards cannot be transferred and also that the first-time card- issuing fee cannot be waived.

If concessions are introduced at some stage, certain EMM PT customer care centres will also be designated and equipped to issue personalised smartcards.

LOADING VALUE ON THE CARD

Passengers will be required to have a minimum amount of value on the smartcard in order for validation to occur. The minimum amount may be set as the maximum fare on the system (to ensure the passenger has enough value on the card for the full journey) or the minimum fare. The Fare System Business Rules will specify the details. Should a card have a negative balance, validation and entry to the system will not be allowed.

A range of top-up facilities will be available to passengers to load value or products on their smartcards and will be widespread and easily accessible in terms of the Distribution Policy that will be developed.

Passengers will be able to load value or travel packages at all EMM BRT stations, Ekurhuleni Municipal Bus Service fare service points and any EMM PT customer centres

that may be established. These points will also be able to provide printouts of transaction histories, card balances, and receipts.

In addition, stored value may be loaded on the cards at a network of points as agreed in the EMM's contract with the AFC service provider (such as cash-accepting ATMs). Over time a network of third-party vendors in areas of the network where there are few stations (e.g. feeder route areas) will be established. This is an important part of system accessibility as many passengers may enter the system on the feeder network, i.e. not at a station. Some may also use feeder routes only, and so will be inconvenienced if they must reach a station. The Distribution Policy will deal with commissions that third-party vendors may charge to passengers. A standard agreement will be drawn up for all vendors.

Self-service ticket vending machines (TVMs) will be installed from the outset or over time to enable loading of products and value onto cards, and also to enable passengers to print out transaction history, check balances etc. All TVMs will be designed to be easy to understand and operate by all types of customers.

The AFC validators at fare gates or on the buses will display the amount that has been deducted for the journey. They may also display a warning if funds are running low on the card to alert passengers that they need to top up.

CUSTOMER CARE CENTERS

Some existing government customer centres, the municipal bus service fare service points, as well as selected BRT stations may be designated as Customer Care Centres for EMM PT and these will be able, in addition to typical station kiosk point functions to:

- Receive complaints;
- Receive appeals against any fare mistakes believed by the passenger to have been made;
- Transfer the balance on a cancelled card (e.g. if lost or stolen) to a new card; and
- Assess applications for concessions and issue concessionary fare media.

LANGUAGE POLICY

The EMM's language policy will be applied to communication with passengers about the AFC system and its rules of use. The languages used for official communication in the EMM are isiZulu, Sesotho, English and Afrikaans. At least two languages will be used, and up to four, where practical. This applies to the intended Fare Brochure, pamphlets or posters explaining the AFC system, as well as information provided on passenger display units in the EMM PT system.

11. DATA REQUIREMENTS POLICY

An important advantage of the AFC system is the information it is able to generate. Data can be collected and analysed about the way in which passengers use the system, and used in planning and monitoring so that the services can be improved. The national regulations on AFC systems require public transport data to be collected through the AFC system concurrently with the payment or redemption transactions, and for the data to be owned by the relevant government body. They require that data be collected in a database from which can be extracted suitable data for the purposes of planning, monitoring, subsidy management and related operational purposes and must include data per transaction on location, fare and passenger.

Minimum data and information outputs will be the subject of the AFC tender documentation. In meeting the requirements of the national regulations, the minimum information to be generated by the AFC system include the following, but this will be defined in detail in the system specification:

- Total number of smartcards issued, per TVM or other distribution channels, and cancelled.
- Total number of passenger tap-ins per bus stop and station over the day (10-minute intervals).
- Total number of passenger tap-outs per bus stop and station over the day (10-minute intervals).
- Trip length information, by time of day and by point of tap-in.
- Origin-destination information, by time of day.

- Take-up of different fare products and concessionary fares.
- Downtime of the central system and of each component of the AFC system.

12. INSTITUTIONAL ARRANGEMENTS

Public transport services that are contracted by the EMM will be in terms of gross cost contracts. This means that the operators of the services will be contracted by an EMM department or entity, and paid for a contracted set of services by the entity, but will not themselves be collecting fare revenue from passengers. Fares will be set by the public entity, and fare income will be collected by it. Operator revenue will be based on vehicle kilometres supplied in terms of the gross cost contract. As such, it is important to operate and manage fare collection independently of the public transport operators.

This will give rise to the need for a set of service level agreements or contracts with one or more providers, including the providers of AFC equipment, the operators of the AFC system, and the providers of various services such as maintenance, cash handling, and inspection to prevent fare evasion.

The contract with the vehicle operating company (VOC) will need to include contractual provisions for the use of the fare collection equipment by the vehicle operating company on the buses and at the depot. The contract will need to outline the drivers' obligations, if any, in preventing fare evasion as well.

Due to the national AFC regulations, the EMM will also require its AFC service provider to have a contract or service level agreement with a banking partner to control all aspects, issues and charges related to bank-issued fare media and their obligations in terms of the Distribution Strategy.

The EMM will ensure that contract performance is well managed and monitored. A performance management system, linked to performance-related payments and penalties for non-performance, will be put in place to ensure that all service providers and partners meet their contractual obligations.

In terms of longer-term interoperability that may be introduced with other transport systems and institutions, e.g. PRASA, Gautrain, the City of Johannesburg and the City of

Tshwane, the EMM fare system will give rise to the need for a range of agreements of various kinds with operators as well as other spheres of government.

13. CONCLUSION

This Fare Policy will be presented for Council approval. The Fare Policy will set the framework for various other documents, such as the Fare System Business Rules and the AFC tender documentation that will describe the fare system for the public transport services that will be administered by the EMM. These include not only its IRPTN services and the EMM Municipal Bus Services, but also others that it may contract or provide in the future.