



TSRTC

**Request for Proposal
for Selection of Service Provider for
Implementation of
Automatic Fare Collection System (AFCS) in
Telangana State Road Transport Corporation**

Tender No: SM-III(IT)/AFCS(01)/2023-IT

Bid Submission Date: 03-02-2024

Technical Bid Opening Date: 03-02-2024

Financial Bid Opening Date: Will be opened
after finalization of Technical Bid

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Disclaimer

1. This Request for Proposal ('Tender') document is issued by the Telangana State Road Transport Corporation (TSRTC), hereinafter referred to as the 'Purchaser'.
2. The information contained in this Tender or subsequently provided to Bidders, whether verbally, or in documentary, or any other form by or on behalf of the Purchaser or any of its employees or advisors, is provided to Bidders on the terms and conditions set out in this Tender.
3. This Tender is not a contract and is not an offer by the Purchaser to prospective Bidders or any other person. The purpose of this Tender is to provide interested parties with information that may be useful to them in the formulation of their Bids in pursuant to this Tender. This Tender includes statements, which reflect various assumptions and assessments arrived at by the Purchaser, in relation to the project. Such assumptions, assessments, and statements do not purport to contain all the information that Bidders may require. This Tender may not be appropriate for all persons, and it is not possible for the Purchaser, its employees, or advisers to consider the objectives, technical expertise, and particular needs of each party who reads or uses this Tender. The assumptions, assessments, statements, and information contained in this Tender, may not be complete, accurate, adequate, or correct. Each Bidder should, therefore, conduct their own investigations and analysis and should check the accuracy, adequacy, correctness, reliability, and completeness of the assumptions, assessments, and information contained in this Tender and obtain independent advice from appropriate sources.
4. The Purchaser accepts no liability of any nature, whether resulting from negligence or otherwise, however caused, arising from reliance of any applicant upon the statements contained in this Tender.
5. The Purchaser may, in its absolute discretion, but without being under any obligation to do so, update, amend, or supplement the information, assessment, or assumptions contained in this Tender. The issue of this Tender does not imply that the Purchaser is bound to select a Bidder or to appoint the Selected Bidder for this project and the Purchaser reserves the right to reject all or any of the Bids, without assigning any reason whatsoever.
6. The Purchaser or its authorized officers / representatives / advisors reserve the right, without prior notice, to change the procedure for the selection of

the Selected Bidder or terminate discussions and the delivery of information at any time before the signing of any agreement for the implementation of the project described in this Tender, without assigning reasons thereof.

7. The Tender does not address concerns relating to diverse investment objectives, financial situation, and particular needs of each party. The Tender is not intended to provide the basis for any investment decision and each Bidder must make their own independent assessment in respect of various aspects of the techno- economic feasibility of the project. No person has been authorized by the Purchaser to give any information or to make any representation not contained in this Tender.
8. The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Bid, including but not limited to preparation and expenses associated with any demonstrations or presentations which may be required by the Purchaser, or any other costs incurred in connection with or relating to its Bid. All such costs and expenses shall remain with the Bidder and the Purchaser shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder, in preparation for submission of the Bid, regardless of the conduct or outcome of the selection process.

Invitation To Bid

Tender No: SM-III(IT)/AFCS(01)/2023-IT

Bid End Date: 03-02-2024

Technical Bid Opening Due Date: 03-02-2024

Price Bid Opening Due Date: Will be opened after finalization of Technical Bid

From:

Telangana State Road Transport Corporation (TSRTC),

Bus Bhavan,

B-Block,

RTC X Road, Musheerabad, Hyderabad-500020. Telangana State.

To: All Prospective Bidders

Telangana State Road Transport Corporation (TSRTC), invites proposals ('Bids') in response to this Request for Proposal ('Tender') documents from eligible reputed, competent, and professional Information Technology companies, who meet the minimum eligibility criteria, as specified in this Tender for implementation of an Enterprise Solution for Automatic Fare Collection and Online passenger reservation for the TSRTC.

The complete Tender document shall be published on 11-01-2024, for the purpose of downloading.

A bidder will be selected ('Selected Bidder') based on the 'Bid Evaluation Methodology' described in this Tender.

Bidders are advised to study this tender document carefully before submitting their Bids in response to this Tender notice. Submission of a Bid in response to this notice shall be deemed to have been done after careful study and examination of this Tender document with a full understanding of its terms, conditions and implications.

The time, date, and venue details related to the pre-bid conference and Bid submission are mentioned in the Data Sheet. Bids that are received after the Bid Submission Deadline shall not be considered.

To obtain first-hand information on the assignment, bidders are encouraged to attend the pre-bid meeting. However, attending the pre-bid meeting is optional.

Thanks, and Regards,

Chief Engineer (IT) TSRTC

Data Sheet

Information	Details
1. Tender issuing authority	Telangana State Road Transport Corporation (TSRTC)
2. Purpose of Tender	Selection of Service Provider for Automatic Fare Collection System (AFCS) for TSRTC
3. Tender Issue Date	11-01-2024
4. Availability of tender documents	The tender is available and downloadable on website www.tsrtc.telangana.gov.in . All subsequent changes to the Tender shall be published on the above-mentioned website
5. Earnest Money Deposit ('EMD')	₹25,00,000 (Rupees twenty-five lakhs only), in the form of a DD, drawn in favor of "Telangana State Road Transport Corporation (TSRTC)", payable at Hyderabad, valid for 210 (Two hundred and ten) days from the Bid Submission Deadline date, as per the instructions prescribed in Annexure 11.
6. Visit to TSRTC	Refer to website www.tsrtc.telangana.gov.in
7. Clarification Submission Deadline	All the queries/clarification requests should be received on or before 23-01-2024 by 15:00hrs, through e-mail only, as per the format and instructions prescribed in Annexure 9. Email addresses: itstsrtc@gmail.com Subject line: Pre-Bid Clarifications - <Bidder's Name>
8. Date, time, and venue of pre-bid meeting	Time and date: 20-01-2024 at 15:00 hrs Location: Main Conference Hall, B-Block, I-Floor, Bus Bhavan, RTC X Road, Musheerabad, Hyderabad-500020.
9. Bid Submission Deadline	03-02-2024 by 14:00 hrs
10. EMD Submission Deadline	03-02-2024 by 14:00 hrs
11. Date, time, and venue for Bid Submission	03-02-2024 from 11:00 to 14:00 hrs at Main Conference Hall, B-Block, I-Floor, Bus Bhavan, RTC X Road, Musheerabad, Hyderabad-500020.
12. Date, time, and venue of opening of Technical Bids	Date and time: 03-02-2023 by 15:00 Hrs Location: Main Conference Hall, B-Block, I-Floor, Bus Bhavan, RTC X Road, Musheerabad, Hyderabad-500020.

13. Date, time, and venue of opening of qualifying Financial Bids	Date and time: 14-02-2024 at 15:00 hrs. Location: Mini Conference Hall, B-Block, I-Floor, Bus Bhavan, RTC X Road, Musheerabad, Hyderabad-500020.
14. Language	Bids should be submitted in English only.
Information	Details
15. Bid Validity Period	210 (Two hundred and ten) days from the Bid Submission Deadline.

Glossary of Terms:

The definitions of various terms that have been used in this document are as follows:

1. **'Agreement'** means the agreement to be signed between the Selected Bidder and Purchaser, including all attachments, appendices, annexures, and documents incorporated by reference thereto together with any subsequent modifications, this Tender, the bid offer, the acceptance, and all related correspondences, clarifications, and presentations.
2. **'Banking Day'** means a day on which the banks in Hyderabad are open for business.
3. **'Bid'** means the entire proposal, including all its parts and sections, submitted by a Bidder in response to this Tender for implementation of the Project.
4. **'Bid Submission Deadline'** means the date and time mentioned as 'Bid Submission Deadline' in the section titled Data Sheet.
5. **'Bid Validity Period'** means the duration of time mentioned as 'Bid Validity Period' in the section titled Data Sheet.
6. **'Bidder'** means the Single firm/Company/party who submit Bids offering their solution(s), service(s), and / or materials for implementation of the Project as described in this Tender.
7. **'Business Day'** shall be construed as a reference to a day, other than Sunday and other gazette holidays, on which the Purchaser's office is generally open for business.
8. **'Business Hours'** means the normal working hours of the Purchaser, which means hours between 10.30 to 17.00 on all Business Days, unless otherwise communicated.
9. **'Business Support Hours'** means 24 hours on all days, excluding any hours or any day where the Purchaser is not operating bus services.

10. **'Card Fees'** means the fees that the Purchaser shall pay to the Selected Bidder for every smart card procured or issued, as the case may be, as defined.
11. **'Change Request'** means a communication from one Party to the other Party to make changes within the quantities, specifications, services, or Scope Of Work as described in this Tender.
12. **'Closed System PPI'** means 'Closed System PPI' as defined by the RBI vide Master Direction DPSS.CO.PD.No.1164/02.14.006/2017-18.
13. **'Commercial Terms'** means the financial terms agreed between the Selected Bidder and the Purchaser, as described in clause 9.
14. **'CPI'** means the Consumer Price Index for India, as published by the CPI Authority. For the purposes of the Tender and the Agreement, the reference CPI shall be the CPI for 'General Index (All Groups)' for 'All India' region 'Urban' sector with the 'Base Year' of the CPI being the year 2012.
15. **'CPI Authority'** means the Central Statistics Office (CSO), Ministry of Statistics and Program Implementation, Government of India, or any other entity authorized to publish the CPI.
Customer Data includes but not limited to Customer name, gender, age, phone number, Card number. This will be fully detailed during the course of the project
'Digital Payments' means the online payments and any other payments collected by Selected Bidder on behalf of the Purchaser, such as but not limited to online payments for mobile tickets or passes, online recharges of smart cards, etc.
16. **'EMD'** refers to the earnest money deposit as explained in clause 3.3.3.
17. **'Failure Incident'** refers to any event or abnormality in the functioning of the Platform that may lead to a disruption in normal operations of the Platform.
18. **'Financial Bid'** means the financial proposal submitted by a Bidder in response to this Tender.
19. **'Fixes'** means Product fixes such as workarounds, patches, bug fixes, beta fixes, and beta builds, and any derivatives of the foregoing, that are either released generally (such as commercial product service packs) or that are provided when performing services.
20. **'Force Majeure'** will have the same meaning ascribed to it in clause 15.
21. **'Go Live'** means the date of launch of the Project with all required functionalities, to the satisfaction of the Purchaser.

22. **‘Implementation Phase’** means the tenure of the engagement of the Selected Bidder, including all extension periods, starting from the date of the issuance of LOA, and ending on the Go Live date.
23. **‘LOA’** means the letter of award issued by the Purchaser to the Selected Bidder to confirm their selection to implement the Project under the terms of this Tender.
24. **‘Material Breach’** will have the same meaning ascribed to it in clause 16.
25. **‘Monthly Invoice Amount’** means the total amount invoiced by the Selected Bidder for the calendar month for the Project.
26. **‘MSME’** means any entity that, on the Bid Submission Deadline date, is recognized as a micro, small, or medium enterprise by the Ministry of Micro, Small, and Medium Enterprises, Government of India, and is also registered as such with the said ministry, and is able to furnish a valid proof of registration.
27. **‘NCCM’** means National Common Mobility Card
28. **‘NFC’** means ‘near field communication’.
29. **‘Open System PPI’** means ‘Open System PPI’ as defined by the RBI vide Master Direction DPSS.CO. PD. No.1164/02.14.006/2017-18.
30. **‘OTA’** means ‘over the air’.
31. **‘Party’** refers to the Purchaser or the Selected Bidder individually, and **‘Parties’** refer to the Purchaser and the Selected Bidder together.
32. **‘Platform’** means the entire set of software applications including the technology platform as a whole, or any of the individual software applications or components of the technology platform deployed for Project, as the context may require.
33. **‘Platform Downtime’** means accumulated time during which the Platform is totally inoperable within the Scheduled Operation Time, except under Force Majeure conditions, and is measured as the minutes elapsed from the time the Platform is detected as totally inoperable until the Platform is restored for operations.
34. **‘Platform Support Hours’** means 24 hours a day on all days.
35. **‘Pre-existing Work’** shall have the meaning ascribed to it in clause 12.3.
36. **‘Product’** means any web-based services, or materials comprising commercially released, pre-release or beta products (whether licensed or at no charge), and any derivatives thereof which are made available to the Purchaser for license which is

published by the Product's rightful owner, or its affiliates, or a third party.

37. **'Project'** means the project to implement an Automatic Fare Collection System as described in this Tender along with its appendices, annexures, and any other documents provided or issued during the course of the selection process.
38. **'Purchaser'** or **'TSRTC'** means the Telangana State Road Transport Corporation, acting through the Chief Engineer (IT) of the TSRTC.
39. **'RBI'** means the Reserve Bank of India.
40. **'Request for Proposal'** or **'Tender'** means this request for proposal document prepared by the Purchaser for the selection of Selected Bidder for implementing the Project.
41. **'Requirements'** include all the documents prepared by the Purchaser for the implementation of the Project, including the Scope Of Work, SLA, schedules, details, description, statements of technical data, performance characteristics, and standards (both Indian and International), as applicable and specified in this Tender.
42. **'Scheduled Maintenance Time'** means the time that the Platform is not in operation due to a scheduled maintenance activity.
43. **'Scheduled Operation Time'** means the scheduled operating hours of the Platform for the calendar month, less the Scheduled Maintenance Time for the same calendar month.
44. **'Scope of Work'** means all the works, activities, services, and deliverables described in clause 4 of the Tender, and any other works described in the Tender, including any works that may arise out of Change Requests during Term, that the Selected Bidder must execute to successfully implement the Project.
45. **'Selected Bidder'** means the Bidder that is selected for implementation of a Project by the Purchaser.
46. **'Semi-closed System PPI'** means 'Semi-closed System PPI' as defined by the RBI vide Master Direction DPSS.CO. PD. No.1164/02.14.006/2017-18.
47. **'Settlement Account'** means the escrow / pool account set up by the Selected Bidder with the Settlement Bank for holding Digital Payments prior to settlement.
48. **'Settlement Bank'** means a scheduled Indian bank based in India with whom the Settlement Account is opened.

49. **'SLA'** means Service Level Agreements, as defined in clause 11.
50. **'Startup'** means any entity that, on the Bid Submission Deadline date, is recognised as a startup by the Ministry of Commerce and Industry, Government of India, and is also registered as such with the said ministry, and is able to furnish a valid proof of registration.
51. **'Technical Bid'** means the technical proposal submitted by a Bidder in response to this Tender.
52. **'Term'** or **'Operations and Maintenance Phase'** means the tenure of the engagement of the Selected Bidder, including all extension periods, starting from one day after the Go Live date, and ending on the last day of the engagement, as per clause 2.1(2).
53. **'Total Project Value'** means the entire sum of money estimated to be invoiced by the Selected Bidder to the Purchaser during the entire Term, excluding any sums invoiced arising out of Change Requests during the Term.
54. **'Valid Mobile Ticket'** means a mobile ticket and / or mobile pass and / or mobile travel plan:
- That has been issued correctly;
 - Is valid for the route and stop combination that the passenger is attempting to validate it for;
 - Where the smartphone of the passenger is functioning properly; and
 - Where the passenger has provided all required permissions to the mobile app.
 - Has not already been used or validated for a ride.
55. **'Valid Open Loop NCMC Card'** means an open loop smart card:
- That has been issued correctly;
 - Has a sufficient prepaid wallet balance or a valid pass or a valid travel plan for the route and stop combination that the passenger is attempting to validate it for; and
 - Has not been tampered with, mishandled, or damaged in any way, whether physically, electronically, or otherwise.
56. **'Valid closed loop Smart Card'** means a closed loop smart card:
- That has been issued correctly;
 - Has a valid pass or a valid travel plan for the route and stop combination that the passenger is attempting to validate it for; and
 - Has not been tampered with, mishandled, or damaged in any way, whether physically, electronically, or otherwise.

1. ABOUT TELANGANA STATE ROAD TRANSPORT CORPORATION (TSRTC)

Public Transport is one of the most common modes of transport especially in a developing country like India. TSRTC is currently operating bus services within Telangana State and to the neighboring States (Andhra Pradesh, Karnataka, Maharashtra, Goa, Tamil Nadu and Chhattisgarh).

Some of the key factors about TSRTC are:

➤ Number of Vehicles	9,321
➤ Regions	11
➤ Depots	98
➤ Bus Stations	364
➤ Zonal Workshops	2
➤ Body Building Workshop	1
➤ Man power	46,100

Various branded services offered by TSRTC include:

- Regular Services operated daily with various levels of comfort, such as Garuda Plus A/c, Rajadhani A/c, Metro luxury A/c, Pushpak A/c, Super Luxury, Deluxe, Express, Pallevelugu, City Metro Deluxe, City Metro Express and City Ordinary.
- Contract Carriage Services and Advance Reservation Services.

2. Instructions to Bidders:

This clause specifies the procedures to be followed by Bidders in the preparation and submission of their Bids. It is important that the Bidder carefully reads and examines the Tender.

2.1. General

1. The Purchaser invites Bids for the implementation of the Project as described in this Tender.
2. The contract period is for 5 (five) years from the date of phase -1 go live. The Purchaser reserves the right to extend the Term up to an additional 3 (three) years, in periods of 1 (year) years for each extension on mutually agreeable terms. All other terms and conditions of the Tender shall remain as is.
3. While every effort has been made to provide comprehensive and accurate background information and requirements and specifications, Bidders must form their own conclusions about the solution needed to meet the Requirements. Bidders may wish to consult their own legal advisers in relation to this Tender.

4. All information supplied by the Selected Bidder may be treated as contractually binding on the Bidder, after successful award of the assignment is made on the basis of this Tender.
5. No commitment of any kind, contractual, or otherwise shall exist unless and until a formal Agreement has been executed by or on behalf of the Purchaser.
6. The Purchaser may cancel this tender at any time without assigning any reason.
7. Bids must be received not later than the Bid Submission Deadline. Bids that are received after the Bid Submission Deadline shall not be considered in this selection process.
8. No oral conversations or agreements with any official, agent, or employee of the Purchaser shall affect or modify any terms of this tender, and any alleged oral agreement or arrangement made by a Bidder with any agency, official, or employee of the Purchaser shall be superseded by the Agreement.
9. Neither the Bidder nor any of Bidder's representatives shall have any claims whatsoever against the Purchaser or any of their respective officials, agents, or employees arising out of or relating to this tender or these procedures (other than those arising under the Agreement in accordance with the terms thereof).
10. All Bids and accompanying documentation of the Technical Bid shall become the property of the Purchaser and shall not be returned.
11. The Bidder commits itself to take all measures necessary to prevent corrupt practices, unfair means, and illegal activities during any stage of the selection process, or post-selection, in order to secure their selection or in furtherance to secure it.

2.2. Eligible Bidders

1. The Bidder should be eligible to operate in conformity with the provisions of the laws in India and shall have a registered office within India.
2. The Bidder should not have any conflict of interest with any parties included in the Tender process.
3. The Bidder must submit their details in the format prescribed in Annexure 8.
4. The Sole Bidder must have the capabilities to deliver the entire Scope of Work as mentioned in the Tender.

2.3. Contacting the Purchaser

1. No Bidders shall contact the Purchaser on any matter relating to its Bid, from the time of the bid opening until the Selected Bidder is selected.
2. If a Bidder tries to influence the Purchaser or otherwise interfere in the selection process and decision, its Bid may be rejected.

2.4. Right to vary the Scope of Work

The Purchaser may at any time, by a written order given to the Selected Bidder, make changes within the quantities, specifications, services, or Scope of Work, as per the Change Request Process defined in clause 4.

2.5. Right to Terminate the Process

1. The Purchaser may terminate the selection process at any time and without assigning any reason. The Purchaser makes no commitments, express or implied, that this process will result in a business transaction with anyone.
2. This Tender does not constitute an offer by the Purchaser. The Bidder's participation in this process may or may not result in the Purchaser selecting the Bidder for implementation of the Project.

2.6. Rejection Criteria

1. Besides other conditions and terms highlighted in the Tender, Bids may be rejected under following circumstances:
 - a) Bids not qualifying under eligibility criteria;
 - b) Bids submitted without or improper EMD or Tender fees;
 - c) Bids received through any platform other than platform as mentioned in the Tender;
 - d) If the information provided by the Bidders is found to be incorrect, or misleading at any stage or time during the selection process;
 - e) Any effort on the part of a Bidder to influence the Purchaser's evaluation, bid comparison or selection decisions;
 - f) Bids received by the Purchaser after the last date and time for receipt of Bids as prescribed in the Data Sheet;
 - g) Bids without signature of person(s) duly authorized on the Bid;
 - h) Technical Bid containing financial details or any such hints, calculations, and / or extrapolations or records;
 - i) Revelation of prices in any form or by any reason before the opening of Financial Bids;
 - j) Failure to furnish all information required in this Tender or submission of a Bid not substantially responsive to the Tender in every respect;
 - k) Bidders not quoting for the complete Scope of Work, and any subsequent information given to the Bidders;
 - l) Bidders not complying with the general terms and conditions as stated in the Tender; or
 - m) Bidders not confirming unconditional acceptance of full responsibility of providing services in accordance with the Scope Of Work, general terms and SLA of this Tender;

2. Bidders have Bid separately under different names for the Project, all such Bids shall stand rejected and the EMD and Tender fees shall be forfeited, and such Bidders shall be liable at the discretion of the Purchaser for further penal action including blacklisting.
3. If it is found that multiple Bidders have uploaded separate Bids under different names but with common addresses, or are managed or governed by the same person/persons jointly or severally, such Bidders shall be liable for penal and legal action including blacklisting.
4. If after selection of the Selected Bidder, it is found that the accepted Bid violated any of the directions pertaining to the participation, the Agreement shall be liable for cancellation at any time during the Term in addition to penal action including blacklisting against the Selected Bidder.

3. Bid submission instructions

3.1. Tender Document Fees and Purchase

1. Cost of the Tender Document is Rs. 11,800/- (including GST) and has to be paid in the form of a Demand Draft (DD) drawn in favor of “FA & CAO, TSRTC, Hyderabad” drawn on a Nationalized / Scheduled Bank other than a Co-operative Bank.
2. Cost of Tender Document will not be accepted in any form other than DD and is non-refundable.
3. Bidders attending the demo/pre-bid meeting shall submit the DD towards the cost of Tender Document, when they attend the demo/pre-bid meeting, without fail.
4. Only bidders who submit DD towards the cost of the tender document will be allowed to participate in the demo/pre-bid meeting.
5. The name and address of the bidder has to be furnished on the reverse side of the DD.
6. Bidders who do not attend the demo/pre-bid meeting have to submit the DD towards the cost of Tender Document, along with the technical bids.
7. The Tender Documents have to be downloaded from TSRTC website www.tsrtc.telangana.gov.in
8. Bidder have to submit their Technical and Financial Bids along with all relevant documents, enclosures and annexures at Bus Bhavan as mentioned in the Data Sheet.

3.2. Pre-bid Meeting and Clarifications

3.2.1. Bidder Clarifications

1. Any clarification regarding the Tender and any other item related to the Project can be submitted to the Purchaser as per the submission mode and timelines mentioned in the Data Sheet.
2. Any requests for clarifications after the date and time indicated in the Data Sheet

shall not be entertained by the Purchaser. However, the Purchaser reserves the right to issue clarifications even after the date and time indicated on the Data Sheet.

3. Only those clarification requests that are sent as per the instructions provided in the Data Sheet shall be considered.
4. It is necessary that the pre-bid clarification requests must be submitted in the format prescribed in Annexure (9) and as per the instructions provided in the Data Sheet.
5. In no event will the Purchaser be responsible for ensuring that Bidders' enquiries have been received by the Purchaser.
6. The Purchaser may at its option share the answers with all the Bidders either at the Pre-bid meeting or send the clarifications to all the designated representatives of the Bidders via email. The responses to the clarifications from any Bidder will be distributed to all the Bidders. The Purchaser shall endeavor to provide responses to all clarifications. However, the Purchaser makes no representation or warranty as to the completeness of any response, nor does the Purchaser undertake to answer all the clarifications that have been posed by the Bidders.

3.2.2. Pre-bid Meeting

The Purchaser shall hold a pre-bid meeting with the prospective Bidders as mentioned in the Data Sheet.

3.2.3. Responses to Pre-bid Clarifications

1. The Purchaser will formally respond to the pre-bid clarifications after the pre-bid meeting.
2. The Purchaser will endeavor to provide a timely response to all clarifications. However, the Purchaser makes no representation or warranty as to the completeness or accuracy of any response made in good faith, nor does the Purchaser undertake to answer all the clarifications that have been posed by the Bidders.
3. At any time prior to the last date for receipt of Bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by prospective Bidders, modify the Tender document by issuing a corrigendum.
4. The corrigendum (if any), notifications regarding extensions (if any), and responses to clarifications from all Bidders will be posted on the website mentioned in the Data Sheet, or emailed to all participants of the pre-bid meeting.
5. Any such corrigendum shall be deemed to be incorporated into this Tender.
6. In order to provide prospective Bidders reasonable time for taking the corrigendum into account, the Purchaser may, at its discretion, extend the last date for the receipt of Bids.
7. Notifications regarding extensions and the corrigendum (if any), will be published on the website mentioned in the Tender and there shall be no newspaper advertisement.

3.3. Preparation of Bid

3.3.1 Bidder preparation conditions

1. The Bidder shall prepare the Bid based on details provided in the Tender. It must be clearly understood that the quantities, specifications, and diagrams that are included in the Tender are intended to give the Bidder an idea about the scope and magnitude of the work and are not in any way exhaustive and guaranteed by the Purchaser.
2. The Bidder shall carry out the sizing of the solution based on their own assessment and analysis, which may include the use of modelling techniques wherever necessary.
3. The Bidder must propose a solution TSRTC suited to meet the Requirements. If, during the sizing of the solution, any upward revisions of the specifications and/or quantity as given in this Tender are required to be made to meet the conceptual design and/or Requirements of the Tender, all such changes shall be included in the Technical Bid and their financial impact, thereof, shall be included in the Financial Bid.
4. If, during the sizing of the solution, any additional product that is not listed in the Tender is required to be included to meet the conceptual design, performance requirements, and other requirements of tender, all such product(s) should be included by the Bidder in the Technical Bid and their financial impact included in the Financial Bid.
5. The Purchaser will in no case be responsible or liable for any costs associated with the design/sizing of the proposed solution, regardless of the conduct or outcome of the selection process.
6. If at any stage during the Term, the solution proposed does not meet the functional requirements, conceptual design, performance requirements, service level agreements, and other requirements of Tender, the Bidder shall revise the required specifications and/or quantities as proposed by the Bidder in their Bid in order to meet the said objectives/targets. All such provisions shall be made by the Bidder within the quoted price, at no extra cost to the Purchaser, and without any impact to the Purchaser whatsoever.

3.3.2 Bid preparation Costs

1. The Bidder shall be responsible for all costs incurred in connection with participation in the selection process, including, but not limited to, costs incurred in conduct of informative and other diligence activities, participation in meetings/discussions / presentations, preparation of the Bid, in providing any additional information required by the Purchaser to facilitate the evaluation process and in negotiating a definitive Agreement or all such activities related to the selection process.
2. The Purchaser will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the selection process.

3.3.3. Earnest Money Deposit ('EMD')

1. A sum of Rs. 25,00,000/- (Rupees twenty-five lakhs only) shall be paid towards Earnest Money Deposit in the form of Demand Draft from any Nationalized Bank or Scheduled Bank other than a Co-operative Bank, drawn in favor of "Telangana State Road Transport Corporation, Hyderabad."
2. The DD should be submitted along with the technical bid.
3. The Name and Address of the firm submitting the bid has to be furnished on the reverse side of the DD.
4. EMD in any form other than DD shall not be accepted.
5. The EMD amount will not carry any interest.
6. The EMD of bidders who are not qualified in the technical evaluation will be returned after opening of the financial bids.
7. The EMD of the technically qualified unsuccessful bidders will be refunded only after finalization of Tenders in all respects and issue of Letter of Award to the successful bidder.
8. No exemption of EMD is allowed for any bidder including Government Organizations / undertakings or Small-Scale Industries.

3.3.4. Security Deposit

1. Security Deposit is Rs. 1,00,00,000/- (Rupees one crore only) i.e., Earnest Money Deposit (EMD) of Rs. 25 lakhs converted as security deposit and the balance Rs. 75 lakhs to be deposited by the successful bidder in the form of a Demand Draft.
2. The successful bidder shall enter into agreement with TSRTC, within the time prescribed.
3. Any delay in entering into Agreement within the prescribed time would result in forfeiture of the EMD.
4. The Security Deposit shall not carry any interest and will be refunded after 6 months from the completion of contract and Exit Clause.

3.3.5. Bidders Authorization

1. The 'Bidders' as used in the Tender shall mean the one who has signed the Tender Forms. The Bidder may be either the Principal Officer or their duly Authorized Representative; in either case, s/he shall submit a power of attorney. All certificates and documents (including any clarifications sought and any subsequent correspondences) received hereby, shall be furnished, and signed by the representative or the principal.
2. The authorization shall be indicated by written power of attorney as per the format in Annexure (13) for sole bidders, accompanying the Bid in the name of the signatory of the Bid.
3. Any change in the Principal Officer of the Bidder shall be intimated to the Purchaser in advance.

3.3.6. Address for Correspondence

The Bidders shall designate the official mailing and e-mail address to which all correspondence shall be sent.

3.3.7 Local Conditions

1. It will be incumbent upon each Bidder to fully acquaint itself with the local conditions and other relevant factors such as legal conditions which would have any effect on the preparation of the Bid and performance of the Bidder and / or the cost. The Purchaser shall not entertain any request for clarification from the Bidders regarding such conditions.
2. Failure to obtain the information necessary for preparing the Bid and/or failure to perform activities that may be necessary for the providing services before entering into the Agreement will in no way relieve the Selected Bidder from performing any work in accordance with the Tender.
3. Neither any change in the time schedule of the Tender nor any financial adjustments to the Tender awarded under the bidding documents shall be permitted by the Purchaser on account of failure of the Bidders to apprise themselves of local laws and site conditions.

3.3.8. Site visits by the Bidder

The Bidder may visit and examine site, at a time to be agreed with the Purchaser (and obtain for themselves on their own responsibility all information that may be necessary for preparing the Bid document). The visit may not be used to raise questions or seek clarification; such matters must be submitted in writing. The costs of visiting the site(s) shall be at Bidder's own expense.

3.3.9. Language

The Bid should be filled by the Bidders in English language only. If any supporting documents submitted are in any language other than English, translation of the same in English language is to be duly attested by the Bidders. For purposes of interpretation of the documents, the English translation shall govern.

3.3.10. Bid Validity Period

Bid shall remain valid for the entire Bid Validity Period mentioned in the section titled Data Sheet. The Bid Validity Period may be extended by the Bidder via a letter to the Purchaser on receipt of request from the Purchaser.

3.3.11. Discount

The Bidders are advised not to indicate any separate discount. Discount, if any, should be merged with the quoted prices. Discount of any type, indicated separately, will not be taken into account for evaluation purposes. However, in the event of such an offer, without considering discount, is found to be the lowest, the Purchaser shall avail such discount at the time of award. For future purposes, unit prices of all individual components will be discounted accordingly (by the overall discount % in case overall discount % is given or by the individual component discount % in case of item wise discount given) to arrive at component- wise unit prices.

3.4 Bid Evaluation Process

3.4.1. Tender Committee

1. The Tender Committee constituted by TSRTC will evaluate the tenders.
2. The decision of the Tender Committee in finalizing the eligibility for the tender, the evaluation of the Technical and Financial bids will be final. No correspondence will be entertained outside the process of negotiation/discussion with the Committee.

3.4.2. Bids Opening

1. The Tender Committee will open the technical bids on the specified date and time as mentioned in KEY EVENTS & DATES clause, in the presence of bidders / their authorized representatives who choose to attend the same.
2. The Bids received without required Earnest money and cost of tender document (wherever applicable) will be rejected.

3.4.3. Preliminary Examination of Bids

1. TSRTC will examine the bids to determine whether they are complete, whether all the required documents have been submitted and properly signed, and whether the bids are generally in order.
2. Bids submitted by agents shall have proper authorization from the bidder.
3. TSRTC may waive any minor nonconformity or irregularity in a bid that does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder. The decision of TSRTC will be final and binding.

3.4.4. Evaluation Process

The following points are included in the Bid Evaluation Process;

1. Bidder has to quote Transaction Charges/Rates for Chargeable Tickets only as described in clause (9.9). TSRTC will not pay for the Non-Chargeable Tickets as described in clause (9.10).
2. Average number of chargeable transactions per day is 30 lakhs. The numbers are indicative and the actual transactions may vary.

3.4.5. Technical Bid Evaluation

1. Only bidders who satisfy the eligibility criteria will be qualified for Technical Evaluation.
2. TSRTC will evaluate and compare the technical aspects of the proposals on the basis of the information supplied by the bidders, taking into account overall completeness and compliance with the requirements specified.
3. The Technical Bid evaluation consists of two stages; (a) Eligibility evaluation (b) Technical Evaluation including Demo of prototype.
4. The shortlisted eligible bidders must propose the architecture for the solution and shall have to give a Presentation and Demo of the prototype of the solution proposed to be provided, on the date that would be communicated.
5. The technical evaluation will be based on the factors with their related marks indicated at 3.4.9.

3.4.6. Evaluation Key Terms and Conditions

1. The Bidders are required to submit all the required documentation in support of the evaluation criteria specified for the pre-qualification and technical evaluation.
2. The Bidders are required to submit:
 - a) The pre-qualification letter as per Annexure (14);
 - b) The duly completed pre-qualification checklist as per Annexure (15);
 - c) The technical bid submission letter as per Annexure (18);
 - d) The duly completed technical qualification checklist as per Annexure (19).
 - e) The Bidder should not ask to also have a 3rd party connection to sell our tickets as they will be competing with our system. Undertaking shall be submitted to this effect.
3. At any time during the Bid evaluation process, the Purchaser may seek oral or written clarifications from the Bidders. The Purchaser may also seek inputs from its own professional and technical experts in the evaluation process.
4. The Purchaser reserves the right to do a reference check of the past experience stated by the Bidder. Any feedback received during the reference check shall be included during the pre-qualification evaluation process. The Purchaser reserves the right to accept or reject any or all Bids without providing any reasons whatsoever.
5. The Financial Bids of Bidders that do not qualify technically shall not be opened.
6. The evaluation of financial bids are done as follows

Illustration of Financial Bid Evaluation - CAPEX & OPEX Model						
CAPEX			Opex			Total Cost
No.of ETIMS	Cost of each ETIM Device	CAPEX	Avg. No.of Transactions per day	Transaction cost	OPEX cost for 5 years	
A	B	C=AxB	D	E	F=DxEx365x5	G=C+F
13200	11000	14.52 Cr	30 lakhs	0.05	27.37 Cr	41.89 Cr

7. Based on above calculation, bidder with lowest total cost (L1) will be called for negotiations and will be asked to match the lowest of CAPEX quote/ OPEX quote of other bidders, in case one of the components is not the lowest quote. During negotiations, if the bidder offers the quotes to the satisfaction of tender committee, he will be declared as successful bidder. If not, next lowest bidder will be called for negotiations and asked to match lowest quotes of both Capex and Opex.

3.4.7. Pre-Qualification Criteria

The pre-qualification criteria are given below:

PQ	Basic Requirement	Pre-Qualification Requirement	Documents to be submitted
1	Legal Entity	The Bidder should be registered under the Companies Act, 1956, or LLP under LLP act 2008 with registered offices in India, as on the last date of submission of the bid.	<ul style="list-style-type: none"> • Certificate of Incorporation or Registration • Copy of the list of properly constituted management or governing body of the Organization Memorandum of Association (Registration proof shall include name change/ impact of mergers or acquisitions of the organization.)
2	Turnover	The average annual turnover of the bidder for the last three (3) years should be more than INR 25cr. (FY 2020-21, FY 2021-22 and FY 2022-23). The turnover should be pertaining to Indian company only and should have positive net worth	<ul style="list-style-type: none"> • Audited Balance sheet and Profit & Loss account statement of the Bidder for each of the last 3 audited financial years (FY 2020-21, FY 2021-22 and FY 2022-23). • Certificate duly signed by Statutory Auditor of the Bidder or Certified Chartered Accountant for average annual Turnover for last 3 financial years (FY 2020-21, FY 2021-22 and FY 2022-23).

3	Experience in ETIM & AFCS	The Bidder should have minimum one year experience in implementation and go live of at least One AFCS (Automatic Fare Collection System) project in last Five (5) years consisting of a Backend Central Software Application for Fare Collection using both cash and digital payments (NCCM/Debit/Credit/UPI based ticketing or with NFC based Close-loop Smart card based ticketing) with use of android based ticketing devices with BOOT / BOT / DBOT / BOO / BO / Turnkey basis in Government bus transport services managed by Municipalities or State Transport undertaking (STU)s in India	Work Order + Completion Certificates and satisfactory certificates from the client;
4	Experience in Online Reservation System (ORS) or Mobile ticketing or bus pass	The Bidder should have minimum one year experience in providing, implementing and operating Online Reservation System (ORS) or Mobile ticketing /bus pass (validated using ETIMs through QR/NFC) project during the last 5 years (as on the last date of submission of the bid) in Government bus transport services managed by Municipalities or State Transport undertaking (STU)s in India.	Work Order + Completion Certificates and satisfactory certificates from the client;
5	Certification	The Bidder should have valid minimum any one of the following 1. ISO 9001:2008 or higher 2. ISO 27001:2013 or Higher 3. CMMI Level 3 or higher	Copy of a Valid Certificate which is self-attested by the authorized signatory.

6	OEM Authorization	The Bidder should have direct authorization from the Original Equipment Manufacturers (OEM) for supporting the components offered under this project. The Bidder will have the responsibility of all kinds of maintenance and support of application software, hardware and networking components etc. specified in this project.	Manufacturers Authorization letter in favor of bidder from the manufacturers of the items. (OEM and bidder will submit a registered agreement between them to TSRTC stating both are committed to provide support and services for the contractual period)
7	Cloud Service Provider for Hosting Services	The bidder should enclose a Letter of consent obtained from Cloud Service Provider, which is authorized by Meity to participate in the Bid.	Authorized letter of Cloud Service Provider /Managed Service Provider
8	Blacklisting / Bankruptcy or Insolvency	The Bidder should not be declared as bankrupt or shall not have any proceeding for bankruptcy or insolvency/ debarred/ blacklisted / banned/ not being under declaration of ineligibility for corrupt or fraudulent practices or non-delivered or non-performance by any State/ Central Government /TSRTC/ APSRTC/PSU/ Autonomous Body under any Law in India or abroad for last three years. The bidder shall have a clean financial record, which if found to be not satisfactory shall automatically empower the corporation to disqualify the bidder. In the event the bidder having global presence apart from or along with India, there should not have been any proceedings initiated against, more so, in the nature of bankruptcy/insolvency No proceeding relating to bankruptcy or insolvency should be pending against the parent company or subsidiary companies at the time of submitting the bid in any manner either in India or abroad.	An affidavit signed by the respective Authorized Signatory of the Bidder.

3.4.8. If the bidder does not have any local support office in Hyderabad at the time of bidding, the bidder shall give an undertaking to open a local support office at Hyderabad within one month from the date of award of contract.

3.4.9. Technical Qualification Criteria

The Technical Bid of each Bid that qualifies the Pre-Qualification Criteria shall be evaluated based on the criteria given below to calculate the 'Total Score' out of 100.

#	Evaluation Criteria	Points	Documents to be submitted
TQ	Relevant Experience (The count includes all projects)	80	
1	The Bidder should have minimum one year experience in implementation and go live of at least One AFCS (Automatic Fare Collection System) project in last Five (5) years consisting of a Backend Central Software Application for Fare Collection integrated with NCMC/Credit/Debit card-based ticketing or with RFID based Close-loop Smart card-based ticketing with use of android based ticketing devices with BOOT / BOT / DBOT / BOO / BO / Turnkey basis in Government bus transport services managed by Municipalities or State Transport undertaking (STU)s in India	20	Work Order with details of no. of buses + Completion Certificates + satisfactory certificate from the client;
	Implementation in more than 7500 buses	20	
	Implementation in 3000 to 7500 buses	15	
	Implementation in 500 to 2999 buses	10	
2	The Bidder should have experience in providing, implementing and operating Online Reservation System (ORS) projects live for over one year during the last 5 years (as on the last date of submission of the bid) in State Transport undertakings in India.	20	Work Order with details of no. of buses/services + Completion Certificates + satisfactory certificate from the client;
	Implementation in more than 2000 buses/ services	20	
	Implementation in 1500 to 2000 buses / services	15	
	implementation in less than 1500 buses / services	10	
3	Projects with minimum 1 year of Go-Live in reading and writing to NCMC based Open Loop or Closed Loop Smartcard or implementing UPI, CREDIT, DEBIT cards for E-Ticketing / Online Reservation System (ORS) for State Transport undertakings in India.	Total 20	Work Order with details of no. of cards + Completion Certificates + Satisfactory certificate from the client;
	Open Loop Cards with read and write capabilities from POS	5	
	Closed loop cards with read and write capabilities from POS	5	
	UPI, CREDIT, DEBIT cards	5	
	Handling of Total open/closed loop cards over 1 lakh	5	

4	The Bidder should have experience in projects for development of a Mobile App for E-ticketing / Mobile QR based ticketing / Mobile Bus Pass including mobile validation using ETIM for Transit Ticket Booking including payment gateway integration and customer complaints on both iOS and android platform for State Transport undertakings in India.	15	Work Order with details of no. of downloads + Completion Certificates + Satisfactory certificate from the client;
	Mobile app for ticketing with more than 50000 downloads	5	
	QR based Mobile ticketing	5	
	QR based Mobile Bus Passes	5	
5	The Bidder should have the following Valid Certificate as on the date of bid Submission. a) CMMi Level 3 or higher b) ISO 27001: 2016 -Information Security c) ISO 9001: 2008 - QMS Copy of relevant certificates	5	Copy of relevant certificates Bidder shall keep the certificate valid for the entire contract period.
	All three certificates	5	
	Any two certificates	3	
	Any one certificate	1	
	Total	80	
6	Approach & Methodology and Demo	20	Approach and methodology write in detail and Demo. (Approach and Methodology write up in details should be submitted along with Technical Bid)
	1) Overall Approach & Methodology for Implementation 2) Understanding of Objectives of TSRTC 3) Project Roll-out / Training Plan 4) Solution Architecture 5) Operation / Maintenance work plan for entire solution (To be submitted duly signed) Understanding of Scope of Work Approach, Methodology, and Project Roll-out Plan Operation and Maintenance, Quality Control and Management Plan. 6) Adherence to provision under Digital Personal Data Protection Act 2023 & Demonstration	20	
	Total	100	

3.4.10 The Technical Bid of each Bid that qualifies the Pre-Qualification Criteria shall be evaluated based on the criteria given below to calculate the 'Total Score' out of 100.

3.4.11 The bidders should score minimum 65 marks in the technical evaluation for being eligible for opening of their financial bids

3.5 Tender Model

The Bidders have to submit quotes for implementation of the Project under the following model mentioned hereunder:

CAPEX and OPEX Model:

1. The project involves both capital expenditures viz. CAPEX and operational expenditure viz. OPEX
2. Capex constitute Cost of all the ETIM devices, Card reader/writers, card printers along with five-year warranty including repairs and replacement for wear and tear. **The said Hardware (ETIM Device, Card readers/writers) should be procured in the name of TSRTC.**
3. Opex constitute Cost of software, maintenance charges for all the hardware, software & peripheral equipment supplied and installed under the project for contract period of five years, annual licenses, data center hosting charges, Internet connectivity charges, SMS Charges, man power charges, power charges, communication charges and all other related charges for running the project for five years period

3.6 Financial Bid Opening

- 3.6.1. The date of opening of the financial bids would be intimated later after completing the technical evaluation process.
- 3.6.2. **Financial bids of only those bidders who are qualified in the Technical Evaluation will be opened (i.e., bids scoring minimum 65 marks in technical evaluation) for consideration and evaluated further.** Financial bids of the remaining bidders will not be opened.
- 3.6.3 The Financial bid evaluation will take into account the information supplied by the Bidders in the Financial Bid, and TSRTC will evaluate the same as per the evaluation criteria specified in this TENDER.
- 3.6.4. The Financial bids of all the technically qualified bidders would be opened and arranged in ascending order of quoted value (in INR). TSRTC reserves the right to reject any or all bids.
- 3.6.5. **The prices once offered must remain fixed and must not be subject to escalation for any reason whatsoever during the entire period of contract.**
The rates indicated in the agreement shall hold good for the entire contract period and will not be increased under any circumstances whatsoever.
- 3.6.6. **A proposal submitted with an adjustable price quotation or conditional proposal may be rejected as nonresponsive.**

3.7 Negotiations, Contract Finalization and Award

- 3.7.1. The L1 bidder (bidder quoting the lowest rate from among the technically qualified

bidders) may be called for negotiations, for awarding the contract.

- 3.7.2. TSRTC shall however reserve the right to reject all the offers of L1 bidder, negotiate with L2 and L3 bidders and to cancel the tender, after negotiations, if none of the negotiated offers are found to be financially viable.
- 3.7.3. TSRTC will award the Contract to the successful bidder whose proposal has been determined to be substantially responsive and has been determined as the best value proposal. All decisions taken by TSRTC regarding processing of TENDER and award of contract shall be final and binding on all the bidders.
- 3.7.4. TSRTC will notify the successful bidder in writing or by fax or e-mail, to be confirmed in writing by letter, that its proposal has been accepted. The notification of award will constitute the formation of the contract.
- 3.7.5. The successful bidder has to enter into an agreement with TSRTC on Rs. 200/- Non-Judicial Stamp Paper, as per the terms and conditions, duly submitting Security Deposit. If the bidder fails to enter into agreement within 14 days from the date of receipt of Letter of Award, the offer of award of contract through LoA issued will be cancelled and TSRTC will forfeit his EMD without any notice and proceed further to award the contract to another bidder as TSRTC deems fit. Clauses pertaining to Non-Disclosure and Exit Management will be included in the Agreement.

3.8 Execution of Agreement

The Purchaser and Selected Bidder must execute an Agreement between them within 30 days from the issuance of the LOA, incorporating all clauses, pre-bid clarifications and the Bid of the Selected Bidder, and any other terms and conditions as may be necessary for the successful implementation of Project.

3.9 KEY EVENTS & DATES

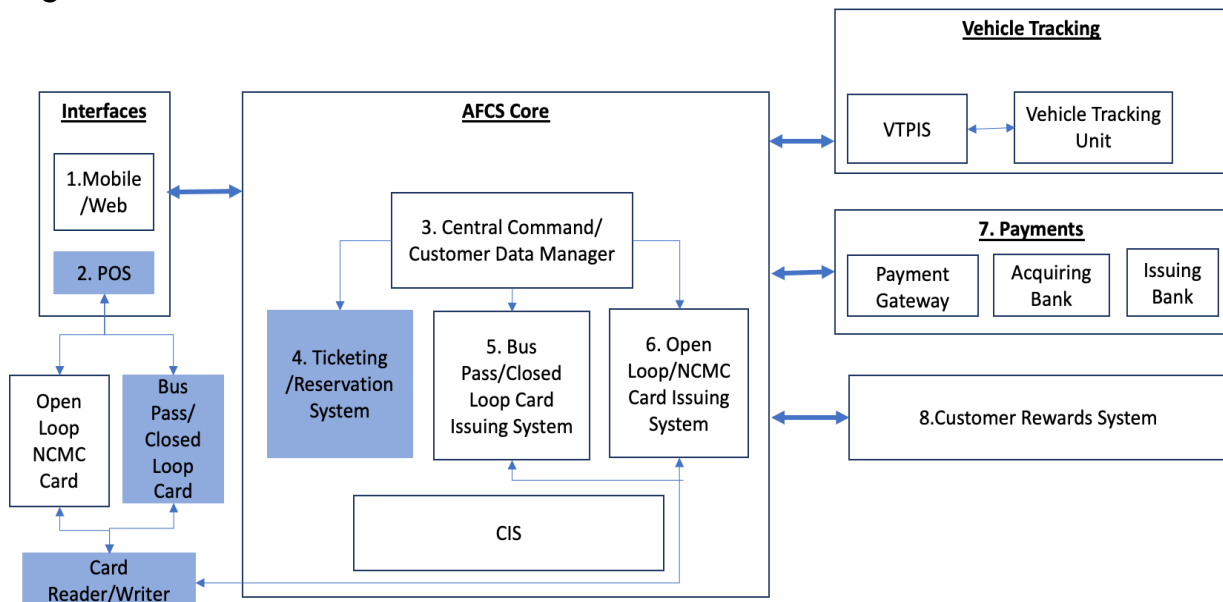
Sl. No.	Event	Date
2	Last date for receipt of queries	18-01-2024
3	Pre-bid meeting (15.00 Hrs.)	20-01-2024
4	Issue of clarifications to prospective bidders	23-01-2024
5	Receiving of bids and opening of technical bids	03-02-2024
6	Technical Presentation by the successful bidder	09-02-2024
7	Opening of financial bids	14-02-2024

4. Scope of Work

4.1 Objectives

1. The Purchaser envisages strengthening their bus services, promote organized public transport, reduce the use of private vehicles, and structure an integrated transport system which offers better safety, security, accessibility, affordability, quality, and reliability for users of public transport corridors.
2. The Purchaser plans to implement a modern, comprehensive, NCMC compliant digital tickets system using IT applications to achieve the following key objectives:
 - a) Provide ease and benefits to users by providing reliable services leading to increase in ridership and adoption of public transport;
 - b) Enhance digital tickets options for passengers;
 - c) Enable the Purchaser to constantly benchmark operations and maintain service quality of bus operations.
 - d) Enable the purchaser to understand travel patterns and preferences of customers, and deliver enhanced customer experience.
3. The Selected Bidder shall be responsible for the design, development / procurement, integration, implementation, operations, and maintenance of the Digital Tickets Solution as per the Scope of Work outlined herein.

The high-level block diagram for the components envisaged to deliver such a solution is given below:



The POS, Ticketing/Reservation System, Card writing machines are in scope for this tender. Mobile App to purchase and validate tickets is required for Online reservation. However, TSRTC plans to build its own integrated, comprehensive Mobile ticketing solution in 12 months, at which time all Mobile ticketing and reservation will be done through the TSRTC mobile ticketing app. Closed Loop and Open Loop Card issuing

systems are not in scope, however Closed Loop Card Procurement, Card writing machines with software that integrates with Bus Pass and NCMC Card issuing systems to write to the cards at Card issue are in scope. The POS will need to have the functionality to accept/validate Mobile tickets or passes, paper-based reservation and ground booking tickets, NCMC based Smart Card Payments, Smart Bus Pass which is likely to be a closed loop smart card, cash to issue tickets and record usage of the ticket

The POS and Ticketing Systems will integrate with the remaining components in the ticketing eco system to deliver a coherent Integrated, easy to use, Digital Fare collection system adhering to Digital Personal Data Protection Act, 2023 and any other Data Privacy and Security regulations

The Open Loop and Closed Loop card Issuing Systems, Mobile App and Central Command are all custom applications built for the Purchaser. While the other components are well understood, the function of Central Command is detailed below as it may be the first of its kind amongst STUs:

- This is a very important part of the architecture. It primarily serves 3 purposes:
 - a) Collect and store all Customer Data - Personal details, Payment methods, preferences, recent searches etc
 - b) Abstracts all Customer data from every transaction, so that only a token for the customer is passed to the downstream systems
 - c) Serves as an integration layer between the Mobile App and the backend systems such that there is no direct linkage/dependency between any of the systems
- Why this component is important?
 - a) Data Privacy regulations; Customer data must be protected; Customers can request their data be deleted; impossible to do if customer data is spread across multiple systems by multiple vendors
 - b) Customer Data is a very valuable asset. The STU must protect and use to aid its customer acquisition and retention. Tracking customer preferences and presenting only relevant options makes app delightful to use; Rewards etc. can be customized to a target group
 - c) Will enable a modular architecture; components can be purchased from specialists in each area and integrated into a coherent solution using APIs

4.2 Overview of Scope of Work

Particulars	Description
Hardware Components	
1. Electronic Ticket Issuing Machines ('ETIMs')	ETIMs increase transparency in tickets reports and enable real-time flow of tickets and revenue information. They also form the enabling infrastructure for digital tickets, namely mobile tickets and passes, smart card acceptance and other

	<p>digital tickets initiatives.</p> <p>The Selected Bidder must supply hardware and required device level software applications including 5 years Maintenance under CAPEX model.</p>
<p>Software Components</p>	
<p>2. Automated Fare Collection System ('AFCS')</p>	<p>The AFCS is the core Platform that enables all forms of tickets, including cash and digital tickets, and records daily ticket transactions. it comprises of software on the ETIM/POS and a backend system</p> <p>The ETIMs Software will have no contact electronic mechanism to download up to date information on the service it is deployed for with all Stages and fares</p> <p>ETIMS will have the ability to read and write to Smart Cards</p> <p>It will be integrated with the backend fare collection system to reserve and issue tickets, collect payments through a payment gateway and update revenue collected to the backend system, all in real time</p> <p>Integration will be through TSRTC Central Command, an API/Messaging layer that Purchaser will provide. This layer will also abstract the Customer Data and provide an identity token for the customer. This layer may not be available upfront. It will be built based on the needs of the TSRTC Mobile App, the ETIMs software and the availability of APIs and other integration mechanisms in the AFCS backend/ticketing system. Therefore, the Selected Bidder must have a working architecture and solution to begin with and then migrate to the new architecture with the TSRTC Central Command</p> <p>The ETIMS software must be compatible with existing ETIMs in the STU (~2000 devices)</p> <p>The Selected Bidder should propose a payment solution that includes a Payment Gateway to accept card/UPI and QR code payments, accepts cash for in bus paper tickets, Validates Mobile tickets and Mobile Passes. Solution must support NFC based payments and validation for ease of use. However, Decision of TSRTC is final in selection of the</p>

	<p>Payment Gateway partner.</p> <p>The Selected Bidder must deploy an AFCS Platform and integrate with all necessary hardware and software applications.</p>
3. Online Passenger reservation system ('OPRS')	<p>The OPRS is the Platform that enables the passengers to book tickets from anywhere to anywhere, in advance/current. The passengers are given the facility to book tickets from the comfort of their homes or from TSRTC operated counters or at counters operated by Authorized Ticket Booking (ATB) Agents.</p> <p>The Selected Bidder must deploy an OPRS Platform and integrate with all necessary hardware and software applications.</p>
4. Card Writers and Open loop and Closed loop Smart Cards	<p>Smart cards eliminate cash transactions and thus cash leakage and cash- handling costs are reduced as well. They also significantly increase the speed and convenience of payments.</p> <p>Smart cards can be Open loop NCMC Cards purchased for a certain value or as a Closed loop bus pass covering all rides in a valid period, rides on a route in a valid period, certain no: of rides within a valid period ride summing to a certain no: of kms in a valid period etc.</p> <p>The Selected Bidder must deploy the card readers/writers and necessary software applications to enable payments via smart cards and allow online and offline read and write of cards for payments and validation of ride. Must provide the ability to write to cards at the time of issue, top up etc and also at the time of usage must write to card to deduct value, deduct ride or kms etc.</p> <p>Cards must be Provisioned at an agreed upon rate, include Card rate in Tender</p>
5. Cash/ Card and Other payment solutions	<p>The Selected Bidder must provide a payment solution to accept cash and issue ticket, render change, show total amount collected since beginning of service</p>

Particulars	Description
6. Architecture	Must have a modular architecture where components of the system integrate through APIs, messaging etc. Integration with other systems such as the ERP(CIS), Passenger Information System, Payment Gateway etc. would be required. Must not store any customer data
7. Cloud Based Hosting	<p>Cloud based hosting offers flexibility and scalability in terms of computing and storage requirements.</p> <p>The Selected Bidder must set up and maintain a cloud based virtual data center to host the Platform and software applications.</p>
8. DashBoard & Reports	<p>It is a Data analytics platform to monitor real time data and visual representation of all key reports and parameters enabling quick decision making and for effective implementation of the entire AFCS.</p> <p>The Selected Bidder must deploy necessary software applications to enable Data analytics and decision making.</p>
Other Services	
9. Manpower Support	The Selected Bidder shall provide all necessary manpower for technical support for all hardware and software deployed. Further the selected bidder should set-up 2 service centers for hardware at each region (11) regions in Telangana state) with his own manpower. office space will be provided by TSRTC and Bidders have to plan their own manpower to meet the SLA.
10. Training	The Selected Bidder shall provide training to the Purchaser's employees.
11. Data SIMs for ETIMs	The Selected Bidder shall be responsible for providing SIM cards and internet connectivity for smooth functioning of ETIMs.

12. Maintenance	The Selected Bidder shall be responsible for the maintenance of all hardware and software components during the Term.
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4.3 Implementation Phases

4.3.1 Phase -I

- Selected Bidder has to Supply & Install 6000 (six thousand) ETIMs including maintenance and implement the System at Greater Hyderabad Zone
- Development of ETIM software to download data from master data system
- Development of ETIM software for Cash collection, paper ticket issue, related TTI functionality
- Ground booking paper ticket validation
- Payment gateway integration software to accept UPI, Credit/Debit card. (Payment gateway partner will be provided by TSRTC. However, SI can suggest PG partner)
- Reservation functionality to be deployed including Mobile and web application.
- ETIMs shall support Mobile ticket validation as well as ticket sales by drivers/conductors on reservation buses.
- ETIM software should support booking done at RTC/Agent counters.
- Software shall be deployed on existing ~2000 ETIM devices, which are in use in reservation buses

4.3.2. Phase -II

- Selected Bidder has to Supply & Install 7200 (seven thousand and two hundred) ETIMs including maintenance and implement the System throughout the state
- Bus Pass validation, MahaLakshmi card validation, zero ticket recording and related TTI functionality
- Supply and installation of Card reader/writer
- Card reader/writer software with API to write cards
- Closed Loop Card Procurement and Inventory Planning
- Card writer software Integration with Closed Loop Card Issuing systems to write value or rules to the card

4.3.3 Phase-III

- Mobile ticket or pass validation through TSRTC app for all tickets Open loop prepaid NCMC card validation, Ticket issue, related TTI functionality, Payment gateway integration card writer software Integration with Open Loop Card Issuing systems to write value or rules to the card
- Integration of the POS and backend Ticketing/Reservation system with the Central Command/Customer Data Manager. Any communication between the POS or backend Ticketing/Reservation and either of the systems with any other TSRTC system is

through the Central Command/Customer Data Manager

4.4 Electronic Ticket Issuing Machines ('ETIMs')

4.4.1. Scope

1. Procure, supply, and maintain ETIMs with covers, chargers, and sufficient spare batteries for all of buses operated by Purchaser or operated under the purchaser's brand name for the entire Term of the Project, at the agreed quantities as described in the Bill of Materials in clause.
2. Deploy and maintain device level software applications and integrate with the AFCS core (backend ticketing/reservation system, Smart card and Bus pass system through the Central Command/Customer Data Manager) to enable issuance and validation of tickets and passes by the conductor against payment of cash, smart cards, and / or mobile tickets and passes.
3. The ETIM hardware must be compatible with NCMC. The ETIMs must integrate with the Smart Card issuance system to issue new smart cards
4. Provide training to relevant bus crew and Purchaser's staff on correct usage of ETIMs.
5. Provide warranty and repair or replacement of ETIMs for manufacturing faults or faults arising from normal wear and tear during the Term of the Project.
6. Meet the SLA defined herein to ensure smooth and trouble-free operations of ETIMs.
7. The Purchaser shall be liable for all expenses relating to repair or replacement of ETIMs arising out of physical damage, mishandling, theft, or any other reason beyond the control of the Selected Bidder. The price of the ETIM shall be documented in the Agreement based on prices of the same or similar model listed on the Government e-Marketplace (GeM) portal, or a similar reliable source of prices, or as per mutual agreement.
8. The Purchaser shall provide at no cost to the Selected Bidder:
 - a) All charging infrastructure, such as stations and power supply, to charge ETIMs and spare batteries;
 - b) Safe storage facilities;
 - c) Sufficient space for daily operations such as issuance of ETIMs to bus crew, office space for Selected Bidder's team, etc.; and
 - d) Paper rolls for ticket printing, and other consumables such as stationery, etc.

4.4.2. Functional Details

The functional details of the ETIM are described in Annexure 1.

4.4.3. Technical Specifications

The ETIMs must meet or exceed the technical specifications and performance requirements as described in Annexure 2.

4.5. Card Writing machines

4.5.1 Scope:

1. Procure, supply, and maintain Card writing machines with covers, chargers, and sufficient spare parts and install in the locations specified by Purchaser at the agreed quantities as described in the Bill of Materials in clause.
2. Deploy and maintain device level software applications and integrate with the Smart card and Bus pass issuance system to enable reading and writing of smart cards
3. The Device hardware must be compatible with variety of smart card technologies. The Device must integrate with the Smart Card issuance system to issue new smart cards
4. Provide training to relevant bus crew and Purchaser's staff on correct usage of Devices.
5. Provide warranty and repair or replacement of devices for manufacturing faults or faults arising from normal wear and tear during the Term of the Project.
6. Meet the SLA defined herein to ensure smooth and trouble-free operations of devices.
7. The price of the device shall be documented in the Agreement based on prices of the same or similar model listed on the Government e-Marketplace (GeM) portal, or a similar reliable source of prices, or as per mutual agreement.

4.5.2. Functional Details

1. Proposed Card writing system should support a variety of smart card technologies, including but not limited to contactless RFID, NFC and contact-based smart cards.
2. The Proposed system should have Seamless integration with our existing access control infrastructure and databases, ensuring a unified and efficient user management system.
3. Implement advanced security features such as encryption, secure data transmission, and multi-factor authentication to safeguard sensitive information.
4. Design an intuitive software interface for system configuration and management, with features such as card issuance, revocation, and audit trails.
5. The system should have integration with our current user database, allowing for efficient cardholder management and access control.
6. The system should be configured ensuring alignment with organizational needs and security policies.
7. Ensure the proposed system complies with relevant laws and regulations pertaining to smart card technology, data privacy, and security.
8. The system should adhere to recognized industry standards for smart card reader/writer technology.

4.6. Automated Fare Collection System ('AFCS')

4.6.1 Scope

1. Deploy and maintain a centralized cloud-based AFCS for the Purchaser to enable

creation of different tickets and travel plans, ticket issuance and validation, and recording and reporting reconciliation of tickets and revenue.

2. Creation of different kinds of tickets and travel plans for different categories of passengers.
3. Issuance of tickets through ETIMs by the conductor and / or via a mobile app.
4. Recording of all tickets issued and / or validated.
5. Real-time and end of period reports for reporting and reconciliation of tickets and revenue.
6. Data Analytics for prediction and future planning of Operations.

The AFCS application should be capable to cater to meet the needs of a real-time public transport system involving up to 12,000 (twelve thousand) buses issuing 50 Lakh tickets a day

4.6.2 Functional and Technical Details

The functional and technical details of the AFCS are described in Annexure (3).

4.7. Online Passenger reservation System (OPRS)

4.7.1. Scope

1. Design, Development, Implementation and maintenance of Online Passenger Reservation System (OPRS) application as per the functional, technical and other requirements; and terms and conditions prescribed in this RFP.
2. Seat Inventory/ availability and reservations on about 2000 buses through mobile app or ETIMs. Validation of reserved tickets on paper or mobile, in bus. The number of buses and reservable seats is likely to go up as we extend reservations to luxury segment of intra-city buses
3. Migration of data from the existing OPRS application to the new application.
4. Web and mobile interface to enable reservation of bus seats for both advance reservation and current booking across various TSRTC routes from anywhere and anytime.
5. Web-based reservation portal for the passengers to access information and book tickets.
6. RTC Operator Booking - This module is used by the booking clerks at the depots/bus stations for the booking of tickets for various routes and services
7. ATB Agents - Authorized Ticket Booking agents to book tickets for passengers.
8. B2C Agents - Integration with online travel ticket portals to book tickets for passengers.

4.7.2 Functional and Technical Details

The functional and technical details of the OPRS are described in Annexure.4

4.8. Cloud Based Hosting

4.8.1. Scope

1. To set up and maintain cloud-based hosting for the Platform and necessary software applications.
2. The cloud data center must be physically located in India.
3. The cloud infrastructure should comply with MeitY guidelines.
4. Utilize a highly available and resilient architecture.
5. To provision for disaster recovery as may be necessary.

4.9. Dashboard & Reports

4.9.1. Scope

1. Deploy and maintain a graphical dashboard with data analytics to have visual representation of all key reports and parameters enabling quick decision making.
2. The dash board enables TSRTC to monitor and implement AFCS effectively
3. The reports generated shall be interactive and with a facility to drill down from macro level (Corporation) to micro level (Trip).
4. Reports shall always be generated, updated on real time basis
5. The functional details of the Dashboard and reports are described in Annexure 6.

4.10. Manpower Support

4.10.1. Scope

1. To provide technical support manpower during the Business Support Hours for all aspects of the Project.
2. To provide centralized Platform support during the Platform Support Hours for all aspects of the Platform.
3. Some roles are envisaged herein, and the Selected Bidder may include additional roles as are necessary to fulfill their obligations for the Project.
 - a) Operations executives - full-time executives assigned throughout the Term to facilitate level 1 troubleshooting and support.
 - b) Project manager: an executive with experience in implementing large projects in transport and other relevant sectors shall be deployed full-time throughout the Term to supervise executives and liaise with the Purchaser's management team.
 - c) Tech support-full-time: tech support deployed throughout the Term to ensure smooth functioning and immediate rectification of any errors on the Platform and all IT systems.
 - d) Database administrator: an executive with experience in large database designing, implementation and maintenance for large project with relevant certification in proposed database shall be deployed throughout the Term to manage database related activities in coordination with purchaser's management team.
 - e) Network administrator: an executive with experience in large ICT project with relevant Certification in networking such as CCNA/JNCIA(Junos)/MCP/MCSA

/MCSE/Any other OEM certification shall be deployed throughout the Term to manage database related activities in coordination with purchaser's management team.

The selected bidder shall deploy above members in the head office of TSRTC for coordination and effective functioning of the project during the entire contract period.

4.11. Training

4.11.1. Scope

1. To provide initial training and periodic refresher training on all relevant aspects of the Project to all stakeholders of the Purchaser's staff.
2. A training schedule must be submitted to the Purchaser upon request.
3. The Selected Bidder shall follow the 'Train the Trainer' model for all training and capacity building activity.
4. The Selected Bidder shall prepare all training content necessary. Training modules must cover all aspects of the Project e.g., functional training, technical training, safety and care of hardware, passenger assistance in using digital tickets, reporting, etc.
5. Trainings shall be conducted at the Purchaser's primary office or at any depot/ offices of TSRTC.

4.12. Data SIMs for ETIMs

4.12.1. Scope

1. To procure and provide SIM cards and telecom services with sufficient data allocation for all ETIMs deployed throughout the Term.
2. To liaise with the telecom provider in case of service interruptions and coordinate a speedy resolution.
3. The Selected Bidder may select any telecom provider at their own discretion.

4.13. Maintenance

4.13.1. Scope

1. The Selected Bidder shall be responsible for the maintenance of all hardware and software components during the Term.
2. For hardware deployed, the Selected Bidder shall be responsible for:
 - a) Periodic inspections and maintenance checks to ensure all hardware is kept in good working order; and
 - b) Repair or replacement of hardware for manufacturing faults or faults arising from normal wear and tear during the Term of the Project.

3. For software application maintenance, the Selected Bidder shall be responsible for:
 - a) Keeping all applications and software in good working order;
 - b) Monitoring availability and performance of the Platform;
 - c) Troubleshooting, and resolution of any bugs or errors detected at no extra cost to the Purchaser;
 - d) Changes such as new discounts, new travel plans and options are recurring and must be included at no cost
 - e) Major changes to the software will be as per the change request process as defined in clause 5;
 - f) Deploying upgrades and patches as and when they become available at no extra cost to the Purchaser;
 - g) Securing all relevant software licenses for all hardware and software deployed for the Project, including operating system, database systems, and other licenses.
 - h) Coordinating with the cloud-based hosting provider to resolve any errors or service interruptions; and
 - i) Notifying the Purchaser immediately of any security breaches or non-compliances, with suggestions for corrective action.

5. Change Request Process

5.1. Change Request Process Overview

1. Change Requests shall emanate from each Parties' designated personnel ('Project Manager') who shall be responsible for obtaining approval for the change, and act as its representative throughout the Change Request Process.
2. The Project Manager from the initiating Party shall complete 'Part A: Initiation' of the Change Request Note ('CRN') attached in Annexure 5, and present it to the other Party's Project Manager, who will acknowledge receipt by signature of the CRN.
3. The Selected Bidder will assess the CRN and complete 'Part B: Evaluation' of the CRN, and provide as a minimum:
 - a) A description of the change;
 - b) A list of deliverables required for implementing the change;
 - c) A time frame for implementation of the change;
 - d) An estimate of any proposed charges for implementation of the change; and
 - e) Material evidence to prove that the proposed change is not already covered within the Agreement and the Scope of Work.
4. If satisfied and after securing all necessary internal approvals, the Project Manager for the Purchaser shall complete 'Part C: Authority to Proceed' of the CRN and submit the completed CRN to the Selected Bidder's Project Manager, subsequent to which the Selected Bidder shall be obliged to implement the proposed change within the agreed timeframe.

5.2. Other Terms and Conditions for Change Requests

1. Any Change Request with respect to the Scope Of Work that includes additional requirements that can be fulfilled by the Selected Bidder shall **not** require the Purchaser to solicit fresh bids via a new tender process, unless such individual Change Request increases the Project implementation cost by more than 25% (twenty five percent) of the Total Project Value, in which case it shall be considered beyond the scope of the Change Request Process and will require the Purchaser to solicit fresh bids via a new tender process.
2. No additional charges will be paid to selected bidder, If the implementation cost of Change Request falls below 25% of Total Project Value.
3. The Selected Bidder shall not be obligated to initiate work on a change until the Parties agree in writing upon its scope, price and / or schedule impact.

6. Rights and Obligations

6.1. Rights of the Purchaser

1. To decide any and all aspects in relation to bus operations, including the fares, routes, schedules, fleet size, and modify these from time to time.
2. To levy penalties and fines as per the SLA.
3. To supervise the performance and execution of the Project.
4. To propose Change Requests related to the Project, operations, SLA, or Scope of Work
5. To review performance reports of the system in Maintenance mode
6. To review root cause analysis for major issues and approve preventive and corrective action plans

6.2. Obligations of the Purchaser

1. To ensure that TSRTC efforts are undertaken to safeguard all hardware and other assets deployed by the Selected Bidder in the Project implementation.
2. To pay fully all undisputed invoices raised by the Selected Bidder within 30 (thirty) days of the date of such invoice.
3. To ensure availability of bus crew, key stakeholders, and all resources necessary for Project implementation, training, and daily operations.
4. To ensure that all bus crew and employees adhere to protocols and processes laid out by the Selected Bidder for successful Project implementation and daily operations and processes.
5. To inform the Selected Bidder 2 (two) months in advance of new bus fleet additions to enable the Selected Bidder to arrange all necessary hardware and infrastructure as per the terms of the Tender.
6. To ensure that the Project is implemented on 100% of buses operated by the Purchaser and / or operated under the umbrella brand of the Purchaser during the term of the Project.

6.3. Rights of the Selected Bidder

1. To evaluate and accept, or reject, or offer an alternative suitable solution for any Change Request submitted by the Purchaser.

6.4. Obligations of the Selected Bidder

1. To complete implementation of the Project as per the timelines and Scope of Work agreed with the Purchaser.
2. To ensure smooth functioning and day to day operations for the Purchaser.
3. To meet SLA levels agreed with the Purchaser.
4. To provide root cause analysis and action plan in case of issues
5. To provide risk mitigation plans

7. Project Timelines

Milestone	Days
Implementation Phase	
1. Date of execution of Agreement	T
2. Submission of System Requirements Specifications ('SRS') document	T + 25 days
3. Approval of SRS by the Purchaser	T + 30 days
4. Pilot implementation of ticketing solution in two depots	T + 90 days
Phase-I	
<ul style="list-style-type: none"> • Supply of ETIMs including maintenance for Greater Hyderabad Zone • Development of ETIM software to download data for master data system • Development of ETIM software for Cash collection, paper ticket issue, related TTI functionality • Payment gateway integration software to accept UPI, Credit/Debit card. (Payment gateway partner will be provided by TSRTC. However, SI can suggest PG partner) • Reservation functionality including Mobile and web for reservations • Ticket sales by drivers/conductors through ETIMs on reservation buses. • B2C and RTC/Agent counters booking. • Deployment of Software in ~2000 ETIM devices, which are in use in reservation buses • Dashboard & Reports • Training - Functional training to crew and depot staff • Go Live 	T + 120 days

Phase-2	
<ul style="list-style-type: none"> • Supply of ETIM hardware including maintenance for remaining services. • Ground booking paper (QR) ticket validation • Mobile (QR) ticket validation • Bus Pass validation, zero ticket recording (assuming no paper ticket) and related TTI functionality • Supply and installation of Card reader/writer • Card reader/writer software with API to write cards 	T+150
Phase-3	
<ul style="list-style-type: none"> • Mobile ticket or pass validation through TSRTC app for all tickets Open loop prepaid NCMC card validation, Ticket issue, related TTI functionality, Payment gateway integration card writer software Integration with Open Loop Card Issuing systems to write value or rules to the card • Integration of the POS and backend Ticketing/Reservation system with the Central Command/Customer Data Manager. Any communication between the POS or backend Ticketing/Reservation and either of the systems with any other TSRTC system is through the Central Command/Customer Data Manager 	T+180
<p>Performance Tuning</p> <p>This will be an ongoing activity. However, we expect that resources and attention would be required in the first 3 months after Go-Live</p>	T+210
Operations And Maintenance Phase	
8. Operations and maintenance phase	Live + Term as per clause 2.1(2)
9. Extension to operations and maintenance phase	As per clause 2.1(2)

8. Bill of Materials

1. The quantities indicated herein are as per the deployment requirement. The Selected Bidder shall be required to maintain additional inventory as per their own assessment for testing, as spares, as back-up, and for other requirements.
2. The quantities of certain items are linked to the number of buses operated by the Purchaser. As the operating bus fleet expands, the Selected Bidder shall be required

to increase the quantities as described herein.

3. The quantities mentioned herein are indicative and not exhaustive. The Selected Bidder is expected to perform an independent assessment of the Requirements.
4. The total requirements of ETIMs mentioned below are inclusive of validators that may be required to be fitted on the buses. ETIMs may be used as validators in buses.
5. The indicative Bill Of Materials for the Project is listed below:

Item	Quantity
Hardware Components	
ETIM with charger and cover Requirement of 1.2 (20% of Spare) ETIMs per service Initially for 5000 services in Greater Hyderabad Zone (Phase-1)	6000 (Six Thousand Only)
ETIM with charger and cover Requirement of 1.2 (20% of Spare) ETIMs per service Later for remaining 6000services in the state (Phase-2)	7200 (Seven thousand two hundred only)
Card readers and writers for Open Loop and Closed Loop Smart card activation (Phase-2)	Appx. 800 (Eight hundred only)
Additional battery chargers for spare batteries	As may be required
Software Components	
AFCS including OPRS	1 (One)
ETIMS software for fare collection	1
Software for Card reading and writing in ETIMS and machines at Bus Pass and Card Issuing counters	As may be required
APIs to enable proposed modular architecture	As may be required
Cloud based hosting	As may be required
Other Services	
Establishment of service centers with required manpower and spare parts. Office space will be provided by TSRTC.	22 (Twenty-two).
Data SIMs for ETIMs Requirement of 1 SIM per ETIM Sufficient data allocation as may be required	13200 (Thirteen Thousand two Hundred Only)

Selected Bidder have to install the ETIMs and implement the System initially at Greater

Hyderabad Zone. Based on the successful implementation, the project is likely to be extended all the services throughout the state on priority basis, Software should be scalable to that extent. The Bidder shall take this into consideration while offering the quotes.

9. Payment /Commercial Terms

A - CAPEX and OPEX Model

1. The project involves both capital expenditures viz. CAPEX and operational expenditure viz. OPEX
2. Cost of all the ETIM devices, Card readers/writers including 5years Maintenance constitute CAPEX. **The said Hardware (ETIM Device) should be procured in the name of TSRTC.**
3. Cost of software/customization of readily available software, maintenance charges for all the hardware, software & peripheral equipment supplied and installed under the project for contract period of five years, annual licenses, data center hosting charges, Internet connectivity charges, SMS Charges, man power charges, power charges, communication charges etc. for running the project for five years period will constitute OPEX. Cloud hosting account shall be taken in the name of TSRTC.
4. In order to complete the said-transactions, the bidder would be required to create a suitable ICT Infrastructure, deploy the necessary Staff and thereafter bear the operational expenses on daily-basis, this entire cost for establishing, operating and maintaining the system and its operations constitute OPEX and it would be borne by the bidder and should factored in the 'Per Transaction Cost' to be quoted in the Commercial Proposal towards OPEX.
5. The payment to the bidder will be made on (Actual) per-card basis at a fixed rate. TSRTC will make payment to the bidder as per issuance of a smart card to passengers/users as per required on a monthly basis.
6. The OPEX payments will be made by Head Office, Hyderabad for all locations to the bidder on a Monthly basis. The Monthly bill will be submitted by the bidder to the authority decided by the Corporation at Head Office, Hyderabad who will in turn release the payment after receiving verification/certification from the concerned depots. If there is dispute in any bill of that particular depot/bus station and/or period, the payment would be withheld only for that depot/bus station and/or period. Any dispute may be settled within a month otherwise 70% payment for that particular bill will be released and remaining 30% would be released after settlement of the dispute.
7. **Details of transaction**
TSRTC is issuing **30 lakh** tickets per day after introduction of Mahalakshmi scheme. TSRTC expects to increase the sale of tickets due to adoption of different promotional schemes and consideration of other tickets as billable.

Based on this data the bidder is expected to estimate the efforts actually required for providing the rates per transaction. It is informed that the projected scale of transactions may increase or decrease depending on market conditions. Also, Bidder will be responsible for selection of a bank / financial institutions / prepaid payment instrument companies for issuing of additional card for passengers which may be in addition to the existing Smart cards. TSRTC doesn't indemnify the bidder who is expected to develop solutions that are scalable to address the variations in volume of transactions. Separate Tri-Party Agreement will be formed between TSRTC, Bank and Selected bidder for NCMC transactions.

9.9 Chargeable Transactions

- Normal tickets (Adult & Child ticket)
- Printable Zero tickets.
- QR based Mobile ticket/bus pass
- Tickets sold in OPRS.
- Discounted tickets including but not limited to Blind and their escort, Handicapped and their escort, mentally retarded and their escort, T.B/ Cancer / Leprosy patient, Police / Jail warrant etc. purchased in bus.
- Special tickets like T-24/Travel as you like, T-9, T-6 etc purchased on bus.
- Penalty ticket
- Special luggage ticket for pass holders and for OPRS passengers
- Special Hire Bus Online Booking (One net bus booking will be treated as one net transaction)
- Top up of eWallet
- Top up of NCMC or any closed cards.

If the transaction is successful, the selected bidder will be paid for the above chargeable transactions as per agreed ticket rate. If the transaction is not successful /failed, TSRTC will not be liable to pay as per agreed ticket rate.

Tickets sold through any third-party ticket seller i.e., Authorized Booking Agents / Third party / API vendors will be treated as OPRS tickets and luggage ticket issued to such passengers will be treated as a special luggage ticket

9.10 Non chargeable-

The SI will not be paid for the following non chargeable tickets types which are:

- Mobile ticket validation
- Bus pass validation and update at usage.
- Closed/open loop card validation and update at usage.
- Travel as you like/T24 mobile ticket/paper ticket validation
- Free tickets recorded but not printed e.g., M.L.A./M.P. and one escort, Ex. M.L.A/M.P. and escort, M.L.C. and escort, Ex. M.L.C. and escort, Staff on duty pass - Employee etc.

- Employee Pass/Warrant Entry
- Blocking of Seats for MLA, MP, MLC, Escort and other officials.
- Transfer of Seats
- Any other tickets

Bidder will not be paid for any other ticket types.

9.11 Others:

Chargeable Transactions are non-negotiable between SI and TSRTC. In case of any ambiguity on chargeable or not, a written directive may be requested from TSRTC. In this regard, the decision of TSRTC is final.

9.12 Payment Cycle

The invoicing may be raised on a monthly basis and payments may be made within 30 days from the invoice submission date, based on the actual deliverables/milestones achieved in the specified timeframe.

9.13 Taxes and Statutory Payments

1. All payments agreed to be made by TSRTC to the bidder in accordance with the Bid shall be inclusive of all statutory levies, duties, taxes and other charges whenever levied/applicable.
2. The bidder shall bear all personal/income taxes levied or imposed on it and its personnel, etc. on account of payment received under this Contract. The bidder shall bear all income/corporate taxes, levied or imposed on the bidder on account of payments received by it from TSRTC for the work done under this Contract. The bidder shall bear all other taxes such as GST, Octroi, VAT, custom duty, levies, etc. if there is change in tax rate or introduction of any new tax, same shall be passed to each party i.e., if tax rate reduces, bidder will charge lower rate and if tax rate increases or new tax is introduced, bidder will be compensated for additional percentage or new tax.

9.14 Liquidated Damages

1. In the event of the Bidder's failure to submit the Guarantees and Documents and provision of the necessary deliverables as per schedule specified in this RFP, TSRTC may at its discretion withhold any payment until the completion of the contract. TSRTC may also deduct from the payment due to the Bidder as agreed, liquidated damages to the sum of agreed terms as specified in the SLA, subject to the maximum value of the Liquidated Damages being not more than 10% of the value of corresponding payment of the delayed/undelivered services/monthly installment. This right to claim any liquidated damages shall be without prejudice to other rights and remedies available to TSRTC under the contract and law. Liquidated damages

shall not be imposed for the period of delay solely attributable to TSRTC, provided that TSRTC shall accept that such delay is attributable to it.

2. In case of dispute regarding the imposition of penalty by the respective head of office, the selected bidder shall refer the matter to Vice Chairman & Managing Director, Telangana State Road Transport Corporation for resolution thereof within seven days of receipt of such notice from the concerned office. In case, the Selected Bidder fails to refer the matter as above within the specified time limits, it shall be presumed that the Bidder agrees to pay the penalty as demanded.
3. Any penalties imposed on the Selected Bidder for non-performance shall be recovered on a monthly basis. Any additional penalty due, shall also be recovered from the future payment or Security Deposit submitted by the Selected Bidder.
4. In the event of deduction of penalty from the Security Deposit, the Selected Bidder shall promptly recoup the Security Deposit by the amount so deducted within 7 working days from the date of intimation from TSRTC or the date of invocation of the Security Deposit whichever is later.
5. It should be noted that all the above-mentioned penalties will be exclusive to each other.
6. The decision of TSRTC in this matter shall be final and binding on both the parties

9.15 Payment Schedules and Milestones

a. CAPEX payments

1. For implementation in GHZ, 50% payment will be released after supply of 6000 devices and successful completion of pilot in two depots. 30% of the device cost will be paid after rollout in all depots of GHZ. Remaining 20 % payment will be released after submission of bank guarantee.
2. For implementation in other depots, 50% payment will be released after supply of 7200 devices. 30% of the device cost will be paid after rollout in all depots. Remaining 20 % payment will be released after submission of bank guarantee.

b. OPEX payments

S No	Milestone	% of Opex payment
1	Completion of pilot on ticketing module and rollout in all depots of Greater Hyderabad zone.	50%
2	Implementation of OPRS with Mobile/web app and Payment gateway integration	20%
3	Rollout of ticketing module in all depots	10%
4	Functionality to read/write to smart cards and validation of mobile ticket/pass and NCMC	10%
5	Integration with Command Control	10%

1. Net transaction rate payable will be decided and paid proportionately as per the above weightage till Go-Live of all modules.
2. After the delivery of all modules, net transaction rate as per the commercial quote will be paid for all chargeable transactions.
3. Priority of Delivery of services and modules will be finalized by TSRTC.
4. For items 4&5, the required functionality from TSRTC will be provided within 6 months of Go live. If not, the condition will be considered as met. If TSRTC takes beyond six months, Service provider must complete these items within 2 months of TSRTC readiness. In case, service provider doesn't meet the timelines, same percentage will be deducted until the functionality is live.

9.16. Terms and conditions

1. Next billing Cycle or monthly Payment will be based on the actual utilisation of resources to deliver the services/milestones/applications. Total monthly Payment is linked to the compliance with the SLA metrics and the actual payment is the payment due to the Service Provider after any SLA related deductions.
2. The payments shall be carried out on Pro-rata basis computed usage for the respective month.

9.17 Assumptions for Counting of days for all the SLA and Timelines

The TSRTC assumes all the calendar days for the counting of SLA and timelines for deliverables. Due dates for SLA and Timelines, falling on non-working days will be extended to the next working day. This extension will not result in change in project plans.

1. Damage and Missing Parts of Hardware.
 - a. It will be the sole responsibility of the bidder to maintain ETIM hardware for the project and provide regular maintenance and Service during the contract period. The bid price should include all the maintenance and repair cost due to wear and Tear.
 - b. ETIM Hardware parts and Equipment's, if abused or damaged physically except damages due to accidents etc., whether intentionally by user then the same will be replaced by the bidder.
 - c. The cost of such intentionally abused or damaged hardware shall be paid by TSRTC as per cost break (bidder and TSRTC will mutually decide on the cost break up format at time of agreement) provided by bidder subject to such recoveries are made by concerned Authorities.
 - d. The procedure for such payment shall be set forth by TSRTC at the start of the project. This is applicable to ETIM.
 - e. Bidder has to keep track of all the deployed hardware and submit a monthly report

assuring that all the deployed hardware is in good and working condition. In case of any damage or missing ETIM shall be reported and brought to the notice of concerned Manager at Depot, Division, Region, Zone and Central Office.

- f. Bidder has to submit a list of Spare parts for ETIM devices with its Price for all the Hardware deployed from the Original Equipment Manufacturer. Bidder will ensure that the price of spares provided will be in line with the Market price and will remain fixed during the entire contract period.

9.18 Third Party Audits and Reviews

Cost of any third-party audit - including initial and annual audits as mentioned in this RFP shall be borne by the bidder and payment to the agency will be made by the bidder. Audit shall be done at the initial stage of contract and whenever there will be changes in device or in software specification.

10 Payment And Settlement Terms

1. Invoices shall be accurate, and the Purchaser reserves the right to make adjustments (if any) to the subsequent invoice payments to correct for inaccuracies (if any).
2. The Purchaser shall also be entitled to make recoveries from the Selected Bidder's invoiced amounts due, the PBG, or from any other amount due to the Selected Bidder, the equivalent value of any payment made to the Selected Bidder due to inadvertence, error, collusion, misconstruction, or misstatement.
3. Payment shall be made in Indian Rupees only.
4. All payments from the Purchaser to the Selected Bidder shall be subject to tax deductions as per applicable laws of India.

11 Service Level Agreements ('SLA')

11.1 SLA during Implementation Phase

11.1.1. Calculation of SLA

1. The Selected Bidder shall adhere to the Project Timelines defined in clause 7.
2. The Selected Bidder shall be penalized the 'Implementation Penalty Amount' as defined below for each full calendar week of delay beyond the Go Live date, except under Force Majeure conditions.
Implementation Penalty Amount = ₹50,000 (Rupees Fifty Thousand Only) per week.
3. The cumulative maximum Implementation Penalty Amount levied on the Selected Bidder shall be limited to 10 (ten) full calendar weeks.

11.2 SLA during Operations and Maintenance Phase

11.2.1 Calculation of SLA

1. The Selected Bidder shall adhere to the SLA defined below for each component.
2. The Selected Bidder shall be penalized the ‘SLA Penalty Amount’ defined below for failing to meet SLA.
3. The cumulative maximum SLA Penalty Amount levied on the Selected Bidder in any given calendar month shall be limited to 2.5% (two-point five percent) of the Monthly Invoice Amount.
4. SLA calculations shall always exclude:
 - a) Scheduled Maintenance Time;
 - b) Any time period when Force Majeure conditions are in effect; and

11.2.2 Any impact due to a failure on the part of the Purchaser to meet their obligations.

11.2.3 SLA for ETIMs Platform

Definition	‘Availability Of ETIM’ means that the ETIM is able to perform intended functions.
SLA	The cumulative average Availability of ETIMs for all ETIMs should
	be at least 99% (ninety nine percent) in a calendar month.
SLA Measurement	<p>Availability Of ETIMs = (Working ETIM Days / Total ETIM Days) x 100% Where:</p> <p>Working ETIM Days = Daily functional ETIM count x days of operation in the month. Total ETIM Days = Total ETIM count x days of operation in the month.</p>
SLA Penalty Amount	<p>99% or more: 0 (Zero)</p> <p>98% to 98.99%: 0.5% (Zero-point five percent) of the Monthly Invoice Amount</p> <p>97% to 97.99%: 1.5% (One point five percent) of the Monthly Invoice Amount</p> <p>Less than 97%: 2.5% (Two-point five percent) of the Monthly Invoice Amount</p>
Critical SLA	96%
ETIMS Performance	<p>Time to ticket issue must be under 1 sec</p> <p>If Ticket issue time is greater than SLA, ETIMS will be considered as unavailable for the period from observation to rectification</p>

11.2.4 SLA for AFCS

Definition	'Availability Of AFCS' refers to the total time when the AFCS and its applications are available for performing operations.
SLA	The Availability of AFCS should be at least 99.99% (ninety nine percent) in a calendar month.
SLA measurement	Availability Of AFCS = ((AFCS Scheduled Operation Time - AFCS Platform Downtime) / (AFCS Scheduled Operation Time)) x 100%
SLA Penalty Amount	99.99% or more: ₹0 (Rupees Zero) 98% to 99.99%: ₹1,00,000 (Rupees one lakh Only) per month 95% to 97.99%: ₹2,00,000 (Rupees two lakhs Only) per month Less than 95%: ₹3,00,000 (Rupees Three lakhs Only) per month
Critical SLA	94%

11.2.5 SLA for Application Response Time of AFCS

Definition	'Application Response Time' refers to the time taken to load a webpage of any of the AFCS applications, measured in seconds.
SLA	The Average Application Response Time should not exceed 10 (ten) seconds in a calendar month. Response time of all APIs should be under 200ms
SLA Measurement	Average Application Response Time = The average time taken, in seconds, to load a webpage for AFCS applications. As measured by a reputed web analytics solution or via automated reports, across all pages loaded for all AFCS applications in the month.
SLA Penalty Amount	seconds or lesser: ₹0 (Rupees Zero) 11 to 15 seconds: ₹1,00,000 (Rupees one lakh Only) per month 15 to 20 seconds: ₹2,00,000 (Rupees two lakhs Only) per month 21 seconds or more: ₹3,00,000 (Rupees Three lakhs Only) per month
Critical SLA	30 seconds

11.2.6 SLA for Application Response Time of OPRS

Definition	'Application Response Time' refers to the time taken to load a webpage of any of the OPRS applications, measured in seconds.
SLA	The Average Application Response Time should not exceed 10 (ten) seconds in a calendar month.
SLA Measurement	Average Application Response Time = The average time taken, in seconds, to load a webpage for OPRS applications. As measured by a reputed web analytics solution or via automated reports, across all pages loaded for all OPRS applications in the month.
SLA Penalty Amount	seconds or lesser: ₹0 (Rupees Zero) 10 to 15 seconds: ₹1,00,000 (Rupees one lakh Only) per month 15 to 20 seconds: ₹2,00,000 (Rupees two lakhs Only) per month 21 seconds or more: ₹3,00,000 (Rupees three lakhs Only) per month
Critical SLA	30 seconds

11.2.7 SLA for Cloud Based Hosting

Definition	'Availability Of Cloud Based Hosting' refers to the total time when the hosting infrastructure is available for performing operations.
SLA	The average Availability Of Cloud Based Hosting should be at least 99.99% (ninety nine percent) in a calendar month.
SLA Measurement	Availability Of Cloud Based Hosting = ((Cloud Based Hosting Scheduled Operation Time - System Downtime) / (Cloud Based Hosting Scheduled Operation Time)) x 100%
	99.99% or more: ₹0 (Rupees Zero) 98% to 99.98%: ₹1,00,000 (Rupees one lakh Only) per month 95% to 98.99%: ₹2,00,000 (Rupees two lakhs Only) per month Less than 95%: ₹3,00,000 (Rupees three lakhs Only) per month
Critical SLA	94%

12. Intellectual Property Rights ('IPR')

12.1 Products and Fixes

1. All Products and related solutions, and Fixes provided pursuant to the Project shall be licensed according to the terms of the license agreement packaged with or otherwise applicable to such Product. The Selected Bidder shall be responsible for arranging any licenses associated with Products.
2. All the IPR related to these Products and Fixes will be owned by the Selected Bidder.

12.2 Bespoke Development

Subject to the provisions of clauses 12.3 and 12.4, upon payment, the Purchaser shall be granted a non- exclusive, perpetual, fully paid-up license for any bespoke development done during the Term. Ownership of all the IPR shall lie with the Selected Bidder.

12.3 Pre-existing Work

1. All IPR including the source code and materials developed or otherwise obtained independently of the efforts of a Party under this Project ('Pre- existing Work') including any enhancement or modification thereto shall remain the sole property of that Party. During the performance of the services, each Party grants to the other Party (and their sub-contractors as necessary) a non-exclusive license to use and modify any of its Pre-existing Work provided to the other Party solely for the performance of such services for duration of the Term of this Project.
2. Except as may be otherwise explicitly agreed to in a statement of services, upon payment in full, the Selected Bidder shall grant the Purchaser a non- exclusive, perpetual, fully paid-up license to use the Pre- existing Work in the form delivered to the Purchaser only for its internal business operations.
3. Under such license, either of Parties will have no right to sell the Pre-existing Work of the other Party to a third party.
4. The Purchaser's license to Pre-existing Work is conditioned upon its compliance with the terms of the Agreement and the perpetual license applies solely to the Pre-existing Work that the Selected Bidder leaves with the Purchaser at the conclusion of the Term of the Project.

12.4 Residuals

1. In no event shall the Selected Bidder be precluded from independently developing for itself, or for others, anything, whether in tangible or non- tangible form, which is competitive with, or similar to, the deliverables set- out in this Tender.
2. In addition, subject to the confidentiality obligations, the Selected Bidder shall be

free to use its general knowledge, skills and experience, and any ideas, concepts, know-how, and techniques that are acquired or used in the course of implementing the Project.

13. Data Ownership and Data Security

13.1 Data Ownership

1. All the operational data sets as part of this Project including routes, fare charts, schedules, and crew information, etc. are owned by the Purchaser.
2. All transactional data including customer data, ticketing data, bus pass usage, smart card usage etc. belong to the Purchaser. The Selected Bidder must take adequate measures to ensure its personnel do not access this data unless absolutely necessary for bug fix etc. Even then only the slice of data that is required for root cause analysis and fixing must be accessed with the permission of the purchaser. Adequate measures must be taken to these data access control measures and must be demonstrated to the purchaser
3. The Selected Bidder shall take utmost care in maintaining security, confidentiality, and backup of this data.

13.2 Data Security

13.2.1. Data and Infrastructure Security

1. The Selected Bidder shall ensure use of HTTPS API for exchange of data between the server and client, be it the mobile app or dashboards for the Purchaser.
2. All APIs transferring user data or any other sensitive data shall be protected using identity tokens.
3. The Selected Bidder should use private subnets for all servers and components which don't interface with clients directly.
4. Rate limiting must be deployed to mitigate certain type of attacks.

13.2.2. Application Security

1. A centralized authentication and role-based access control system should be integrated with all systems including the mobile app, internal systems, and dashboards for the Purchaser to regulate appropriate access across users.
2. The Selected Bidder should use means to obfuscate the code on mobile applications.

13.2.3. Transaction Security

1. All smart card tickets, mobile tickets and mobile passes must be encrypted with at least AES-128 level encryption.
2. The mobile app should not allow taking screenshots, video capture, or screen

casting on the ticket screens.

3. The Selected Bidder shall enable controlled provisioning of ETIM devices using the backend system.
4. There must be an ability to remotely blacklist ETIMs, smart cards, and mobile app users in case potential fraud is detected and needs to be mitigated.
5. Application upgrades on the ETIM must be secure and available OTA.
6. The ETIMs should be used in a 'kiosk' mode which doesn't allow any unauthorised access to other apps on the ETIM.

14. Confidentiality

1. The Purchaser or its nominated agencies may allow the Bidder to review and utilise confidential information and the Bidder shall maintain the highest level of secrecy, confidentiality, and privacy with regard thereto.
2. Additionally, the Bidder shall keep confidential all the details and information with regard to the Project, including systems, facilities, operations, management, and maintenance of the systems / facilities.
3. The Purchaser shall retain all rights to prevent, stop, and if required take the necessary punitive action against the Bidder regarding any forbidden disclosure.
4. The Bidder shall execute a non-disclosure agreement as per the format prescribed in Annexure 12 and shall ensure that all its employees, agents, and sub-contractors involved in the project execute similar non- disclosure agreements, which have been duly approved by the Purchaser with respect to this Project.
5. For the avoidance of doubt, it is expressly clarified that the aforesaid provisions shall not apply to the following information:
 - a) Information already available in the public domain;
 - b) Information that has been developed independently by the Bidder or any of its employees, agents, or sub-contractors;
 - c) Information that has been received from a third party who had the right to disclose the aforementioned information; and
 - d) Information which has been disclosed to the public pursuant to a court order.
6. Notwithstanding anything to the contrary mentioned hereinabove, the Selected Bidder shall have the right to share the LOA and / or work order and / or any subsequent letters or certificates provided to it by the Purchaser in relation to the Project, solely for the purpose of and with the intent to evidence and support its work experience under this Tender.

15. Force Majeure

15.1 Definition

1. The Selected Bidder or the Purchaser, as the case may be, shall be entitled to suspend or excuse performance of its respective obligations under the Agreement to the extent that such performance is impeded by any event of force majeure ('Force Majeure').

‘Force Majeure’ shall mean any event beyond the reasonable control of the Purchaser or of the Selected Bidder, as the case may be, and which is unavoidable notwithstanding the reasonable care of the Party attached.

15.2 Force Majeure Events

1. A Force Majeure shall include, without limitation, the following:
 - a) War, hostilities or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy, and civil war;
 - b) Strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage or restriction of power supply, curfew, pandemics, epidemics, quarantine, and plague;
 - c) Earthquake, landslide, volcanic activity, drought, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane storm, lightning, or other inclement weather condition, nuclear and pressure waves, or other natural or physical disaster;
 - d) Radioactive contamination or ionizing radiation or chemical contamination specifically affecting the Project or resulting from another Force Majeure event;
 - e) Any action by competent governmental instrumentality having jurisdiction over the Project, the Purchaser, or the Selected Bidder, resulting in a loss of access to the resources of the Project and / or the site(s) of the Project;
 - f) An act of God; or
 - g) Any other act or event or circumstance of an analogous nature.

15.3 Effects of Force Majeure Event

1. If either Party is prevented, hindered, or delayed from or in performing any of its obligations under the Agreement by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances of the event of Force Majeure within 14 (fourteen) days after the occurrence of such event.
2. The Party who has given such notice shall be excused from the punctual performance of its obligations under the Agreement for so long as the relevant event of Force Majeure continues and to the extent that such Party’s performance is prevented, hindered, or delayed. Timelines shall be extended as required.
3. The Party or Parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect of the event of Force Majeure upon its or their performance of the Agreement and to fulfil its or their obligations under the Agreement, but without prejudice to either Party’s right to terminate the Agreement.
4. No delay or non-performance by either Party caused by the occurrence of any event of Force Majeure shall:
 - a) Constitute a default or breach of the Agreement; or
 - b) Give rise to any claim for damages or additional cost or expense occasioned by the delay or non-performance; If, and to the extent that such delay and non-

performance is caused by the occurrence of an event of Force Majeure.

5. If the performance of the Agreement is substantially prevented, hindered, or delayed for a single period of more than 90 (ninety) consecutive days on account of one or more events of Force Majeure during the Term, the Parties shall attempt to develop a mutually satisfactory solution.
6. Under any circumstances whatsoever, Force Majeure shall not apply to any obligation of the Purchaser to make payments to the Selected Bidder under this Project.
7. For the avoidance of doubt, it is expressly clarified that the failure on the part of the Selected Bidder under the Agreement or the SLA to implement any disaster contingency planning and back-up and other data safeguards in accordance with the terms of the Agreement shall not be deemed to be a Force Majeure event. For the avoidance of doubt, it is further clarified that any negligence in performance of services which directly causes any breach of security like hacking aren't the forces of nature and hence wouldn't be qualified under the definition of Force Majeure. In so far as applicable to the performance of services the Selected Bidder will be solely responsible to complete the risk assessment and ensure implementation of adequate security hygiene, TSRTC practices, processes, and technology to prevent any breach of security and any resulting liability there from (wherever applicable).

16. Material Breach

16.1 Definition

1. Material Breach by the Selected Bidder shall include the following:
 - a) If the Selected Bidder does not adhere to the 'Go Live' as mentioned in this Tender plus another 3 (three) months beyond that;
 - b) If there is a breach on the 'Critical SLA' levels mentioned in clause 11.2 for 2 (two) or more items for 3(three) or more consecutive weeks; or
 - c) If there is a proceeding for bankruptcy, insolvency, winding up, or there is an appointment of receiver, liquidator, assignee, or similar official against or in relation to the Selected Bidder.
 - d) If there is any breach of application or data security
 - e) If the solution fails VAPT and other security checks/reviews

16.2 Effects of Material Breach

1. In the event that Purchaser believes that the Provider has caused a Material Breach, Purchaser may serve a notice to the service provider, allowing them 3 (three) months, for curing the Material Breach.
2. Any notice served pursuant to this clause shall give reasonable details of the Material Breach.
3. In case the Material Breach continues after the notice period has expired, and the

TSRTC shall have the option to terminate the Agreement as per clause 17.

17. Termination

17.1 Termination

The Corporation can resort to termination/cancellation of agreement by giving 6 month's advance notice. In case of such premature termination of Contract for no fault on the part of the successful bidder, TSRTC will settle all the pending bills, refund the EMD/Security Deposit, after settling all the transactions under the contract. TSRTC will also permit the successful bidder to take back the equipment installed by them in TSRTC.

17.2 Termination due to Material Breach

In the event that TSRTC has served a notice to the Provider for curing a Material Breach, and in case the Material Breach continues after the notice period has expired, and the Parties are unable to resolve the matter amicably, TSRTC shall have the option to terminate the Agreement.

If the termination is due to the critical SLA and security breaches, the notice period is 3 months only.

17.3 Effects of Termination

1. In the event that the Purchaser terminates the Agreement pursuant to Material Breach on the part of the Selected Bidder, the PBG furnished by the Selected Bidder will be forfeited.
2. Upon termination of this Agreement, the Parties shall comply with the Exit Management process as described herein in clause 18.

18. Exit Management

1. The Selected Bidder shall submit a detailed exit management plan 6 (six) months prior to the expiry of Term. The exit management plan shall include following, but not limited to:
 - a) Detailed inventory of all licenses, documents, manuals, etc. created under the Project;
 - b) Method of transition including roles and responsibilities of both the parties to handover and takeover the charge of project, regular activities, and support activities;
 - c) Proposal for the necessary setup or institutional structure required at the Purchaser to effectively maintain the project after expiry of Term;
 - d) Training and handholding of the Purchaser's staff or designated officers for maintenance of Project after expiry of Term; and

- e) Backup of all data associated with the Project in a mutually agreed format. The Purchaser shall start preparation for the transition accordingly.
- f) Under any circumstances, Bidder has no right to exit from the project. TSRTC reserves full rights to exit from the project at any time.

19. Other Conditions

19.1 Interpretation

1. In this Tender unless a contrary intention is evident:
 - a) Unless otherwise specified, a reference to a clause number is a reference to all of its sub-clauses;
 - b) Unless otherwise specified, a reference to a clause, sub-clause or section is a reference to a clause, sub-clause or section of this Tender including any amendments or modifications to the same from time to time;
 - c) A word in the singular includes the plural and a word in the plural includes the singular;
 - d) A word importing a gender includes any other gender;
 - e) A reference to a person includes a partnership and a corporate body;
 - f) A reference to legislation includes legislation repealing, replacing, or amending that legislation;
 - g) Where a word or phrase is given a meaning, it includes the appropriate grammatical forms of that word or phrase which have corresponding meanings.

19.2 Extension of Timelines

As soon as it is apparent that the Project Timelines cannot be adhered to, an application shall be sent by Selected Bidder to the Purchaser. If the failure on the part of the Selected Bidder to adhere to the Project Timelines has arisen due to any reason which the Purchaser may admit as reasonable ground for an extension of the time, the Purchaser may allow such additional time as it considers to be justified by the circumstances.

19.3 Trademark and Publicity

1. Neither Party may use the trademarks of the other Party without the prior written consent of the other Party.
2. Neither Party shall publish nor give permission to publish either along with or in conjunction with any other person any press release, information, article, photograph, illustration, or any other material of whatever kind relating to this Tender, the Agreement, the SLA, or the business of the Parties without prior reference

to and approval in writing from the other Party.

19.4 Indemnity

1. The Service Provider agree to indemnify under the Agreement in accordance with the terms and principles set out.
2. Service Provider shall indemnify the Purchaser against all actions, suits, claims, damages and demands brought or made against it in respect of anything done or omitted to be done in the execution of or in the connection with the Project.
3. Service Provider shall indemnify the Purchaser against loss or damage to the Purchaser in consequences of any action or suit being brought against the Purchaser.

19.5 Settlement of Disputes

1. A Party claiming that a dispute has arisen must give the other Party to the dispute, notice setting out details of the dispute.
2. During 14 (fourteen) days (or longer if the Parties agree in writing) after a notice is given, each Party to the dispute must use its reasonable efforts to resolve the dispute.
3. If the Parties cannot resolve the dispute within that period, then any such dispute or difference whatsoever arising between the parties to the Agreement the decision of VC & MD, TSRTC will be the FINAL.

19.6 Jurisdiction of Courts

In case of any claim, dispute or difference arising in respect of the Agreement, the case of action thereof shall be deemed to have arisen in Hyderabad and all legal proceedings in respect of any such claim, dispute or difference shall be instituted in competent court in Hyderabad only.

Annexures

Annexure 1: Functional Details of ETIM/i-TIM

1. Access to Android POS/ETIM

1. The conductor and driver should be able to login to the Android POS app via a combination of username + password (ID + PIN).
2. Other roles may be required to login to the device based on varying operational needs.
3. App installed on phone need to have an activation process. On successful activation, the driver / conductor is authorized to Login to the app with provided user name / password.
4. App access has to be controlled based on the remittance of previous day collection / earnings. If previous duty collection is not remitted to the corporation, then the login is not allowed to perform any transactions.

2. Issuance and Validation of Tickets, Passes, and Other Travel Plans

1. The ETIMs must facilitate the issuance and / or validation of tickets, passes, and other travel plans via the following fare media:
 - a) Cash tickets;
 - b) Paper tickets from ground booking and reservation counter
 - c) Mobile pass and Mobile tickets
 - d) NFC-based smart cards including NCMC cards / Bus passes;
 - e) Other media as may be developed from time to time and mutually agreed between the Parties.
 - f) Should be capable for reading and writing to smart cards (open loop and closed loop) as per AFCS application rules
2. The printed travel receipts/tickets issued shall comply with the requirements of the Purchaser, and as may vary from time to time.
3. The conductor shall be able to manually adjust the current origin location.
4. The ETIM must be able to record and print various types of tickets and travel receipts - general ticket, group ticket (adult + child + concession), other concession tickets, differential fare ticket, various schemes tickets, luggage ticket, package ticket, TAYL Ticket etc.
5. The ETIM must be able to validate and record the use of all forms of pre-purchased tickets, passes, or other travel plans (mobile tickets or passes, smart card tickets or passes, paper-based tickets) in both online and offline mode. These tickets could be single-journey, return and / or monthly passes, or other multi-journey tickets.
6. The ETIM must have the ability to enable Ticket inspection to confirm that current journey matches with the card or ticket information, create a report/summary of revenue for service at the time, current passengers etc., view the details of any ticket issued for the current service, issue a fine or add a configurable to a ticket or any travel receipt.
7. Types of fares and tickets should be able to be created centrally and updated to ETIM devices via OTA updates

8. The ETIM should have the capability to update fare rules, fare tables etc. dynamically via OTA updates.
9. Trip and Stop info should be obtained from existing Master Data, and should be updated to ETIM devices automatically via OTA updates
10. The ETIMs should be able to issue refunds of fare in case of change in service type or full / partial cancellation of service or face value revision.
11. Tickets and passenger information should be encrypted and relayed in real- time to the AFCS without data loss, and also available in batches for reconciliation and settlement as per operational cycles, e.g., for each trip, for each shift, at the end of each day, etc.
12. In the case of loss of data connection, transactions must be stored locally and then transmitted to the AFCS upon re-establishment of the data network.
13. All ticket functions must work in offline mode in the case of loss of data connection and then be settled by batch mode as required.
14. Tickets shall be available in Telugu/Hindi/English for printing.
15. The user interface shall allow an experienced conductor to issue a ticket in less than 4 (four) seconds.
16. At the end of each trip, the ETIM should be able to print a trip summary report.
17. The ETIM shall be compatible with National Common Mobility Cards ('NMC') and other Smart Cards.

3.Smart Card and Mobile App Usage with ETIM

1. The ETIM shall have a trip validation functionality whereby when a smart card is brought in proximity to the reader or when a QR code is scanned with the ETIM's camera, the ticket details necessary for the conductor to verify are displayed on the ETIM's display.
2. Upon successful completion of any transaction with a smart card or mobile app, the ETIM shall indicate successful completion via its display and optionally a distinct audio message as well.
3. The ETIM device shall have balance check functionality whereby the prepaid wallet balance available on a smart card, any outstanding trip details, and status of the smart card are displayed on the ETIM display
4. The ETIM device will have card write feature so that any details of an online top up can be written to card. Current ticket details will also be required to be written to card. Upto 4 recent trips will need to be maintained in card and maybe overwritten only if the data is transmitted to the backend system
5. ETIMS should have the ability to read and write to these cards. The time to validate a smart card including read, validation and write should be less than 4 sec

4. Data Stored and Transmission

1. The ETIM shall store all required transaction data on-board, including:
 - a) Date and time of transaction
 - b) Device ID
 - c) Employee ID of conductor
 - d) Ticket serial number
 - e) Ticket origin
 - f) Ticket destination
 - g) Transaction Value
 - h) Ticket Details - No: of passengers, luggage etc
 - i) Payment Type - Cash, Card, UPI etc
 - j) Trip code
 - k) Smart card serial number (if applicable)
 - l) Transmission status (i.e., successfully or not successfully transmitted to AFCS)
 - m) Vehicle number
 - n) Any additional data that may be deemed necessary to the transaction
2. The data that needs to be stored may vary by ticket e.g. Cash ticket vs Mobile Ticket validation
3. The ETIM shall have sufficient memory to store a minimum of 10,000 transaction records apart from other mandatory software/ firmware etc.
4. Only successfully transmitted transaction data records shall be overwritten by new transaction data records.
5. ETIMs shall be connected to the AFCS through mobile network data connection, and have the capability to transmit real-time ticket transactions, battery status, count of tickets, etc. to the AFCS.

5. Performance Requirements

1. The ETIMs should be able to perform without any material degradation of performance over time.
2. The ETIMs should have an accuracy of 99.99% for every transaction, and any MIS reports generated through the ETIM.
3. The time taken to print a ticket through the ETIM after data entry should not exceed 2(two) seconds per transaction.
4. The Selected Bidder shall ensure availability and uptime of ETIMs and any related software Platform as per SLA mentioned.
5. The ETIMs must be rugged enough to withstand the harsh public transport environment and be dust and water resistant.
6. The ETIMs must have multiple means of transferring data to the cloud in case of lack of mobile network data connectivity such that there is no loss of data for the Purchaser.
7. The ETIMs should have an integrated display that can be easily read under all conditions of ambient light throughout the day and night

Annexure 2: Technical Specifications of ETIM

<p>Processor</p> <p>Application processor: ARM Cortex Quad Core</p>	<p>Display</p> <p>5.0" IPS Colour Display 1280x720 pixels Touchscreen Capacitive</p>
<p>Memory</p> <p>1GB RAM + 8GB Flash</p>	<p>Keypad</p> <p>Onscreen virtual keyboard</p>
<p>Operating System</p> <p>Android 9.0 or higher with security payment system</p>	<p>Positioning</p> <p>GPS built-in</p>
<p>SIM and SAM</p> <p>1 x SIM</p> <p>2 x SAM</p>	<p>Audio</p> <p>1 speaker</p> <p>1 microphone</p>
<p>Card Readers Magstripe: ISO 1/2/3 Smartcard: EMV Level 1</p> <p>Contactless: EMV Level 1 and 2 compliant NFC: ISO/ICE 14443 Type A&B, Mifare cards</p>	

Cameras

Rear: 5 megapixels autofocus camera

Front:

0.3 megapixels

Thermal Printer

Speed in lines / sec: Up to 18 lines / second
Paper roll cage: 58 mm width x 40 mm diameter

Terminal Connectivity Mobile Data:

4G or LTE WiFi: WiFi b / g / n

Bluetooth: 4.x

Terminal Connections

USB: Micro-USB OTG or USB-C

Battery

7.4 V - 3000 mAh Li-ion Battery or 22 Wh or Higher

Weight

500 grams or lesser

Environment

Operating temperature DC unplugged:

0°C to

+40°C

Operating temperature DC plugged:

0°C to +40°C Storage temperature:

0°C to +40°C

Security And Certifications Certified PCI PTS 5.x, EMV L1 & L2 certified RuPay qSPARC

certified for NCMC

EMV Contactless L1, Master Card Pau pass, Visa PayWave, Discover D- PAS, AMEX Express Pay, Master Card TQM

Annexure 3: Functional Details of AFCS

1. Ticketing functionality:

1. Provision to print conductor ID, depot name, issue date and time, fare, and sequential ticket number on each ticket. System to be flexible enough to incorporate other details at a later stage.
2. Provision to record and print various types of tickets – general ticket, group ticket (adult + child + concession), other concession tickets, differential fare ticket, various schemes tickets, luggage ticket, package ticket, etc.
3. Types of fares and tickets should be able to be created centrally and updated to Android POS devices via on-demand Over the Air (OTA) updates
4. Provision to issue refunds of fare in case of change in service type or full / partial cancellation of service or face value revision
5. Provision to view any ticket issued by the conductor
6. A ticket must be associated with a customer where possible e.g., Mobile Ticket, Bus Pass/Smart Card etc.
7. Provision to record both ticket issue and ticket validation/usage with timestamps
8. Provision to record the details of passengers from whom fare is not collected by the conductor – e-Ticket holders, pre-paid smart card passes holders, monthly / quarterly pass holding passengers, employee duty pass holders, etc., with a view to provide detailed route-wise analysis of usage of services by such category of passengers. Such passes and other pre-paid tickets may be in the form of paper tickets, physical cards, e-tickets or smart cards.
9. Ticketing and passenger information should be relayed in real-time upon each transaction to the Central Server, and also available in batches for reconciliation and settlement as per operational cycles e.g., for each trip, for each shift, at the end of each day, etc.
10. Bus Pass, Closed Loop Card, transactions must be communicated to the relevant systems to update usage/Validity
11. Provision to return occupancy of a bus in real time
12. Provision to present used and unused tickets of a customer
13. In the case of loss of data connection, ticketing transactions must be stored locally and then transmitted to the Central Server immediately upon re-establishment of the data network.
14. All ticketing functions must work in offline mode also in the case of loss of data connection and then be settled by batch mode in pure offline condition.
15. Tickets shall be printed in English/Telugu language as per the layout approved by TSRTC.
16. Provision to buy ticket from Mobile App through APIs

2. Ticket validation functionality:

The Android POS app must be able to validate all forms of pre-purchased tickets (e-tickets, smart card tickets, paper-based QR code tickets) in both online and offline mode and / or ticket number in online mode. These tickets could be single-journey, return and / or monthly passes or other multi-journey tickets.

3. Security Management and Hosting

1. Restrict access to entire AFCS only to authorized users.
2. Create different user groups and assign different access levels / privileges.
3. Maintain transaction logs to record all changes to database, etc.
4. Security breach reports must be sent to authorized personnel as per the SLA.
5. AFCS and OPRS backend systems including rule engines, data bases, and any other components of the application must be hosted on the Cloud. A separate instance (s) unrelated to other customers of the service provider must be created for TSRTC so as to not constrain any customization required for TSRTC.

4. Integration with All System Components

1. Integrate with Mobile App and ETIMS for ticket purchase and validation
2. Provision for integration and sale of tickets through third parties
3. Acquire and process all the transactions from all fare media at acceptance infrastructure.
4. Push all necessary fare media parameters and fare tables' information to ETIMs via OTA updates.
5. Communicate with each ETIM via the network and process the data received to provide overall audit, statistical and operational information.
6. Generate the necessary reconciliation and management reports from the fare media transaction information.
7. Provide API for Mobile app to dynamically pull products, fares, ticket and pass types, and other parameters.
8. System should have APIs for all AFCS and OPRS transactions such that the mobile and ETIMS interfaces may communicate which in turn will be integrated with AFCS and OPRS system.
9. Integrate with Bus Pass, Closed Loop and NCMC Card issuing systems where necessary
10. Integration with existing systems to fetch Master Data
11. Integration with ERP for financial closure at end of trip or service
12. Integration between all component will eventually be through a TSRTC Component called Central Command which serves as an integration layer to connect all components of the AFCS, as well as services as a Customer Data Abstraction layer where Customer Data is tokenized

5. Reconciliation and Real-Time Reporting

1. Automatic generation of daily, weekly, monthly, and yearly reports, and for any time period selected, for revenue reconciliation using the transactions and revenue data.
2. Reports shall be generated vehicle-wise, route-wise, depot-wise, and shift-wise.
3. Reconciliation reports should be generated at the end of each shift and end of each day for each device.
4. The functionality should have the ability to correct manual errors, if any.
5. The AFCS should reconcile tickets / passes issued at the end of each day for each device.
6. The AFCS should provide Data Analytics to predict and for planning the future operations.
7. Each depot's information shall be collated, and the collective revenue generation report shall be made available to the Purchaser's officials.
8. Required reports should be provided for reconciliation with banks and payment integrators

6. Database Management System

1. Support exception handling, validation, and security.
2. Parallel processing of transactions.
3. Maintain historic data for the entire Term of the Project.

7. Product Configuration Management

Configure transport products with parameters such as product ID, name, duration of product, number of trips per day, routes or stops, device type, fare, discounted fare, applicable passenger categories, etc.

8. Tickets and Revenue Reports

1. Facility to generate and view online, real-time project and MIS reports for transactions handled during a specific period, transaction density trends for any specific periodicity (hourly, weekly, daily etc.) and any bottleneck situation creating dependency at any stage.
2. The MIS details would be worked out during the System Requirement Specifications ('SRS') stage in mutually decided formats.
3. The following is an indicative list of MIS reports. The Purchaser and the Selected Bidder can mutually agree on more reports that might add value to the Project.
 - a) Machine detail report indicating number of online ETIMs, number of ETIMs in depots and unmoved / idle ETIMs in depot on at a date and time.
 - b) Daily collection report (conductor-wise, route-wise, depot-wise, etc.)
 - c) Conductor-wise shortage / excess report
 - d) Passenger count by trip, route, on a daily, weekly, monthly basis

- e) Stop-wise boarding and de-boarding reports
 - f) Maintenance and failure reports
 - g) End of day reports to report all transactions from an ETIM
 - h) Network availability report
4. All reports to be available daily, weekly, monthly, quarterly, annually or for any selected time period, as mutually decided by the Purchaser and the Selected Bidder. The Purchaser and the Selected Bidder shall decide the format of the reports and the need for any additional reports during the Term.

Annexure 4: Functional Details of OPRS

1. Overview of Online Passenger Reservation System (OPRS)

The software shall have the following main features. Broad details are specified in subsequent paragraphs. The detailed scope would be finalized at SRS stage. However, it is to be noted that there will be additional requirements from time to time based on the changes in the business logic, the need for providing better facilities to the passengers and directives of the Government etc., and the same are to be incorporated from time to time at no additional cost.

The requirements given include both the immediate requirements as well as the future requirements which will have to be addressed within the contract period, as and when required by TSRTC. The design should take into account the future requirements also. All the facilities available in the existing project, even if not explicitly mentioned, shall be included.

Each module should have facilities for generating reports, the formats for which will be provided by TSRTC.

Scope

1. Web and mobile interface to enable reservation of bus seats for both advance reservation and current booking across various TSRTC routes from anywhere and anytime.
2. Web-based reservation portal for the passengers to access information and book tickets.
3. RTC Operator Booking - This module is used by the booking clerks at the depots/bus stations for the booking of tickets for various routes and services
4. ATB Agents - Authorized Ticket Booking agents to book tickets for passengers.
5. B2C Agents - Integration with online travel ticket portals to book tickets for passengers.
6. Mobile Ticketing and service tracking through app on Android and iOS platforms for customers.
7. To deploy appropriate ticket validation mechanisms on the Android POS to ensure validation/ checking of the ticket

8. Integration with payment gateway providers to allow passengers to make payments across all available online payment modes.
9. Integration with AFCS system for reporting and reconciliation of tickets booked.
10. Integration with TSRTC-ERP (CIS).

2. Functional Requirements:

1. All the facilities related to advance and current booking/cancellation (full/partial), pre/postponement of tickets for TSRTC buses online.
2. TSRTC as part of its business development policy may offer reservation facility on mobile, TIMs, Vending machines, Kiosks. The access to the reservation will have to support wireless interface to the system through an ISP or any other relevant technology.
3. The Reservation and cancellation facility should be made available through mobile, ticketing issuing machines, SMS, ticket vending machines, Kiosks, mobile app based booking confirmation alerts etc.
4. Passengers can purchase any form of tickets available through the Self-Service Web Portal, Mobile App, B2C Portals or through the Assisted mode with RTC Operators and ATB/B2Bs agents, etc., for single journey, or return journey tickets or concession (special category) passes, multi-journey tickets etc.
5. Issue of concessional tickets for Journalist Passes, Retired Employees Passes, concessional cards, coupons etc., through OPRS application and validation of such passes during issue of tickets to the pass holders.
6. Web / any Browser, mobile app, iTIM based ticketing facility for computerized reservation, current, advance tickets with/without concessions.
7. The web browser-based application (ticketing part for online users) shall be designed for both Desktop as well as mobile phones and should work with all types of popular browsers.
8. OPRS Application shall be developed for all types of buses identified by TSRTC.
9. Synchronizing and updating real time data across all ticketing interfaces viz. (e-Ticketing, RTC operator, ATB/B2B agent, B2C channels, iTIMs etc.)
10. Origin-Destination (OD) based open ticket booking system with fixed time slot-based ticket validity.
11. Tickets once purchased should be stored in such a manner that they can be presented for validation / authentication even if the user's phone is offline without a data connection.
12. Multiple passengers may ride using one ticket on one phone as long as the correct number of tickets or rides have been validated.
13. Cashless Payments: Enabling collection of payments by Drivers/Bus Station Counters/Ground Booking points through QR Code (static and dynamic) via UPI or TSRTC wallet system.
14. Facility to book tickets under concessional schemes and amenities.
15. Facility to upload the data pertaining to the different types of concessional cards/bus passes through uploading of CSV/Excel files and through APIs. Validation shall be done when tickets are booked with concessions.
16. Reservation of concession tickets with / without physical tickets.
17. Enabling Blocking, Return Journey reservation with/without concession route wise, service wise, cancellation (full/partial), pre/postponement of tickets anywhere.

18. Automatic releasing of predefined quota seats based on configurable time, place or condition.
19. Facility of payment through Credit cards/Debit cards, Net banking, NCMC payments, online payment through third party Payment Gateway services etc.
20. Centralized control of fares, concessions, discounts, cancellation slabs, reports, etc., and access based on the role defined in the system for these functionalities and provision for multiple type of concessions like seat-wise concession, Service-wise concessions, type-wise concessions, sector-wise concessions, point to point concession, group concession, seasonal concession etc.
21. Dynamic/static configuration of concessions or increase in fare i.e., implementation of flexi-fares for a few days in a week, few days in a month, for selected days, for a given period, for a part of the service etc., based on the business rules in force from time to time.
22. Provision for implementation of flexible/dynamic fares for specified service-types/ specified routes/ specified origin-destination/ specified services/ specified days or range of dates / specified days of week etc.
23. Should support different fare structures for operations in different States.
24. The commission that has to be paid to the ATB/B2B/B2C etc. Agents shall be configurable. This shall be configurable based on the bus station they are attached to, Agent-wise, Route-wise, service type-wise, service-wise, peak/slack/ selected days based, between two selected stages of a service, number of seats sold/earnings realized by an agent etc., or a combination of two or more of these. The commission can be percentage based or fixed amount based or any other rule in force from time to time.
25. Agent wise commissions, agent wise cancellations as per rules in force, universal stock account etc., and Agent's cash remittance through prepaid and postpaid in configurable methods.
26. Integration and accessibility to various service delivery points such as RTC counters, ATB agents, Sub agents, B2C/B2B Franchisees, e-Seva/Mee Seva, iTIMs, TS Online portal & other G2C portals etc., and required Accountal of tickets and revenues.
27. Reconciliation of Inter Bus Station/Depot transactions based on issue date or journey date.
28. Anywhere to anywhere Bus Station-wise transaction reports daily, weekly, fortnightly, monthly, yearly or for any selected date range to be generated.
29. The system should facilitate display of departure /arrival timings as well as the facility to drill down to view the arrival /departure timings en-route.
30. Facility for wait listing and allotment against cancellations.
31. Facility for transfer of seats from one service to another service.
32. There shall be provision for implementing EQ /quota system service-wise, bus station-wise, issue point-wise etc.
33. The system should support display and printing in English and Telugu.
34. Tickets to be printed in both English, Telugu as per the requirement and as per the design approved by TSRTC. (Any other language as prescribed by TSRTC)
35. Multi-level user authorization and authentication with appropriate User Profiles, Rules & Roles, One Time Password valid for one day, etc. The One Time Passwords shall be sent to the Agents, TSRTC operators/users/officials concerned through SMS and e-mail.
36. All Operational, MIS and Revenue reports for a specified period Bus Station-wise, Service-wise, route-wise, service type-wise, sector-wise, journey date-wise, booked

- date-wise, Operator-wise, other agents and e-ticketing, payment gateway-wise etc shall be generated.
37. Finest granularity in data dashboards shall be facilitated for Macro and Micro analysis of data with selective drill down and cross referencing.
 38. It shall provide facility for reconciliation reports or tools between RTC vs agents, RTC vs Payment Gateways, similarly RTC vs other channel providers etc.
 39. The system shall provide reconciliation of amounts realized and amounts for tickets sold.
 40. Main unit of application is Service, it shall be extended or shrunk either side. Majority of parameters are based on the service and shall be configurable.
 41. Provision to extend or shrink routes.
 42. Provision to copy services/routes/layouts/users etc.
 43. Ladies' seats to be earmarked in PINK/different color and facility for blocking these for ladies only. Special blocking for MLA/MPs, Senior citizens, PHC, Conductor etc., to be provided. Blocked seats release time to be configurable.
 44. Dynamic configuration provision of earmarked seats like Senior Citizens, PHC, etc., quota seats in a service, as per the requirement of TSRTC.
 45. Facility to capture passenger information such as name, gender, age, email, profession, GSTIN, Nationality, Passport number in case of foreigners etc., and to deduce patterns on travels related to frequency and branded services.
 46. Maintenance of passenger profile to facilitate integration with CRM.
 47. Integration with TSRTC's call center for providing required data through API calls.
 48. The System should have an option to provide refunds/collect additional fare to/from passengers according to the downgrading and upgrading of service/class.
 49. The System should have an option to provide refunds automatically to passengers in case of service cancellation or breakdown, etc., and for online failure transactions (transactions for which amounts are received but tickets are not generated), as per the requirements of TSRTC.
 50. Service cancellation information and refunds shall be triggered automatically to all online, B2C tickets, etc.
 51. Seat wise concessions, Service wise concessions, type wise concessions, sector wise concessions, group concessions, and seasonal concessions, etc., to be provided.
 52. Multi Concession booking in a single transaction should be provided.
 53. The System shall have a facility for seat vacancy/booked position sector-wise, route-wise, service type-wise, between a given source and destination etc., or a combination of these.
 54. The system shall have the facility of Out Depot cash remittance module. Services originate from a Depot and return back to the Depot after completion of the service/set of services. The bus crew is supposed to remit the earnings at the parent depot after completing their spell of duty. In case the bus cash with the crew is high, for safety reasons, the crew generally remits the earnings at other than their parent Depot viz. another Depot or a Bus Station, duly collecting a receipt (on pre-printed type numbered stock or as decided by TSRTC) which will be submitted in the parent Depot. This is called out depot cash remittance.
 55. Facility to provide information and alerts on timings, fare, service cancellations, payment gateway transactions, e-ticket booking and cancellation, late arrivals and departures to passengers on mobile phones through voice calls or SMS, web notification, e-mails etc., as per the requirements of TSRTC.

56. Comprehensive audit trail, logging and reporting log on important events in application like waybill generation/cancellation and other reports etc., and on critical parameters. High water marks for concurrent application users, module of application, page of application etc.
57. Audit trail shall be available for tracking all the changes made and the person who has made the changes, for all changes which are identified by TSRTC like any changes in service, layout, commissions, routes, users, concessions etc.
58. After creation and implementation of a Service in the application, for every modification of critical data (like Master data) Route-wise, Service-wise, user-wise, fare changes, Kilometers changes, stage changes shall be intimated to the Chief Admin and Admin roles through mail and pop ups immediately.
59. Error pop up must be generated with correct related messages wherever required and shall be popped up.
60. Facility of dynamic fare changes across the board centrally.
61. Dynamic MIS for effective decision making.
62. Based on the data available in the system, the software shall generate various reports on daily, fortnightly, monthly and yearly basis, any selected period and individual queries as required by TSRTC from time to time. The requirement of types of reports and their formats are liable for change from the time to time.
63. Accommodation and other value-added services to be incorporated in the ticket for services where applicable with or without concession.
64. The administrative interface shall support web enabled, browser-based interface and standalone interfaces. Administrative interfaces with full functionality shall also be made available for mobile devices.
65. The OPRS system administration shall facilitate generation of various kinds of reports - text and graphical. The reports will be of use to various stakeholders such as the Corporation, Identified Management Officials and Service Access, network, payment gateway, authentication, back office and other service providers. Such reports could be planned in advance, the system should provide for creation of additional reports online.
66. The solution must enhance the overall management of security, by providing Officials of TSRTC an easy way to manage users and their corresponding profile information; while also maintaining the ability to manage at the application level. The centralized control should allow for the web-based maintenance of organizational level controls such as user management, role management and overall administration control.
67. The solution must provide scalable access services to the System / Solution, including scalability in terms of number of users, user groups, concurrent users, resources, and access control policies. In addition, it must be scalable to legacy/current and future applications /resources that are attached to the portal. The ability to transport this solution for all future web-enabled services with minimal effort reduces future implementation costs and ensures a structured / proven security environment.
68. The System should be able to capture IP addresses of the customer/user logged in. The System should provide log reports of login and logout of various users at the specified intervals of time.
69. The solution must provide a robust and customizable security solution that meets the application requirements of Anytime Anywhere Booking. It is hard to anticipate all present and future requirements. An open, extensible architecture and well

- documented Application Programming Interfaces (APIs), Web services enable site developers to customize an access control system to their specific requirements. A platform that will grow with additional application deployment and scales as user traffic grows, while providing the highest level of reliability is required.
70. The solution must be capable of comprehensive logging of the traffic through the network and applications under its control. It should be capable of logging unauthorized access attempts into the network and the System internal resources, and attempts to login that fail. It should also be capable of notifying appropriate parties including the organization/department users/System Security Administrators etc., of suspicious activity.
 71. The vendor has to provide security certification for security check in the application throughout the project period, as per the requirements of TSRTC, duly bearing all costs.
 72. There shall be provision for issue of e-ticketing through a minimum of four payment gateway service providers identified by TSRTC.
 73. System shall facilitate booking the entire bus for use by a group of passengers, tourist/ Corporate or any other citizens with or without concession. The information like vehicle type, hire charges and other terms and conditions shall be provided online and the system shall facilitate online booking of the entire bus(es).
 74. The data relating to passengers shall be held securely and inaccessible to any hacking attempts.
 75. The system should provide facilities to enquire about the availability of services, departure / arrival timings, booking counters, franchisees, service driver phone number etc.
 76. System should facilitate payment for ticket booked through Credit Card, Debit Card, Net Banking, static/dynamic UPI QR code-based payments, NCMC cards, Wallets etc. Special coupons or any other payment mechanism as and when introduced. The system shall have necessary interfaces in conformance with the standards and protocols specified by such third-party payment gateway service providers
 77. Such payments will provide appropriate interfaces for the backend accounting and financial systems to access the payment collection data.
 78. The system should support printing, using any type of printer - Laser/Inkjet/Dot Matrix on pre-printed or plain paper through any browser.
 79. The System shall have the facility to send the details of the generated ticket to the e-ticket user through mail, SMS and WhatsApp (SMS and WhatsApp gateways will be provided by TSRTC and relevant charges will be borne by TSRTC). SMS/WhatsApp gateway integration is in the scope of the successful bidder. The successful bidder shall integrate with SMS/WhatsApp gateways identified by TSRTC from time to time. The SMS/WhatsApp gateway providers may be changed from time to time and the successful bidder shall carry out the integration as and when required.
 80. The system shall facilitate capturing feedback from users of TSRTC services and provide an option for TSRTC management to get alerts on feedback posted on the site for immediate attention and action.
 81. The system shall provide user management services and service enrolment features to enable the user to register with the portal. It should also provide a secure mechanism for user identification, transaction integrity, security and non-repudiation.
 82. The system shall display the ticketing activity to the passenger who is at the counter

- through slave monitor with selective information. As such the passenger will select his required seat/type of service for his journey.
83. iTIMs for issue and Accountal of tickets and revenue. The iTIM App should be able to get seats availability, fare matrix from the Server and should be able to issue tickets through the iTIM and update the Server in real time. The communication with the iTIM to the Central Server will be through GPRS, GSM or other communication media.
 84. The App deployed on iTIM should work in offline / online mode with zero revenue loss to the corporation by ensuring 100% data sync with the server.
 85. The iTIM app should be able to board the passenger by validating and authenticating the travel in offline/online.
 86. TSRTC is contemplating the implementation of a Centralized Fare Management System. The OPRS System will have to get the relevant data from the centralized fare management system through APIs.
 87. Integration with UPI, NCMC and mobile eWallet.
 88. To incorporate advertisements in the home page and modification of the same whenever changes are made by TSRTC. However, the bidder shall have no rights to claim on the revenue generated through advertisements and his scope is limited to uploading the ads only. As far as possible, the content should be changeable on the fly.
 89. The vendor has to maintain and change the website homepage periodically incorporating contemporary design elements from time to time to add appeal.
 90. Flash messages, SMS/WhatsApp and e-mails to be generated automatically, whenever a service is canceled or introduced, modification of schedule time and pickup point, etc., immediately in the application, as per the requirements of TSRTC.
 91. All charges for email services shall be borne by the successful bidder.
 92. To provide Credit card/Debit card payment facility across all the counters.
 93. Facility for providing configurable bus station-wise/Agent-wise/route-wise (between given two stages)/stage-wise quota seats for services.
 94. System should check valid parameters defined by TSRTC such as current booking time, cancellation timings, minimum traveling distance, and concessions, etc., for booking/cancellation of ticket in a service.
 95. The vendor has to deploy manpower 24 X 7 with a sufficient team of Software Engineers, Database Administrators, Network Administrators, etc., for design, development, implementation, migration with necessary equipment & tools and to attend to day-to-day problems immediately, without any interruption.
 96. Additional requirements will be finalized during the preparation of the System Requirement Specifications.
 97. TSRTC is looking for an end-to-end solution for software design, development and deployment deploy Data Center (Cloud based) to handle 20,000 hits/sec, installation, migration, setting up and running of Cloud based Disaster Recovery Center (with minimum 50% capacity of DC) including providing of required Internet Bandwidth, leased lines between DRC and DC, and providing the required manpower for monitoring on a 24 x 7 basis.
 98. The system should be able to withstand occasional spurt in traffic beyond the 7,000 concurrent users limit and continue to provide seamless and undiminished user experience.
 99. Users should have a facility to Print/SMS/ email Ticket.

100. Passengers should be able to book (advance/current), cancel (full/partial), pre/postpone their journey as per the business rules of the Corporation.
101. Passengers should be able to track their refund status via ticket Number, Mobile number, booking reference number etc.
102. Dynamic searching (today, tomorrow and next 60 days seat status with fare).
103. Integration with NCMC and mobile eWallet, web enquiry for seats availability, fare, routes, en-route stops, Arrival and Departure time, etc., as per the requirement of TSRTC.
104. Integration with other departments like Tourism, TTD, other STUs, Railways etc., for providing a composite/ combined ticket.
105. To provide an accurate and easy accounting system for Inter Depot Transactions and e-ticketing.
106. Solution shall be flexible and able to adopt the future needs of TSRTC such as inclusion of Non-stop services and short distance services etc. into OPRS platform.
107. Role based dashboards shall be provided.
108. Audit trail must be maintained for all data updates/amendments and deletions for security audit.
109. It is expected that as a part of development of OPRS System, the system integrator will study the existing Software used for reservation, cancellation, pre/postponement, e-ticketing and payment gateways, etc., and suggest appropriate changes and obtain sign off from various concerned departments within TSRTC.
110. Provision for generating reconciliation reports based on total transactions and Payment gateway remittances shall be provided. The total transactions carried out through the system, by online users/cashless transactions through iTIMs shall be reconciled with the amounts settled transaction-wise by the payment gateways. Soft copies of the gateway settlement reports will be available with TSRTC. Provision shall be given for uploading the settlement reports to the OPRS application for reconciliation. Alternatively, a standalone application may be provided and maintained for the reconciliation activity. This application shall have a provision to download the OPRS online transactions data, accept the gateway settlement reports and generate the reconciliation reports.
111. Enabling bulk blocking/releasing of seats in a given service, for a particular/ a group of agents, to enable only those Agents to issue tickets for these blocked seats, and also facilitate commissions accordingly.
112. Blocking/releasing seats by operators (by name). These seats will be visible only to the respective operator for booking.
113. Stock management - For preprinted ticket stock.
114. The system shall have a facility for carrying out cash based and cashless (payment through credit/debit cards) transactions at the counters for issue of tickets. The facility shall be provided at all counters including ATB agents.
115. The system shall also provide an option for delivery of tickets through courier at an extra charge which should be configurable.
116. The System shall send the details of the generated ticket to the e-ticket user through mail and SMS/WhatsApp. The system shall also send SMS/WhatsApp and email to the passengers for tickets booked at the Agents counters. Provision should also be available for sending SMS/WhatsApp messages in case of tickets booked at TSRTC counters. This should be configurable dynamically. Event based SMSs/WhatsApp messages also need to be fired for example when a service is canceled, when a

waitlisted ticket is not confirmed, details of service driver once waybill is generated etc.

117. Event based SMS/WhatsApp messages shall be sent to the identified officials/group of officials for events like more number of cancellations/bookings by an agent, high value top-up by the Agents, Service cancellations etc.
118. Open Ticket Booking Module
119. System should allow booking of tickets for bus services based on the origin-destination, time slot and bus type.
120. System should have business configurable parameters where the number of bookings per bus type, role-wise and per slot shall be configured. Based on the services already created in the system, the system should allow booking only to the extent of the cap set per role, bus type and per time slot. This capping may vary based on route, bus time and slot time.
121. Tickets should be issued online, iTIMs, Bus Station Counter, Ground Booking Points, Agents etc.
122. All tickets booked should be recorded in the system.
123. Passengers will bring these tickets for boarding the buses.
124. All tickets should be carrying QR code and/or a unique PNR number.
125. Tickets brought to the buses should be validated both online/offline.
126. Offline validation of tickets should be carried out in case of non-availability of internet connectivity.
127. Once a ticket is validated the same ticket should not be allowed for boarding in other buses.
128. Tickets might be booked for roundtrip or one way. Both tickets should be issued through all modes and validation of each ticket is mandatory before boarding the bus.
129. System should be able to restrict booking based on the number of passengers defined per slot.
130. MIS reports should be generated against the bookings made, number of passengers booked for a journey date, number of passengers boarded, etc.
131. Dashboards needs to be created as per TSRTC requirements

3. BUS ON CONTRACT

1. Special Bus Hire is used to provide online inventory for passengers to book the whole bus.
2. Module should have an option to configure depot wise bus inventory available for full bus booking.
3. Passengers will have an option to search for buses available from the nearest depot. The search will be based on the place searched on maps and based on the nearest depot and inventory available in that depot.
4. System should have the capability to configure bus type based per kilometer fare, levies, interstate taxes, etc.
5. The final fare calculation collected is based on the route (multiple points) selected by the passenger on the map.
6. The system should allow to collect security deposit for each trip from the passenger.
7. The fare will be based on the kms traveled, travel time slabs, interstate route taken, etc. All these calculations should be done by the system automatically.

8. System should be able to accept payment from passengers through payment gateway and generate invoices online.
9. System should allow cancellation based on the rules defined and process refunds automatically.
10. On acceptance of the payment, the system should be able to map the booking to depot inventory and be able to send the necessary alerts to respective depot managers, control room, etc.
11. On completion of the trip and on the bus reaching the depot, the system should be able to calculate the final invoice and automatically process refund of security deposit to passenger post any applicable deductions.

4. Open Ticket Booking Module

1. System should allow booking of tickets for bus services based on the origin-destination, time slot and bus type.
2. System should have business configurational parameters where the number of bookings per bus type, role wise and per slot shall be configured. Based on the services already created in the system, the system should allow booking only to the extent of the cap set per role, bus type and per time slot. This capping may vary based on route, bus time and slot time.
3. Tickets should be issued online, POS, Bus Station Counter, Ground Booking Points, Agents and through ATM Kiosks.
4. All tickets booked should be recorded in the system.
5. Passengers will bring these tickets for boarding the buses.
6. All tickets should be carrying QR code and/or a unique PNR number.
7. Tickets bought to the buses should be validated both online/offline.
8. Offline validation of tickets should be carried out in case of non-availability of internet connectivity.
9. Once a ticket is validated the same ticket should not be allowed for boarding in other buses.
10. Tickets might be booked for roundtrip or one-way.. Both tickets should be issued through all modes and validation of each ticket is mandatory before boarding the bus.
11. System should be able to restrict booking based on the number of passengers defined per slot.
12. MIS reports should be generated against the bookings made, no of passengers booked for a journey date, no of passengers boarded, etc.
13. Dashboards needs to be created as per TSRTC requirements

5. Payment Gateway

1. TSRTC will provide Payment Gateway service providers.
2. SI shall integrate all the Payment Gateways provided to web portal, ePOS etc to accept digital payments.
3. SI shall integrate with payment gateways up to payment method.
4. The SI shall provide dynamic switching of Payment Gateway to the user.

5. The user shall not be provided with a selection of payment gateway (Like ICICI, Ingenico, HDFC, Razor pay etc.,).
6. The user shall be provided with a selection of payment methods only (CC, DC, Net banking, UPI Wallets etc.,).
7. After the selection of payment methods, the user shall be directed to a single payment gateway based on the success ratio/response received to the UTS platform.
8. If multiple gateways are available for the same payment method, randomisation shall be used to direct the user for making payment.
9. This feature helps the load on Payment Gateway service providers and improves the user experience.
10. Due to dynamic switching, this feature reduces the rate of failure transactions.
11. In case, the user failed to make payment successfully using a selected payment gateway, the user transaction state shall be saved and provide necessary facility to make payment using another payment gateway after the stipulated period, subject to availability of the same seats in the service.
12. In case, UTS platform observes poor success ratio from a specific payment method, UTS platform shall disable the respective payment method to the live users for a stipulated period of time, till the payment gateway resolves such issues.
13. Under any circumstances, turnaround time for response from Payment Gateway shall be configurable and shall not be more than 5 mins.

6. Indicative Working example of OPRS System

6.1 Route Master Creation

Each Route shall be created in the system by mapping a list of Bus Stations in the order of actual bus travel on that route. Distance between adjacent Stations and toll details shall be entered in the route creation module. The same route creation module shall be compatible for stage wise route creation.

6.2 Fare Chart Master Creation

Each Bus type and each State Transport shall have different per KMs/Stage fare. The fare calculation shall be based on the number of kms/stages being operated in a any state multiplied by per KM fare applicable for that bus type and state transport unit. The base fare calculations are arrived based on calculations based on Per KM based - Bus Type. This base module evolved to multiple modules and levels of fare calculation based on the ever-growing requirement and needs of TSRTC. Today, these fare modules have reached a stage where the fare can be varied in real time at central server level based on business rules and the same fare can be used across various ticket selling platforms including counters/online/conductors/b2c channels/ETMs/POS. Following are the details of each module/level involved in fare calculation. The hierarchical sequence of steps involved in fare calculation are listed below:

- a. Fare based on per KM and Bus Type. Per KM based fare is defined based on each

state wise KMs operated in a state. This module helps achieve the bilateral fare rules agreed between different states. The state in which the bus route is operating should follow the per KM fare of that state's STU.

- b. Fare calculation is based on the KMs between Boarding and Dropping Point.
- c. Stage Wise Fare calculated based on No. of stages between two points and Bus Type.
- d. Rate Masters are used to manually edit/correct route wise fare calculated in the first two modules.
- e. Fare variation based on month of year and Bus Type. Ex: Summer AC buses are charged higher. Rainy seasons may be charged lower than normal.
- f. Flexi Fare module is used for variation at bus service level or route – bus type level.
- g. Seat Wise Fare is for Bus Type - Seat Wise based fare variation. Premium seats are charged higher. Ex: First three rows are charged higher; Window seats are charged higher. Last Row seats are charged lower.
- h. Dynamic Fare module helps STUs to improve revenues based on the demand on a route/service for a given day. Ex: Increase the fare by 10% if the occupancy ratio of the bus is 50% one week prior to the journey date. Decrease fare by 5% if occupancy ratio of the bus is 30% two weeks prior to journey date.
- i. Weekday fare roasters used to vary fare based on the day of operation of a bus. Ex: Buses operated on Friday and Sunday are charged higher. Bus operated on Tuesday are charged lower.
- j. Fare capping module helps cap the variation between a range of the base fare. Ex: Fare variation can be 25% higher or 10% lower than normal calculated fare.
- k. The fare calculation done in the above steps can be used in real-time across ticket selling platforms. This gives leverage to TSRTC to maximize the revenue by varying the fares automatically based on the peak demand/supply of bus inventory on a route.

6.3 Trip Details Master Creation

- a. Each Bus Schedule will comprise multiple trips.
- b. Each schedule shall have a Schedule No (DCP Number) defined and this is unique across TSRTC.
- c. Each DCP No will have multiple trips assigned.
- d. Driver/Conductor goes to the bus depot and takes duty allotment in the CIS system of TSRTC.
- e. CIS system shall communicate the Schedule details to OPRS.
- f. Each trip/service created in OPRS system shall have a Depot Schedule Code.
- g. Each trip/service shall have the bus running timing, fare, business rule flags to allow advance booking, current booking, Bus seat layout and other operational parameters like weekly service, daily service, alternate day service, etc.
- h. Once the Schedule is assigned in CIS, the information shall be passed on to OPRS.
- i. Type of Bus: The above-mentioned master bus seat layouts are made available in OPRS portal for use.
- j. Time of Schedule Departure at origin.
- k. OPRS Service/Schedule-Trip Number
- l. Stage wise Arrival and Departure Timings

- m. Classification of stages as - Boarding and Alighting.
- n. Fare Matrix of the Trip
- o. Days of operation.
- p. Waybill Closure points

6.4 Current Bookings at all stages

- a. Current booking shall be enabled till LS-1 stages (where LS is Last Stage). The ticket booking in the ground stages, online and in bus will continue to happen even when the bus starts from the origin point.
- b. This shall be available on all OPRS platforms including Driver/Conductor Mobile App and Ground Booking Mobile App.
- c. After generation of waybill, current booking shall be available from at CS+1 stage till LS-1 Stage only. (Where CS is Driver App Current Stage)

6.5 Android app for Bus On-board driver/conductor ticketing

- a. Conductor/Driver login based on Employee ID and password
- b. Schedule and trip information based on duty allotment in CIS
- c. Fetch fare matrix details of the assigned route / service / DCP nos.
- d. From the assigned schedules, start the trip in chronological order.
- e. Fetch all the Advanced reserved passengers' information in waybill to the App display by boarding point wise.
- f. Board passengers using PNR, Mobile, Passenger Name, QR-Code, unique PIN (passenger identification number) both offline and online.
- g. Option to call passengers.
- h. Display boarding point wise available/ boarded / not boarded summary. Real time seat availability, revenue summary to know current available seats in the bus.
- i. Display seats availability with or without Bus Layout
- j. Enable Standee ticket issuing
- k. Current Booking
- l. Stage update
- m. Acceptance of Digital Payments such as QR Code (UPI), NCMC card enabled payments, TSRTC Mobile Wallet and optionally Cash. These payment modes are enabled / disabled by route, bus type and / or user type.
- n. Issue tickets for General Public, Concession Tickets and Luggage tickets.
- o. Bus Pass journey validation.
- p. Issue child only ticket.
- q. Update seat availability in real-time with Conductor/ground booking App.
- r. Alerts to driver when Ground booking user issues tickets for the selected DCP No. / Trip No.
- s. App should work offline in case of any network issues.
- t. End Trip / End Duty - all the revenue generated in the driver app should be in sync with the central server and the information (COB1, COB2, COB3, COB4 files) to be pushed to CIS server.
- u. Option to capture Toll /OD Cash.
- v. Option to view on board passengers / duplicate waybill details.

- w. Cancel Trip.
- x. Break Down functionality.
- y. Route Change.
- z. Advanced Booking.

6.6 Ground Booking App

- a. Booking Staff login based on Employee ID and password
- b. Validated duty based on the duty assignment in CIS system.
- c. List all DCP codes / services that are passing thru the location at which the conductor / driver is assigned the duty to issue tickets.
- d. Filters by Route, DCP Code and ETA to display preferred services listing.
- e. Display seats availability with or without Bus Layout.
- f. Current Booking
- g. Acceptance of Digital Payments such as QR Code (UPI), NCMC card enabled payments, TSRTC Mobile Wallet and optionally Cash. These payment modes are enabled / disabled by route, bus type and / or user type.
- h. Alerts to driver when Ground booking user issues tickets for the selected DCP No. / Trip No.
- i. Option to make a device as primary to issue tickets in rapid speed.
- j. Wallet Registration and Top-up.
- k. Booking Revenue Summary Report.
- l. End Duty - all the revenue generated in the driver app should be in sync with central server and the information (COB1, COB2, COB3, COB4 files) to be pushed to CIS server.
- m. Advanced Booking.
- n. Open Ticket Booking.

6.7 OD based Open Ticketing

- a. Currently, in OPRS, TSRTC issue tickets to passengers with more specificity i.e., date of journey, service number, boarding point time, name, age and seat number, alighting point, etc.
- b. In common corridors, where the frequency of operations is high, more specificity acts in a negative way for public reducing the flexibility to choose the preferred travel time, etc.
- c. So, in high frequency corridors, ticket booking shall be enabled with date of journey, time slot (preferably 2 hrs), boarding point, alighting point and type of bus.
- d. This OD based ticketing gives flexibility to passengers to board any bus within the specified time slot and perform their journey. This flexible option improves the customer experience.
- e. The OD based ticket shall be provided with QR code or PIN which shall be verified by Driver App to board customer.

6.8 Bus Passes

- a. In the existing system, conductors verify bus pass using the following details:
 - i. Photo
 - ii. Route
 - iii. Type of Bus permitted
 - iv. Validity.
 - v. In certain types of passes, in addition to the above, toll charges need to be collected from passenger, and issue a ticket.
- b. Bus Pass issue is manually done at the bus stations counters of select bus stations.
- c. Bus Pass application shall be modified and developed with following two options:

Mofussil Services:

1. During pass issue, generate QR code storing Name, Route, Type of Bus and Validity. Photo shall also be printed on the bus pass along with QR code.
2. To collect Toll charges during purchase of bus pass itself.
3. QR Code (UPI) and NCMC payment integration.
4. Enable Dynamic QR Code (UPI) and NCMC card enabled payment acceptance for each counter.
5. All Driver and Ground Booking using passes shall be validated through App by scanning the Pass QR Code and photo identity shall be physically validated by driver. Offline validation should be enabled in case of no access to internet.

City Services:

1. During pass issue, generate bus pass based on route, validity, Aadhaar number etc by storing the Aadhaar card number details in TSRTC PAAS system. QR code on Aadhaar will act as a pass identifier.
2. To collect Toll charges during purchase of bus pass itself.
3. QR Code (UPI) payment and NCMC card enabled payments integration for pass issue.
4. Enable Dynamic QR Code (UPI) and NCMC card enabled payments acceptance.
5. All Driver and Ground Booking using passes shall be validated through App by scanning the Pass QR Code and photo identity shall be physically validated by driver. Offline validation should be enabled in case of no access to internet.

6.9 Closed Loop TSRTC eWallet

1. Creation of eWallet linked to Mobile Number.
2. Top-up wallet account in online / mobile app / ATB Agents / counters.
3. While booking a ticket, passenger can make payment using TSRTC eWallet account.
4. To enhance the security of eWallet, dynamic OTP generation and validation shall be incorporated in the work flow.
5. Transfer wallet balance to friends account in TSRTC e-wallet.
6. Track transactions status and handling of failure transactions.
7. Detailed transaction history.
8. Necessary reconciliation reports.

7. Working illustration for Long Distance Services

Sample Route - Hyderabad MGBS, Hyderabad Shamshabad, Kurnool, Kadapa, Tirupathi. Service No - 1234

7.1 Advance Booking

- a. Online Booking for service 1234 is enabled in advance as per the reservation days defined in OPRS.
- b. Advance Bookings accepted through TSRTC Online Portal, Bus Stations Counters, ATB agent, B2C and B2C Sub API.
- c. In addition to the existing payment options, revenue of fare through QR code (UPI)/NCMC payments, TSRTC Wallet (through OTP validation) shall be enabled at Bus Station Counters, ATB, Driver App and Ground Booking App.
- d. Advance Booking continues as per the definition in OPRS and/or until driver starts trip and downloads waybill into Driver Mobile App at Hyderabad MGBS whichever is earlier. Current booking commences as per the above criteria.
- e. All tickets shall be issued against a valid mobile Number. OPRS shall send e-ticket, QR ticket, SMS ticket to all tickets booked.
- f. Revenue details to sync with CIS on waybill generation and / or when the trip / duty ends.

7.2 Payment Acceptance Process

- a. The following payment collection process shall be applicable for Bus Station Counters, ATB Agent counter, Driver App and Ground Booking App. This is applicable for both Current and Advance Booking process.
- b. Cash Payment - Passengers walks into the bus/counter/ground booking staff, tender the cash and collect the ticket. Option to issue ticket by cash is to be provided. The cash mode is configurable from the back-end system.
- c. Dynamic QR Code (UPI)payments - During the ticket booking process, upon selection of the OD, DOJ etc, a dynamic QR code is generated on the screen. The QR code is scanned by passenger through any of UPI payment enabled App. On successful payment by the passenger in their phone, the Driver/Conductor/Ground Booking app should generate ticket by direct communication to the central server. There is no manual intervention to validate the payment receipt to generate the ticket by Driver or RTC Staff.
- d. TSRTC wallet payment - During the ticket booking process, upon selection of the OD, DOJ etc, customer's TSRTC wallet mobile number need to be entered for collecting the payment from customer's wallet. An OTP code is generated and sent as SMS to the customer for confirming the transaction. Customer tenders OTP to Driver/Conductor/Ground Booking for validation by entering in the Smart Ticket Booking App. Upon confirmation of payment deduction from customer's wallet and ticket is automatically generated. There is no manual intervention to validate the

payment receipt to generate the ticket by Driver or RTC Staff. Customer registered mobile receives necessary transactional notifications based on the configurations set at the central server.

- e. Payments received through Cash or UPI or NCMC or TSRTC wallets are accounted as follows:
 - i. In OPRS all revenue accounting process is based on a Bus Station and Depot to which the Bus Station is assigned.
 - ii. Bus Station Counters and ATB agents are assigned to a bus station (which in turn are assigned to Depots). All revenue made shall be deposited in respective bank account of Depot to which Bus Station is assigned.
 - iii. Drivers and Ground Booking staff are assigned to Depot. All revenue made shall be deposited in respective Depot's bank account to which the staff are assigned.
 - iv. Revenue accounting is based on the Depot to which a Service is assigned.
 - v. On periodic basis, IDT (Inter Depot Transfer) report generated in OPRS shall be used to make inter depot accounting adjustments of the revenue.
 - vi. In case of ATB agent, when using UPI or NCMC TSRTC wallet payment, only commission will be credited to their account. Revenue of ticket amount shall be deposited to RTC account directly. In case of ticket cancellations, only commission amount shall be debited from agent account. The refund shall be automatically credited to customer's UPI or NCMC or TSRTC wallet.

7.3 Current Booking

- a. Current booking starts from 30 mins before service start time at the origin or when driver starts the trip and continues until it reaches till the last stop.
- b. Booking of tickets will continue for all combination of OD through TSRTC Online Portal, Bus Stations Counters, ATB agent, B2C, B2C Sub API, Ground Booking App and Driver App.
- c. Tickets are booked by taking customer mobile number. In current booking only SMS shall be sent to customer with details of the Service No, OD, DOJ and Bus Number.
- d. Driver initiates Stage Left operation if moving from the departure location. Stage Left is performed by driver before Stage Close operation.
- e. Stage Update Operation (Eg: Bus is moving from HYD->Shamshabad->Kurnool->Tirupathi) Performed at Hyderabad MGBS)
 - i. Will stop booking from Hyderabad MGBS to all other destinations in all modes except through Driver App.
 - ii. Booking from other stages (i.e., Hyderabad Shamshabad, Kurnool, Tirupathi) to all other enroute destinations will continue through TSRTC Online Portal, Bus Stations Counters, ATB agent, B2C, B2C Sub API and Ground Booking App.
 - iii. Ground Booking App can issue tickets only from booking stage at which the app is deployed to enroute locations. Ex: Staff deployed at Hyderabad Aramghar X roads can issue tickets from Aramghar X Roads to enroute locations but not from MGBS or Kurnool or Kadapa to other enroute locations.
 - iv. Stage Left operation will help Driver to cross check if all customers boarded the bus from a stage and to issue tickets to any customers who might be waiting near

- the bus.
- v. Driver performs Stage Close operation.
- vi. Stage Close Operation
- vii. Will stop booking of tickets from Hyderabad MGBS through Driver App.
- viii. Will enable booking of tickets from Hyderabad Shamshabad Circle through Driver App.
- ix. The cycle of stage left and stage close operation will continue till the driver reaches LS (Last Stage)-1 stage i.e., Rajahmundry in this illustration. The booking disabling at each stage happens based on these operations and follows the process as defined above.

7.4 Validation and Authentication of Tickets

- a. The ticket must withstand both digital authentication through QR codes using the Android POS or PIN based validation or a visual authentication through an animation that cannot be easily replicated.
- b. Ticket validation must function on both the Android POS and the passenger's mobile phone. Once validated on passengers' mobile phone, the QR code shall be defaced to avoid further validation in other buses.
- c. Validation logic shall work in both offline Android POS and online Android POS.
- d. Validation logic shall be applicable for tickets booked through TSRTC web portal, RTC operators, ATB Agents, B2C Agents etc.,
- e. Validation logic shall stand good for OPRS service tickets, Non-OPRS Service tickets, Open tickets (Route based tickets) and Ground Booking Tickets also.

7.5 POS/Mobile App Booking Control Logic on Internet Connectivity

- a. Every ticket booked is in sync with OPRS server in real time.
- b. If POS/Mobile app has internet, current booking will continue at all modes as per above.
- c. If POS/Mobile app has no internet connectivity, current booking will discontinue at all modes and re-enabled once POS/Mobile app is connected to OPRS servers.
- d. POS/Mobile app will continue issuing tickets even when internet connectivity is not available. These tickets will be auto synched with OPRS once internet is available.

7.6 Bus Pass Validation

- a. Crew will check photo ID and scan QR Code in the bus pass using the POS/Mobile app.
- b. Bus Pass travel will be recorded against the waybill if the pass is valid for travel based on the route, bus type and pass expiry date combination.
- c. No ticket shall be booked but seat count logic will continue to work based on the number of passes scanned.
- d. In case of Aadhaar based bus pass, post scanning of Aadhaar card, system shall fetch pass information from the central server for validation.

- e. Bus pass holder travel details are duly captured and sync with central server to generate necessary MIS reports.

7.7 Trip Closure and Duty Closure in POS/Mobile App

- a. Trip Close will close the waybill and trip ends. No more bookings are allowed against the trip.
- b. Trip Close will once again sync all tickets of the trip with OPRS for reconciliation.
- c. Duty Close will generate report on screen showing details of waybill collection and amount to be deposit to depot cash counter by the driver.
- d. Duty Close will once again sync all tickets of trips with OPRS for reconciliation.
- e. Trip Close and Duty Close shall send the tickets and revenue information to CIS system.

7.8 Ground Booking App Ticketing, Cash Collection and Deposit Process

- a. Ground Booking App will be able to view the list of all Bus Services which are due to travel along their booking point. Staff may choose any service and book ticket by entering the destination and no. of passengers.
- b. Ground Booking App will also have option to view ETA (Expected Time of Arrival) of a bus to his booking point based on the POS/Mobile app GPS (Global Positioning System). The GPS coordinates are relayed to OPRS servers so that ETA can be determined and displayed in the Ground Booking App.
- c. Ground Booking App login and cash deposit operations are like the process being followed in OPRS Bus Station Counters.
- d. Each Ground Booking staff will receive a login and this login is assigned to a Bus Station and in turn to a Depot.
- e. Ground Booking Staff will have a login against which all daily collections will be recorded.
- f. Ground Booking Staff will end the duty and deposit cash with respective Depot cash collection counter.

7.9 Working illustration for Short Distance Bus Services (Mofussil Services, Open Ticket and City Buses)

Sample Route - Hyderabad MGBS, Hyderabad Shamshabad, Jedcharla, Mahbubnagar.
Service No - There is no service number allotted for non-OPRS services.

7.10 Timetable/Service Creation in OPRS

- a. Scheduled operations (planned timetable) of all non-OPRS services shall be defined in OPRS.
- b. The DCP number is allotted non-OPRS (short distance/ordinary/city bus) services with multiple trips (time slots) for the day/week/ month, along maximum no. of

seats in a bus, etc.

- c. Enabling advance ticket booking for these services will be through Open Ticket Booking System.

7.11 Open Ticket Booking

- a. Passenger book Open Ticket by searching for Origin, Destination and Date of Journey combination.
- b. List of Non-OPRS bus services available will be shown to customer along with Bus Type by slot, in general 24 hours split into hourly slot or slots as defined by TSRTC.
- c. Customer may choose to book Open Ticket based on time slot and seat availability count.
- d. Customer needs to provide details like name, mobile no and email to book the ticket. QR ticket along with PIN will be sent to customer. The same shall be used by customer to board the bus. In case customer does not have a smart phone, physical QR ticket may be printed for ticket being issued at bus station counters/agents.
- e. The seat availability on a route is defined based on the business logic defined in OPRS.
- f. Ex: Hyderabad-Mahbubnagar. If there are total of 10 buses running between 9 AM to 11 AM with per bus capacity of 40 seats. Corporation may define a logic to sell only 50% of the available inventory through Open Ticket system. This is to ensure customers booking Online Open Tickets and directly coming to Bus Station will be able to find buses during the given time slot. If the 50% inventory against the time slot is sold, the open ticket booking against the given time slot shall not be accepted.
- g. Corporation may choose to enable grace period of half hour or one hour for boarding the buses during the time slot i.e., customer who booked open ticket for 9 AM to 11 AM slot may be allowed to board the bus from 8:30 AM to 11:30 AM. This is for the operational convenience and is selectively configured.
- h. Corporation may enable customer booked in higher category buses be allowed to travel in lower category buses. If customer booked a ticket in Super Luxury bus, he may be allowed to travel in Pallevelugu without option for difference fare refund. Vice Versa is not allowed.
- i. Advance Open Ticket Bookings shall continue as per the business rule definition in OPRS. Ex: Open ticket booking is allowed till two hours prior to the journey time. If customer wants to perform journey today between 9 AM to 11 AM, customer must have booked open ticket before 7 AM today.
- j. Booking of Advance Open Tickets based on OD, DOJ, Bus Type and Time Slot will continue for all combination of OD through TSRTC Online Portal, Bus Stations Counters, ATB agent, B2C, B2C Sub API based on the business rules defined in OPRS.
- k. Open Ticket shall be utilized for Short distance and City Bus Services to allow Passengers to make advance booking.
- l. Open Ticket boarding is validated only by QR Code / PIN with or without internet.
- m. If open ticket is boarded in offline, then the PIN / QR code validated revenue details are duly accounted against the service / DCP no. in which the passenger performed the journey.

- n. Necessary transactional/MIS reports to be generated.

7.12 Payment Acceptance Process

- a. The following payment collection process shall be applicable for Bus Station Counters, ATB Agent counter, Driver App and Ground Booking App. This is applicable for both Current and Advance Booking process.
- b. Cash Payment - Passengers walks into the bus/counter/ground booking staff, tender the cash and collect the ticket. Option to issue ticket by cash is to be provided. The cash mode is configurable from the back-end system.
- c. Dynamic QR Code (UPI)payments - During the ticket booking process, upon selection of the OD, DOJ etc, a dynamic QR code is generated on the screen. The QR code is scanned by passenger through any of UPI payment enabled App. On successful payment by the passenger in their phone, the Driver/Conductor/Ground Booking app should generate ticket by direct communication to the central server. There is no manual intervention to validate the payment receipt to generate the ticket by Driver or RTC Staff.
- d. TSRTC wallet payment - During the ticket booking process, upon selection of the OD, DOJ etc., customer's TSRTC wallet mobile number need to be entered for collecting the payment from customer's wallet. An OTP code is generated and sent as SMS to the customer for confirming the transaction. Customer tenders OTP to Driver/Conductor/Ground Booking for validation by entering in the Smart Ticket Booking App. Upon confirmation of payment deduction from customer's wallet and ticket is automatically generated. There is no manual intervention to validate the payment receipt to generate the ticket by Driver or RTC Staff. Customer registered mobile receives necessary transactional notifications based on the configurations set at the central server.
- e. Payments received through Cash or UPI or NCMC or TSRTC wallets are accounted as follows:
 - i. In OPRS all collection accounting process is based on a Bus Station and Depot to which the Bus Station is assigned.
 - ii. Bus Station Counters and ATB agents are assigned to a bus stations (which in turn are assigned to Depots). All collection made shall be deposited in respective bank account of Depot to which Bus Station is assigned.
 - iii. Drivers and Ground Booking staff are assigned to Depot. All collection made shall be deposited in respective Depot's bank account to which the staff are assigned.
 - iv. Revenue accounting to a Depot is based a schedule/trip start done by Driver App login. Based on the Driver login, trips initiated are assigned to the same depot to which the driver login is attached.
 - v. On periodic basis, IDT report generated in OPRS shall be used to make inter depot accounting adjustments of the revenue.
 - vi. In case ATB agent when using UPI or TSRTC wallet payment, only commission will be credited to his account. Collection of ticket amount shall be deposited to RTC account directly. In case of ticket cancellations, only commission amount shall be debited from agent account. The refund shall be automatically credited

to customer's UPI or NCMC or TSRTC wallet.

7.13 Current Booking

- a. Current booking is allowed till the bus reaches destination.
- b. Crew initiates trip start operation at Hyderabad MGBS.
- c. Customer booking ticket must provide mobile number to receive e-ticket with details of ticket no, OD, DOJ, Bus No and PIN for boarding. In case customer does not have a mobile no, booking staff will give two-or three-digit PIN which shall be told to driver for validating the boarding.
- d. The trip will appear for current booking for bus station counters located at Hyderabad MGBS only.
- e. Crew will also be able to issue Bus Tickets from Hyderabad MGBS to en-route points for customers who purchase ticket in the bus. Bookings through driver app may be enabled based on type of bus operation like Non-Stop Services, etc.
- f. Crew will also be allowed to accept Open Tickets from Customers by scanning the QR ticket using POS/Mobile app.
- g. Tickets booked by POS/Mobile app from Hyderabad MGBS to enroute destinations, Tickets Booked at Bus Station Counters at Hyderabad MGBS, Tickets scanned at Hyderabad MGBS and Bus Passes scanned at Hyderabad MGBS are collectively taken into consideration for the count of vacant seats available for booking.
- h. For Non-OPRS services, seat selection process is not mandatory. System will issue tickets without seat number allotment.
- i. Driver initiates Stage Left operation at Hyderabad MGBS. Stage Left action is performed by driver before Stage Close operation.
- j. Stage Left operation will enable current booking at CS (Driver App Current Stage) + 1 stage only in the current route. Following sample helps understand this process.
- k. Stage Left Operation (at Hyderabad MGBS) will stop booking from Hyderabad MGBS to all enroute destinations at all Hyderabad MGBS bus station counters/ground booking except in the POS/Mobile app.
- l. Booking from immediate next stage i.e., Hyderabad Shamshabad to all other enroute destinations will open. Assuming that Ground Booking App is being used at Hyderabad Shamshabad, booking for the current trip will be enabled through the App.
- m. Ground Booking App can issue tickets only from booking stage at which the app is deployed to enroute locations. Ex: Staff deployed at Hyderabad Shamshabad can issue tickets from Shamshabad to enroute locations but not from PNBS or Gannavaram or Hanuman Junction to en-route locations.
- n. Tickets issued by Ground Booking App at Shamshabad will be continuously synched with Driver App.
- o. Stage Left operation will help Driver to cross check if all customers boarded the bus from a stage, issue tickets to any customers who might be waiting near the bus or board the customers who might have come near the bus with Open Tickets.
- p. Crew performs Stage Close operation before leaving Hyderabad MGBS if ticket issuing/boarding passengers is not required at this stage.

7.14 Stage Close Operation

- a. Will stop booking of tickets from Hyderabad MGBS through POS/Mobile app.
- b. Will enable booking of tickets from Hyderabad Shamshabad through POS/Mobile app.

7.15 Stage Left Operation

- a. Crew will reach Hyderabad Shamshabad and perform Stage Left Operation at the time of bus leaving from that location after boarding all the eligible passengers to travel in the bus.
- b. Booking from immediate next stage i.e., Gannavaram to all other enroute destinations will open. Assuming that Ground Booking App is being used at Gannavaram, booking for the current trip will be enabled through the App.
- c. Will stop booking from Hyderabad Shamshabad to all enroute destinations at Hyderabad Shamshabad Ground Booking App except through Driver App.
- d. Crew will check the details of customers boarding the bus at Benz Circle by validating the two or three-digit PIN issued to customer by ground booking staff or validating the open tickets by way of scanning the QR code.
- e. Crew performs Stage Close operation before leaving Hyderabad Shamshabad.

7.16 Stage Close Operation (at Hyderabad Shamshabad)

- a. Will stop booking of tickets from Hyderabad Shamshabad through POS/Mobile app.
- b. Will enable booking of tickets from Gannavaram through POS/Mobile app.
- c. The cycle of stage left and stage close operation will continue till the crew reaches LS (Last Stage)-1 stage i.e., Hanuman Junction in this illustration. The booking disabling at each stage happens based on these operations and follows the process as defined above.

7.17 Open Ticket Validation

- a. Crew can validate the open ticket by scanning the QR ticket using the POS/Mobile app.
- b. Ticket acceptance is based on the OD, Bus Type, DOJ, Time Slot for boarding.
- c. Ticket shall be accepted only after meeting the business logic criteria as mentioned above.
- d. The revenue from open ticket thus scanned will be accounted against depot to which the bus belongs to.
- e. Ticket booked by counters and Ground Booking App are directly linked to the DCP code / Service No. of the bus for which the current trip being performed.

7.18 POS/Mobile app Booking Control Logic on Internet Connectivity

- a. Every ticket booked is synced with OPRS server in real time.
- b. If POS/Mobile app has internet, current booking will continue in bus stations counter or Ground Booking App at CS (Driver App Current Stage) + 1 stage as illustrated in above example.
- c. If POS/Mobile app has no internet connectivity, current booking will discontinue.

- d. POS/Mobile app will continue issuing tickets even when internet connectivity is not available. These tickets will be synched with OPRS once internet is available.

7.19 Bus Pass Validation

- a. Crew will scan the bus pass using the POS/Mobile app.
- b. Bus Pass travel will be recorded against the waybill if the pass is valid for travel based on the route, bus type and pass expiry date combination.
- c. No ticket shall be booked but the seat allotment and seat count logic will continue to work based on the number of passes scanned.

7.20 Trip Close and Duty Close in POS/Mobile app

- a. Trip Close will close the waybill and trip ends. No more bookings are allowed against the trip.
- b. Trip Close will once again sync all tickets of the trip with OPRS for reconciliation.
- c. Duty Close will generate report on screen showing details of waybill collection and amount to be deposit to depot cash counter by the driver.
- d. Duty Close will once again sync all tickets of trips with OPRS for reconciliation.
- e. Trip Close and Duty Close shall send the tickets and revenue information to CIS system.

7.21 Ground Booking App Ticketing, Cash Collection and Deposit Process

- a. Ground Booking App will be able to view the list of all Bus Services which are due to travel along their booking point. Staff may choose any service and book ticket by entering the destination and no. of passengers.
- b. Ground Booking App will also have option to view ETA (Expected Time of Arrival) of a bus to his booking point based on the Driver App GPS (Global Positioning System). The GPS coordinates are relayed to OPRS servers so that ETA can be determined and displayed in the Ground Booking App.
- c. Ground Booking App login and cash deposit operations are like the process being followed in OPRS Bus Station Counters.
- d. Each Ground Booking staff will receive a login and this login is assigned to a Bus Station and in turn to a Depot.
- e. Ground Booking Staff will have a login against which all daily collections will be recorded.
- f. Ground Booking Staff will end the duty and deposit cash with respective Depot cash collection counter.
- g. On duty end, OPRS shall send the tickets and revenue information to CIS system.

7.22 Open Ticket Booking

- a. Time Slot Duration - should the time slot for open ticket should be 1 hour or 2 hours

- or 3 hours.
- b. Ticket Validity Grace Period - should we allow the customer to board the bus if customer comes 30 min prior or 30 mins after the ticket time slot period.
 - c. Process to refund in case of not travelled or should these tickets be non-refundable.
 - d. Ticket booked for Upper Category may be used for Lower Category. The differential fare is non- refundable. Suggested to avoid these refunds considering the problems in terms of reconciliation refund processing.
 - e. Lower category open ticket shall not be allowed to travel in higher category bus. No differential fare option collection option as of now.
 - f. Normalization of Bus Station names and Depots across RTC depots and OPRS. This activity is required for both OPRS and Non-OPRS services. Unique codes provided by TSRTC shall be super imposed on the maps and lat long co-ordinates shall be attached.
 - g. Open Booking Schedule (timetable) feeding in OPRS.
 - h. Open Ticket capacity to be kept open for advance booking i.e., 50% or 60% of seats available in a route should be kept open or not.
 - i. TSRTC wallet to be used for collection of fare through Bus Station Counters, ATB agents, Driver App and Ground Booking App.
 - j. All tickets issued shall be paperless.
 - k. SMS tickets are issued against all ticket bookings.
 - l. Accepting QR ticket as valid document to travel.
 - m. Accepting SMS ticket as valid document to travel.
 - n. In case of customer not having mobile phone, decision to accept PIN while boarding as a ticket validation process must be decided.
 - o. Corporation shall provide smart phone/POS to all drivers/ground booking staff for issuing of tickets

7.23 Payment Integration, Security and Other Integrations

- a. Payment options must include RBI-approved digital payment options, including UPI, e-wallets and NCMC cards.
- b. PCI-DSS standards must be followed for all card-based payment functionality as well as for storage & authentication of tickets and adherence to industry standards in application security and functionality.
- c. SMS gateway Integration.
- d. email gateway Integration.
- e. Adoption of NCMC cards as per Government of India guidelines.
- f. Other integrations as detailed in this document and may arise from time to time as per need.

7.24 Targeted Users

- a. **Citizens**
 - i. The system should address the requirements of any traveller and should provide specific requirements of different types of commuters.
 - ii. Students are special category of commuters who may be allowed special

- privileges, such as pricing, periodicity, validity of tickets etc.,
- iii. Women citizens are special categories of commuters who may be allowed special privileges in terms of seating and ticket pricing, issue of seasonal passes etc.,
 - iv. Children citizens are special categories who may be allowed special privileges in terms of seating and pricing.
- b. Special Passengers:**
- i. The System should provide for special passengers and seat allotment and ticket pricing and cover people, such as, elected Representatives, Physically Challenged, Senior Citizens and any other Group as decided by TSRTC from time to time. These policies have to be dynamically configurable.
 - ii. Group passengers who may be given bulk allotment of seats including hire of a Bus on Contract.
 - iii. The System should facilitate special concessions for selective seats for a service.
 - iv. The System should facilitate special concessions for groups of booking and for Schools and occasions like Jatharas.
- c. Authorized Ticket Booking Agents**
- i. The Agents should provide ticketing services either Current or Advance to passengers and the passengers must be able to access the reservation information and offer their services to the traveling public.
 - ii. The System should be able to connect to Service Providers, like e-Seva, Gram/Ward Sachivalayam, MOBILE ticketing etc., to provide online ticketing services as well as secure and accurate statement of revenue collection made on behalf of TSRTC and provision should be made to enable the System to access and integrate with other Government Departments, such as, Tourism, Endowments etc., to provide a Single Window facility for transport and accommodation etc.
 - iii. The system should be configurable for the agent's cash remittance for prepaid or postpaid method
- d. Booking Clerks:**
- The Booking Clerks at various Bus Stations and also at Depots should be able to access the new System to manage the services and ticketing process including viewing the service details, fare tables, cancellation, pre-ponement, postponement both full and partial, generate Auxiliary Way Bills, Shift Revenue, etc., and also be able to do the ticketing process in full.
- i. Drivers/ Conductors
 - ii. Depot System Supervisors
 - iii. Depot Supervisors
 - iv. TSRTC Administrative Officers
 - v. Central Complaint Cell

Annexure 5: Change Request Note Format

Change Request Notice Number:	Date of Initiation:
Part A: Initiation	
Title:	
Originator:	Sponsor:
Details of Proposed Change: (Include reason for change and appropriate details / specifications. Identify attachments as A1, A2, A3, etc.)	
Authorized By the Purchaser Signature Name Title: Date:	Received By the Selected Bidder Signature Name Title: Date:
Part B: Evaluation	
Brief Description of Solution: (Identify any attachments as B1, B2, and B3 etc.) Changes to Services, charging structure, payment profile, documentation, training, service levels and component working arrangements and any other contractual issue.	
Impact:	
Deliverables:	
Timelines:	Charges for Implementation: Include payment schedule
Authorized By the Purchaser Signature Name Title: Date:	Received By the Selected Bidder Signature Name Title: Date:

Part C: Authority to Proceed	
Implementation of this CRN as submitted in Part A, in accordance with Part B is: (tick as appropriate)	
<input type="checkbox"/> Approved <input type="checkbox"/> Rejected <input type="checkbox"/> Requires Further Information (as follows, or as Attachment 1, etc.)	
Authorized By the Purchaser Signature Name: Title : Date :	Received By the Selected Bidder Signature Name: Title : Date :

Annexure 6: Dash Board & Reports

6.1 Dashboard:

6.1.1 Overview

1. successful bidder shall display the live status of the last data pocket received from E-Tims/Itims for every vehicle in admin portal as well as admin mobile app.
2. The platform should have State/Zone/Region/Depot Dashboard with relevant data
3. successful bidder shall display the Live working status of all E-Tims/I-Tims provided,

6.1.2 Alerts

1. The system shall have the ability to highlight exceptions through alerts by monitoring the deviations such as late departures and arrivals, non-receipt of waybill files, etc.
2. In case of any abnormal or manufacturing in communication is detected, the system shall record the type of failure and issue an alert.

6.2 Reports

1. The system shall provide MIS reporting with multiple “Slice & Dice” options to generate reports in flexible formats based on user specific needs.
2. The reports should present real time, historical, statistical and predictive views in addition to the daily/weekly/monthly/yearly views.
3. Portal usage statistics related to registered users, business entities, online transactions etc. payment gateway wise for reconciliation.
4. Trend analysis reports detailing the user behavior patterns providing forward-looking predictions of business user interests in the portal.
5. A few indicative reports which the successful bidder should consider are:
 - a. Date Wise Transactions.
 - b. Transactions since inception.
 - c. User wise, counter wise, Bus Station wise transactions.
 - d. Quality of Service Report outlining the performance of the individual front end service providers in processing the user requests in comparison with Service Level Metrics requirements.
 - e. Total page views per category.
 - f. For online events: peak simultaneous users, total users logged in, (average stay per user) Gateway wise reports.
 - g. The online MIS reporting requirements include providing graphical views for information such as: collections for each depot, statistical/trend view (rate of growth of transactions and predictive growth of transactions), historical view (collections till date).
 - h. The following are indicative reporting requirements that the successful bidder should take into account while designing an appropriate solution: Hourly / Daily / Weekly / Monthly / Yearly transactions / collections by Depot.
 - i. Day wise and shift wise collection summary reports.
 - j. User wise summary for the day reports.

- k. Transaction based alerts.
- l. All Users and all Depots revenue reports.
- m. Service cancellation and tickets cancellation reports.
- n. Bus Station wise Anywhere to Anywhere transaction reports.
- o. Gateway wise Reconciliation statement for e-ticketing.
- p. Generation of service wise MTD 141.
- q. Inter Depot, Inter Region Transaction reports.
- r. Corporation summary report daily/fortnightly/monthly/yearly.
- s. All the reports to be generated in the form of HTML, PDF, Text and Excel statements.
- t. All the reports to be generated in from – to date option facility. =
- u. Any other reports required by the Project Manager, AFCS time to time.
- v. The successful vendor has to generate all the transaction wise and revenue wise reports on daily, weekly, fortnightly, monthly and yearly basis.
- w. Any report in any format subjected to availability of data in the Database.

6.2.1 General Reports

1. Agent Daily Commission
2. Agent Daily TDS Collection
3. Agent Remittance Report
4. Agent Revenue Report
5. Agent CR Note Report
6. Agents Payments Report
7. Anywhere to anywhere report
8. Boarding Point Services
9. Booked Seats Summary
10. Bus Station wise Summary
11. Canceled Services Report
12. Canceled Tickets
13. Agent e-Ticket Canceled
14. Canceled POS Tickets
15. Date wise transaction summary
16. Day/Monthly Summary
17. Dinner Order Report
18. Dinner Tickets by Service
19. Flexi Fare (API) Report
20. IDT(Issue) Depot wise details
21. IDT(Receive) Depot wise details
22. Invalid Tickets
23. Link Tickets Reports
24. Concession Ticket Sales Report
25. POS Tickets report
26. POS Tickets Summary Report
27. Remote Agent Cancellation Report
28. Seat Block & Release Log
29. Special Service Report
30. Special Services Summary Report

31. Stock Consumption Report
32. Services and Agents Report
33. Service Types Report
34. Unreported Service Report
35. Users OTP Report
36. Vacancy Seats Summary
37. Waiting List Seats Summary
38. Waybill Cancel Report
39. Waybill not Generated Report
40. Window Scroll Report
41. 141 Service Report
42. Stage-wise Alighting and Boarding Report

6.2.2 Online Reports

43. Bus Station wise Booked e-Tickets
44. Online Pending Transactions
45. Online Reconciliation Report
46. Online Transactions Report
47. Online Users List
48. Online Reconciliation Summary
49. Ticket Pending Refund Status
50. Failure Ticket Pending Refund Status.

6.2.3 Account Reports

51. ATB Agent Register
52. Accounts Header Summary Report
53. Auxiliary Waybill Summary
54. Cancellation of Tickets
55. Commission Issued Report
56. Day/Monthly Summary Settlement Report
57. e-Ticketing Summary
58. Depot wise Levy Received.
59. Depot wise Received retained Amount.
60. IDT (Issue) Station wise Summary
61. IDT(Receive) Station wise Summary
62. RTC Operator Ticket Issues
63. SRT Report
64. Waybill Commission Report
65. Day wise Fares for Service Report
66. Daily Reward Points Summary Report
67. Transaction wise Reward Points Report
68. Transaction wise Redeem details Report
69. Service wise Reward Point Transaction Details

6.2.4 Wallet Reports

70. Wallet Date wise Transaction Report

71. Wallet Coupon Usage Report

6.2.5 Other Reports

72. Active Agent wise Booked details
73. Agents Daily Balances
74. Agents Reconciliation Report
75. Auto Top up Payment Gateway Response Report
76. Booked Seats (Depot Wise)
77. Transferred Seats Report
78. Booked Seats Summary (Depot wise)
79. Bus Station wise ATB Summary
80. Bus Station wise Summary Report
81. Cancellation Alert Report
82. Cancellation Summary (Slab wise)
83. Day wise Auxiliary Waybill Summary
84. Destination wise Booked Seats
85. Depot wise Booked Seats
86. IDT(Issue) Grand Summary Report
87. IDT(Receive) Grand Summary Report
88. Month wise First and Last Booked tickets
89. Month wise TDS Summary
90. Passenger Cess Report
91. Product wise Summary
92. Route wise Product wise Summary
93. Sector wise Booked Seats
94. Service Cancel Refund Tickets
95. Service Cancellation After Journey Date
96. Service Cancelled Tickets
97. Ticket Sales (Advance Booking)
98. Target Commission Report
99. TTD Darshan Passenger Info Report
100. Date wise TTD Darshan Availability Report
101. Depot wise TTD tickets issued Report
102. Window Scroll (Journey based)
103. Mobile Ticket Booking
104. Ticket Block Unblock Report
105. Sector wise Booked Seats Summary
106. 141 Stage wise Seats
107. Reservation Chart with Cancellation Ticket
108. Region wise Service Count Report
109. Region wise no of services at Hotel Report
110. Region wise Schedule Hotel Timings and Duration report
111. User wise commission report
112. No of User Visits Report
113. Date wise Sub Franchisee Summary Report.

6.2.6 Android POS Reports

114. Ticket Report
115. Total Remittance Report
116. Denomination wise Report
117. Stage wise Punctuality Report
118. Passengers stage wise Boarding and Alighting Report
119. Stage wise Boarding and Alighting - Trip Sum Report
120. Stage wise Boarding and Alighting - Each Trip Report
121. TTI Checking Report
122. Daily ticket and Receiving Statement
123. Monthly Police warrant Report
124. Waybill Cancel Report
125. Monthly Time wise Report
126. Monthly Trip wise passenger boarding and earning Report
127. Monthly Toll Plaza amount Report
128. Monthly Toll Paid Amount Report
129. Monthly Stage wise Passenger Boarding and Alighting Report
130. Monthly TAYL Ticket Report
131. Monthly Conductor wise TAYL ticket Report
132. Service Performance Report
133. Service Trip Performance Report
134. Monthly Average Stage Wise Boarding and Alighting Report
135. Date wise Service PoS Report
136. TIM wise Report
137. Trip wise Report
138. Daily Statement
139. TIM Master Report
140. Pass Report
141. Non-Received TIMS Report
142. Trip Close Reports
143. Breakdown Reports
144. Manual Waybill Closing Report
145. Return Journey Ticket Report

6.2.7 National Common Mobility Card

146. All reports related to Card transactions.
147. Analytics on customer adoption trends
148. Revenue reconciliation reports.

6.2.8 Other Reports

149. Center Information
150. Route Information
151. Student Details
152. User Information
153. Course Details Report
154. Active/Inactive Schools/Colleges/Institutions

- 155. Institution Vs Course Details Report
- 156. Main Routes sharing Report.
- 157. Franchise Commission Reports

6.2.9 Headway Chart Reports

- 158. Headway Chart
- 159. Depot wise Headway Chart
- 160. Headway Chart All

6.2.10 Other Reports

- 161. Depot wise Daily Report
- 162. Stage wise Departure Report
- 163. Stage wise Arrival Report
- 164. Stage wise ETA Report
- 165. Depot wise Bus Location Report
- 166. Control Chart

6.2.11 Others

- 167. Analysis of customer feedback
- 168. SLA reports

Annexure 7: Financial Bid Format

Note: To be furnished by the bidder on their letterhead and signed by an authorized signatory.

Date:

To,
The Chief Engineer (IT),
Telangana State Road Transport Corporation (TSRTC), Bus Bhavan, RTC X Road,
Musheerabad, Hyderabad, Telangana -500020.

Subject: Submission of Financial Bid for ‘Selection of Service Provider for Automatic Fare Collection System for TSRTC’

Dear Sir,

1. I, the undersigned, on behalf of, herewith submit my financial bid as under.
2. I have read the Tender documents in detail, and based on my full study of the above-mentioned document and the conditions, I undertake to complete the Scope of Work in accordance with the terms and conditions of the Tender.

Indicative Project Cost with component wise breakup

Item Description	Amount In Figures (In Rs.)	GST Amount In Figures (In Rs.)	Gross Amount in Figures (In Rs.)

(CAPEX and OPEX Model)

CAPEX(I)				
No.of ETIMS	Cost of each ETIM (in Rs.)	GST (in Rs.)	Total Cost (in Rs.)	CAPEX (in Cr.)
A	B	C	D=B+C	E=AxD
13200				

OPEX(II)				
Avg. No. of Transactions per day	Transaction cost (in Rs.)	GST (in Rs.)	Total Cost (in Rs.)	OPEX cost for 5 years (in Cr.)
A	B	C	D=B+C	E=AxDx365x5
30,00,000				

Total project cost = (I) + (II) = _____

The deciding parameter is Total project cost.

Quote for other items

Item	Cost of each Device (A)	GST(B)	Total Cost(C=A+B)	CAPEX (in Cr.) (D=AxC)
Card reader/writer				
Card printer				

MDR Charges

Item	Net Charges(A)	GST(B)	Total (C= A+B)
UPI			
Credit card			
Debit card			
Net banking			
Rupay debit card			
NCCM card			
Any other transaction			

Note:

Financial bid shall be submitted along with BOQ. Also, bidder should quote their rates in Rupees. For Capex and Opex.

For.....,

(Signature of the authorized signatory along with company seal)

Name:

Designation:

Date:

Place:

Business Address:

Annexure 8: Bidder Details Format

Note: To be furnished by the bidder on their letterhead and signed by an authorized signatory.

Date:

To,
The Chief Engineer (IT),

Telangana State Road Transport Corporation (TSRTC), Bus Bhavan, RTC X Road,
Musheerabad, Hyderabad, Telangana -500020.

**Subject: Submission of Bidder Details in response to Request for Proposal for
'Selection of Service Provider for Automatic Fare Collection System for TSRTC'**

Dear Sir,

I, the undersigned, on behalf of _____, herewith submit our details as requested for in the Tender document, as under.

Details Required	Response
1. Name of the Company/ Bidder	
2. Year of establishment of the Company/Bidder	
3. Head Office Address	
4. Telephone No. (with STD Code)	
5. Fax No. (with STD Code)	
6. E-mail Address	
Name of the key representative for this project	

As of this date the information furnished in all parts of this form is accurate and true to the TSRTC of my knowledge.

For _____ ,

(Signature of the authorized signatory along with company seal)

Name:

Designation:

Date:

Place:

Business Address

Annexure 9: Request for Clarification Format

Note: Please submit clarifications via email in an Excel file format as per the instructions provided in the section titled Data Sheet only.

Clarification Requested By:

Details Required	Response
Name	
Designation	
Company Name	
Company Address	
Contact Number	
E-mail Address	
Date	

Clarification Request Format

	RFP Document Reference(s) Section and Page Number(s)	Content of RFP requiring Clarification(s)	Points of Clarification
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Annexure 10: Performance Bank Guarantee Format

Note: To be furnished by the bank on their letterhead and signed by an authorised signatory for the bank, along with the seal of the bank, and one witness signature.

Date:

To,

The Chief Engineer (IT),

Telangana State Road Transport Corporation (TSRTC), Bus Bhavan, RTC X Road, Musheerabad, Hyderabad, Telangana -500020.

WHEREAS, (Hereinafter referred to as the ‘Selected Bidder’) has undertaken, in pursuance of contract no. dated.....(hereinafter referred to as ‘Agreement’) to provide implementation services for ‘Selection of Service Provider for Automatic Fare Collection System in TSRTC’ to TSRTC (hereinafter referred to as the ‘Purchaser’); AND WHEREAS it has been stipulated by in the said Agreement that the Selected Bidder shall furnish you with a bank guarantee by a recognised bank for the sum specified therein as security for compliance with its obligations in accordance with the Agreement;

AND WHEREAS we,, a banking company incorporated and having its head /Registered office at

..... and having one of its offices at have agreed to give the Selected Bidder such a bank guarantee.

NOW, therefore, we hereby affirm that we guarantors are responsible to you, on behalf of the Selected Bidder, up to a total of ₹_____ (Rupees only) and we undertake to pay you, upon your first written demand declaring the Selected Bidder to be in default under the Agreement and without cavil or argument, any sum or sums within the limits of ₹. (Rupees

..... only) as aforesaid, without your needing

to prove or to show grounds or reasons for your demand or the sum specified therein. We hereby waive the necessity of your demanding the said debt from the Selected Bidder before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms

of the Agreement to be performed there under or of any of the Agreement documents which may be made between you and the Selected Bidder shall in any way release us from any liability under this guarantee and we hereby waive notice of any such change, addition, or modification.

This Guarantee shall be valid until

Notwithstanding anything contained herein:

- Our liability under this bank guarantee shall not exceed ₹. (Rupees only).
- This bank guarantee shall be valid until.....
- It is condition of our liability for payment of the guaranteed amount or any part thereof arising under this bank guarantee that we receive a valid written claim or demand for payment under this bank guarantee on or before failing which our liability under the guarantee will automatically cease.

As communicated by the Selected Bidder on the date of execution of this bank guarantee, there are no outstanding amounts / an amount of ₹.....

(Rupees only) is outstanding and payable to Selected Bidder related to previous contracts between the Selected Bidder and the Purchaser.

Annexure 11: Earnest Money Deposit Format

Note: To be furnished by the bank on their letterhead and signed by an authorized signatory for the bank, along with the seal of the bank, and one witness signature.

Date:

Annexure 12: Non-Disclosure Agreement

Note: To be executed on non-judicial stamp paper of appropriate value, to be purchased in the name of executants' companies or as required by the jurisdiction in which executed.

This AGREEMENT (hereinafter referred to as the 'Agreement') is made on the day of

,

between, Telangana State Road Transport Corporation (hereinafter referred to as the 'Purchaser') and (hereinafter referred to as the 'Bidder') having its registered office at

WHEREAS the Purchaser has issued a public notice inviting various organisations for the 'Selection of Service Provider for Automatic Fare Collection System for TSRTC' (hereinafter referred to as the 'Project');

AND WHEREAS The Bidder has represented to the Purchaser that it is interested in submitting a proposal (hereinafter referred to as the 'Bid') for the Project.

NOW THEREFORE, the Purchaser and the Bidder agree as follows:

1. The Purchaser agrees to provide to the Bidder a detailed document on the Project vide the Request for Proposal document (hereinafter referred to as the 'Tender'). The Tender contains details and information of the Purchaser's operations that are considered confidential.
2. The Bidder to whom this Tender is disclosed shall:
 - a) hold such information in confidence with the same degree of care with which the Bidder protects its own confidential and proprietary information;
 - b) restrict disclosure of the information solely to its employees and other member with a need to know such information and advice those persons of their obligations hereunder with respect to such information;
 - c) use the information only as needed for the purpose of preparing its Bid for the Project;

except for the purpose of preparing its Bid for the Project, not copy or otherwise duplicate such information or knowingly allow anyone else to copy or otherwise duplicate such information; and undertake to document the number of copies it makes; and
 - d) on completion of the bidding process and in case unsuccessful, promptly return to the Purchaser all information in a tangible form or destroy such information.
3. The Bidder shall have no obligation to preserve the confidential or proprietary nature of any information which:
 - a) Was previously known to the Bidder free of any obligation to keep it confidential

- at the time of its disclosure as evidenced by the Bidder's written records prepared prior to such disclosure;
- b) Is or becomes publicly known through no wrongful act of the Bidder; or
 - c) Is independently developed by an employee, agent, or implementation agency of the Bidder not associated with the Project and who did not have any direct or indirect access to the information.
4. The Agreement shall apply to all information relating to the Project disclosed by the Purchaser to the Bidder.
 5. The Purchaser will have the right to obtain an immediate injunction enjoining any breach of this Agreement, as well as the right to pursue any and all other rights and remedies available at law or in equity for such a breach.
 6. The Purchaser reserves the right to share the information received from the Bidder under the ambit of the Right To Information Act, 2005.
 7. Nothing contained in this Agreement shall be construed as granting or conferring rights of license or otherwise, to the Bidder, on any of the information. Notwithstanding the disclosure of any information by the Purchaser to the Bidder, the Purchaser shall retain title and all intellectual property and proprietary rights in the information. No license under any trademark, patent or copyright, or application for same that are now or thereafter may be obtained by the Purchaser is either granted or implied by the conveying of information. The Bidder shall not alter or obliterate any trademark, trademark notice, copyright notice, confidentiality notice or any notice of any other proprietary right of the Purchaser on any copy of the information, and shall reproduce any such mark or notice on all copies of such information.
 8. This Agreement shall be effective from the date of signing of this agreement and shall continue perpetually.
 9. Upon written demand of the Purchaser, the Bidder shall
 - a) Cease using the information;
 - b) Return the information and all copies, notes, or extracts thereof to the Purchaser forthwith after receipt of notice; and
 - c) Upon request of the Purchaser, certify in writing that the Bidder has complied with the obligations set forth in this paragraph.
 10. This Agreement constitutes the entire Agreement between the Purchaser and the Bidder relating to the matters discussed herein and supersedes any and all prior oral discussions and/or written correspondence or agreements between the two parties. This Agreement may be amended or modified only with the mutual written consent of the parties. Neither this Agreement nor any right granted hereunder shall be assignable or otherwise transferable.
 11. Confidential information is provided 'as-is'. In no event shall the Purchaser be liable for the accuracy or completeness of the confidential information.
 12. This Agreement shall benefit and be binding upon the Purchaser and the Bidder and their respective subsidiaries, affiliate, successors, and assigns.

13. This agreement shall be governed by and construed in accordance with the laws of India, and the courts of Hyderabad shall have jurisdiction.

For ,

(Signature of the authorized signatory along with company seal)

Name:

Designation:

Date:

Business Address:

Annexure 13: Power of Attorney for Signing the Bid

Note: To be executed on non-judicial stamp paper of appropriate value, to be purchased in the name of executants' companies or as required by the jurisdiction in which executed.

Know by all men by these presents, we having registered office at do

hereby
constitute,

appoint and authorise Mr. / Ms., residing atwho is presently employed with us and holding the position of as our Attorney, to do in our name and on our behalf, all such acts, deeds, and things necessary in connection with or incidental to our proposal (hereinafter referred to as the 'Proposal') in response to the Request for Proposal for 'Selection of Service Provider for Automatic Fare Collection System for TSRTC' (hereinafter referred to as the 'Tender')including signing and submission of all documents and providing information / responses to the Telangana State Road Transport Corporation (hereinafter referred to as the 'Purchaser'), representing us in all matters before the Purchaser, and generally dealing with the Purchaser in all matters in connection with our Proposal for the said Tender.

We hereby agree to ratify all acts, deeds and things lawfully done by our said Attorney pursuant to this Power of Attorney and that all acts, deeds, and things done by our aforesaid Attorney shall and shall always be deemed to have been done by us.

Name:
Designation:
Date:
Business Address:

For ,

(Signature of the authorized signatory along with company seal)

Accepted,

Note:

(Signature of the Attorney)

Name:

Title:

Address

- 1. The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.*
- 2. Whenever required, the Bidder should submit for verification the extract of the charter documents and documents such as a board of shareholders' resolution / power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.*
- 3. For a Power of Attorney executed and issued overseas, the document will also have to be legalized by the Indian embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by the Bidder from countries that have signed the Hague Legislation Convention 1961 are not required to be legalized by the Indian embassy if it carries a conforming Apostille certificate*

Annexure 14: Pre-Qualification Submission Letter

Note: To be furnished by the bidder on their letterhead and signed by an authorized signatory.

Date:

To,

The Chief Engineer (IT),

Telangana State Road Transport Corporation (TSRTC), Bus Bhavan, RTC X Road, Musheerabad, Hyderabad, Telangana -500020.

Subject: Pre-Qualification submission letter in response to Request for Proposal for 'Selection of Service Provider for Automatic Fare Collection System for TSRTC'

Dear Sir,

1. We hereby request to be qualified with the TSRTC (hereinafter referred to as the 'Purchaser') as a bidder for your Request for Proposal for 'Selection of Service Provider for Automatic Fare Collection System for TSRTC' against Tender No (Hereinafter referred to as 'Tender'). I / We declare that all the services shall be performed strictly in accordance with the Tender and we agree to all the terms and conditions in the Tender.
2. I / We confirm that I / we am / are withdrawing all the deviations, counter clauses, proposed modifications in the scope of work, terms and conditions, functional requirement specifications and technical specifications which may have been mentioned in our proposal.
3. We authorize the Purchaser or their authorized representatives to conduct any investigations to verify the statements, documents, and information submitted and to clarify the financial and technical aspects of this application. For this purpose, we hereby authorize (any public official, engineer, bank, depository, manufacturer, distributor, etc.) or any other person or firm to furnish pertinent information deemed necessary and requested by the Purchaser to verify statements and information provided in this application or regarding our competence and standing.
4. The names and positions of persons who may be contacted for further information, if required, are as follows:

Name:

Designation:

Telephone:

E-mail Address:

5. We declare that the statements and the information provided in the duly completed application to TSRTC of our knowledge, are complete, true and correct in every detail. On verification at any time in the future if it is found that information furnished with this application and statements made therein are not true, incomplete, or incorrect, we hereby authorise the Purchaser to reject our application.
6. We confirm having submitted the information as required by you in clause 3.4.7 'Pre-Qualification Criteria'. In case you require any other further information / documentary proof in this regard before / during evaluation of our bid, we agree to furnish the same in time to your satisfaction.
7. We undertake, if our proposal is accepted, to provide all the services related to the Tender put forward in the bid document or such features as may subsequently be mutually agreed between us and the Purchaser or its appointed representatives.
8. We agree for unconditional acceptance of all the terms and conditions set out in the Tender and agree to abide by this bid response for a period of 210 days from the date fixed for bid opening and it shall remain binding upon us with full force and virtue. Till a formal contract is prepared and executed, this bid response, together with your written acceptance thereof in your notification of award, shall constitute a binding contract between us and the Purchaser.
9. We hereby declare that in case the contract is awarded to us, we will submit the Security Deposit as required in clause 3 of the Tender.
10. I/We understand that the Purchaser reserves the right to reject any application without assigning any reason whatsoever.
11. I/We hereby undertake that I/ we have not made any payment or illegal gratification to any person/authority connected with the bid process so as to influence the bid process and have not committed any offence under the Prevention of Corruption Act, 1988 and the Prevention of Corruption (Amendment) Act, 2018 in connection with the bid.
12. All the prices mentioned in our Tender are in accordance with the terms as specified in the Tender. All the prices and other terms and conditions of this Bid are valid for a period of 210 calendar days from the date of opening of the Bid.
13. I / We understand that the actual payment shall be made as per the prevailing tax rates at the time of payment.
14. I / We further confirm that the prices stated in our bid are in accordance with your 'Instructions to Bidders' in clause 2 in the Tender.
15. We declare that our bid price is for the entire scope of the work as specified in the Tender. These prices are indicated in the financial bid submitted as part of the requirements of Tender.
16. I/We do hereby undertake that the financial bid submitted by us is inclusive of all the items in the technical proposal and is inclusive of all the clarification provided/may be provided by us on the technical proposal during the evaluation of the technical offer. We understand and agree that our financial bid is firm and final and any clarifications sought by you and provided by us shall not have any impact on

- the financial bid submitted by us.
17. Our financial bid shall be binding upon us subject to the modifications resulting from contract negotiations, up to expiration of the validity period of the bid.
 18. We hereby declare that our bid is made in good faith, without collusion or fraud, and the information contained in the bid is true and correct to the TSRTC of our knowledge and belief.
 19. I/We shall disclose any payments made or proposed to be made to any intermediaries (agents, etc.) in connection with the bid.
 20. It is hereby confirmed that I/we are entitled to act on behalf of our company/ firm/ organization and are empowered to sign this document as well as such other documents, which may be required in this connection.
 21. We declare that we have read through the Tender document and all related clarifications and corrigendum.

For _____ ,

(Signature of the authorized signatory along with company seal)

Name:

Designation:

Date:

Place:

Business Address:

Annexure 15: Pre-Qualification Checklist

Note: The Bidder is required to fill relevant information in the format given below. The pre-qualification bid must contain documentary evidences and supporting information to enable the Purchaser to evaluate the eligibility of the Bidder without ambiguity.

	Criteria	Pre-qualification Criteria description	Supporting Document(s)	Response (Yes / No)	Reference in Response to Pre-Qualification Bid (Section and Page Number)
1.					
2.					
3.					
4.					
5.					
6.					
7.					

Annexure 16: Anti-Blacklist Self Declaration Form

Note: To be furnished by the bidder on their letterhead and signed by an authorised signatory.

Date:

To,

The Chief Engineer (IT),

Telangana State Road Transport Corporation (TSRTC), Bus Bhavan, RTC X Road, Musheerabad, Hyderabad, Telangana -500020.

Subject: Declaration for not being under an ineligibility for any reason with any of the Government or Public Sector Units, or State or Local Governments in India

Dear Sir,

In response to your Request for Proposal 'Selection of Service Provider for Automatic Fare Collection System in TSRTC' Tender No _____ (hereinafter

referred to as 'Tender'), I / we hereby

declare that presently our company / firm _____ has an unblemished record

and has not been declared ineligible for any reason either indefinitely or for a particular period of time by any State or Central Government or autonomous body, or public sector unit.

We further declare that presently our company/ firm _____ is not blacklisted and not declared ineligible for

any reasons by any State or Central Government or autonomous body, or public sector unit as on the date of bid submission.

If this declaration is found to be incorrect then, without prejudice to any other action that may be taken, our earnest money deposit amount may be forfeited in full and our bid, if any, to the extent accepted, may be cancelled.

For _____,

(Signature of the authorised signatory with company seal)

Name:

Designation: Date:

Place:

Business Address:

Annexure 17: Financial Capability

Note: To be furnished by the chartered account of the bidder on their letterhead and signed by an authorized signatory. Please attach supporting financial statements as required in clause 3.4.7.

Date:

To,
The Chief Engineer (IT),

Telangana State Road Transport Corporation (TSRTC), Bus Bhavan, RTC X Road,
Musheerabad, Hyderabad, Telangana -500020.

Subject: Certificate of Annual Turnover and Net Worth for M/s

Dear Sir,

We have examined the books of accounts and other relevant records of M/s
..... having registered
office

at On the basis of such examination and according to the information and
explanation given to us,
and to the TSRTC of our knowledge and belief, we hereby certify their annual
turnover and net worth as below.

Annual Turnover

Financial Year	Amount In Figures	Amount In Words	
	₹	Rupees	only
	₹	Rupees	only
	₹	Rupees	only

(Signature of the authorised signatory along with company seal) Name:

Designation: Membership Number: Date:

Place:

Business Address:

Annexure 18: Technical Bid Submission Letter

Note: To be furnished by the bidder on their letterhead and signed by an authorized signatory.

Date:

To,
The Chief Engineer (IT),

Telangana State Road Transport Corporation (TSRTC), Bus Bhavan, RTC X Road,
Musheerabad, Hyderabad, Telangana -500020.

Subject: Technical Qualification submission letter in response to Request for Proposal for 'Selection of Service Provider for Automatic Fare Collection System for TSRTC'

Dear Sir,

1. We hereby request to be qualified with the TSRTC (hereinafter referred to as the 'Purchaser') as a bidder for your Request for Proposal for 'Selection of Service Provider for Automatic Fare Collection System for TSRTC' against Tender No (Hereinafter referred to as 'Tender'). I / We declare that all the services shall be performed strictly in accordance with the Tender and we agree to all the terms and conditions in the Tender.
2. I / We confirm that I / we am / are withdrawing all the deviations, counter clauses, proposed modifications in the scope of work, terms and conditions, functional requirement specifications and technical specifications which may have been mentioned in our proposal.
3. We authorize the Purchaser or their authorized representatives to conduct any investigations to verify the statements, documents, and information submitted and to clarify the financial and technical aspects of this application. For this purpose, we hereby authorize (any public official, engineer, bank, depository, manufacturer, distributor, etc.) or any other person or firm to furnish pertinent information deemed necessary and requested by the Purchaser to verify statements and information provided in this application or regarding our competence and standing.
4. The names and positions of persons who may be contacted for further information, if required, are as follows:

Name:

Designation:

Telephone:

E-mail Address:

5. We declare that the statements and the information provided in the duly completed application to TSRTC of our knowledge, are complete, true and correct in every detail. On verification at any time in the future if it is found that information furnished with this application and statements made therein are not true, incomplete, or incorrect, we hereby authorise the Purchaser to reject our application.
6. We confirm having submitted the information as required by you in clause 3.4.9 'Technical Qualification Criteria'. In case you require any other further information / documentary proof in this regard before / during evaluation of our bid, we agree to furnish the same in time to your satisfaction.
7. We undertake, if our proposal is accepted, to provide all the services related to the Tender put forward in the bid document or such features as may subsequently be mutually agreed between us and the Purchaser or its appointed representatives.
8. We agree for unconditional acceptance of all the terms and conditions set out in the Tender and agree to abide by this bid response for a period of 210 days from the date fixed for bid opening and it shall remain binding upon us with full force and virtue. Till a formal contract is prepared and executed, this bid response, together with your written acceptance thereof in your notification of award, shall constitute a binding contract between us and the Purchaser.
9. We hereby declare that in case the contract is awarded to us, we will submit the EMD/Security Deposit as required in clause 3 of the Tender.
10. I / We understand that the Purchaser reserves the right to reject any application without assigning any reason whatsoever.
11. I / We hereby undertake that I / we have not made any payment or illegal gratification to any person / authority connected with the bid process so as to influence the bid process and have not committed any offence under the Prevention of Corruption Act, 1988 and the Prevention of Corruption (Amendment) Act, 2018 in connection with the bid.
12. All the prices mentioned in our Tender are in accordance with the terms as specified in the Tender. All the prices and other terms and conditions of this Bid are valid for a period of 210 calendar days from the date of opening of the Bid.
13. I / We understand that the actual payment shall be made as per the prevailing tax rates at the time of payment.
14. I / We further confirm that the prices stated in our bid are in accordance with your 'Instructions to Bidders' in clause 2 in the Tender.
15. We declare that our bid price is for the entire scope of the work as specified in the Tender. These prices are indicated in the financial bid submitted as part of the requirements of Tender.
16. I / We do hereby undertake that the financial bid submitted by us is inclusive of all the items in the technical proposal and is inclusive of all the clarification provided / may be provided by us on the technical proposal during the evaluation of the technical offer. We understand and agree that our financial bid is firm and final and any clarifications sought by you and provided by us shall not have any impact on the

financial bid submitted by us.

17. Our financial bid shall be binding upon us subject to the modifications resulting from contract negotiations, up to expiration of the validity period of the bid.
18. We hereby declare that our bid is made in good faith, without collusion or fraud, and the information contained in the bid is true and correct to the TSRTC of our knowledge and belief.
19. I / We shall disclose any payments made or proposed to be made to any intermediaries (agents, etc.) in connection with the bid.
20. It is hereby confirmed that I / we are entitled to act on behalf of our company / firm / organization and are empowered to sign this document as well as such other documents, which may be required in this connection.
21. We declare that we have read through the Tender document and all related clarifications and corrigendum.

For _____ ,

(Signature of the authorized signatory along with company seal)

Name:

Designation: Date:

Place:

Business Address:

Annexure 19: Technical Qualification Checklist

Note: The Bidder is required to fill relevant information in the format given below. The technical bid must contain documentary evidences and supporting information to enable the Purchaser to evaluate the eligibility of the Bidder without ambiguity.

	Criteria	Technical Criteria description	Supporting Document(s)	Response (Yes / No)	Reference in Response to Technical Qualification Bid (Section and Page Number)
1.					
2.					
3.					
4.					
5.					
6.					
7.					