

Terms of Reference

Evaluation of Karnataka State Road Transport Corporations (KSRTC, NWKRTC and NEKRTC) from 2014-15 to -2019-20

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1. Title of the study

Evaluation of Karnataka State Road Transport Corporations (KSRTC, NWKRTC, NEKRTC) from 2014-15 to 2019-20

2. Department

Department of Public Enterprises

3. Background and Context

Road transport is vital to economic development, trade, and social integration, which rely on the conveyance of both people and goods. Easy accessibility, flexibility of operations, door-to-door service and reliability have earned road transport an increasingly higher share of both passenger and freight traffic vis-à-vis other transport modes. The bus-based transport system plays a major role in providing short, medium, and long-distance mass passenger mobility and for the movement of goods, thereby offering a cost-effective alternative to various modes of transport in India. The bus services are provided by both Private Bus Operators (PBOs) as well as publicly owned State Transport Undertakings/Corporations (STUs).

Karnataka State Road Transport Corporation (KSRTC) was established in 1961 with the aim to provide efficient, adequate, economic, and well-coordinated transport services to the commuters of the State with its head office at Bangalore. GoK decided to divide the Corporation into four separate Corporations based on geographical location to fulfil the diverse needs of commuters through effective and efficient control. Accordingly, KSRTC has been divided into Bangalore Metropolitan Transport Corporation (BMTC) functioning from 15-08-1997, North Western Karnataka Road Transport Corporation (NWKRTC) from 01-11-1997 and North Eastern Districts of Karnataka (NEKRTC) from 01-10-2000. KSRTC remained as an independent Corporation with effect from October 2000 catering to the needs of 17 southern districts. Measuring performance, understanding external environment, determining motivation, and examining capacity of RTCs is crucial for its future development. RTC is considered as a good performer when it balances effectiveness, efficiency and relevance while being financially viable. The current study is limited to evaluation of KSRTC, NWKRTC and NEKRTC. The major goal of the KSRTC/NWKRTC/NEKRTC is to increase traffic revenue and non-traffic revenue by optimum utilisation of resources and assets. The objectives of the KSRTC/NWKRTC/NEKRTC is to provide:

- The public with road transport facilities marked by high reliability, reasonable comfort, and moderate costs, within the existing technological and economic constraints.
- To constantly explore the newest and latest technological development in the field of road transport to provide better, safer, and cheaper road transport to the travelling public.
- To build up and maintain a high technological capacity in the Corporation to keep ever growing fleet in an excellent condition

The Corporation functions in 3 – tier system, i.e., Corporate office, Division office and Depots. All the Directors are appointed by the State Government.

Managerial, operational, and financial status of KSRTC, NWKRTC and NEKRTC are presented in separate sections below.

3.1 Karnataka State Road Transport Corporation (KSRTC)

Managerial aspects

Management: Board of KSRTC consisted of 6 Directors including a Chairman (non-official). The remaining 5 Directors are official Directors. There are totally 17 Divisions, Bangalore Central, Ramanagara, Tumkur, Kolar, Chikkballapur, Mysore City, Mysore Rural, Mandya, Chamarajnagar, Hassan, Chikmagalur, Mangalore, Puttur, Davanagere, Shivamogga, Chitradurga and Kempegowda Bus Station. There are 84 depots, 166 permanent bus stations, 2 regional workshops, 1 central training institute, 4 regional training institutes, 1 printing press and 1 hospital.

Services and Fare Structure: The Corporation adopts a differential passenger fare for each class of service based on the type of service and comfort level. For instance, 65.9 paise per km for ordinary services 240 paise per km for the Multi- axle A/C and sleeper coaches A/C.

Subsidies and Best Practices: Free Bus-passes to all SC/ST students till 7th standard and an additional 25% concession to girls studying in high school and to senior citizens. Free bus passes are issued to National Shourya Prashasti award winning children up to the age of 18 years, freedom fighters and blind persons. In addition, concessional bus passes to the physically handicapped persons.

Any Where Any Time Advance Reservation (AWATAR) service facilitates commuters on user friendly features including display of layout of vacant seats in the bus, facility for pre / postponement, partial cancellation, online reservation through payment gateway, e-ticket printing of home PD / anywhere, booking of tickets through credit cards, etc.

Intelligent Transport System (ITS) has been implemented in all buses of Mysore City Transport Division. The project scope includes 500 buses, 105 bus shelters and 45 platforms. ITS project is disseminating the bus arrival and departure information in real time through 167 passenger information system boards, 20 small screens and 16 big screens. The same is also provided through SMS, IVRS and Commuter Portal for public usage.

Electronic Ticketing Machines (ETM) with GPRS/GSM and Bluetooth are being used and software has been developed to get Real Time Passenger Information. Software has been implemented to calculate GST for each ticket in premier services. Daily passes for City Service and Volvo services are issued through ETM machine. Issue of intercity and integrated passes has been developed.

Most depots offer facilities like Digital Display and Intelligent Transport System, Tourist Information System, Two Wheelers and Four Wheelers Parking Facility, Public Addressing System, Pre-paid auto rickshaw and taxi, etc are provided in addition to basic facilities like drinking Water, Seating Arrangements, Modern Toilets, Canteen Facilities and Reservation

Counters. The employees are offered benefits like crew/staff rest rooms, Leave Management System through Kiosk located in depot and divisional workshops, Online Provident Fund and Voluntary Provident Fund facility and Health check-up schemes which are common to all corporations.

Operational Aspects

KSRTC operates 8145 Schedules utilizing 8535 vehicles, operating 29.26 lakh kms/day earning gross revenue of Rs.947.83 lakh and carrying 29.65 lakh commuters daily with workforce of 38880 employees. Thus, KSRTC operated 7138.57 lakh effective kms during the year 2019-20 (up to November-2019) as against 7042.64 lakh effective kms Operated during the same period of previous year. The percentage fleet utilization has increased to 93.0 during the current year from 91.6 in previous year. During the current year period it has inducted 162 new buses and replaced 304 old vehicles which were not fit for operation. The percentage of vehicles scrapped to the total vehicles was 3.4. More details on operational indicators is given in *Appendix Table 1*.

The overall rate of breakdown was 0.02 per 10000 kms and rate of accidents was 0.10 per 100000 kms. The percentage of regularity in arrivals declined from 95.2% to 94.7%, while percentage regularity in departures declined from 95.2 in 2017-18 to 94.7 in 2018-19. The rate of public complaints per lakh passengers was 0.87.

Financial Status

During the year 2018-19, the Corporation incurred a loss of Rs.134.93 crores as against a profit of Rs.4.50 crores made during 2017-18. KSRTC need to pay 5.55% of traffic revenue as motor vehicle tax and during the year 2018-19, the Corporation has paid motor vehicle tax of Rs.175.35 crores.

The corporation incurs operating expenditure and non- operating expenditure. The operating expenditure includes all items of revenue expenditure and capital charges like depreciation, interest on capital and loans, etc while the non-operating expenses which includes dependent depreciation, insurance, and registration fees, etc. The operating expenses increased from 3238.29 crores in 2017-18 to 3597.16 crores in 2018-19 while the non-operating cost increased from 78.67 to 86.77crores. More details on financial indicators is given in *Appendix Table 2*.

3.2 North Western Karnataka Road Transport Corporation (NWKRTC)

Managerial Aspects

Management: The Board of NWKRTC consists of 7 Directors of which the chairman is the non-official Director and remaining are official Directors who are representatives of State government. The NWKRTC has the Corporate Office at Hubballi with 9 operating Divisions at Belagavi, Hubballi, Dharwad, Bagalkot, North-Canara, Gadag, Chikkodi, Haveri and 51 operating depots and 158 bus stands in its jurisdiction. Besides there is one Regional Training Institute and Regional Workshop at Hubballi.

Services and Fare Structure: Besides operation of ordinary services, Corporation operates Mofussil routes, the Express, Non-stop, and Night services in addition to premier services on long routes. The corporation adopts a differential passenger fare for each class of service based on the type of service and comfort level ranging from 65.9 paise per km for ordinary services 240 paise per km for the Multi- axle A/C and sleeper coaches A/C.

Subsidies and Best Practices: NWKRTC is extending concessional bus passes to the public for the few routes for school and college students, physically handicapped persons, senior citizen fare concession (25%) for passengers of age 65 and above. Free bus-passes to the freedom fighters and to the blind persons. It also provides services with concessional rate for schools/colleges for excursion, educational tour, etc.

Its recent contribution is women buses from Hubli to Dharwad. It has tie-up with 'Hubli – Dharwad– One' service providers. To analyse schedule wise Activity Based Costing (ABC), in house IT team has developed ABC software was and is implemented in all Divisions of the Corporation. IT department has successfully developed and installed *Seva Spandana* software in all the depots, divisional offices, regional workshop, and central offices of Corporation to address the employee grievances proactively and it is working successfully.

With *Smart Leave Application Management System*, crew can apply leave online and get acknowledgement for the same. Based on quota leave will be automatically get sanctioned. To bring transparency and to avoid partiality in duty allocation and to allocate duty as per rota, "*Seniority based duty allocation through counselling*" software is developed by IT Department and this software has been installed in all the depots.

Operational Aspects

During 2019-20 (up to Nov-2019), the Corporation has a workforce of about 23171 employees. It operated 4631 schedules utilizing 4899 vehicles, operating 15.82 lakh Kms per day, earning gross revenue of Rs.493.80 lakh and carrying 22.46 lakh passengers on an average daily. It has extended services to 4519 villages out of 4609 villages, the percentage service provided being 98%. More details on operational performance is given in *Appendix Table 3*.

The overall rate of breakdowns per 10,000 kms during the year 2018-19 has been static at 0.03 as in 2017-18. The rate of accidents per lakh kms is also static at 0.07 as in previous year. Rate of public complaints per lakh passengers is increased to 0.03 from 0.02 during 2017-18.

Financial Aspects

During the year 2018-19, Corporation incurred loss of Rs.89.07 crores as against the losses of Rs.71.98 crores during 2017-18. During 2018-19, there is increase in HSD (High Speed Diesel) cost by Rs. 102.24 crores and staff cost by Rs. 59.00 crores as compared to previous year. In spite of this, loss is increased by Rs. 17.09 crores. During 2019-20 (up to 30-11-2019) loss is decreased to Rs. 105.08 crores from Rs. 180.26 crores during the corresponding period of the previous year. It is mainly due to increase of Rs. 79.82 crores reimbursement towards concession pass from Government as compared to previous year. The operating expenses increased from

Rs.1845.84 crores in 2017-18 to Rs.1998.47 crores in 2018-19, while the non-operating cost increased from Rs.33.78 crores to Rs. 37.43 crores. More information on financial indicators of NWKRTC is given in *Appendix Table 4*.

3.3 North Eastern Karnataka Road Transport Corporation (NEKRTC) **Managerial Aspects**

Management: NWKRTC consists of 8 Directors of which the chairman is the non-official Director and remaining 7 are official Directors. It has the Corporate Office at Kalburgi with 9 operating Divisions at Yadagiri, Kalaburagi, Bidar, Raichuru, Ballari, Koppala, Sedam, Hosapete and Vijayapura. It has 52 depots, 149 bus stands, 1 regional workshop and 2 training institute.

Services and Fare Structure: Besides operation of ordinary services on mofussil routes, the Corporation operates Express, Non-stop and Night services, in addition to Deluxe and Ultra-Deluxe/Rajahamsa services. The Corporation adopts a differential passenger fare for each class of service based on the type of service and comfort level ranging from 71.23 paise per km for ordinary services to 240 paise per km for the A/C sleeper coaches.

Subsidies/ Externalities and Best Practices: NEKRTC is extending concessional bus passes to the public for the few routes, school and college students, physically handicapped persons, senior citizen fare concession (25%) for passengers of age 65 and above. Free bus-passes to the NEKRTC employees, freedom fighters, blind persons, and district-recognised journalists. Concession of 50% on fares is provided to drama troupes/yakshagana troupes sponsored by the Karnataka Sangeetha Nataka Academy. Widows/Wives of freedom fighters are issued with free journey coupons of Rs. 2000 per annum. The children who were honoured by the Central Government with "Shourya Prashasti" are issued free pass to travel in mofussil, city/sub-urban, express and Rajhamsa services throughout the state until they attain 18 years. The city buses have been fitted with GPS-based present and next stop announcement, LED destination boards, pneumatic doors and comfortably ergonomically designed seat facility. The computerised Public Information System (PIS) was introduced in 53 bus stations in the Corporation.

Operational Aspects

NEKRTC is serving 92% of the villages in its area (3,859 out of 4,203) with transport facility. During the year 2019-20 (up to November 19), the Corporation operated 4256 schedules utilizing 4701 vehicles. It has scrapped 166 old vehicles which were not fit for operation. It has operated 14.17 lakh km and earning daily gross revenue of Rs.4.91 crores. More information on operational indicators of NEKRTC is given in *Appendix Table 5*.

The overall rate of breakdowns per 10,000 kms during the year 2017-18 has been reduced to 0.08 from the previous year which was at 0.09. The rate of public complaint per lakh passengers was at 0.07 during 2017-18. All 328 complaints received from the public during the year were investigated and suitable action taken wherever warranted. In all, 263 complaints were disposed of and remaining 65 complaints were under various stages of disposal as at the end of the year.

Financial Aspects

During the current year 2019-20 (up to November 2019), the Corporation incurred loss of Rs. 92.29 crores on total revenue as against the previous year period loss of Rs.123.69 crores. The loss of the Corporation is decreased by Rs. 31.40 crore as compared with the margin of the previous year period. The operating expenses during the same period was increased from 923.39 crores to 947.63 crores, while the non-operating cost increased from Rs. 260.58 to Rs. 287.63 crores. More Information on financial indicators of NWKRTC is given in *Appendix Table 6*.

4. Evaluation Need, Scope and Objectives

4.1 Need for Evaluation

There is dire need for the RTCs to balance effectiveness, efficiency, relevance, and sustainability while being financially viable considering following factors.

- Financial status of Corporations is influenced by five major factors. First, Government bus operators are liable for as many as 13 different taxes on their assets and operations. Second, non-refund or delayed re-imburement of subsidies to compensate for bus travel concessions to different segments of society. Third, State Governments' compulsive directives to operate bus services to connect remote villages has resulted in low occupancy in buses. Fourth, inflexibility of their fare structure due to lack of economic principles of demand and supply and economic valuation while developing pricing system and finally, crew productivity and utilisation of resources. This has influenced in rising operating and non-operating expenditure.
- Quality assumes greater importance and better quality of service by way of improving punctuality, regularity in services and reducing the rate of breakdowns, accidents and providing courteous services, etc bring good name to the undertaking. It is imperative on the part of service provider to design and develop specific services at an appropriate cost to address the needs of different categories of commuters.
- The halt or reduction to the transport operations due to COVID- 19 pandemic has aggravated the financial viability of the Corporations arising from declining revenue and increasing operating and non-operating expenditures.

4.2 Scope

The scope of the study covers the assessment of performance of the three corporations across all the divisions and districts in the State during the period 2014-15 to 2019-20 covering interstate and mofussil services, long and short routes, rural and urban and night services and different types of bus services. The purpose of evaluation is to examine to what extent the objectives of the Corporations are achieved with respect to operational efficiency, technology adoption and delivery of services and suggest suitable measures to increase competitive strength and service delivery.

4.3 Objectives

1. Estimate the efficiency of the Corporations and Depots and suggest measures for promoting efficiency
2. Comparative analysis of KSRTC, NWKRTC and NEKRTC across all types of services and terrains
3. Examine existing pricing policy (fare structure) of the corporations for all types of services and terrains and suggest effective pricing policy.
4. Perform supply-demand analysis considering both public and private service providers across all types of services and terrains.
5. Study the modern technological developments, best and sustainable practices (including e-mobility) in road transport from national and state experiences and suggest its relevance for Karnataka.
6. Impact of Covid-19 on functioning of corporations in general, on operational modalities and financial status of the corporations and contract workers and hiring services.
7. Study the impact of the Covid-19
8. Review of existing policies of the organizations and hurdles in flexibility of operations
Indicative information on indicators is provided in *Appendix Table 7*.

The following issues need to be factored into the objectives of the study.

Managerial Aspects

- The manpower planning strategies adopted at headquarters and district level offices and estimation of actual requirement of various staff.
- Demand-supply analysis of buses, depots, training institutes, bus stands and other facilities.
- The best and sustainable practices adopted by the corporations leading to better delivery of services including dispute settlement mechanism
- Steps taken by the corporation for the development of professional competencies of the employees and to what extent these trainings have translated into efficiency of the staff
- Review the existing policy for quality control in comparison with other such organization in the State and in other States
- Review the annual business/action plan of the corporation, policy hurdles hindering flexibility of operations, procedures / guidelines and examine to what extent the corporation can achieve the set targets and identify the factors hindering the target achievement by the corporation.

Operational Aspects

- Services rendered in terms of regularity, maintenance of service quality and time schedule.
- Reasons for low occupancy rates and identify trends observed across types of services and terrains and suggest measures for its improvement.
- Implications of the competition by private transport and the initiatives taken to compete with the local private road transporters effectively
- Factors influencing preparation of transport-time schedule, criteria for bus cancellation and additional bus for a particular location

- Gross, effective, and dead kilometre operated by bus type vary across divisions. Identify the reasons for increase in dead kilometres and suggest measures for its reduction.
- Influence of technology upgradation like advanced automation -Intelligent Transport System (ITS) in improving performance and reducing accidents.
- Measures taken by the corporation for providing modern, safe, and affordable transport services while being financially viable.
- Operational indicators to be estimated using formulas provided in the *Appendix Table 8*.

Financial Aspects

- The capital structure of the corporation and different categories of revenue receipts earned by the corporation at divisional and depot level.
- Mapping the traffic revenue generated by route and bus type / service type across division and depots and suggest measures for higher revenue generation.
- Present and the future earning capacity, profitability, and solvency status of the organization.
- Ways to reduce the operating and non-operating expenditures and increase revenues considering changing costs and subsidies
- Current pricing policy and suggest affordable pricing policy considering sustainability of the corporations.
- Financial indicators to be estimated using formulas provided in the *Appendix Table 9*.

Labour Productivity and Welfare measures

- Nature of staff- permanent- contract- and hiring practices.
- Measures taken to increase labour productivity -Training and capacity building.
- Functioning of Labour unions in the corporations- Strikes and lock outs
- Measures taken for the welfare of staff and other contract workers
- Wages and working conditions
- Gender issues- safety and security
- Staff and management relations- Review of Committees.
- Impact of Covid-19 on contract workers and hiring services.

Other Issues

- Comparative study of an efficiently performing organization from neighbouring states.
- Best and sustainable practices adopted in different organizations including e-mobility

5. Methodology

5.1 Data

The study should consider both secondary and primary data from 2014-15 to 2019-20 for organisation evaluation of KSRTC, NWKRTC and NEKRTC.

Secondary data: should be collected from different sources like annual reports, publications, transportation journals and operational records of KSRTC, NWKRTC and NEKRTC.

Primary data: should be collected from corporation staff, private service providers and commuters covering the jurisdiction of KSRTC, NWKRTC and NEKRTC using multistage stratified proportional random sampling.

Board and Corporation Staff: Sampling framework is presented in Table 1. In the first stage, 6 divisions out of 17 from KSRTC, 3 divisions out of 8 from NWKRTC and 3 divisions out of 9 from NEKRTC should be selected following the criteria of low, moderate and higher profits (one in the bottom, one in middle range and top one division based on ranking on the basis of financial performance of divisions). This criteria would correspond to about 35 % (12) of the total divisions (34). In the second stage, 3 depots from each division should be selected following the same criteria, totalling to 36 depots. This would correspond to about 19 % (36) of the total depots (187).

Table 1: Sampling framework

Corporation	Division (Stage 1)		Depot (Stage 2)	
	Total	Sample	Total	Sample
KSRTC	17	6	84	6*3=18
NWKRTC	8	3	51	3*3=9
NEKRTC	9	3	52	3*3=9
Total	34	12	187	36

***Note:** The depots to be drawn in a representative manner to include interstate and mofussil services, long and short routes, rural and urban, day and night services, different types of bus services - ordinary, express and luxury, city, suburban, interstate, express, ordinary, Rajahamsa, Sleeper and Multi-axle, different terrains -hinterland, plains, hilly, coastal, monopoly, non-monopoly.

In the final stage, data should be collected using a structured and pre-tested questionnaire from 5% of the board and staff of RTCs including the printing and training wings. By using this criterion, if less than 1 sample respondent is arrived, then minimum of 1 sample respondent should be considered. Sample respondents should be selected based on the Probability Proportional to Population criteria. Interactions will include office support staff performing various roles and at various levels. Sample respondents include Managing Directors, Divisional Controllers, Divisional Traffic Officer, Divisional Mechanical Engineer, Civil Engineering Department staff, Depot Managers, Training Managers, MIS Staff, Drivers, Conductors and Regional Workshop Staff- Assistant Works Superintendent (AWS)/ Helpers (A &B). In addition, information should be collection using semi-structured interviews from Transport Secretariat, Commissioner for Transport and Road safety, Deputy Secretary to Transport and Corporation Board Chairman.

Passengers

Sampling of Public and Private Passengers is presented in Table 2. Data should be collected using a pre-tested structured questionnaire from public and private bus commuters from each of the 36 depots (area of operation) covering rural and urban routes, night services and

luxury services. Therefore, the questionnaire to be canvassed with 1440 public and 180 private commuters, totalling to 1620 commuters.

Table 2: Sampling of Public and Private Passengers

Operation area of Corporation	Public	Private transport operators
KSRTC	18 * 40 (10 each from rural and urban routes night services and luxury services) =720	3-local State + 3-National*15=90
NWKRTC	9 * 40= 360	3*15=45
NEKRTC	9* 40= 360	3*15=45
Total	1440	180
Grand total	1620	

Focussed Group Discussions (FGDs): FGDs with a group of sample officials at various levels in the corporation, passengers, and policy makers. It should have representation across levels and functions. FGD participants should be (a) homogeneous group and (b) heterogeneous group across verticals and levels, to capture perception differences, to enrich the outcome of the exercise and add value to the study. A minimum of 54 FGDs to be carried with the composition given in *Table 3*.

Table 3: Sampling of FGDs

Sl no	Type	Composition	No of FGDs
1	Depots (1 Depot/Division)	Depot Managers + Mechanical Engineers + Civil Engineers	12
		Bus Drivers+ Conductors + Helpers/maintenance	12
2	Division (1/Division)	Divisional Controller + Divisional Traffic Officer + Depot Manager	12
3	Boards (1/Board)	Officials	3
4	Passengers (1 Depot/Division)	Passengers using RTCs + Private transport	12 +3
Grand total			54

5.1 Analytical techniques

Primary and secondary data collected should be analysed using qualitative and quantitative analytical techniques such as

- descriptive statistics (measures of central tendency & dispersion),
- scaling, correlation, regression (quantitative & qualitative),
- managerial, operational and financial ratios,
- SWOT,
- customer satisfaction index,

- financial sustainability index, and cost-benefit,
- sensitivity, productivity and efficiency {Estimation of output – input specific efficiencies} analysis.

Comparative analysis of the three corporations.

Note that Consultants are encouraged to propose robust sampling criteria, analytical tools and techniques or improvements to the suggested methodology to realise the larger goals of the study. Any minor change by Consultant to the suggested methodology should be duly approved by KEA on or before the approval of the inception report.

6. Deliverables and time schedule

The concerned department implementing the scheme and KEA will provide the necessary information pertaining to the study and co-operate with the consultant organization in completing the assignment task within the stipulated time. It is expected to complete the present study in 6 months' timeline, excluding the time taken for approvals at KEA. The exercise is expected to be completed in an elapsed time of six calendar months from date of agreement.

- I. **Inception Report** in four weeks from commencement on basic understanding of the problem, key issues identified, directions for subsequent stages, detailed work plan, meetings / FGDs planned including names / designations of personnel and schedules, impediments if any to realise the work plan. Inception report is a road map of how the Evaluation Consultant Organization (ECO) intends to proceed with the evaluation work in terms of ToR. It is a road map and action plan for conducting the study, evolved through the study team effort, based on the basic framework provided by the ToR and bring in the study team insights and contributions. It shall be structured into different chapters and headings and contain
 - (1) Evaluation title and background information in brief;
 - (2) Review of Literature
 - (3) Theory of Change/ output outcome framework - input-activities output-outcome-impact
 - (4) Evaluation criteria and framework: purpose, scope, Objectives.
 - (5) Evaluation approach (with-without; before-after), stakeholders involved sampling and limitations, **Evaluation ethics** -ECO must obtain a consent of the Stakeholders before data collection (As per UNEG Guidelines)
 - (6) **Evaluation Framework**- Evaluation criteria - relevance, effectiveness, efficiency, impact and sustainability and **Evaluation matrix*****: It sets out the conceptual framework to be used in an evaluation, Main evaluation issues, Key evaluation question, Sub-question, Indicator(s), Normative/baseline value, Success threshold, Data sources, Data collection method, Method of data analysis***.

***Note: the evaluation matrix is a six-column table consolidation of the material at Sl. No. 4 to 7. Evaluation criteria at Column 1 added for clarity and follows the REESI format as under. The table is illustrative and not exhaustive.

Evaluation criteria	Key Evaluation Question ^{###}	Specific sub questions ^{##} for each Key Question	Indicators / success standards/ KPI	Data sources	Data collection methods / Analytical tools [#]	Analytical Method / Analysis method
	(1)	(2)	(3)	(4)	(5)	(6)
Relevance						
Organisation objectives & Actual requirements	Key Evaluation Question ^{###}					
	Key Evaluation Question ^{###}					
Effectiveness						
Inputs & Process of implementation	Key Evaluation Question ^{###}					
	Key Evaluation Question ^{###}					
Efficiency						
Cost benefit analysis	Key Evaluation Question ^{###}					
Fund utilization and capacity building	Key Evaluation Question ^{###}					
Output produced	Key Evaluation Question ^{###}					
Impact						
Outcomes-immediate	Key Evaluation Question ^{###}					
Outcomes- Short term	Key Evaluation Question ^{###}					
Outcomes-Medium term	Key Evaluation Question ^{###}					
Outcomes--Long Term	Key Evaluation Question ^{###}					
Sustainability						
Sustainability of the project in the long run	Key Evaluation Question ^{###}					

Specific tool and subsection to be referred to / connected

Key Evaluation Questions and sub questions to be derived from the objectives of evaluation in ToR and from pilot study insights

There will and can be many key evaluation questions for each evaluation issue and many sub questions for each key evaluation question. These need to be framed by the study team in question format.

- (7) Data Analysis Techniques- All statistical and Mathematical techniques to be used in data analysis
- (8) Table templates and chapter outline
- (9) field observations from pilot survey
- (10) Work Plan
- (11) Study Team with their contribution details
- (12) List of persons conducting the FGD along with their qualifications and
- (13) Training schedule of field enumerators with the details of trainers.

Appendix

- Questionnaire & Interview Schedules for all stake holders
- Check list for FGD
- List of field Investigators

Evaluation ethics -Evaluation Consultants will be held to the highest ethical standards and are required to sign a code of conduct upon acceptance of the assignment. To be included in MoU.

Timeline for inception report

Briefing of the evaluation team, preliminary PPT presentation to KEA on study methodology proposed by team with data requirements	Details of the secondary data required for the study as perceived to be provided	Within one week of issue of work order
Pilot study completion	Field investigation to prepare and fine tune Inception Report	One week from preliminary meeting with KEA
Submission of detail Pilot study report to KEA	Approval of KEA	4 days from submission of report
Finalization of study tools	Incorporating all changes	1 week
Submission of IR to KEA	Approval of KEA for presentation	2 days after submission
Presentation of IR before KEA	As per time schedule in KEA -	One week
Submission of revised Inception Report	Incorporating the suggestions of KEA	2 days from PPT presentation
Presentation of revised PPT {if necessary}		Within 4 days of submission of revised IR

- II. **Interim Report**, on findings from officers and field respondents and FGDs (covering at least 50% of planned meets and FGDs) at the end of eight weeks, after the inception report, followed by presentation of Interim Report

Interim report should mainly include the progress and initial findings of the evaluation study.

- (1) Evaluation title and background information.
 - (2) Log Frame/Theory of Change/Program Theory as observed in the field.
 - (3) Redesigned evaluation framework: purpose, scope, stakeholders involved, input-output-outcome-impact
 - (4) Analysis of secondary data and findings.
 - (5) Primary data – analysis and Findings based on the 50% of the field work, table templates and chapter outline for the report; and
 - (6) Analysis of case studies and Focus Group Discussions.
- a) **Draft Report** covering all items in the ToR including key issues identified, directions for the future (vision, mission, organisational objectives, organisational form including any that are external to the parent, working / reporting modalities, objectives of all entities, performance criteria ...) within eight weeks from submission of Interim Report.
 - b) **Final Report** within four weeks of approval of Draft Report by Technical Committee.

Timelines and deliverables

Inception Report	1 month after signing the agreement
Interim Report	2 months after the date of approval of Inception report
Draft report submission	2 months after Interim Report
Final report	1 Month after approval of the Draft report
Total duration	6 Months

7. Quality expected from the Evaluation Report

Following are the points, only inclusive and not exhaustive, which need to be mandatorily followed in the preparation of evaluation report:

The evaluation report should generally conform to the United Nations Evaluation Guidelines (UNEG) "Standards for Evaluation in the UN System" and "Ethical Standards of Evaluations".

- a) The results should correspond to the ToR objectives.
- b) Regarding recommendations, the number of recommendations is no measure of the quality of evaluation. Evaluation should be done with a purpose to be practicable to implement the recommendations. The practicable recommendations should not be lost in the population maze of general recommendations

- c) The report should be complete and logically organized in a clear but simple language. Evaluation report should conform to standard report writing style and structure. Harvard report writing and referencing standard to be adopted.

8. Structure of the report

The following are the points, only inclusive and not exhaustive, which need to be mandatorily followed in the preparation of evaluation report. The report should be complete and logically organized in a clear but simple language. Besides conforming to the qualities covered in the Terms of Reference, report should be arranged in the following order:

- Title and Opening Page
 - Index (Table of Contents)
 - List of acronyms and abbreviations
 - Executive Summary- A standalone section that describes the program/organisation and its objectives, purpose, scope and objectives of evaluation, methodology, key findings, and recommendations.
1. Background- A section that briefly covers the scenario of the program/ organisation in the State including rationale and importance, physical and financial analysis, scope and objectives of evaluation, outline of the report.
 2. Review of literature- objective/Issue based from reports, journals, etc.
 3. Evaluation Methodology - research design, Log-frame and Evaluation Matrix, Data collection (tools and techniques) and analysis (analytical techniques), limitations of the evaluation study.
 4. Results and Discussion- objective/issue based and discussion of results to be also drawn from literature, FGDs and case studies
 5. Findings- to be arranged as per the objectives/issues
 6. Recommendations - to be arranged as per the objectives/issues

Annexures

- a. Sanctioned Terms of Reference of the study.
- b. Survey Questionnaires
- c. List of persons with addresses personally interviewed.
- d. Place, date and number of persons covered by Focus Group Discussion
- e. Compilation of case studies/best practices (brief socio-economic background of the sample unit, intervention, and outcome)
- f. Table showing details of major deviations and non-conformities

9. Administrative arrangements

Introduction to KSRTC, NWRTC and NEKRTC and authorisation to carry out the tasks and meet relevant personnel, facilitating access to stakeholders for meetings / FGDs. Timely response to submissions and presentations by KEA.

5. Professional competencies expected to handle the assignment

Sl. No.	Subject Experts Requirements	Qualification	Experience
1.	Principal Investigator	PhD/Post Graduate Degree in Economics/ Commerce/Management/ Public Policy	5 years of relevant evaluation experience (strategy, policy, government,) as team leader
2.	1 st Core team member	Post Graduate degree in Finance and Accounting/ commerce/ MBA Economics/ Chattered Accountant	3 years of experience in organizational evaluation
3.	2 nd Core team member	Postgraduate in Statistics/ Economics/ MCA	Knowledge of organization and functional divisions and familiar with government accounting systems {Finance / accounting}
4	3 rd Core Team Member	Degree in Mechanical engineering/ Transport Engineering	Experience in impact evaluation of developmental programs

10. Cost and Schedule of Budget Releases

The Output based budget release will be as specified in the RFP.

11. Contact person for the details of the study

The Contact person details about the study is as below-

At KEA:


- (i) Dr. Chaya Degaonkar, Additional Chief Evaluation Officer, 9342331301
- (ii) Dr.A.V.Manjunatha, Director (Evaluation), 9448402848

At RTCs:

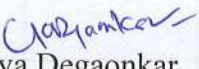
- (i) KSRTC: Ms. Veena Desai, Chief Planning and Statistical Officer, M-7760990170
- (ii) NWKRTC: Mr Patil (M: 7760991534); Mr Jaishankar Shetty (M: 7760991519)
- (iii) NEKRTC: Mr. Shivappa (M 7760992046)

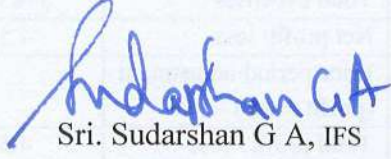
TOR Prepared by:

Dr. M. R. Sangeetha
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Director (Evaluation)
Karnataka Evaluation Authority

Under the Guidance of:


Dr. Chaya Degaonkar
Additional Chief Evaluation Officer
Karnataka Evaluation Authority


Sri. Sudarshan G A, IFS
Chief Evaluation Officer
Karnataka Evaluation Authority

Appendices

Appendix Table 1: Operational Indicators of KSRTC

Sl.No.	Particulars	2017-18 FY	2018-19 FY	2018-19 (up to 30-11- 2018)	2019-20 (up to 30-11- 2019)	% Variation (4 compared to 3)
		1	2	3	4	5
1.	No. of buses at the end of the period	8784	8695	8713	8535	-2.0
2.	% of over aged buses (7.50 lakh Kms)	33.4	37.5	28.8	42.5	
3.	Routes operated at the end of the year (No.)	5774	5495	6106	5495	-10.0
4.	Route length at the end of the year (in lakhs)	96.8	95.82	96.8	78.4	-19.01
5.	Avg. Eff. Kms operated/ day (in lakhs)	28.73	29.04	28.86	29.26	1.4
6.	Avg. passengers carried / day (in lakhs)	29.68	30.12	28.89	29.65	2.6
7.	Avg. number of buses held	8563.4	8778.1	8764.5	8617.4	-1.7
8.	Avg. number of buses on road	7915.2	7915.1	8030.1	8016.4	-0.2
9.	% of Fleet utilisation	92.6	92.1	91.6	93.0	
10.	Avg. Vehicle Utilisation (in Kms.)	363	361	360	365	1.4
11.	Total Traffic receipts (Rs. In Crores)	3488.2 9	3724.35	2182.47	2312.71	6.0
12.	Avg. Seating capacity	50.7	52.9	51.5	51.4	
13.	% of Load Factor	69.9	71.4	71.8	77.4	
14.	Bus Staff Ratio	4.69	4.70	4.66	4.77	2.4
15.	Total vehicles (including scrapped vehicles held)	9825	9174	9383	8839	-5.8

Source: Economic Survey of Karnataka 2019-20

Appendix Table 2: Financial Indicators of KSRTC (Rs. in crore)

Sl. No	Particulars	2017-18	2018-19	2018-19 (up to 30-11-2018)	2019-20 (up to 30-11-2019)	% Variation (4 compared to 3)
		1	2	3	4	5
1.	Total Receipts	3488.29	3724.35	2364.34	2500.09	5.7
2.	Total Expenses (Excl. Taxes)					
	a) Operating Expenses					
	b) Non- Operating expenses	3238.29 78.67	3597.16 86.77	2386.42 54.49	2456.855 58.41	3.0 7.2
3.	Profit before taxes					
4.	Total Taxes					
	a) Passenger tax					
	b) Motor vehicle & other taxes	166.83	175.35	116.27	122.22	5.1
5.	Total expenses	3483.79	3859.28	2557.18	2637.48	3.1
6.	Net profit/ loss	4.50	-134.93	-192.84	-137.40	
7.	Prior period adjustment (profit / loss)					
8.	Total profit / loss	4.50	-134.93	-192.84	-137.40	

Source: Economic Survey of Karnataka 2019-20

Appendix Table 3: Operational Indicators of NWKRTC

Sl.No.	Particulars	2017-18	2018-19	2018-19 (up to 30-11-2018)	2019-20 (up to 30-11-2019)	% Variation (4 compared to 3)
		1	2	3	4	5
1.	No. of buses at the end of the period	5048	5013	4886	4899	0.3
2.	% of over aged buses (7.50 lakh Kms)	34.4%	44.8%	40.6%	49.1%	
3.	Routes operated at the end of the year (No.)	4126	4067	4095	4031	-1.6
4.	Route length at the end of the year (in lakhs)	3.68	3.62	3.80	3.58	-5.8
5.	Avg. Eff. Kms operated/ day (in lakhs)	16.56	16.14	16.18	15.82	-2.2
6.	Avg. passengers carried / day (in lakhs)	22.50	22.46	22.45	22.46	0.0
7.	Avg. number of buses held	4999.8	4990.1	5002.5	4940.9	-1.2
8.	Avg. number of buses on road	4757.7	4710.6	4737.4	4579.5	-3.3
9.	% of Fleet utilisation	95.2%	94.4%	94.7%	92.7%	
10.	Avg. Vehicle Utilisation (in Kms.)	348	343	347	345	-0.6
11.	Total Traffic receipts (Rs. in Crores)	1589.59	1664.98	1120.41	1138.02	1.6
12.	Avg. Seating capacity	51.4	51.5	51.0	51.3	1.6
13.	% of Load Factor	60.8%	65.2%	66.1%	68.3%	
14.	Bus Staff Ratio	4.70	4.72	4.76	4.73	
15.	Total vehicles (including scrapped vehicles held)	5618	5285	5142	5076	-1.3

Source: Economic Survey of Karnataka 2019-20

Appendix Table 4: Financial Indicators of NWKRTC (Rs. in crore)

Sl. No	Particulars	2017-18	2018-19	2018-19 (up to 30-11-2018)	2019-20 (up to 30-11-2019)	% Variation (4 compared to 3)
		1	2	3	4	5
1.	Total Receipts	1884.45	2027.60	1251.18	1358.12	8.5
2.	Total Expenses (Excl. Taxes)					
	a) Operating Expenses	1845.84	1998.47	1348.99	1367.69	1.4
	b) Non- Operating expenses	33.78	37.43	24.26	35.04	44.4
3.	Profit before taxes	4.83	-8.30	-122.07	-44.61	
4.	Total Taxes					
	a) Passenger tax	0.00	0.00	0.00	0.00	
	b) Motor vehicle & other taxes	76.80	80.77	58.19	60.47	3.9
5.	Total expenses	1956.42	2116.67	1431.44	1463.20	2.2
6.	Net profit/ loss	-71.97	-89.07	-180.26	-105.08	
7.	Prior period adjustment (profit / loss)					
8.	Total profit / loss	-71.97	-89.07	-180.26	-105.08	

Source: Economic Survey of Karnataka 2019-20

Appendix Table 5: Operational Indicators of NEKRTC

Sl. No:	Particulars	2016-17	2017-18	2017-18 (up to 30-11-2017)	2018-19 (up to 30-11-2018)	2019-20 (up to 30-11-2019)	% Variation (5 compared to 4)
		1	2	3	4	5	6
1.	Routes operated at the end of the year (No.)	3948	4159	3948	3973	4030	1.4
2.	Route length at the end of the year (in lakhs)	3.93	3.98	3.96	3.87	3.94	1.8
3.	Avg. Eff. Kms operated/ day (in lakhs)	13.30	13.83	13.69	14.05	14.17	0.9
4.	Avg. passengers carried / day (in lakhs)	13.50	13.52	13.52	13.55	13.55	0
5.	Avg. number of buses held per day	4384.8	4501.1	4465.4	4746.3	4747.4	0.02
6.	Avg. number of buses on road per day	3969.0	4071.4	4036.5	4112.0	4134.9	0.6
7.	% of Fleet utilisation	90.5	90.5	90.4	86.6	87.1	0.6
8.	Avg. Vehicle Utilisation (in Kms.)	335	340	339	342	343	0.3
9.	Total Traffic receipts (Rs. in Crores)	1324.71	1415.50	949.17	1022.60	1061.59	3.8
10.	Avg. Seating capacity	50.6	51.1	51.0	51.3	50.7	-1.2
11.	% of Load Factor	64.1	65.8	64.1	69.6	72.1	3.6
12.	Bus Staff Ratio	4.94	4.67	4.79	4.74	4.81	1.4
13.	Total vehicles (including scrapped vehicles held)	4879	5538	4999	5218	4867	-6.7

Source: Economic Survey of Karnataka 2019-20

Appendix Table 6: Financial Indicators of NEKRTC (Rs. in crore)

Sl. No	Particulars	2016-17	2017-18	2017-18 (up to 30-11-2017)	2018-19 (up to 30-11-2018)	2019-20 (up to 30-11-2019)	% Variation (5 compared to 4)
		1	2	3	4	5	6
1.	Total Receipts	1519.42	1635.45	1028.50	1112.54	1197.66	7.7
2.	Total Expenses (Excl. Taxes)	1504.44	1594.62	1037.01	1183.97	1235.26	4.3
	a) Operating Expenses	1127.97	1189.90	776.69	923.39	947.63	2.6
	b) Non- Operating expenses	376.47	404.72	260.32	260.58	287.63	10.3
3.	Profit before taxes	14.98	40.83	-8.51	-71.43	-37.60	-47.4
4.	Total Taxes	69.44	74.13	49.62	52.24	54.68	4.7
	a) Passenger tax	0.00	0.00	0.00	0.00	0.00	0.00
	b) Motor vehicle & other taxes	69.44	74.13	49.62	52.24	54.68	4.7
5.	Total expenses	1573.88	1668.75	1086.63	1236.21	1289.94	4.3
6.	Net profit/ loss	-54.46	-33.30	-58.13	-123.67	-92.29	-25.4
7.	Prior period adjustment (profit / loss)	0.00	0.00	0.00	0.00	0.00	0.00
8.	Total profit / loss	-54.46	-33.30	-58.13	-123.67	-92.29	-25.4

Source: Economic Survey of Karnataka 2019-20

Appendix Table 7: Indicators of effectiveness, efficiency, relevance and financial viability

Effectiveness	Efficiency
Achievement of objectives/goals	Cost per service
Number of passengers served	Overhead to total service
Quality of service	Output per staff
Access to service and usage	Cost per passenger served
Knowledge generation and its utilisation	Staff absenteeism and turnover rates
Demand for services	Frequency of system breakdowns
Growth indicators like coverage, services, revenues	Timeliness of delivery of services
Relevance	Financial viability
Stakeholders satisfaction	Changes overtime to net operating capital
Number of services	Ratio of revenues to costs
Role changes	Ratio of current assets to current liabilities
Changes in revenues	Ratio of total assets to total liabilities
Changes in reputation among corporations	Growth indicators in terms of sources of revenues, assets, capital and revenues
Acceptance of the service by stakeholders	Level of diversification of sources of revenues
Budget earmarked for professional development	Frequency of hiring to provide services
Changes in corporation innovation and adaptability	
Changes in corporation reputation among key stakeholders	
Changes in services and programs related to changing passengers	

Appendix Table 8: Operational indicators and formulas

SN.	Operational Indicators	Formula
1	Vehicle Utilization	$VU = \frac{\text{Effective kms operated per day}}{\text{Average number of buses on road}}$
2	Fleet utilization by bus type	$FU = \frac{\text{No of buses on Road by bus type}}{\text{No of buses held by bus type}}$
3	Percentage dead kilometre by bus type	$\%DK = \frac{\text{total dead kms by bus type}}{\text{Total effective kms by bus type}}$
4	Kilometre per litre/ fuel economy by bus type	$KMPL = \frac{\text{fuel cost per tank}}{\text{kilometres driven}}$
5	Occupancy ratio	$OR = \frac{\text{Passenger Kms}}{\text{Seat Kilometre offered}}$
6	Load factor by bus type	$LF = \frac{\text{Passenger Kms}}{\text{Seat or capacity Km}} * 100$
7	Passenger kilometres per fleet held	$PFH = \frac{\text{total passenger kilometre}}{\text{total number of buses held by the corporation}}$

8	Passengers carried per bus on road per day	Passengers carried per bus on road per day = $\frac{\text{Passengers carried per day}}{\text{No. of Buses on Road}}$
9	Passenger Lead	Passenger lead = $\frac{\text{Total passenger kms. occupied}}{\text{Total No. of passengers carried}}$
10	Breakdown Rate per 10,000 kilometres	Break down rate = $\frac{\text{Total No. of breakdowns}}{\text{Total Effective kms.}} * 10000$
11	Accident rate per	Accident Rate = $\frac{\text{Total No. of accidents}}{\text{Total Effective kms.}} * 100000$
12	Punctuality in Arrivals	$PA = \frac{\text{Total No. of scheduled trips actually departed} - \text{All late departures}}{\text{Total No. of scheduled trips actually departed.}} * 100$

Appendix Table 9: Financial indicators and formulas

SN.	Financial Indicators	Formula
1	Cost per kilometre by bus type	$CPk = \frac{\text{Total cost}}{\text{Total effective Kms. operated}} * 100 \text{ paise}$
2	Cost per seat kilometre	$CPk = \frac{\text{Total cost}}{\text{seat kms. offered}} * 100 \text{ paise}$
3	Cost per Bus held and on Road per day	$\text{cost per bus held and on road per day} = \frac{\text{Total cost per day}}{\text{Average number of buses on road during a year}}$
4	Cost per passenger kilometre	$CPPk = \frac{\text{Total cost}}{\text{Total passenger Kilometre}} * 100 \text{ paise}$
5	Operating Expense Ratio	Operating Expense Ratio = $\frac{\text{Operating Expenses} - (\text{interest} + \text{tax})}{\text{Gross revenue}}$
6	Revenue Turnover Ratio	$RTR = \frac{\text{Gross revenue}}{\text{Capital employed}}$
7	Earnings per Bus held	$LF = \frac{\text{total earnings per day}}{\text{No. of buses held}}$
8	Earnings per Bus Road	$EBR = \frac{\text{Total Earnings per day}}{\text{no. of buses on road}}$
9	Earnings per Kilometre [EPKM] by bus type	$EPKM = \frac{\text{Traffic receipts}}{\text{Effective Km}}$
10	Earnings per seat kilometre offered by bus type	$EPKM = \frac{\text{Total revenue receipts}}{\text{Total seat kilometre offered}}$
11	Passenger per day by bus type	$PPD = \frac{LF}{100} * \text{number of trips in a day} * \text{average seating capacity}$
12	Earnings per effective kilometre	$EPK = \frac{\text{Gross revenue}}{\text{effective kilometre operated}}$