



Modified Report on Performance Costing System in Indian Railways



ICWAI Management Accounting Research Foundation
(ICWAI – MARF)

Promoted By:

The Institute of Cost Accountants of India

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Contents

Chapter 1 : Approach of PCS in Indian Railways	
1.1	Forward Looking Approach for Transformation in Indian Railways ----- 1
1.2	Accounting Reforms and need for upgradation of Costing System ----- 2
1.3	Global Scenario of Railway Traffic Costing ----- 3
1.4	Task of Upgradation of Costing System in Indian Railways ----- 6
1.5	Performance Costing System and Target Outcome ----- 7
1.6	Prime Considerations for Performance Costing System (PCS) ----- 8
1.7	Existing Accounting Base and Performance Costing Model ----- 9
1.7.1	Existing Financial Accounting System ----- 9
1.7.2	Activities in Divisions/Workshops & Zones ----- 9
1.7.3	Existing Costing System ----- 10
1.7.4	Upgradation of the System through basic design parameters ----- 10
1.8	Activity Cost Centre Code (ACC code) ----- 11
1.8.1	Activity Cost Centre ----- 11
1.8.2	Structure of ACC Code ----- 11
1.8.3	Examples of ACC Code ----- 12
1.8.4	Nature of Activity Centers ----- 13
1.8.5	ACC code & System Integration ----- 13
1.8.6	Simple Extraction of Cost Data from Finance Database ----- 13
1.9	Line of Business & Line of Service ----- 14
1.9.1	Line of Business & Line of Service ----- 14
1.9.2	LOB & LOS design ----- 14
1.9.3	Gauge wise Segregation of Cost ----- 16
1.10	Cost Driver for Cost Segregation ----- 16
1.10.1	Cost Driver ----- 16
1.10.2	Compilation of Cost Driver Input Data ----- 17
1.10.3	Joint Cost & Cost Distribution ----- 17
1.10.4	The Nature of Some Cost Drivers ----- 17
1.10.5	Cost Driver for LOS ----- 18
1.10.6	Peculiarities of Some Cost Drivers ----- 18
1.10.7	Cost driver through IT Integration ----- 19
1.10.8	Cost Distribution at Divisional Level ----- 19
1.10.9	Proposal of Additional Accounts Heads ----- 21

1.11	Commodity wise Goods Service Cost: Cost Drivers -----	21
1.12	Functional Component Cost and its Significance -----	23
1.13	Distribution of Depreciation -----	28
1.13.1	Treatment of Depreciation -----	28
1.13.2	Classification of Assets -----	28
1.13.3	Suggestions for better classification of Assets -----	30
1.14	Distribution of Overhead Expenses -----	31
1.14.1	Overhead Distribution Approach -----	31
1.14.2	Types of overheads -----	31
1.14.3	Apportionment of Overheads -----	31
1.15	Treatment of Special Items -----	35
1.15.1	Freight Charges of Railway Materials -----	35
1.15.2	Credit for released materials -----	35
1.15.3	Recovery of O & M Charges from Non-Government Railway/SPVs Etc.---	35
1.15.4	IRFC Lease Charges -----	36
1.16	Treatment of Some Activity Centers Cost and their Distribution -----	36
1.16.1	Passenger Services -----	36
1.16.2	Track Maintenance -----	36
1.16.3	Maintenance Cost of Infrastructure (Other than Track & Bridge) -----	37
1.16.4	Repair & Maintenance of Loco (Trip Shed/Loco Shed/Workshop) -----	37
1.16.5	Repair & Maintenance of Coaches -----	38
1.16.6	Diesel Fuel Cost -----	38
1.16.7	Crew Management System -----	39
1.16.8	Ticket Checking Cost -----	39

Chapter – 2 : Costing System for Workshop in Indian Railways

2.1	Introduction -----	41
2.2	System for Repair Work -----	42
2.2.1	Accounting of Workshop Cost -----	42
2.2.2	Type of Repair Work -----	42
2.2.3	Scheduling of Work -----	43
2.2.4	Issue of Work Order -----	43
2.2.5	Production of Special Items -----	43
2.2.6	Man Power and Material Requirement -----	44

2.3	Cost Element under Present Costing System -----	44
2.3.1	Labour Cost -----	44
2.3.2	Direct Material Cost -----	45
2.3.3	Direct Expenses -----	45
2.3.4	Labour On-Cost -----	45
2.3.5	Stores On-Cost -----	45
2.3.6	Present System of Cost determination of Repair Work -----	46
2.4	Improvement Suggested in Workshop Costing System -----	47
2.4.1	Costing based on actual expenditure -----	47
2.4.2	Inclusion of Depreciation and Workshop Overhead Costs -----	47
2.4.3	Issue of Work Order -----	48
2.4.4	LOB & LOS Design -----	48
2.4.5	System of formation of Batch and Issue of Work Order -----	49
2.4.6	Systematic Compilation of Work Order Cost -----	50
2.4.7	Easy Compilation of Work in Progress Cost -----	50
2.4.8	Capturing LOB/LOS Wise Repair Cost -----	51
2.5	Treatment of Depreciation & Overhead -----	51
2.6	Computation of Work Order Cost -----	54
2.6.1	Cost Data Recording & Computation Steps -----	54
2.6.2	Derivation of Unit Repair Cost -----	55
2.7	Difference in approach between Existing and Proposed Workshop Costing in Computation of different cost components -----	56

Chapter – 3 : PCS – Data Collection & Processing

3.1	Introduction of PCS Data Collection and Processing -----	59
3.2	Source data base of ACC Cost -----	61
3.3	Activity wise Cost Driver Data Compilation -----	62
3.4	Process flow chart -----	63
3.5	Steps for PCS Data Processing -----	65
3.5.1	Objective of Creation of ACC Master File -----	66
3.5.2	Contents of ACC Master File -----	66
3.6	Description of Fields in the Master File -----	66
3.6.1	ACC Code -----	66
3.6.2	ACC Description -----	66
3.6.3	Functional Component Cost (FCC) -----	66
3.6.4	ACC Cost Driver Type Code -----	67

3.6.5	Activity Input Sheet (AIS) Number -----	67
3.6.6	Cost Driver Description -----	67
3.6.7	Unit of Measurement of Cost Driver -----	67
	Detailed Steps for PCS Data Processing -----	67- 81

Chapter – 4 : Use of Cost Based MIS for Strategic Decision Making

4.1	Introduction -----	85
4.2	Marginal Costing Technique and Profit Planning -----	88
4.2.1	Marginal Costing Technique -----	88
4.2.2	Variable, Semi-Variable and Fixed Cost -----	89
4.2.3	Support to Management Decision Making -----	89
4.3	Cost information support to business decision making -----	90
4.3.1	Utility of Zonal Cost Statement -----	90
4.3.2	LOB wise Profit Margin (Passenger Service) -----	91
4.3.3	LOS Wise Profit Margin for a LOB (Passenger Service) -----	91
4.3.4	Performance of Freight Services -----	92
4.3.5	Financial Budget LOB Wise -----	92
4.3.6	Tariff Fixation or Assessment of Profitability of a Train at existing Tariff ---	93
4.3.7	Marginal Costing Technique to evaluate a business proposal -----	94
4.3.8	Determination of Cost of Accidents -----	95
4.3.9	Cost of Slow down a train / cost of additional stoppage -----	95
4.3.10	Divisional Activity Center wise cost Report -----	96
4.3.11	Activity Performance Data from Activity Cost Drivers -----	96
4.3.12	Profitability of a new project -----	97
4.3.13	Determination of Access charge for an asset -----	97

Chapter – 5 : Proposed Costing System at RCF Kapurthala

5.1	Introduction -----	99
5.2	Production Process -----	99
5.3	Production Planning -----	100
5.4	Manpower Planning -----	101
5.5	Material Requirement Planning and System of Procurement -----	102
5.6	Present Costing System in RCF -----	103
5.7	Desired Improvement in Costing System -----	104
5.8	Record Management for compilation of employees cost -----	106

5.9	Record Management on material issue and Material Cost -----	107
5.10	Utility Cost -----	108
5.11	Direct Expenses -----	109
5.12	Depreciation -----	109
5.13	Production Overheads -----	110
5.14	Treatment of other overheads -----	111
5.15	Unit cost of Coach -----	112
5.16	Cost Sheet for a Period -----	112
5.17	Difference in approach between Existing and Proposed Shop wise Costing in computation of different cost components -----	113
5.18	Costing System Processing Frequency -----	114
5.19	Suggestion for Implementation of Costing System -----	114

Annexures

Annexure	Particulars
Annexure I	Mapping Chart for Conversion from PU to Cost Items
Annexure II	ACCs grouping in to FCCs
Annexure III	Proposal for Introduction of New Account Heads
Annexure IV	AIS Formats
Annexure V A	LOS Wise Functional Component Cost
Annexure V B	LOS Wise Functional Component Cost

ACRONYMS	
ABM	Activity Based Management
ACC	Activity Cost Centre
AIMS	Accounting Information Management System
BG	Broad Gauge
CC	Chair Car
CD	Cost Driver
CMS	Crew Management System
CPI	Consumer Price Index
EC	Executive Class
EM	Electric Multiple Unit & MEMU services
EMU	Electric Multiple Unit
ETKM	Equated Track Kilometer
FAR	Fixed Asset Register
FCC	Functional Component Cost
FCUC	Functional Component Unit Cost
FOIS	Freight Operations Information System
GS	Goods Train Services
GTKM	Gross Tonne Kilometre
ICMS	Integrated Coaching Management System
ICWAI-MARF	ICWAI – Management Accounting Research Foundation
I-MMIS	Integrated Material Management Information System
IOH	Intermediate Over Hauling
IPAS	Integrated Payroll and Accounting System
IRFC	Indian Railway Finance Corporation Limited
IT	Information Technology
ITKM	Integrated Track Kilometer
LMS	Locomotive Management System
LOB	Lines of Business
LOS	Lines of Service
ME	Mail/Express Train Services
MG	Meter Gauge
NG	Narrow Gauge
OS	Passenger Train services including DMU
P/E	Plant & Equipment
PCS	Performance Costing System
POH	Periodical Over Hauling
PRS	Passenger Reservation System
PS	Premium Train Services
PU	Primary Unit
PWI	Permanent Way Inspector

RAB	Regulatory Asset Base
RDI	Railway Diesel Installation
ROB	Road Over Bridge
RUB	Road Under Bridge
SH	Shunter
SLR	Seating Cum Luggage Rake
SPV	Special Purpose Vehicle
SSE	Senior Section Engineer
TMS	Track Management System
UTS	Unreserved Ticketing System

Chapter - 1

Approach of PCS in Indian Railway

1.1 Forward Looking Approach for Transformation of Indian Railway

Indian Railway is owned and operated by Government of India through Ministry of Railways. It is one of the largest transportation and logistics network in the world comprising more than 1,20,000 km track covering more than 7300 stations. Indian Railways are facing intense competition from other transport sector viz road, air, water, pipeline etc. Economic activities in India have increased substantially over the recent years. Demand for quality services and faster transport movement has also gone up. In an increasingly complex & competitive business environment, the Railways are seeking to improve their competitiveness and desire to play a sensible role to provide a strong logistic support to growing Indian economy. It has ventured into a path of transformation of Railway Transport Services by way of building better infrastructure and improving quality of services to the users. For Railway, it is not reaching a destination – rather it is a journey for continuous improvement. The key to achieving this improvement revolves round efficiency of the input drivers and effectiveness of the outputs – both of which ultimately support the viability of the outcome. Efficiency of input refers to budget allocation, human resources and visionary leadership and others whereas effective outputs are associated with improved transport services in terms of speed, safety, comforts and punctuality in journey or delivery of goods. Transformation process of Railway has been initiated through Business Process Re-engineering by bringing in innovations in core activity design and aiming at productivity improvement and better customer satisfaction. The biggest advantage of the Indian Railway is its huge technical knowledge bank and know-how accumulated over long years of dedicated endeavor towards augmenting its quality of service of global standard. The expert knowledge and forward vision are playing key role for building strategy. Focus is on augmentation of capacity and its utilization efficiency.

1.2 Accounting Reform and need for upgradation of Costing System

Indian Railways has ventured into Accounting Reform Programme to bring in change in streamlining Accounting Information in more scientific way and developing a Costing system capable of supporting a robust and efficient decision making process across functional areas. Sustained competitiveness in transport sector demands for a comprehensive mechanism for assessing the economic feasibility of the investments and impact on cost configuration of the services and decision making on right kind of service mix in order to optimize profitability.

Decision making Model is essentially to be developed in Indian Railways with seamless information flow on resource uses and their cost. Presently, in Indian Railways Cost Accounting being followed is basically absorption costing in the form of fully distributed cost. The existing costing system both for transport services and captive production system has its own limitations in terms of compilation process of cost data, generating precise cost information and bottleneck in smooth flow of desired data set for decision making. These limitations often lead to sub-optimal decisions.

Indian Railway uses three gauges – Broad Gauge, Meter Gauge and Narrow Gauge and provides two major services – passenger services and Goods Services. Infrastructure and repair support activities are shared across the services. In a pre-dominant joint cost configuration, the challenge is the scientific distribution of cost to the cost objects. Indian Railways proposed for Performance Based Costing System which is capable of measuring cost and performance of the activities and distributing costs to cost objects on the basis of performance-based cost drivers. By way of linking cost of activities and the corresponding performance, the reliability of cost information will improve to a great extent.

1.3 Global Scenario of Railway Traffic Costing

Studies of international scenarios of Railway Costing System is made on the basis of limited information available in public domain. In most of the countries their railways are commercially driven business entities ignoring social concept and some of the countries are moving towards private participation in the railway system in their operation & maintenance. Railway reforms are still very much in progress in several countries. One of the major objectives driving these reforms has been to ensure that end-user prices are at an efficient level and subsidies from Government are to be kept low.

High and regular investments are made to ensure quality of service and safety of passenger or carriage. Different countries have adopted different combination of structure, balancing between private and public ownership and regulation to achieve the objective of reforming the railway sector with different degree of success. Some relied more heavily on inter-modal (among organisations of services) competition, while for others intra-modal (among different units of the organisations) competition became essential. Further the outcome was determined not only by the structure, ownership and regulation of the railway system, but also by the installed base of track and the geography of the country as well as the degree of public policy interventions. Nevertheless, many changes and reforms happened since 2004. These reforms included appropriate Costing and pricing issues and particularly moving towards infrastructure access charges regime i.e. providing access to railway and infrastructure to outside operation and charging access charge.

Service Costing & Profit Measurement (SCPM)

Typically, the Service Costing & Profit Measurement (SCPM) system for railways combines traffic, revenue, physical, and cost data from many railway systems. This includes way billing or ticketing, revenue accounting, cost accounting, and

various operational systems. Traffic movement information comes from railway operating systems that record and track traffic, such as the way billing system for freight, and the ticketing system for passengers. These systems provide basic movement characteristics— origin, destination, weight, wagon type for freight commodities, or origin, destination, and service class for passenger traffic. The movement can be matched to operational databases to find the physical characteristics of the movement that correspond to the railway cost drivers.

Costs are classified mainly into:

- (1) Rail network infrastructure,
- (2) Train operations, and
- (3) Overheads.

Most costs for the railway network infrastructure include capital and maintenance costs for track, engineering structures such as bridges and tunnels, train signaling, communications systems, power supply system in electrified sections, and terminal infrastructure. These infrastructure costs have a component which is essentially fixed with the level of infrastructure usage.

The second component relating to Train operation costs are variable in nature with traffic levels over the long-term which include:

- (i) Cost of diesel fuel or electrical energy
- (ii) Locomotive capital depreciation or leasing cost
- (iii) Locomotive maintenance
- (iv) Driving crew
- (v) Rolling stock Wagons or Passenger coaches depreciation or leasing cost
- (vi) Rolling stock maintenance
- (vii) Terminal operations
- (viii) Commercial costs (passenger ticketing, freight booking etc.)
- (ix) Running costs etc.

Lastly, third component is overhead which is fixed in nature and is primarily administrative expenses and expenses related to welfare of employees.

The crucial concepts in railway traffic costing are common costs and joint costs, which can be either fixed or variable at different traffic levels. In the railway industry, most common costs are associated with infrastructure and corporate overhead that support all users and services. Railways use various methods of allocation, including by tons, by ton-km, and as a markup on variable costs. This process is essentially arbitrary.

There are various competing cost measurement methodologies, for example performance-based costing [or say activity-based costing], standard costing, throughput accounting, lean accounting, continuous accounting, resource consumption accounting, project accounting, life-cycle costing, kaizen (continuous improvement) costing, target costing etc.

On a perusal of various Railway websites and other documents in different part of the world it is observed that:

- 1) Activity Based Costing system is practiced in China, Russia, Italy, Hungary, Belgium, Latvia, Sweden
- 2) Floor and Ceiling – Australia (Fixed by Regulator with CPI-X indexation)
- 3) Rate of return applied on Regulatory Asset Base (RAB) on Current Costing method. -Kazakhstan
- 4) Target Costing-Germany
- 5) Marginal cost with mark-ups - France, Great Britain

Further the Global scenario shows that the Railway sector is moving towards an access pricing regime where there is clear segregation of Infrastructure providers and Train operator concept. Many countries have already set up regulatory regime who oversees the pricing, quality of services and competition issues.

1.4 Task of Upgradation of Costing System in Indian Railways

As a part of Indian Railway Accounting Reforms Programme, ICWAI Management Accounting Research Foundation [ICWAI-MARF] has been engaged to up-grade the existing costing system with Performance Costing system (PCS). The processing of existing Costing system used to be done after the close of financial accounts and Cost Statement generation used to take further nine (9) months. There is substantial time gap between occurrence of activities, incidence of cost and capturing of its operational data and cost data, its authentication, cross checking, and validation. Its usefulness for managerial & cost control becomes marginal.

Objective of Upgradation of Costing System:

- i) **Quality Cost Information:** Evolving better methodology of capturing cost data and performance data from activity Centers so as to adopt modern costing technique to distribute joint costs which will augment the quality of cost information and ensure precision in cost configuration of different Trains & class of services.
- ii) **IT Integration:** Integration of IT system already developed in different operational areas in Indian Railway will support data sharing. This will ensure smoothening the data flow across various functional areas. Moreover, this cohesive approach will increase data reliability also.
- iii) **Cost Control and Support to Scientific Business Decision Making:** Generating useful Cost statements for Managers and developing methodology for cost analysis and measures for cost control. Ensuring regular flow of Cost Information to provide support for strategic business decision making.

1.5 Performance Costing System and Target Outcome

The approach of the system will be to link the cost and performance of the activities in order to determine the costs of different lines of business, lines of service and assess the cost, revenue & profitability of each of the following:

- i) Each type of passenger train viz. Rajdhani, Shatabdi, Duronto, Mail/Express, EMUs, etc.
- ii) Each type of passenger service viz. AC/Non-AC First Class, AC 2-Tier, AC 3-Tier, AC Chair Car, Executive Class, Sleeper Class, 2nd Seating, 2nd Class etc.
- iii) Freight services – major commodities
- iv) Production units, service units, utilities etc.
- v) Zones, Divisions, Field Units etc.
- vi) Locomotives, coach, wagons etc.
- vii) Rail accidents & other abnormalities etc.

The Major outcome of the proposed system will be:

- i) Regular flow of cost information, which will help in identifying profitable, loss making and non-value adding activities
- ii) Scientific MIS module of the proposed system will provide support to strategic decision making towards improving resource management.
- iii) Determining of Margin of freight services of different commodities to devise rational commodity freight service -mix to optimize profitability.
- iv) Determining the class wise profitability of passenger services and devise rational service mix to optimize profitability.

1.6 Prime Considerations for Performance Costing System (PCS)

Basic features of Indian Railway transport operation, existing financial accounting, existing record management system and the outlines of objective of upgradation of Railways Costing system are taken into consideration and to be essentially the guiding factors for Performance Costing System. Moreover, study of development scenario of global Railway Costing also indicates the inclination towards Activity Based Costing.

Indian Railway has its unique features in terms of network of operation, scientifically designed chain of supportive Repair and Maintenance activities and administrative and control mechanism. For the successful implementation of PCS, the key issue is streamlining the data capturing process. Thus, for upgradation of Railway Costing System the following considerations are taken to be guiding factors for framing the features of the system:

- i) **Existing Skill Set:** Skill set of employees is the key considerations for adopting the new costing technique and accepting the changes required for improved record management.
- ii) **Technology Level at Activity Centers:** Level of technology at the reach of activity centers should be commensurate to smoothen the process of capturing data on performance of activities and resource use for ensuring reliable data flow.
- iii) **Implement-ability:** Simplicity in the design in terms of synchronizing all factors in the system – exact need of Railway, Costing technique, changes required in data spectrum and processing steps etc. are taken into consideration so that proposed Costing system gets implemented without hurdles.
- iv) **Cost of Costing:** Benefit from the system must outweigh the cost of implementation and regular processing of the proposed system so as to encourage the Railway to accept it for effective use for decision making.

1.7 Existing Accounting Base and Performance Costing Model

- 1.7.1 Existing Financial Accounting System:** Railway Finance code vol II has been scientifically designed to capture expenses of each activity by an accounts head. The set of demand heads has been sub-divided into different minor heads, sub-heads and detailed heads corresponding to different broad classes of activities. Thus, financial data set captured through the existing set of Accounts heads helps in assessing costs of different activities. Salary of employees is processed monthly basis with the help of IPAS (Integrated Payroll and Accounting System). All bills of other work related to contractors' bill, suppliers' bill etc. and other expenses are also processed by IPAS. Financial adjustment among Railways are also accounted through IPAS. Material accounting is being done with the help of IMMIS system and the same is integrated with IPAS. Accounting data processing is also carried out on monthly basis. Thus, IPAS database is central point of all expenditure data.
- 1.7.2 Activities in Divisions/Workshops & Zones:** The Divisions are entrusted for operation and undertaking running maintenance of rolling stock, track and other assets. The financial accounting system captures expenses of each activity across the Division. The same is summarized Accounts head wise for the month and similarly at the end of the year Divisional expenditure database for the whole year. Zonal Railways are the owners of all assets and responsible for all major capital expenditure work for creation of new assets and major repair work of rolling stocks and maintenance of bridge, operation of track machines etc. Moreover, payments related to IRFC lease charges, AMC charges related to IT infrastructure etc., investment in PSUs, appropriation to DRF and Pension Fund etc. are dealt by Zonal Head Quarter Accounts. Major repair of rolling stock are undertaken at Workshops. Mainly, POH/IOH cost of rolling stock done at workshop and related costs are accounted for in respective units itself. Again, all Divisional and Workshop accounting records are merged in Zonal Accounting.

As far as accounting of expenditure is concerned, it is compiled at Zonal Railways and finally consolidated at Railway Board Level.

1.7.3 Existing Costing System: Expenditure databases for all Divisions, Workshops and the Zonal Headquarters is summarized for the whole year which becomes Zonal Cost database (Accounts head wise) for the existing Costing system. From the same database, direct expenses for services and overheads are identified. Overhead expenses are apportioned to the direct costs on the basis of some relevant direct expenses or related parameters. By the very nature and schedule of operation and support requirement, the same activity is performed in multiple activity centers at different accounting units. The distribution of whole year costs at macro-level (Zone) distorts the cost components. Moreover, the inherent limitation of averaging cost under different accounts heads without any consideration of outcome of efficient and in-efficient points of activities does not reflect accurate costs of activities for different type of trains, rather depicts the average cost of activities across different types of services.

1.7.4 Upgradation of the system through basic design parameters – Activity Cost Center, Lines of Business, Lines of Service and Cost Drivers: The Approach of the proposed Costing System is of Activity Based Costing. Activity Based Costing is a technique where cost of resource use by different activities by different products or services will be distributed to the products or services on the basis of use of each activity by the products or services. In a scenario of predominant incidence of joint costs in the operation of Railway, apportionment of joint cost will be distributed with the help of relevant cost drivers of the activities i.e. performance of each relevant activity for a specific category of service. This approach of capturing cost of each activity Center across Division and Workshop with the help of Activity Cost Center and distribution of the same on the basis of performance based activity cost driver of the respective Cost Center to the Lines of Business (Business vertical) and Lines of Services (Type of service) will be the effective upgradation of the existing costing system to arrive at cost of different types of Trains and different class of services. Of course, the biggest challenge is

streamlining the Cost driver data from Activity Cost Centers. The input format for each driver is different from the other and design of the same has been done with great care to easily compile the data from the set of records maintained in the Activity Centers. The details relating to design of Activity Cost Center code (Table No. 1.1) Lines of Business (Table No. 1.3) Lines of Service (Table No. 1.4 & 1.5) and Input format for Activity Cost Drivers (Annexure IV) are mentioned in report.

1.8 Activity Cost Center Code (ACC code)

- 1.8.1 Activity Cost Centre:** Activity Cost Centre is Cost Centre of the Activity to which cost of the activity will be allocated. A well-defined ACC will help to capture performance cost drivers of the Activity Cost Centers. Same activity is performed at different activity centers and it is very likely that performance of all Activity Centers performing same activity will be different. PCS proposes to capture cost, performance and activity cost drivers for each Activity Center. It is essential to define each Activity Center uniquely with the help of Activity Cost Center (ACC) code. This will enable to capture all necessary data from all ACCs. The performance of activity Centers is expected to vary and their contribution to different Lines of Business (LOB) and Lines of Service (LOS) will also vary. The distribution of costs to LOBs/LOSs at Activity Cost Center level with the help of respective cost drivers will have the most precise cost reflection.
- 1.8.2 Structure of Activity Cost Centre Code:** Each Activity Cost is linked with a corresponding Accounts head and the activity centers are located either at Station or Divisional office or Workshop or Zonal office. The structure of the Activity Center Code is designed based on Accounts Head with simple addition of location identification. The logic of this structure is that each activity is closely linked with an Accounts Head to accumulate its costs. As the same activity is performed at different centers where location code and unit code will provide the unique identification. In case there are multiple centers undertaking same activities in a particular location, unit code will indicate the particular Activity Center. Most of the ACCs are attached with the station and some are with for

Divisions or Workshops or Zone (HQ) or any other Accounting units under the Zone and their corresponding codes will be used as Location code for the Activity Cost Center Code. Accounts head and Location code i.e Station/Division/Zone code are already well defined. The existing station code used by Railway (maximum 4 characters) will be used. In case station code is less than 4 characters, remaining characters will be blank. Unit Code in a location is a provision for accommodating multiple units in one location. For example, there may be multiple units - PWI unit, School, Medical Center etc. in the same location. In case no multiple unit in one location, default unit code will be 1. In case, the Activity Center is located at Division or Workshop or Zone, the corresponding code of four characters will be used.

ACC Code= Accounts head + Location code(4 chrs) + Unit (1 chr)



1.8.3 Example of Activity Cost Center Code

Table 1.1

Activity	Accounts Head	Location	unit	Activity Center Code
Running Repair of Coach(salary)	06021101	New Delhi	1	06021101NDLS1
Manual Maintenance of P Way (contractual payment)	04021132	Nizamuddin	2	04021132NZMb2
Manual Maintenance of Permanent Way (cost of material)	04021127	New Delhi	3	04021127NDLS3
Running crew – Diesel Driver (KM allowance)	08021210	New Delhi	1	08021210NDLS1
Establishment of DRM(salary)	03011101	Delhi Division	1	0301110103031
Maintenance of Bridge Work(cost of material DP)	04031028	NR HQ	1	0403102803011
Diesel Traction (cost of Fuel)	10021127	TKD	1	10021127TKDb1

1.8.4 Nature of Activity Centers:**Table 1.2**

Activities	Nature of Activities	Cost Classification
Operation, Fuel supply, Traffic Management	Operational Activity	Direct
Maintenance of Track & other infrastructure, Rolling Stock, Plant & Equipment, Signals, OHE etc	Repair & Maintenance Activity	Direct
Administration, Finance, Personnel, other support Activities, Security, Health Service and other Employees Benefit schemes	Indirect Support Activity	Overheads

1.8.5 ACC code & System Integration: Both IPAS and IMMIS will have to accommodate minor modifications – in addition to Accounts Head additional Location code and unit code are to be entered while capturing expenditure data, which means each transaction will have its related ACC Code. Bill Units which prepare the input for salary for activity centers will use ACC code for Payroll processing by IPAS. IMMIS will also use ACC code against the material issue. For other bills to be processed by IPAS, ACC code to be considered in place of Accounts Head. The best advantage of use of ACC code will be the integration of IPAS, IMMIS and PCS through a common code. Moreover, processing of Accounts remains unchanged with the Accounts head is a part of ACC code. Thus, the simplification in the structure of Activity Center Code will ease out the process of adoption of it and serve the purpose of PCS.

1.8.6 Simple Extraction of Cost Data from Finance Database: Salary Bill, Material Issue, Contractors' bill and other payments made by the Finance department of all accounting units will have the corresponding ACC Code i.e Accounts Head + location code+ unit Code. Records extracted from IPAS expenditure database will create the Cost database as an input for Performance Costing System. With the help of Primary Unit (PU), the expenses will be classified as cost-items like, salary, material costs, other expenses etc. for costing purpose through a mapping chart (Annexure I)

1.9 Lines of Business and Lines of Service

1.9.1 Lines of Business and Lines of Service: The primary task of Performance Costing system is to upgrade the existing Costing System by way of establishment of a scientific Costing system which should be capable of having access to cost of different types of trains having different service classes. It is to be noted that these Trains and different services use common Railway infrastructure including Track, Stations, Maintenance & Repair set up, Administrative Control mechanism etc. To segregate the cost scientifically to different Lines of Business (LOB) and different Lines of Service (LOS) will be considered as cost pools and the joint costs will be distributed to Cost Objects i.e Trains by the way of ABC Costing Technique. LOBs represent different Business Segments i.e different types of Train and LOS Types of Service under each LOB.

1.9.2 LOB & LOS Design: In framing the LOB and LOS, the important consideration is that more cost pools mean higher degree of precision in cost assessment whereas cost drivers data generation will involve more efforts and considerable changes in record management system leading to increase in cost of costing. Distinctly different type of Passenger Trains are categorized to be different LOBs whereas different types of passenger services will be different LOSs. Freight Service is taken to be one LOB as there is no distinct difference in the type of Freight services. Goods Services for major commodities are classified as different LOS where cost determination for commodity-wise is desirable for their importance in enhancing business prospect in Freight services.

The List of Lines of Business and their codes are given in Table 1.3 and Lines of Service for Passenger Trains in Table 1.4 and Lines of Services for Freight Service in Table 1.5.

BG = Broad Gauge, MG= Meter Gauge and NG = Narrow Gauge

Table 1.3

Lines of Business (LOB)	Code
BG - Premium Train Services – Rajdhani, Shatabdi, Duranto, Tejas	PS
BG – Other Mail/Express Train Services	ME
BG – Electric Multiple Unit – Suburban	ES
BG – Electric Multiple Unit (MEMU) – Non- Suburban	MS
BG – Diesel Multiple Unit – Non-suburban	DS
BG – Ordinary Train services excluding EMU, DMU and MEMU	OS
BG – Freight (Goods) Train Services (FS)	FS
MG – Passenger Train service	MP
MG – Freight (Goods) Service	MF
NG – Passenger Service	NP

Table 1.4

Lines of Service (LOS): Coaching	Code	Related LOB
General	GS	OS/ME/ES/DS/MS
2nd Class (Sitting)	2S	ME/ES/DS/MS
Unreserved AC	AC	ES
Sleeper	SL	PS/ME/OS
AC Chair Car	CC	PS/ME
3AC	3A	PS/ME
2AC	2A	PS/ME
1AC	1A	PS/ME
Executive Class	EC	PS
1 st Class	1C	ME/ OS/ ES
Generator Car	GC	PS/ME
Pantry Car	PC	PS/ME
Parcel & Postal Van	PP	ME/OS
SLR Coaches	SR	ME/OS

Table 1.5

Lines of Service (LOS): Goods Services	Code	Related LOB
Coal	CO	FS
Iron Ore	IO	FS
Cement	CM	FS
Fertilizer	FR	FS
Foods Grain	FG	FS
Raw Materials for Manufacturing industries	RM	FS
Oil and petroleum products	OP	FS
Container Services	CS	FS
Other items including minerals for manufacturing, cars and car parts etc.	MC	FS

1.9.3 Gauge wise Segregation of Cost: Present system of Gauge wise expenditure segregation is done after completion of compilation of data at Division /Zonal Level purely on estimation basis and the same is used for Costing purpose. The methodology of compilation of data is highly questionable in the field of Costing in terms of distortion of cost data. It has been observed that under the present apportionment method of expenses, narrow Gauge under the zones gets loaded with Goods services cost where there is no physical activity of Goods services on narrow gauge. At present volume of services in terms of revenue earnings in Meter Gauge and Narrow Gauge together are in insignificant proportion compared to Broad Gauge (less than 0.5%) and the high priority of conversion process of Meter Gauge to Broad Gauge assigned by the Indian Railway, impact of other gauges on overall cost configuration under broad gauge is also very minimum. However, to capture the cost incurred for operation of Meter Gauge and Narrow Gauge, LOBs have been introduced to capture costs. Joint costs at activity Centers where there is existence of more than one gauge will be apportioned on the basis of Cost drivers primarily based on performance of activities undertaken in the different gauges.

1.10 Cost Driver for Cost Segregation

1.10.1 Cost Driver: Cost Driver is the one which drive the cost i.e causes the cost to incur in undertaking an activity. Cost Drivers in the Performance Costing System will indicate the performance of an Activity which will be measured by the resource use or the volume of task performed. The aim of Performance Costing system is to derive cost of different categories of Train having different classes of services. In fact, activity used by or benefit accrued to different Lines of Business and Lines of Services will be the Cost Driver for it and the same will be used for distribution of costs to the specific LOB and LOS. Distribution of Joint Cost with the help of Cost Drivers of the Activities will be a better approach. Thus, Cost Drivers play key role in segregation of cost under Performance Costing system.

- 1.10.2 Compilation of Cost Driver Input data:** Each Activity Cost Center will have the responsibility to record and compile Performance or resource use for generating Cost Driver data in the well- designed input sheet (**Annexure – IV**) with the ACC code. Indian Railway should take proper initiative to gear up the Activity Cost Centers to compile and generate the right kind of cost driver data as the same will be the crucial enabling factor for implementation of PCS.
- 1.10.3 Joint Cost and Cost Distribution:** In Railway operation, most of the activity costs are joint in nature i.e. activities are common for different services. Major items of expenses, for example, Track Maintenance cost, Operation cost, Locomotive Repair Cost, Fuel costs etc. are common across LOBs/LOSs. There are some activities exclusively for a particular LOB like Goods Shed, Loading and Un-loading of goods, Repair & maintenance of Wagons etc. for Goods services. Even some activities like Passenger Reservation service, coach repair work are exclusively for coaching services but common in nature for different LOBs/ LOSs. The segregation of joint cost is the most critical issue in the Performance Costing system. Revenue earned for a LOS is the result of combination of multiple activities of heterogenous nature in terms of measurement of performance. Thus, the structure and configuration of costs only suggest to adopt a methodology of segregation of costs based on cost drivers of each activity i.e. volume of work performed or resource use for performance of activity towards the services.
- 1.10.4 The nature of some Cost Drivers:** Primary objective of PCS is to capture Cost drivers to distribute Costs to LOBs. In cases of some LOBs, LOS wise Cost Drivers are required. They will be used to distribute costs to the LOSs to satisfy the requirement of class wise service cost under some LOBs. When a resource is used for a train as a whole it goes to a particular LO, for example Loco. But for yard operation for different classes of coaches will be distributed to different classes (LOSs) on the basis of manpower used for different types of coaches.

**Examples of Cost Drivers:
Table 1.6**

Activity Cost Center	Cost Driver	Lines of Business/ Lines of Service wise
Passenger Service	No. Of Passenger	LOB/LOS
Yard Operation	Man-days deployed	LOB/LOS
Station Operation	No. of Train- originating, passing, terminating	LOB
Crew Cost	Man-days deployed	LOB
Loco Shed	No. of Loco repaired	LOB
Goods Shed	Loading / Unloading (MT)	LOB/LOS
Track Maintenance	ETKM for running and non-running track of Division Running Track to LOB – basis is GTKM	LOB/LOS
Washing Line	No. of Coaches with weightage for type of maintenance.	LOB/LOS

1.10.5 Cost Driver for LOS: For some LOBs and Activities, costs are to be distributed to LOSs. In these cases, LOS wise cost drivers are to be captured. LOS wise cost drivers will be used to distribute the LOB cost to the LOSs. For example, Coaching yards, Passenger Service etc. For example, washing line will provide cost driver data on maintenance of different class of coaches (LOS wise). LOB cost will be distributed to different classes of service (LOS) with the help of the cost driver.

1.10.6 Peculiarities of Some Cost Drivers: Following are some of the important issues of cost drivers:

- (a) If Cost Drivers are to be generated from information from ACCs and some weight factors, the derived Cost Drivers will be used to distribute costs. For Example, Loco Lobby deployment cost driver data.

Particulars	LOB 1 LP	LOB 1 ALP	LOB 1 Total	LOB 2 LP	LOB 2 ALP	LOB2 Total
Number of LP & ALP (A)	4	5		7	6	13
Weight Based on Salary (B)	1.5	1		1.5	1	
Cost Driver (A) X (B)	6	5	11	10.5	6	16.5

In some cases, cost drivers of an Activity Center may be based on performance of some other activity center of the same location. For example Cost driver for station sanitation (Passengers Service of Operation) is number of tickets/number of passengers from UTS and PRS which is related to commercial service.

1.10.7 Cost Driver through IT Integration: Regarding operational cost centers, there is also a need to import important operational data from IT system for operational activities developed by CRIS like PRS, UTS, CMS, FOIS, ICMs, TMS, LMS etc. which will be used as Cost Drivers. For this, there is a need to integrate PCS system with the IT systems. The Statistics Department of IR also does compile good operational data on regular basis and there is a need to gear up the work of the department to ensure smooth flow of monthly operational data for the purpose of Performance Costing. Sample data requirement from different IT systems is given in table below:

IT System	Data Required	Remarks
PRS & UTS	No. of Tickets & No. of Passenger	LOS Wise
FOIS	GTKM, NTKM, Train KM, Engine KM & Engine Hrs.	Section/Division/Commodity Wise
ICMS	Train KM, No. of Coaches Run, Coach KM, GTKM, Engine Hrs.	LOB/LOS Wise Separately for Electrical and Diesel
CMS	Crew (LP/ALP)	LOB Wise Deployment
CMS	Shunters - Number of days	LOB Wise Deployment
CMS	Guard Days	LOB Wise Deployment

1.10.8 Cost Distribution at Divisional Level: There are some ACCs for which Cost Driver from the respective ACC does not indicate the right performance of the same. Moreover, their records are maintained at some selected places in the Division. These selected places are the central point of control of the activities and justified by the very nature of the activities. The Cost Driver will be generated at Division/ HQ level as described in the table 1.7 below.

Table: 1.7				
<u>Expenditure to be distributed at Divisional Level or Head Quarter Level where Cost Driver at ACC not available</u>				
Department	Serial No.	Description	Accounts Head	Remarks
Commercial	1	Travelling ticket checking Staff other than Special Squad	09-530	No definite ACC for Deployment of staff
	2	Special Ticket Checking Squad	09-540	No definite ACC for Deployment of staff
	3	Tickets	09-250	Activity centre wise and LOB wise data not available
Operating	1	Traffic Inspector, Movement Inspector, Train Passing and Control staff and other Operating Staff	09-210	Different Operating staff working in different Locations
	2	Guard and assistant Guard	09-511	Lobby for deployment at particular station for Division
	3	DMU Guard	09-512	
	4	MEMU Guard	09-513	
	5	Other Operating Staff accompanying the trains	09-520	No definite location for ACC.
Common for Commercial & Operating	1	Stationary and Forms	09-291	Activity centre wise and LOB wise data not available
	2	Clothing	09-292	
	3	Fire lights and general stores	09-294	
	4	Contingent Expenses	09-295	
Mechanical	1	Wagon Repair in Sick lines	06-310	Wagon usage related to specific commodity cannot be ascertained, therefore cost distribution at divisional performance level.
	2	Wagon Repair in Workshop for Sick lines	06-320	
	3	Running Staff(diesel)	08-210	
	4	Diesel fuel to Pass Train, Goods Train etc. from different RDIs Of a Division	10-210	RDI wise fuel cost is not available as such total cost and total performance at Divisional Level are considered for apportionment
Electrical	1	Shed & Yard Staff (Electric Loco)	08-320	Electric Loco cannot be identified for specific LOB. Due to this peculiarity total cost pertaining to electric loco of a Division is distributed to different Lobs in the basis of performance of each LOB at Division Level
	2	Other Operating Expenses(Electric Loco)	08-330	
	3	Misc Expenses at Yard(Electric Loco)	08-340	
	4	Repairs in Loco Shed(Electric Loco)	05-510	
	5	Running Staff(Electric)	08-310	Performance available at Divisional Level
	6	Traction Energy	10-331	Performance available at Divisional Level

Engineering	1	Track Maintenance	04-200	Activity centre wise data performance data would not be available LOB wise as such the distribution at Divisional Level
	2	Other Engineering maintenance of service building etc.	04-400	Total Divisional expenditure and total Divisional activities are considered for distribution as activity centres are not limited to one station
	3	Maintenance of Bridge & Tunnels	04-300	----- do -----
Signalling & Telecommunication	1	Signalling & Telecommunication Operation	08-700	Activity centre wise data would not be available LOB wise as such total Divisional expenditure and total Divisional activities are considered for distribution as activity centres are not limited to one station
	2	Repairs of Plant & Equip Signalling	07-500	----- do -----
	3	Repairs of Plant & Equip- Telecom	07-600	----- do -----

1.10.9 Proposal for Additional Accounts Head: For the purpose more effective cost data compilation, it has been suggested to bringing some additional accounts heads, which are given in Annexure III.

1.11 Commodity wise Goods Services Cost: Cost Drivers

For Commodity wise costing of Goods Services, different commodities are categorized as LOS under Goods LOB. Thus for commodity wise costing, where cost driver data is practicably possible to be captured commodity wise i.e. under different LOSs, it becomes simple to distribute the goods costs incurred for all commodities to respective commodities on the basis of cost drivers. Where it is not practically possible to capture desired cost driver data, the basis of distribution of cost to the LOSs will be operating performance data. Following are the elements of costs under Freight Services:

- i) **Goods Services Costs:** Some expenses are directly captured for Goods Services costs under the LOBs of Freight Services (i.e. FS or MF), common costs of some activities for Passenger services and Freight services will be distributed to Freight LOB on the basis of Cost Drivers of the activities. Running, Non-running and Repair cost for Freight services will be distributed to the Freight LOB on the basis of Cost driver data.

- ii) **Line of Service:** Different Commodities will be different LOS for Freight Services (as given above in 1.9.2). In the next step, Running, Non-running and Repair cost under Goods LOBs will be distributed to the LOS on the basis of LOS wise Cost Driver data. The requirement of cost driver data for the same is described below.
- iii) **Running Expenses:** Train carrying one commodity started from an originating point and ended at a destination point and further empty run upto the next loading point. Then GTKM earned for loaded wagons and subsequent GTKM for empty wagons run to be taken under the same commodity GTKM. This will help in distribution of running expenses commodity wise. Weight of Engines and also brake van of a train to be considered for working out commodity wise GTKM.
- iv) **Non-running Activities:** For non-running activities (particularly terminal services), the same will be distributed to LOBs on the basis of Cost Drivers (CDs) data on Shunting hours. Non-running activities other than Terminal i.e. Marshalling, Repacking, Transshipment to be clubbed and shown as one expenditure. Now a days, these have been reduced to marginal activities in Goods services and data collection for disintegration of costs under the three activities is not feasible in terms of cost of costing. However, survey data may be used to distribute costs between Terminal Activities and other three activities. In that case, number of wagon detention days involved for each commodity for terminal activities are required to be captured.
- v) **Repair Cost:** According to the financial expenditure booking pattern, repair cost in C & W workshop will be captured separately for Coaching and Goods. Common cost in C& W workshop for a period will be distributed between Coaching and Goods (LOBs) in the proportion of their direct repair costs. Distribution onward to LOS may be on the basis of Commodity wise GTKM.
- vi) **Container Services:** The ownership of flat wagon, containers and brake van are with the Non-Railway operators. The repair work of flat wagons & brake vans are undertaken by the Railways in the Railway C&W shop / workshop and records

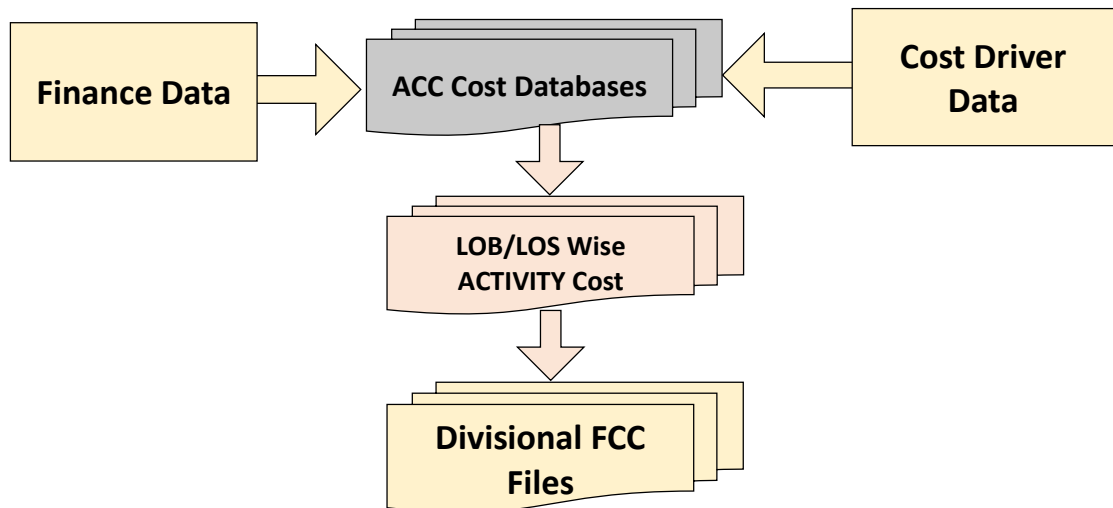
are maintained for it. The repair cost is debited to the fund created out of the contribution made by the operators for the purpose. Loading & unloading related to the Container Service is undertaken by the operators themselves. Operation & shunting etc. are done by Railways. Railway collects haulage charges at pre-determined rate for the same. These aspects are to be considered for costing of container services.

- vii) **Treatment of Depreciation:** LOS wise GTKM data may be taken to be the usage of the wagons. The same may be used for distribution of depreciation of Goods Services LOB to Commodities (LOS).
- viii) **Overhead Distribution:** Overhead distribution will be distributed to LOBs and LOSs according to the normal procedure for overhead distribution.

1.12 Functional Component Cost (FCC) and its Significance

- i) **Functional Component Cost (FCC):** Functional Component Cost is the cost of activities of a functional area. Railway Transportation Service operate through a combination of some functions and each function involves a number of activities. Functional Component Cost is derived by summing of cost of all related activities involved in a functional area. List of Functional Components is given in Table 1.8 and detailed grouping of Activities to FCCs in Annexure II. The Cost Drivers to be used to distribute the costs of ACCS related to the Activities to LOBs/ LOSs are also indicated in the Annexure II.
- ii) **ACC Cost Distribution to LOBs/LOSs:** All Direct Costs related to operation, repair and commercial activities will be captured from Finance database to the corresponding ACCs which will Create ACC wise Cost Database. The same will be distributed to LOBs/LOSs with the help of Cost Drivers of the respective ACCs. There may be more than one transaction for an ACC. Multiple records under an ACC will be merged into a single record.

- iii) **Summarization of ACC Costs to derive Activity Cost:** All ACC Costs from different locations related to an Accounts head will merged into a single record of the Accounts head giving Accounts head wise LOBs/LOSs costs. These represent Activity wise LOB/LOS costs.



- iv) **Grouping of Activities to derive Functional Component Costs:** As the number of Account heads is large in Railway it is not practical to make Activity Costs to be the focal point of strategic decision making. A rational approach is adopted for grouping the related Activities under broad functional areas in Railway Transportation Service. Corresponding to each functional area Functional Component Costs (FCCs) will be derived by summing up the LOB/LOS wise costs of all Activities under it. Each Functional Component is given a unique code for easy grouping of Activities and efficient data processing.

- v) **Deriving Functional Component Unit Cost (FCUC):** Functional Component Cost (FCCs) will be used to derive the Functional Component Unit Cost (FCUC) matching with the Operational Performance data to be available from various IT systems. Tables 3.2 & 3.3 in chapter 3 indicate the requirement of Operational

Performance data and how FCCs will be used to derive FCUCs for Coaching and Goods services respectively. The LOB/LOS wise FCUC will be used to derive the Train Cost of a definite LOB of different LOSs.

- vi) **Distribution of Depreciation and Overheads to FCCs:** As the distribution of Depreciation and Overheads to ACCs is not practically feasible because of non-availability of data, the distribution of depreciation and overheads will be done to FCCs. The basis of distribution has been devised to be rational depending on the nature of depreciation and overhead items. The distribution process of Depreciation and Overheads are described in paragraph 1.13 & 1.14.

- vii) **Quarterly /Annual Summarization of Cost Data at FCC level:** It is suggested that Cost database should be created monthly and Cost Driver data collection process should also be made on monthly basis to take care of smooth data capturing process. For Quarterly or Annual processing of PCS, the data volume will be high. Monthly data at Zonal Level should be processed to create Zonal FCC file. Quarterly/ Annual summarization at Zonal Level will be done by merging Monthly /Quarterly Zonal FCC files for processing PCS to generate Cost statement based on Quarterly/Annual transactions. This approach of simpler summarization will give more flexible periodic Cost Statements.

Table 1.8 : LOB WISE FUNCTIONAL COMPONENT COSTS												
FCC No.	Functional Activity Component Costs		LOB									
			Broad Gauge							Meter Gauge		Narrow Gauge
			PS	ME	OS	ES	DS	MS	FS	CHG	MF	CHG
	Commercial:											
0101		At Station	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
0102		At Train	XXX	XXX	XXX	XXX	XXX	XXX		XXX	XXX	XXX
0103		Other Than	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
0104		Functional Supervision	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
	Operating Activities at Station											
0105		At Station	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
0106		Other Common Activities	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
0107		Yard - Shunting	XXX	XXX	XXX				XXX	XXX	XXX	XXX
0108		Train Operation	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
0109		Other Activities	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
0110		Functional Supervision	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
0111		Overall Supervision of Traffic Deptt.	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
	Mechanical											
	Coach & Wagon											
0201		Yard	XXX	XXX	XXX		XXX		XXX	XXX	XXX	XXX
0202		Shop Repair	XXX	XXX	XXX		XXX		XXX	XXX	XXX	XXX
0203		Shop Common Repair	XXX	XXX	XXX		XXX		XXX	XXX	XXX	XXX
0204		W/S Repair DMU					XXX					
0205		W/S Repair POH/SR Etc.	XXX	XXX	XXX					XXX		XXX
0206		W/S Other Coach Repair	XXX	XXX	XXX					XXX		XXX
0207		W/S Wagon Repair							XXX		XXX	
0208		W/S Common Expenditure	XXX	XXX	XXX				XXX	XXX	XXX	XXX
0209		Operation	XXX	XXX	XXX		XXX		XXX	XXX	XXX	XXX
0210		Functional Supervision	XXX	XXX	XXX		XXX		XXX	XXX	XXX	XXX
	Dsl Loco											
0211		Yard	XXX	XXX	XXX				XXX	XXX	XXX	XXX
0212		Shed	XXX	XXX	XXX				XXX	XXX	XXX	XXX
0213		W/S Repair POH/IOH/SR/OR	XXX	XXX	XXX				XXX	XXX	XXX	XXX
0214		W/S Other Activities	XXX	XXX	XXX				XXX	XXX	XXX	XXX
0215		Operation	XXX	XXX	XXX				XXX	XXX	XXX	XXX
0216		Fuel Direct	XXX	XXX	XXX		XXX		XXX	XXX	XXX	XXX
0217		Fuel Other Charges	XXX	XXX	XXX		XXX		XXX	XXX	XXX	XXX
0218		Functional Supervision	XXX	XXX	XXX				XXX	XXX	XXX	XXX
0219		Overall Supervision of Mech. Deptt.	XXX	XXX	XXX		XXX		XXX	XXX	XXX	XXX
	Elect. Deptt.											
	Coach											
0301		Yard & Station	XXX	XXX	XXX					XXX		XXX
0302		Shop Repair	XXX	XXX	XXX					XXX		XXX
0303		W/S Repair Electrical Repair in Coach	XXX	XXX	XXX					XXX		XXX
0304		W/S Train Lighting Establishment	XXX	XXX	XXX					XXX		XXX
0305		Functional Supervision	XXX	XXX	XXX					XXX		XXX

Table 1.8 : LOB WISE FUNCTIONAL COMPONENT COSTS												
FCC No.	Functional Activity Component Costs		LOB									
			Broad Gauge							Meter Gauge		Narrow Gauge
			PS	ME	OS	ES	DS	MS	FS	CHG	MF	CHG
	Loco											
0306		Yard	XXX	XXX	XXX				XXX			
0307		Shed Repair	XXX	XXX	XXX				XXX			
0308		W/S Repair	XXX	XXX	XXX				XXX			
0309		Operation	XXX	XXX	XXX				XXX			
0310		Fuel Power	XXX	XXX	XXX				XXX			
0311		Functional Supervision	XXX	XXX	XXX				XXX			
	OHE											
0312		Repair & Maintenance	XXX	XXX	XXX	XXX		XXX	XXX			
0313		Functional Supervision	XXX	XXX	XXX	XXX		XXX	XXX			
	EMU/MEMU											
0314		Repair				XXX		XXX				
0315		Operating Exp				XXX		XXX				
0316		Fuel				XXX		XXX				
0317		Functional Supervision				XXX		XXX				
0318		Overall Supervision of Elec. Deptt.	XXX	XXX	XXX	XXX		XXX	XXX			
	Engg. Deptt.											
0401		Track Maintenance	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
0402		Other Engg Maint.	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
0403		Functional Supervision Other Than Workshop	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
0404		Functional Supervision Workshop	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
0405		Bridge & Tunnel	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
0406		Overall Supervision of Engg. Deptt.	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
	Signalling & Tele Deptt.											
0501		Repair & Maintenance	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
0502		Functional Supervision	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX	XXX
	General Overhead											
0601		Material Cost Ratio										
0701		No. of Staff Ratio										
0801		Overall Exp Ratio										
0901		Salary Ratio										

1.13 Distribution of Depreciation

Depreciation – an Integral Cost Component: Depreciation of assets is an integral part of cost of operation and should be included in the costs. Assets in the form of Rolling Stock, Running Track, Plant, Machinery etc. are being used as resources for Railway Operation and the depreciation of the assets should be included into the Costs. Under present Costing system, depreciation accounted for is the amount apportioned to Zones through Depreciation Reserve Fund. Appropriation of Depreciation Fund is created out of internally available fund for Indian Railways which is termed as Depreciation Reserve Fund (DRF). Each Zone is allocated proportionate share of DRF by the Rail Board which is based on asset block of the Zone as a provision for renewal of Assets. The reflection of depreciation cost in the existing system is also not according to the Cost Accounting principle. Now, with the change in the accounting by way of adoption of Accrual accounting principle, the Asset Register will be prepared by the Railway with proper accounting norms. However, the Asset Register will not be prepared Activity Center wise rather it will be at Divisions/Workshop/ Zone level. Accordingly, depreciation will be distributed at Divisional/Workshop/Zone level to the FCCs.

1.13.1 Treatment of Depreciation: Some classes of assets are used for some common activities and is not identified for a specific activity. The depreciation of these classes of assets will be treated as general overheads. When a class or sub-class of asset is identified to be associated to an activity, the depreciation of the class or sub-class of asset will be allocated to the corresponding FCC. Allocable depreciation will be charged to FCCs for distribution of cost to LOBs/LOSs. Treatment of depreciation will be done in the same way at Division, Workshop and Zonal Level.

1.13.2 Classification of Assets: The Asset classification made for preparation of Fixed Asset Register is given in table below. Different types of assets are classified under different Classes. Under a class also, there are some distinct difference in

asset items in terms of make, specification and purpose for use. Accordingly, sub-classes have been brought under the classes. It is suggested that while making the sub-classification of assets, eye should be kept on the use in Lines of Business so that depreciation of classes and sub-classes may be easily available for the purpose of appropriate treatment in PCS. For example, Electric Locos and Diesel Locos are different in terms of activities in Railway operation and depreciation of normal coaches and EMU coaches are essentially required to arrive at the cost of activities associated with two different types of assets. Accordingly, they should be put under different sub-classes under the same class.

Asset Class wise observations:

Table 1.9

Asset Class	Treatment of Depreciation
Land (FA -1)	Depreciation will not be charged on Land.
Building (FA-2)	If Asset register could give depreciation under two broad categories – Station Building and other Buildings. Station Building – Passenger Service. Other building – treatment as overheads.
Bridge/Tunnel/ Flyover/Sub-ways (FA-3)	These items are part and parcel of Bridge and Tunnel Maintenance.
Roads/Streets (FA-4)	Will be treated as overheads.
Railways Tracks (FA- 5A,5B, 5C, 5D)	Will be treated similarly as Repair Costs of track.
Furniture & Fixtures, Office Equipment, (FA-6, FA-7, FA-8)	Will be treated as Overheads.
Vehicle (FA-8)	Will be treated as Overheads.
Plant, Machinery & Equipment (FA-9)	No Electrical Machinery is included. All machineries, equipment etc. are brought in one class but they belong to different activities.
Medical Equipment (FA-11)	Will be treated as Overheads.
Loco/Coach/ Wagon (FA-12)	There has been sub-classification. 12A - Loco: 12B:: Coaches: 12C: Wagon:
Capital-in progress (FA-13)	Not relevant for Cost Accounting.
Plant, Machinery & Equipment (Signal) - (FA-14)	Will be treated as Repair Costs of S & T.
Plant, Machinery & Equipment (Telecom)- (FA-15)	Will be treated as Repair Costs of S & T:
Elect. Equip & Fittings (FA-16)	If fittings are related General then will be treated as overheads.
OHE (FA-18A to FA-18D)	Will be treated as Operation Costs.

1.13.3 Suggestion for better classification of Assets: Passenger Coaches and EMU coaches are clubbed into a class defined as Coaches. Similarly Track of different gauges has not been put under different sub-classes, it is difficult to determine depreciation of Track of different gauges. The different assets are used by distinctly different LOBs. The classification of assets for Asset Register should have been in the line of scientific basis of distinctly different types of assets used for different lines of business (LOBs). Depreciation of Electric Loco and Diesel Loco could have been available if classification of assets had taken care the same. Classification of different sub-classes under some classes is necessary to derive sub-class wise depreciation as assets under different sub-classes are used for different activities under different LOBs.

- (a) Sub-class of Diesel LOCO, Electric Loco and Meter Gauge/ Narrow Gauge Loco could easily provide depreciation of different broad classes of Assets at Division/Workshop/Zone level.
- (b) Depreciation for Broad Gauge Coaches, EMU /DMU/ MEMU coaches and Meter Gauge & Narrow Gauge Coaches is separately required for costing of different types of Train of different gauges.
- (c) Meter/Narrow Gauge track should have a sub-classification under Railway Track (05) for determining depreciation of this type of track for Gauge wise costing.
- (d) For Electrical Equipment (Asset class 16), there should be three sub-classes:
 - (A) OHE related (B) Coach related (C) General Electric
- (e) For Building (Asset Class: 02)- there should be five sub-classes: (A) Station Building, (B) Goods Shed (C) Repair Building – Coaches (Coach workshop building (D) Repair Building – wagon (Wagon Workshop) (E) Loco Shed, (F) General Buildings including quarters.
- (f) Transformer (asset class:18): 18B may be sub-classified into Traction and General Purpose.

1.14 Distribution of Overhead Expenses

1.14.1 Overheads Distribution Approach: Overhead expenditure in Indian Railways constitute a substantial proportion of cost. The components of overhead expenditure are Salary paid to Administrative and support staff, Security, Health Service, other employee's benefits, pension payment etc. The treatment of Overhead expenses and apportionment of the same is important to arrive at different Functional Component Costs. It is better to adopt different distribution methodologies for different items of overhead expense to suit the nature of expenses, cause of its incurrence and its impact on Functional Component Cost. In Railway, nature of activities is such that the whole spectrum of activities may be classified as primary activities and secondary activities. PCS captures the cost of each activities and segregate the cost in a most rational way to understand the impact of each of them on different business segments (LOBs). The cost of secondary activities which may be called as overheads have increased considerably over the years. These overheads are being consumed by the primary activities (Direct Costs) in different proportions depending on nature of overhead activities. Methodology of overheads distribution has been devised with most appropriate rational basis to have correct reflection in the cost composition (Table 1.10).

1.14.2 Types of Overheads: It has been identified that overheads are three types and better approach of the treatment of these overheads will be adopted to achieve better precision in assessing cost of direct activities. These are explained below:

- i) **Supervising Overheads:** Some expenses which are overhead in nature- for example- direct supervision of activity like SSE's salary which is directly identified to be related to a cost Center will be allocated to the corresponding Activity Cost Center. This treatment of allocating overheads to relevant direct activity centers will be a good costing treatment to reduce overhead costs.

- ii) **Functional Overheads:** Some overhead expenses like the salary of senior Managers and their office staff who are associated with planning and control function of some multiple activities will be distributed to the related cost centers. For example salary of Civil Engineer and his office staff who is controlling the function of track maintenance and maintenance of other infrastructure will be distributed to PWI Costs and IOW Costs and added with respective costs. The process of such distribution of common indirect costs among related activity costs incurring direct costs will give better cost configuration.

- iii) **General Overheads:** Some overhead expenses are common for all activities and cannot be allocated directly to any Activity Cost Center will be treated as General Overheads. General Overhead includes cost of Departments handling, Financial Management, Personal Management, Employees Welcome expenses etc. Primarily they are cost related to general administration and support to employees welfare scheme etc. . Items to be categorized as General Overheads are given in Table 1.10.

- iv) **Payment of Pension & other Retirement benefits:** Pensionary payments are released by Zonal Railway from the Pension Fund appropriated to the Zones by Railway Board. There is every likelihood that there may be variations between actual disbursement of pensionary payment and the fund allocated to Zonal railways by Railway Board. As far as costing is concerned, the actual payment made will be considered. The pension disbursement scheme is very flexible in terms of option extended to retiring employees to choose his/her convenient zone which may have no linkage with his or her working zone. The pension is paid from Zonal Accounts to the retired employees and will be treated as Zonal overhead. It will be distributed to FCCs on the basis of summed up wages under different FCCs.

1.14.3 Apportionment of Overheads: Devising the cost drivers for segregation of different overhead expenses is the most critical issue in the field of Cost Accounting. Nature of expenses and the costing principle of 'cause and effect' and 'usage of benefits' will be used to devise rational basis for achieving better precision in distribution of different items of General overheads costs to the activity Centers. Overheads related to Division will be first identified so as to distribute the same to the Activity Centers of the Division. The same principle will also be followed for Workshop. The basis of distribution will depend on the nature of items. After summarization of Divisions and Workshops Cost files at Zonal level, unabsorbed Zonal overheads will be distributed to all Functional Component Cost of the Zone.

Overheads items are categorized into four major heads - Material management, General Management, Infrastructure Management and Pension and Retirement Benefits. The items of overhead Costs relevant to the four major heads of overheads will be grouped. Table 1.10 gives the list of detailed items under each group and the basis of distribution to Functional Component Costs. It may be noted that the basis of distribution to FCCs is the proportion of cost items which is closely related to the group and the distribution of Overheads becomes more rational. In the next stage of distribution from FCCs to LOBs/LOSs, the LOB/LOS cost will be basis.

After distribution of Overheads to FCCs, Divisional FCC cost file will be created. All the Divisional FCC will be merged to create a single Division FCC file. The same file will be used to distribute to Zonal Overheads. Some items of Zonal Overheads will be distributed on the basis of Divisional FCC direct Cost and some total cost i.e sum of direct cost and Overheads. The provision of cost data in Divisional FCC file should be made to meet the above requirement.

TABLE 1.10 : ITEM WISE OVERHEAD DISTRIBUTION				
	FCC			
Material Management	0601	Material Management	03-400	Material Cost Ratio
		Maintenance of Inventory management system	07-834	
General Management	0701	General Management	03-100	No. of Staff Ratio
		Finance Management	03-200	
		Maintenance of Finance and Accounts Management Systems	07-836	
		Maintenance of Security management system	07-837	
		Hospitality and entertainment exp.	12-700	
		Personnel Management	03-300	
		Officers Electrical General Service	07-145	
		Officers Electrical General Service	07-147	
		Subordinate Electrical General Service	07-155	
		Subordinate Electrical General Service	07-157	
		Power Supply equipment for general Services	07-430	
		Rental for Administrative telephone channel and CUG	07-730	
		Other P&E Electrical General Service	07-480	
		Other P&E General Dept..	07-810	
		Maintenance of H.R. management system	07-835	
		Maintenance of staff car	07-870	
		Traction (other than Rolling stock) and general electrical service	08-670	
		Staff welfare and amenities	D.N.-11	
		Workmen's and other compensations	12-300	
		Cost of training of staff	12-500	
		Water Supply	04-510	
		Sanitation	09-280	
		Infrastructure Management	0801	
R & M of All other structure	04-440			
R & M of Service Roads	04-530			
Other Repair & Maintenance	04-600			
Other Repair	07-820			
Maintenance of other I T management system	07-839			
Maintenance of Infrastructure IT system – Project management system & common expenditure of CRIS	07-846			
Maintenance of Infrastructure IT system – Others	07-849			
Other equipment of general department	07-880			
Misc.	08-680			
Railway Protection Force	12-110			
RPSF	12-120			
Misc.	12-140			
Other Exp. (Except 12-690 -Freight)	12-600			
claim settlement/claim prevention organisations	12-210			
Retirement Benefits	0901	Provident fund, Pension and other Retirement Benefits	D.N.-13	Salary Ratio

1.15 Treatment of Special Items

- 1.15.1 Freight charges of Railway materials:** Recovery of freight charges for carrying Railway Material for various departments is made through debiting the heads of Misc. expenses for the concerned department accounts head – Revenue Demand Head 4,5,6,7,8 & 9 , as the case may be, and adjusting by minus debit to Misc. Working Expenses under Revenue Demand Head -12 with the same amount. As the recovery is not done in real term of accounts, a contra entry is made by way of crediting the concerned department and debiting the Misc. Working Expenses under Demand No 12 with recovery amount. Treatment involves no real financial transaction in the books of Railway Accounts and cost involved is notional cost. The credit to the concerned Department will not be considered for Costing purpose.
- 1.15.2 Credit for released materials:** The credit for material released from revenue work for different Activity Centers are made with no reference to the original work and thus it is difficult to link the corresponding credit for arriving at correct expenses for an activity of the respective activity centers. As the whole exercise of PCS is to arrive at the cost of ACCs, the lack of mechanism of one to one correspondence in the accounting process suggests to exclude these type of credits for the purpose of cost accounting.
- 1.15.3 Recovery of O & M charges from Non-Government Railway / SPVs etc.:** Recovery of O & M Charges from SPVs like Kutch Railway Company Limited (KRCL), Bharuch Dahej Railway Company Limited (BDRCL), Krishnapattnam Railway Company Limited (KRCL) is to be adjusted with the Activity Cost of the concerned department at Divisional Level and to be distributed to LOB/LOS on pro-rata basis i.e actual cost of maintenance – LOB/LOS wise.

1.15.4 IRFC Lease Charges: Indian Railway avails loan from IRFC by way of a Financing Lease agreement to acquire some assets, mainly Rolling Stock and Track Machines. The lease payment is accounted under two parts—repayment of principal component and payment of lease. IRFC repayment is segregated into these two components by Railway Board. Repayment of principal component is treated as capital expenditure. Railway uses the assets procured under the lease and takes care of the maintenance of the same. Repair & Maintenance cost of these assets are absorbed in normal process of accounting. Lease charges paid to IRFC is treated as interest payment and earmarked for different types of assets and accordingly included into corresponding FCCs.

1.16 Treatment of some Activity Centers Costs and their distribution

1.16.1 Passenger Services: Passenger Services comprises of booking of tickets (UTS), Reservation (PRS), Enquiry Services, Ticket Collection Services, and Special services (such as Retiring Room, Cloak Room etc.). Expenditure related to all these activities is being booked under one single head of accounts (09-220) which creates problem in cost distribution of important activities. The only solution for this is assigning different unit codes for all these activities under one Accounts Head and creating different ACCs. As the salary is the major expenses of these ACCs, the salary input from different ACCs (Bill units) will provide the salary cost of these units.

1.16.2 Track Maintenance

- i) Track Maintenance Cost is the sum of all expenses relating to track maintenance both manual maintenance and by Track machine plus Permanent Way Inspectors Office and its Establishment office expenses.
- ii) Equated Track Kilometer (ETKM) for repair work -both running track & non-running track of ACCs will be provided by respective PWI.
- iii) Track Maintenance cost of ACC will be distributed to Running Track and non-running track on the basis of ETKM of each ACC.

- iv) Running Track Maintenance cost of all ACCs of the Division will be distributed to LOBs on the basis of LOB wise GTKM of the Division. Non-running track maintenance cost will be added to the activity costs.

1.16.3 Maintenance Cost of Infrastructure (Other than Track & Bridge)

- i) SSE – Works undertakes repair and maintenance of infrastructures for different ACCs like building repair, station premises, water supply etc.
- ii) Cost of SSE Works Repair & its Establishment will be taken together.
- iii) It is not practical to distribute cost of one Work Unit to ACCs on the basis of Integrated Track Kilometer (ITKMs) assigned by the Works Department as one Works Unit undertakes the work covering more than one station i.e. more than one ACCs.
- iv) It is suggested that total cost of Works Department at Division level should be distributed on the basis of total ITKMs of Work units to the ACCs at the division level.
- v) ACCs will then distribute its costs to LOBs.
- vi) The share of cost of Supervisory work done for other areas not being ACC i.e. expenditure of the centers is not captured under Finance code but having ITKM will be treated as Overheads.

1.16.4 Repair & Maintenance of Loco (Trip Shed/Loco Shed/Workshop)

- i) In Workshop where repair work is undertaken for a batch having different types of Repair like POH, IOH and Special Repair – weightage for repair work is used to derive unit repair cost. The Weightage for POH is 1, IOH is 0.75 and SR 0.25. Repair cost incurred for a period is to be ascertained – LOB wise. Records of repair to be maintained LOB wise.
- ii) Trip shed will maintain record of attaining No of locos during a period – LOB wise and generate Cost driver Input sheet accordingly.
- iii) Diesel Loco Shed will maintain records of Number of different types of repair work during a period – LOB wise and generate Cost Driver Input to distribute Costs to LOBs. Weightage on the basis of the standard cost of repair for 2

variants i.e. Alco Loco and GM Loco will be used to derive unit for Cost Driver.

- iv) In case of Electric Loco, identification of LOB is difficult. Repair Cost will be distributed on the basis of LOB wise Electric GTKM.
- v) Repair & Maintenance cost of Shunting Loco will be distributed to different LOBs on the basis of shunting engine hours in different LOBs.

1.16.5 Repair and Maintenance of Coaches (Yard/ Coach Care Center/ Workshop)

- i) Activity Cost Centers of mechanical repair of Coaches should identify a LOB and LOS to which a coach is associated and provide Number of Coaches serviced – LOB and LOS wise.
- ii) **Mechanical Running Repair** expenses (workshop as well as sick line) have two Account Heads for Passenger coaches and other coaches.
- iii) **For Electrical Repair**, there are three different accounts heads for Repair & Maintenance expenses (Electrical) - AC coach, Conventional and power car- both at Workshop as well as Sick Line.
- iv) Conventional Coach: LOB: OS/ME, LOS: 1C, GS, SL, SLR, PC - be distributed on the basis of number of coaches.
- v) AC Coach: M/E & PS – CC, EC, 3A, 2A, 1A - to be distributed on the basis of number of coaches
- vi) Power Car: to be distributed on Number of coaches repaired under PS & ME.

1.16.6 Diesel Fuel Cost:

- i) Each loco is identifiable for a particular LOB. RDI maintains record of issues of diesel- Loco wise. Each Fueling point will generate data of fuel issue for a period to different LOBs and compile in Cost Driver data Input Sheet.
- ii) When fuel is issued to a foreign Railway Loco, record is to be maintained indicating LOCO No. and corresponding LOB so that the record of adjustment note will have the corresponding LOBs. There may be time gap in effecting the adjustments which may have its reflection in monthly cost

statement. Taking both positive and negative adjustments to have corrective effect, this unavoidable variation will be ignored and costing data will be based on actual transaction during the period concerned. However, in year-end costing the same may be taken care of.

- iii) Purchase of fuel is capital expenditure and centrally dealt by HQ Office. Issue of fuel through RDI is debited to Divisions (Revenue Expenditure) and adjusted in Divisional Accounts. And the expenses will be distributed to LOBs on the basis of fuel consumption summary of all RDIs of the Division.
- iv) Fuel Issue to Shunting Engine is distributed to different LOBs on the basis of Shunting Engine Hours (diesel).

1.16.7 Crew Management System

- i) Crew Allotment to service is made by the Crew Controller to a particular train i.e. Crew allotment records are maintained LOB wise. Crew Management system will provide monthly Cost Driver data on LOB wise deployment.
- ii) Salary of Drivers & shunters are processed in the normal course. Only the other allowances & benefits of crews are generated by the input of the Crew Controller for processing by IPAS. As the salary of Crew varies depending on the seniority of Drivers and Shunters, a weight factor have been devised for different Crews for different LOBs. The same may be used for arriving at better cost distribution of Cost of Crew,
- iii) CMS system will provide data on Guard's deployment LOB wise. Weight factors have been devised for different category of Guard for different LOBs on the basis of salary for distribution of Guard's cost to LOBs.

1.16.8 Ticket Checking Cost:

- i) Input data will be from TTE link file for reserved compartment for Ordinary Trains, Mail- Express Trains and Premium Service Trains.

- ii) More than one TTE is deployed in a train. Allotment of number of coaches (LOS wise) is made against a TTE. LOB is identified from the Train Number i.e TTE's deployment LOB/LOS wise is recorded.
- iii) TTE link file will provide deployment of each TTE i.e. Emp Code wise – LOB/LOS wise No of days.
- iv) At the end of a month, from Salary File, TTE service cost (salary and TA) may be apportioned to different LOBs / LOSs.

Chapter – 2

Costing System for Workshop in Indian Railways

2.1 Introduction

Ownership of Rolling Stock i.e. Loco, Coaches and Wagons is with the Zones and the Repair work of rolling stock is undertaken by the Workshops in the Zone. C & W workshop does the repair work for Coaches & Wagons whereas Loco Workshop does it for Locos. There are workshops designated for repair work of Signal & Telecommunication gadgets and for Fabrication work for Bridges. In a workshop various types of Repair Work are undertaken. Technically, they are categorized as Periodic Overhauling (POH), Intermediate Overhauling (IOH), and Special Repairs (SR) etc. depending on the nature of work involved. Different types of repair involve widely varying work requiring different quantum of manpower and other resource resulting consequent variations in Costs.

A workshop undertakes repairs work of divisions under the zone or other workshops in the same zone or foreign railways. When a repair work which is supposed to be done by a Loco Shed or Coach Care Center or Wagon Workshop of a Division and the same is undertaken by a Workshop, then the repair costs for the same is debited to the concerned Division. When a repair work of rolling stock pertaining to a foreign Railway is undertaken, the costs of the same is also charged to the Foreign Railway. Costs of repair of rolling stock pertaining to home railway undertaken at the workshop come under the Zonal Accounts through workshop accounts.

To find out cost of Repair work undertaken by the Workshops, costing system being followed there at present. It is observed that there are some variations in record keeping and cost computation in different workshops in Railways. The Present Workshop Costing system has some inherent deficiencies towards capturing all cost components and thus does not reflect the correct costs of repair of rolling stock.

Repair costs of Rolling stock is one of the major components of transportation cost and it is desired to have better Costing system in workshop to arrive at right repair costs of rolling stock for inclusion in transportation costs. With better record management system and use of data through better integration of existing IT Systems in Railway, it is suggested to improve the Costing system at workshop to enable it to provide better flow of cost information to Performance Costing System.

2.2 System for Repair Work

2.2.1 Accounting of Workshop Cost

Workshop Manufacture Suspense (WMS) account which is a capital suspense account is maintained to keep track of total workshop expenses for a period. Once material is issued from stores against a Work Order, WMS is debited. WMS is also debited with labour cost and other costs incurred in the workshop. After completion of the repairs work under a work order for a foreign Railway stock, total cost of respective work will be debited to the concerned railway and WMS will be credited. Costs of running repairs work done for sheds will be debited to the concerned division. Obviously, WMS balance is the work-in-progress.

2.2.2 Type of Repair Work

Different types of repair work of locos involve varying complexity in the nature of work and requiring different scale of resources of manpower, material etc. To derive equivalent units of repair works in Loco Shed, the weightage assigned are: POH =1, IOH=0.75, SR =0.25. Under present costing system, all costs for a particular period (month) is compiled to be a period cost for a Work Order. Equivalent units derived from the numbers of types of repair work in the work order and corresponding weightages to find the unit cost of different types of repair work of Locos. For Coaches, Repair work are of two type: POH and SR. For EMU or DMU, repair work of POH, IOH and SR are undertaken.

2.2.3 Scheduling of Work

Scheduling of work is done on the basis of waiting queue of repair work in the workshop, types of repair work to be undertaken, capacity of shops and manpower requirement etc. Repair work is done in batches. Manpower requirement (skilled, semiskilled and unskilled) is estimated on the basis of Time Study conducted more than 35 years back and accordingly manpower is allocated against repair work of a batch of rolling stock.

2.2.4 Issue of Work Order

Repair work is done in batches in C&W workshop. Under the present system, Work Order Number of 8 digits is issued to a batch. The advantage of allotting a work order to a batch is allocation of direct cost of repair i.e. manpower cost, material costs and other direct expenses. In a Loco workshop, the number of incoming Locos is comparatively less in comparison of items of repair work in C &W workshop and pressure of earliest possible completion of repair work of locos may not provide any scope of issuing of Work Order for a batch of similar locos. Rather, the single loco is considered to be a work order.

2.2.5 Production of Special Items

Sometimes, Stores Department sends requisition of some specific items which are to be manufactured to satisfy special requirement in the workshop itself. In such cases, item specification is drawn and raw material requirement are assessed with consideration of standard wastage percentage by the Workshop Production Department. For production of this type, Work Order is also issued. Accordingly, materials are issued by the Stores Department and booked to the concerned work order. The Work Order is debited for the raw material issued. Shop executes the jobs in batch production mode. After completion of work, shop sends the items to Stores with a debit note for cost of item which is sum of material cost, labour cost and labour On-cost against the Work Order (batch). Size of the batch production of special item of stores is used to find unit cost of the item and the same is used by the stores for issuing the items to the shop.

2.2.6 Man-power and Material requirement: Manpower requirement is estimated based on type of repair work and standard manpower requirement based on work study made more than 35 years back on manpower requirement for the purpose of payment of incentive. Though there have been huge changes in infrastructure, mode of operation and type of coaches/wagons, there has not been review on standard manpower requirement. Incentive is paid for the amount of time saved from standard time. Material requirement is estimated against the work order and Material is requisitioned accordingly.

2.3 Cost Elements under Present Costing System

2.3.1 Labour Cost:

Cost Statement is prepared based on Cost and Repair work undertaken in a calendar month. Repair work involves a number of activities in different shops. Time tally sheet is maintained to record the manpower deployment under three categories – skilled, semi-skilled and unskilled against each activity in a shop for the work orders (for coaches/ wagons) or piece meal repair work (for Loco) and time of completion of the work order. Manpower deployment records are maintained against the work orders which gives shop wise records of man-days for three categories of workers. At present, hourly wage rate is calculated based for three categories of workers – skilled, semi-skilled and un-skilled on the basis of average of previous half-yearly salary including other fringe benefits like bonus, overtime payments, PF, gratuity etc. On completion of a work order, Labour hour rate is applied on time sheet attendance to calculate direct labour cost. Scheme of Incentive payment which is adopted by the Railways is used for payment to workers of the group on the basis of time saved against standard time specified. The labour cost based on estimated labour hour rate results difference in actual wages paid and estimated labour cost which calls for adjustment for under-absorption or over-absorption of cost.

2.3.2 Direct Material Costs

Material requirement is estimated against the work order and Material is requisitioned accordingly. Materials are requisitioned by the shops and are issued from stores against the work orders. The cost of material computed on the basis of issue price charged by the Stores department gives the direct material costs for the respective Work Orders. Cost of non-stock items procured against the work order is also included. Cost of material includes the freight, insurance, taxes associated with the materials. The same system may be continued for allocating direct material cost against the work orders.

2.3.3 Direct Expenses

Cost of Job Work done outside the workshop or work done by contractors against a particular work order is also charged to the work order.

2.3.4 Labour On-cost (LOC): Standing Work Order is also there to capture the records of deployment of workers for general work like cleaning, lighting etc. Essential Indirect Labour (EIL) deployment records are maintained in Time Tally Sheet—shop wise and cost of the same is treated as Labour On-Cost. The indirect workers are also entitled to same rate of incentive for direct workers of a shop. Labour On-Cost is charged as a percentage of previous year's direct Labour Cost.

2.3.5 Stores on Cost (SOC): It includes cost of consumables, oil, grease, plus cost of stores activities like receiving, inspection, handling, freight charges not allocated to materials etc. For charging On-costs to work orders, Stores On-cost percentage is also calculated on the basis of previous year's Direct Material Costs.

2.3.6 Present system of Cost determination of Repair Work

Man-power requirement, man-hour rate and material requirement vary depending on the type of repair-work. These requirements are assessed for different activities in the shops. Average man-power deployment is determined and actual manpower rate for different skill levels and material requirements are worked out for different types of repair work for example – POH/ IOH/SR for AC coach, Non-AC coach, different types of wagon and Locos in consideration of volume of work (numbers). Estimated LOC and SOC based on actual percentage of earlier year's Direct Labour cost are added to derive total cost. The same is used to determine different types of repair work per unit. Direct labour cost is estimated on the basis of previous half-yearly rate and then both LOC and SOC again estimated on estimated on the basis of previous year's percentage of actuals Direct Cost.

At the end of a period, a Work Order is allocated all direct costs i.e Direct Labour Cost, Direct Material cost and Direct Expenses. Labour On-cost and Stores On-Cost are also charged to the work orders on the basis of percentage of respective direct costs as indicated above. At present, Work-in-progress for incomplete work orders are not taken into account for calculation of repair cost. Again, Depreciation and Workshop General Overheads are not included into total cost. These are limitations of the existing costing system and results in deviation from actual cost of repair.

In case of bridge workshop, Unit Cost per MT for different types of fabrication is estimated based on previous year labour hourly rate, standard labour hour requirement and material cost at current price. The same is used to charge the issue price.

2.4 Improvement suggested in Workshop Costing System

- 2.4.1 Costing based on actual expenditure:** Present Workshop costing is being done on the basis of estimation at different points like Labour hour rate, On-cost assessment etc. Labour-on-Cost is charged as a percentage derived from last year actual direct labour cost. This results in under-absorption or over-absorption of cost due to difference between actual cost and amount charged on estimation basis and the same is adjusted in the books of accounts. As salary database is available at month end and Time Tally Sheet maintains records of attendance work order wise, it is suggested that actual labour cost may be worked out work-order wise and allocated to it. This modification in approach of capturing actual direct labour cost (salary + fringe benefits) will provide better cost configuration of work order. Labour On-Cost will be compiled in the similar process from the attendance records of indirect workers and their salary from the monthly salary file.
- 2.4.2 Inclusion of Depreciation and Workshop Overhead costs:** Workshop Overheads and Depreciation of Plant and Equipment and other infrastructure of the workshop are not included in the workshop cost resulting understatement of cost of repairs under present costing system. However, the under absorption arising out of it is taken care in the books of Overall Zone Accounts. As the Fixed Asset Register for workshop will be prepared under Accrual Accounting system, depreciation derived from it should be taken into consideration in Workshop Costs. Non-inclusion of Shop overheads and General Overheads clearly results in understatement repair cost of rolling stock and unduly adds to on Zonal overheads. Improved version of Costing system will aim at apportioning of overheads occurring during the course of undertaking the repair activities to the activities themselves instead of carrying it as General Overheads to the Zone. As the direct costs are captured Work Order wise, overhead distributed on the basis of direct costs ensures rational apportionment of Overheads to Work Orders.

2.4.3 Issue of Work Order: It is proposed that the system of issue of work order to a batch has to be streamlined with three important considerations on data compilation for systematic compilation of work order wise data, easy compilation of work-in-progress costs and compilation of data Line of Business and Line of Service wise.

One of the primary objectives of Performance Costing system (PCS) is to derive the Cost of transportation under different Lines of Business (LOB) and Lines of Services (LOS). The LOBs and LOSs are cost pools for PCS and they are defined as given below. LOBs are Business segments and LOSs are different types of passenger services and freight services for different commodities.

It is suggested that Workshop Costing systems needs to be modified so as generate the necessary records for LOB/LOS wise repair costs. Design of LOB and LOS and their codification is given below:

2.4.4 LOB & LOS Design

BG = Broad Gauge, MG= Meter Gauge and NG = Narrow Gauge

Table 2.1

Lines of Business (LOB)	Code
BG - Premium Train Services – Rajdhani, Shatabdi, Duranto, Tejas	PS
BG – Other Mail/Express Train Services	ME
BG – Electric Multiple Unit – Suburban	ES
BG – Electric Multiple Unit (MEMU) – Non- Suburban	MS
BG – Diesel Multiple Unit – Non-suburban	DS
BG – Ordinary Train services excluding EMU, DMU and MEMU	OS
BG – Freight (Goods) Train Services (FS)	FS
MG – Passenger Train service	MP
MG – Freight (Goods) Service	MF
NG – Passenger Service	NP

Table 2.2

Lines of Service (LOS): Coaching	Code	Related LOB
General	GS	OS/ME/ES/DS/MS
2nd Class (Sitting)	2S	ME/ES/DS/MS
Unreserved AC	AC	ES
Sleeper	SL	PS/ME/OS
AC Chair Car	CC	PS/ME
3AC	3A	PS/ME
2AC	2A	PS/ME
1AC	1A	PS/ME
Executive Class	EC	PS
1 st Class	1C	ME/ OS/ ES
Generator Car	GC	PS/ME
Pantry Car	PC	PS/ME
Parcel & Postal Van	PP	ME/OS
SLR Coaches	SR	ME/OS

Table 2.3

Lines of Service (LOS): Goods Services	Code	Related LOB
Coal	CO	FS
Iron Ore	IO	FS
Cement	CM	FS
Fertilizer	FR	FS
Foods Grain	FG	FS
Raw Materials for Manufacturing industries	RM	FS
Oil and petroleum products	OP	FS
Container Services	CS	FS
Other items including minerals for manufacturing, cars and car parts etc.	MC	FS

2.4.5 System of formation of Batch & Issue of Work Order: Assignment of Work Order should follow a scientific system to facilitate compilation of cost LOB/LOS wise. Assignment of Work order should be done in a fashion that each work order is associated to well defined LOB and LOS as described above and the type of repair work for the batch should be same. Work Order for Coach Repair may be issued by taking similar items (preferably of same LOS) collectively to form a

batch. When a work order is assigned for repair of similar coaches, LOB/LOS is to be identified. For coach repair, assignment of Work order should be done in a fashion that each work order is associated to well defined LOB and LOS as described above and the type of repair work for the batch should be same. For example, 2nd class coaches of both Ordinary Service (OS) and Mail Services (ME) requiring POH may be brought under one batch with one work order. Records are to be maintained on LOB wise number of items against each work order which will be used as cost driver to distribute repair costs of a work order to the corresponding LOBs. In case of Loco Repair, if a single loco is taken up for repair work in seclusion, it may be assigned a Work order Number and be treated as a work order for the purpose of costing and LOB should be identified for it. Identification of LOB in case of Wagon is simpler.

It is suggested that Work Order Number may be of four digits -first two digits indicating month and next two digits serial number. All expenses will be booked to ACC code. ACC Code which is sum of Accounts Head + 4 chrs Work Order Code and unit code of 1 digit. Work Order Number will be put in Location Code. Unit Code of 1 digit will indicate the type of repair: P for POH, I for IOH and S for SR.

2.4.6 Systematic Compilation of Work Order Cost: There may be some practical difficulties in formation of batch of similar items but for the sake of the above advantages the practical difficulties should be negotiated. Assigning work orders should follow a scientific system so that each work order should have a unique number which will help in cost comparison of different work orders of different periods.

2.4.7 Easy compilation of Work-in-progress Cost: In the modified system of Cost Accounting, all cost components will be charged to work orders to arrive at rational costs of repair work undertaken by different work orders – both completed Work orders and incomplete Work Orders for a period. When an incomplete work order of earlier period gets completed in the current period, all costs – both direct

and indirect costs against the work order in the current period will be added to the corresponding items of costs of the work order which were accumulated at the earlier period. This system of definite segregation of results of completed and incomplete Work Orders will help in arriving at the work-in-progress at the end of a period correctly and computation of correct cost of completed work orders. Unit costs can be found out from the cost of completed work orders.

2.4.8 Capturing LOB/LOS wise Repair Cost: To derive Transportation Cost LOB/LOS wise, repair cost should be determined LOB/LOS wise. To arrive at Repair Cost LOB/LOS wise, LOB/ LOS should be identified for a Work Order. Once, the Work Order is generated against identified items of definite LOB or LOS of definite LOB, the basis system of capturing data LOB/LOS wise will be in place. Record of number of items of repair against a Work Order will also be maintained which will help in deriving unit repair cost of different types of repair undertaken in a month.

2.5 Treatment of Depreciation and Overheads

Under the existing system, depreciation is not included in workshop costing. But depreciation of the assets of workshop is an integral part of cost of repair. Fixed Asset Register will be maintained at Workshop according to the guidelines of Accrual Accounting system. For assets at Shops, FAR will be maintained shop wise. Other common and general assets will be compiled for the workshop. Class wise depreciation of assets will also be worked out and treatment of depreciation (asset class wise) among the work orders is given in Table 2.4.

Table 2.4

Asset Class	Treatment of Depreciation
Work shop Building (FA-2)	Similar to General Overheads.
Roads/Streets (FA-4)	To be treated as General overheads.
Railways Tracks (FA- 5A,5B, 5C, 5D)	To be charged to Work Orders in proportion of total cost.
Furniture & Fixtures, Office Equipment, Computer Peripherals (FA-6, FA-7, FA-8)	Will be treated as Overheads.
Vehicle (FA-8)	Will be treated as Overheads.
Plant, Machinery & Equipment (FA-9)	Shop wise and depreciation will be distributed to work orders on the basis total cost.
Elect. Equip & Fittings (FA-16)	To be treated as Shop On Cost.

Treatment of Overheads: Overheads are indirect labour costs, indirect materials costs, Shop on Cost and General Overheads. Overhead expenses of workshop are essential cost component for repair cost. Non-inclusion of Shop on Cost, General Overheads results in under-statement of Workshop Repair costs. It is suggested that these components of cost should also be included in the work orders and for ultimate distribution in LOB/LOS wise repair costs. Following items may be treated as Shop-On Cost and General Overheads and records are to be maintained to capture the costs.

Shop On-cost includes:

- Wages for machine operators, crane operators etc.
- Leave pay, idle time payment
- Shop Maintenance Cost / AMC of any Machine in the Shop
- Cost of coal and coke in smitheries
- Electric Lighting
- Cost of defective work
- Cost of scrap not charged to any work order etc.

General Overheads includes:

- Salary of Workshop Managers and Engineers
- Salary of Supervisors and staff working in workshop
- Wages for Yard staff, Security Guards, Pump Operators and other workers undertaking general work of the workshop

- Salary of Accounts / Personnel staff
- Cost of General Electric lighting, water line in the workshop
- General Maintenance Work
- Up keeping of Offices etc.

At the end of period, Labour on Cost is to be calculated as a percentage of Direct Labour Cost and Stores on Cost as a percentage of Direct Material Cost. Shop on Cost and General Overheads may be compiled to arrive at as a percentage of Prime Cost which is the Total Direct Cost i.e. sum of Direct Labour cost, Direct Material Cost and Direct Expenses.

These percentage will be used to charge the different components of overheads to work orders as explained in Table 2.5.

Table: 2.5

Shop On -Cost	Amount (Rs)	General Overheads	Amount (Rs)
Wages for machine operators, crane operators etc		Salary of Workshop Managers and Engineers	
Leave pay, idle time payment		Salary of Supervisors and staff working in workshop	
Shop Maintenance Cost / AMC of any Machine in the Shop		Wages for Yard staff, Security Guards, Pump Operators and other workers undertaking	
Cost of coal and coke in smitheries		general work of the workshop	
Electric Lighting in shops		Salary of Accounts / Personnel staff	
Cost of defective work		Cost of General Electric lighting, water line in the workshop	
Cost of scrap not charged to any work order etc		General Maintenance Work	
Any other Item		Upkeeping of Offices etc	
Depreciation of Electrical equipment, fittings		Any other item	
		Depreciation on – i) Workshop building ii) Road /Streets iii) Furniture& fixtures (FA6, FA7, FA8)	
Total		Total	
Work Order NO	Percentage Of Prime cost	Work Order NO	Percentage of Prime Cost

2.6 Computation of Work Order Cost

The proposed system will be based on actual consumption of all types of resources used against the work orders will help in arriving at more accurate costs of repair work undertaken by the workshops involving substantial amount.

2.6.1 Cost Data Recording & Computation steps

1. Direct Cost – Work Order wise
 - i) Direct Labour cost –with the help of salary file and Time Tally sheet
 - ii) Material cost
 - iii) Other direct expenses

By summing up, work order wise Direct Cost.

2. Depreciation and General Overheads will be distributed to Work-orders.
3. Work Order cost to be distributed to LOB on the basis of Cost Driver data: Work order wise – LOB/LOS wise (Number of Repair -type of Repair)
4. Number of Repair work done will give unit repair cost.
5. Cost items – under different types of repair (POH, IOH, SR etc.) will be captured for workshop for creating FCC file for Workshop.

Compilation of Work Order Cost as described above will be as given in the Table 2.6.

Table 2.6

Item of Cost	Basis of Distribution	Work Order No.		
		Total (Rs)	Units	Cost/ unit
Direct Labour Cost	Direct			
Direct Material Cost	Direct			
Direct Expenses	Direct			
Labour On Cost	D Labour Cost			
Stores On Cost	Direct Mat Cost			
Shop On Cost	Prime Cost			
Workshop General Overheads	Prime Costs			
Total				

2.6.2 Derivation of Unit Repair Cost

- i) Unit means single unit of a type of repair under different LOBs or LOSs under a Work Order.
- ii) Table 6 will give Cost of a completed work order.
- iii) Unit repair cost of a particular type = Total work order cost / Number of units.
- iv) From unit costs, LOB/LOS repair cost coaches/ wagon/ locos for a period will be found out. Unit repair cost LOB/ LOS wise will be useful for Performance Costing system.
- v) Unit cost of different types of rolling stock will help in better resource allocation for Repair Work.

2.7 Difference in approach between Existing and Proposed Workshop Costing in computation of different cost components

Table 2.7

Issue/item	Present system	Proposed System
Assignment of Work Order to a batch	Standing Work Order is followed.	Dynamic assignment of work order to a batch of similar items to be repaired.
Record maintenance - LOB/ LOS wise	Not being done.	According to PCS requirement, against each work order LOB/LOS wise record to be maintained.
Direct Labour Cost	Shop wise attendance in Tally sheet. Estimated labour hour rate is applied.	Shop wise attendance to be maintained. From Salary database, actual wages will be computed for Work Orders.
Direct Material Cost	Material is issued to shop work order wise and cost is allocated.	Same system will be followed.
Direct Expenses	Directly allocated to Work orders.	Same system will be followed.
Depreciation	Not included.	Depreciation of shop assets and workshop general assets will be distributed to Work Orders.
Overheads	Labour On Cost and Stores On Cost are included on an estimated percentage basis on last year direct costs. Under-charge or overcharge is adjusted in books of accounts.	Labour On Cost, Stores On Cost, Shop On Cost and General Overheads will be compiled and distributed to Work Orders. For different items, different basis will be followed according to Cost Accounting Principle for distribution.
Work-in-progress	Assessment of Work-in-progress is not being done.	Cost of Work-in-progress will be assessed which will help correct assessment of completed work orders.

Summary of Observations for improvement of Costing System

- i) **Streamlining Work Order Issue:** Issue of Work Order for repair work is proposed to be streamlined for systematic compilation of work order wise costs and facilitating compilation of work-in-progress costs and LOB/ LOS wise data.
- ii) **Capturing actual wages of Work Orders:** Attendance of employees is to be maintained Shop wise and work order wise. With the help of the same and salary database, actual wages may be allocated to Work Orders.
- iii) **Inclusion of depreciation in repair cost:** FAR will provide depreciation of shop assets and common General Assets of Workshop. Depreciation of assets being an integral part of repair cost, the same should be included.
- iv) **Inclusion of Overheads:** Compilation of four components of overheads in the workshop i.e Labour On – Cost, Stores on Cost, Shop on Cost and General Overheads is to be done methodically and all should be distributed to work orders. Correct treatment of overheads in repair cost will reduce undue general overhead of zone.
- v) **Work Order Cost with shop wise break up:** Shop wise attendance will provide shop wise wages. Other components of cost including depreciation and overheads will be distributed to each work order- shop wise. This will help in better cost comparison among different work orders with shop wise cost break -up.
- vi) **Assessment of correct Repair Cost at Workshop:** Repair cost of rolling stock at workshop is of substantial value. Assessment of right costs will help management towards decision making on effective cost reduction and efficiency improvement.

Chapter – 3

PCS – Data Collection & Processing

3.1 Introduction on PCS Data Collection & Processing

The success of implementation of Performance Costing System in Indian Railway depends primarily on two important factors - data compilation and its validation. Both Cost data and Cost Driver data will be compiled – Activity Cost Center wise. The source of Cost data of a Zonal Railway is Finance databases of Divisions, Workshops, other Accounting Units and the Zone itself. Extraction of cost data from Finance database will follow a simple process which is described below. As the Activity Centers will not be fully geared up at the beginning stage of implementation to generate cost driver data on regular basis from their Work Book/ Job Records, there is a need of close supervision at competent level to ensure proper action to generate cost driver data at ACC level. Activity Cost Centers maintains Work Book regularly and Cost Driver data is only compilation from the same in properly designed format. Manual data checking will be for tracking simple arithmetical error. Number of Activity Centers in a Division is large and data will be collected ACC wise. The volume of data taken from all divisions, workshop and zone will have to be processed with the help of a database software. Logical correctness and completeness of data will be checked by computer program. Program will check whether all Cost Drivers matching to ACC costs have been compiled or not.

Data processing will have a scientific and systematic approach following definite path in logical sequence and it will be done with the help of software on Data Base Management System. Over the time, the process will be smooth one. Each step is described below with Input File (database), Output File (database), process involved and its significance towards data compilation and processing. All accounting units will have to follow the similar steps with some deviations wherever required.

The volume of data taken from all divisions, workshop and zone which will have to be processed with the help of a database software. Logical correctness and completeness of data will be checked by computer program. Program will check whether all Cost Drivers matching to ACC costs have been compiled or not. The detailed process of Compilation of Cost Driver data is described below.

As described earlier, data are to be collected Activity Cost Centre (ACC) wise. ACC is the central point of both Finance data and Activity Performance data. It is true for all Accounting Units. In true sense, Accounting in Indian Railway gets completed at Zonal Level. The Activities in different Accounting units in a Zone are multifarious and Accounting Transaction data is voluminous. Different types of Passenger and Goods Trains in their Operation use Infrastructure and Activity support from Repair Function of different nature and Administration on sharing basis. In the words of Costing, most of the Activities are joint in nature i.e. Costs are joint cost for different types of services. The distribution of Activity Costs in fully Joint Cost Scenario of such gigantic size of operation is a great challenge.

Activity Based Costing which is most advanced technique widely used for Service Industry has been proposed for Indian Railway to bring in a solution for joint cost distribution. Performance based Cost Driver will be used to distribute the Joint costs to the services of different classes of trains of different types in scientific manner. Data processing needs special care for the following:

- i) Handling of big volume of Accounts data and Cost Driver data and checking of its correctness and completeness
- ii) Logical Steps to be followed in processing for cost distribution including depreciation and Overheads
- iii) Taking care of different types of data and data structure in different Accounting Units and variations in processing steps.
- iv) Summarization process at Zonal Level
- v) Generation of two types of Reports for (a) Cost Management (b) Decision Making Support.

3.2 Source Database of ACC Cost

Finance database is created by IPAS (Integrated Payroll and Accounting System) in all Accounting Units including Zone. Salary and all other expenditure are processed by IPAS. It is also integrated with IMMIS (Integrated Material Management System). All transactions relating to issues of material with consignee codes and issue values are integrated with IPAS database. Other payments relating to Job work and contractors' work are also accounted for through IPAS.

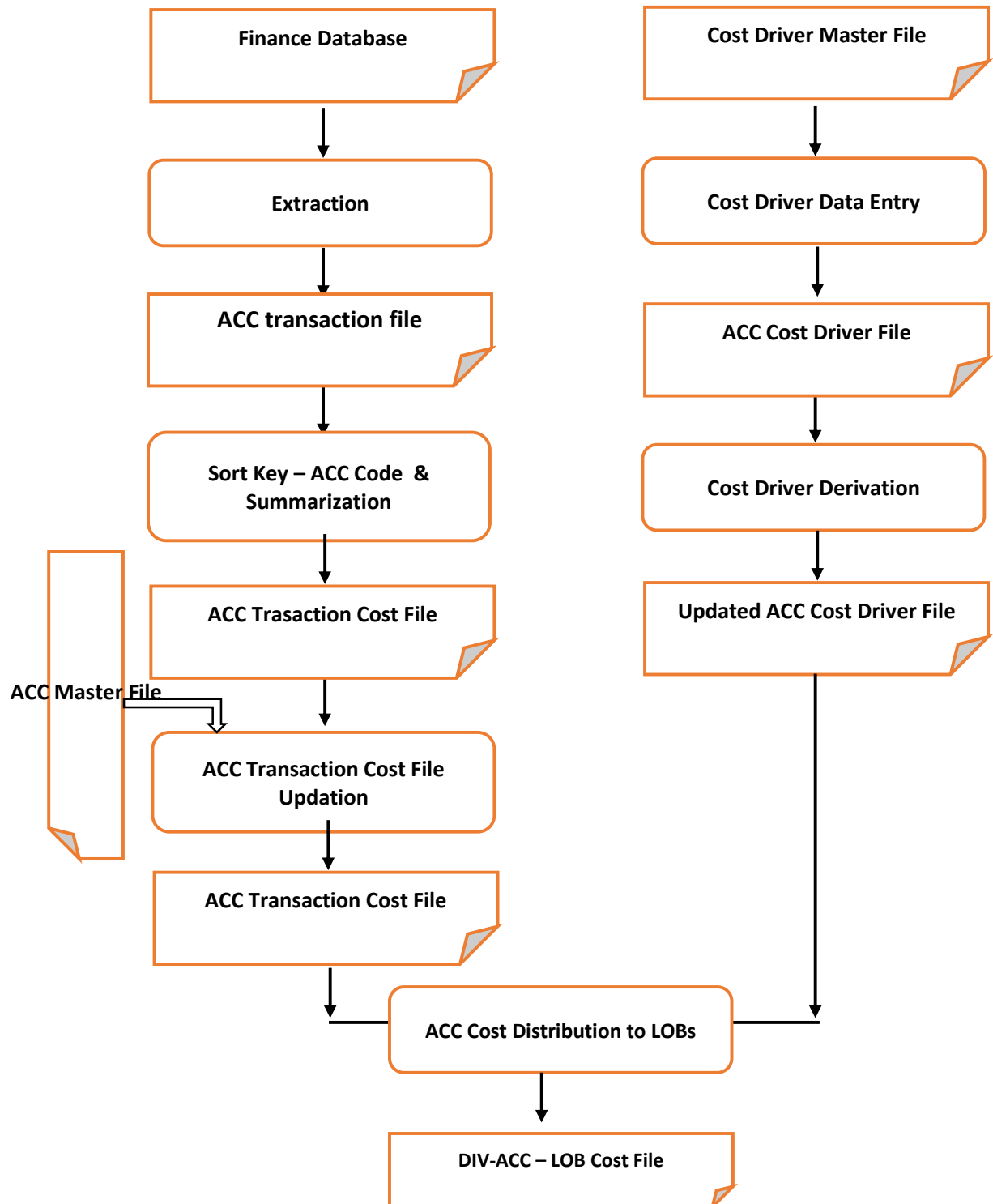
Both IPAS and IMMIS will have the provision of ACC code in place of Accounts head corresponding to each transaction by way of additional field of Location Code and Unit Code. In case of Salary Bills, ACCs will use ACC code in addition to Bill unit code. The finance database created under IPAS will serve both the purpose of Accounting and Cost Accounting. Accounts Code, Location code and Unit Code together will form the ACC code. ACC code and the expenditure will create the source cost data for Performance Costing system. Creation of Cost data base will follow only some simple step which is described below. The similar steps will also be followed in all Accounting Units like Workshop, Zone etc.

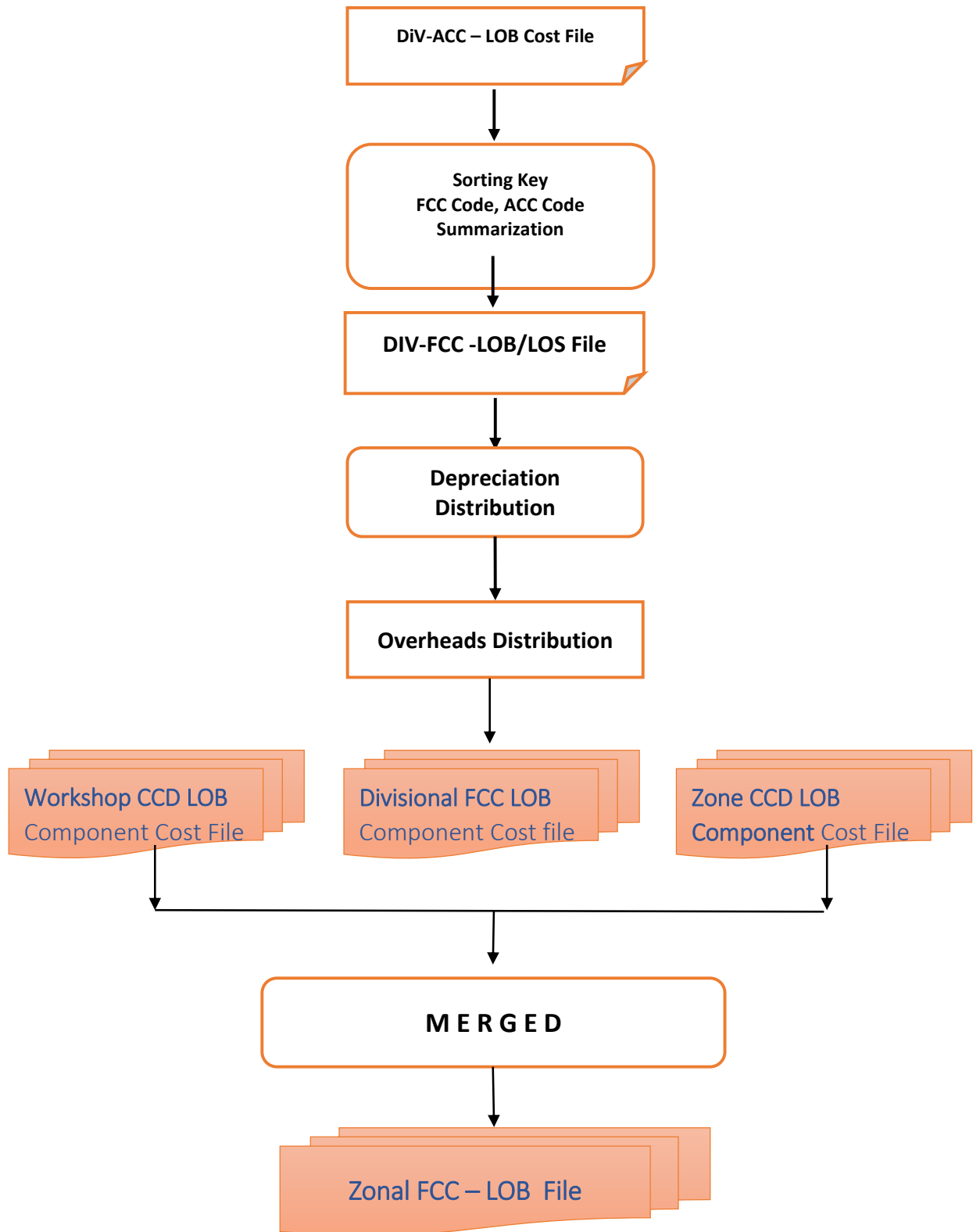
3.3 Activity wise Cost Driver Data Compilation

Cost Driver data collection is the most critical step for the implementation of PCS. Annexure IV gives the details of different Cost Drivers to be collected through different Activity Input Sheets (AIS). The Cost Drivers of different Activity Centres are different in terms of Unit of measurement and the nature of activities. The Activity Cost Centre will compile the data from Job Register and fill in AISs. It has been developed only to simplify the process by understanding the source of Cost Driver data and process of compilation.

Activities are grouped in Functional Components for the advantage of keeping track of all activities for distinctly different functions in transportation services of Railways. Compilation of Functional Component Costs has many purpose and advantages which have already described in the earlier chapter. Activities under of different Functional Component Codes (FCC) are under administrative control of different well defined departments and distinguished Authorities responsible for different functions. Thus, follow up action for generation of Activity Cost Drivers data and their compilation - FCC wise become simpler. Moreover, the activities under a FCC are closely related and logical validation of cost driver data of activities at the time of collection itself becomes possible when they captured FCC wise. FCC -Activity Table (Annexure II) gives the Cost Drivers against Activities related ACCs and their respective Activity Input Sheet (AIS) Number and how the Cost Drivers will be used to distribute costs to LOBs and LOSs.

3.4 Process Flow Chart





3.5 Steps for PCS Data Processing

- Step 1 : Divisional ACC Master File Creation
- Step 2 : Extraction of Expenditure data from Finance Database i.e. Creation of Divisional ACC- Extracted Cost File.
- Step 3 : Divisional ACC-Cost-Transaction File updation with DIV-ACC- Master File
- Step 4 : Divisional ACC- Cost- Driver File Creation
- Step 5 : Divisional ACC-Cost- Driver File Validation
- Step 6 : Divisional ACC Cost distribution to LOBs/LOSs with the help of Divisional ACC-Cost-Driver File to create DIV-ACC- LOB Cost File
- Step 7 : Conversion of Divisional ACC-LOB cost file to DIV- Activity-LOB cost file.
- Step 8 : Creation of Divisional FCC- LOB File
- Step 9 : Distribution of Depreciation to Divisional FCCs and onward FCCs to LOBs
- Step 10 : Overhead distribution to Divisional FCC-LOBs
- Step 11 : Divisional FCC-LOB_LOS file creation
- Step 12 : For Zone, Zone-FCC_LOB file will be created.
- Step 13 : Merging of all FCC-LOB-LOS files of Divisions, Workshops and Zone to create ZONAL FCC-LOB-LOS files
- Step 14 : Distribution of Zonal Depreciation & Overheads to LOB/LOS
- Step 15 : Determination of LOB- LOS wise Profitability
- Step 16 : Derivation of Functional Component Unit Costs (FCUCs)
- Step 17 : Determination of Train Cost of particular LOB with LOSs of definite rake composition and Distance to travel.

3.5.1 Objective of Creation of ACC Master File: The basic objective of creation of the Master File is to preserve the necessary permanent information relating to each Activity Cost Centre -like Description of ACC, Cost driver, Activity Input Format Number etc. The file will have essential role in the following activities during processing:

- i) Updating the transaction file
- ii) Validation of Transaction data
- iii) Facilitating processing

3.5.2 Contents of ACC Master File: Creation of Master file of Activity Cost Centers (ACC) will be done with the following fields which will contain details of information relating to all Activity Cost Centers and which are permanent in nature:

- i) ACC code
- ii) Functional Component Code (FCC)
- iii) ACC name
- iv) ACC Cost Driver Type Code
- v) Activity input format (AIS) No.
- vi) Cost Driver Description
- vii) Unit of Measurement of Cost Drivers

3.6 Description of fields in the Master File

3.6.1 ACC Code:

It is the key Field for which all related data will be stored in the file.

3.6.2 ACC Description:

Name of the ACC including Location and Unit No.

3.6.3 Functional Component Cost (FCC):

It indicates the Functional group to which an Activity belongs. In Railway Transportation Service, Activities are grouped under different Functional Components by way of combining related activities for a broader functional area.

The objective of grouping of activities into functional components is primarily to arrive at Functional area costs in transportation service of Railway and supporting the decision making process. The List of Functional Components and detailed grouping of ACCs under different Functional Components is given in Annexure II.

3.6.4 ACC Cost Driver Type Code:

To indicate what type of cost driver the ACC will have – only for LOB, LOB and LOS both, at Divisional Level etc.

3.6.5 Activity Input Sheet (AIS) Number:

Activity Input Sheet Format (Cost Driver Input format) for an ACC is pre-defined. One Single cost driver data may be used by more than one ACC to distribute its costs to LOBs/LOSs. Location code + Unit Code + Cost Driver input Sheet Number will represent unique set of Cost Driver data which will be fetched for distribution of cost of relevant ACCs.

3.6.6 Cost Driver Description:

Cost Driver description for an ACC is required to identify the cost driver.

3.6.7 Unit of Measurement of Cost Driver:

It is essential to note the Unit of measurement and see the correctness of the Cost Driver data in terms of UM.

Step 2: Extraction of ACC Transaction Cost from Finance Database

Conversion of Finance data to Cost Data: Divisional Finance data base contains data all financial transactions. Expenditure of each Activity Centre will be earmarked with Activity Cost Centre Code. In other words, Finance database contains Location Code and Unit Code along with Accounts code for all transactions. Thus, the extraction of Accounts Code, Location code and Unit Code with the corresponding expenditure will form the Cost Data. The extracted

data set not only constitute the data related to salary and other expenses, it will also contain the data on material cost of the materials issued to different Activity Centers.

Categorization of Costs : At the time of extraction of cost data itself, costs will be categorized into three primary cost components i.e. salary, material and other direct expenses with the help of PUs and a mapping chart (Annexures I). This file will form ACC- Extracted Cost file. Number of employees from salary transactions will also be preserved which will be used to distribute Overheads on the basis of number of employees, wherever required. The same process will be followed for all Accounting Units to create respective Extracted Cost Transaction Files.

Frequency of processing: The Extracted ACC Cost File may be created on monthly interval from the financial data base of the respective months of all Accounting Units. Even if the processing of Cost Statements at Zonal Level will be done quarterly, monthly processing of data at Accounting Unit level may help in generating Activity Centre wise Cost -performance statements for the use of the Executives at Divisional Level. Moreover, schedule of capturing cost driver data generated from Activity Centers is important to smoothen the process of critical data handling area.

Input File : **Divisional Finance database**
Process : **Extraction from Finance Database – ACC code and amount. Expenses to be categorized into three cost items i.e. salary, material and other expenses.**
Output File: **ACC Extracted Cost file –with 5 fields – ACC code, Number of employees, salary cost, material cost and other expenses.**

Step 3A: ACC Transaction Cost File creation

Summarization of ACC Cost: It is likely that there will be multiple transactions against one ACC in the above Extracted ACC Cost file. Multiple records corresponding to one ACC code is required to be converted to a single record for one to one matching with Cost driver for distribution of costs. Records under one ACC code will be summarized in one record by summing up the items – number of employees, salary, material and other direct cost. This is required to match with the Cost Driver record for the same ACC.

Input File : **ACC Extracted Cost file**
Sub-Step (1) : **Sorting the Extracted ACC cost file with ACC Code in ascending order.**
Sub-step (2) : **One record for one ACC will be created.**
Output File : **ACC Transaction Cost file –with 5 fields – ACC code, Number of employees, salary cost, material cost and other expenses.**

Step 3B: ACC Transaction Cost File updation with ACC Master

Updation of ACC Transaction Cost file: ACC Transaction Cost file as created in the above step will contain the cost information only. The file needs to be updated with ACC related permanent information by inserting the fields - FCC code, ACC description, ACC type Code, Cost Driver code, etc. from the ACC Master file of the same Accounting Unit. The same process will be followed for transaction files of all Accounting Units. The resulting updated Divisional ACC Cost transaction file will be used for distribution of Costs to LOBs/LOSs and further processing

Input files : **ACC transaction Cost File & ACC Cost Master File**
Process : **Updation of ACC transaction file with ACC Master File**
Output file : **DIV-ACC Cost file.**

Step 4: Cost Driver File Creation

ACC- LOB Cost Driver File Creation

ACC Cost Driver is instrumental to distribute ACC Cost to LOBs/LOSs. It means, there should be ACC Cost Driver corresponding to all ACC cost. In some cases, one Cost Driver input set will be used for distribution of different ACC's Cost. Location code, Unit Code and Activity Input Form No. which may be called as Cost Driver Code will give unique cost driver data. As there may be more than one ACC using one particular set of Cost Drivers, the mechanism of Cost Driver Code in the ACC Cost data file will help in fetching right Cost drivers for distribution of ACC costs to LOBs/LOSs.

Derivation of Cost Driver with weight factor: Weight multiplication- CD data will be derived by way of multiplication of raw data with corresponding weight factors. Example: Weights factors of Coach repair costs or Locos used for different LOBs are data of permanent nature and will be preserved in a Control File and the same will be used for multiplying the cost drivers (Number of repairs made for LOBs) to arrive at right cost driver for distribution of costs. Here, weight will be scale in terms of man-days used for different types of Coach/ Loco.

The Cost Driver file will be created with Cost Driver input data from ACCs of an Accounting Unit. Each Accounting units will create its own Cost Driver File.

There will be two sets of Cost Driver input:

- i) LOB Cost Drivers for Distribution to LOBs
- ii) LOS Cost Drivers for Distribution to LOSs

Cost Driver input entry will be made with the help of the ACC Master file. As each ACC has pre-defined Cost Drivers and the corresponding Activity Input Sheet Number. Once ACC is entered for data entry, ACC master file picks up the Input Sheet Number and displays the same to ensure correctness of data entry. Cost

ACC-LOB_LOS Cost Driver File Creation

A Divisional ACC-LOB-LOS file will be created which will be used to distribute ACC cost of a LOB cost to LOSs. This is created simultaneously with ACC-LOB Cost Driver File creation as the data entry is made for both together.

STEP 4 B	:	Cost Drive File Creation
Input	:	Cost Driver data from ACCs and Cost Driver Mater File
Process	:	Entry of LOS Cost Drivers of ACCs
Output	:	ACC - LOB-LOS Cost Driver File

The output file will contain the following fields:

- i) ACC Code
- ii) Cost Driver Input Format No.
- iii) LOB
- iv) Cost Driver data for LOSs

Step 5: Validation ACC Cost Driver File

ACC Cost Driver is instrumental to distribute ACC Cost to LOBs/LOSs. It means, there should be ACC Cost Driver corresponding to each ACC cost. The validity of completeness of ACC Cost Driver is made with the help of ACC Cost Transaction file to see that necessary Cost Drivers are captured. This is done with the help of ACC code and Cost Driver Code. Some logical errors will also be checked. Moreover, LOBs are earmarked where LOS is mandatorily required. Validity of completeness of ACC-LOB_LOS will also be done. The validity check will be done with the help of software by comparing ACC Cost Transaction File & both ACC Cost Driver files for LOB and LOS.

Input File	:	DIV ACC Cost Transaction File, DIV ACC LOB Cost Driver File and DIV ACC LOB_LOS Cost Driver File.
Process	:	Validation of Cost Driver file is done to see whether all cost drivers are compiled or not. Error file will be created to pin point errors.

Step 6A: ACC Cost distribution to LOBs

Divisional ACC Cost File and Divisional LOB Cost Driver File will be used to distribute costs of ACCs to LOBs on the basis of corresponding LOB Cost Drivers. The similar process will be adopted for other Accounting Units.

Input	:	DIV ACC Cost Transaction File & DIV ACC Cost Driver File
Process	:	ACC Cost Distribution to LOBs
Process Description	:	ACC costs are distributed to the LOBs with the help of corresponding Cost Drivers.
Output	:	DIV ACC -LOB Cost File

The Output file will contain ACC wise LOB wise costs.

Step 6B: ACC LOB cost distribution to LOSs

There will be some LOB related to some ACCs, where cost is required to distribute to LOSs with the help of LOS wise cost drivers. For these ACC-LOBs, LOS cost drivers are already captured and ACC-LOB-LOS Cost driver file created as described in step above. LOS is relevant for different classes of passenger services and for different commodities of Goods services.

Input	:	DIV-ACC-LOB Cost File and DIV-ACC-LOB-LOS Cost Driver file
Process	:	LOB Cost Distribution to LOSs
Output File	:	DIV-ACC-LOB_LOS Cost file

The Output file will contain ACC wise LOB wise – LOS costs.

Step 7: Division Activity LOB Cost File Creation

ACC file to Activity File Creation: ACC – LOB-LOS file is created by distribution of ACC cost to LOBSs/LOSs. The next step is to get Activity costs -LOB/LOS wise so as to move forward towards achieving the desired Activity cost information for determination of ultimate LOB/LOS costs. This is done by summarization of all LOB/LOS cost of different ACCs related to an Accounts Head i.e. getting Activity Costs by way of dropping Location Code and Unit Code.

Input file : **DIV ACC -LOB Cost file**

Process : **DIV ACC-LOB Cost File will be sorted on Accounts head only. One record will be created under each Accounts head after summing up.**

Output File : **DIV ACTIVITY- LOB Cost File and DIV Activity-LOS Cost File.**

Step 8: Distribution of Costs with Divisional level Cost Drivers

Cost Driver Generation at Division Level: There are some activities where generation of Cost Drivers at the Activity Centre level is not possible because of nature of work and non-availability of meaningful data, rather Cost Driver data is to be generated by summarization of performance of the Activity Centers at Division Level. Example – Track Maintenance, IOW work, Crew allocation, Diesel Fuel consumption etc.

The list of Activities for which Cost Driver for distribution of costs will be generated is given in annexure IV. The procedure of compilation of cost driver varies from activity to activity as nature of activity, source of data etc. vary widely.

- i) Cost Driver for allocation of crew for different trains (i.e. LOB wise) will be compiled at Division level. Weight factor for Pilot and Assistant Pilot on the basis of their pay will be used to derive LOB wise cost driver.

- ii) Cost Driver for Diesel Fuel consumption will be compiled at Division Level by way of input of issue of fuel – LOB wise from different fueling points at division. Fuel Bill is processed at Division Level i.e Fuel cost is available at Division Level. The same will be distributed to LOBs on the basis of cost driver compiled.
- iii) Data on Engineering Maintenance (PWI & IOW) will be compiled at Division level.
- iv) Cost Driver for signaling - weight factor applied for Train Originating, Passing and Terminating.
- v) The following activities will also take up for distribution at Divisional Level :
 - Commercial
 - Safety management
 - Loco repair in shed
 - Yard – running Repair etc

Divisional Cost Drivers will be used to distribute costs of the above selective Activities for which Cost driver will be compiled at divisional level as described above.

Step 9: Functional Component file Creation

As the number of Activities are many, it is required to combine the Activities in some broad functional areas to derive Functional Component Costs to determine Transportation service of Railways. The list of Functional Component Costs is given in Annexure II. In other words, Activities which are related to a Functional Component are grouped into one. Divisional-Activity LOB/LOS Cost file will be used to create Functional Component file. Operational performance parameters are available for some broad functional areas only and the source of the same is CRIS or Statistics Department. Ultimate aim is to determine Functional Component Unit Cost (FCUC) with the help of Operational performance parameters. Functional Components are generated towards achieving most practical solution. The other advantages of creation of FCC – LOB cost file is

simplification of distribution of Depreciation and Overheads and having great flexibility in generating quarterly / annual FCC file.

The step followed for this is to sort Divisional Activity LOB/LOS file on key fields Functional Component Code (FCC) and Account Heads in ascending order. Then sorted file will be used to create Functional Component File by way summing up all LOB/LOS Costs under different Account heads for one FCC.

Input	:	DIV ACTIVITY LOB Cost File
Process	:	Sorting (Keys: FCC Code, ACC Code- ascending order)
Process	:	Functional Cost Component wise Summarization
Output	:	DIV-FCC -LOB Cost File

Step 10: Distribution of Depreciation and Overheads to FCCs

Divisional FCC file creation will be finally completed by distribution of Depreciation and Overheads to FCCs.

Depreciation Distribution: Depreciation of some classes of assets are used for some common activities and is not identified for a specific single Activity. The depreciation of these classes of assets will be treated as overheads and the same will be treated as general overhead. Example – Depreciation of Buildings, Roads, Furniture & fittings etc. Assets in the form of Rolling Stock, Running Track, Plant, Machinery etc. are being used as resources for Railway Operation. In similar cases i.e. depreciation of asset classes relevant for some broad class of activities represented by FCC will be distributed to the same FCC. In the subsequent step Depreciation will be distributed from FCCs to LOBs on the basis of LOB costs.

Distribution of Overheads : Overhead items have been grouped into four different types shown in FCC-Activity Table in Annexure II. FCCs are identified for a particular type of overheads for absorption. The same overhead group will be distributed to the relevant FCCs on the basis given below. Methodology of overheads distribution has been simplified and the basis has been devised to be rational so that the reflection of overheads in the cost composition will be realistic. In the subsequent step Overheads will be distributed from FCCs to LOBs on the basis of LOB costs. Basis of distribution of overheads to FCCs are:

Overheads	Basis of Apportionment
Material Management	Material cost
General Management	Number of Employees
Infrastructure Management	Total Cost
Retirement Benefits	Employees costs

Input : i) DIV-FCC-LOB Cost File and
ii) Depreciation and Overheads file

Process : Depreciation & Overheads Distribution to LOB and LOS.

Output File : DIV-FCC-LOB Cost file

Step 11: Workshop FCC - LOB File Creation

Repair work is undertaken in batches for different types of Repair -POH, IOH & SR. Batch may be assigned Work Order No.

Process of Workshop Costing:

- i) Direct cost of Repair will be accounts head wise (to Work order) for type of Repairs: POH, IOH and SR.
 - (a) Salary with the help of Tally Sheet and Salary file
 - (b) Material cost to Work order from issue
 - (c) Any other direct expenses of the work orders

- ii) Other Overhead Costs– Labour On-Cost (Indirect labour, Material On-cost (stores OH, wastage etc.) and Shop OH (Supervisors + Engineer etc.) will also be captured. Overheads may be apportioned to Work orders on the basis of Direct Costs. This will give Work-order wise Works Repair Cost.
- iii) Depreciation and General Overheads of Workshop will also be distributed to Work orders in the ratio of Repair Cost giving Total Repair cost – Work order wise.
- iv) Cost Driver – Work Order wise (POH, IOH, SR) – LOB wise Number of repair
- v) Distribute Total Repair Cost with the help of Cost Driver.

Process of creation of Workshop FCC file will be as given below:

- i) Workshop Cost Transaction File is to be created from Workshop Finance database: Accounts head wise.
- ii) Workshop Cost Driver file is also to be created from data input for repair work in number of rolling stock :
Coach Repair – LOB/LOS wise
Wagon Repair – LOB wise
Loco Repair – LOB wise
Input sheet will indicate – type of Repair work
Weight factors for different types of repair work may be used for arriving at CDs.
- iii) At Workshop level, Activity costs will be distributed to LOBs/LOSs on the basis of the above Cost Drivers.
- iv) At Workshop, Workshop FCC-LOB costs file will be created by way of group of activities.
- v) Depreciation and Overheads incurred at Workshop will be distributed to the FCCs in the same line as in the Division. In the next step, Depreciation and Overheads will be distributed from FCCs to LOBs/LOSs.
File so created will be named as: *Workshop – FCC – LOB file.*

Step 12: Zone ACC- LOB Cost File & ZONE FCC file

At Zonal Level, the following steps will be followed:

- i) Zonal transaction Cost File will be created from Zonal Expenditure File from IPAS.
- ii) Zonal direct costs will be distributed to ACCs on the basis of respective Activity Cost Drivers of the Zone.
- iii) The Zonal Activity-LOB file will be converted to *Zonal -FCC-LOB File*.

Step 13: Creating Consolidated Zonal Costing File

Merging of FCC-LOB all Accounting Units: Divisional FCC-LOB from all divisions, Workshop FCC- LOB files and Zonal-FCC-LOB file will be merged and the file created on the basis of FCC codes of all Accounting heads of the merged files will be the Consolidated Zonal FCC- LOB cost files

Distribution of Zonal Depreciation and Overheads: Zonal Depreciation and Overheads will be distributed to FCCs in the Consolidated Zonal FCC file as created in the earlier step on the basis of the methodology developed for distribution of different General Overhead items. Zonal Depreciation will be taken first for distribution and the depreciation of the class of assets which will be treated as overheads will added to Zonal General Overheads. Zonal overheads then will be distributed to FCCs.

Central Overheads: Expenditure incurred by the Railway Board for policy formulation and common services to all Railways and miscellaneous expenditure like RDSO, RRB, Railway Training Institution, statutory audit of Indian Railways are booked under Revenue demand No 1 and 2. Total expenses under these two demand heads are in turn distributed to Zones. For Costing purpose, the same will be treated as Zonal Central Overheads. The proportion of Zonal Central Overheads against total expenses of the Zone will be calculated as a percentage and that is to be levied on the Train costs.

Step 14: Determination of LOB/LOS wise Profitability of Zone

Consolidated Zonal FCC -LOB costs file will be used for Zonal Level Costing – Service & Class/Commodity wise Cost & Profitability determination. At the time of profitability determination, the following adjustments are to be made for arriving at costs of passenger services.

- i) SLR cost for different LOBs will be apportioned as : 50% to Parcel Luggage services and 50% to II class passenger services for the corresponding LOBs.
- ii) Cost of Power Car to be apportioned as : 50% to Parcel Luggage Services of PS/ME and 50% to PS/ME – 3A, 2A, 1A, EC, CC – to be distributed on the basis of Number of coaches.

Profitability of Passenger / Goods services will be determined by comparing LOB-LOS wise costs with the corresponding revenue earnings. This will done at Zonal Level.

Step 15: Determination of Train Cost of a Particular LOB- LOS wise

Functional Component Unit Costs – LOB/LOS wise will be derived from the Consolidated Zonal FCC file with the help of Zonal Operational Performance data. Moreover, the same file will be used to determine FCUC – LOB/LOS wise at Zonal Level. Table 4 and Table 5 below gives the details how FCCs help in determining FCUC – LOB/LOS wise.

Apart from FCUC - LOB- LOS, the following parameters will be used to determine the Train Cost:

- i) Rake Composition
- ii) Distance travelled
- iii) Occupancy
- iv) Transit time

v) Traction – Electric/Diesel etc.

In case of Goods Services, LOS cost of the particular commodity will be used.

i) No of wagons in the rake

ii) Tare weight

iii) Loadability

iv) Distance to travel

v) Empty distance etc.

Table 3.2			
Broad Gauge Functional Component Unit Cost (FCUC) for computation of Train Cost: Coaching (other than EMU, MEMU & DMU services)			
FCC No.	Cost Component	Component for Coaching train cost	Unit of Measurement
0101 to 0104	Commercial Service Cost (Passenger)	Passenger Service Cost	Passenger NO. - LOB/LOS
0101 To 0104	Commercial Service Cost (Parcel & Luggage Service)	Terminal: Parcel & Luggage Service	Per Tonne LOB wise
0101 To 0104	Commercial Service Cost (Pantry Car Service)	Terminal: Pantry Car Service	No. of Pantry Car - LOB wise
0105 to 0110	Operating Service Cost	Coaching Train Operation	Train-km (LOB wise)
0201 to 0210 and 0301 to 0305	Coach : Repair & Maint (Mechanical & Electrical) & Operation	Coach Repair, Maintenance & Operation	Coach/Day- LOB/LOS wise
0211 to 0218	Diesel Loco Repair, Maint & Operation & Fuel	Coaching Diesel Loco R & M and Hauling	GTKM LOB wise (DSL)
0306 to 0313	Electric Loco Repair, Maint, Operation & Fuel	Coaching Electric Loco R & M, OHE Maintenance & Hauling	GTKM LOB Wise (Electrical)
0401	Track Maintenance (Running)	Track Maintenance	GTKM - LOB wise - Overall
0402	Repair & Maint – other than Track (Running)	Other Infrastructure	GTKM - LOB wise - Overall
0405	Bridge Tunnel Maintenance		GTKM - LOB wise - Overall
0501 and 0502	Signalling & Telecommunication operation & maintenance	Signalling & Telecommunication operation & maintenance	Train-KM LOB wise

- i) FCC 0111 to be absorbed by FCC 0101 to 0104 and FCC 0105 to 0110.
- ii) FCC 0219 to be absorbed by FCC 0201 to 0210 and FCC 0211 to 0218.
- iii) FCC 318 to be absorbed by FCC 0301 to 0305, FCC 0306 to 0313, FCC 0314 to 0317(For EMU.)
- iv) FCC 0403 & 0404 to be absorbed by FCC 0401 to 0402.
- v) FCC 0406 to be absorbed by FCC 0401, 0402 and 0405.

Table 3.3			
Broad Gauge Functional Component Unit Cost (FCUC) for computation of Train Cost: Goods (separately for each commodity)			
FCC No.	Cost Component	Component for Coaching train cost	Unit of Measurement
0101, 0103 to 0104	Commercial Service Cost (Terminal, Marshalling, Transshipment & Repacking)	Goods Non-service Services	No of Wagon Loaded & Terminated
0105 to 0110	Operating Service Cost	Goods Train Operation	Wagon Kms – Commodity wise
0201 to 0210	Wagon- Repair, Maint. & Operation	Wagons at Yard, Shop, workshop and Operation	Wagon-Kms – Commodity wise
0211 to 0218	Diesel Loco Repair, Maint & Operation & Fuel	Goods Diesel LOCO R & M, Fuel and Operating expenses	GTKM(DSL)- Commodity wise
0306 to 0313	Electric Loco Repair, Maint, Operation & Fuel	Goods Electric Loco R & M, OHE Maintenance & Hauling	GTKM LOB Wise (Electrical)
0401	Track Maintenance (Running)	Track Maintenance	GTKM -Commodity wise - Overall
0402	Repair & Maint – other than Track (Running)	Other Infrastructure	GTKM - LOB wise - Overall
0405	Bridge Tunnel Maintenance		GTKM - LOB wise - Overall
0501 to 0502	Signalling & Telecommunication operation & maintenance	Signalling & Telecommunication operation & maintenance	Wagon-KM commodity wise

- i) FCC 0111 to be absorbed by FCC 0101,0103 & 0104 and FCC 0105 to 0110.
- ii) FCC 0219 to be absorbed by FCC 0201 to 0210 and FCC 0211 to 0218.
- iii) FCC 0318 to be absorbed by FCC 0306 to 0313.
- iv) FCC 0403 & 0404 to be absorbed by FCC 0401 to 0402.
- v) FCC 0406 to be absorbed by FCC 0401, 0402 and 0405.

Chapter – 4

Use of Cost based MIS for Strategic Decision Making

4.1 Introduction:

Indian Railways operating under the Ministry of Railways, Government of India provide unique logistic support to economic activities. Since independence, the organization has grown multiple folds and stands tall in terms of extending most popular and cost-effective mode of transport for the ever-increasing masses of India. It does not run truly in commercial line, gives support to regional economic growth and has broadened its network for easy movement of Defense Force to strategically sensitive areas. Over the years, competition from other wings of transport services like Road Transport, Water Transport and Air Transport has become intense. To sustain in the multi-facet competition, the Railway has taken well thought out and constructive steps to improve its resource utilization and improve its efficiency to match the demand of growing economy.

Economic activities in India have increased substantially with consequent upliftment in per capita income. Demand for quality passenger services and faster freight movement has also gone up. In Transportation Industry, competition has become intense and share of Railway has declined continuously. Railway has assigned huge priority to make the railway service more attractive to increase the share in transport business. In recent times good amount of innovations have also been brought in towards augmenting quality of service. Cost of these additional services or modified services in terms of resource use is to be worked out only to assess the impact on business. This exercise will throw light in future direction.

In a recent move of Railway to bring in Accounting Reforms, upgradation of Costing system has been a great step towards generating improved financial information for scientific resource utilization. The introduction of better Costing technique has been planned to augment the quality of cost information and

smoothen the process of regular flow of it for Strategic Decision Making process. Decision Making Model is aimed at to be flexible enough to satisfy evaluation process of a foreseeable set of business opportunities. Alternative possible options for a set of activities are to be identified for optimization of resource use and achieving the targeted outcome. Potential of support service of PCS based MIS should be explored and make it flexible enough to feed the need of the future. Some significant areas where cost-based MIS is capable to provide useful guidance are discussed below.

Cost statements generated by PCS will be useful to the Executives in Railway in comparing the performance and cost of activities among different Activity Centres and over time and evolve the ways to improve the performance and cost-efficiency. Moreover, the option for alternative method of execution of any non-critical activity to optimize the cost, re-allocation of manpower to value addition activities and analysis of cost impact may lead to increase in scale of operation, thereby set a target of higher profitability. Direct Manpower Costs for different activities may not reflect to be extremely high. But a high proportion of overheads relating to Indirect Human resources and Employees benefit scheme are also to be counted. The decision making process and consolidation of judgement among alternatives should consider possible solutions where cost data will be a useful decision factor.

The approach of Performance Costing System is that of Activity Based Costing. It aims at bringing the culture of Cost Based Activity Based Management (CBABM) in Railway. Performance measurement and deriving the accurate cost of activities is the natural output of PCS to improve reliability of cost information and playing a key role in improving Management Information System in Railway. The Decision-Making Model will be based on Performance and Cost of Activities.

As the number of activities in Railway Transportation System is very large, PCS has proposed for an approach of arriving at Functional Component Costs of different functional areas. Functional Component costs (FCC) is nothing but a combined cost of related activities in respective functional areas. In fact, Railway transport service is grouped into clearly defined functional areas so as to support policy review to improve one or more areas with defined priorities to achieve business targets. Decision making model of PCS will be based on FCCs. FCCs being an important input will be of great use to the decision makers to set its focus on targeting the action plan with higher precision. The exercise involved in analyzing FCCs is to identify non-value-added activities and replace them with better value added-activities to bring in change in business prospect. For example, activity of attachment of Reservation Chart on Compartment is replaced by advance communication through mobile phone by sms adds value to the service by advance information and opening up alternative option for journey.

The regular Cost statements giving unit costs of different FCCs across Lines of Business and Lines of Services will open up a new vista in the Strategic business decision making process in Railway. The fact is that it compiles performance and costs of all activities across functional areas with the objective of synthesizing the same to find out the contribution in the business process. Potential of support service of PCS based MIS should be explored and make it flexible enough to feed according to the need of the future. Some significant areas where cost-based MIS could provide useful guidance are discussed below.

Transformation process of Railway will be through Business Process Re-Engineering by bringing in innovations in core activity design and aiming at productivity improvement and higher customer satisfaction. The expert knowledge is the key component for developing strategy. Focus will be on augmentation of capacity and its utilization efficiency. There will be some alternatives in redesigning process. Resource use and the cost of the resources

involved in the alternative solutions will obviously vary. Careful cost compilation of these alternative solutions through PCS will help in cost benefit analysis.

A regular rigorous Review process is essential step in strategy implementation. The Review Team needs to be representative of all sections of the Railway. A major problem often encountered is the absence of well compiled comprehensive report. The PCS will focus on generating the report of Performance and Cost of Activities capable to meet the requirement of Review team to initiate the process of all-inclusive factor based evaluation.

4.2 Marginal Costing Technique and Profit Planning

4.2.1 Marginal Costing Technique:

Identification of semi-variable items and segregation them into fixed and variable part is an exercise to be taken up in case of application of Marginal Costing Technique. It aims at assessing contribution at different levels of operations. The variability relation of a cost item sometimes changes with length of time in consideration like short term or long term. Even, some items of fixed cost also change beyond short term. The analysis of variable costs and fixed costs will essentially be done on short-term basis. The exercise made in Marginal Costing Technique is to understand the variable cost and fixed cost with in a range of operational level. As fixed cost remains unchanged with change in level of operation, the contribution vis-à-vis profit will increase with increase in operational level. The technique is adopted to understand the change in profit with possible enhancement in operation level. The Marginal Costing Technique will be useful to estimate the impact on profitability in change in volume of operation and give the proper input for profit planning. The decision of curtailing operation of some trains where margin (contribution) is less and enhancing number of trains where margin is high may improve profitability.

4.2.2 Variable, Semi-Variable and Fixed Cost:

The Items of cost which vary with the volume of traffic in the same proportion will be taken as variable cost. In Railways there may not be any item which is strictly variable in nature. However, Fuel cost may be considered as variable. Some cost items remain unchanged even with the change in volume of traffic within a range and within a time frame will be called as fixed cost – for example, Overhead expenses like Administrative staff salary, pension payment etc. The items of cost which vary with change in traffic volume but not in the same proportion will be considered as Semi-Variable costs – for example, Locomotive repair cost, Crew Cost etc. In Indian Railways, there are only a few items which represent truly variable. The analysis of nature of variability of FCCs will help in identifying the items to be variable, semi-variable or fixed.

4.2.3 Support to Management Decision Making:

One important consideration to be noted that the Indian Railway operates not exactly in commercial line of business but the operation is designed to best cater the need of passengers at fixed tariff rate with firm commitment of services. The costing information will definitely provide the input for going for better LOB – mix for passenger services or Commodity – Mix for Goods Services to optimize profit.

In an organization where the fixed cost is in predominant proportion, marginal costing technique will be useful to reduce the impact of fixed cost by way of increasing the attaining the higher level of business target through better resource allocation and thereby improving profitability. However, exercise of analysis of nature of variability of various activity cost components, the following different decision making may be useful:

- i) In case of Goods Services, this approach of analysis will be helpful in decision making for expanding business opportunities for some commodities or some special types of customers. Priority may be given to commodities giving higher contribution rate.

- ii) In strategic decision making process of unfolding the potential business opportunities in newly evolving areas, outcome of evaluation process of alternative options through marginal costing will be hugely supportive step.
- iii) Sensitivity analysis may be done with the anticipated change in the variable cost components and fixed cost components and its impact on profitability.
- iv) In Business development process, Marginal Costing technique is extremely useful as a preliminary examination of profitability of a new business proposal.

4.3 Cost information support to business decision making

Cost based MIS is expected to contribute in more organized and scientific decision making process. Some of the areas clearly identified are given below:

4.3.1 Utility of Zonal Cost Statement

Functional Component Cost – LOB/LOS costs is the basic cost statement of PCS. Derivative of this statement is the unit cost of functional parameters of transportation services of Railway. Both the statements will open up a new front in understanding costs of different activities across LOB/LOS and taking control measures to minimize costs. The utilities of the statement in decision making as given below:

- i) Unit cost of different functional area performance parameters- LOB/LOS wise will be useful in deriving cost of transportation of different trains based on average performance of the respective LOB/LOS.
- ii) Unit costs along different LOB/LOS will provide the insight for identification of cost optimization.
- iii) It will be useful for prioritization of upgrading some functional activities and bringing in modern technology both for repair & operation.
- iv) Cost being the most important performance index, it will bring cost consciousness and will help in setting performance standard across the zones.

- v) The same may be used for inter-zone comparison on cost and performance of various functional modules. Input will be used for Inter-Zone financial adjustments.

4.3.2 LOB wise Profit Margin (Passenger Service)

- i) LOB wise cost compilation at Zonal level once compiled against LOB wise earnings will help in identifying the profitability margin percentage of each LOB.
- ii) It will help in identifying the potential business areas.
- iii) Framing right action plan may be done to implement the optimum LOB-mix to achieve higher business growth.
- iv) It may provide an input to evolve newly designed LOB to cater the need of the passengers/ customers.

4.3.3 LOS wise Profit Margin for a LOB (Passenger Service)

- i) The Cost statement which reflect LOS costs across the LOBs when compared with the revenue from the respective LOSs of different LOBs will provide the profit margin LOB/LOS wise. This provides the right input for understanding the gap in utilization of potential service areas and setting right priority of different types of services.
- ii) It will provide better guidelines for bringing in balance between tariff and cost for higher business target.
- iii) The critical evaluation will help in identifying the potential scope of growth in business opportunity with the change of demand from passengers.
- iv) Better action plan may be devised with more focus on innovation in service quality in LOB/LOS for higher tariff.

4.3.4 Performance of Freight Services

- i) Commodities being the LOSs for Freight services, PCS will generate Commodity wise Cost and Profitability.
- ii) Commodity wise profitability will lead to identification of priority wise - commodity targets to achieve better profitability.
- iii) Loaded run-km, Empty run-km and variable costs and fixed costs components will help in deciding contingency tariff fixation for carrying some special commodities to reduce loss due to empty -run.

4.3.5 Financial Budget – LOB Wise

- i) LOB wise Functional Component cost may play a guiding factor for fund allocation viz-a-viz Budgeting. Resource allocation based on business need will be a healthy practice.
- ii) Priority of LOBs will be set by Railway. Budget allocation in the line of business importance and growth projection will be more rational approach.
- iii) Budgetary allocation exercise itself will focus to initiate control measures in the areas of possible optimization.
- iv) LOB wise cost accrual will display how far the budget allocation is rational in terms of actual need and comparison of budget and actual will provide better control mechanism.
- v) Goods services being a separate LOB, exclusive budgetary allocation may be very positive step for effective budgetary control through regular flow of cost (expenditure) information.

4.3.6 Tariff Fixation or Assessment of Profitability of a Train at existing tariff

- i) Functional Component costs of running train across LOB/LOS will be used to determine the transportation cost of a train.
- ii) The other input required will be rake composition of the train and distance to be travelled.
- iii) Cost of running a train and revenue at a tariff rate for different LOSs will be the decision factors.

Train:	Rake composition						
Coach	IA	2A	3A	CC	PC	Power	Distance
Unit (No)							Total (Rs)
Cost/Coach-km (RS) *							
Cost (Rs)							
Passenger (No)							
Tariff Rate (Rs)							
Revenue (Rs)							
Margin %							Gross & %

Note:

- i) Cost / Coach -km is unit cost for different types of LOS- LOB wise.
- ii) Depending on a particular train (LOB) – unit cost will be used.
- iii) Derivation of unit cost is done with the help of functional component costs and performance of LOB/LOS.
- iv) Passenger number should be in based on actual occupancy.

4.3.7 Marginal Costing Technique to evaluate a business proposal

Marginal Costing Technique assumes that there are variable cost elements which changes proportionately with the change in activity level of the business and there an element which remains fixed within a range of business level and also termed as period cost. Because of this nature of variability of cost elements, contribution varies at different levels of business. Change in contribution influence the decision.

- i) Variable cost elements, fixed cost elements and semi-variable cost elements in relation to a business proposal are to be identified.
- ii) Segregation of semi-variable costs into fixed and variable costs has be done with the help of semi-variable cost elements at two level of business targets, as explained below:
 - At Level 100: Component Cost = Rs 360
 - At Level 120: Component cost = Rs 400
 - Variable cost per unit of level = $(400-360)/(120-100) = \text{Rs } 2$
 - FC = Rs 160, VC at level 100 = Rs 200, VC at Level 120=Rs 240
- iii) Fixed cost elements and variable cost elements derived from semi-variable are to be added to clearly identified Fixed costs elements and variable cost elements respectively.
- iv) For application of Marginal Costing Technique, FCC costs at two or more operating levels may be considered to understand the nature of variability of FCC costs and derive fixed and variable costs.
- v) Any change in cost configuration for business proposal in these elements of costs are to be taken with due consideration.
- vi) Expected revenue from the business proposal is to be assessed.
- vii) Contribution/ Profit derived out of the exercise will guide in proper decision making.

Note: Marginal Costing technique may very usefully applied for freight services by way of charging lower rate than the standard tariff rate in case of minimizing

the loss for empty run of goods train. Tariff charged lower than standard rate but fetching positive contribution is beneficial.

4.3.8 Determination of Cost of Accidents

Cost of Accident has tangible costs as well as intangible cost which is loss of image of Railways in consideration of safety of travel. Assessing intangible cost will be bit theoretical whereas tangible cost components may be easily assimilated from the following components of costs. For arriving at Accident cost, each accident should be assigned a unique party code (Accident No.) and book the each cost components against the particular accident Number after following the detailed procedure of assessment:

- i) Assessed Cost of damage of Railway assets which are beyond repair.
- ii) Cost of repair work
- iii) Payment of compensation made to passengers and Railway staff against the casualties.
- iv) Loss of business due to cancellation of tickets – due to accident
- v) Loss due to late running of trains
- vi) Loss due to diversion of trains
- vii) Loss for disruption of service

4.3.9 Cost of slow down a train / cost of additional stoppage

To arrive at the cost of slowdown of train or additional stoppage, additional run time is to be assessed to arrive at the following items for decision making:

- i) Additional fuel cost
- ii) Cost due to extra run time
- iii) Cost of usage of rolling stock for higher duration
- iv) Cost of additional resources used for extra-stoppage or slow run
- v) Loss/ gain in revenue for impact on passenger services etc

4.3.10 Divisional Activity Center wise Cost Report

- i) As far as transportation service is concerned, most of support activities are entrusted with Division. For performance improvement, Divisions and Workshops have huge role to play.
- ii) Statement giving Activity Centers Performance and detailed direct cost components with comparison with earlier period figures will provide a useful information set in the hands of Divisional Managers and Workshop Engineers for cost control and efficiency improvement.
- iii) This statement may be useful in making decision on how to improve the performance of different activity centres.

				Previous month					Current month				
A/C Head	A/C Desc	Location	unit	Performance	Sal	Mat	Exp	Total	Performance	Sal	Mat	Exp	Total

4.3.11 ACC wise Performance Data from Activity Cost Drivers

- i) Activity Cost Drivers are basically performance of activities. Units of measurement are varying. From Activity Cost Drivers data periodic performance data may be compiled and the same will be useful to locate the best performing and low performing Activity Centers.
- ii) It may lead to decision on possible performance improvement in some lean ACCs to catch up the need for augmentation of level of activity.
- iii) Gap of performance of activities and balancing requirement in the chain of activities will lead to exploring the possibilities of alternative method.

4.3.12 Profitability of a new Project

- i) From Survey, expected volume of business volume in quantitative terms is to be assessed so as to derive expected revenue from the new project.
- ii) Expected costs with the help of unit functional modular cost of project related LOB/LOS will indicate the expected profit margin.
- iii) Rate of Return on investment is to be determined for decision making.
- iv) Cost Benefit Analysis will be based on net present value (NPV) of the discounting the inflows at discounting rate to understand the return.
- v) Business opportunity for development of asset by a third party – life-cycle costing may be adopted for understanding Cost-Benefit.

4.3.13 Determination of Access charge for an asset

- i) The lease period is a factor of decision making
- ii) It will be based on opportunity costs
- iii) Contribution of the asset in normal course of business for a period to be assessed by way of identifying the variable cost and fixed cost for example:
 - (a) Depreciation may be taken as fixed costs
 - (b) Repair cost may be variable with usage
- iv) It is to be identified the dependence of one asset on another i.e one asset performance in conjunction of another.
- v) Opportunity cost of investment etc.

Chapter – 5

Proposed Costing System at RCF, Kapurthala

5.1 Introduction

Railway Coach Factory (RCF) was established at Kapurthala in 1987 to manufacture modern coaches for Indian Railway. In other words, it is captive production. The resource use of different variants of coaches varies and the Railway desires to have proper costing system which is capable of display the costs of different types of coaches for better decision making. The existing costing system has some inherent deficiencies in compilation of work order wise cost which distorts the production costs of coaches. Moreover, generating cost statement once in year seriously limits its support to management decision making. To upgrade the existing costing system it is essential to introduce a scientific record management system for smooth capturing them to feed a good Costing System based on rational Cost Accounting principle. The report is aimed at providing the system specification of the proposed costing system.

5.2 Production Process

It has been decided that now onward RCF will be producing only LHB and MEMU coaches. However, design variants will be there among LHB coaches. The following are the different shops:

- i) Sheet Metal Shop
- ii) Shell Assembly
 - (a) Roof Section
 - (b) Under frame
 - (c) Fabrication
 - (d) Shell Assembly

- iii) Paint Shop
- iv) Furnishing shop
- v) Bogie Shop

5.3 Production Planning:

- i) Production planning is based on the target specified by the Railway Board for the year. However, the production plan is broken into quarterly ones taking into factors like priority of a particular design variant, effective utilization of Plant capacity and availability of manpower.
- ii) The objective of the Production planning is to improve the efficiency of the plant by way of effective utilization of all resources, make advance programme on resource planning and setting periodic delivery targets.
- iii) Resource Planning is the exercise of matching the requirement with the availability of resource components. The following important resource factors play the major role in production planning:
 - Manpower strength
 - Material availability
 - Key Machines capacity
 - Balancing the capacity of interlinked machines
 - Optimum flow of work from one shop to the other
- iv) Production is done in batches. A batch is composed of coaches of same design and it is assigned a Work Order Number. The basic objective of assigning Work Order is to compile work order wise cost so as to determine correct cost of a particular type of coach manufactured in a batch.
- v) Advance planning is also helpful in planning of volume of activities in different shops and essential job work to be outsourced to maximize the production.

- vi) Both the exercise of resource smoothening and resource levelling are taken care in advance to ensure hazard free targeted output.
- vii) Biggest advantage of advance planning is the right assessment of progress of production at any point of time and providing opportunity of periodic review and gap analysis towards achieving the achieving the yearly volume of production of desired quality.

5.4 Manpower Planning

- i) At present, manpower planning is done by Industrial Engineering Department. Assessment of manpower requirement is done on the basis of Work Study made by RITES in 1999. Industrial Engineering Department after detailed studies of product design assigns conversion factors to different variants of coaches taking conversion factor for conventional coach to be 1.00.
- ii) The basic objective of manpower planning is to optimize the manpower available and to achieve the targeted periodic production.
- iii) Manpower planning starts to assess the manpower requirement of different skill level i.e skilled, semi-skilled and unskilled – shop wise. Work outsourced is also considered.
- iv) Planning the deployment pattern of manpower to different shops is done according to the skill requirement.
- v) Tentative incentive payment is also assessed on the basis of Incentive Scheme followed at RCF. Group Incentive scheme followed is based on 70% on individual group and 30% on the overall production.

5.5 Material Requirement Planning and System of procurement

- i) Material Requirement Planning is done in advance on the basis of production plan and standard material requirements for coaches of different designs.
- ii) Procurement planning is done on the basis of previous year actual requirement with adjustment for variation of current year's production.
- iii) For non-regular items like, furniture, computer, spares etc., the indents are placed by the user departments on the basis of their need.
- iv) There are various types of tender:
 - a) Advertised Tender & Electronic Advertised Tender for Rs. 10 Lakh and above
 - b) Limited Tender & Electronic Limited Tender for below Rs. 10 Lakh
 - c) Single Tender for Proprietary items.
- v) Procurement of materials of different specifications is made from vendors approved by RDSO or by open tender by RCF. Vendors are registered on the basis of quality specification of items and price.
- vi) Normally buffer stock is maintained at a high level to safeguard the stock out problem.
- vii) Economic Ordering quantity is not generally followed. More focus is given to discount on bulk purchase.
- viii) Order for bulk supply is placed for the benefit of price/ discount and the same is broken into periodic supply to meet the requirement of production.
- ix) Inspection of material is done by RITES. Sometimes joint inspection of material is done by RCF, Supplier and recognized Technical firm.
- x) Some materials are imported for which advance planning is done. Global tender is called.
- xi) Material procured is debited to Works Material Suspense A/C (WMS).

- xii) Advanced procured materials sometimes become non-moving or obsolete due to change in design of production. This problem is taken care by way of transfer of such materials to other factories / workshops which have the requirement for the same.

5.6 Present Costing System in RCF:

- i) Production is undertaken in batch mode. A batch of production of similar type of coaches is assigned a Work Order.
- ii) Direct manpower (skill level wise) is allocated to the Work Order according to the requirement estimated by the Production Planning Department.
- iii) Materials against a work order are requisitioned by the shop according to standard BOM on size of variant of coaches in the work order.
- iv) Material costs is calculated by the stores Department on the basis of issue prices of items with the help of Material Database.
- v) Skill level wise manpower costs are calculated from the actual salary paid. The same is applied to determine the direct labour costs of the work order.
- vi) Indirect Labour costs are calculated by deducting direct labour costs from total salary paid. The same is distributed to Work Order as production overheads on the basis of direct labour costs.
- vii) Items of indirect material are identified from the material codes of the items issued and treated as Production Overheads and apportioned to work orders on the basis direct material costs.
- viii) Other Overhead expenses are administrative overheads, township maintenance expenses, medical expenses are also apportioned to Work Orders on the basis of direct labour costs.
- ix) For arriving at product cost, Work in progress is not considered. It is assumed that WIPs at the beginning and at the end of the year are

self-adjusting. All costs during the period is accounted for the completed work orders only.

- x) As the work-in-progress is not taken into consideration and WIP at the beginning and at the end are never being same, the resulting cost information distorts its accuracy.
- xi) Costing of Production is done once in a year at the end of the year. Once a Work Order No. is assigned to a batch, the same Work Order continues even if the batch is completed. When the production of similar coaches is undertaken, cost data is captured under the same Work Order. This practice is adopted as it does not create any problem for yearly cost statement and derivation of unit cost of different types of coaches.
- xii) The statement gives an indicative cost performance of different shops in comparison to the earlier years' ones.
- xiii) Quarterly production schedule varies widely in terms of volume of different product designs and impact of capacity utilization factor during different months on production is not reflected in the yearly production costs.
- xiv) Delayed cost statement after completion of the year dilutes its utility in terms of its support to budgeting, funding and production planning.
- xv) Focus of yearly cost statement is shifted to reconciliation with the yearly provision made by Railway Board in different heads of accounts – Depreciation Reserve Fund, Pension Fund, WMS etc.

5.7 Desired improvement in Costing System

- i) Work Order is the Cost Object in the Costing system. Assignment of Work Order should be done dynamically. That is, once a Work Order is complete, the next batch even for same type of coach should be assigned a new work order Number.

- ii) For better cost compilation, record management has to be improved so that all direct cost components should be linked to work orders- shop wise.
- iii) Records of manpower deployment, material use and utility consumption should be maintained - shop wise and work order wise so that direct material costs, direct manpower costs and utility costs will be allocated to work orders - shop wise. Overheads and depreciation will also be distributed to the work orders- shop wise.
- iv) The result will give segregated costs of complete and incomplete work orders. If a work order was incomplete in the earlier periods and gets completed in the current period, all cost components for the current period are to be added to the value accumulated in the earlier period against the respective cost components. Thus, at a particular point of time, assessment of cost of Work- in- Process (for incomplete Work-orders) becomes simple.
- v) Once the cost of WIP is arrived at accurately, costs incurred during a period is rightly reflected in the completed work orders. This mechanism will provide more accurate cost for the completed work orders. WIP Costs will be carried over to the next period.
- vi) As a work order is for a particular variant of coach, determination of per unit costs of each variant will be accurate.
- vii) All cost compilation is being done – shop wise and work order wise, the cost of each work order costs will display shop wise cost break-ups. This will reflect the shop-wise cost variation of different work orders.
- viii) The record management for quality data generation as mentioned above is essential for better cost information flow and scientific decision making process.

5.8 Record Management for compilation of employees cost

- i) Time Sheets are to be maintained for labour deployment (man-hours) – skill level wise (i.e skilled, semi-skilled and un-skilled) – shop wise, work order wise.
- ii) Payroll processing is done by Personnel Department at month end on the basis of Time Sheet attendance. Each individual employee will get incentive based on the bonus factor. This will give skill level wise manpower cost. For manpower cost to be considered in costing system, PF, gratuity and employees benefits under different welfare schemes, bonus etc should be included.
- iii) Skill Level wise total man-hour deployment and total manpower cost of direct labour deployed in shops will help is determination of monthly skill level wise per hour rate.
- iv) As the records of direct manpower deployment – skill level wise are available for each work order, the calculation as given below will help in determination of total direct manpower cost against each work order.

Table 5.1

Skill Level	Work Order 1			Work Order 2			Work Order 3			Total
	Hrs	Rate	Amt	Hrs	Rate	Amt	Hrs	Rate	Amt	
Skilled										
Semi-skilled										
Un-skilled										
Total										

- v) Indirect Labour costs will be total manpower cost (salary and other fringe benefit costs) minus the total direct manpower cost as determined above. Indirect labour costs will be treated as production overheads.

5.9 Record Management on material issue and Material Cost

- i) Materials will be issued to the work orders against the BOM based on standard material required for Material requirement is assessed for a Work Order on the basis of standard requirement of design of coach, production volume and normal wastage in production process.
- ii) Records of material issues will be maintained shop wise and work order wise. Pricing of material will be done following the existing system.
- iii) Material cost is taken as value plus Freight plus GST plus Input Tax credit available. For imported material, LC charges, custom duty, clearing charges etc. are included.
- iv) In case of special requirement, issues are done beyond standard consumption with proper authorization by competent authority.
- v) Materials like lubricants, consumables, spares etc are taken to be indirect material and treated as production overheads. Indirect materials are identified by the class code of materials under PL Code.
- vi) Some semi-finished materials are also procured from external sources (outsourcing) against specific work orders at different shops which will also to be taken into consideration.
- vii) Job work done and job charges paid are charged to particular work order- shop wise.
- viii) Minor defects are reworked.
- ix) Realization from sale of scrap arising out of normal wastage and non-moving stock will be credited to WMS directly.
- x) In case of stock verification and difference between book balance and physical stock, necessary adjustment will be made through JV.
- xi) For transfer of materials to other division's stock adjustment will be made.
- xii) In case of issue of materials to a Work Order which is subsequently withdrawn for the change in production planning and the same materials being used by other Work Order, the provision of transfer of material

should be made for proper accounting of materials against right Work Order.

- xiii) Material issued on the basis of standard requirement are shown to be consumed. Extra materials issues, if any, will be properly accounted for against the Work Order. When materials issued to a Work Order are not fully consumed and provision will be made to transfer excess materials to some other Work Orders with proper recordings. Costing based on actual materials consumed by Work Orders will give accurate cost information on Work Orders.
- xiv) High value spare items are procured for preventive/regular maintenance for plant and equipment. Stock records for these items is not maintained rather procured items are considered to be consumed and treated as repair and maintenance costs of plant and equipment. The cost of repair and maintenance is unduly inflated during the period of procurement. Sometimes this system of procurement results in huge stock of spares leading to obsolescence. It is suggested that requirement of spares should be assessed on rational basis and procured accordingly to avoid the above problems.

5.10 Utility cost

- i) Utilities for production process are Power, Fuel, Water and Gas.
- ii) Main source of power supply is from State Electricity Board. In case of power-cut, In-house power is generated. Costs of in-house power includes Fuel, Employee cost, Repair and maintenance, Depreciation of DG Set.
- iii) Records of consumption of utilities like fuel, gas are presently maintained at shop level. Records of utility consumption need improvement to make it against Work Orders. The cost of utilities being the direct costs during a particular period to be distributed to the work orders.

5.11 Direct Expenses

Other Direct expenses should also be allocated to work orders -shop wise.

Job Charges: Job charges for special work done against a Work Order is identifiable. AMC for machine Maintenance, Hire charges for any special equipment, Royalties to be paid etc may be in a shop – benefit for which is commonly used by different Work Orders. Basis of distribution of these type of direct expenses to Work Orders may be done on the basis usage benefit of these provisions by the Work Orders or the number of coaches. For this records are to be maintained.

5.12 Depreciation

- i) At present, actual depreciation is not derived. Only appropriation of DRF is made. The appropriation basis in true sense is an arbitrary approach.
- ii) Depreciation of the assets including plant and machinery is integral component of cost. Fixed Asset Register (FAR) is developed according to the guidelines of Accrual Accounting system. As FAR will be maintained shop wise, depreciation will be available shop wise. Depreciation will be calculated at the year end. In case of processing of costing system for a period, it is suggested that last year actual depreciation will be used for apportionment for the period and adjustment will be made at the last period of the year to take care the differential amount.
- iii) As the depreciation will be calculated on straight line method, periodic depreciation will remain of the same value in normal case where there is no much addition/ depletion in the assets of the shops. Taking actual depreciation as derived from FAR for the purpose of Cost Accounting will be an improvement in the system.
- iv) Treatment of Depreciation distribution to Work Orders or Overhead Items are given below:

Table 5.2

Depreciation on item	Treatment
Depreciation of assets of Shops	Production Overheads. To be distributed to work orders on the basis of material costs.
Depreciation to Administrative Building, Admin Office Assets, Transport vehicles etc.	May be included in Admin Overhead for distribution.
Depreciation of Township	May be included in Township Overhead for distribution.
Depreciation of Hospital building and appliances	May be included in Medical Overhead for distribution.
Depreciation of Stores Building & Material Handling Machines	May be included in Stores Overhead for distribution

5.13 Production Overheads

Production Overheads will include Indirect Manpower Cost, Indirect Material costs, Repair and Maintenance of plant, Quality Control Costs etc. Basis of distribution of different items of production overheads to Work Orders will be different. The method of distribution is suggested below:

Table 5.3

Item	Basis of Distribution to Work Orders	Remarks
Indirect Labour Costs	Direct Labour Costs	Relevant
Indirect Material Cost	Direct Material Costs	Relevant
Repair & Maintenance Costs of Plant, Machinery & equipment in shops	Material Cost of Work Orders	M/E in shops are used for conversion of materials
Quality Control Costs	Direct Material Costs	Relevant
Insurance costs against M & E of shops	Direct Material Costs	Relevant

5.14 Treatment of Other Overheads

RCF being a big size industrial unit under the Railway Ministry to manufacture modern technology coaches to meet the requirement of Indian Railways, commensurate infrastructural support has been developed to ensure smooth production. All the costs relating to maintenance of these infrastructure are overhead in nature. Maintenance of Plant is production overhead whereas maintenance costs of other infrastructure are termed as different types of overheads – Administrative Overheads, Township Overheads, Medical Overheads and Stores Overheads. These expenses will be captured in systematic manner so that they are scientifically distributed to the work orders. This will help in determination of work order costs. Basis of distribution of different types of overheads are given below:

Table 5.4

Overheads	Basis of distribution to work orders
Administrative Overhead – Office Expenses, Employees Salary, Pension, Depreciation of office assets, Security, canteen etc.	Direct Labour Cost
Township Overheads – Repair & Maintenance & Depreciation, water supply etc.	
Medical Overhead – Medicines and treatment expenses, Hospital Employees Salary, Depreciation of hospital building and equipment, Electricity expenses etc.	
Stores Overhead – Salary of staff, expenses of material handling, receiving inspection & delivery, Pilferage of material, obsolescence etc	Direct Material Cost

5.15 Unit Cost of Coach

- i) Compilation of all costs components will be done regular basis from the transactions in financial accounts. It will be accumulated during the period for which cost statement will be generated.
- ii) There will be more than one work orders for the period. Production of coaches against some work orders will be complete and in some cases it will be incomplete. However, the work order wise cost will display accumulated under it.
- iii) Against completed work order only, cost per coach will be found out.
- iv) Unit Coach Cost is derived as = $\text{Work Order Cost} / \text{No of Coaches}$.
- v) Unit cost of particular coach variant – with shop wise cost break up will provide good input for policy decision making, planning and fund allocation.
- vi) A sample design of Cost Sheet is shown below. This will be prepared quarterly.

5.16 Cost Sheet for a period

Table 5.5

Item of Cost	Basis of Distribution	Work Order No.			Work Order No.		
		Total (Rs)	Units	Cost/unit	Total (Rs)	Units	Cost/unit
Direct Labour Cost	Direct						
Direct Material Cost	Direct						
Utilities	Direct						
Direct Expenses	Direct						
Depreciation							
Production Overhead							
Admin Overheads	D.LabourCosts						
Medical Overheads	D.LabourCosts						
Township Overheads	D.LabourCosts						
Stores Overheads	D. Material Costs						
Total							

The cost of the above items will be compiled in different sheets and at the same time records of distribution bases will also be captured so that distribution will be done through the above sheet. Relating to Depreciation and Production Overheads, each item will be distributed on the respective basis specified.

5.17 Difference in approach between Existing and Proposed Shop wise Costing in computation of different cost components:

Table 5.6

Issue/item	Present system	Proposed System
Assignment of Work Order to a batch	Standing Work Order is followed.	Dynamic assignment of work order to a batch of similar coaches to be manufactured. Work Order No of completed Work Orders should be closed and fresh Work Order NO. will be issued to a new batch.
Direct Labour Cost	Shop wise attendance in Tally sheet. Estimated labour hour rate- skill levels are determined.	Shop wise and work order wise manpower allocation to be maintained. From Salary database, manpower rate for different skill-levels is computed and the same will be applied on manpower deployment – Work Order wise.
Direct Material Cost	Material is issued to shop work order wise and cost is allocated.	Same system will be followed.
Utility	Shop wise usage data are recorded.	Work Order wise consumption data should be recorded based on which cost will be distributed.
Direct Expenses	Directly allocated to Work orders.	Same system will be followed.
Depreciation	Apportionment of DRF fund is made.	Depreciation of shop assets and administrative buildings and other assets will be distributed to Work Orders.
Overheads	Production Overheads, Admin Overheads, Town Ship Overheads, Medical Overheads and Stores Overheads are compiled.	The same data will be compiled. Distribution to work orders will be done on the basis indicated.
Work-in-progress	Assessment of Work-in-progress is not being done.	Cost of Work-in-progress will be assessed in usual course.
Unit Cost of Coach	Unit cost of coaches does not display the correct one for not taking care of Work-in-progress.	Cost of a coach against a completed work orders during the period will be found out

5.18 Costing System Processing Frequency

It is proposed the Cost Accounting processing may be done quarterly matching with quarterly production planning. Record management system should be improved to make compilation of comprehensive cost data at ease. It is to be noted that the following transactions have some time gaps for finalization:

- i) Adjustment for material cost under Price Variance Clause (PVC) clause in case of high-value items. Price variance sometimes takes place after considerable period with retrospective effect.
- ii) Adjustment of Custom duty, transport and insurance charge for imported materials.
- iii) Keeping work order account open for three months for delayed adjustments out of transfer to other shops, work orders, railways etc.
- iv) Taking care of Input tax credit to arrive at material costs.

5.19 Suggestion for Implementation of Costing System

- i) Success of Costing system much depends on streamlining data capturing. Data should be captured at Activity points. For example, record of attendance should be captured at the shops – work order wise.
- ii) Cost components are derived from the financial data. There is a need of compilation of cost information from the financial records according to the guidelines of costing system, primarily by way of allocation to cost Centers or cost components.
- iii) Proper records of overhead expenses should be maintained for correct compilation of different type's overheads.

- iv) The most important requirement of cost accounting is to frame record management system in such a fashion that right kind of data (both consumption and cost) of all cost components recorded at activity centers in the shops against particular work order.
- v) For ensuring the above system to be properly operational, top management support is essential to institute the system of record management with right spirit.
- vi) Moreover, cost record maintenance should be according to Cost Accounting principles and the financial data need to be organized to adhere to the principle. The development of the Cost System will involve both the exercise of data structuring and organizing them for smooth compilation.
- vii) A Cost Accounting Cell should be created with right kind of skill and training which will keep close eyes on data flow and quality of data. Moreover, it is to be entrusted with the responsibility of data validation and processing.

ANNEXURE - I

Annexure I		
Mapping chart for conversion from PU to Cost items		
PU	PU Description	Nature
1	Salaries and Wages	Employee Cost
2	Dearness pay and Dearness Allowances	Employee Cost
3	Productivity Linked Bonus	Employee Cost
4	House Rent Allowance	Employee Cost
7	Transport allowance	Employee Cost
8	Matching Contribution of Central Government towards Defined Contribution Pension System.	Employee Cost
9	Wages of Casual labour.	Employee Cost
10	Kilometer allowance.	Employee Cost
11	Overtime allowance.	Employee Cost
12	Night duty allowance	Employee Cost
13	Other allowances.	Employee Cost
14	Fees and honoraria.	Employee Cost
15	Transfer allowance.	Employee Cost
16	Travelling expenses.	Other Expenses
17	Air Travel Expense sanctioned in lieu of privilege passes.	Other Expenses
18	Office Expenses.	Other Expenses
19	Rental for P & T Telephone and call charges including Trunk Calls.	Other Expenses
20	Leave encashment during service	Employee Cost
21	Advertising Expenses.	Other Expenses
22	Utilities(excluding electricity)	Other Expenses
23	Rental for office equipment (other than Data Processing).	Other Expenses
24	Printing and Stationery including Publications.	Material Cost
25	Children education allowance	Employee Cost
26	Reimbursement of Medical	Other Expenses
27	Cost of materials from stock	Material Cost
28	Cost of materials - Direct purchase.	Material Cost
30	Cost of electrical energy	Material Cost
31	Fuel for other than traction	Material Cost
32	Contractual payments	Other Expenses
33	Transfer of debits/credits from other units	Other Expenses
34	Intra-railway adjustment of wages on POH and other repairs from WMS account to revenue heads	Employee Cost
35	Intra-railway adjustment of material on POH and other repairs from WMS account to revenue	Material Cost
36	Excise duty paid/payable for purchase of materials.	Material Cost
38	Sales Tax paid/payable for purchase of materials.	Material Cost
39	Air Travel (Domestic)	Other Expenses

Annexure I		
Mapping chart for conversion from PU to Cost items		
PU	PU Description	Nature
40	Air Travel (Foreign)	Other Expenses
41	Value Added Tax	Material Cost
42	Arrear Payments-Salary &Wages	Employee Cost
43	Arrear Payments-Dearness Pay & Dearness Allowances	Employee Cost
44	Arrear Payments- Allowances other than D.A	Employee Cost
45	Service Tax	Other Expenses
46	Countervailing Duty	Material Cost
47	Additional Custom Duty	Material Cost
48	Customs duty paid/payable for purchase of materials (other than Countervailing & Additional Custom Duty)	Material Cost
50	Cost of computer hardware, Software, IT related contracts	Material Cost
51	Cost of computer consumables	Material Cost
52	Laptop procured by officers	Material Cost
53	All India Leave Travel Concession	Employee Cost
60	Fuel from stock home railway locomotives fuelled by foreign railway	Material Cost
61	Transfers debit/credits of loco performance (GTKM)	Material Cost
63	Inter railway adjustment of wages/ labour cost on POH and other repairs from WMS account to revenue heads	Employee Cost
64	Inter-railway Adjustment of debits towards material used in POH and other repairs from WMS account to revenue heads	Material Cost
72-75	GST	Material Cost
98	Credits or recoveries credit/recoveries, should not be so used now. Instead PU 98 may be used for all credits/recoveries.)	Other Expenses
99	Other Expenses.	Other Expenses

ANNEXURE - II

Annexure II - ACCs grouping into FCCS

Departments	Activity	FCC	Activity Centre	Activity Accounts Code	Cost Driver	Activity Input Sheet No.	Cost Distribution to LOBs	Cost Distribution to LOSs
			Ticket Booking (1) (UTS)	09-220	Booking: No of tickets(UTS) – LOB, (Separate Accounts Head- refer Annex 3)	AIS 2 (No. of Tickets)	No. of Ticket	No. of Ticket
			Reservation (2) (PRS)	09-220	Reservation:PRS- LOB ((Separate Accounts Head refer Annex-3)	AIS 3	Reserved Passengers	Reserved Passengers
			+Enquiry (3)	09-220	Booking & Reservation	AIS 2 + AIS 3	No of Total Passenger (UTS+PRS)	No of Total Passenger (UTS+PRS)
			Ticket collector (4)	09-220	Booking & Reservation	AIS 2 + AIS 3	No of Total Passenger (UTS+PRS)	No of Total Passenger (UTS+PRS)
			Special service (5)	09-220	Special service-mainly for Reserve Passenger -LOB/LOS	AIS 3	Reserved Passengers	Reserved Passengers
			Goods Station Staff	09-230	LOB Goods, LOS is commodity wise wagon	AIS-30 - Commodity wise NO. of Wagons- Loading & Unloading	Direct	AIS-30 - Commodity wise NO. of Wagons- Loading & Unloading
			Parcel & Luggage staff	09-240	CD data : Parcel work (booking + Receiving + transhipment) = LOB wise weight	AIS 1	Coaching LOBs.	Corresponding LOS.
			Loading & unloading charges coaching service	09-261	CD data : Parcel work (booking + Receiving + transhipment) = LOB wise weight	AIS 1	Coaching LOBs.	Corresponding LOS.
		FC-0101	Loading and unloading charges	09-262	LOB Goods	AIS-30 - Commodity wise NO. of Wagons- Loading & Unloading	Direct	AIS-30 - Commodity wise NO. of Wagons- Loading & Unloading
			Collection and delivery charges – coaching service	09-263	CD data : Parcel work (booking + Receiving + transhipment) = LOB wise weight	AIS 1	Coaching LOBs.	Corresponding LOS.
			Collection and delivery charges	09-264	LOB Goods	AIS-30 - Commodity wise NO. of Wagons- Loading & Unloading	Direct	AIS-30 - Commodity wise NO. of Wagons- Loading & Unloading
			Cost of tarpaulin and wagons covers etc.	09-265	LOB Goods	AIS-30 - Commodity wise NO. of Wagons- Loading & Unloading	Direct	AIS-30 - Commodity wise NO. of Wagons- Loading & Unloading
			Transhipment parcels and luggage	09-420	LOB wise weight in transhipment	AIS - 37	AIS - 37	AIS - 37
			Transhipment Goods	09-410	AIS-31 - Commodity wise Transhipment	AIS-31	Direct	AIS-31 - Commodity wise Transhipment
			Repacking - Goods	09-440	AIS-32- Commodity wise repacking	AIS-32 (LOS wise)	Direct	LOS wise repacking.
			Repacking Parcels	09-450	AIS 33	AIS 33	AIS 33	AIS 33
			Payment to other Railways	09-730	Relevant LOBs	HQ	Finance Adjustment	HQ
			Stationery Establishments	12-410	No. of Passengers Originating	AIS 2 + AIS 3	AIS 2 + AIS 3	AIS 2 + AIS 3
			Departmental Catering					
		Total						
			Travelling ticket checking staff other than special squads	09-530	Booking & Reservation	AIS 21 (In Case AIS 21 Data Not available than AIS 2 + AIS 3)	AIS 21 (In Case AIS 21 Data Not available than AIS 2 + AIS 3) of Division	AIS 21 (In Case AIS 21 Data Not available than AIS 2 + AIS 3)
		FC-0102	Spl.. ticket checking squad	09-540	Booking & Reservation	AIS 40 (In Case AIS 40 Data Not available than AIS 2 + AIS 3)	AIS 40 (In Case AIS 40 Data Not available than AIS 2 + AIS 3) of Division	AIS 40 (In Case AIS 40 Data Not available than AIS 2 + AIS 3)
			Conductor, & TTE for reserved compartment	09-550	Coaching service	AIS 22	Basis : AIS 22	Basis : AIS 22
		Total						
	Commercial Activities							

Annexure II - ACCs grouping into FCCS

Departments	Activity	FCC	Activity Centre	Activity Accounts Code	Cost Driver	Activity Input Sheet No.	Cost Distribution to LOBs	Cost Distribution to LOBs	
Traffic Department 01	Commercial Activities & IT (other than Train & Station)	FC-0103	Tickets	09-250	Divisional/HQ expenses, Separate cost data for UTS and PRS tickets available (Separate Accounts Head Required for PRS & UTS Tickets (Refer Annex III))	CRIS Data	No. of tickets (PRS & UTS) LOB Wise	No. of tickets (PRS & UTS) Class Wise	
			Exp. On hiring of data channels and AMC pertaining to FOIS and other related IT app.	09-266	LOB Goods	HQ	Goods	LOS : Commodity wise loading - CRIS data Zonal Data	LOS : Commodity wise loading - CRIS data Zonal Data
			Payment to out-agencies and other organizers of pilgrim and excursion specials etc.	09-721	Coaching- Ordinary 2nd Class Passenger		LOB-OS	LOS = 2C	
			Exp. at Out agencies – Goods service	09-722	LOB Goods	HQ	Goods	LOS : Commodity wise loading - CRIS data Zonal Data	LOS : Commodity wise loading - CRIS data Zonal Data
			Commission to organizers of Pilgrims and Excursion specials	09-723	Coaching as per LOB, Coaching M/E 2nd Class & Ordinary 2nd Class	AIS 41	AIS 41	AIS 41	AIS 41
			Commission to General sales Agent under Indrail Rover Journey Scheme	09-724	Coaching as per LOB, Premium trains and M/E trains.	AIS 42	AIS 42	AIS 42	AIS 42
			Rental, Lease & Spectrum Charges for PRS, UTS	07-750	Coaching & Goods As per LOB		Combined expenses for (PRS/UTS/FOIS) etc. Separate Accounts Head Refer Annex - III	Combined expenses for (PRS/UTS/FOIS) etc. Separate Accounts Head Refer Annex - III	Combined expenses for (PRS/UTS/FOIS) etc. Separate Accounts Head Refer Annex - III
			IT – Traffic Transportation Passenger	07-831	Coaching LOB, No. of Passenger (Zone)	CRIS Data	NO of Passengers	NO of Passengers	NO of Passengers
			IT – Traffic Transportation - Goods	07-832	LOB Goods	CRIS Data	Goods	Goods	LOS :Commodity wise actuals
			Compensation against parcel	12-221	Coaching LOB-Parcel LOS	AIS-43	AIS-43	AIS-43	AIS-43
			Accident insurance premium & compensation	12-250	Coaching – basis No of passengers.	CRIS Data	No. of Passenger. Zonal Railway Data	No. of Passenger. Zonal Railway Data	No. of Passenger. Zonal Railway Data
			Compensation goods settled.	12-230	LOB Goods	AIS 45 (In Case AIS 45 Not available then Commodity wise Loading) Zonal Data	AIS 45 (In Case AIS 45 data Not available then Commodity wise Loading)	AIS 45 (In Case AIS 45 data Not available then Commodity wise Loading)	AIS 45 (In Case AIS 45 data Not available then Commodity wise Loading)
			Dinning car Departmental	12-420	AIS 48	AIS 48	AIS 48	AIS 48	AIS 48
			Contract Catering	12-430	AIS 49	AIS 49	AIS 49	AIS 49	AIS 49
			Awards of Consumer Forum wrt Parcel & Luggage Traffic	12-273	AIS 44	AIS 44	AIS 44	AIS 44	AIS 44
Awards in r/o Goods Traffic	12-272	AIS 46	AIS 46	AIS 46 (In Case AIS 46 Data Not available than Commodity wise Loading)	AIS 46 (In Case AIS 46 Data Not available than Commodity wise Loading)	AIS 46 (In Case AIS 46 Data Not available than Commodity wise Loading)			
Awards in r/o Passenger Traffic	12-271	LOB Coaching	AIS - 47	AIS 47 (In Case AIS 47 Data Not available than Class wise Passenger)	AIS 47 (In Case AIS 47 Data Not available than Class wise Passenger)	AIS 47 (In Case AIS 47 Data Not available than Class wise Passenger)			
Total									
Functional Supervision	Total	FC-0104	Commercial officer -Div.	09-120	Coaching & goods as per LOB	-	In the overall ratio of FC-0101 & 0102	In the overall ratio of FC-0101 & 0102	
			Traffic Comm. Mgt.- Div./ HQ.	03-920	Coaching & goods	-	In the overall ratio of FC-0101,0102 and 0103	In the overall ratio of FC-0101,0102 and 0103	
At Station	Total	FC-0105	Traffic Inspector and movement inspector, Train passing & control staff and other operating staff.	09-210	LOB wise Train-km.- Cris data	Distribution at Division Level	Train -km	Coaching : Coach-KM, For Wagon- Wagon-km	
			Station Sanitation	09-280	Passenger service	AIS 2 + AIS 3	To be apportioned to Coaching – basis No of passengers in different classes.	To be apportioned to Coaching – basis No of passengers in different classes.	
Other common activities at station	Total	FC-0106	Water & General Stores in trains	09-293	Passenger service	AIS 2 + AIS 3	To be apportioned to Coaching – basis No of passengers in different classes.	To be apportioned to Coaching – basis No of passengers in different classes.	
			Stationary & forms,	09-291	No. of trains LOB wise	Distribution at Division Level	Train -km	Coaching : Overall Coach-KM, For Wagon- Overall Wagon-km	
			Clothing	09-292	No. of trains LOB wise	Distribution at Division Level	Train -km	Coaching : Overall Coach-KM, For Wagon- Overall Wagon-km	

Annexure II - ACCs grouping into FCCs

Departments	Activity	FCC	Activity Centre	Activity Accounts Code	Cost Driver	Activity Input Sheet No.	Cost Distribution to LOBs	Cost Distribution to Losss
			Fire lights & Genl. Stores	09-294	No. of trains LOB wise	Distribution at Division Level	Train -km	Coaching : Overall Coach-KM, Overall Wagon-km
			Contingent Expenses	09-295	No. of trains LOB wise	Distribution at Division Level	Train -km	Coaching : Overall Coach-KM, Overall Wagon-km
			Order Police	12-130	Number of originating passengers of a zone	CRIS Data	Centralised data in CRIS,	Centralised data in CRIS,
	Total							
	Yard Shunting	FC-0107	Coaching Yard	09-310	Coaching- LOB wise, (except EMU/MEMU/DMU)	AIS-4 & AIS 5	AIS-4 : Shunting Engine hours, LOB wise	AIS -5
			Common yard	09-330	Coaching (Except EMU/MEMU/DMU) & Goods	AIS-4 & AIS 5	AIS-4 : Shunting Engine hours, LOB wise	For Coaching - AIS 5 ; Goods: AIS-30 -No of Wagon - commodity wise
			Goods yard	09-320	LOB Goods	AIS-30	Direct Goods	AIS -30
			Coal Yard	09-340	LOB Goods	Direct Goods	Direct Goods	Direct Commodity
			Goods Terminal yard	09-370	Goods LOB	AIS -30 : LOS wise wagons dealt	Direct Goods	AIS -30 : LOS wise wagons dealt
			Transshipment yard	09-350	LOB Goods	AIS -31: Commodity wise transshipment	Direct Goods	AIS -31: Commodity wise transshipment
			Repacking yard	09-360	LOB Goods	AIS-32 (LOS wise)	Direct Goods	AIS-32 (LOS wise)
	Total							
	Train Operation	FC-0108	Guard & assistant Guard	09-511	Coaching & Goods as per LOB except DMU & MEMU	CRIS Data - Division level	As per actual deployment for LOB.	LOB to LOS - Coach-km and Wagon-km. (Overall)
			Guard - DMU	09-512	Coaching Passenger Services(DMU)	Direct	Direct DMU	Direct
			Guard - MEMU	09-513	Direct to MEMU	Direct	Direct to MEMU	Direct
			Other operating staff accompanying	09-520	Coaching & Goods as per LOB	AIS-25	As per actual deployment for LOB.	LOB to LOS - Coach-km and Wagon-km. (Overall)
	Total							
	other Activities & IT (other than Train & Station)	FC-0109	Safety	09-600	Coaching & Goods LOB wise	CRIS Data - Division level	Train KM, LOB Wise	LOB to LOS - Coach-km and Wagon-km. (Overall)
			Safety Management	03-930	1.Coaching & Goods as per LOB	CRIS Data - Division level	To LOB: ratio of train Kilometres.	LOB to LOS - Coach-km and Wagon-km. (Overall)
	Total							
	Functional Supervision	FC-0110	Operating officers	09-110	Coaching & Goods as per LOB	-	In the overall ratio of FC-0105, 0106,0107 & 0108	In the overall ratio of FC-0105, 0106,0107 & 0108
			Traffic Operating management	03-910	Coaching & Goods as per LOB		In the overall ratio of FC-0105, 0106,0107 & 0108	In the overall ratio of FC-0105, 0106,0107 & 0108
			Traffic Planning Mgt.	03-940	Coaching & Goods as per LOB		In the overall ratio of FC-0105, 0106,0107 & 0108	In the overall ratio of FC-0105, 0106,0107 & 0108
			Others Road Service-Share of wagon interchange staff	03-954	Goods LOB	CRIS Data	Direct	Wagon-km - commodity wise
	Total							
	Overall Supervision of Traffic Deptt.	FC-0111	Joint Establishment	09-130	Coaching & Goods as per LOB		In the overall ratio of FC-0104 and 0110	In the overall ratio of FC-0104 and 0110
			Misc. Expenses (Traffic Management)	03-970	Coaching & Goods as per LOB		In the overall ratio of FC-0104 and 0110	In the overall ratio of FC-0104 and 0110
	Total							
			TXR Examination- supervision	08-510	No of trains – LOB wise except EMU/MEMU	AIS 26		
			TXR Examination -staff	08-521	No of trains – LOB wise except EMU/MEMU	AIS 26		
			Share of Neutral Control expenditure	08-522	No of trains – LOB wise except EMU/MEMU	AS-26		

Annexure II - ACCs grouping into FCCS

Departments	Activity	FCC	Activity Centre	Activity Accounts Code	Cost Driver	Activity Input Sheet No.	Cost Distribution to LOBs	Cost Distribution to LOSs				
Yard and Station	FC-0201	FC-0201	Other Misc. Expenses	08-540	No of trains – LOB wise except EMU/MEMU	AIS 26	To LOB: NO. of Trains. (AIS-26)	For Coaching : AIS 5. For Goods : AIS 30				
			Yard staff- Mechanical	08-560	No of trains – LOB wise except EMU/MEMU	AIS 5						
			Oil, Grease & other operating exp.	08-531	No of trains – LOB wise except EMU/MEMU	AIS 26						
			Contingent Exp.	08-532	No of trains – LOB wise except EMU/MEMU	AIS 26						
			Lubricating + consumables	08-570	No of trains – LOB wise except EMU/MEMU	AIS 26						
			Misc. exp.	08-580	No of trains – LOB wise except EMU/MEMU	AIS 26						
			Total									
			Shop Repair	FC-0202	FC-0202	Sick-line – Running repair-passenger coach			06-211	Coaching : Man days LOB/LOS wise except EMU/MEMU/DMU	AIS 7	AIS - 7
Running Repair in sick Line	06-710	Only to DMU LOB				Direct	Direct to DMU	Direct				
Running Repair in workshop for sick Line	06-720	Only to DMU LOB				Direct	Direct to DMU	Direct				
DMU Shed	07-313	Only to DMU LOB				Direct	Direct to DMU	Direct				
Sick-line – Running repair-other coach	06-212	Coaching : Man days LOB/LOS wise except EMU/MEMU/DMU				AIS 8	AIS-8	AIS 8	AIS 8			
Sick Line – DMU P/E	07-333	Only to DMU LOB				Direct	Direct 2nd Ordinary DMU	Direct	Direct			
Running repair in workshop for sick-line: passenger coach	06-221	Coaching – Except EMU,MEMU,DMU				AIS 34	AIS 34	AIS-34 (Adjustment from Workshop)				
Running repair in workshop for sick line: other coach	06-222	Coaching – Except EMU,MEMU,DMU				AIS 35	AIS 35	AIS-35 (Adjustment from Workshop)				
Repair in sick lines	06-310	LOB Goods				Divisional Level	Direct Goods	Direct Goods	LOS : Commodity wise Wagon-km. (CRIS Data)			
Repair in workshop for sick lines	06-320	LOB Goods					Direct DMU	Direct DMU	DMU			
Sick line P/E – repairs in workshop-DMU	07-343	Only to DMU LOB										
Coaching Stock repair and Maintenance	09-755	Adjustment between railways-IRFA adjustment				CRIS Data	Coaching LOBs	Coaching LOBs	CRIS Data. In case non-availability of data, Coach-km of zone.			
Conference hire and penalty charges	09-741	Adjustment between railways.				CRIS data	Direct Goods LOB :	Direct Goods LOB :	CRIS Data. In case non-availability of data, wagon-km of zone.			
Total												
Shop Common Repair	FC-0203	FC-0203	Sick Line – P/E Repair	07-332, 334	All LOBs except EMU/MEMU/DMU	-	In the overall ratio of FC-0202	In the overall ratio of FC-0202				
			Sick Line – work shop tools & Machinery repair	07-342, 344	All LOB Except EMU,MEMU,DMU		In the overall ratio of FC-0202	In the overall ratio of FC-0202				
			Total									
			POH, IOH etc of DMU	06-730 to 770	Coaching DMU	Workshop						
			DMU – workshop tools & machinery	07-355	Only to DMU LOB	Workshop						
			Office Estb. in C & W shed & workshop etc. DMU	06-113	Only to DMU LOB	Workshop						
			Officers in C & W shed & workshop etc. DMU	06-114	Only to DMU LOB	Workshop						
			Office staff in C& W shed & workshop etc.	06-122	All LOBs except EMU/MEMU/DMU	Workshop						
			Supervisory staff & Office staff in C& W shed & workshop etc. DMU	06-123	Only to DMU LOB	Workshop						
			Loco-shed workshop P/E (DMU)	07-323	Only to DMU LOB							
Total												
FC-0204	FC-0204	FC-0204	POH- passenger coach	06-231	Coaching (Pass.-) LOB/	Workshop	LOB wise Outturn Statement	LOB wise Outturn Statement				
			POH - Passenger Coach with Corrosion Repair	06-232	Coaching (Pass.-) LOB/	Workshop	LOB wise Outturn Statement	LOB wise Outturn Statement				
			Normal POH-other coach	06-233	Other coaching – LOB/	Workshop	LOB wise Outturn Statement	LOB wise Outturn Statement				
			Total									

Annexure II - ACCs grouping into FCCS

Departments	Activity	Workshop Repair	FCC	Activity Centre	Activity Accounts Code	Cost Driver	Activity Input Sheet No.	Cost Distribution to LOBs	Cost Distribution to LOBs	
Diesel Loco		Workshop Repair	FC-0214	Office Estab.	05-114	All LOBs except EMU/MEMU/DMU	Workshop	In the ratio of FC-0213	Diesel Coach KM for Coaching and Diesel Wagon KM for Goods in Zone (CRIS Data)	
				Supervisory staff	05-122	All LOBs except EMU/MEMU/DMU	Workshop			
				Office Staff	05-124	All LOBs except EMU/MEMU/DMU	Workshop			
				Contingent & lab Exp. (SAC)	05-130	All LOBs except EMU/MEMU/DMU	Workshop			
				Misc. Expenses	03-670	All LOBs except EMU/MEMU/DMU	Workshop			
				Loco-shed P/E -workshop	07-322	All LOBs except EMU/MEMU/DMU	Workshop			
				Loco-workshop machinery & tools	07-352	All LOBs except EMU/MEMU/DMU	Workshop			
				Loco-workshop Elect. equipment	07-452	All LOBs except EMU/MEMU/DMU	Workshop			
				Total						
				Total FC-0503+0504						
Operation			FC-0215	Running Staff	08-210	Coaching & Goods as per LOB except DMU & MEMU & EMU	AIS 24	As per actual deployment. LP & ALP will have weightage, Compilation at Division Level	Coaching : Diesel Coach-KM, For Diesel Wagon- Wagon-km	
				Lease charges other than IRFC	09-772	Coaching & Goods as per LOB except DMU & MEMU & EMU	Zonal Data	No of Locos for different services	Coaching : Diesel Coach-KM, For Diesel Wagon- Wagon-km	
				Lease charges - IRFC	09-781	Coaching & Goods as per LOB except DMU & MEMU & EMU	Zonal Data	No of Locos for different services	Coaching : Diesel Coach-KM, For Diesel Wagon- Wagon-km	
				Total						
Fuel			FC-0216	Passenger train	10-211	LOB wise Fuel Issued to Home Railway Locos (in KL)	AIS 20	Division wise Completion	At divisional level : LOB-LOS wise Diesel GTKM	
				Goods train	10-212	LOB Goods	AIS 18	Direct	Diesel GTKM at Division Level Commodity Wise	
				DMU fuel	10-219	DMU Passenger Services	Direct	DMU	Direct	
				Other fuel for loco/DMU	10-250	Direct DMU	Direct	Direct DMU	Direct	
				Shunting	10-214	Coaching & Goods as per LOB	AIS 4	If separate data is not available it will be distributed as per engine hrs.	For Coaching - AIS 5 ; Goods: AIS-30 -No of Wagons	
				Total						
				Freight and handling charges on fuel	10-221/222	Coaching & Goods as per LOB				
				Fuelling of Engine	10-223	Coaching & Goods as per LOB				
				Taxes	10-230	Coaching & Goods as per LOB				
				Fuel organization including inspection	10-240	Coaching & Goods as per LOB				
Total										
Total FC-0216+0217										
Functional Supervision			FC-0218	Officers – Mechanical	05-111	Coaching & Goods as per LOB	-	In the ratio of FC-0216	In the ratio of FC-0216	
				Office Estab.	05-114	Coaching & Goods as per LOB	-			
				Supervisory staff	05-122	Coaching & Goods as per LOB	-			In the overall ratio of FC-0211, 0212 & 0215
				Office Staff	05-124	Coaching & Goods as per LOB	-			
				Contingent & lab Exp.	05-130	Coaching & Goods as per LOB	-			
Diesel Motive power-Workshop	03-611, 612, 613	All LOBs except EMU/MEMU/DMU		In the ratio of FCC 0213 & 0214						

Annexure II - ACCs grouping into FCCS

Departments	Activity	FCC	Activity Centre	Activity Accounts Code	Cost Driver	Activity Input Sheet No.	Cost Distribution to LOBs	Cost Distribution to LOBs
	Total							
	Yard(Running Repair)	FC-0306	Shed & yard staff	08-320	All LOBs except EMU/MEMU/DMU			
			Other operating expenses	08-330	All LOBs except EMU/MEMU/DMU	AIS 12 (In absence of AIS 12, AIS 16)	AIS 12 (In absence of data, then AIS 16 At divisional level : LOB-LOS wise Electric Loco Deployment)	Electric GTKM at Division Level
	Total		Misc. Exp.	08-340	All LOBs except EMU/MEMU/DMU			
	Shed Repair	FC-0307	Running Repair in shed	05-510	LOB wise No of Locos			
			Loco Shed - P/E (Electric Traction)	07-443	1. Coaching & Goods as per LOB	AIS 13 (In absence of AIS 16)	AIS 13 (In absence AIS 16 At divisional level : LOB-LOS wise Electric Loco Deployment)	Electric GTKM at Division Level
	Total		Electric Deptt.	09-751	Adjustment between railways-IRFA adjustment.			
			Electric loco repair and Maintenance	05-520	Coaching & Goods as per LOB			
			Running repair in workshop for shed	07-460	Related LOBs			
			Electric loco special repair	07-460	Related LOBs	Workshop		
			Electric loco special repair	05-530	Coaching & Goods as per LOB	Workshop		
			POH	05-540	Coaching & Goods as per LOB	Workshop		
			IOH	05-550	Coaching & Goods as per LOB	Workshop		
			Special Repair	05-560	Coaching & Goods as per LOB	Workshop		
			Other Repair AC	05-570	Coaching & Goods as per LOB	Workshop data		
			Other Repair DC	05-670	Coaching & Goods as per LOB	Workshop Data		
			Other Misc. Expenses (Elect. Deptt.)	05-141	Coaching & Goods as per LOB			
			Officers – workshop	05-143	Coaching & Goods as per LOB			
			Office Estb– workshop (SAC)	05-151	Coaching & Goods as per LOB			
			Supervisory staff – workshop (SAC)	05-160	Coaching & Goods as per LOB			
			Contingent	07-453	1. Coaching & Goods as per LOB			
			Workshop P/E , Electric Locos	07-142	Coaching & Goods as per LOB			
			Officers Workshop – Electric Traction -P/E	07-144	Coaching & Goods as per LOB			
			Office Estb. , Workshop – Electric Traction -P/E	07-152	Coaching & Goods as per LOB			
			Supervisory staff Workshop – Electric Traction -P/E	07-154	Coaching & Goods as per LOB			
			Supervisory staff Estb. Workshop – Electric Traction -P/E					
	Total		Running Staff	08-311	All LOBs except EMU/MEMU/DMU	AIS 23	At Division, Crew Deployment data LOB wise. LP & ALP will have weightage factor	Coaching : Elect. Coach-KM, For Elect. Wagon-Wagon-km
	Operation	FC-0309	Lease charges -other than IRFC	09-773	All LOBs except EMU/MEMU/DMU	Zonal Data	No of Elect. Locos for different LOBS - zonal level.	Coaching : Elect. Coach-KM, For Elect. Wagon-Wagon-km
			Lease charges - IRFC	09-782	All LOBs except EMU/MEMU/DMU	Zonal Data	No of Elect. Locos for different LOBS - zonal level.	Coaching : Elect. Coach-KM, For Elect. Wagon-Wagon-km
	Total							

Annexure II - ACCs grouping into FCCs

Departments	Activity	FCC	Activity Centre	Activity Accounts Code	Cost Driver	Activity Input Sheet No.	Cost Distribution to LOBs	Cost Distribution to LOBs
	Fuel	FC-0310	Energy supplied	10-331	Coaching (except EMU/MEMU/DEMU) & Goods as per LOB	CRIS Data	1. Distribution of exp. Between running and shunting based on engine Hrs. 2. Shunting cost on the basis of Shunting Hrs. among LOBs 3. Running cost on the basis of inflated Elect. GTKM among LOBs(GTKMs is inclusive of wt. of Loco)	Elect. GTKM at Division Level
	Total							
	Functional Supervision	FC-0311	Officers – Open Line (SAC) Office Estb. - Open Line (SAC) Supervisory staff – Open Line Office staff Open Line	05-142 05-144 05-152 05-154	Coaching & Goods as per LOB Coaching & Goods as per LOB Coaching & Goods as per LOB Coaching & Goods as per LOB	- - - -	In the overall ratio of FC-0306, 0307 & 0309 In the overall ratio of FC-0306, 0307 & 0309 In the overall ratio of FC-0306, 0307 & 0309 In the overall ratio of FC-0306, 0307 & 0309	In the overall ratio of FC-0306, 0307 & 0309 In the overall ratio of FC-0306, 0307 & 0309 In the overall ratio of FC-0306, 0307 & 0309 In the overall ratio of FC-0306, 0307 & 0309
	Total							
	Repair & Maintenance	FC-0312	Maint. of OHE Power supply Equip TRD Depot & workshop Traction other than Rolling stock and Electrical Energy - Operating Staff Traction other than Rolling stock and Electrical Energy - Operating stores Other Plant & Equipment Electric Traction, Rolling Stock	07-410 07-420 07-472 08-611 08-612 07-476	Coaching & Goods as per LOB Coaching & Goods as per LOB Coaching & Goods as per LOB Coaching & Goods as per LOB Coaching & Goods as per LOB Coaching & Goods as per LOB	CRIS Data CRIS Data CRIS Data CRIS Data CRIS Data CRIS Data	In the ratio of Electric GTKM(Inclusive wt. of Loco) Divisional Data	In the ratio of Electric GTKM(Inclusive wt. of Loco) Divisional Data
OHE	Total							
	Functional Supervision	FC-0313	Officers – Electric Traction -P/E (OI) Office Estb.– Electric Traction -P/E (OI) Supervisory staff – Electric traction -P/E (OI) Supervisory staff Estb.– Electric Traction -P/E (OI) Electric Traction Electric Motive power Workshop	07-141 07-143 07-151 07-153 03-721,722,723 03-740	1. Coaching & Goods as per LOB Coaching & Goods as per LOB Coaching & Goods as per LOB Coaching & Goods as per LOB Coaching & Goods as per LOB Coaching & Goods as per LOB	- Workshop Workshop	In the ratio FC - 0312 In the ratio FC - 0312	In the ratio FC - 0312
	Total							
	Repair Expenses	FC-0314	EMU/MEMU coaches EMU car sheds – Plant & Equipment MEMU car sheds – Plant & Equipment EMU car sheds – Plant & Equipment (WS) MEMU car sheds – Plant & Equipment (WS)	06-400 07-444 07-446 07-454 07-456		AIS 29 Workshop Workshop	No of coaches - EMU/MEMU Direct to EMU Direct to MEMU Direct to EMU Direct to MEMU	Weightage of repair of coaches of different class. No. of repair of diff classes. Direct to EMU Direct to MEMU Direct to EMU Direct to MEMU
	Total							
	Operating Expense	FC-0315	EMU/MEMU Operating exp. Payment of Lease charges - EMU vehicles - Other than IRFC	08-400 09-776			GTKM of EMU and MEMU Direct to EMU	GTKM of EMU and MEMU Direct to EMU

Annexure II - ACCs grouping into FCCS

Departments	Activity	FCC	Activity Centre	Activity Accounts Code	Cost Driver	Activity Input Sheet No.	Cost Distribution to LOBs	Cost Distribution to LOs	
EMU/MEMU	Total		Payment of Lease charges - EMU vehicles -IRFC	09-785			Direct to EMU	Direct to EMU	
			Fuel	FC-0316	10-332		Direct to EMU	Direct to EMU	
			Total		10-334		Direct to MEMU	Direct to MEMU	
			Functional Supervision	FC-0317	Officer – workshop -EMU	06-141			
		Officer – Open line -EMU			06-142				
		Office Estb.- workshop -EMU			06-145				
		Office Estb.- Open line -EMU			06-146				
		Supervisory – workshop -EMU			06-151				
		Supervisory – Open line -EMU			06-152				
					Supervisory Office Estb.- workshop EMU	06-155			Direct to EMU
			Supervisory Office Estab.- Open line EMU	06-156					
Overall Supervision of Electrical Deptt.	Total		Electrical management Administration	03-710	Partly over head & partly activity exp.	-	In the overall ratio of FC-0305, 0311, 0313 & 0317	In the overall ratio of FC-0305, 0311, 0313 & 0317	
			Electrical management administration Misc. Exp.	03-770	Partly over head & partly activity exp.	-		In the overall ratio of FC-0305, 0311, 0313 & 0317	
			I.T - Electric Power Management system	07-845	HQ Expenditure	-			In the overall ratio of FC-0310 & 0316
			Electrical Operating Management	03-724,725,726	Coaching & Goods as per LOB	-			In the overall ratio of FC-0301, 0302, 0306, 0307 & 0309
			Total		BG D - Manual maint..	04-241	Running, Non running ETKM and LOB wise GTKM	AIS 38	
				BG D- Maint.. by Track M/C	04-242	Running, Non running ETKM and LOB wise GTKM	AIS 38		
				BG D- Ballasting	04-243	Running, Non running ETKM and LOB wise GTKM	AIS 38		
				BG E - Manual Maint...	04-251	Running, Non running ETKM and LOB wise GTKM	AIS 38		
				BG E- Maint.. by M/C	04-252	Running, Non running ETKM and LOB wise GTKM	AIS 38		
				BG E- Ballasting	04-253	Running, Non running ETKM and LOB wise GTKM	AIS 38		
	BG A- Ballasting	04-211		Running, Non running ETKM and LOB wise GTKM	AIS 38				
	BG A- Ballasting	04-212		Running, Non running ETKM and LOB wise GTKM	AIS 38				
	BG A- Ballasting	04-213		Running, Non running ETKM and LOB wise GTKM	AIS 38				
	BG B- Manual maint..	04-221		Running, Non running ETKM and LOB wise GTKM	AIS 38				
		04-222	Running, Non running ETKM and LOB wise GTKM	AIS 38					
		04-223	Running, Non running ETKM and LOB wise GTKM	AIS 38					
		04-231	Running, Non running ETKM and LOB wise GTKM	AIS 38					
		04-232	Running, Non running ETKM and LOB wise GTKM	AIS 38					
		04-233	Running, Non running ETKM and LOB wise GTKM	AIS 38					
		04-261	MG Q- Manual maint..	AIS 38					
			To be distributed ETKM wise. Running track maintenance cost to LOB on the basis of GTKM(inclusive wt of loco). Non-running cost will be added to the corresponding ACCs (AIS - 38)				GTKM		

Annexure II - ACCs grouping into FCCS

<u>Departments</u>	<u>Activity</u>	<u>FCC</u>	<u>Activity Centre</u>	<u>Activity Accounts Code</u>	<u>Cost Driver</u>	<u>Activity Input Sheet No.</u>	<u>Cost Distribution to LOBs</u>	<u>Cost Distribution to LOBs</u>		
Engineering Department 04	Track Maintenance & direct Supervision 12	FC-0401	MG Q- Maint. by Track M/C	04-262	Running, Non running ETKM and LOB wise GTKM	04-262	Running, Non running ETKM and LOB wise GTKM			
			MG Q- Ballasting	04-263	Running, Non running ETKM and LOB wise GTKM	04-263	Running, Non running ETKM and LOB wise GTKM			
			MG R- Manual maint..	04-271	Running, Non running ETKM and LOB wise GTKM	04-271	Running, Non running ETKM and LOB wise GTKM			
			MG R- Maint. by Track M/C	04-272	Running, Non running ETKM and LOB wise GTKM	04-272	Running, Non running ETKM and LOB wise GTKM			
			MG R- Ballasting	04-273	Running, Non running ETKM and LOB wise GTKM	04-273	Running, Non running ETKM and LOB wise GTKM			
			MG S- Manual maint..	04-281	Running, Non running ETKM and LOB wise GTKM	04-281	Running, Non running ETKM and LOB wise GTKM			
			MG S- Maint. by Track M/C	04-282	Running, Non running ETKM and LOB wise GTKM	04-282	Running, Non running ETKM and LOB wise GTKM			
			MG S- Ballasting	04-283	Running, Non running ETKM and LOB wise GTKM	04-283	Running, Non running ETKM and LOB wise GTKM			
			NG Manual maint..	04-291	Running, Non running ETKM and LOB wise GTKM	04-291	Running, Non running ETKM and LOB wise GTKM			
			NG Ballasting	04-293	Running, Non running ETKM and LOB wise GTKM	04-293	Running, Non running ETKM and LOB wise GTKM			
			P/Way - subordinate supervisory staff	04-121	1.Coaching & Goods as per LOB	04-121	1.Coaching & Goods as per LOB	-	To be added to 04-200 (Maint... of P Way)- Division.	
			P/Way Office Staff (SAC)	04-125	1.Coaching & Goods as per LOB	04-125	1.Coaching & Goods as per LOB	-	To be added to 04-200 (Maint... of P Way)- Division.	
			Establishment - P Way Management Officers	03-511	1.Coaching & Goods as per LOB	03-511	1.Coaching & Goods as per LOB	-	To be added to 04-200	
			Establishment - P Way Management Office establishment	03-512	1.Coaching & Goods as per LOB	03-512	1.Coaching & Goods as per LOB	-	To be added to 04-200	
			Establishment - P Way Management officer contingent	03-513	1.Coaching & Goods as per LOB	03-513	1.Coaching & Goods as per LOB	-	To be added to 04-200	
			P/E - Track Maint.	07-221	To be included in track Maint...	07-221	To be included in track Maint...	-	To be added to 04-200	
			Lease charges other than IRFC - Track Machines	09-778	1.Coaching & Goods as per LOB	09-778	1.Coaching & Goods as per LOB	Zonal Data	Zonal expenditure. To be distributed on the basis overall GTKM (inclusive wt. of loco).	Zonal Data
			Lease charges - IRFC - Track Machines	09-787	1.Coaching & Goods as per LOB	09-787	1.Coaching & Goods as per LOB	Zonal Data	Zonal expenditure. To be distributed on the basis overall GTKM (inclusive wt. of loco).	Zonal Data
			Special Repair due to accident etc	04-711	1.Coaching & Goods as per LOB	04-711	1.Coaching & Goods as per LOB		To be added to 04-200	
				04-713	1.Coaching & Goods as per LOB	04-713	1.Coaching & Goods as per LOB		To be added to 04-200	
	04-714	1.Coaching & Goods as per LOB	04-714	1.Coaching & Goods as per LOB		To be added to 04-200				
	04-721	1.Coaching & Goods as per LOB	04-721	1.Coaching & Goods as per LOB		To be added to 04-200				
	04-723	1.Coaching & Goods as per LOB	04-723	1.Coaching & Goods as per LOB		To be added to 04-200				
	04-724	1.Coaching & Goods as per LOB	04-724	1.Coaching & Goods as per LOB		To be added to 04-200				
	04-730	1.Coaching & Goods as per LOB	04-730	1.Coaching & Goods as per LOB		To be added to 04-200				
	Total									
			Maint of Station & Goods Shed	04-420	To be compiled at Divisional level. ITKM will be basis.	AIS 39	Separate A/C heads for Coaching & Goods required - annexure III. Station Exp - Lob wise NO of Trains. Goods - Direct.	Station exp. Coach-km for Coaching. Commodity Loading for Goods (AIS 30)		
			IOW	04-122	ITKM basis : to different ACCs + Overheads	AIS 39	IOW exp to be apportioned on ITKM basis. ITKM	AIS 39		

Annexure II - ACCs grouping into FCCS

Departments	Activity	FCC	Activity Centre	Activity Accounts Code	Cost Driver	Activity Input Sheet No.	Cost Distribution to LOBs	Cost Distribution to LOBs			
other Engg. Maintenance (except Bridge & tunnel) 13		FC-0402	LOW Office staff	04-126	ITKM basis : to different ACCs + Overheads	04-126	related to direct Activities - exp added to ACCs. Exp for ITKMs assigned to indirect activities will be treated as Overheads.	AIS 39			
			P/E repair- works	07-222	ITKM basis : to different ACCs + Overheads	-	-	-			
			Water Supply to station	04-510	To be added to LOW exp. i.e. 04-120	AIS 26	Service to be treated as mainly for coaching. 2. To be apportioned to Coaching – No of Trains originating/ terminating/ stopping – LOB wise. (Separate Accounts Head refer Annex-3) *Water supply in office to be treated Overheads	Coaching : Coach-km			
			Total	04-520	AIS 2 + AIS 3	AIS 2 + AIS 3	AIS 2 + AIS 3	AIS 2 + AIS 3	AIS 2 + AIS 3		
			Functional Supervision(common for Track & Other Engg. Maintenance except Bridge & Tunnel) 14		FC-0403	Officer other than workshop	03-521		-		-
						Office Establishment – other than workshop	03-525		-		-
						Civil Engineering – other than workshop	04-111		-		
						Way & Works -Office Estb... Other than workshop	04-115		-		
						P. Way & Works– contingent exp.	04-130		-		
						P/E Trolley Maint./ service motor car etc	07-230		-		
						Furniture & Office Equip Maint. – Way & Works	07-210		-		
			Total						To be distributed on the basis of FCC 0401 & 0402		
			Bridge & tunnel 15		FC-0404	Officers workshops	03-522				
Office Establishment workshop	03-526										
Civil Engineering – workshop	04-112										
Way & Works workshop-Office Estb.. (FAC)	04-116										
Total									To be distributed on the basis of FCC 0401 & 0402		
		FC-0403 & 0404				Girder bridge–Maintenance.	04-310				
						Other Bridge- maintenance.	04-320				
						Tunnel Maintenance.	04-330				
						Road Over/Under bridge /foot over bridge – maintenance.	04-340				
						Special Repair due to accident etc	04-712				
				04-722							
			Bridge Engineering – other than workshop	04-113	1.Coaching & Goods as per LOB						
			Bridge Engineering – workshop	04-114	To be added with 04-320.						
			Bridge Engineering Other than workshop –Office Estb..	04-117	To be added with 04-310.						
			Bridge Engineering Workshop- Office Estb.. (SAC)	04-118	To be added with 04-320.						
		FC-0405	Bridge –Subordinate supervisory staff	04-123	To be added with 04-310.						
			Bridge– subordinate super-visor staff -workshop	04-127	To be added with 04-320.						
			Bridge Management officer (MAC)	03-523	To be added with 04-310.						
			Total						On the Basis of Overall GTKM (CRIS Data)		
									On the Basis of Overall GTKM (CRIS Data)		

Annexure II - ACCs grouping into FCCS

Departments	Activity	FCC	Activity Centre	Activity Accounts Code	Cost Driver	Activity Input Sheet No.	Cost Distribution to LOBs	Cost Distribution to LOBs		
Signal & Tele Department 05	Overall Supervision of Engg. Deptt. 16	FC-0406	Bridge Workshop Mgtt..officer	03-524	To be added with 04-320.					
			Bridge Office Estb...	03-527	To be added with 04-310.					
			Workshop Office Estb...	03-528	To be added with 04-320.					
			Total							
						Contingent Exp. Work Management	03-529		-	
						Joint Establishment of Way & Works	03-530		-	
						Maintenance of infrastructure of IT system – Engg. And Structural management system	07-841		-	In the overall ratio of FC-0401, 0402, 0403, 0404 & 0405
						-Land Management system	07-842		-	
						GIS and Mapping system	07-843		-	
						Misc. Expenses	03-570		-	
						Total				
						Signalling Operation	08-710			
						Telecom Operation	08-720			
						Other operating exp.	08-730			
						Repairs - P/E of signalling	07-500			
						Repairs - P/E of Telecommunication	07-600			
			Radio based circuit and line wire and OFC maintenance charges to RCIL	07-710, 720						
			Bandwidth charges	07-740						
			Other Expenses	07-760						
			Total							
			S & T officers (WS)	07-111						
			Administrative office set. (WS)	07-113						
			Sub. Sup. Staff (WS)	07-121						
			Office staff S&T (WS)	07-123						
			Officer open line S&T	07-112						
			Admn. Officer O.L. S&T	07-114						
			S&T Supervisory staff	07-122						
			Office staff (S&T) Open line	07-124						
			Contingent expenses	07-130						
			Energy supplied for signalling	10-333						
			Signalling & Tele Management	03-800						
			I-T. signalling and communication management system	07-847						
			GENERAL OVERHEAD							
			Material Management	03-400						
			Maintenance of inventory management system	07-834						
			Total							
			General Management	03-100						
			Finance Management	03-200						
			Maintenance of Finance and Accounts Management Systems	07-836						
			Maintenance of security management system	07-837						
			Hospitality and entertainment exp.	12-700						
			Personnel Management	03-300						
			Officers Electrical General Service	07-145						
			Officers Electrical General Service	07-147						
			Subordinate Electrical General Service	07-155						
			Subordinate Electrical General Service	07-157						
			Functional Supervision							
			Coaching & Goods as per LOB							
			Total							
			FC-0501							
			Coaching & Goods as per LOB							
			Total							
			FC-0502							
			Coaching & Goods as per LOB							
			Total							
			FC-0601							
			To be distributed to All FCC							
			Total							
			Material Management							
			Material Management							
			Maintenance of inventory management system							
			Total							
			General Management							
			Finance Management							
			Maintenance of Finance and Accounts Management Systems							
			Maintenance of security management system							
			Hospitality and entertainment exp.							
			Personnel Management							
			Officers Electrical General Service							
			Officers Electrical General Service							
			Subordinate Electrical General Service							
			Subordinate Electrical General Service							
			Material Management							
			Material Management							
			Maintenance of inventory management system							
			Total							
			General Management							
			Finance Management							
			Maintenance of Finance and Accounts Management Systems							
			Maintenance of security management system							
			Hospitality and entertainment exp.							
			Personnel Management							
			Officers Electrical General Service							
			Officers Electrical General Service							
			Subordinate Electrical General Service							
			Subordinate Electrical General Service							
			Material Management							
			Material Management							
			Maintenance of inventory management system							
			Total							
			General Management							
			Finance Management							
			Maintenance of Finance and Accounts Management Systems							
			Maintenance of security management system							
			Hospitality and entertainment exp.							
			Personnel Management							
			Officers Electrical General Service							
			Officers Electrical General Service							
			Subordinate Electrical General Service							
			Subordinate Electrical General Service							
			Material Management							
			Material Management							
			Maintenance of inventory management system							
			Total							
			General Management							
			Finance Management							
			Maintenance of Finance and Accounts Management Systems							
			Maintenance of security management system							
			Hospitality and entertainment exp.							
			Personnel Management							
			Officers Electrical General Service							
			Officers Electrical General Service							
			Subordinate Electrical General Service							
			Subordinate Electrical General Service							
			Material Management							
			Material Management							
			Maintenance of inventory management system							
			Total							
			General Management							
			Finance Management							
			Maintenance of Finance and Accounts Management Systems							
			Maintenance of security management system							
			Hospitality and entertainment exp.							
			Personnel Management							
			Officers Electrical General Service							
			Officers Electrical General Service							
			Subordinate Electrical General Service							
			Subordinate Electrical General Service							
			Material Management							
			Material Management							
			Maintenance of inventory management system							
			Total							
			General Management							
			Finance Management							
			Maintenance of Finance and Accounts Management Systems							
			Maintenance of security management system							
			Hospitality and entertainment exp.							
			Personnel Management							
			Officers Electrical General Service							
			Officers Electrical General Service							
			Subordinate Electrical General Service							
			Subordinate Electrical General Service							
			Material Management							
			Material Management							
			Maintenance of inventory management system							
			Total							
			General Management							
			Finance Management							
			Maintenance of Finance and Accounts Management Systems							
			Maintenance of security management system							
			Hospitality and entertainment exp.							
			Personnel Management							
			Officers Electrical General Service							
			Officers Electrical General Service							
			Subordinate Electrical General Service							
			Subordinate Electrical General Service							
			Material Management							
			Material Management							
			Maintenance of inventory management system							
			Total							
			General Management							
			Finance Management							
			Maintenance of Finance and Accounts Management Systems							
			Maintenance of security management system							
			Hospitality and entertainment exp.							
			Personnel Management							
			Officers Electrical General Service							
			Officers Electrical General Service							
			Subordinate Electrical General Service							
			Subordinate Electrical General Service							
			Material Management							
			Material Management							
			Maintenance of inventory management system							
			Total							
			General Management							
			Finance Management							
			Maintenance of Finance and Accounts Management Systems							
			Maintenance of security management system							
			Hospitality and entertainment exp.							
			Personnel Management							
			Officers Electrical General Service							
			Officers Electrical General Service							
			Subordinate Electrical General Service							
			Subordinate Electrical General Service							
			Material Management							
			Material Management							
			Maintenance of inventory management system							
			Total							
			General Management							
			Finance Management							
			Maintenance of Finance and Accounts Management Systems							
			Maintenance of security management system							
			Hospitality and entertainment exp.							
			Personnel Management							
			Officers Electrical General Service							
			Officers Electrical General Service							
			Subordinate Electrical General Service							
			Subordinate Electrical General Service							
			Material Management							
			Material Management							
			Maintenance of inventory management system							
			Total							
			General Management							
			Finance Management							
			Maintenance of Finance and Accounts Management Systems							
			Maintenance of security management system							
			Hospitality and entertainment exp.							
			Personnel Management							
			Officers Electrical General Service							
			Officers Electrical General Service							
			Subordinate Electrical General Service							
			Subordinate Electrical General Service							
			Material Management							
			Material Management							
			Maintenance of inventory management system							
			Total							
			General Management							
			Finance Management							
			Maintenance of Finance and Accounts Management Systems							
			Maintenance of security management system							
			Hospitality and entertainment exp.							
			Personnel Management							
			Officers Electrical General Service							
			Officers Electrical General Service							

Annexure II - ACCs grouping into FCCS

Departments	Activity	FCC	Activity Centre	Activity Accounts Code	Cost Driver	Activity Input Sheet No.	Cost Distribution to LOBs	Cost Distribution to LOSs							
General Management 07	General Management	FC-0701	Power Supply equipment for general Services	07-430	To be distributed to All FCC	No. of Staff Ratio		No. of Staff Ratio							
			Rental for Administrative telephone channel and CLUG	07-730											
			Other P&E Electrical General Service	07-480											
			Other P&E General Dept..	07-810											
			Maintenance of H.R. management system	07-835											
			Maintenance of staff car.	07-870											
			Traction (other than Rolling stock) and general electrical service	08-670											
			Elect. Management Administration	03-710											
			Elect. Management Gen Services	03-730											
			Elect Management Misc. Expenses	03-770											
			Staff welfare and amenities	D.N.-11											
			Workmen's and other compensations	12-300											
			Cost of training of staff	12-500											
			Water Supply	04-510											
			Sanitation	09-208											
			Total												
			Misc. Overheads 08	Misc. Overheads					FC-0801	Repair & Maintenance of office bldg..	04-410	To be distributed to All FCC	Overall Exp. Ratio		Overall Exp. Ratio
										R & M of All other structure	04-440				
										R & M of Service Roads	04-530				
										Other Repair & Maintenance	04-600				
Other Repair	07-820														
Maintenance of other IT management system	07-839														
Maintenance of Infrastructure IT system – Project management system & common expenditure of CRIS	07-846														
Maintenance of Infrastructure IT system – Others	07-849														
Other equipment of general department	07-880														
Misc.	08-680														
Railway Protection Force	12-110														
RPSF	12-120														
Misc.	12-140														
Other Exp. (Except 12-690 - Freight) claim settlement/claim prevention organisation	12-600														
	12-210														
Total															
Retirement Benefits 09	Retirement Benefits	FC-0901			Provident fund, Pension and other Retirement Benefits	D.N.-13	To be distributed to All FCC	Salary Ratio			Salary Ratio				
					Total										

ANNEXURE - III

Annexure -III

Proposal for Introduction of New Account Heads

Demand No. /Minor head	Activity	Existing Sub heads	Existing Detailed heads	Remarks & Recommendations
<i>Demand No. 04 Repair & Maintenance of Permanent way & works</i>	<i>Maintenance of Bridge work and Tunnels including ROB/RUB - 04-300</i>	<i>ROB/RUB including foot over bridges 04-340</i>	<i>04-340</i>	<i>This head is being operated for both coaching and goods services, it is observed that Foot Over Bridge is being used for passengers only, hence separate detailed heads may be opened to book the expenditure for repair & maintenance of Foot Over Bridge.</i>
	<i>Maintenance of Service Buildings (other than staff quarters and welfare buildings) – 04-400</i>	<i>Stations, Goods Sheds 04-420</i>	<i>Stations, Goods Sheds 04-420</i>	<i>It is observed that Stations are being used to operate all types of train operations (Coaching & Goods) whereas, Goods sheds are being used exclusively for Goods Services. Therefore, it is suggested that distinctive detailed heads separately for stations and goods sheds may be opened for booking of expenditure under this head for PCS purpose. Slots at Detailed head level under this sub-head are vacant.</i>
	<i>Water supply, sanitation and Roads (other than colonies, staff quarters and welfare buildings)04-500</i>	<i>Water Supply 04-510</i>	<i>Water supply 04-510</i>	<i>Separate detailed head are required for arrangement on water supply to Service Buildings and stations (i.e PF, washing line etc.) for costing purpose. Vacant slots at Detailed head level are available for opening new detailed heads.</i>
		<i>Sanitation 04-520</i>	<i>Sanitation 04-520</i>	<i>Separate detailed head are required for booking of expenditure on Sanitation service of office Buildings and stations (i.e. PF etc.) for costing purpose. Vacant slots at Detailed head level are available for opening of new detailed heads.</i>
		<i>Service Road & Others 04-530</i>	<i>Service Road & Others 04-530</i>	<i>Separate detailed head are required for booking of expenditure of maintenance of Roads for Stations, Goods Sheds</i>

<i>Demand No. /Minor head</i>	<i>Activity</i>	<i>Existing Sub heads</i>	<i>Existing Detailed heads</i>	<i>Remarks & Recommendations</i>
				<i>and Service Buildings for costing purpose. Vacant slots at Detailed head level are available for opening new detailed heads.</i>
<i>Demand .No. 06 Repair & Maintenance of Carriages & Wagons</i>	<i>Establishment in offices – 06-100</i>	<i>06-110 Officers & office establishment (Mechanical) C & W shed & workshop etc.</i>	<i>06-111 Officers – C&W</i>	<i>Repairs & maintenance of Carriages & Wagons are two different major activities, and there are two different sub heads (06-200/Carriages) & (06-300 /Wagons) for booking of their expenditure in sick line and workshops. Separate detailed heads under sub heads 06-110 and 06-120 may be opened for booking of expenditure for Carriages and Wagons i.e Coaching & Goods services.</i>
		<i>06-120 Supervisory staff and their office staff - C&W DMU (Mechanical)</i>	<i>06-112 Admn. Office establishment C&W</i>	
			<i>06-121 Supervisory staff – C&W</i>	
			<i>06-122 Office Staff – C&W</i>	
<i>Demand No. 07 Repairs & Maintenance of Plant and Equipment</i>	<i>Plant & Equipment – Way & Works 07-200</i>	<i>Furniture & Office Equipment 07-210</i>	<i>Same - Furniture & Office Equipment 07-210</i>	<i>Expenditure for both Permanent way and Works are booked under this head. It would be appropriate to introduce new detail heads under this sub-head for booking of expenditure separately for Way & separately for Works. Slots at detailed heads are vacant.</i>
	<i>Plant and Equipment - Mechanical 07-300</i>	<i>Sick line P/E (Repair in sick lines) Sick line 07-330</i>	<i>Repair in sick lines 07-330</i>	<i>Repair & Maintenance of Plant & Equipment in Sick line and Workshops for mechanical departments is currently being charged to detailed heads 07-330 & 07-340 respectively for both Coaching & Goods Stock i.e (Carriages and Wagons). It would be appropriate if separate detailed heads is introduced for</i>
		<i>Plant & Equipment (Repairs in workshops) 07-340</i>	<i>Repair in workshops 07-340</i>	

<i>Demand No. /Minor head</i>	<i>Activity</i>	<i>Existing Sub heads</i>	<i>Existing Detailed heads</i>	<i>Remarks & Recommendations</i>
				<i>capturing expenditure for the purpose of performance costing. Vacant slots at detailed head level are available under these sub-heads.</i>
	Rental, lease & spectrum charges for Signaling and Telecommunication circuits 07-700	Passenger Reservation system, UTS, FOIS etc. 07-750	Passenger Reservation system, UTS, FOIS etc. 07-750	<i>It is observed that considerable expenditure is being made on this head for PRS, UTS and FOIS etc, it is proposed that separate detailed heads may be opened for Coaching (PRS & UTS) and Goods (FOIS) for PCS.</i>
	Carriages and Wagons 08-500	<i>Other operating Expenses 08-530</i>	<i>Oil, grease & other Stores 08-531</i>	<i>Operating expenses under this head is being booked for both Coaching & Goods services i.e Carriages & Wagons. It is proposed to open new Detailed heads under this sub-head for booking of expenditure separately for coaching and goods for the purpose of PCS.</i>
		<i>Shed & Yard Staff 08-560</i>	<i>Shed & Yard Staff 08-560</i>	
<i>Demand No. 08 Operating Expenses – Rolling Stock & Equipment</i>	<i>Traction (other than Rolling Stock) and General Electrical Services 08-600</i>	<i>Train lighting, fans and air conditioning services in trains 08-660</i>	<i>Train lighting, fans and air conditioning services in trains 08-660</i>	<i>It is observed that expenditure on AC coach attendants, Power staff, train lighting and also functioning of air-conditioned services in trains are being charged to this head. Diesel Fuel supply to Power car is also being charged to this head. This may please be examined and separate detailed heads for each type of services as well as for functioning AC services & AC coach attendant may be opened for PCS purpose. All the slots at detailed head level are vacant under this sub-head.</i>
<i>Demand .No. 09- Operating Exp. Traffic</i>	<i>Station Operations – 09-200</i>	<i>Passenger Station Staff 09-220</i>	<i>Passenger Station Staff 09-220</i>	<i>At present whether tickets are issued by PRS staff or booking clerk under UTS, expenditure is being booked to Detailed head 09-220, since, time taking process for the both the system</i>

<i>Demand No. /Minor head</i>	<i>Activity</i>	<i>Existing Sub heads</i>	<i>Existing Detailed heads</i>	<i>Remarks & Recommendations</i>
				<i>are different, it would be appropriate to allocate the expenditure in both the cases separately to gauge the performance as well as LOB, further detail heads for Enquiry staff, TC staff and Special Service staff may also be provided. Vacant slots at detailed heads are available under this sub head.</i>
	<i>Station Operation 09-200</i>	<i>Tickets 09-250</i>	<i>Tickets 09-250</i>	<i>Separate accounting head required for PRS, UTS and paper tickets.</i>
	<i>Payment of lease charges for EBR – IF 09-790</i>	<i>Rolling Stock 09-790</i>	<i>09-792</i>	<i>Rolling stock consists various types of items such as Coaches, wagons & locos (Diesel/Electrical). Hence it would be appropriate to open new detailed heads for correct booking and costing.</i>

ANNEXURE - IV

Annexure IV

AIS No.	Department	Activity	Allocation
AIS 1	Commercial	Parcel & Luggage Office at Station	09-240, 261, 263
AIS 2	Commercial	Unreserved Ticketing System	09-220
AIS 3	Commercial	Passenger Reservation System	09-220
AIS 4	Operating	Yard Shunting Operations	09-300
AIS 5	Mechanical	Washing Line (Yard) Staff Carriage & Wagon	08-560
AIS 6	Electrical	Coaching Washing line Electrical Staff (Train Lighting, Fan & AC services in train)	08-660
AIS 7	Mechanical	Coach Care Centre (C & W Depot - Passenger Coaching Vehicle - PCV), (Sick Lines)	06-211
AIS 8	Mechanical	Coach Care Centre (C & W Depot - Other Coaching Vehicle - OCV) (Sick Line)	06-212
AIS 9	Electrical	Running Electrical Repair at Sick line Depot - (Conventional Coach)	06-510
AIS 10	Electrical	Running Electrical Repair at Sick line Depot - AC Coaches (LHB)	06-520
AIS 11	Electrical	Running Electrical Repair at Coach Care Centre Depot - (Generator Car)	06-530
AIS 12	Electrical	Electrical Loco Trip Shed	08-320
AIS 13	Electrical	Electric Loco Shed	05-510, 540, 550
AIS 14	Mechanical	Diesel Loco Trip Shed	08-230
AIS 15	Mechanical	Diesel Loco Shed	05-310
AIS 16	Operating	Deployment of Electric Loco (Power Controller/TLC: Control Office)	08-320
AIS 17	Operating	Deployment of Diesel Loco (Power Controller/TLC: Control Office)	
AIS 18	Mechanical	Railway Diesel Installation - Goods	10-212
AIS 19	Mechanical	Railway Diesel Installation - Power Car	08-660
AIS 20	Mechanical	Railway Diesel Installation - Passenger	10-211
AIS 21	Commercial	Train Operation (Travelling Ticket Checking Staff other than special squad)	09-530
AIS 22	Commercial	Train Operations (Conductor, TTE for Reserved Compartments)	09-550
AIS 23	Electrical	Crew Controller Office: Electrical	08-311
AIS 24	Mechanical	Crew Controller Office: Diesel	08-211
AIS 25	Operating	Other Operating Staff Accompanying the Train	09-520
AIS 26	Operating	Station Operations - Station Managers Office	08-510
AIS 27	Mechanical	Coach Care Centre (C & W Depot - PCV), (Sick/Washing Lines) - Linen Management	08-591, 592
AIS 28	Mechanical	Coach Care Centre - Sanitation Conservancy of Coaches(C & W Depot - PCV), (Sick/Washing Lines)	08-593
AIS 29	Electrical	Repairs & Maintenance Carriage & Wagons - EMU / MEMU Car Shed	06-400
AIS 30	Commercial	Goods Terminal Station - Staff Expenses	09-230
AIS 31	Commercial	Goods Transhipment Operation	09-410, 09-350
AIS 32	Commercial	Goods Repacking Operation	09-440, 09-360
AIS 33	Commercial	Repacking Parcel Operations	09-450
AIS 34	Mechanical	Running repairs in Workshop for Sick Line Passenger coach	06-221
AIS 35	Mechanical	Running repairs in Workshop for Sick Line Other Coaching Vehicle	06-222
AIS 36	Mechanical	Running repairs at Workshop for Diesel Loco Shed	05-320
AIS 37	Commercial	Parcel Transhipment Yard	09-420
AIS 38	Engineering	Maintenance of Permanent Way	04-200
AIS 39	Engineering	SSE Works (LOW)	04-122
AIS 40	Commercial	Train Operation (Special Ticket Checking Squad)	09-540
AIS 41	Commercial	Commission to Organisers of Pilgrims and Excursion Specials	09-723
AIS 42	Commercial	Commission to General Sales Agent under Indian Rover Journey Scheme	09-724
AIS 43	Commercial	Compensation for loss and damage for Parcel & Luggage	12-221
AIS 44	Commercial	Awards of Consumer Forum for Parcel & Luggage	12-273
AIS 45	Commercial	Compensation for loss and damage for Goods Services	12-230
AIS 46	Commercial	Awards of Consumer Forum for Goods Services	12-272
AIS 47	Commercial	Awards of Consumer Forum for Passenger Services	12-271
AIS 48	Commercial	Dining Cars Departmental	12-420
AIS 49	Commercial	Contract Catering	12-430

Activity Input Sheet - AIS No. 1

Parcel & Luggage Office at Stations (Deptt: Commercial)

Accounts Head: 09-240, 261 & 263

Unit of Measurement : MT

Activity Description : Total of Loading , Unloading & Transhipment

Month & Year :	Activity Centre Location Code:			Unit :	Total	Remarks
	LOADING	UNLOADING	TRANSHIPMENT			
Line of Business (LOB)						
Premium Services (PS)						
Mail Express Services (ME)						
Ordinary Services (OS)						
Meter Gauge Passanger Service (MP)						
Narrow Gauge Passanger Service (NP)						

Activity Input Sheet - AIS No. 4

Yard Shunting Operations (Deptt.: Operating)

Activity Description : Total No. of Shunting Engine Hours		Unit of Measurement : Hours	Accounts Head: 09-300
Month & Year :	Activity Centre Location Code:		Unit :
Line of Business (LOB)	Shunting Engine Hours		Remarks
Freight Train Services (FS)			
Premium Services (PS)			
Mail Express Services (ME)			
Ordinary Services (OS)			
Meter Gauge Freight Train Service (MF)			
Meter Gauge Passenger Service (MP)			
Narrow Gauge Passenger Service (NP)			

Activity Input Sheet - AIS No. 10

Running Electrical Repair at Sick line Depot - AC Coaches (LHB) (Deptt: Electrical)

Activity Description : Man days deployed		Unit of Measurement : Man Days	Accounts Head: 06-520			
Month & Year :		Activity Centre Location Code:		Unit :		
Line of Business (LOB)	Man Days					
	AC Chair Car (CC)	3rd AC (3A)	2nd AC (2A)	1st AC (1A)	Executive Class (EC)	Total
Premium Services (PS)						
Mail Express Services (ME)						
Ordinary Services (OS)						
						Remarks

Activity Input Sheet - AIS No. 11

Running Electrical Repair at Coach Care Centre Depot - (Generator Car) (Deptt: Electrical)

Activity Description : No. of Generator Car	Unit of Measurement : Numbers	Accounts Head: 06-530
Month & Year :	Activity Centre Location Code:	Unit :
Line of Business (LOB)	No. of Generator Car (GC)	Remarks
Premium Services (PS)		
Mail Express Services (ME)		

Activity Input Sheet - AIS No. 14

Diesel Loco Trip Shed (Deptt: Mechanical)

Activity Description : No. of Locos		Unit of Measurement : Numbers	Accounts Head: 08-230
Month & Year :	Activity Centre Location Code:		Unit :
Line of Business (LOB)	No. of Locos	Remarks	
Premium Services (PS)			
Mail Express Services (ME)			
Ordinary Services (OS)			
Freight Train Services (FS)			
Meter Gauge Freight Train Service (MF)			
Meter Gauge Passenger Service (MP)			
Narrow Gauge Passenger Service (NP)			

Activity Input Sheet - AIS No. 15

Diesel Loco Shed (Deptt: Mechanical)

Activity Description : No. of Locos		Unit of Measurement : Numbers	Accounts Head: 05-310
Month & Year :	Activity Centre Location Code:	Unit :	
Line of Business (LOB)	No. of Alco Locos	No. of GM Locos	Remarks
Premium Services (PS)			
Mail Express Services (ME)			
Ordinary Services (OS)			
Freight Train Services (FS)			
Meter Gauge Freight Train Service (MF)			
Meter Gauge Passenger Service (MP)			
Narrow Gauge Passenger Service (NP)			
		Total	

Activity Input Sheet - AIS No. 16

Deployment of Electric Loco (Power Controller/TLC: Control Office) (Deptt: Operating)

Activity Description : Number of Locos **Unit of Measurement : Numbers** **Accounts Head: 08-320**

Month & Year : **Activity Centre Location Code:** **Unit :**

Line of Business (LOB) **No. of Locos** **Remarks**

Premium Services (PS)

Mail Express Services (ME)

Ordinary Services (OS)

Freight Train Services (FS)

Activity Input Sheet - AIS No. 17

Deployment of Diesel Loco (Power Controller/TLC: Control Office) (Deptt: Operating)

Activity Description : Number of Locos		Unit of Measurement : Numbers	Accounts Head:
Month & Year :	Activity Centre Location Code:		Unit :
Line of Business (LOB)	No. of Locos		Remarks
Premium Services (PS)			
Mail Express Services (ME)			
Ordinary Services (OS)			
Freight Train Services (FS)			
Meter Gauge Freight Train Service (MF)			
Meter Gauge Passenger Service (MP)			
Narrow Gauge Passenger Service (NP)			

Activity Input Sheet - AIS No. 18

Railway Diesel Installation - Goods (Deptt: Mechanical)

Activity Description : Fuel in Kilolitres		Unit of Measurement : Kilolitre	Accounts Head: 10-212
Month & Year :	Activity Centre Location Code:		Unit :
Line of Business (LOB)	Kilolitres		Remarks
	Fuel Issued to Home Railway Goods Locos (10-212)		
Freight Train Services (FS)			
Meter Gauge Freight Train Service (MF)			
Total			

Activity Input Sheet - AIS No. 19			
Activity Description : Fuel in Kilolitres		Railway Diesel Installation - Power Car (Deptt: Mechanical)	
Month & Year :	Activity Centre Location Code:	Unit of Measurement : Kilolitre	Accounts Head: 08-660
Line of Business (LOB)	Kilolitres		Unit :
	Fuel Issued to Home Railway Generator Cars (08-660)		
Premium Services (PS)			
Mail Express Services (ME)			

Activity Input Sheet - AIS No. 20			
Railway Diesel Installation - Passanger (Deptt: Mechanical)		Accounts Head: 10-211	Unit :
Activity Description : Fuel in Kilolitres	Unit of Measurement : Kilolitre	Remarks	
Month & Year :	Activity Centre Location Code:	Unit :	
Line of Business (LOB)	Kilolitres	Remarks	
Premium Services (PS)	Fuel Issued to Home Railway Passanger Locos (10-211)	Remarks	
Mail Express Services (ME)			
Ordinary Services (OS)			
Meter Gauge Passanger Service (MP)			
Narrow Gauge Passanger Service (NP)			
Total			

Activity Input Sheet - AIS No. 21			
Train Operation (Travelling Ticket Checking Staff other than special squad) (Deptt: Commercial)			
Activity Description : Actual Deployment in Trains		Unit of Measurement : Man days	Accounts Head: 09-530
Month & Year :	Activity Centre Location Code:	Unit:	Remarks
LOB	Man Days Deployed		
Premium Services (PS)			
Mail Express Services (ME)			
Ordinary Services (OS)			
EMU Service (ES)			
DMU Service (DS)			
MEMU Service (MS)			
Meter Gauge Passanger Service (MP)			
Narrow Gauge Passanger Service (NP)			

Activity Input Sheet - AIS No. 25

Other Operating Staff Accompanying the Train (Deptt: Operating)

Activity Description : Other Operating Staff - (Other Than Guard & Astd. Guard)		Unit of Measurement : Man Days	Accounts Head: 09-520
Month & Year :	Activity Centre Location Code:		Unit
LOB	Man Days Deployed		Remarks
Premium Services (PS)			
Mail Express Services (ME)			
Ordinary Services (OS)			
EMU Services (ES)			
DMU Services (DS)			
MEMU Services (MS)			
Freight Train Services (FS)			
Meter Gauge Freight Train Service (MF)			
Meter Gauge Passanger Service (MP)			
Narrow Gauge Passanger Service (NP)			

Activity Input Sheet - AIS No. 26						
Station Operations - Station Managers Office (Deptt: Operating)						
Activity Description : No. of Trains Dealt (All Trains Originating, Terminating, Stopping, Passing, Through)		Unit of Measurement : Number		Accounts Head: 08-510		
Month & Year :		Activity Centre Location Code:		Unit		
LOB	No. of Trains Dealt					
	Originating	Terminating	Stopping & Passing	Through	Total	Remarks
Premium Services (PS)						
Mail Express Services (ME)						
Ordinary Services (OS)						
EMU Service (ES)						
DMU Service (DS)						
MEMU Service (MS)						
Freight Train Services (FS)						
Meter Gauge Freight Train Service (MF)						
Meter Gauge Passenger Service (MP)						
Narrow Gauge Passenger Service (NP)						

Activity Input Sheet - AIS No. 27

Coach Care Centre (C & W Depot - PCV), (Sick/Washing Lines) - (Deptt: Mechanical) Linen Management

Activity Description : No. of Coaches		Unit of Measurement : Numbers				Accounts Head: 08-591, 592
Month & Year :		Activity Centre Location Code:				
		No. of Coaches				
Line of Business (LOB)		AC Chair Car (CC)	3rd AC (3A)	2nd AC (2A)	1st AC (1A)	Executive Class (EC)
						Total
Premium Services (PS)						
Mail Express Services (ME)						
Meter Gauge Passenger Service (MP)						
Narrow Gauge Passenger Service (NP)						
						Remarks
						Unit :

Activity Input Sheet - AIS No. 29

Repairs & Maintenance Carriage & Wagons - EMU / MEMU Car Shed: Electrical (Deptt: Electrical)

Activity Description : No. of Coaches		Unit of Measurement : Numbers	Accounts Head: 06-400
Month & Year :	Activity Centre Location Code:	Unit :	
Line of Business (LOB)	No. of Coaches	Remarks	
EMU Services (ES)			
MEMU Services (MS)			

Activity Input Sheet - AIS No. 30																						
Goods Terminal Station - Staff Expenses (Deptt: Commercial)																						
Unit of Measurement : Numbers																						
Activity Centre Location Code:																						
Month & Year :																						
Line of Service =====>>>>	No. of Wagons																					
	Coal (CO)		Iron Ore (IO)		Cement (CM)		Fertilizer (FR)		Food Grain (FG)		Raw Material (RM)		Oil & Petroleum (OP)		Container Services (CS)		Other Item (MC)		Total			
Line of Business (LOB)	Loading	Unloading	Loading	Unloading	Loading	Unloading	Loading	Unloading	Loading	Unloading	Loading	Unloading	Loading	Unloading	Loading	Unloading	Loading	Unloading	Loading	Unloading	Remarks	
Freight Train Services (FS)																						
Meter Gauge Freight Train Service (MF)																						
Total																						

Accounts Head: 09-230

Unit :

Activity Input Sheet - AIS No. 33

Repacking Parcel Operations (Deptt: Commercial)

Activity Description : Parcel Repacking in Tonnes		Unit of Measurement : MT	Accounts Head: 09-450
Month & Year :	Activity Centre Location Code:	Unit :	Remarks
Line of Business (LOB)	Parcel Repacking in Tonnes		
Premium Services (PS)			
Mail Express Services (ME)			
Ordinary Services (OS)			
Meter Gauge Passanger Service (MP)			
Narrow Gauge Passanger Service (NP)			

Activity Input Sheet - AIS No. 35

Running repairs in Workshop for Sick Line Other Coaching Vehicle - (Deptt: Mechanical)

Activity Description : Running Repairs in Workshop for Sick Line - No. of Coaches OCV		Unit of Measurement : Numbers	Accounts Head: 06-222		
Month & Year :		Activity Centre Location Code:			Unit :
Line of Business (LOB)	No. of Coach				Remarks
	Generator Car (GC)	Pantry Car (PC)	SLR (SR)	Parcel & Postal Van (PP)	
Premium Services (PS)					
Mail Express Services (ME)					
Ordinary Services (OS)					
Meter Gauge Passanger Service (MP)					
Narrow Gauge Passanger Service (NP)					

Activity Input Sheet - AIS No. 36

Running repairs at Workshop for Diesel Loco Shed (Deptt: Mechanical)

Activity Description : No. of Diesel Locos		Unit of Measurement : Numbers		Accounts Head: 05-320
Month & Year :	Activity Centre Location Code:	Unit :		
Line of Business (LOB)	No. of Alco Locos	No. of GM Locos	Total	Remarks
Premium Services (PS)				
Mail Express Services (ME)				
Ordinary Services (OS)				
Freight Train Services (FS)				
Meter Gauge Freight Train Service (MF)				
Meter Gauge Passanger Service (MP)				
Narrow Gauge Passanger Service (NP)				

Activity Input Sheet - AIS No. 37

Parcel Transshipment Yard (Deptt: Commercial)

Activity Description : Transshipment Parcel Luggage		Unit of Measurement : MT	Accounts Head : 09-420		
Month & Year :	Activity Centre Location Code:		Unit :		
Line of Business (LOB)	LOADING	UNLOADING	TRANSHIPMENT	Total	Remarks
Premium Services (PS)					
Mail Express Services (ME)					
Ordinary Services (OS)					
Meter Gauge Passenger Service (MP)					
Narrow Gauge Passenger Service (NP)					

Activity Input Sheet - AIS No. 40		
Train Operation (Special Ticket Checking Squad) (Deptt: Commercial)		
Activity Description : Divisional Special Ticket Checking Squad	Unit of Measurement : Man days	Accounts Head: 09-540
Month & Year :		
LOB	Man Days Deployed	Remarks
Premium Services (PS)		
Mail Express Services (ME)		
Ordinary Services (OS)		
EMU Service (ES)		
DMU Service (DS)		
MEMU Service (MS)		
Meter Gauge Passanger Service (MP)		
Narrow Gauge Passanger Service (NP)		

Activity Input Sheet - AIS No. 41						
Commission to Organisers of Pilgrims and Excursion Specials (Deptt: Commercial)						
Activity Description : Divisional office - No. of Tickets		Unit of Measurement : Nu		Accounts Head: 09-723		
Month & Year :						
LOB	Number of Tickets			Total	Remarks	
	Sleeper (SL)	General (GS)	2nd Sitting (2S)			
Mail Express Services (ME)						
Ordinary Services (OS)						
Meter Gauge Passenger Service (MP)						
Narrow Gauge Passenger Service (NP)						

Activity Input Sheet - AIS No. 43

Compensation for loss and damage for Parcel & Luggage (Deptt: Commercial)

Activity Description : Divisional/HQ Level - Compensation Paid	Unit of Measurement : Rupees	Accounts Head: 12-221
Month & Year :	Activity Centre Location Code:	Unit :
Line of Business (LOB)	Compensation paid (Rs.)	
Premium Services (PS)		Remarks
Mail Express Services (ME)		
Ordinary Services (OS)		
Meter Gauge Passanger Service (MP)		
Narrow Gauge Passanger Service (NP)		

Activity Input Sheet - AIS No. 44

Awards of Consumer Forum for Parcel & Luggage (Deptt: Commercial)

Activity Description : Divisional/HQ Level - Amount Paid	Unit of Measurement : Rupees	Accounts Head: 12-273
Month & Year :	Activity Centre Location Code:	Unit :
Line of Business (LOB)	Amount Paid (Rs.)	
Premium Services (PS)		
Mail Express Services (ME)		
Ordinary Services (OS)		
Meter Gauge Passanger Service (MP)		
Narrow Gauge Passanger Service (NP)		
		Remarks

Activity Input Sheet - AIS No. 48			
Dining Cars Departmental (Deptt: Commercial)			
Activity Description : HQ Level - Amount of Expenses Incurred	Unit of Measurement : Rupees	Accounts Head: 12-420	
Month & Year :	Activity Centre Location Code:	Unit :	
Line of Business (LOB)	Expenses Incurred in Rs.		
	Pantry Car		
Premium Services (PS)			Remarks
Mail Express Services (ME)			

Activity Input Sheet - AIS No. 49			
Contract Catering (Deptt: Commercial)			
Activity Description : HQ Level - Amount of Expenses Incurred	Unit of Measurement : Rupees	Accounts Head: 12-430	
Month & Year :	Activity Centre Location Code:	Unit :	
Line of Business (LOB)	Expenses Incurred in Rs.	Remarks	
	Pantry Car		
Premium Services (PS)			
Mail Express Services (ME)			

ANNEXURE - V

