



JANAAGRAHA CENTRE FOR CITIZENSHIP & DEMOCRACY

Analysis of workforce management in Bengaluru Metropolitan Transport Corporation (BMTc)

- Traffic (commercial) & accounts departments



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PREFACE

BMTc is responsible for providing bus services within the city of Bengaluru and its suburban areas. For any organisation, the ability to deliver on its objectives would depend on its workforce. While there has been focus on improving road and bus infrastructure, the workforce aspect of BMTc is often side-lined in the conversations for fixing transportation woes.

Traffic (commercial) and accounts departments have been chosen for this study as effective functioning of these departments is key to enabling BMTc to optimise on revenue streams beyond ticketing. It is BMTc's social responsibility as a public transport utility to provide bus services at affordable prices which results in its inability to significantly raise fares while its operational costs continue to rise. So, the plausible option before BMTc is to optimize its alternative revenue sources such as capitalising its land and building, advertisement revenue, improving credit worthiness etc. To achieve these, the traffic (commercial) and accounts departments are key and therefore, its workforce management.

KEY INSIGHTS

- Traffic (commercial) department** does not have a significant workforce shortage impacting its work. But it is challenged by the frequent churn of department heads. It has seen seven department heads in the last five years.
 - It lacks department specific Cadre and Recruitment (C&R) rules with detailed job descriptions, behavioural competencies and specific technical competencies. It also suffers from missing functions such as data analysis and forecasts, resulting in the department contributing only 6% to the total revenue of BMTc. A comprehensive revisit on staffing requirement is long overdue as the last staff rationalisation exercise was done way back in 1982.
 - It does not leverage the potential of information systems. It lacks an integrated Enterprise Resource Planning (ERP) system that links the work modules with the accounting modules to ensure smooth flow of information across departments.
 - It does not have a robust performance management system and a need based employee training plan.
- Accounts department** suffers from moderate levels of staff shortage. It has only had two department heads since the last five years suggesting reasonable leadership tenure.
 - It has department specific C&R rules. But it still lacks detailed job descriptions, behavioural competencies and specific technical competencies. It also suffers from missing functions such as treasury management to optimally manage BMTc's finances and tap into alternative sources of financing operations.
 - It does not have an end to end, integrated ERP system linked with works module, that also supports in forecasts and robust financial planning.
 - It does not have a robust performance management system and a need based employee training.

METHODOLOGY

This brief analyses the workforce management in BMTc with focus on traffic (commercial) and accounts departments. These departments were chosen due to their critical role in financial sustainability of BMTc. The study employs mixed research methods involving primary and secondary data collection. C&R rules, performance management framework, cadre strength, span of control, training programmes etc were analysed. Also, interviews were held with the Chief Personnel Manager (CPM), Officers in the traffic (commercial) and accounts departments to gain in-depth understanding of the field realities. Confidentiality of respondents has been maintained in the study.

STRUCTURE

This brief begins with an overview of BMTc and then analyses the workforce management in traffic (commercial) and accounts departments separately, covering four aspects –

- 1)availability of workforce.
- 2)quality of workforce.
- 3)performance management system and employee training.
- 4) use of information system in process management.

It concludes by providing high level recommendations based on the preliminary findings of this study.

OVERVIEW

BMTC was formed as an independent corporation in 1997 after bifurcation of Karnataka State Road Transport Corporation (KSRTC). The organisation is structured under a two-tier system – depots and corporation office. There are 48 depots, four central workshops and one training centre under its jurisdiction.

Operations



Area covered
5,130 Sq.Km



Fleet strength
6,667 vehicles



Average effective kms operated per day
11.41 Lakh Km



Daily passengers
48 Lakh



Average traffic revenue per day
INR 485.06 Lakh

Finance



Gross revenue
INR 292.69 Crore













Cost of operations
INR 2,444.61 Crore



Margin
INR 217.61 Crore

Source: BMTC annual administration report 2017-18

Scale of operations

	BMTC	BEST	PMPML	DTC	MTC
Fleet strength	 6,165	 3,749	 2,021	 4,023	 3,980
Buses per million population	 724	 264	 400	 240	 460

Source: State Transport Undertakings Profile & Performance 2016-17, Central Institute of Road Transport (CIRT).

BMTC- Bengaluru Metropolitan Transportation Corporation;
BEST- Brihan Mumbai Electric Supply & Transport Undertaking;
PMPML- Pune Mahanagar Parivahan Mahamandal Ltd;
DTC – Delhi Transport Corporation
MTC – Metropolitan Transportation Corporation, Chennai

People



Staff ratio
5.5 per schedule

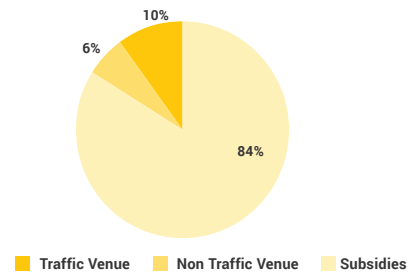


Staff strength

Note: A schedule is the round trip a bus takes from the origin to the destination and back.

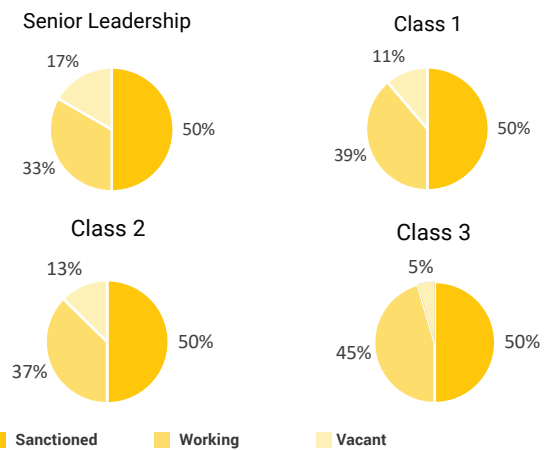
53.44% is the employee cost to total operations

Fig 1: Sources of revenue



Source: State Transport Undertakings Profile & Performance 2016-17, Central Institute of Road Transport (CIRT).

Fig 2: Staff strength



Source: EST Returns, BMTC, June 2019

Table 1: Sanctioned staff strength and distribution in 2018

Bus drivers	Crew			Total
	Conductors	Mechanical staff	Administrative Staff	
2.3	2.3	0.85	0.55	6

Source: BMTC ; Note: Staff sanction in BMTC is decided based on the ratio of staff required per schedule.

Table 2: Staff ratio per schedule followed in practice , over the years

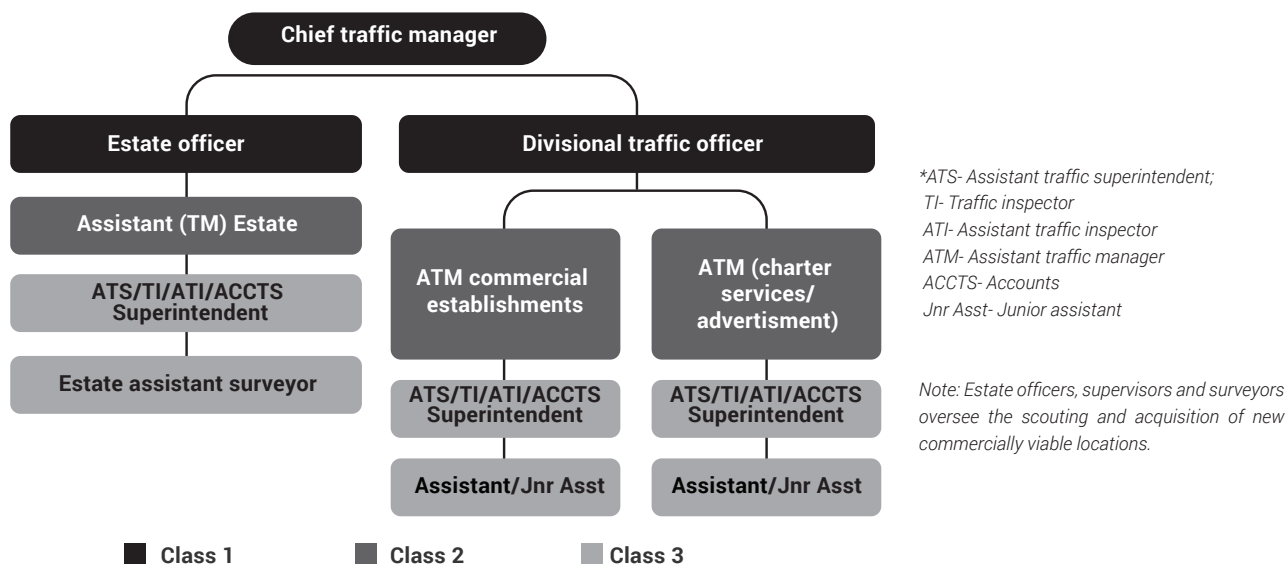
Year	2014	2015	2016	2017	2018
Staff ratio per schedule	5.39	5.83	5.68	5.52	5.55

Source: BMTC; BMTC typically maintains the staff strength below the sanctioned strength owing to financial constraints

TRAFFIC (COMMERCIAL) DEPARTMENT

Traffic (commercial) department is responsible for the mobilisation of commercial (non-traffic/ non-ticketing) revenue to the BMTC through management of commercial establishments and to provide basic amenities like toilets, drinking water, refreshments, general stalls and parking facilities to passengers at major and minor bus stations. The department handles 10 traffic and transit management centres, two major bus station and approximately 20 minor bus stations.

Fig 3: Organogram of traffic (commercial) department



Source: BMTC Website, Interviews with department head

1. Traffic (commercial) department does not have a significant workforce shortage impacting their work. But it is challenged by the frequent churn of department heads. It has seen seven department heads in the last five years.

Availability of adequate staff is fundamental to the functioning of any organisation.

Traffic (commercial) department has a vacancy of 12% against the sanctioned posts, indicating that the department is not challenged by significant staff shortage. All the key positions have been filled and there are just two slots vacant in class III category. While the post of the traffic controller has been vacant for four years, the post of the accounts supervisor has never been filled even though sanctioned.

The key functions that this department handle on a day to day basis covers invoice generation, tendering and drafting rental / lease agreements. There are five bus station or depot managers of traffic (operations) department to collect rent from the 10 traffic and transit management centres and 113 rented/ leased properties. 10 employees in the traffic (commercial) department handle the generation of invoice and rent agreements (with the help of the legal department in BMTC), undertake tendering process and oversee the rent collection process. The officers of this department expressed that they have not particularly felt any crunch owing to staff shortage. On average, they work only for eight hours on weekdays and have typically never had to work on weekends.

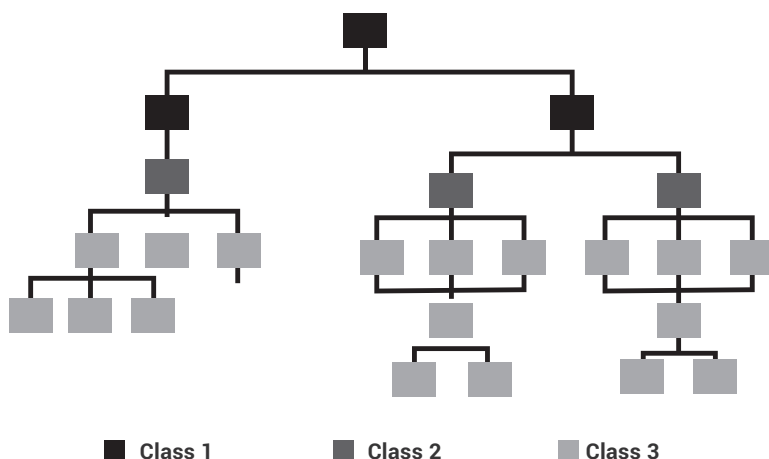
Table 3: Staff strength in traffic (commercial) department

Department	Class	Sanctioned	Working		Vacancy
			Regular	Training	
Traffic (commercial)	Class I	3	3	0	0
	Class II	2	2	0	0
	Class III	18	21	0	2
	Class IV	2	3	0	0
	Total		25	28	0

Source: EST Returns, BMTC, June 2019,
 Notes: The total vacancy is calculated as sanctioned position – regular. In case of class III of traffic (commercial) department, while two posts are vacant, two positions have been filled although not sanctioned.

The peak phase of work is during the first and last weeks of every month owing to invoice generation and bill collection. In case there is severe workforce shortage, temporary inter-department transfer will be made, with the approval of the Managing Director (MD) and CPM of the BMTC, provided a qualified personnel is available. But currently there are no such transferred employees in the department.

Fig 4: Span of control in traffic (commercial) department



Source: Based on interviews and documents provided by BMTC

An efficient span of control differs according to the nature and complexity of work performed by the manager and their subordinates. In the traffic (commercial) department, the managerial work involves supervision and coordination. According to a study by McKinsey, the typical span of control for managerial and coordinator archetypes are 8-10 and 11-15 direct reports respectively. ¹ As can be seen in figure 4, the span of control of the department, is at an average of 3 direct reports which is well within this threshold.

A key challenge for the department is the unreasonable tenure of the department head. It is widely acknowledged that stable tenure of the department head is key to efficient functioning of a department but the department has seen seven chief traffic managers, since 2014.

2. Traffic (commercial) department lacks department specific C&R rules with detailed job descriptions, behavioural competencies and specific technical competencies. It does not have department tests for promotion, although prescribed by law. It also suffers from missing functions. A revisit on staffing requirement is long overdue as the last comprehensive staff rationalisation exercise was done way back in 1982.

Competency of workforce is as critical as the availability of adequate workforce. The KSRTC C&R regulations, 1982 lays down the process for recruitment in BMTC. All postings via direct recruitments are done through a Common Aptitude Test (CAT) which is conducted by autonomous bodies such as IISC/ IIT/ IIM as decided by the MD of BMTC, from time to time. The mark secured in the qualifying examination and CAT with weightage as prescribed, will determine the direct recruitment along with other mandates by law. The officers opined that the setting of questions and release of results by an autonomous body blocks corruption and therefore ensures that only qualified candidates get recruited. The last direct recruitment to the traffic (commercial) department was done three years ago, for the post of junior assistant.

A key drawback in the C&R rules is that, there are no specific rules for recruitment to traffic (commercial) department. Recruitment is made to 'traffic' department, which is then distributed between traffic (operations) and traffic (commercial) departments, as decided by the MD and CPM, based on the requirement, often taking into account, qualifications required to discharge functions. Table 4 provides the recruitment rules for select positions of 'traffic' department.

1. Acharya, Lieber et al. 2017, How to identify the right 'spans of control' for your organisation available at <https://www.mckinsey.com/business-functions/organization/our-insights/how-to-identify-the-right-spans-of-control-for-your-organization>

Table 4: C&R rules: Traffic department

Designation	Type of recruitment	Qualification	Experience	Other skill	Other conditions
Chief traffic manager; Class 1	Promotion	At least three years of service as class – I senior officer in traffic department or with lien in traffic department.	-	-	Not more than 45 years
	Direct recruitment under regulation 3(4)	Masters in traffic management.	At least 10 years in senior management cadre in traffic department of large road transport undertaking.	Computer applications, knowledge of framing time tables, duty rosters, labour laws etc.	--
		MBA in 1st class with specialisation in transport management.			
Assistant traffic manager; Class 2	First vacancy of every two vacancies by promotion.	Any degree	At least three years as assistant traffic superintendent or a combined service of six years as assistant traffic superintendent and traffic inspector	Possess valid heavy transport vehicle license or obtain one within one year of probation.	-
	Second vacancy by direct recruitment	MBA in transportation/ marketing/ MSW-specialisation in personnel management & industrial relations/ BE in mechanical/ automobile engineering	-	-	-
Assistant traffic superintendent; Class 3	Promotion	At least three years as traffic Inspector or a combined service of six years as traffic inspector and assistant traffic inspector	-	-	-
	Direct recruitment under regulation 3(4)	Any degree	-	-	-

Source: KSRTC C&R regulations, 1982

Note: Regulation 3 (4) - where suitable departmental candidates are not available for promotion to any of the posts specified in 'schedule A' which are to be filled in by promotion such posts may be filled by direct recruitment or by obtaining loan service.

The education qualification prescribed for direct recruitment to the department appears to be reasonable. Ex. While BMTC rules mandate the assistant traffic manager to have degree in MBA (transportation/ marketing) / MSW (personnel management) / BE in mechanical or automobile industry, rules applicable for Department of Delhi Transport Corporation (DDTC) prescribes for a degree in any discipline for similar post.²

2. Delhi Road & Transport Authority (Conditions of Appointment and Service) Regulations, 1952

While the data on current educational qualification of officers couldn't be accessed, it is learned that promotion has enabled employees to climb up the ladder even with a degree that does not encompass quantitative training. In contrast, the current head of property – Transport for London (TfL) holds a Bachelor of Science (BSc) in economics and an Master of Science in land management with 25 years of commercial property experience .³

BMTC's C&R rules allows an officer who joined as assistant traffic superintendent via direct recruitment with any degree, say, masters in english literature, to become chief traffic manager, if he / she has completed at least 13 years of service and provided there is a vacancy. While experience is a significant value add, technical skills are perhaps critical especially in a department that requires one to identify avenues to optimise revenue.

Although the C&R rules provides that BMTC shall prescribe department tests for promotion and Class I to III (Schedule A employees) employees shall not be eligible for promotions unless he/she clears the test, the interviews showed that this is not followed in practice. Few of the respondents expressed that currently, there is an element of favouritism at play in decisions on promotion.

While C& R rules mandates 'knowledge in computer operations', it does not specify or detail out aspects such as expertise required in the kind of computer applications, software, programming languages etc.

The rules also lack detailed job descriptions with behavioural competencies applicable for the role. All the well run global public transport organisations like New York City Transit Authority (NYCTA), Transport for London (TfL) have detailed job descriptions and qualifications.

The traffic (commercial) department also does not have a formal job responsibilities document. It is interesting to note that such a formal document is missing at the organisation level and it is learned that BMTC is currently working on formalising such a document. Absence of such a document results in the verbal transfer of duties and responsibilities which may have impact on clear work allocation and establishing accountability.

Although BMTC conducts an annual assessment of staffing needs, it does not undertake the same based on scientific techniques like time-motion study, and often relies on existing norms and practices. The last comprehensive staff rationalisation exercise for BMTC was undertaken in 1982 and a revisit to staffing needs is long overdue. However, an internal staff assessment is carried out by the department head and submitted to the CPM on an annual basis which is then presented to the board of directors.

Case study 1: Portland's Tri-county Metropolitan Transportation (TriMet) mandates on skill requirements in revenue function

TriMet requires its employees in revenue raising functions to demonstrate competencies in advanced statistical analysis, project management expertise and other software applications along with basic computer applications such as microsoft word, excel, access, powerpoint, android and iOs operating systems, application programming interface, skilled with data bases, foundation tables, system security etc. While some posts are open to people with a bachelor's degree in economics and statistics, some posts require a post-graduate degree in the same field. The higher-up officers in financial services are expected to be competent in ERP systems, especially oracle. The job descriptions also calls out behavioural competencies. Ex. A business analyst, whose, primary task is to optimise revenue should have strong interpersonal skills, communication and negotiation skills.

Source: <https://www.governmentjobs.com/careers/trimet>

Missing functions in traffic (commercial) department

When compared to globally best run cities, BMTC's traffic (commercial) department lacks certain contemporary functions which are critical to effective optimisation of non-ticketing revenue. Ex. TfL has positions⁴ such as a) asset strategy manager to support the development of asset strategy for the designated asset type and develop specific sections and sub-strategies from financial, technical and commercial aspects, b) separate commercial account managers to identify and pursue new commercial opportunities within a specific category group (e.g. advertising, retail, etc.) c) commercial asset manager) to identify and pursue ideas for commercial opportunities, including development of asset plans across asset grouping, development of business cases for commercial opportunities d) head of retail development - to set out a vision for leveraging commercial development in stations to drive a substantial increase revenue and achieve a step change station ambiance & the customer experience .

3. Based on LinkedIn profile

4. Senior Staff information for Data Transparency, 2018 , <http://content.tfl.gov.uk/tfl-senior-employee-salaries-2018.pdf>

Traffic (commercial) department also lacks functions involving data analysis and forecasts which are critical to its scope of work. TfL has a position of 'head – revenue analysis' who should have strong financial analysis and forecasting skills, gained through experience or relevant qualification (economics, mathematics, statistics, etc.). Traffic (commercial) wing needs to mandate technical skills such as data analysis, forecasting, specific programming language / software, which is critical in the age of Information, Technology and Communication (ITC) in decision making.

Weak staffing has a bearing on the department performance. Traffic (commercial) department of BMTC contributes only contribute 6% to the total revenue of BMTC.

Table 5: Breakdown of traffic (commercial) revenue source

Revenue Source	2017-18 (Cr)	2018-19 (Cr)	2019-2020 (Till Sept) (Cr)
Commercial establishments	56.3	63.15	21.16
Advertisements	18.45	20.3	15.6
Charter and dedicated services	87.53	90.49	46.36

Source: BMTC

Further, neither the department nor BMTC has a business plan or annual performance targets at department or individual levels. All efficiently run transport organisations publish business plans⁵. Ex. TfL has a 'business plan' relying heavily on data and forecasts for a period of 15 years, tied with the city's transport strategy, focussing on building sustainable business. Johannesburg metrobus service has a business plan aligned to the city strategy and publishes quarterly performance reports measuring progress and providing reasons for not achieving the target.⁷ It also provides steps to mitigate the variance in targets.

TfL's advertising estate accounts for 20% of the UK's, and 40% of London's, outdoor advertising by value⁶. While BMTC's declining advertisement revenue could be partially attributed to the ban on hoardings, the declining revenue from commercial establishments can be attributed to weak staffing. Ex. BMTC holds land and building worth INR 1,058 crores providing a return on building of 6.6% in 2016-17 in the form of rent, clearly indicating under-capitalisation.

3. Traffic (commercial) department does not leverage information systems. It lacks an integrated ERP system that links the works modules with the accounting modules to ensure smooth flow of information across departments.

Application of relevant technology to carry out time consuming functions on a daily basis can be beneficial in combating the inadequacies of workforce. The traffic (commercial) department uses microsoft word and excel for their day to day functioning but it does not leverage enough on the potential that can be offered by information systems.

A large part of the department's functioning involves generation of invoices, notices, statements etc. especially during the first and last week of every month. Also, these tasks require the department to collaborate with the accounts department and the bus station managers of traffic (operations) departments. But it lacks an integrated ERP system that links the works modules with the accounting modules to ensure smooth flow of information across departments. The absence of an effective mechanism to streamline regular functions in this case is not only costing BMTC in terms of additional workforce but it is also taking time away from other revenue generating functions like the scouting and acquisition of commercial oriented spaces.

5. Transport for London Business Plan 2019/20 to 2023 /24, 2019, <http://content.tfl.gov.uk/tfl-business-plan-2019-24.pdf>

6. TfL second Annual Advertising Report, 2017, <https://tfl.gov.uk/info-for/media/press-releases/2019/january/transport-for-london-s-advertising-revenue-increases-as-innovative-advertising-platforms-are-introduced>

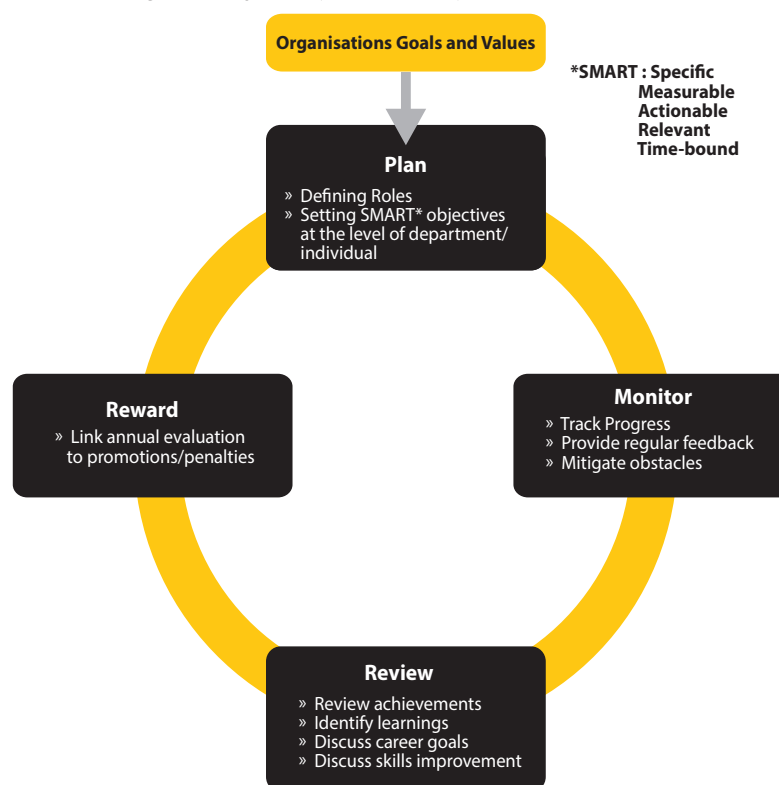
7. Johannesburg Metropolitan Bus Services (SOC) Limited, 2018/19 business plan, 2018, https://www.joburg.org.za/documents/_Documents/Metrobus%202018-19%20BUSINESS%20PLAN%20.pdf

4. Traffic (commercial) department does not have a robust performance management system and a need based employee training plan

A performance management system is the systematic approach to measure the performance of employees. It is a process through which the organisation aligns their mission, goals and objectives with available resources.⁸ An effective performance management system can be used as a tool to establish accountability and efficiency across hierarchies if appropriate measurement indicators are adopted.

BMTC has a Performance Appraisal Report (PAR) system for officers and class three employees, which is applicable to all departments, including traffic (commercial). The PAR has the stated objective of using it as a tool for career planning and training. It involves a one year cycle that begins with the officer reported upon filling the form and ends with authority accepting the same, with a combination of self-assessment, assessment by reporting head and reviewing authority. The PAR apart from a section on training requirements, includes assessment of parameters with weights assigned - work output (40%), personal attributes (30%) such as attitude to work, sense of responsibility, communication skills and emotional stability etc and functional competency (30%). The PAR for class three employees does not include self-assessment and is graded by the reporting head and is reviewed by a verifying authority.

Fig 5: Stages of performance management system (an illustration)



Although the PAR framework adopted by BMTC is reasonably robust, the fundamental issue is that the departments including the traffic (commercial) department do not draw up annual performance targets at either the department or individual level at the beginning of the financial year, even though the PAR document prescribes it. Also, the PAR is not linked with promotions or annual appraisals.

As discussed, already, the absence of a business plan or targets not only makes the process of holding employees accountable challenging but, this also in turn renders the PAR process meaningless as targets are not fixed to track progress at regular intervals. Ideally, there should be medium term and annual plans nested within a long-term plan, with progress measurement, milestones etc which are closely monitored and reviewed.

Continual employee training and development are important as it helps in creating a more competitive workforce, increase employee retention, and result in higher employee engagement. Training can be a powerful medium, particularly when there is proof that the root cause of the learning need is an undeveloped skill or a knowledge deficit⁹.

8. <https://publicsector.wa.gov.au/document/performance-management-public-sector-review-how-agencies-conduct-performance-management#:~:targetText=A%20well%2Ddeveloped%20performance%20management,public%20sector%20applies%20to%20everyone.>
 9. Ron Carucci, 2013, When Companies Should Invest in Training Their Employees – and When They Shouldn't, <https://hbr.org/2018/10/when-companies-should-invest-in-training-their-employees-and-when-they-shouldnt>

C&R rules provide for induction training of directly recruited candidates but it does not mandate trainings at any other levels. Traffic (commercial) department also does not have a training policy, nor has the department documented the training requirements. In fact, the PAR framework followed by BMTC could be used by the department to conduct the needs assessment for training but the same has not been used for this currently.

Case study 2: Tfl's competency management system

TfL employs competency management system to track the performance of its employees. The outcome of this exercise is linked to tangible rewards or penalties. Ex. All TfL employees are eligible for the "make a difference award scheme" which aims to promote, recognise, encourage and celebrate positive behaviour. The performances are assessed annually and are in alignment with promotional timelines. In addition, areas of performance improvement are recorded for insights on staff training requirements.

Source: TfL's annual workforce monitoring report 2016-17

Table 6: Number of training programs and conferences attended by employees in the traffic (commercial) department

Department	2016-17			2017-18			2018-19		
	Class 1	Class 2	Class 3	Class 1	Class 2	Class 3	Class 1	Class 2	Class 3
Traffic (commercial)	2	2	-	3	2	-	1	-	-

Source: BMTC

Nevertheless, the personnel department of BMTC holds training programmes, encourages employees to attend conferences and workshops but these are not based on a need assessment. Employees in the department typically attend training programmes / conferences that cover sessions on Public Private Partnership (PPP) model, development of bus terminus on Build Operate Transfer (BoT) basis etc. Mostly all these training programmes are organised by training institutes like the fiscal policy institute, Karnataka information commission, CIRT etc. and are largely free of cost.

An officer in the department expressed that unplanned training programmes are often not useful and disturb the workflow.

Case study 3: India's national training policy 2012

According to India's national training policy 2012, each ministry/ department shall adopt a systematic approach to training and shall :

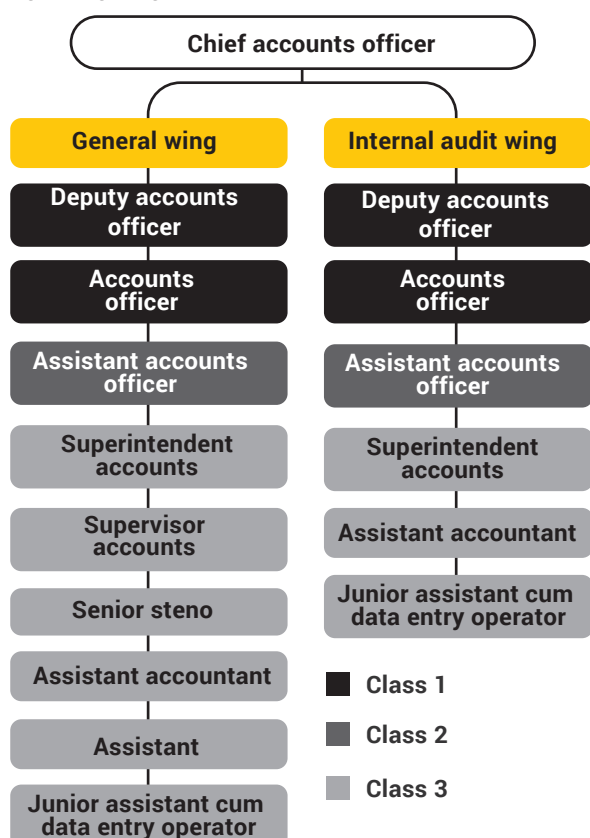
- Develop Cadre Training Plans (CTPs), based on the competencies required and training needs, to ensure that all cadres under the ministry/department or its attached/subordinate offices have a clearly articulated scheme to develop their competencies. CTPs should also indicate the mandatory training programmes.
- Link the training and development of individuals to their career progression and ensure this by suitably amending service rules/issuing administrative instructions.

Source: <http://persmin.gov.in/otraining/NationalPolicy.pdf>

ACCOUNTS DEPARTMENT

Accounts department is divided into two divisions - general and internal audit. The general section is responsible for accounting the revenue collected from the depots and ensures that all payments are arranged through calculative fund management. It prepares the budget for the succeeding year to manage its revenue and payments and presents the annual financial performance report. It also ensures that the salary and other payments are credited to the bank every month. The internal audit section is responsible for the inspection of all accounts received through cash & ticketing, salary, medical and provident fund bills, commercial establishments and stores (purchasing of spare parts, tyres, diesel etc.).

Fig 6: Organogram of accounts department



Source: BMTC Website, Interviews with department head

Source: EST Returns, BMTC, June 2019,
 Notes: The total vacancy is calculated as sanctioned position as sanctioned – regular.

1. Accounts department suffers from moderate levels of staff shortage. It has only seen two department heads since the last five years suggesting reasonable leadership tenure

BMTC's accounts (general and internal audits) department has a vacancy of 22%. It has no accounts supervisor, havildar (general) and assistant accounts officer (internal audit). The vacancy is much higher in the internal audit wing at 58% while general accounts department has a vacancy of only 10%.

While the vacancy is higher in the internal audit wing, it is learned that the functions to be carried out by this wing are not as demanding as the functions to be carried out by the general wing. So, the general wing seems relatively more challenged in terms of staff shortage in spite of having lower vacancy percentage when

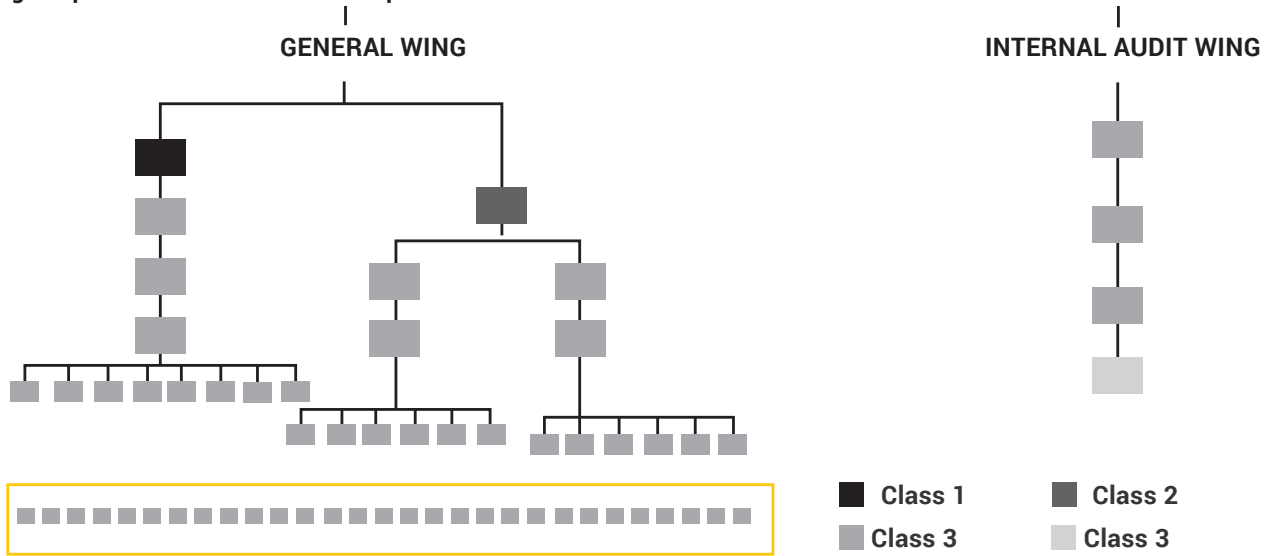
Table 7: Staff strength in accounts department

Department	Class	Sanctioned	Working		Vacancy
			Regular	Training	
Accounts (general & internal audit)	Class I	5	4	0	1
	Class II	4	2	0	2
	Class III	71	56	3	15
	Class IV	3	3	0	0
	Total	83	64	3	18

There are 17 employees in the general accounts wing to supervise financial process and 12 employees to handle salaries of 32,000 plus employees, provident funds, medical bills and managing other payments. Internal audit wing carries out audit of cash and ticketing, salary bills and provident fund annually. Accounts received through stores (purchasing of diesel, spare parts etc) and commercial establishments are inspected / audited as per MD's order. While this wing has four employees (class III and IV employees) to carry out inspections of all accounts and receipts as part of internal audits (only accounts of 48 depots, four workshops, one hospital, six offices and one training centre), the entity to be audited is decided based on MD's order. On an average, they inspect about two entities a day.

Employees in this department expressed that the staff inadequacy is felt strongly during the first and the last weeks of every month and during the end of every financial year owing to closure of books and other formalities. It is observed that the work pressure is more for general wing because of repeated regular functions that needs to be closed out every month. A typical regular working day entails eight hours and peak time requires officers to put in an additional 1 to 1.5 hours. In case of severe workforce shortage, temporary inter-department transfer will be made, provided a qualified personnel is available. There is one junior assistant, serving accounts section wide inter-department transfer.

Fig 7: Span of control in accounts department



Source: BMTC

An efficient span of control differs according to the nature and complexity of work performed by the manager and their subordinates. In the accounts department, the managerial work involves supervision for which the typical span of control, according to a McKinsey study, is 8-10 direct reports. As seen in figure 7, the department's span of control at an average of six direct reports is within this threshold. However, it must be noted that the staff highlighted in the yellow box in figure 7 do not report to one particular manager and work under different managers inter-changeably on a need basis.

Accounts department does not face the challenge of frequent churn of department head. The department has seen only two department heads since the last five years, which is positive for work continuity.

2. Accounts department has specific C&R rules. But the rules lack detailed job descriptions with behavioural competencies and specific technical competencies. It also suffers from missing functions such as treasury management to optimally manage BMTC's finances and tap into alternative sources of financing operations

As can be seen in table 8, the C&R rules applicable to accounts section is reasonably laid out, especially in terms of educational qualification. Graduation in commerce is a basic requirement thus ensuring that the personnel has basic academic training aligned to the scope of work. However, junior assistants and data entry operators without a degree in commerce can still be promoted as assistant accountant provided they have served in the same department for atleast three years and have picked up the skills required for the job.

The rule also mentions knowledge in computer operations as a technical skill requirement. But a key drawback of BMTC rule is that while it mandates technical skill requirement, it does not specify the requirement clearly as to which software or applications, the candidate should be proficient.

Case study 4: TriMet's mandates on skill requirements in accounts function

TriMet, requires its accounting department employees to exhibit analytical skills to work with large data sets and clear and effective communication skills. The department employees are also expected to be proficient in microsoft word, excel, outlook, database and other software applications Apart from having the requisite degree in accountancy or business, one must also have a minimum of three years work experience in accounting.

Source: <https://www.governmentjobs.com/careers/trimet>

Missing functions in accounts department

There are multiple contemporary posts established in other global cities to enable better financial planning and sustainable growth of the transport organisation that have not been incorporated in the BMTC C&R rules.

Ex: TriMet has posts¹⁰ such as senior accountant – treasury and cash management, long-term liabilities accountant, cash-control accountant, financial analyst and forecast. The description also calls out specific skills and competencies required such as experience with operational research, budgetary and statistical analysis, complex financial modelling and forecasting using various technical tools.

TfL has a position¹¹ of corporate finance analyst to analyse, develop and implement TfL's corporate finance activities which include capital raising, treasury operations, complex contractual arrangements, structured finance and major project funding arrangements.

Table 8: C&R rules- accounts department

Designation	Type of recruitment	Qualification	Experience	Other skill	Other conditions
Chief accounts officer; Class 1	Promotion	-	At least three years of service as class – I senior officer in accounts department or with lien in accounts department.	-	Not more than 45 years
	Direct recruitment under regulation 3(4)	MCom /MBA in Finance/CA/ AICWA	At least 10 years in financial Management in commercial undertaking	Computer applications	-
Assistant accounts officer; Class 2	First vacancy of every two vacancies by promotion.	-	At least three years service as superintendent (accounts) or a combined service of six years as superintendent (accounts) and supervisor (accounts)	-	-
	Second vacancy by direct recruitment	MCom/BCom with MBA in Finance	-	-	-
Supervisor (accountant); Class 3	Two out of three vacancies by promotion on seniority-cum-merit	-	At least three years as junior assistant accountant or a combined service of six years as assistant and junior / typist / junior assistant cum typist/ assistant cum data entry operator	-	-
	Third by direct recruitment	BCom	-	Computer applications	-

Source: KSRTC C&R Regulations,1982

Note: Regulation 3 (4) - Where suitable departmental candidates are not available for promotion to any of the posts specified in 'schedule A' which are to be filled in by promotion such posts may be filled by direct recruitment or by obtaining loan service.

Weak staffing has a bearing on the department performance. As already seen, accounts department is limited to the role of accounting and has not really evolved to handle finance roles. Although the department claims that it creates a Medium Term Fiscal Plan (MTFP), the document is not made available on public domain. The inability of BMTC to tap into alternative financing can be tied back to weak staffing both in terms of quality of staffing and missing functions. While the data on educational qualification and background of BMTC's accounts employees are unavailable, it is safe to say that the background of a head of accounts / finance of globally well-run transport organisations is steps ahead when compared to BMTC. Ex.

10. Careers at Trimet, <https://www.governmentjobs.com/careers/trimet>

11. Senior Staff information for Data Transparency, 2018, <http://content.tfl.gov.uk/tfl-senior-employee-salaries-2018.pdf>

Johannesburg was able to raise \$143million for sustainable investments including hybrid fuel buses¹². The current chief finance officer¹³ of Johannesburg metro bus service is a chartered accountant, holds an MBA and has a degree in business analytics and data science. His portfolios cover - cost containment and enhancement of financial discipline, implementation of the new revenue system, enhance control environment, improve the compliance of the organisation through enhanced focus on statutory regulations, develop and implement standard operating procedures across the organisation. Similarly, TfL is UK's leading public sector issuer of capital markets debt after the government's debt management office.¹⁴ The current chief finance officer of TfL holds an MBA from University of Oxford. His portfolio essentially entails leading TfL's financial and commercial professional services.

Given BMTC's poor financial health,¹⁵ there is a need for advanced treasury management skill in order to be able to optimally manage BMTC's finances and tap into alternative sources of financing operations including exploiting the debt market and exploring public private partnerships.

3. Accounts department uses ProfitPlus , an accounting package to prepare budgets and financial reports but it does not have an end to end , integrated ERP system linked with works module, that also supports in forecasts and robust financial planning.

Leveraging information systems is key to bringing process efficiency in the accounts department and is an enabling factor to bring in financial sustainability. Information systems can be used for creating better medium and long term fiscal plans for the organisation using complex financial modelling, analysis and forecasting.

The department extensively depends on microsoft excel for its day to day functioning. Further, the class I and II officers also use a software called 'ProfitPlus', an accounting package that helps in building billing accuracy, cash control cost analysis etc. The department relies on this software package to prepare budgets and financial reports. Although there is significant coordination required between accounts and revenue generating departments, the department does not have an integrated ERP system that enables seamless inter-linkages between works module and accounts module.

4. Accounts department does not have a robust performance management system and a need based employee training plan

The performance management framework discussed under traffic (commercial) departments applies to accounts department as well. Accounts department does not draw up annual performance targets at both department or individual level at the beginning of the financial year, even though the PAR document prescribes it. It is important for any organisation to have an MTFP and a Long Term Fiscal Plan (LTFP). This is because, with a restricted timeframe of one year, the annual budget will not enable the organisation to estimate its financing requirements over the medium and long term. The MTFP and LTFP will address this gap. While the department claims that they prepare an MTFP, the same is not available on public domain nor is mandated by law. Even if an MTFP exists, the department does not have an LTFP. While absence of such documents can be seen as a result of weak staffing, this also in turn renders the PAR process meaningless as targets are not fixed to track performance.

PAR process followed in accounts department is mostly only a procedural exercise and is not linked to promotions (unless there has been any serious disciplinary issues) or yearly appraisals. The department also does not use PAR for career planning and training, and has not created a training assessment. The interviews conducted, suggest that in its current form, PAR is only a formality with no consequence on improving employee performance or building accountability.

Even though PAR framework has not been used to create a training plan, employees do attend training programmes/ conferences / workshops organised or encouraged by the personnel department of BMTC.

Table 9: Number of training programs and conferences attended by employees in the accounts department

Department	2016-17			2017-18			2018-19		
	Class 1	Class 2	Class 3	Class 1	Class 2	Class 3	Class 1	Class 2	Class 3
Traffic (commercial)	6	9	2	5	7	5	5	2	1

Source: BMTC

12. Bloomberg, Pope , 2017 , Climate of Hope: How Cities, Businesses, and Citizens Can Save the Planet.

13. Based on LinkedIn profile

14. Senior Staff information for Data Transparency, 2018 , <http://content.tfl.gov.uk/tfl-senior-employee-salaries-2018.pdf>

15. Based on LinkedIn profile

16.As per the state transport undertakings profile and performance 2016-17 report released by CIRT, BMTC incurred a loss of Rs. 261 Crores

As can be seen in Table 9, majority of the training programmes and exposure visits are being attended by class 1 and class 2 employees. For training programmes spanning over a week, typically, only junior officers are sent to avoid disruptions at work. Officers of accounts department have attended training aligned to financial and business analysis, adjudication process under right to information act, financial planning and administrative matters, taxation etc. They have also had opportunities for exposure visits within India in the last five years.

An officer expressed that unplanned training programmes are often not useful and disturbs the work flow. Another commented that on-the-job /in- house training especially 'ProfitPlus' will be beneficial for employees across ranks and will help distribute the workload across hierarchies especially during busy periods.

Case study 5: Performance management system and extensive training programmes by Johannesburg metrobus

The Municipal Systems Act 32 of 2000 requires that the City of Johannesburg (CoJ) establish a performance management system that is commensurate with its resources, best suited to its circumstances and in line with the priorities, objectives, indicators and targets contained in its integrated development plan. Accordingly, Johannesburg metrobus, which is an entity of CoJ, carries out a performance management process in congruence with its business plans for its various departments. Its employee performance management system comprises of four key phases- planning, coaching, reviewing and rewarding. The performance management at each level translates into a scorecard. Johannesburg metrobus monitors this process on a quarterly basis and is mandated to justify any deviation from its targets. The figure below is a snapshot of the metrobus performance scorecard from their quarterly report 2018-19.

Goal	Metrobus key performance outcome	Key performance indicator	Base-line	Annual Target	Quarterly performance				Target met/not met and reason for variance
					Q1	Q2	Q3	Q4	
Enhancing our financial sustainability	Financial viability and sustainability	% spent against approved operating expenditure budget	97%	100%					Target met. While the bulk of operational spending is allocated to personnel costs, spending in this regard is appropriately managed to support the mandate of the entity.
Enhancing our financial sustainability	Financial viability and sustainability	Number of annual leave days balance per employee	36 days	100%	70	70	83	88	Target not met in part due to limited personnel capacity Corrective measure: enforcement of the provisions of the BCEA and collective agreements.
Create an honest and transparent city that fights corruption	Audit outcome	% of AGSA Audit finding resolved	100%	100%	30	30	28	67	Target not met Of the total of 55 findings, 10 risks were accepted by management as risks that cannot be resolved in the medium term. In relation to the residual risk the entity has resolved 67%

Training programmes offered by Johannesburg metrobus, cater to the requirements of employees across hierarchies. Based on a skills audit, employees are put on various coaching and mentoring programmes offered by the University of Cape Town and Wits University. Areas of training range from occupational health and safety, financial management, Generally Recognised Accounting Practice (GRAP), organisational performance etc. Johannesburg metrobus also offers a graduate internship programme in collaboration with the Transport Education and Training Authority (TETA) for a period of 12 months in the field of human resource management, finance and information and technology in the form of an integrated workplace experience.

Source: https://www.mbus.co.za/images/quotations/Metrobus_mid-year_performannce_assessment_report.pdf

HIGH LEVEL RECOMMENDATIONS

These are the high level recommendations to strengthen institutional capacity in traffic (commercial) and accounts departments, based on the preliminary findings of this study.

1. Revisit the staffing requirement for both traffic (commercial) and accounts departments, given that the last such comprehensive exercise was carried out way back in 1982. This exercise will help in assessing the staffing need based on scientific technique, identifying and fixing missing functions and qualifications necessary to bolster the performance of these departments. This is expected to aid the department in exploring alternative financing avenues and optimise on non-ticketing revenues.
2. Mandate three year tenure for the department heads of both departments.
3. Amend cadre and recruitment rules to:
 - a. Create specific rules including educational qualifications and technical skills for traffic (commercial) department. Include specialist functions for data analysis and forecasts. Provide job descriptions with detailed behavioural and technical competencies required for the job.
 - b. Upgrade recruitment rules of accounts department to include an expert in treasury management.
 - c. Mandate continual training programmes for employees in the traffic (commercial) and accounts departments based on training needs assessment.
 - d. Mandate proficiency certificate for promotion in case of both departments.
4. Create and formalise detailed job responsibilities manual.
5. Evolve a policy to augment skill requirements such as data analysis and forecast, commercial property management etc, from external sources until internal capabilities are build.
6. Introduce an integrated ERP system that links the work modules with the accounting modules to ensure smooth flow of information and decision making across departments.
7. Develop a long-term business plan and LTFP with a nested medium term plan and annual plan for the traffic (commercial) and accounts functions. The individual employee targets should be derived from such plans. Both department and individual targets should have metrics to measure progress, should be continually monitored and reviewed every quarter. Variances in targets, if any, should be explained every quarter and troubleshoot measures should be drawn-up. These documents should be made available on public domain to build in accountability.
8. Follow the current PAR rigorously and implement a robust performance management system linked to annual appraisals and promotions.
9. BMTC to develop a training policy and create annual training plan based on an annual training need assessment. The PAR framework can be used to arrive at this assessment.

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