



***Request for proposal (RFP) for Selection of Vendor for Design,
Develop, Commissioning and Operations & Maintenance of
Common Tolling Software (CTS) – 3rd Call***

Tender Ref No. : IHMCL/CTS/2022/03

Date : 02 March 2022

INDIAN HIGHWAYS MANAGEMENT COMPANY LTD.
(a company promoted by NHAI)



DISCLAIMER

The information contained in this Request for Qualification document (the “RFP”) or subsequently provided to Applicant(s), whether verbally or in documentary or any other form, by or on behalf of IHMCL or any of its employees or advisors, is provided to Applicant(s) on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP is not an agreement and is neither an offer nor invitation by IHMCL to the prospective Applicants or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in the formulation of their application for qualification pursuant to this RFP (the “Application”). This RFP includes statements, which reflect various assumptions and assessments arrived at by IHMCL in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Applicant may require. This RFP may not be appropriate for all persons, and it is not possible for IHMCL, its employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in this RFP may not be complete, accurate, adequate or correct. Each Applicant should therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this RFP and obtain independent advice from appropriate sources.

Information provided in this RFP to the Applicant(s) is on a wide range of matters, some of which may depend upon interpretation of law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. IHMCL accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.

IHMCL, its employees and advisors make no representation or warranty and shall have no liability to any person, including any Applicant or Bidder, under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way for participation in the Bidding Process.

IHMCL also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Applicant upon the statements contained in this RFP.

IHMCL 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 RFP.

The issue of this RFP does not imply that IHMCL is bound to select and short-list one of the Applications for Bid Stage or to appoint the selected Bidder or Concessionaire, as the case may be, for the Project and IHMCL reserves the right to reject all or any of the Applications or Bids without assigning any reasons whatsoever.

The Applicant shall bear all its costs associated with or relating to the preparation and submission of its Application including but not limited to preparation, copying, postage, delivery fees, expenses

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associated with any demonstrations or presentations which may be required by IHMCL or any other costs incurred in connection with or relating to its Application. All such costs and expenses will remain with the Applicant and IHMCL shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by an Applicant in preparation or submission of the Application, regardless of the conduct or outcome of the Bidding Process.

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1. NOTICE INVITING TENDER

1. Bids are invited for the below mentioned work by Indian Highways Management Company Limited (IHMCL):

Name of the Work	Bid Securing Declaration Form	Document Fee (non-refundable)	Closing date and time for Online bid Submission
RFP for Selection of Vendor for Design, Develop, Commissioning and Operations & Maintenance of Common Tolling Software (CTS) – 3 rd Call	As per format provided in Annexure -9	INR 10,000/- (Rupees Ten Thousand Only)	See Key Dates

2. The complete Bidding Documents can be viewed / downloaded from e-procurement portal <http://etenders.gov.in>. The Bids shall be liable for summarily rejection unless accompanied by the requisite Bid Securing Declaration Form as indicated above. IHMCL shall not be responsible for any postal delay, or network/system failure at bidder's end, as applicable. Bids submitted after the closing date/time shall be summarily rejected.
3. IHMCL reserves the right to accept or reject any or all bids received before signing of Contract Agreement without thereby incurring any financial or other liability to the affected Bidders.

Address for communication:

Chief Operating Officer,
Indian Highways Management Company Limited (IHMCL)
G – 5 & 6 Sector -10 Dwarka
New Delhi 110 075
Phone: +91-11- 20427810; Email: tenders@ihmcl.com Website: www.ihmcl.co.in

2. DEFINITIONS AND ABBREVIATIONS

2.1. Definition

In this document, the following terms shall have respective meanings as indicated:

- i. **“Applicable Law”** means the laws, rules or regulations and any other instruments, having the force of law in Republic of India, as in force from time to time.
- ii. **“Authorized Representative”** means any person/agency authorized by IHMCL.
- iii. **“Applicant” or “Bidder”** means, an entity/company which participates in the Bid process and submits its proposal/bid pursuant to this RFP, including the Sole Bidder and each member of the Consortium.
- iv. **“Commencement date”** means the date upon which the Successful bidder receives the notice to commence the work issued by IHMCL.
- v. **“Contract”** shall mean & include RFP, Notice for Inviting Tender (NIT), the tender documents and letter of acceptance thereof and the formal agreement, to be executed between IHMCL and the Successful bidder together with the complete documents referred to therein including the conditions with appendices and any special conditions, the specifications, designs, drawings, bill of quantities with rates and amounts. All these documents taken together shall be deemed to form one Contract and shall be complementary to each other.
- vi. **“ETC”** means Electronic Toll Collection
- vii. **“NHAI”** means National Highways Authority of India
- viii. **“IHMCL”** means Indian Highways Management Company Limited.
- ix. **“Law” or “Legislation”** - shall mean any Act, notification, bye law, rules and regulations, directive, ordinance, order or instruction having the force of law enacted or issued by the Government of India or State Government or regulatory authority.
- x. **“Letter of Award (LOA)”** means the issue of a signed letter by IHMCL to Successful Bidder conveying its intention to accept the offer of Successful Bidder and awarding the work mentioning the total Contract Value.
- xi. **“Local Currency”** means the Indian Rupees.
- xii. **“MoRTH”** means Ministry of Road Transport and Highways.
- xiii. **“Party”** shall mean IHMCL or Bidder individually and “Parties” shall mean IHMCL and Bidder collectively.
- xiv. **“Personnel”** means persons hired by the Successful bidder as employees and assigned to the performance of the Services or any part thereof.
- xv. **“Purchaser” or “Authority”** means Indian Highways Management Company Limited (IHMCL), as applicable.
- xvi. **“RFID”** means Radio Frequency Identification.

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- xvii. **“RFP”** shall mean this Request for Proposal dated 02nd March 2022, including the written clarifications & Corrigendum/Addendum issued by IHMCL in respect of the RFP from time to time.
- xviii. **“Services”** means requirements defined in this RFP including all additional services associated thereto to be delivered by the Successful Bidder.
- xix. **“Successful Bidder”** means the Service Provider, who, after the complete evaluation process, has been issued the Letter of Award by IHMCL.
- xx. **“Total Project Cost”** is the estimated amount payable by IHMCL to the Service Provider as per the contract pursuant to award of the same, as calculated on the day of award, and excluding contingencies or penalties whose provisions exist in the contract, but whose values cannot be determined on the day of signing the contract.

“Any other term(s)”, not defined herein above but defined elsewhere in this RFP shall have the meaning(s) ascribed to such term(s) therein and shall be deemed to have been included in this Section.

2.2. Abbreviations

ASB	: Amber Siren Beacon
ALB	: Automatic Lane Exit Barrier
AVC	: Automatic Vehicle Classifier
CCTV	: Closed Circuit Television
CLSD	: Canopy Lane Status Display
CSC	: Contactless Smart Card
CSCRW	: Contactless Smart Card Reader/Writer
DDR	: Dual Data Rate
NVR	: Network Video Recorder
ECC	: Error Correcting Code
ETC	: Electronic Toll Collection
FSW	: Emergency Footswitch
GBIC	: Gigabit Interface Converter
HP&MC	: High Personage & Military Convoy
IHMCL	: Indian Highways Management Company Limited
ISCU	: Intercom Slave Communication Unit
ITB	: Instructions to Bidders
IUID	: Integrated User Information display
LC	: Lane Computer-Industrial PC
LGD	: Load Gauge Detector

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LoA	:	Letter of Award
LSDU	:	Lane Status Display Unit
MBC	:	Manual Booth Controller
MCBF	:	Mean Cycle Between Failures
MCU	:	Master Communication Unit
MLB	:	Manual Lane Entry Barrier
MTBF	:	Mean Time Between Failures
MTTR	:	Mean Time to Repair
NHAI	:	National Highways Authority of India
OHLS	:	Over Head Lane Sign
PDB	:	Power Distribution Board
POS	:	Point of Sales
RAID	:	Redundant Array of Inexpensive Disks
RFID	:	Radio Frequency Identification
RFP	:	Request for Proposal
RPR	:	Receipt Printer
SFTP	:	Secure File Transfer Protocol
Staff Id	:	Staff Identification
T&G	:	Touch & Go
FCC	:	FES Control Centre
TCD	:	Toll Collector Display
TCK	:	Toll Collector Keyboard
TCT	:	Toll Collector's Terminal
TL	:	Traffic Light
TLC	:	Toll Lane Controller
TOD	:	Tour of Duty
UPS	:	Uninterrupted Power Supply

3. INSTRUCTIONS TO BIDDERS

3.1. Scope of Bid

- 3.1.1. IHMCL invites proposals/bids from eligible entities having the requisite technical and financial capabilities.
- 3.1.2. The Bids would be evaluated on the basis of the evaluation criteria set out in this Request for Proposal (RFP) Document in order to identify the Successful Bidder for providing the services envisaged under this RFP.
- 3.1.3. Terms used in this RFP Document which have not been defined herein shall have the meaning recognized thereto in the draft Contract Conditions.
- 3.1.4. Pursuant to the release of this RFP Document, IHMCL shall receive bids, prepared and submitted in accordance with the terms set forth in this RFP Document and other documents provided by IHMCL pursuant to this RFP Document including annexure/ Appendix hereto (collectively referred to as the "Bid Documents"), as modified, altered, amended and clarified from time to time by IHMCL.
- 3.1.5. This RFP Document and all attached documents are and shall remain the property of IHMCL and are transmitted to the Bidders solely for the purpose of preparation and the submission of their respective bids in accordance herewith. Bidders shall not use it for any purpose other than for preparation and submission of their bids.
- 3.1.6. The statements and explanations contained in this RFP Document are intended to provide an understanding to the Bidders about the subject matter of this RFP Document and shall not be construed or interpreted as limiting, in any way or manner whatsoever, the scope of services, work and obligations of the Successful Bidder to be set forth in the RFP or IHMCL right to amend, alter, change, supplement or clarify the scope of service and work, the Contract conditions to be awarded pursuant to the RFP Document including the terms thereof, and this RFP Document including terms herein contained. Consequently, any omissions, conflicts or contradictions in the Bid Document are to be noted, interpreted and applied appropriately to give effect to this intent and no claim on that account shall be entertained by IHMCL.
- 3.1.7. Bidders may note that IHMCL will not entertain any material deviations from the RFP Document at the time of submission of the Proposal or thereafter. The Proposal to be submitted by the Bidders will be unconditional and the Bidders would be deemed to have accepted the terms and conditions of the RFP Document with all its contents including the terms and conditions of the draft Contract Agreement. Any conditional Proposal is liable for outright rejection.
- 3.1.8. Conditional or incomplete proposals are liable to be treated as non-responsive and, therefore may be rejected at the sole discretion of IHMCL.

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3.2. Eligibility/Pre-Qualification criteria

3.2.1. The bidder qualifying the following criteria shall be considered eligible to bid for this RFP. The Technical Proposals of the Bidders shall be evaluated for meeting the eligibility/pre-qualification criteria based on the parameters listed below:

SI #	Requirement Parameter	Eligibility Conditions/Conditions	Supporting Document to be provided
1	Legal Entity	<p>(i) The Sole Bidder or the Lead Member, in case of a consortium, must be a business entity incorporated in India under</p> <ol style="list-style-type: none"> Companies Act, 1956/2013 or Limited Liability Partnerships Act, 2008. <p>In case of a consortium, the other Member of the consortium should be incorporated as per (i) above or equivalent law(s) in the country of jurisdiction of the entity subject to the following conditions:</p> <ul style="list-style-type: none"> maximum number of members in the Consortium shall be Two members of the Consortium shall nominate one member as the lead member (the “Lead Member”), who shall be responsible for all interactions with IHMCL; all members in the Consortium shall be jointly and severally liable; no bidder applying individually or as a member of a Consortium, as the case may be, can be member of another Consortium. Proposal/Bid should contain the information required for each member of the Consortium; Proposal/Bid should include a brief description of the roles and responsibilities of individual members; 	<p><u>For sole bidder or all members of the Consortium</u></p> <ul style="list-style-type: none"> Copy of Certificate of Incorporation / Registration under Companies Act, 1956/2013 or any equivalent foreign act, or partnership deed as applicable. Power of Attorney/Letter of Authorization as per Annexure 5 Power of Attorney for Lead Member of Consortium as per the format enclosed at Annexure 6. Consortium Agreement as per Annexure 10. <p><u>For Sole Bidder or the Lead Member, in case of a consortium</u></p> <ul style="list-style-type: none"> GST Registration Certificate

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Sl #	Requirement Parameter	Eligibility Conditions/Conditions	Supporting Document to be provided
		The Sole Bidder or Lead Member in case of a consortium should be registered with GST in India.	
2	Annual Turnover	<p>The Sole Bidder or any Member(s) of the Consortium individually or combined (in case of Consortium) should have an average annual turnover of minimum Indian Rupees 100 Crore during any three consecutive financial years between 2017-18, 2018-19, 2019-20 and 2020-21.</p> <p><i>For the purpose of this criterion, annual turnover of only the bidding entity will be considered. Annual turnover of any parent, subsidiary, associated or other related entity will not be considered.</i></p>	<p><u>For sole bidder or all members of the Consortium, as applicable</u></p> <ul style="list-style-type: none"> • Certificate from the Statutory Auditor/CA clearly specifying the annual turnover for the specified years in Annexure 4 <p>And</p> <ul style="list-style-type: none"> • Audited and Certified copies of Balance Sheet and Profit/Loss Account of last 3 consecutive Financial Years last three (03) consecutive financial years, i.e. 2017-18, 2018-19, 2019-20, 2020-21
3	Net worth	<p>The Sole Bidder or all Members of the consortium, in case of a Consortium must have positive Net worth in Indian Rupees as on 31 March, 2021.</p> <p>For the purpose of this RFP, net worth (the "Net Worth") shall mean the aggregate value of the paid-up share capital and all reserves created out of the profits and securities premium account, after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves created out of revaluation of assets, write back of depreciation and amalgamation.</p> <p><i>For the purpose of this criterion, net-worth of only the bidding entity will be considered. Net-Worth of any parent, subsidiary,</i></p>	<ul style="list-style-type: none"> • Certificate from the Statutory Auditor/CA clearly specifying the net worth of the firm as on 31 March 2021. • As per format provided in Annexure 4.

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Sl #	Requirement Parameter	Eligibility Conditions/Conditions	Supporting Document to be provided
		<i>associated or other related entity will not be considered.</i>	
4	Relevant Field of Business	The Sole Bidder, or the Lead Member, in the case of a Consortium, should be operating in the field of Software development/IT Solutions for at least five (5) years as on 31 March 2021. Information regarding the same should be provided along with documentary evidence.	For Sole Bidder or the Lead Bidder, in case of Consortium: Undertaking in the Bid Covering Annexure-1 by the Sole Bidder/Lead Member, in case of a Consortium with supporting evidence.
5	Relevant Experience 1	<p>The Sole Bidder or any Member(s) of the Consortium individually or combined (in case of Consortium) should have been successfully awarded and implemented large scale ICT project (s) involving design, development of software and/or operations for levy and receipt of public charges such as tax, user charges, tolls or fees, etc. in India or abroad during last ten years for Central/State Government departments/entities including PSUs as on the Bid Due Date as below:</p> <ul style="list-style-type: none"> At least one project with contract value minimum INR 30 Crore <p align="center">Or,</p> <ul style="list-style-type: none"> At least 2 projects with contract value minimum INR 20 Crore <p align="center">Or,</p> <ul style="list-style-type: none"> At least 3 projects with contract value minimum INR 10 Crore <p>The project(s) should have been either completed or ongoing i.e. in O&M phase. For an ongoing project the completion certificate by client/ self-certificate should specify the value of the work completed.</p> <p>This is to clarify that for any ongoing project the Contract Value as above shall mean the</p>	<p>For Sole Bidder or any Member(s) in case of a Consortium</p> <p>a) Work order/ Contract clearly highlighting the relevant scope of work, and contract value, year of execution.</p> <p align="center">AND</p> <p>b) Completion Certificate issued & signed by the competent authority of the client on the entity's letterhead OR, Self-certificate from the bidder signed by authorized signatory for this bid holding written special power of attorney on stamp paper along with the official contact details of the competent authority of the client.</p> <p>IHMCL reserves the right to contact the afore-mentioned competent authority.</p> <p>The project(s) should have been either completed or ongoing.</p> <p>For the purpose of evaluation, "Ongoing" project shall mean those projects where the system/solution has been implemented/commissioned/Gone Live and the project is currently under Operations & Maintenance Phase. For an ongoing project the completion</p>

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Sl #	Requirement Parameter	Eligibility Conditions/Conditions	Supporting Document to be provided
		value of the work completed as on the bid due date. The Completion Certificate issued by the Client or the Self-certificate from the bidder shall clearly mention the value of work completed.	<p>certificate by client/ self-certificate should specify the value of work completed.</p> <p>This is to clarify that for any ongoing project the Contract Value as above shall mean the value of work complete as on the bid due date. The Completion Certificate issued by the Client or the Self-Certificate shall clearly mention the value of work completed.</p> <p>The format of the self-certificate is provided in RFP at Annexure 8.</p>
6	Relevant Experience 2	<p>The bidder, including any member of the consortium should have carried out at least one project of Contract value of at least INR 25 Lakhs involving “emerging technologies” in any sector or industry within the last five years prior to the due date for government authorities or private entities.</p> <p>For the purpose of this criteria, the term ‘emerging technologies’ mean any one of the following:</p> <ol style="list-style-type: none"> Blockchain® technology Artificial intelligence Machine learning Robotic Process Automation <p>Both completed as well as ongoing projects i. e. in O&M phase shall be considered for evaluation,</p>	<p>For Sole Bidder or any Member(s) in case of a Consortium</p> <ol style="list-style-type: none"> Work order/ Contract clearly highlighting the relevant scope of work, and contract value, year of execution. <p>AND</p> <ol style="list-style-type: none"> Completion Certificate issued & signed by the competent authority of the client on the entity’s letterhead OR, Self-certificate from the bidder signed by authorized signatory for this bid holding written special power of attorney on stamp paper along with the official contact details of the competent authority of the client. <p>IHMCL reserves the right to contact the afore-mentioned competent authority.</p> <p>The project(s) should have been either completed or ongoing.</p> <p>For the purpose of evaluation, "Ongoing" project shall mean those projects where the system/solution has been implemented/commissioned/Gone Live and the project is currently under</p>

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Sl #	Requirement Parameter	Eligibility Conditions/Conditions	Supporting Document to be provided
			<p>Operations & Maintenance Phase. For an ongoing project the completion certificate by client/ self-certificate should specify the value of work completed.</p> <p>This is to clarify that for any ongoing project the Contract Value as above shall mean the value of work complete as on the bid due date. The Completion Certificate issued by the Client or the Self-Certificate shall clearly mention the value of work completed.</p> <p>The format of the self-certificate is provided in RFP at Annexure 8.</p>
7	Certification	The Sole Bidder or the Lead Member, in case of a Consortium, should have a valid CMMi Level 3 or above certificate as on bid due date (or equivalent certificate in the country of origin)	<p>For Sole Bidder or the Lead Bidder, in case of Consortium:</p> <p>Valid copy of CMMi certificate</p>
8	Undertaking on Non-Backlisting	The Sole bidder or all Members of the consortium, in case of a Consortium, should not have been blacklisted or debarred by any government department/ agency/PSU, IHMCL for material non-performance or contractual non-compliance in the last 1 year as on bid due date.	<p><u>For sole bidder or all member of the Consortium</u></p> <p>The bidder should submit Undertaking as per Annexure 1</p>

3.2.2. Additional Requirements for Bid/Proposal Submitted by a Consortium

The MoU between Consortium members should, *inter alia*,

- i. clearly outline the proposed roles and responsibilities of each member of the Consortium;
- ii. include a statement to the effect that all members of the Consortium shall be liable jointly and severally for the Project in accordance with the terms of the Concession Agreement; and
- iii. clearly refer to the Project for which the arrangement is made.

A copy of the MoU signed by all members should be submitted with the Proposal. The MoU entered into between the members of the Consortium should be specific to the Project and should contain the above requirements, failing which the Proposal shall be considered non-responsive and liable for disqualification.

Lead Member of the Consortium

- i. If awarded, each member of the Consortium shall be responsible for its respective role/expertise during project execution, and it would be deemed to have acknowledged that it was selected on the basis of the technical/financial capacity considered during the bidding phase. IHMCL may debar/blacklist all the members of the Consortium or any member of the Consortium if any of the members fail to carry out any obligation under the Contract.
- ii. The lead member should be liable for the entire scope of work and risks involved thereof (the liability should be for the entire value of the contract).
- iii. The lead member shall be sole interaction point for IHMCL, and shall represent the Consortium in all project-related meeting, correspondences, etc.
- iv. The non-lead member should be liable for the scope of work for which they are responsible along with the lead bidder; while the lead member still carries the liability for the entire scope of work.
- v. Any change in the consortium member at a later date shall not be allowed.

3.2.3. Minimum Shareholding Obligation

- a) By submitting the Bid, each members of the Consortium shall be deemed to have acknowledged that it was short-listed on the basis of the technical and financial capacity of the Consortium Members. The lead member should be liable for the entire scope of work and risks involved thereof. The non-lead bidders shall be liable for the scope of work for which they are responsible along with the lead bidder, while the lead bidder still carries the liability for the entire scope of work.
- b) The Bidder Consortium and each of the Consortium members shall further by submitting the Proposal be deemed to have acknowledged and undertaken that any breach of the shareholding obligation shall, notwithstanding anything to the contrary contained in the Contract Agreement, be deemed to be a breach of the Contract Agreement and dealt with as such thereunder.

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- 3.2.4. The MoU signed by all members should be submitted with the Proposal. The MoU should be specific to the Project and should contain the above requirements, failing which the Proposal shall be considered non-responsive.
- 3.2.5. For the purpose of this RFP, the net worth ("Net Worth") shall mean the aggregate value of the paid-up share capital and all reserves created out of the profits and securities premium account, after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves created out of revaluation of assets, write back of depreciation and amalgamation.
- 3.2.6. The bidder can use the experience of a company which controls, is controlled by, or is under the common control with such bidder. The 'control' means the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such bidder, as on the Bid Due Date. In such case, the bidder shall submit the following documents:
- i. A certificate from the bidder's statutory auditor/ chartered accountant certifying the relationship between the bidder and the company whose experience is being shown along with the percent of voting shares under common control.
 - ii. A letter of support, in form of undertaking, from the company whose experience is being shown as relevant experience that it will provide necessary technical and financial support to the Bidder in implementation of the project
- 3.2.7. For projects where contract value or any amount is in any currency other than Indian Rupees, than the foreign currency conversion rate available on Reserve Bank of India's portal as on the date of release of the RFP document shall be used for conversion of amount in foreign currency to Indian Rupees equivalent.
- 3.2.8. The Bidders must provide all supporting documents specified above in support of each eligibility requirement in line with the criteria stipulated in Clause 3.2 Only those Bidders who meet all the above pre-qualification criteria shall be considered for further evaluation of their Technical Proposals.
- 3.2.9. No applicant applying individually or as a member of a Consortium, as the case may be, can be member of another Applicant. The term Applicant used herein would apply to both a single entity and a Consortium.
- 3.2.10. The following conditions shall be adhered to while submitting an Application:
- a) Applicants should attach clearly marked and referenced continuation sheets in the event that the space provided in the prescribed forms in the Annexes is insufficient. Alternatively, Applicants may format the prescribed forms making due provision for incorporation of the requested information;
 - b) Information supplied by an Applicant (or other constituent Member if the Applicant is a Consortium) must apply to the Applicant, Member or Associate named in the Application and not, unless specifically requested, to other associated companies or firms;
- 3.2.11. Notwithstanding anything to the contrary contained herein, in the event that the Bid Due Date falls within three months of the closing of the latest financial year of an Applicant, it shall ignore such

financial year for the purposes of its Application and furnish all its information and certification with reference to the 5 (five) years or 1 (one) year, as the case may be, preceding its latest financial year. For the avoidance of doubt, financial year shall, for the purposes of an Application hereunder, mean the accounting year followed by the Applicant in the course of its normal business.

3.3. Change in composition of the Consortium

- 3.3.1. Where the Bidder is a Consortium, change in the composition of a Consortium may be permitted by IHMCL during the Bid Stage, only where:
- a) the application for such change is made no later than 15 (fifteen) days prior to the Bid Due Date;
 - b) the Lead Member continues to be the Lead Member of the Consortium;
 - c) the substitute is at least equal, in terms of Technical Capacity, to the Consortium Member who is sought to be substituted and the modified Consortium shall continue to meet the short-listing criteria for Applicants; and
 - d) the new Member(s) expressly adopt(s) the Application already made on behalf of the Consortium as if it were a party to it originally, and is not an Applicant/Member/Associate of any other Consortium bidding for this Project.
- 3.3.2. Approval for change in the composition of a Consortium shall be at the sole discretion of IHMCL and must be approved by IHMCL in writing.
- 3.3.3. The modified/ reconstituted Consortium shall submit a revised Jt. Bidding Agreement before the Bid Due Date.
- 3.3.4. Notwithstanding anything to the contrary contained in clause 3.2, a Bidder may, within 10 (ten) days after the Bid Due Date, remove from its Consortium any Member who suffers from a Conflict of Interest, and such removal shall be deemed to cure the Conflict of Interest arising in respect thereof.

3.4. Number of Applications and costs thereof

- 3.4.1. No Applicant shall submit more than one Application for the Project. An applicant applying individually or as a member of a Consortium shall not be entitled to submit another application either individually or as a member of any Consortium, as the case may be.
- 3.4.2. The Applicants shall be responsible for all of the costs associated with the preparation of their Applications and their participation in the Bid Process. IHMCL will not be responsible or in any way liable for such costs, regardless of the conduct or outcome of the Bidding Process.

3.5. Power of Attorney

- 3.5.1. The Bidder should submit a notarized Power of Attorney in the format provided at Annexure 5 and Annexure 6 or Letter of Authorization for authorizing the signatory of the Bid to sign the Bid and all related documents. It is clarified that Bidders may submit equivalent documents (for example, delegation of power, board resolution copy), in lieu of this document, as applicable.

3.6. Content of RFP

- 3.6.1. The RFP should be read in conjunction with any addenda or clarifications issued subsequent to publication of RFP.
- 3.6.2. Bidders are advised to study the RFP carefully. Submission of the Bid will be deemed to have been done after careful study and examination of all instructions, eligibility norms, terms and requirement specifications in the RFP with full understanding of its implications. Bids not complying with all the stipulations and requirements as set forth in this RFP are liable to be rejected at the sole discretion of IHMCL. Failure to furnish all information required in the RFP or

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submission of a bid not substantially responsive to the RFP in all respects will be at the Bidder's risk and may result in the rejection of the bid.

3.7. Site visit and verification of information

- 3.7.1. Applicants are encouraged to submit their respective Bid/Applications after visiting the Project site and ascertaining for themselves the site/fee plaza conditions, traffic, location, surroundings, climate, availability of power, water and other utilities for construction, access to site, handling and storage of materials, weather data, applicable laws and regulations, and any other matter considered relevant by them. The costs of visiting the site or sites shall be at the Bidder's own expense.
- 3.7.2. The Bidder shall be deemed to have examined the site or sites and obtain for itself, at its own responsibility and risk, all information that may be necessary for preparing the bid and entering into the Contract.
- 3.7.3. Any bidder interested in carrying out a site visit may write to IHMCL. On receipt of request, IHMCL shall issue an Authorization letter for site visit to such bidder.

3.8. Acknowledgement by Applicant

- 3.8.1. It shall be deemed that by submitting the Application, the Applicant has:
 - a) made a complete and careful examination of the RFP;
 - b) received all relevant information requested from IHMCL;
 - c) accepted the risk of inadequacy, error or mistake in the information provided in the RFP or furnished by or on behalf of IHMCL relating to any of the matters referred to in Clause 3.7 above; and
 - d) Agreed to be bound by the undertakings provided by it under and in terms hereof.
- 3.8.2. IHMCL shall not be liable for any omission, mistake or error in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to the RFP or the Bidding Process, including any error or mistake therein or in any information or data given by IHMCL.

3.9. Right to accept or reject any or all Applications/ Bids

- 3.9.1. Notwithstanding anything contained in this RFP, IHMCL reserves the right to accept or reject any Application and to annul the Bidding Process and reject all Applications/ Bids, at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons therefor. In the event that IHMCL rejects or annuls all the Bids, it may, in its discretion, invite all eligible Bidders to submit fresh Bids hereunder.
- 3.9.2. IHMCL reserves the right to reject any Application and/ or Bid if:
 - a) at any time, a material misrepresentation is made or uncovered, or
 - b) the Applicant does not provide, within the time specified by IHMCL, the supplemental information sought by IHMCL for evaluation of the Application.

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- 3.9.3. If the Applicant/Bidder is a Consortium, then the entire Consortium may be disqualified/ rejected. If such disqualification/ rejection occurs after the Bids have been opened and the Lowest/Successful Bidder gets disqualified/ rejected, then IHMCL reserves the right to:
- a) invite the remaining Bidders to match the Lowest/Successful Bidder in ascending order sequence; or
 - b) take any such measure as may be deemed fit in the sole discretion of IHMCL, including annulment of the Bidding Process.
- 3.9.4. In case it is found during the evaluation or at any time before signing of the Contract Agreement or after its execution and during the period of subsistence thereof, including the Contract thereby granted by IHMCL, that one or more of the conditions have not been met by the Applicant, or the Applicant has made material misrepresentation or has given any materially incorrect or false information, the Applicant shall be disqualified forthwith if not yet appointed as the Successful bidder either by issue of the LOA or entering into of the Contract Agreement, and if the Applicant has already been issued the LOA or has entered into the Contract Agreement, as the case may be, the same shall, notwithstanding anything to the contrary contained therein or in this RFP, be liable to be terminated, by a communication in writing by IHMCL to the Applicant, without IHMCL being liable in any manner whatsoever to the Applicant and without prejudice to any other right or remedy which IHMCL may have under this RFP, the Bidding Documents, the Contract Agreement or under applicable law.
- 3.9.5. IHMCL reserves the right to verify all statements, information and documents submitted by the Applicant in response to the RFP. Any such verification or lack of such verification by IHMCL shall not relieve the Applicant of its obligations or liabilities hereunder nor will it affect any rights of IHMCL thereunder.

3.10. Clarifications

- 3.10.1. Applicants requiring any clarification on the RFP may notify IHMCL by e-mail (tenders@ihmcl.com). They should send in their queries in .xlsx format before the date specified in the schedule of Bidding Process. The responses will be sent by published on e-tender portal .
- 3.10.2. IHMCL shall endeavor to respond to the questions raised or clarifications sought by the Applicants. However, IHMCL reserves the right not to respond to any question or provide any clarification, in its sole discretion, and nothing in this Clause shall be taken or read as compelling or requiring IHMCL to respond to any question or to provide any clarification.
- 3.10.3. IHMCL may also on its own motion, if deemed necessary, issue interpretations and clarifications to all Applicants. All clarifications and interpretations issued by IHMCL shall be deemed to be part of the RFP. Verbal clarifications and information given by Authority or its employees or representatives shall not in any way or manner be binding on IHMCL.
- 3.10.4. To facilitate evaluation of Applications, IHMCL may, at its sole discretion, seek clarifications from any Applicant regarding its Application. Such clarification(s) shall be provided within the time specified by IHMCL for this purpose. Any request for clarification(s) and all clarification(s) in response thereto shall be in writing.

3.11. Amendment of RFP

- 3.11.1. At any time prior to the deadline for submission of Application, IHMCL may, for any reason, whether at its own initiative or in response to clarifications requested by an Applicant, modify the RFP by the issuance of Addenda.
- 3.11.2. Any Addendum thus issued will be published on e-procurement portal.
- 3.11.3. In order to afford the Applicants a reasonable time for taking an Addendum into account, or for any other reason, IHMCL may, in its sole discretion, extend the Bid Due Date.

3.12. Language

- 3.12.1. The Application and all related correspondence and documents in relation to the Bidding Process shall be in English language. Supporting documents and printed literature furnished by the Applicant with the Application may be in any other language provided that they are accompanied by translations of all the pertinent passages in the English language, duly authenticated and certified by the Applicant. Supporting materials, which are not translated into English, may not be considered. For the purpose of interpretation and evaluation of the Application, the English language translation shall prevail.

3.13. Bid Validity

- a) Bids shall remain valid for a period of 180 days from the Bid due date. Any Bid valid for a shorter period shall be rejected as non-responsive. IHMCL has sole discretion to extend the period beyond 180 days.
- b) In exceptional circumstances, IHMCL may solicit Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing; however, no modification to such bid shall be permitted.

3.14. Bid Securing Declaration Form

- a) The Bidder shall furnish, Bid Securing Declaration Form as per format provided in Annexure -9.
- b) Any bid not accompanied by an acceptable Bid Securing Declaration Form and Document Fee shall be rejected by IHMCL as non-responsive.

3.15. Alternative Proposals by Bidders

- 3.15.1. Bidder shall submit only one bid/offer for this RFP that fully complies with the requirement of the RFP including conditions of Contract. Conditional offer or alternate offer will not be considered further in the process of tender evaluation.

3.16. Submission, Format and signing of Application

- 3.16.1. All documents including Application Fee Bid Securing Declaration Form, , Power of Attorney, relevant annexures, eligibility documents etc. need to be submitted on e-tender portal. The Bidder shall submit the scanned copy of the original documents as mentioned in the RFP along with the bid on or before due date of submission. Evaluation of bids shall be carried out with the available scanned copy of original document submitted by bidder on e-portal as per RFP requirement. However, the successful bidder has to submit the original documents physically with IHMCL before the issue of LOA.
- 3.16.2. The Applicant shall provide all the information sought under this RFP. IHMCL will evaluate only those Applications that are received in the required formats and complete in all respects. Incomplete and /or conditional Applications shall be liable to rejection.
- 3.16.3. The Applicant shall submit following documents physically at IHMCL office as per timeline provided in Clause 4.1 'Key Dates':
- Document/Application Fee
 - Bid Securing Declaration Form
 - Power of Attorney/Letter of Authority
- 3.16.4. The Document/Application Fee needs to be transferred in IHMCL bank account as per details provided below and payment receipt/proof needs to be submitted in the Technical Bid document uploaded on e-tender portal. IHMCL bank account detail for transferring document fee is as follows: -
- A/c Holder Name = Indian Highways Management Company Limited
 - Bank Name = Canara Bank
 - A/c No. = 8598201006217
 - IFSC = CNRB0008598
 - Branch = Delhi NHAI Dwarka Branch New Delhi-110075
- 3.16.5. The Application/Bid Documents uploaded on e-tender portal shall be typed or written in indelible ink and signed by the authorized signatory of the Applicant who shall also initial each page. In case of printed and published documents, only the cover shall be initialed. All the alterations, omissions, additions or any other amendments made to the Application shall be initialed by the person(s) signing the Application.

3.17. Deadline for Submission of Bid

- a) Complete Bid documents as specified in the RFP must be uploaded as specified on or before the date and time specified under "Key Dates". In the event of the specified date for the submission of Bids being declared a Non-working day for IHMCL, the Bids will be received up to the specified time on the next working day.
- b) IHMCL may, at its discretion, extend the deadline for submission of Bids by issuing an amendment in which case all rights and obligations of IHMCL and the Bidders previously subject to the original deadline will thereafter be subject to the deadline extended.

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c) Offer by fax / e-mail will not be accepted and shall be treated as void ab-initio.

3.18. Late Applications

3.18.1. Bids received after the deadline shall not be considered and shall be rejected. No representation or communication would be entertained in this regard from any Bidder. Modifications/ substitution/ withdrawal of Applications.

3.19. Modifications/ substitution/ withdrawal of Applications

3.19.1. The Applicant may modify, substitute or withdraw its Application after submission, provided that written notice of the modification, substitution or withdrawal is received by IHMCL prior to the Bid Due Date. No Application shall be modified, substituted or withdrawn by the Applicant on or after the Bid Due Date.

3.19.2. Any alteration/ modification in the Application or additional information supplied subsequent to the Bid Due Date, unless the same has been expressly sought for by IHMCL, shall be disregarded.

3.20. Opening and Evaluation of Applications

3.20.1. IHMCL shall open the Applications as per Key Timelines mentioned in RFP, at the place specified in RFP and in the presence of the Applicants who choose to attend.

3.20.2. Applications for which a notice of withdrawal has been submitted in accordance with Clause 3.19 shall not be opened.

3.20.3. IHMCL will subsequently examine and evaluate Applications in accordance with the provisions set out in this RFP.

3.20.4. Applicants are advised that selection of Applicants will be entirely at the discretion of IHMCL. Applicants will be deemed to have understood and agreed that no explanation or justification on any aspect of the Bidding Process or selection will be given.

3.20.5. Any information contained in the Application shall not in any way be construed as binding on IHMCL, its agents, successors or assigns, but shall be binding against the Applicant if the Project is subsequently awarded to it on the basis of such information.

3.20.6. IHMCL reserves the right not to proceed with the Bidding Process at any time without notice or liability and to reject any or all Application(s) without assigning any reasons.

3.20.7. If any information furnished by the Applicant is found to be incomplete, or contained in formats other than those specified herein, IHMCL may, in its sole discretion, exclude the relevant project from computation of the Eligible Score of the Applicant.

3.20.8. In the event that an Applicant claims credit for an Eligible Project, and such claim is determined by IHMCL as incorrect or erroneous, IHMCL shall reject such claim and exclude the same from computation of the Eligible Score, and may also, while computing the aggregate Experience Score of the Applicant, make a further deduction equivalent to the claim rejected hereunder. Where any information is found to be patently false or amounting to a material representation, IHMCL reserves the right to reject the Application and/ or Bid.

3.21. Examination and Evaluation of Bids

- a) Opening of Bids will be done through online process only.
- b) IHMCL shall open Technical Bids as per schedule specified in Key Dates, in the presence of the authorized representatives of the Bidders, who choose to attend. IHMCL will examine and evaluate the Bids in accordance with the provisions of this RFP.
- c) During evaluation and comparison of bids, IHMCL may, at his discretion, ask the bidder for clarifications on the bid. The request for clarification shall be given in writing via email, asking the Bidder to respond by a specified date, and also mentioning therein that, if the Bidder does not comply or respond by the date, his tender will be liable to be rejected. No post bid clarification at the initiative of the bidder shall be entertained. The shortfall information/ documents shall be sought only in case of historical documents which pre-existed at the time of the bid opening and which have not undergone change since then.

3.21.1. Phase - 1: Pre-Qualification Stage: -

- a) The Technical Bids will be evaluated by an Evaluation Committee. The Bidder shall have to fulfil all the Eligibility Criteria as specified in the RFP. Following documents shall be evaluated as per part of Pre-Qualification stage: - Document Fee, Bid Securing Declaration Form, PoA and other Eligibility Documents and Annexures.
- b) The Bidder shall have to submit all the required documents as per various formats provided in Annexures. These documents will be scrutinized in this phase of evaluation. Those Bidders who do not fulfil the terms and conditions of Eligibility Criteria as specified in this tender will not be eligible for further evaluation.
- c) Evaluation of Technical Bids by the Evaluation Committee shall not be questioned by any of the Bidders. IHMCL may ask Bidder(s) for additional information, visit to Bidder's site and/ or arrange discussions with their professional, technical faculties to verify claims made in Technical Bid documentation from the Bidder on the already submitted Technical Proposal at any point of time before opening of the Financial Proposal.
- d) Based upon the evaluation of these documents and the conditions specified in the RFP, IHMCL shall announce the names of the Bidders who have qualified for Phase-2 Technical Qualification. It is hereby clarified that Technical Qualification evaluation of only such Bidders who are declared qualified as stated herein shall be performed.

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3.21.2. Phase - 2: Technical Qualification: -

The Technical Proposals of the Bidders shall be evaluated based on the Technical Evaluation Framework as listed in the Table below:

Section #	Evaluation Criteria	Total Marks
A	Sole bidder/Lead Member Profile	25
B	Relevant Project Experience	55
C	Approach & Methodology	20
Overall Technical Score Total		100

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3.21.3. Evaluation Parameters for Technical Proposal

The Technical evaluation of the bids shall be carried out as per criteria provided below:

Sl. #	Technical Evaluation Criteria	Maximum Marks	Supporting Document required				
A.	Sole bidder/Lead Member Profile	25					
A1	<p>Average annual turnover of the Sole Bidder or any Member(s) of the Consortium individually or combined (in case of Consortium), during the 'specified period', i.e., any three consecutive financial years between 01 April 2017, and 31 March 2021. This is assuming the financial year of the bidding entity is within these dates; in case of a different financial year, the last three financial years prior to the one in effect can be considered.</p> <p>Marks shall be allotted as given below:</p> <ul style="list-style-type: none">Equal to or greater than INR 100 Crore but less than INR 120 Crore = 10 marksFor every additional INR 20 Crore beyond INR 100 Crore, additional 1 mark shall be provided up to maximum 5 additional marks. <p>Note: The annual turnover of only the bidding legal entity will be considered. Annual turnover of any parent, subsidiary, associated or other related entity will not be considered.</p>	15	<p>For sole bidder or any member of Consortium individually or combined (in case of consortium):</p> <p>a) Certificate from the Statutory Auditor/CA clearly specifying the annual turnover for the specified period as per Annexure-4 And</p> <p>b) Audited and certified copies of balance sheet and profit & loss statements of specified period</p>				
A2	<p>The Sole Bidder or the Lead Member, in case of a Consortium, should have a valid CMMi Level 3 or above certificate as on bid due date (or equivalent certificate in the country of origin). Marks shall be provided as below:</p> <table border="1"><tr><td>Above CMMi Level 3</td><td>10 marks</td></tr><tr><td>CMMi Level 3</td><td>8 marks</td></tr></table>	Above CMMi Level 3	10 marks	CMMi Level 3	8 marks	10	<p>For sole bidder or Lead Member(s) of the Consortium :</p> <p>Copies of the relevant certificates issued by a competent certifying authority which should be valid on the date of submission of the bid.</p>
Above CMMi Level 3	10 marks						
CMMi Level 3	8 marks						

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Sl. #	Technical Evaluation Criteria	Maximum Marks	Supporting Document required						
B.	Relevant Project Experience	55							
B1	<p>Experience in large scale ICT projects involving transactions</p> <p>The sole bidder or any member (in case of a Consortium) should exhibit experience of having awarded and successfully implemented large scale ICT projects, that may have involved <i>design, development of software and/or operations for levy and receipt of public charges such as tax, user charges, tolls or fees, etc.</i></p> <p>Such projects (including projects that are still operational) may have been carried out in any country and having been awarded by any public authority or public sector enterprise, within 10 years prior to the due date of the bid.</p> <p>Marks shall be allotted as given below</p> <table><tr><td>For each project with contract value in excess of INR 30 crore</td><td>10 marks</td></tr><tr><td>For each project with contract value in excess of INR 20 crore but up to INR 30 crore</td><td>08 marks</td></tr><tr><td>For each project with contract value in excess of INR 10 crore but up to INR 20 crore</td><td>05 marks</td></tr></table>	For each project with contract value in excess of INR 30 crore	10 marks	For each project with contract value in excess of INR 20 crore but up to INR 30 crore	08 marks	For each project with contract value in excess of INR 10 crore but up to INR 20 crore	05 marks	20	<p>Bidder shall provide</p> <p>a) Work order/ Contract clearly highlighting the relevant scope of work, and contract value, year of execution. AND</p> <p>b) Completion Certificate issued & signed by the competent authority of the client on the entity's letterhead OR, Self-certificate from the bidder signed by authorized signatory for this bid holding written special power of attorney on stamp paper along with the official contact details of the competent authority of the client.</p> <p>IHMCL reserves the right to contact the afore-mentioned competent authority.</p> <p>The project(s) should have been either completed or ongoing.</p> <p>For the purpose of evaluation, "Ongoing" project shall mean those projects where the system/solution has been implemented/commissioned/Gone Live and the project is currently under Operations & Maintenance Phase. For an ongoing project the completion certificate by client/ self-certificate should specify the value of work completed.</p> <p>This is to clarify that for any ongoing project the Contract Value as above shall mean the value of</p>
For each project with contract value in excess of INR 30 crore	10 marks								
For each project with contract value in excess of INR 20 crore but up to INR 30 crore	08 marks								
For each project with contract value in excess of INR 10 crore but up to INR 20 crore	05 marks								

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Sl. #	Technical Evaluation Criteria	Maximum Marks	Supporting Document required
			<p>work complete as on the bid due date. The Completion Certificate issued by the Client or the Self-Certificate shall clearly mention the value of work completed.</p> <p>The format of the self-certificate is provided in RFP at Annexure 8.</p>
B2	<p>Experience of deployment of Toll Management Software (TMS)</p> <p>The bidder, including any member of the consortium should have developed, deployed & conducted preventive maintenance of software for computation, levy, collection & reconciliation of user fee/toll on near real-time basis for highways or such other toll roads for any public authority, state owned enterprise, or any private entity engaged by a public authority.</p>	15	<p>Bidder shall provide</p> <p>a) Work order/ Contract clearly highlighting the relevant scope of work, and contract value, year of execution.</p> <p>AND</p> <p>b) Completion Certificate issued & signed by the competent authority of the client on the entity's letterhead OR, Self-certificate from the bidder</p>

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Sl. #	Technical Evaluation Criteria	Maximum Marks	Supporting Document required
	<p>Such project should have been executed within a period of ten years prior to the due date of the bid. Marks shall be provided as below:</p> <ul style="list-style-type: none"> 1 qualifying project – 5 marks, subject to maximum of 15 marks. <p>Note: The scope of the work, as specified in the work order/ contract of such project, should provide evidence of the capability of real-time transaction processing.</p> <p>In case of project with private entity, necessary supporting documents for engagement by a public authority shall have to be submitted.</p>		<p>signed by authorized signatory for this bid holding written special power of attorney on stamp paper along with the official contact details of the competent authority of the client.</p> <p>IHMCL reserves the right to contact the aforementioned competent authority.</p> <p>The project(s) should have been either completed or ongoing.</p> <p>For the purpose of evaluation, "Ongoing" project shall mean those projects where the system/solution has been implemented/commissioned/Gone Live and the project is currently under Operations & Maintenance Phase. For an ongoing project the completion certificate by client/ self-certificate should specify the value of work completed.</p> <p>The format of the self-certificate is provided in RFP at Annexure 8.</p>
B3	<p>Evidence of having used 'emerging technologies' – 1</p> <p>The bidder, including any member of the consortium should have carried out project of Contract value of at least INR 25 Lakhs involving <u>Usage of Blockchain@ technology</u> in any sector or industry within the last five years prior to the due date for government authorities or private entities. Both completed and ongoing projects shall be considered.</p> <p>Marks shall be provided as below:</p> <ul style="list-style-type: none"> 1 qualifying project – 5 marks, subject to maximum of 10 marks. 	10	<p>Bidder shall provide</p> <ol style="list-style-type: none"> Work order/ Contract clearly highlighting the relevant scope of work, and contract value, year of execution. AND Completion Certificate issued & signed by the competent authority of the client on the entity's letterhead OR, Self-certificate from the bidder signed by authorized signatory for this bid holding written special power of attorney on stamp paper

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Sl. #	Technical Evaluation Criteria	Maximum Marks	Supporting Document required
	The bidder shall submit a brief writeup explaining how the Blockchain® technology is involved in the qualifying project.		<p>along with the official contact details of the competent authority of the client. IHMCL reserves the right to contact the aforementioned competent authority.</p> <p>The project(s) should have been either completed or ongoing.</p> <p>For the purpose of evaluation, "Ongoing" project shall mean those projects where the system/solution has been implemented/commissioned/Gone Live and the project is currently under Operations & Maintenance Phase. For an ongoing project the completion certificate by client/ self-certificate should specify the value of work completed.</p> <p>This is to clarify that for any ongoing project the Contract Value as above shall mean the value of work complete as on the bid due date. The Completion Certificate issued by the Client or the Self-Certificate shall clearly mention the value of work completed.</p> <p>The format of the self-certificate is provided in RFP at Annexure 8.</p>
B4	<p>Evidence of having used ‘emerging technologies’ – 2</p> <p>The bidder, including any member of the consortium should have carried out project of Contract value of at least INR 25 Lakhs involving <u>Usage of Artificial Intelligence/ Machine Learning/ Robotic Process Automation</u> in any sector or industry within the last five years prior to the</p>	10	<p>Bidder shall provide</p> <p>c) Work order/ Contract clearly highlighting the relevant scope of work, and contract value, year of execution.</p> <p>AND</p>

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Sl. #	Technical Evaluation Criteria	Maximum Marks	Supporting Document required
	<p>due date for government authorities or private entities. Both completed and ongoing projects shall be considered.</p> <p>Marks shall be provided as below:</p> <ul style="list-style-type: none"> 1 qualifying project – 5 marks, subject to maximum of 10 marks. <p><u>The bidder shall submit a brief writeup explaining how the Artificial Intelligence/ Machine Learning/ Robotic Process Automation technology is involved in the qualifying project.</u></p>		<p>d) Completion Certificate issued & signed by the competent authority of the client on the entity's letterhead OR, Self-certificate from the bidder signed by authorized signatory for this bid holding written special power of attorney on stamp paper along with the official contact details of the competent authority of the client.</p> <p>IHMCL reserves the right to contact the aforementioned competent authority.</p> <p>The project(s) should have been either completed or ongoing.</p> <p>For the purpose of evaluation, "Ongoing" project shall mean those projects where the system/solution has been implemented/commissioned/Gone Live and the project is currently under Operations & Maintenance Phase. For an ongoing project the completion certificate by client/ self-certificate should specify the value of work completed.</p> <p>This is to clarify that for any ongoing project the Contract Value as above shall mean the value of work complete as on the bid due date. The Completion Certificate issued by the Client or the Self-Certificate shall clearly mention the value of work completed.</p> <p>The format of the self-certificate is provided in RFP at Annexure 8.</p>

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Sl. #	Technical Evaluation Criteria	Maximum Marks	Supporting Document required
C	Approach & Methodology	20	Assessment to be based on Proposal Submitted & Presentation made by Bidder before the Tender Evaluation Committee. Any proprietary solution may not be submitted as a part of technical bid uploaded on the e-tender portal, however, the same shall be required to be presented to the Committee.
	Understanding of the process followed at a toll plaza, different equipment/ hardware used and the overall process flow associated with the toll plaza operations		
	Usage of emerging technology like Blockchain® or Artificial Intelligence/Machine Learning/ Robotic Process Automation.		
	Ease of deployment - Convenience of Plug and Play feature		
	Robustness, Security, Reliability and Scalability of proposed solution		

3.21.4. The Minimum technical score to qualify for Financial Proposal evaluation (ST) is **70** marks out of total 100 marks. Evaluation Committee may, at its discretion, call for additional information from the bidder(s) through email/fax/telephone/meeting or any other mode of communication. Such information has to be supplied within the set out time frame as provided by Evaluation Committee, otherwise Evaluation Committee shall make its own reasonable assumptions at the total risk and cost of the bidders and the proposal is liable to be rejected. Seeking clarifications cannot be treated as acceptance of the proposal. For verification of information submitted by the bidders, the committee may visit bidder's offices at its own cost. The bidders shall provide all the necessary documents, samples and reference information as desired by the committee. The bidders shall also assist the committee in getting relevant information from the bidders' references.

3.21.5. Key Position Criteria: -

- a) The Successful bidder shall provide adequate number of personnel, each responsible for a specific role within the project.
- b) Following table indicates the minimum qualification required for Key Positions for evaluation for this project.
- c) However, the Successful bidder shall independently estimate the teams size required to meet the requirements of service Levels as specified as part of this RFP Document.

Sl. #	Position	Minimum qualifications
1	Project Director	<ul style="list-style-type: none">a) Education: Full-Time MBA/MCA/M. Tech & B. Tech/B.E. from a reputed instituteb) Total Experience: At least 15 years in IT/ITS sectorc) Should have more than 8 years of experience of handling such large projects
2	Project Manager	<ul style="list-style-type: none">a) Education: Full Time MBA/MCA/M. Tech & B. Tech/B.E. from a reputed instituteb) Experience: Minimum 10 years of experience in areas related to Electronic Tolling System/ Intelligent Transport System/ Smart Cityc) Should have more than 5 years of experience of handling such large projects as a project managerd) Should preferably have PMP or Prince2 certification

3.21.6. Replacement of Key Resources– Project Director and Project Manager

- a) The Successful bidder shall not be allowed to replace resources, Project Director and Project Manager as proposed in the Bid without prior approval from IHMCL.
- b) In case any proposed resource resigns, then the Successful bidder has to inform IHMCL within one week of such resignation. The Successful bidder shall promptly initiate a search for a replacement to ensure that the role of any member of the Key Resource is not vacant at any

point in time during the contract period, subject to reasonable extensions requested by Successful bidder to IHMCL.

- c) Before assigning any replacement member of the Key Personnel to the provision of the Services, Bidder shall provide Purchaser with:
 - a. a curriculum vitae and any other information about the candidate that is reasonably requested by IHMCL; and
 - b. an opportunity to interview the proposed candidate.
- d) The Successful bidder has to provide replacement resource of equal or better qualification and experience as per the requirements of this RFP.
- e) If IHMCL objects to the appointment, Bidder shall not assign the individual to that position and shall seek an alternative candidate in accordance with the resource requirements of this RFP.
- f) The bidder needs to ensure at least 4 weeks of overlap period in such replacements. Successful bidder will not be responsible for any knowledge transition to the replacement resource and any impact/escalation of cost incurred by the bidder due to resource replacement.

3.21.7. Phase – 3: Financial Bid Evaluation:

- a) The Financial Bids of technically qualified bidders will be opened on the prescribed date in the presence of bidder representatives.
- b) If a firm quotes NIL charges / consideration, the bid shall be treated as unresponsive and will not be considered.
- c) The bidder with lowest qualifying financial bid (L1) will be awarded 100% score (amongst the bidders which did not get disqualified on the basis of point b above). Financial Scores for other than L1 bidders will be evaluated using the following formula:
 - d) Financial Score of a Bidder (SF) = {(Lowest Total Financial Bid Quoted / Total Financial Bid Quoted by the Bidder) X 100} % (Adjusted to two decimal places)**
- e) Only fixed price financial bids indicating total price for all the deliverables and services specified in this bid document will be considered.
- f) The bid price will include all taxes and levies except GST and shall be in Indian Rupees.
- g) Any conditional bid would be rejected.
- h) Errors & Rectification: Arithmetical errors will be rectified on the following basis:

“If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail”. If the bidder does not accept the correction of errors, its Bid shall be rejected and the necessary steps as per Bid Securing Declaration Form shall be taken.

3.21.8. Combined and Final Evaluation

- a) The technical and financial scores secured by each bidder will be added using weightage as mentioned in the RFP and respectively to compute a Composite Bid Score.
- b) The bidder securing the highest Composite Bid Score will be adjudicated as the most responsive Bidder for award of the Project. The overall score will be calculated as follows:

$$S = 80\% * ST + 20\% * SF$$

Where S = overall score of bidder.

- ST = Technical score of the bidder (out of maximum of 100 marks)
 - SF = Normalized financial score of the bidder
- c) In the two or more bidders exhibit the same composite bid score, IHMCL may: -
 - i. Declare the bidder securing the highest technical score as the preferred bidder for award of the Project.

Take any such measure as may be deemed fit at its sole discretion, including annulment of the bidding process.

3.22. Award Criteria

IHMCL will award the Contract to the successful bidder whose proposal has been determined to be substantially responsive and has scored Highest Composite Score as per the process outlined above.

3.23. Confidentiality

- 3.23.1. Information relating to the examination, clarification, evaluation, and recommendation for the Applicants shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional advisor advising IHMCL in relation to, or matters arising out of, or concerning the Bidding Process. IHMCL will treat all information, submitted as part of Application, in confidence and will require all those who have access to such material to treat the same in confidence. IHMCL may not divulge any such information unless it is directed to do so by any statutory entity that has the power under law to require its disclosure or is to enforce or assert any right or privilege of the statutory entity and/ or IHMCL or as may be required by law or in connection with any legal process.

3.24. Tests of responsiveness

- 3.24.1. Prior to evaluation of Applications, IHMCL shall determine whether each Application is responsive to the requirements of the RFP. An Application shall be considered non-responsive if:
- a) If the Authorized Signatory holding Power of Attorney and Signatory are not the same
 - b) If a bidder submits a conditional bid or makes changes in the terms and conditions given in this RFP document
 - c) Failure to comply with all the requirements of RFP document by a bidder.
 - d) If the financial bid is not submitted in the formats prescribed in the RFP document

- e) If any requisite document/ certificate is not in the prescribed format the same shall not be considered while evaluating the Bids and the same may lead to Bid being declared as non-responsive.
- f) If requisite documents to be submitted physically as per RFP are not received by IHMCL as on due date.
- g) There should be no mention of bid prices in any part of the Technical Proposal. The Proposal is liable to be rejected if any price bid is included in the technical Proposal.
- h) The bid contains any pre-condition, assumption or qualification.
- i) it is not non-responsive in terms hereof.

3.24.2. IHMCL reserves the right to reject any Application which is non-responsive and no request for alteration, modification, substitution, or withdrawal shall be entertained by IHMCL in respect of such Application.

3.24.3. Any entity (the Bidder, its Member or Associate was, either by itself or as member of a Consortium) which has been barred by the Central Government, or any entity controlled by it, from participating in any project by any govt. organization or PSU and the bar subsists as on the date of Application, or has been declared by IHMCL as non-performer/blacklisted would not be eligible to submit an Application, either individually or as member of a Consortium.

3.25. Bids that are priced significantly higher or lower than IHMCL's estimates

3.25.1. If the bid of the successful bidder is perceived to be too high or low compared to IHMCL's estimate of the cost of work to be performed under the Contract, IHMCL may require the Bidder to produce detailed price analysis for any or all items of the services/bill of quantities, to demonstrate the internal consistency of the proposed System/Proposal. After evaluation of the price analyses, IHMCL may require that the amount of the Performance Security set forth in the RFP be increased and an additional Performance Security may be obtained at the expense of the Successful Bidder to a level sufficient to protect IHMCL against financial loss in the event of default of the Successful Bidder under the Contract. The amount of the additional increased Performance Security shall be equal to the seriously imbalanced amount, which shall be final, binding and conclusive on the Bidder.

3.26. Submission of Bids

- a) The Bidders will be requested to submit a Bid in the form and manner to be set out in the Bidding Documents.
- b) IHMCL is likely to provide a comparatively short time span for submission of the Bids for the Project. The Applicants are therefore advised to visit the site and familiarize themselves with the Project by the time of submission of the Application. No extension of time is likely to be considered for submission of Bids pursuant to invitation that may be issued by IHMCL.

3.27. Proprietary data

3.27.1. All documents and other information supplied by IHMCL or submitted by an Applicant to IHMCL shall remain or become the property of IHMCL. Applicants are to treat all information as strictly

confidential and shall not use it for any purpose other than for preparation and submission of their Application. IHMCL will not return any Application or any information provided along therewith.

3.28. Correspondence with the Applicant

- 3.28.1. Save and except as provided in this RFP, IHMCL shall not entertain any correspondence with any Applicant in relation to the acceptance or rejection of any Application.

3.29. Notification of Award of Contract

- a) Prior to the expiration of the Bid validity, IHMCL will notify the Successful Bidder that his Bid has been accepted. IHMCL will mention the contract value in the LOA.
- b) The Contract will incorporate all agreements between IHMCL and the Successful Bidder. It will be signed by IHMCL and the Successful Bidder after the performance security is furnished by the Successful Bidder. IHMCL will issue notice to commence the work after signing of Contract Agreement or submission of Performance Security as the case may be.

3.30. Signing of Contract

- 3.30.1. IHMCL shall ask the Successful Bidder to furnish the Performance Guarantee and also to execute the Contract Agreement.

3.31. Performance Security

- a) Within 15 (Fifteen) days of the receipt of the Letter of Award, the Successful Bidder shall submit an irrevocable and unconditional Bank guarantee issued in the name of IHMCL for an amount equal to **3% of Total Project Cost**, issued by a Bank described under this RFP which shall be verified at any branch located in the National Capital territory of Delhi and through SFMS mode as performance security for the due performance of its obligations under the Contract.
- b) The aforesaid Bank Guarantee shall be as per the format given in format provided in this RFP and will be valid for a period of 180 days after the expiry of Contract period and shall also have a minimum claim period of 1 year. Format for submission of Performance Bank Guarantee is placed at Annexure 7.

3.32. Bank Guarantee (BG)

- a) The Bank Guarantee in the name of IHMCL issued by the following banks would only be accepted:
 - i. Any Nationalized Bank
 - ii. Any Scheduled Commercial Bank approved by RBI having a net worth of not less than Rs. 500 crores as per the latest Audited Balance Sheet of the Bank. In the case of a Foreign Bank (issued by a branch in India), the net worth in respect of the Indian operations shall only be taken into account.
 - iii. A Foreign Bank (issued by a branch outside India) with a counter guarantee from any Indian Nationalized Bank.
 - iv. Export Import Bank of India
- b) The acceptance of the Bank Guarantees shall also be subject to the following conditions: -

- i. The capital adequacy of the Bank shall not be less than the norms prescribed by RBI
- ii. The bank guarantee issued by a Cooperative Bank shall not be accepted.

3.33. Corrupt or Fraudulent Practices

- a) IHMCL will reject a proposal for award and appropriate the Performance Security, as the case may be, if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.
- b) IHMCL will declare the Bidder ineligible, either indefinitely or for a stated period of time, to be awarded a contract by IHMCL if it at any time determines that the Bidder has engaged in corrupt or fraudulent practices in competing for the contract, or during execution.
- c) "Corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official or employee of IHMCL in the procurement process or in Contract execution.
- d) "Fraudulent Practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of IHMCL and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid process at artificial non-competitive levels and to deprive IHMCL of the benefits of free and open competition.

3.34. Conflict of Interest

- 3.34.1. A Bidder shall not have a conflict of interest that may affect the Selection Process or the Solution delivery (the "Conflict of Interest"). Any Bidder found to have a Conflict of Interest shall be disqualified. In the event of disqualification, the Purchaser shall forfeit and take necessary action as per Bid Securing Declaration Form, if available, as mutually agreed genuine pre-estimated compensation and damages payable to the Purchaser for, inter alia, the time, cost and effort of the Purchaser including consideration of such Bidder's Proposal, without prejudice to any other right or remedy that may be available to the Purchaser hereunder or otherwise.
- 3.34.2. The Purchaser requires that the Successful bidder provides solutions which at all times hold the Purchaser's interests paramount, avoid conflicts with other assignments or its own interests, and act without any consideration for future work. The Successful bidder shall not accept or engage in any assignment that would be in conflict with its prior or current obligations to other clients, or that may place it in a position of not being able to carry out the assignment in the best interests of the Purchaser.
- 3.34.3. Without limiting the generality of the above, a Bidder shall be deemed to have a Conflict of Interest affecting the Selection Process, if:
 - a) the Bidder, its consortium member (the "Member") or Associates (or any constituent thereof) and any other Bidder, its consortium member or Associate (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding or ownership interest of an Bidder, its Member or Associate (or any shareholder thereof having a shareholding of more than 5 per cent of the paid up and subscribed share capital of such Bidder, Member or Associate, as the case may be) in the other Bidder, its consortium member or Associate is less than 5% (five per cent) of the

subscribed and paid up equity share capital thereof. For the purposes of this Clause, indirect shareholding held through one or more intermediate persons shall be computed as follows:

- where any intermediary controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the “Subject Person”) shall be taken into account for computing the shareholding of such controlling person in the Subject Person; where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of indirect shareholding of such person in the Subject Person shall be undertaken on
- a proportionate basis; provided, however, that no such shareholding shall be reckoned under this Sub-clause if the shareholding of such person in the intermediary is less than 26% (twenty six per cent) of the subscribed and paid up equity shareholding of such intermediary; or

3.35. Miscellaneous

- a) The Bidding Process shall be governed by, and construed in accordance with, the laws of India and the Courts at New Delhi shall have exclusive jurisdiction over all disputes arising under, pursuant to and/ or in connection with the Bidding Process.
- b) IHMCL, in its sole discretion and without incurring any obligation or liability, reserves the right, at any time, to;
 - i. suspend and/ or cancel the Bidding Process and/ or amend and/ or supplement the Bidding Process or modify the dates or other terms and conditions relating thereto;
 - ii. consult with any Bidder in order to receive clarification or further information;
 - iii. retain any information and/ or evidence submitted to IHMCL by, on behalf of, and/ or in relation to any Bidder; and/ or
 - iv. independently verify, disqualify, reject and/ or accept any or all submissions or other information and/ or evidence submitted by or on behalf of any Bidder.
- c) It shall be deemed that by submitting the Bid, the Bidder agrees and releases IHMCL, its employees, agents and advisers, irrevocably, unconditionally, fully and finally from any and all liability for claims, losses, damages, costs, expenses or liabilities in any way related to or arising from the exercise of any rights and/ or performance of any obligations hereunder, pursuant hereto and/ or in connection with the Bidding Process and waives, to the fullest extent permitted by applicable laws, any and all rights and/ or claims it may have in this respect, whether actual or contingent, whether present or in future.
- d) If the Bidder has committed a transgression under this RFP such as to put its reliability or credibility into question, IHMCL shall be entitled to blacklist and debar such Bidder for any future tenders/contract award process in its sole and absolute discretion.
- e) Inclusion of MSMEs in Project Delivery - Bidders are encouraged to include Micro, Small and Medium Enterprises (MSMEs) in the delivery of the project. Bidders should earmark a minimum of 20 % of the total contract for procuring goods and services from MSMEs. The MSME partner

should be registered under the Micro Small Medium Enterprise Act, 2006. The procurement through MSMEs should be in line with Order dated 23rd March 2014 or any latest Order/Directions regarding procurement policy for Micro and Small Enterprises (MSMEs).

- f) Compliance to be ensured w.r.t. Office Memorandum of Department of Expenditure, dated 23 July 2020, and any related clarifications, subsequent guidelines issued by Department of Expenditure, as applicable, regarding insertion of Rule 144 (xi) in the General Financial Rules (GFRs), 2017. Bidder may visit website of Department of Expenditure (<https://doe.gov.in/>) for more details on the said Office Memorandum.
- g) Compliance to be ensured w.r.t. Public Procurement (Preference to Make in India) Order 2017 – Notification of Telecom Products, Services or Works” (in short DoT PPP MII notification, 2018) dated 29th August issued by Department of Telecommunications. Bidder may visit website of Department of Telecom (<https://dot.gov.in> > Investment Promotion > Telecom Equipment Manufacturing) for more details on the said notification.

3.36. Imbalance Bid

- a) If the Bid of the Successful Bidder is seriously imbalanced in relation to IHMCL's estimate of the cost of work to be performed under the Contract, IHMCL may require the Bidder to produce detailed price analysis for any or all items of the Services/Bill of Quantities, to demonstrate the internal consistency of the proposed System/Proposal. After evaluation of the price analyses, IHMCL may require that the amount of the Performance Security set forth in the RFP be increased and an additional Performance Security may be obtained at the expense of the Successful Bidder to a level sufficient to protect IHMCL against financial loss in the event of default of the Successful Bidder under the Contract. The amount of the additional increased Performance Security shall be equal to the seriously imbalanced amount, which shall be final, binding and conclusive on the Bidder.

4. PREPARATION AND SUBMISSION OF APPLICATION

- a) Bid must be submitted online only at <http://etenders.gov.in> during the validity of registration with the e-Tendering Portal being managed by National Informatics Centre (NIC), i.e. <http://etenders.gov.in>. To participate in e-tendering, the intending participants shall register themselves in the website of URL.
- b) Bidders/Applicants are advised to go through the FAQs, guidelines, instructions, manuals, policies, system setting procedures etc. as provided in the e-Procurement portal.
- c) Tender form and relevant documents will not be sold /issued manually from offices.
- d) Bidders are required to upload scanned copies of Bid Security, proof of online payment of cost Bidding Documents, Power of Attorney and other relevant document on the e-procurement portal.
- e) All documents including Application Fee, Bid Securing Declaration Form , Power of Attorney, relevant annexures, eligibility documents etc. need to be submitted on e-tender portal. The Bidder shall submit the scanned copy of the original documents as mentioned in the RFP along with the bid on or before due date of submission. Evaluation of bids shall be carried out with the available scanned copy of original document submitted by bidder as per RFP requirement. However, the successful bidder has to submit the original documents physically with IHMCL before the issue of LOA.
- f) The date and time for online submission as mentioned in the section RFP document shall be strictly followed in all cases. The bidder/Applicants should ensure that their tender is submitted online before the expiry of the scheduled date and time. No delay on account of any cause will be entertained. Tender(s) not submitted online will not be entertained.
- g) If for any reason, any interested bidder fails to complete any online stages during the complete tender cycle, IHMCL shall not be responsible for that and any grievance regarding that shall not be entertained.

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4.1. KEY DATES

Sl. No.	Event Description	Deadline
1.	Invitation of RFP	02 March 2022
2.	Last date for receiving queries	09 March 2022
3.	Pre-Bid meeting ¹	10 March 2022 @ 11:00 Hrs. IST
4.	Bid Due Date	23 March 2022, 17:00 Hrs. IST
5.	Due Date for physical submission of following documents at IHMCL office: - <ul style="list-style-type: none">• Document Fee• Power of Attorney (Original)	23 March 2022, 17:30 Hrs. IST
6.	Opening of Technical Bids	24 March 2022, 17:00 Hrs. IST
7.	Presentation of Approach and Methodology by bidders	To be intimated separately to technically qualified bidder
8.	Validity of bid	180 days from bid due date

¹ In case of a VC – Meeting details shall be sent to those email IDs from whom queries have been received by due date. Interested bidders may ask for meeting details one day prior to the pre-bid meeting.

5. CONDITIONS OF CONTRACT

5.1. Conditions of Contract

- 5.1.1. These Conditions shall supplement or amend the other parts of the Bidding Documents and whenever there is a conflict; provision herein shall prevail over those in the other parts of the Bidding Documents.

5.2. Governing Language

- 5.2.1. All correspondence and other documents to be exchanged by the parties shall be written in the English language. The version written in English language shall govern its interpretation.

5.3. Applicable Law

- 5.3.1. Appropriate laws as in force in Republic of India shall apply.

5.4. Interpretation

- 5.4.1. In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined.
- 5.4.2. The Bidders are expected to examine all terms and instructions included in the RFP Document. During preparation of the technical proposal, the bidders shall make their own assessment of staff to undertake the assignment.

5.5. Right to Amend Project Scope

- 5.5.1. IHMCL reserves the right to include new fee plazas in the scope of Successful bidder which shall be made operational by NHAI during the Project duration. IHMCL also reserves the right to reduce the number of the fee plazas up to 10% of the total number of fee plazas at the time of Contract Signing, without assigning any reason at any time during the Contract Period, and no compensation shall be paid to the Successful bidder on account of de-scoping of these fee plazas.
- 5.5.2. IHMCL, may at any time, at its sole discretion defer the implementation at certain fee plazas as per its requirements.

5.6. Payment Terms & Timelines

- 5.6.1. Payments will be made in Indian Rupees only.
- 5.6.2. Payment schedule for development phase
- i. The pay out of the software development cost ("Development Cost") shall be made as below :

Milestone #	Description	Timelines	Payment terms
Milestone 1	System Requirement Study	T + 1 month, where T – date of Contract Signing	5% of "Development Cost"

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Milestone 2	System Design Report	T + 1.5 months	5% of “Development Cost”
Milestone 3	Successful conduct of UAT at a toll plaza	T + 4 months	20% of “Development Cost”
Milestone 4	Successful Go-Live of the Software at one toll plaza	T + 5 months	20% of “Development Cost”
Milestone 5	Deployment of software at 100 toll plazas	T + 7 months	30% of “Development Cost”
Milestone 6	Handover of Source code, along with copy rights, IPR, etc. and related documentation of the Software	T + 8 months	20% of “Development Cost”

P.S - “Development Cost” shall mean the one-time cost of development of software as specified in the Financial Bid of the Bidder.

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5.6.3. Payments for Operation & Maintenance (O&M) after Go-Live

- a) The payment for deployment of software at toll plazas shall be made on a pro-rata basis on a monthly basis upon successful integration with ETC hardware deployed at the toll plaza.
- b) The Operation and Preventive maintenance cost of software shall be on a quarterly basis after deduction of applicable penalty, if any, as per SLA provision.

5.7. Prices

- 5.7.1. GST as applicable, which will be levied on the goods and services invoiced by the Successful bidder to IHMCL, will be reimbursed on actual basis.
- 5.7.2. IHMCL reserves the right to ask the Successful bidder to submit proof of payment against any of the taxes, duties, levies indicated.
- 5.7.3. All payments shall be made subject to adjustment of applicable damages.
- 5.7.4. No amount or cost shall be payable for holding discussion, as considered necessary by IHMCL, for any purpose with IHMCL's Officials at IHMCL's Head Office or elsewhere, prior, during or after the conduct of an assignment.
- 5.7.5. Quoted Value by the bidder shall be excluding GST and fixed for the entire Contract period.

5.8. Start of Assignment

- 5.8.1. Successful bidder shall commence development, deployment and integration of Common Tolling Software as the case may be from the date of signing of contract agreement or date of issuance of instruction for commencement notice issued by IHMCL.
- 5.8.2. The Successful bidder shall have sufficient teams to complete the assignment and submit the deliverables as per scope of work defined in RFP. Non-fulfillment of this requirement or delay in submission of reports would attract penalties.

5.9. Damages

- 5.9.1. As defined in Section 6 of this RFP.

5.10. Contract Period

- 5.10.1. The Contract Period for the Project shall be 44 months from date of signing of Contract Agreement, including 8 months of Development and Deployment period and 36 months of O&M
- 5.10.2. The period of Contract duration may be further extendable up to additional 24 months at the sole discretion of IHMCL on the same terms and conditions as defined in RFP.

5.11. Insurance

- 5.11.1. The Successful bidder shall effect and maintain at its own cost, during the Contract period, such insurances for such maximum sums as may be required under the Applicable Laws, and such insurances as may be necessary or prudent in accordance with Good Industry Practice to cover third party claims, theft, accidental damage, vandalism, fire, flood, and Force Majeure events.

5.12. Force Majeure

- 5.12.1. Neither party shall be responsible to the other for any delay or failure in performance of its obligations due to any occurrence of a Force Majeure event which is beyond the control of any of the Parties, including, but without limited to, fire, flood, explosion, acts of God or any governmental body, public disorder, riots, embargoes, or strikes, acts of military authority, epidemics, pandemics, strikes, lockouts or other labour disputes, insurrections, civil commotion, war, enemy actions.
- 5.12.2. If a Force Majeure arises, the Successful bidder shall promptly notify IHMCL in writing of such condition and the cause thereof. Unless otherwise directed by IHMCL, the Successful bidder shall continue to perform his obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event. The Parties shall be excused from performance of their respective obligations in whole or part as long as such Force Majeure event continues to prevent or delay such performance by the Parties. However, in case such Force Majeure event lasts for a continuous period of 60 days, either Party may terminate the Contract.

5.13. Indemnification

- 5.13.1. The Successful Bidder shall indemnify, defend, save and hold harmless, IHMCL, NHAI and MoRTH and their officers, employees, servants, and agents (hereinafter referred to as the "IHMCL Indemnified Persons") against any direct loss, damage, claims, cost and expense of whatever kind and nature (including without limitation, legal fees, claims and expenses incurred in connection with any suit, action or proceeding or any claim asserted, as such fees and expenses are incurred), joint or several, that arise out of or are based upon any order passed by any statutory authority including Courts, tribunals or other judicial/quasi-judicial authorities, on account of breach of the Successful Bidder's obligations under this Contract or any other related agreement or otherwise, any fraud or negligence attributable to the Successful bidder or its Agents under contract or tort or on any other ground whatsoever, all eventualities of theft, dacoity, robbery, etc., except to the extent that any such suits, proceedings, actions, demands and claims has arisen due to any breach or default of this Contract on the part of IHMCL Indemnified Persons.
- 5.13.2. The Successful Bidder shall indemnify IHMCL Indemnified Persons from all legal obligations in respect of professionals deployed by the Successful Bidder. IHMCL Indemnified Persons shall also stand absolved of any liability on account of death or injury sustained by the Successful Bidder's workmen, staff/employees during the performance of their work and also for any damages or compensation due to any dispute between the Successful Bidder and its workmen, staff/employees.

5.13.3. In addition to the aforesaid, the Successful bidder shall fully indemnify, hold harmless and defend IHMCL Indemnified Persons from and against any and all direct loss, damage, cost and expense of whatever kind and nature (including, without limitation, legal fees and other expenses incurred in connection with any suit, action or proceeding or any claim asserted, as such fees and expenses are incurred), joint or several, that arise out of, or are based upon any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other intellectual property, proprietary or confidentiality rights with respect to any materials, information, design or process used by the Successful Bidder or by its Agents in performing the Successful bidder's obligations or in any way incorporated in or related to this Contract. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, the Successful bidder shall make every reasonable effort, by giving a bond (of the type and value as required) or otherwise, to secure the revocation or suspension of the injunction or restraint order and continue to perform its obligations hereunder. If the Successful bidder is unable to secure such revocation within a reasonable time, it shall, at its own expense, and without impairing the Specifications and Standards, shall rectify such defaults and shall also be liable for damages to IHMCL for the corresponding loss during the interim period on this account.

5.13.4. The provisions of Clause 5.13 shall survive Termination.

5.13.5. The remedies provided under Clause 5.13 are not exclusive and shall not limit any rights or remedies that may otherwise be available to IHMCL Indemnified Persons at law or in equity.

5.14. Termination

5.14.1. **ON EXPIRY OF THE CONTRACT:** Subject to the condition mentioned under Clause 5.10, the Agreement shall be deemed to have been automatically terminated on the expiry of the Contract Period unless IHMCL has exercised its option to further renew the Contract Period in accordance with the provisions, if any, of the Contract.

5.14.2. **ON ACCOUNT OF FORCE MAJEURE:** Either Party shall have the right to terminate the Contract on account of Force Majeure, as set forth in Clause 5.12.

5.14.3. **ON BREACH OF CONTRACT:** IHMCL may terminate the Contract if the Successful bidder causes a **Fundamental Breach** of the Contract. **Fundamental Breach** of Contract includes, but shall not be limited to, the following:

- a) The Successful bidder fails to carry out any obligation under the Contract.
- b) The Successful bidder submits the IHMCL a statement which has a material effect on the rights, obligations, or interests of the IHMCL and which the Successful Bidder knows to be false.
- c) The Successful bidder without reasonable excuse fails to commence the work in accordance with relevant clauses.
- d) Has failed to furnish the required securities or extension thereof in terms of the Contract.
- e) The Successful bidder stops work and the stoppage has not been authorized by IHMCL;

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- f) The Successful bidder at any time during the term of the Contract becomes insolvent or winds up its business or makes a voluntary assignment of its assets for the benefit of its creditors.
- g) If the Successful bidder, in the judgment of the Employer, has engaged in the corrupt or fraudulent practice in competing for or in executing the Contract.
- h) Repeated occurrence of any SLA parameter as mentioned in Section 6 of this RFP.
- i) Notwithstanding anything stated in this Agreement, in the event that any of the defaults ("Fundamental Breach") specified below shall have occurred, IHMCL shall provide 30 days' notice period to the Successful Bidder [hereinafter referred to as "Cure Period Notice").
- j) If the Successful Bidder fails to cure the default within the Cure Period, the Successful Bidder shall be deemed to be in default of this Agreement [the "Successful Bidder's Default"), unless the default has occurred solely as due to Force Majeure or for reasons not attributable to the Successful Bidder. The Cure Period under this Clause shall be calculated from the date of issuance of the notice to the Successful Bidder or when the default comes into the knowledge of the Service Provider, whichever is earlier.

5.14.4. The Successful bidder sub-contracts any assignment under this Agreement without written approval of IHMCL.

5.14.5. Any other fundamental breaches as specified in the RFP.

5.14.6. Notwithstanding the above, IHMCL may terminate the Contract in its sole discretion by giving 30 days prior notice without assigning any reason. In the event of such a termination, compensation to the successful bidder shall be calculated based on the Termination Payment clause.

5.14.7. Upon Termination (except on account of expiry of Term of this Agreement, Force Majeure or under clause 5.14.6 above), IHMCL shall be entitled at the sole discretion to:

- a) appropriate the entire Performance Security or part thereof as Damages; and
- b) Debar/Blacklist the Successful bidder from participating in any other project/assignment/work of IHMCL for a period as determined by IHMCL in its sole discretion.

5.14.8. Without prejudice to any other rights or remedies which IHMCL may have under this Agreement, upon occurrence of Successful bidder's Default, IHMCL shall be entitled to terminate this Agreement by issuing a Termination Notice to the Successful bidder; provided that before issuing the Termination Notice, the IHMCL shall by a notice inform the Successful bidder of its intention to issue such Termination Notice and grant 15 (fifteen) days to the Successful bidder to make a representation, and may after the expiry of such 15 (fifteen) days, whether or not it is in receipt of such representation, issue the Termination Notice.

5.15. Appropriation of Performance Security

5.15.1. Upon failure of the Successful bidder to commence the services, for any reason whatsoever, within the period set forth in this Contract or the extended period thereunder, IHMCL shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to levy Damages as per Clause 5.9 hereinabove.

5.15.2. IHMCL shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to encash and appropriate the relevant amounts from the Performance Security as Damages or any other amounts payable to IHMCL under this Contract as and when such Damages or other amounts become due and payable. Upon such encashment and appropriation from the Performance Security, the Successful bidder shall, within 10 days thereof, replenish, in case of partial appropriation, to its original level of the amount guaranteed under the Performance Security, and in case of appropriation of the entire Performance Security, provide a fresh Performance Security, as the case may be failing which IHMCL shall be entitled to terminate this Agreement in accordance with clause 5.14 hereof.

5.16. Change Control Note (CCN)

5.16.1. This applies to and describes the procedure to be followed in the event of any proposed change to contract, site Implementation, and Service levels. Such change shall include, but shall not be limited to, changes in the scope of services provided by Successful bidder and changes to the terms of payment.

5.16.2. Change requests in respect of the contract, the site implementation, or the Service levels shall emanate from the Parties' representative who shall be responsible for obtaining approval for the change and who shall act as its sponsor throughout the Change Control Process and shall complete Part A of the CCN (Annexure 18). CCNs shall be presented to the other Party's representative who shall acknowledge receipt by signature of the authorized representative of the Purchaser.

5.16.3. Successful bidder and Authority while preparing the CCN, shall consider the change in the context of whether the change is beyond the scope of Services including ancillary and concomitant services required

5.16.4. The CCN shall be applicable for the items which are beyond the stated/implied scope of work as per the RFP document.

5.17. Insurance

5.17.1. Insurance during the Contract Period

The Successful bidder shall, at its cost and expense, purchase and maintain during the Contract Period, such insurances as are necessary for the work including but not limited to the following:

- (a) Successful bidder's all risk insurance with IHMCL as co-beneficiary;
- (b) Comprehensive third party liability insurance with the IHMCL as co-beneficiary;
- (c) Workmen's compensation insurance with the IHMCL as co-beneficiary;
- (d) Any other insurance that may be necessary to protect the Successful bidder, its employees and the Project against loss, damage or destruction at replacement value including all Force Majeure Events that are insurable and not otherwise covered in items (a) to (d) with IHMCL as beneficiary/co-beneficiary;

5.17.2. Evidence of Insurance Cover

- (a) The Successful bidder shall, from time to time, provide to IHMCL copies of all insurance policies (or appropriate endorsements, certifications or other satisfactory evidence of insurance) obtained by it in accordance with Contract Agreement.
- (b) If Successful bidder shall fail to effect and keep in force the insurance for which it is responsible pursuant hereto, IHMCL shall have the option to take or keep in force any such insurance, and pay such premium and recover all costs thereof from Service Provider or to forfeit deposit/ Performance guarantee from the Successful bidder and pay or restoration for the same.

5.17.3. Application of Insurance Proceeds

- (a) All moneys received under insurance policies shall be promptly applied by the Successful bidder towards repair or renovation or restoration or substitution of the Project or any hardware/equipment/device thereof which may have been damaged or required repair/modification.
- (b) The Successful bidder shall carry out such repair or renovation or restoration or substitution to the extent possible in such manner that the Project, or any part thereof, shall, after such repair or renovation or restoration or substitution be as far as possible in the same condition as they were before such damage or destruction, normal wear and tear excepted.
- (c) For insurance policies where IHMCL is the beneficiary and where it received the insurance proceeds, only such sums are required from the insurance proceeds for restoration, repair and renovation of the Project.

5.17.4. Validity of Insurance Cover

The Successful bidder shall pay the premium payable on such insurance Policy/Policies so as to keep the insurance in force and valid throughout the Contract Period and furnish copies of the same to IHMCL for each year/policy period. If at any time the Successful bidder fails to purchase, renew and maintain in full force and effect, any and all of the Insurances required under the Contract Agreement, IHMCL may at its option purchase and maintain such insurance and all sums incurred by IHMCL therefore shall be reimbursed by the Successful bidder forthwith on demand, failing which the same shall be recovered by IHMCL by encashment of Performance Security, exercising right of set off or otherwise.

5.18. Miscellaneous

5.18.1. Standard of Performance

The Successful bidder shall undertake to perform the services with the highest standards of professional and ethical competence and integrity which are, amongst others, ESSENCE of this assignment. Keeping in view the sensitivity involved in such assignments, the personnel deployed should maintain confidentiality/integrity at all times and should work in a professional manner to protect the interest of IHMCL. The firm shall promptly replace any personnel deployed under this contract that IHMCL considered unsatisfactory.

5.18.2. Representations and Warranties of the Parties

- a) The Parties represents and warrants to the each other that:

- i. it is duly organized and validly existing under the applicable laws, and has full power and authority to execute and perform its obligations under this Contract and to carry out the Scope of Work/transactions contemplated herein this Contract and nothing material has been concealed by the Successful bidder;
- ii. it has taken all necessary corporate and other actions under applicable laws to authorize the execution and delivery of this Contract and to validly exercise its rights and perform its obligations under this Contract;
- iii. this Contract constitutes its legal, valid and binding obligation, enforceable against it in accordance with the terms hereof, and its obligations under this Contract will be legally valid, binding and enforceable obligations against it in accordance with the terms hereof;
- iv. the information furnished in the Bid and as updated on or before the date of this Contract is true and accurate in all respects as on the date of this Contract;
- v. the execution, delivery and performance of this Contract will not conflict with, result in the breach of, constitute a default under, or accelerate performance required by any of the terms of its Memorandum and Articles of Association [or those of any member of the Consortium] or any Applicable Laws or any covenant, contract, agreement, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
- vi. there are no actions, suits, proceedings, or investigations pending or, to its knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the breach of this Contract or which individually or in the aggregate may result in any material impairment of its ability to perform any of its obligations under this Contract;

5.18.3. Waiver of immunity

a) Each Party unconditionally and irrevocably:

- i. agrees that the execution, delivery and performance by it of this Contract constitute commercial acts done and performed for commercial purpose;
- ii. agrees that, should any proceedings be brought against it or its assets, property or revenues in any jurisdiction in relation to this Contract or any transaction contemplated by this Contract, no immunity (whether by reason of sovereignty or otherwise) from such proceedings shall be claimed by or on behalf of the Party with respect to its assets;)
- iii. waives any right of immunity which it or its assets, property or revenues now has, may acquire in the future or which may be attributed to it in any jurisdiction; and
- iv. consents generally in respect of the enforcement of any judgment or award against it in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such proceedings (including the making, enforcement or execution against it or in respect of any assets, property or revenues whatsoever irrespective of their use or intended use of any order or judgment that may be made or given in connection therewith).

5.18.4. Waiver

- a) Waiver, including partial or conditional waiver, by either Party of any default by the other Party in the observance and performance of any provision of or obligations under this Contract:
 - i. shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Contract;
 - ii. shall not be effective unless it is in writing and executed by a duly authorized representative of the Party; and
 - iii. shall not affect the validity or enforceability of this Contract in any manner.
- b) Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Contract or any obligation there under nor time or other indulgence granted by a Party to the other Party shall be treated or deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.

5.18.5. Liability for review of Documents

- a) Except to the extent expressly provided in this Contract:
 - i. no review, comment or approval by IHMCL, any document submitted by the Successful bidder nor any observation or inspection of the Services performed by the Successful bidder nor the failure to review, approve, comment, observe or inspect hereunder shall relieve or absolve the Successful bidder from its obligations, duties and liabilities under this Contract, the Applicable Laws and applicable permits; and
 - ii. IHMCL shall not be liable to the Successful bidder by reason of any review, comment, approval, observation or inspection referred to in Sub-clause (a) above.

5.18.6. Exclusion of implied warranties etc.

5.18.7. This Contract expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other agreement between the Parties or any representation by either Party not contained in a binding legal agreement executed by both Parties.

5.18.8. Survival

- a) Termination shall:
 - i. not relieve the Successful bidder or IHMCL, as the case may be, of any obligations hereunder which expressly or by implication survive Termination hereof; and
 - ii. except as otherwise provided in any provision of this Contract expressly limiting the liability of either Party, not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of or caused by acts or omissions of such Party prior to the effectiveness of such Termination or arising out of such Termination.
- b) All obligations surviving Termination shall only survive for a period of 3 (three) years following the date of such Termination.

5.18.9. Entire Agreement

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This Contract, the RFP and the Sections hereto together constitute a complete and exclusive statement of the terms of the agreement between the Parties on the subject hereof and no amendment or modification hereto shall be valid and effective unless such modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings, offers or other communications of every kind pertaining to this Contract are abrogated and withdrawn. For the avoidance of doubt, the Parties hereto agree that any obligations of the Successful bidder arising from the Request for Proposals shall be deemed to form part of this Contract and treated as such.

5.18.10. Severability

If for any reason whatever any provision of this Contract is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to the Dispute Resolution Procedure set forth under this Contract or otherwise.

5.18.11. No partnership

This Contract shall not be interpreted or construed to create an association, joint venture or partnership between the Parties, or to impose any partnership obligation or liability upon either Party and neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

5.18.12. Third parties

This Contract is intended solely for the benefit of the Parties and their respective successors and permitted assigns and nothing in this Contract shall be construed to create any duty to, standard of care with reference to, or any liability to, any person not a Party to this Contract.

5.18.13. Successors and assigns

This Contract shall be binding upon and inure to the benefit of the Parties and their respective successors and permitted assigns.

5.18.14. Dispute resolution procedure

- i. Any dispute, difference or controversy of whatever nature howsoever arising under or out of or in relation to this Agreement (including its interpretation) between the Parties, and so notified in writing by either Party to the other Party (the “**Dispute**”) shall, in the first instance, be attempted to be resolved amicably.

- ii. The Parties agree to use their best efforts for resolving all Disputes arising under or in respect of this Agreement promptly, equitably and in good faith. In the first instance, the Dispute shall be referred to the Chairman of the IHMCL and the Chairman of the Board of Directors (or equivalent) of the Successful Bidder or their nominees for amicable settlement, and upon such reference, the said persons shall meet no later than 7 (seven) business days from the date of reference to discuss and attempt to amicably resolve the Dispute. If such meeting does not take place within the 7 (seven) business day period or the Dispute is not amicably settled within 15 (fifteen) days of the meeting or such longer period as may be mutually agreed by the Parties, either Party may refer the Dispute to arbitration.
- iii. Any Dispute which is not resolved amicably shall be finally settled by arbitration to be conducted in accordance with the rules of arbitration of the Society For Affordable Redressal Of Disputes (SAROD).
- iv. The venue of such arbitration shall be Delhi.
- v. The rights and obligations of the Parties shall remain in full force and effect, pending the Award in any arbitration proceedings hereunder. The parties unconditionally acknowledge and agree that notwithstanding any dispute between them, each Party shall proceed with the performance of its respective obligations, pending resolution of Dispute in accordance with the procedure agreed herein.

5.18.15. Compensation for Breach

a) Compensation for default by the Successful Bidder

- i. In the event of the Successful Bidder being in breach of this Contract, unless such default or delay is on account of Force Majeure, the Selected Bidder shall pay to IHMCL, by way of compensation, all direct costs suffered or incurred by the IHMCL as a consequence of such breach, within 30 days of receipt of the demand from the IHMCL.
- ii. Without limiting generality of the Clause 5.16.17 (i), the Successful Bidder shall pay to IHMCL by way of compensation, all direct costs suffered or incurred by IHMCL incurred as a result of any and all losses, claims, damages and liabilities (including, without limitation, legal fees and other expenses incurred in connection with any suit, action or proceeding or any claim asserted, as such fees and expenses are incurred), joint or several, that arise out of , or based upon:
 - a) any untrue statement or misrepresentation of a material fact provided by the Successful Bidder or an omission to state a material fact required to be communicated.
 - b) any non-performance or breach of the roles, responsibilities, representations, warranties, undertakings, and declarations contained herein by the Successful Bidder or its directors, employees, personnel or representatives, as the case may be.
 - c) Negligence, fraud or misconduct of the Successful Bidder or any of its employees, agents, affiliates or advisors.

5.18.16. Limitation of Liability

The Successful Bidder's liability under this Contract shall be determined as per Applicable law. The Successful Bidder shall be liable to IHMCL for loss or damage occurred or caused or likely to occur on account of any act of omission on the part of the Successful Bidder its affiliates, subsidiaries, stockholders, subcontractors, suppliers, directors, officers, employees, assigns and agents, including loss caused to IHMCL on account of defect in goods or deficiency in services on the part of Successful Bidder or his agents or any person / persons claiming through or under said Successful Bidder.

Notwithstanding anything stated herein above, the liability for Successful bidder shall NOT exceed ten times the value of Performance Bank Guarantee amount.

This limitation of liability shall not affect Successful bidder's liability, if any, for direct loss or damage to Third Parties caused by Successful bidder or any person or company acting on behalf of Successful bidder in carrying out the Services. The Successful bidder is advised to take necessary measures, such as insurance, etc. to cover any direct loss or damages to third party impacted by the services of Successful bidder.

5.18.17. Intellectual Property Rights

All Intellectual Property of the respective Parties shall continue to vest with the respective Party and one Party may make use of the Intellectual Property only with the express consent of the other Party. However, it shall be agreed and acknowledged by the Successful bidder that intellectual property rights in the Proprietary Information as well as any other data or information/ reports generated during the performance of services as set out in this RFP by the Successful bidder shall always vest with IHMCL and Successful bidder will not have any right in such IPR whatsoever.

All products and related solutions and fixes provided pursuant to the Agreement shall be licensed according to the terms of the license agreement packaged with or otherwise applicable to such product, the ownership of which shall continue to vest with the product owner. Implementation Agency would be responsible for arranging any licenses associated with products.

"Product" shall mean any computer code, web-based services, or materials comprising commercially released, pre-release or beta products (whether licensed for a fee or no charge) and any derivatives of the foregoing which are made available to Purchaser for license which is published by product owner or its affiliates, or a third party. "Fixes" means product fixes that are either released generally (such as commercial product service packs) or that are provided to you when performing services (such as workarounds, patches, bug fixes, beta fixes and beta builds) and any derivatives of the foregoing.

5.18.18. Notices

- a) Any notice or other communication to be given by any Party to the other Party under or in connection with the matters contemplated by this Contract shall be in writing and shall:

- i. in the case of the Successful bidder, be given by facsimile or e-mail and by letter delivered by hand to the address given and marked for attention of the person set out below or to such other person as the Successful bidder may from time to time designate by notice to IHMCL; provided that notices or other communications to be given to an address outside Delhi may, if they are subsequently confirmed by sending a copy thereof by registered acknowledgement due, air mail or by courier, be sent by facsimile or e-mail to the number as the Successful bidder may from time to time designate by notice to IHMCL;
- ii. in the case of IHMCL, be given by facsimile or e-mail and by letter delivered by hand and be addressed to the [•] of IHMCL with a copy delivered to IHMCL Representative or such other person as IHMCL may from time to time designate by notice to the Successful bidder; provided that if the Successful bidder does not have an office in Delhi it may send such notice by facsimile or e-mail and by registered acknowledgement due, air mail or by courier; and
- iii. any notice or communication by a Party to the other Party given in accordance herewith shall be deemed to have been delivered when in the normal course of post it ought to have been delivered and in all other cases, it shall be deemed to have been delivered on the actual date and time of delivery; provided that in the case of facsimile or e-mail, it shall be deemed to have been delivered on the working day following the date of its delivery

5.18.19. Sub-Contracting

The Successful bidder shall not sub-contract any assignment to a third party.

5.18.20. Confidentiality of the Assignment/Findings

The Successful Bidder shall not, during the term of assignment and within two years after its expiration, disclose any propriety or confidential information relating to the services, this assignment or IHMCL's business or operations without prior written consent of IHMCL.

5.18.21. Modification

Modification of the terms and conditions of this Contract, including any modification of the scope of the Services, may only be made by written agreement between the Parties as the case may be, has been obtained.

5.18.22. Language

All notices required to be given by one Party to the other Party and all other communications, Documentation and proceedings which are in any way relevant to this Contract shall be in writing and in English language.

6. Scope of Work

6.1. Project Background

- 6.1.1. During 2014, the first phase of the Phase I of Nation-wide Electronic Toll Collection (NETC) Program was launched in order to enable RFID based toll collection to ease traffic at toll plazas. A reputed scheduled commercial bank was commissioned to operate approximately 340 toll plazas across different stretches of National Highways. However, to offer a more diverse system and the freedom to users and toll operators to choose their banks, in the second phase, a newer Multiple-Issuer-Multiple-Acquirer model was adopted in December, 2016. The National Payments Corporation of India (NPCI) functions as the clearing house for the transactions. A total of 28 banks are authorized to issue the RFID enabled tags, called FASTags, while 12 banks are authorized to work as 'acquirer banks', which partner with toll operators to collect and reconcile toll collected for further clearance at NPCI and onward payments to the highway developers/ NHAI as the case may be.
- 6.1.2. In July 2019, Government of India mandated the adoption of FASTag on all lanes at toll plazas as a valid form of tendering toll w.e.f. 01 December 2019. Toll collection via FASTag has grown significantly, with a daily collection of nearly Rs. 108 crores in February 2021. With effect from 16 February 2021, the use of FASTag has been made mandatory for all vehicles passing a toll plaza for National Highways. Failure to use a FASTag entails a penal levy of 100 per cent, as in the errant vehicle must pay 200 per cent of the toll amount ordinarily valid in order to pass.
- 6.1.3. As part of the operating and maintaining a toll based highway, NHAI or the concessionaire (in case of a concession) is expected to install appropriate equipment for levy and collection of toll at toll plazas. Traditionally, this has comprised of a toll operator who physically charges the passing vehicle, collects toll and raises the barrier for the vehicle to pass. With the advent of FASTag, while the position of a toll operator has not been abolished, but the system can generally operate unattended. However, a significant trail of evidence as regards the kind of vehicle that passed, the toll levied, exceptions (FASTag being inoperative, having insufficient balance, being tagged to the incorrect class of vehicles) also needs being collected and preserved to reconcile the number and types of vehicles to the toll collected. This entire system comprising of hardware and software is managed by a system integrator, and has largely been proprietary in nature, resulting in a myriad set of systems in use across the country.
- 6.1.4. Over a period of time, allegations of underreporting of toll collected have been levelled – notably (i) tampering of data on vehicles collected prior to reconciliation at the level of the ETC, (ii) toll being collected bypassing the ETC. While these have ever been substantiated, the need for a common tolling software across all plazas has been repeatedly underscored. Initially, it was envisaged to provide a centralized database driven solution by which toll collection data would feed into a centralized server. However, with the vagaries of data connectivity at different places where toll plazas are situated, a decision has been taken to deploy a distributed ledger-based

system, wherein every toll operator owns and operates a part of the distributed ledger but is unable to unilaterally alter any data in the system once it is entered.

- 6.1.5. The instant Terms of Reference pertain to the development and deployment of such a software across designated toll plazas, to be incrementally rolled out till all the toll plazas involved in the NETC programme are covered.

6.2. Scope Overview

This section captures the functional requirements of the proposed CTS (“System”) to be deployed by service provider across designated Toll Plazas. The general obligations of the service provider are to:

- Develop the software solution
- Deploy it on designated toll plazas on all toll collection terminals
- Train operators on its use
- Ensure that the data being generated from each local toll plaza is secure; each toll plaza essentially works as a distributed ledger (data is stored locally, but linked as part of the larger distributed ledger alongside other local storages at toll plazas)
- Periodically conduct audits of the system (during the deployment phase) so as to check if the data entering the ledger has been compromised, or if passage and tolling of vehicles is being done outside the system.
- Take corrective steps to ensure that leakages of revenue does not happen through the software;
- Apprise IHMCL on any practices outside the operations of software that may cause revenue leakages, if any.
- Integrate software with the other software/application of NHAI/IHMCL or any other agency recommended by NHAI/IHMCL viz. TMCC.

Upon commencement, the service provider shall complete the development of the software solution (ready for deployment phase, as in primary user acceptance test, basic security audit & debugging completed and fitment to common sets of hardware found at toll plazas) within nine months of commencement.

For the next fifteen months, the service provider shall roll out the solution to designated toll plazas (as identified by NHAI and/or IHMCL).

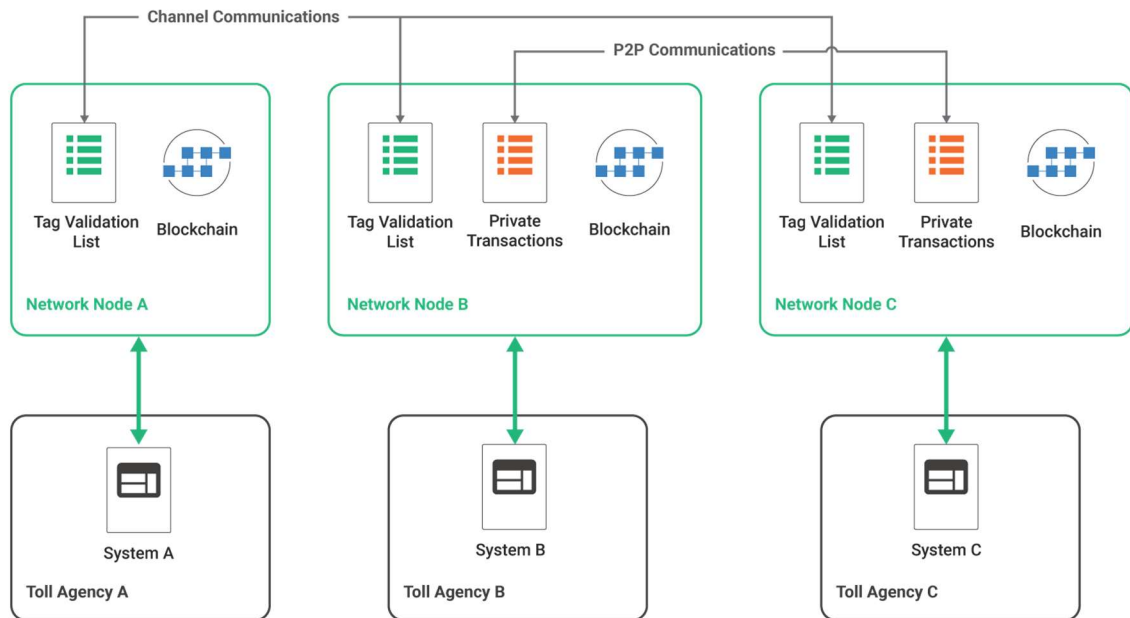
Thereafter, for a period of three years, the service provider shall provide oversight services. Every quarter, the service provider shall scrutinize, along with NHAI and/or IHMCL staff, a select number of random toll plazas where the solution is deployed to ensure that the system is feeding correctly and accurately into the distributed ledger, and that data is not being tampered once it enters the ledger. Furthermore, such scrutiny will also examine:

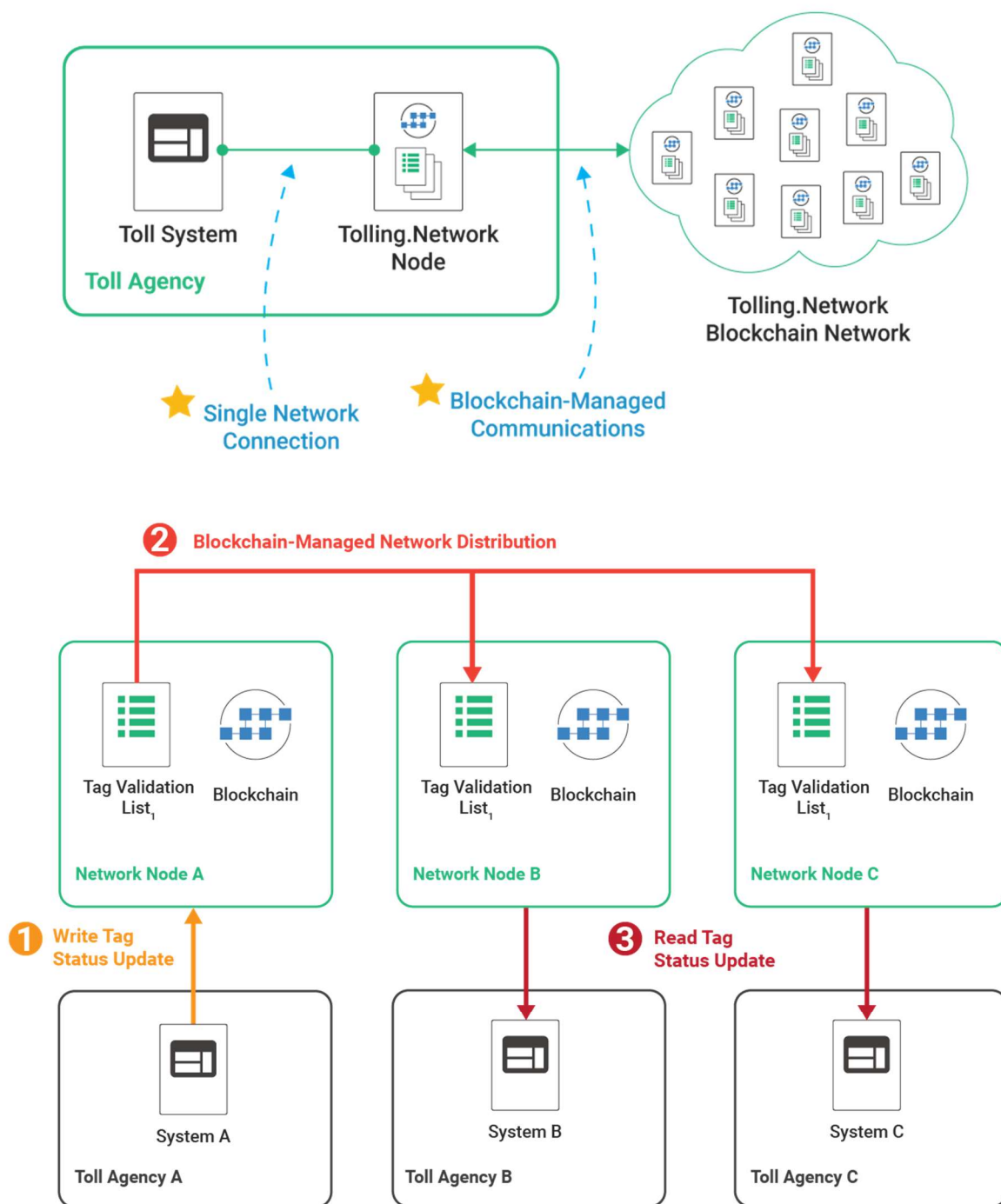
- (i) Instances of failure of the software to interact with the hardware
- (ii) Instances where the toll operator(s) are bypassing the system to collect toll

6.3. Envisaged features of the Common tolling Software

CTS is a software package for Toll collection and management which would serve as a backbone to integrate various technologies that exist currently or are intended to be rolled out during the duration of the Project. For example, the software would have features to support Near Field Communication (NFC) cards, GNSS based tolling, etc. when they are offered to the public.

- a. The CTS should be compliant with Interface Control Document release 2.5 or latest as made available by IHMCL and is expected to utilize a distributed ledger system such as Blockchain. In this instance, each instance of a vehicle entering a toll lane, paying toll and exiting the same, will be treated as a transaction.
- b. Within each transaction, each of the bits of information generated by the combination of hardware (e.g., induction loop, weigh-in-motion bridge, automatic number plate reading camera, automatic vehicle classifier etc.) and software will be treated as a 'block', and each set of readouts treated as a separate ledger. Examples below:

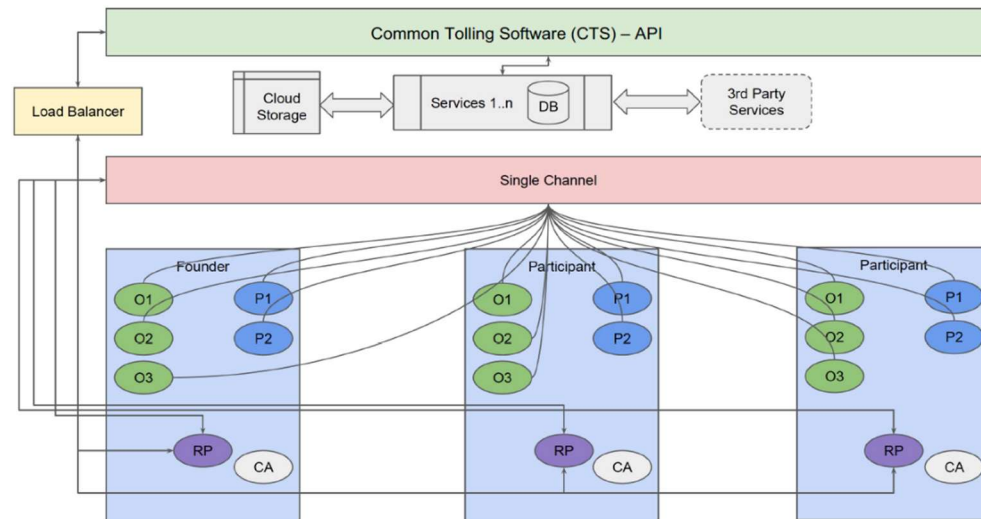




- c. Transaction data will be recorded by each toll operator on a cloud-based solution, which will also be treated as a block. The specifications of the cloud-based solution is specified in relevant section of this RFP. The cloud-based solution and its data integrity shall be the responsibility of the toll operator. The data will be stored in the Cloud Based solution and relayed from that Cloud based solution to a designated server provisioned by IHMCL and/or

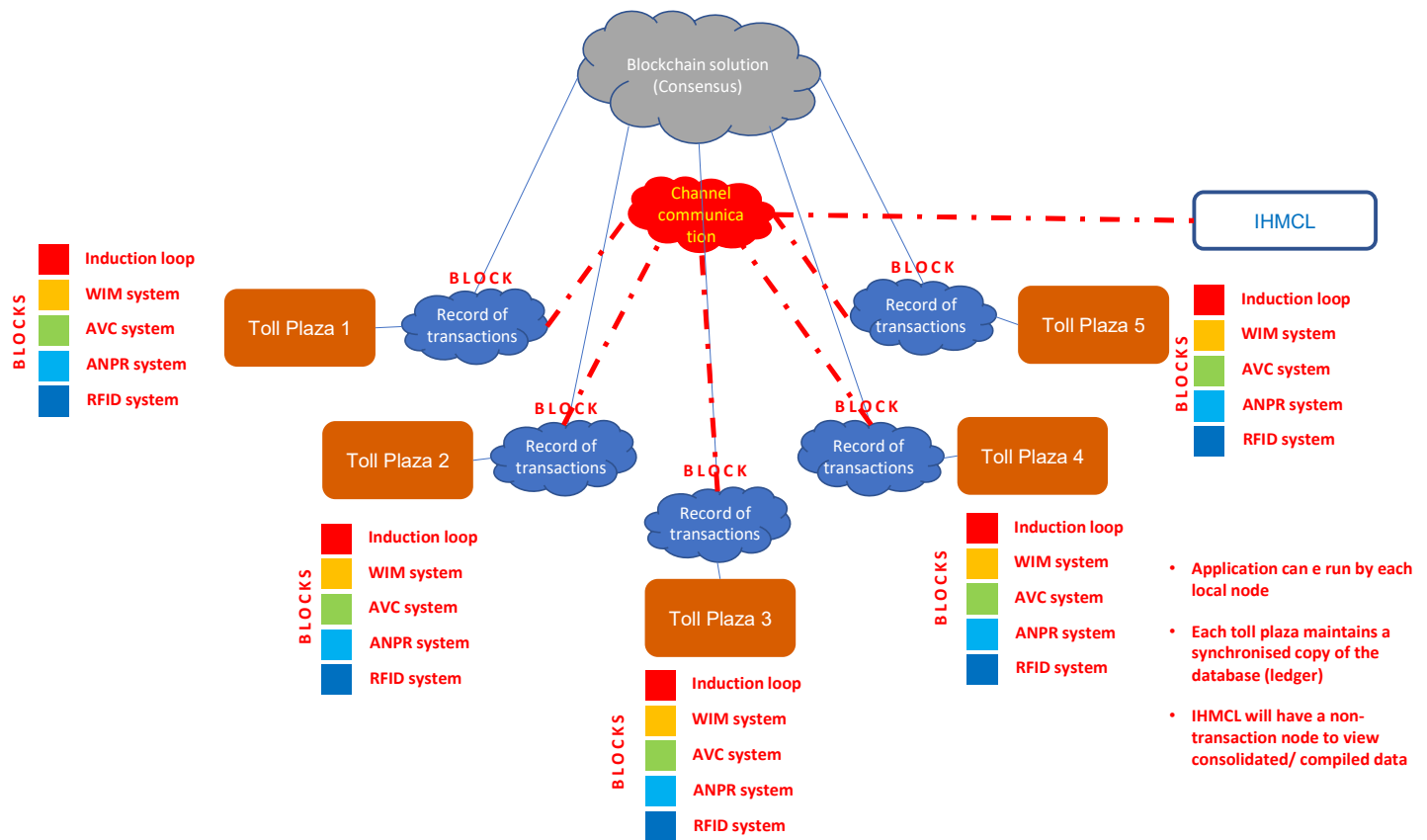
NHAI along with details of transaction as block on the distributed ledger nodes. Core infrastructure architecture is as mentioned below:

Core Infrastructure Architecture



- d. The data will be relayed from that Cloud based solution to a designated server provisioned by IHMCL and/or National Highways Authority of India (NHAI) – which will be the final block in the blockchain.
- e. The said solution would be a privately distributed ledger with controlled policing by the regional offices of NHAI and IHMCL.
- f. The data needs to be hosted on secured NIC server. The CTS vendor shall be required to estimate the space requirement as per information provided in RFP. All the associated cost for procurement of cloud space shall be borne by IHMCL/NHAI.
- g. NHAI/IHMCL shall facilitate the CTS vendor for support required to get cloud space on NIC server. However, the CTS vendor shall be responsible for maintaining the cloud space and backup services. The CTS vendor shall liaison with the cloud service provider appointed by IHMCL or NIC team for all kind of cloud hosting services. The CTS vendor will administer the cloud services so that the Common Tolling Software remains operational.
- h. The CTS vendor shall be responsible for provisioning the underlying system software and bandwidth for deployment/migration, and hosting of the applications. While the minimum required compute, storage is provided in the RFP, it is expected that compute, storage, and bandwidth requirements may be auto-scaled (additional capacity based on the demand and auto-scaling rules) over the period of the contract. The application must be architected and designed to leverage the cloud characteristics such as rapid elasticity and handle transient and hardware failures without downtime.
- i. A schematic of the data flow is as follows:

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j. During Operation and Maintenance Phase

- Ensure the availability of the software in excess of 99.95 per cent (service level for uptime) with redundancies and mirror sites, as may be needed to ensure adherence to the same.
- Ensure smooth operations of the system including supporting toll operators and IHMCL in terms of (i) training and post training handholding for appropriate and correct use of the software, (ii) resolution of operating issues, if any, including interfaces with toll plaza hardware, but excluding any work related to repair, replacement or maintenance of toll plaza hardware
- Provide regular system readouts of system performance, issues related to errant toll plazas which are unable to utilize the platform for any reason (poor connectivity, faulty hardware or hardware interface etc.), record of transactions recorded through the system (excluding accounting thereof), regular performance checks with the software and different forms of optimal hardware – so as to ensure that algorithms for processes such as automated vehicle classification, number plate reading & tag identification are working appropriately.
- Update the software regularly for bugs or other infirmities, if any, at periodic intervals, including the organization of an annual or semi-annual security audit to ensure that the system data cannot be edited without authorization.
- Provide support in management, operations and/or financial audit functions such as tallying between number and type of vehicles recorded as per the system and its hardware, and

actual toll collected. Typically, this will be limited to the performance of the software with regards to its ability to accurately count and classify vehicles using the appropriate compliment of hardware. It is clarified that toll data, viz. toll collected, number and nature of vehicles, routes and any other statistical data will typically not vest with the vendor, but in the cloud solution provisioned by IHMCL and/or NHAI.

- f. Compliance process to the defined international standards and security guidelines such as ISO 27001, ISO 20000:1, for maintaining operations of cloud and ensuring privacy of IHMCL data.
- g. Ensuring Uptime and utilization of the cloud resources as per SLA's defined in this RFP.
- h. In the event of a disaster at DC site, activation of services from the DR site is the responsibility of Bidder. The CTS vendor shall develop appropriate policy, checklists in line with ISO 27001 & ISO 20000 framework for failover. The CTS vendor needs to ensure that the data is replicated as per latest guideline provided by MEITY in case of failure, CTS vendor should be able to restore the complete system in another data center.
- i. The CTS vendor shall conduct vulnerability and penetration test (from a third-party testing agency which may be CERT-IN empaneled) on the Cloud facility every year and reports should be shared with IHMCL. The CTS vendor needs to update the system in response to any adverse findings in the report, without any additional cost to IHMCL.
- j. Upgrades - Any required version/Software /Hardware upgrades, patch management etc. at the Cloud Site will be supported by the CTS vendor for the entire contract period at no extra cost to IHMCL.
- k. The CTS vendor will be responsible for adequately sizing the necessary compute, memory, and storage required, building the redundancy into the architecture (including storage) and load balancing to meet the service levels mentioned in the RFP. While the initial sizing & provisioning of the underlying infrastructure (including the system software and bandwidth) may be carried out for the first year; subsequently, it is expected that the CTS vendor, based on the growth in the user load (peak and non-peak periods; year-on-year increase), will scale up or scale down the compute, memory, storage, and bandwidth requirements to support the scalability and performance requirements of the solution and meet the SLAs.

The further sections capture the expected requirements of the System from the perspective of all stakeholders – Public, Financial Institutions, Operators, IHMCL/NHAI, and other Government Agencies. The section consists of following components:

- a) “General System Requirements”, captures general expectation from the System from a design, performance and features perspective.
- b) “Finance and Accounts Module”, captures details of fare calculation at the toll plaza. It shall also have provisions to calculate additional charges that may be levied at a vehicle for over-speeding, overload, etc. The module shall also have features related to accounts reconciliation and support refunds related requirements.
- c) “Integration Module”, provides details regarding integration with various internal and external systems required within The System.

- d) “Employee Module”, captures various details available to employee regarding application processing and reports generation.
- e) “Maintenance Module”, highlights details regarding system configuration and metadata updates that shall be available to system administrators, or to other authorized users.

A key System requirement is to ensure integration with all lane level equipment as captured in the following diagram, and simultaneously generate and present detailed and consolidated information on the Toll Management System performance including issues at the lane / plaza / zone / regional and national level.

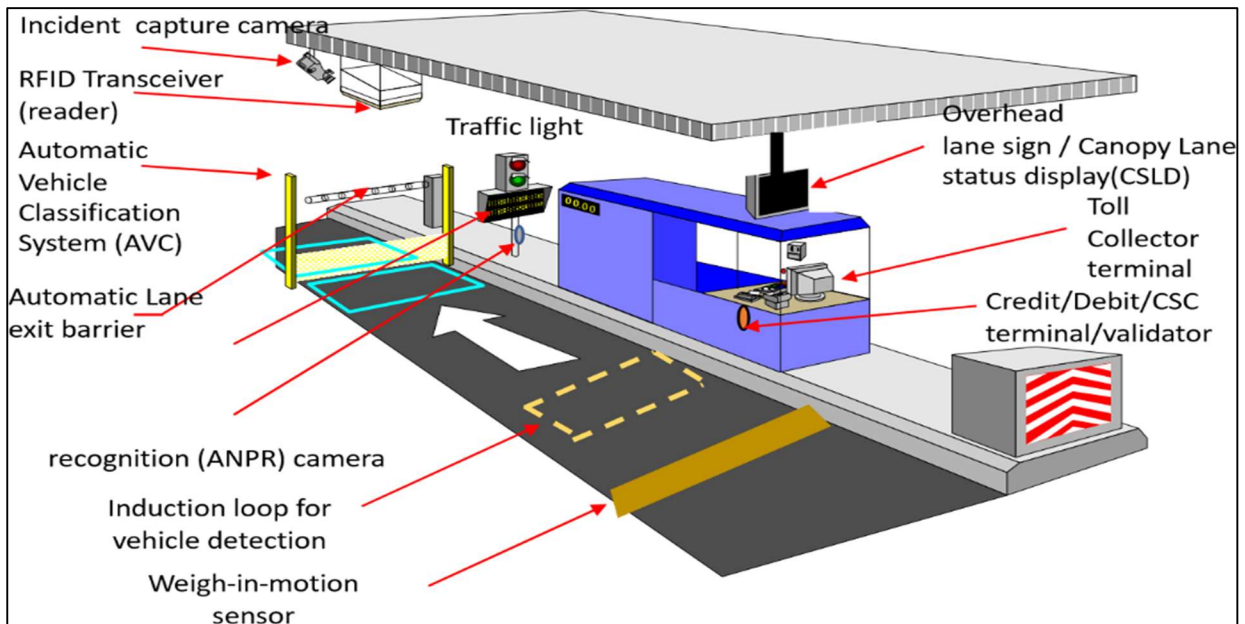


Figure 1: Various Plaza equipment

The System is also required to ensure a minimum throughput for the vehicles as per the following table:

S.no	Method of Payment	Target vehicle throughput in a toll lane
1	FASTag	1200 vehicles per hour
2	Cash	240 vehicles per hour
3	Smart card (T&G)	600 vehicles per hour
4	Validation	600 vehicles per hour

6.4. Detailed Scope of Work

- a) The CTS vendor shall be required to gather all the information about all interfaces from the existing hardware equipment, applications, Interaction mechanism and protocol, type of data exchanged, frequency of data exchange, size of data to exchange etc.
- b) CTS vendor shall be required to carry out at least one integration testing at toll plaza along with the System Integrator engaged at a toll plaza. The CTS vendor shall thereafter document the entire integration and testing process.
- c) Manpower Deployment during Contract period – The CTS vendor shall depute a full-time dedicated resource onsite who shall ensure project co-ordination and ensure adherence to the required SLAs for smooth execution of project. The minimum qualification & experience required is BE / B. Tech with minimum 5 years of experience, having experience of at least one project in software design and development.
- d) Operation & maintenance – The CTS vendor shall provide support for rectification of all the issues, bugs etc. and ensure meeting the system uptime as per timeline mentioned in the different section of this RFP during entire operation and maintenance period.
- e) The CTS vendor shall ensure to transfer all source-codes, server configurations, passwords, admin rights and other relevant essential details for O&M of the CTS Software at the end of the O&M period or as and when demanded by IHMCL.
- f) Project Handover – The CTS vendor shall provide proper transfer of technology and all other information (including but not limited to documents, records and agreements) relating to the products & services and carry out project hand-over of the system at the end of contractual period.

6.4.1. System Flow

The System should have the capability to handle both electronic and manual toll collection at the toll booths under the scope of the project. For cash transactions, the system should allow the POS operator to enter vehicle details, classification, collect cash, and prepare a consolidated report regarding cash collection across various Toll Plazas. For electronic collection, the system should forward the details to existing NETC system for cash processing. The following flowchart captures the details of processing.

The following diagram captures the various activities envisaged within the System in case of electronic tolling system.

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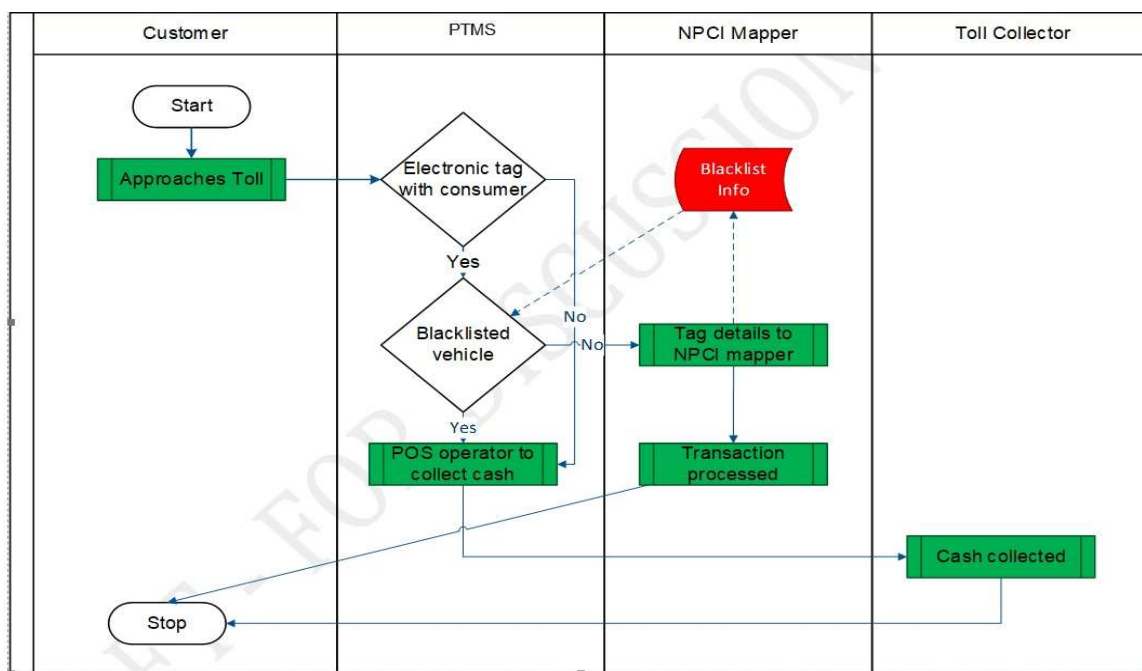


Figure 2: System Flow

Process that happens at a toll plaza

Toll collection at a lane is dependent on several parameters. The typical toll lane is equipped to assess all of these using the set of instruments as indicated above in the figure.

Parameter	How is it verified
Presence of a vehicle at toll plaza	Induction loop for vehicle detection
What kind of vehicle (class as per CMVR)	Automatic vehicle classification system Automated Number Plate Reader, used in conjunction with the VAHAN database.
Loading (in case of freight)	Weigh in Motion sensors
If the vehicle is exempt, e.g. ambulance or hearse van, VIPs as specified in regulation	Automated Number Plate Reader, used in conjunction with the VAHAN database.
If returning/ round trip vehicle	The local database for vehicles that have passed through the plaza within the last 24 hours or up to specified point of time till which the round trip concession applies, based on which the concessional toll (if any) is computed.
Toll collectible or receivable	Display mounted within the field of vision of the passing vehicle

Parameter	How is it verified
Toll collected/ received/ error (in reading RFID tag/ insufficient balance)	Display mounted within the field of vision of the passing vehicle

Once it is determined what kind of vehicle is present at the toll lane to pay the toll, the amount may be paid by means of the FASTag™ RFID tag. The RFID tag reader will read the tag mounted on the vehicle, in the process sending a signal to the system to deduct the toll amount payable from the wallet associated with the tag.

The system deducts the amount from the wallet and relays the information to the display screen which shows the amount of toll tendered/ deducted from the wallet. Based on this, the system instructs the boom barrier at the end of the lane to lift, allowing passage of the vehicle. As the vehicle moves away from the induction loop and passes through the boom barrier, the system registers a reset and prepares itself for the next vehicle to come through.

However, in case the vehicle is not equipped with a FASTag or the FASTag has insufficient amount or cannot be read (and the FASTag system is operational), then the system will indicate a toll payable that is twice the amount that is ordinarily payable for that class of vehicle. Such vehicles are expected to pay the toll levied by means of cash, credit/ debit card, UPI, mobile wallets or any other form of legal tender. Once the amount is settled, the operator signals the system manually to open the boom barrier. Again, in this case too, akin to FASTag payments, when the vehicle moves away from the induction loop and passes through the boom barrier, the system registers a reset and prepares itself for the next vehicle to come through.

Penal levies also apply in case of overloaded vehicles in line with the provisions of CMVR, or in case the vehicle passing through is not the one for which the FASTag has been issued. In the case of overloaded vehicles, an idea of the extent of overloading is obtained through the Weigh-in-Motion bridge. However, if the notion of a vehicle being overloaded is contested by the passing vehicle, a static weigh bridge is used to validate the load. If the load is validated, the penal levies remain, if the load is invalidated, the excess payment is refunded (currently in cash).

The system also generates a receipt, which in the case of FASTag is relayed via SMS to the mobile number associated with the FASTag or a flash message to the mobile application associated with the FASTag. Paper receipts are generated only in the case of non-FASTag payments.

As per MoRTH notification no. GSR 427(E) dated 18 January 2018, if at a toll plaza, the FASTag system is unable to read a tag or generate a receipt, passage through the toll plaza is deemed free. Such a failure could be on account of (1) failure at the back-end at the level of the NETC, in recording the transaction, or (2) failure at the level of the toll plaza to read the FASTag or classify the vehicle, or failure to compute the toll collectible, or failure to record the transaction locally. This does not apply in case of a defective tag, including tags with insufficient balance.

Each toll lane is operated by a toll operator – whose role, after FASTag having been made mandatory, has been limited to:

- Ensuring that the automated system performs the functions of enumeration, classification, computation and levy of toll
- Ensuring that the toll is collected – preferably by the FASTag, or failing which, by alternative means including the penal levies charged on account of such payment;
- Reconciliation of such payments with the receipts (in case of currency)
- Ensuring that the boom barrier lifts to allow passage to the vehicle after a successful transaction.

Each vehicle passing through the toll lane, the system essentially (1) raises a demand for toll payment, the amount depending on whether penal levies apply on account of overloading and/or non-availability of a functional FASTag with adequate balance; and (2) initiates settlement of the demand through FASTag, if available (with adequate balance). Once the amount is settled, the system records the entire transaction and opens the boom barrier for the vehicle to pass.

Blockchain integration

Blockchain is a fairly new technology with quite few widely adopted real world applications so far. The purpose of this study is to investigate whether block-chains could provide solutions to the aforementioned problems. Within each transaction, each of the bits of information generated by the combination of hardware (e.g. induction loop, weigh-in-motion bridge, automatic number plate reading camera, automatic vehicle classifier etc.) and software will be treated as a 'block', and each set of readouts treated as a separate ledger.

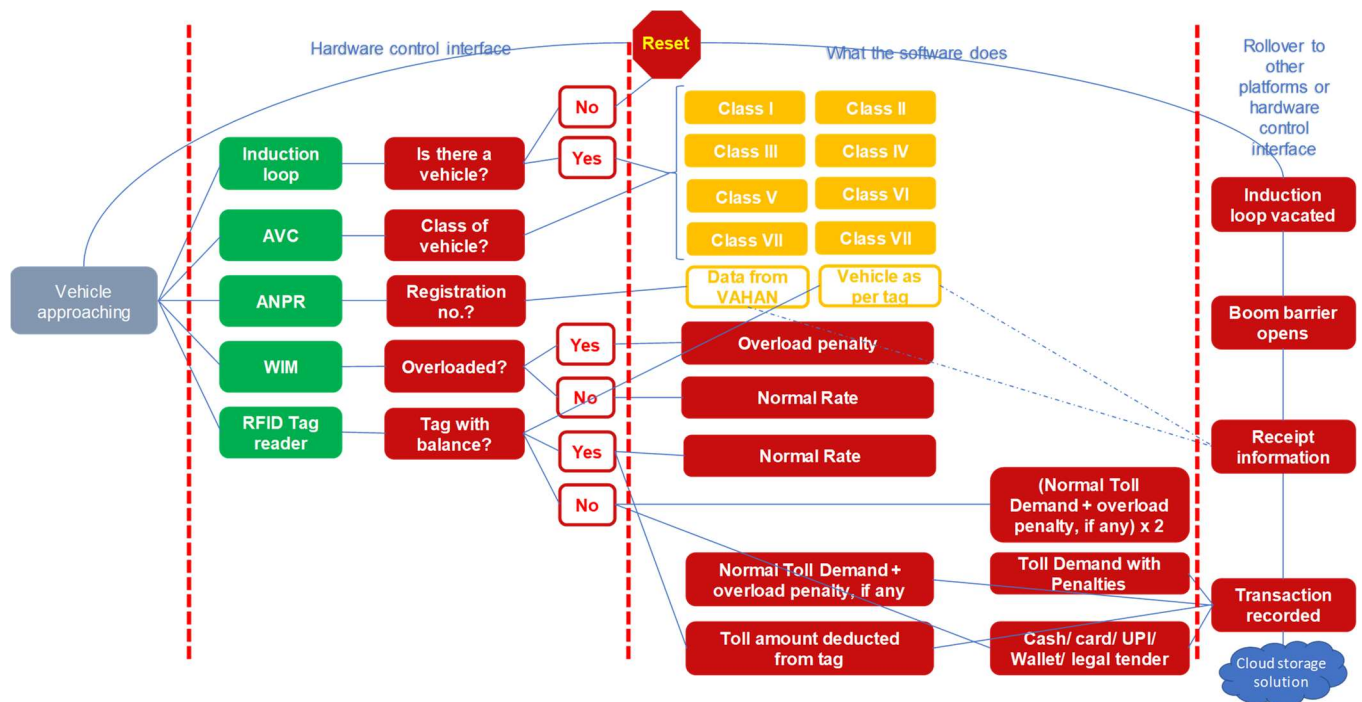
Transaction data will be recorded by each toll operator on a cloud based solution, which will also be treated as a block. The cloud based solution and its data integrity shall be the responsibility of the toll operator.

The data will be relayed from that Cloud based solution to a designated server provisioned by IHMCL and/or National Highways Authority of India (NHAI) – which will be the final block in the blockchain.

The said solution would be a privately distributed ledger with controlled policing by the regional offices of NHAI and IHMCL.

A typical transaction at the level of a toll lane is as follows:

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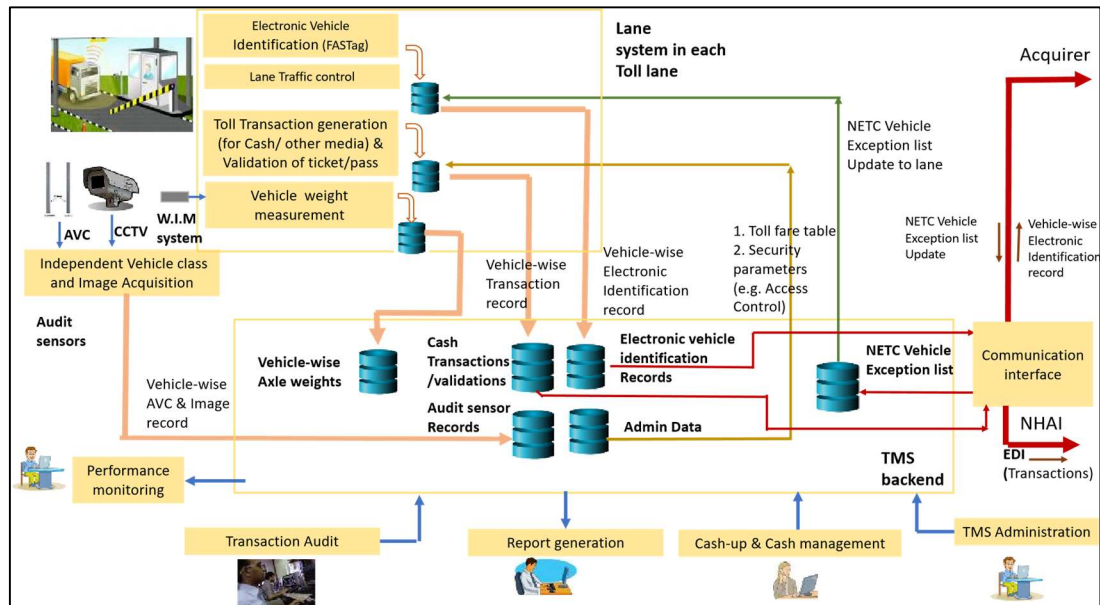


6.4.2. Key Features

The key features of the CTS are as below:

- (1) **Highly secured and reliable system** – Integrated Dashboard to monitor real time cash collection along with ETC transaction with many checks and balances, and data archiving options.
- (2) **Convenience of Plug and Play feature** – Support easy integration with various existing all HETC infra equipment/software at toll plaza, Interface with complementary systems (e.g. Plaza Queue monitoring) for TMS performance management
- (3) **Centralized remote real-time System monitoring** – of toll collection, Lane & Plaza level equipment availability status, software sub-modules, etc.
- (4) System shall automatically deduct **double toll fare for cash vehicle** passing through the FASTag express lane.
- (5) **Focus on Security** - Adequate levels of encryption in database, transactions and communications.
- (6) **Focused on enhanced ETC performance** – Support for both the existing SFTP-based communication (as per ICD 2.4 document) and the Open API-based communication (as per ICD 2.5 document)
- (7) **Scalable to other electronic media** - Use of other ETC media e.g. Contactless Smart card (e.g. NCMC), QR based payment, mobile ticketing etc. for rapid toll payment

The following figure shows the typical functional view of the CTS.



CTS – Typical functional view

The subsequent sections capture the design of the overall system approach for the System and the system deployment architecture. The Successful Bidder shall ensure to conduct site survey at their own cost for requirement study and resolution of any issues during maintenance period, if any required.

6.4.3. System Design

The System would have the following key elements from a logical system design perspective. **It is clarified that the Bidder may choose an architecture/development methodology varying from the specified design, provided that the proposed System Design the Functional Requirements and the MPSS as specified in the RFP.**

- Transaction Layer describes the various transactions of the System as presented to its end users.
 - Cash Transactions
 - ETC Transactions
 - Miscellaneous Transactions
- Integration layer refers to The System's interfaces with external third-party systems deployed at various toll plazas. The layer would interface with various equipment installed at the plazas to process transactions as captured by the transaction layer
- Processing layer describes the various processing expected from the system. The key applications being – NETC processing, fare calculations, cash processing, TLC, Finance, Accounting, reconciliation and Disputes.
- Reporting layer refers to the analytical capabilities of the proposed The System, the key ones being Status reports, Issue Resolution and cash status.

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The following diagram depicts the various layers expected in the System as discussed above, while the subsequent table captures functionalities of the components.

Transactions	Integration	Processing	Reporting Module
<ul style="list-style-type: none">•Cash Transactions•Electronic Transactions•Exempt Transactions•Miscellaneous Transactions	<ul style="list-style-type: none">•Camera (Incident/ANPR)•Fare Display•Lane/Exit Barrier•Traffic Light•Automatic Vehicle Classifier (AVC)•Weigh in Motion (WIM)•NETC System•RFID Reader•Other Readers (NFCs, Cards, etc.)•Lane Exit Barrier	<ul style="list-style-type: none">•NETC Transactions•Fare Calculations•CashTransactions Processing•Violations Processing•Equipment Status•TLC Module•Finance Module•Accounting Module•Payment Reconciliation•Dispute Processing	<ul style="list-style-type: none">•Plaza Status•Equipment Status•Cash Details•NHAI/IHMCL reports (Equipment status, SLA, uptime)•Variation in traffic(seasonal, monthly, growth)

Figure 3: System design

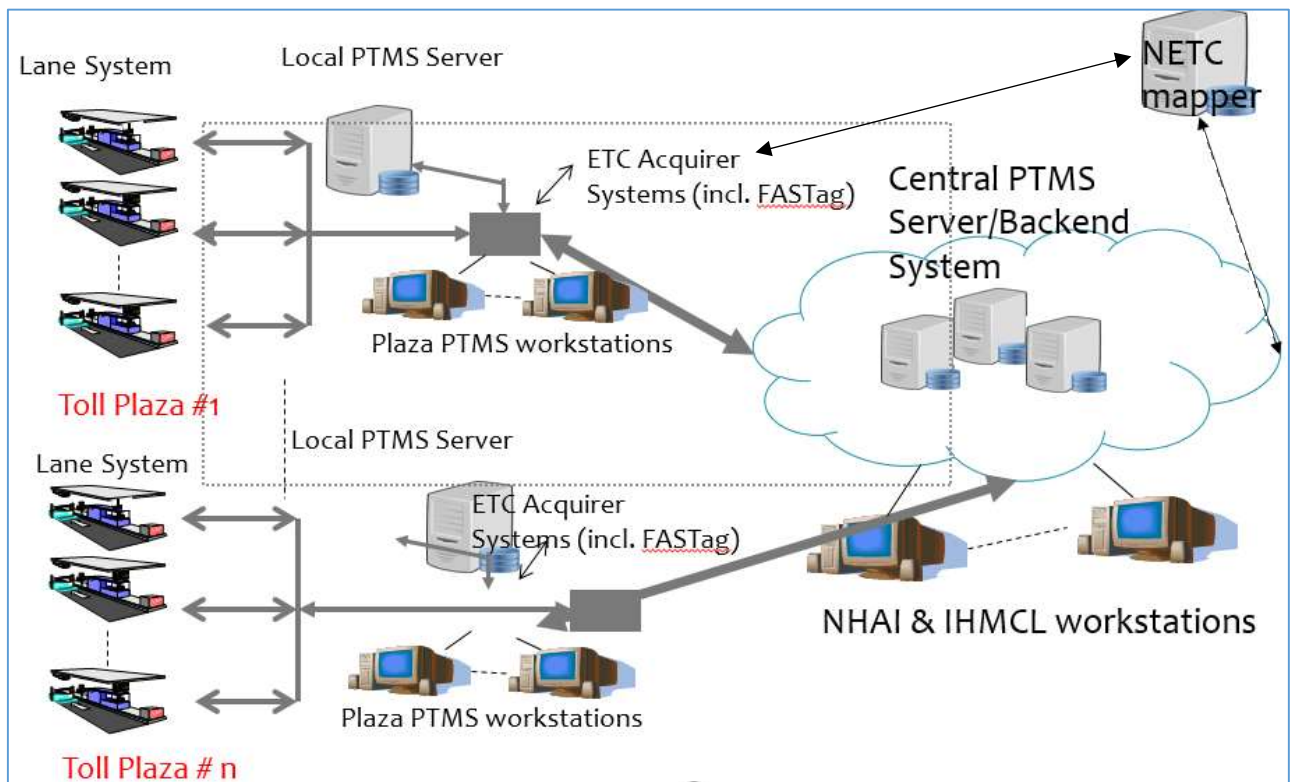


FIGURE 4: SYSTEM DEPLOYMENT ARCHITECTURE

6.5. Minimum Performance Specifications and Standards

6.5.1. Introduction

The Minimum Performance Specifications and Standards (MPSS) covered in the following section outlines the minimum technical specifications required for meeting the scope of the System during the Operations & Maintenance Period. It is further expected that the Vendor shall comply with and include common or industry best practice and standards, in addition to the standards defined in the succeeding sections.

The document consists of the following sections:

- System Availability;
- System Performance; and
- System Management.

Each section below has specific Key Performance Indicators (KPIs) that the Vendor shall comply with. It also covers the KPI Deductions associated with non-compliance of the IT Systems' specifications.

The System of KPI Deductions shall be consolidated, and non-compliance in two KPIs, for example, would lead to KPI Deductions for both the KPIs separately. However, in no case, shall the accumulated KPI Deductions for a month exceed the deductions as defined under total KPI deductions. Failure to meet the KPIs may result in Termination of the Concession Agreement in the event certain thresholds have been breached by the Vendor.

6.5.2. Operation and Maintenance MPSS

System Availability

System Availability is defined as the percentage or ratio of time the System is functional versus the total time it is expected to be functional. The Contractor shall ensure that the System Availability meets the Key Performance Indicator (KPIs) in accordance with the MPSS.

The Vendor shall subscribe to services of System Availability monitoring software that shall help monitor the performance across various parameters automatically on a real-time basis. The chosen System Availability monitoring software shall, at a minimum, comply with the following requirements:

- Tracking: 24 hours, 7 days per week
- Frequency: 1 minute
- Supported Protocols: HTTP, HTTPS, SMTP., POP3, DNS, FTP and other Ports
- Alert via: Email, and SMS
- Reporting: Ability to automatically generate daily, weekly, monthly, quarterly and yearly reports
- Availability at Toll Plazas/Lanes/Data Centre.

The Vendor shall also maintain an exclusive helpline and a website link for office users to report the issues that they are facing. The helpline shall also have the capability to automatically generate reports regarding the time taken to fix the issues and email the same to concerned users.

The System Availability monitoring software and the helpline shall be configured by the Vendor; However, IHMCL designated employees will have exclusive access to the reports generated by the software, while the Vendor's employees shall have read-only access, to ensure neutrality in measurement. The following sections cover the details regarding the above mentioned KPIs, and the KPI Deductions associated with non-compliance.

6.5.3. KPI 1: System Availability

Definitions

System Availability is defined as the ratio of System uptime measured at Data Centre, or at individual Plazas, (in hours, for a given Working Day) over the total hours in a day (the "total hours" defined as 12:00:00 AM to 11:59:59 PM), on any given Day. The Contractor shall ensure that the System Availability for any day does not fall below service levels of 99.5%.

Measurement

The Service Availability KPI shall be tracked by the System Availability monitoring software for the Project. The details of the software have been captured in the preceding sections.

The following formula shall be used to calculate the System Availability at Data Centre, or at Toll Plazas:

$$\text{System Availability} = \frac{\text{Availability during a day (in hours)}}{24 \text{ hours}} * \text{Impact Factor}$$

The Impact Factor shall be calculated as per following formula

- System not available at Central Data Centre = 0
- System not available at 'n' number of Toll Plazas, but available at Central Data Centre = 1-(n/Total Number of Toll Plazas)

If the System is not available at any lane within a Toll Plaza, it shall be treated as unavailable for the particular Toll Plaza. The proposed CTS should be compatible with the standard hardware/software specification installed at toll plazas incl existing TMS server. The CTS Vendor shall be required to submit integration testing report for handshake with various hardware installed at the Plaza (Existing as well as new).

6.5.4. KPI 1 Deduction

In case the System Availability falls below 99.5% for a *day*, the penalty shall be calculated as per the following formula. Penalties for all errant days in a quarter shall be aggregated to compute the total KPI penalty in the quarter under this KPI.

$$\text{KPI 1 Penalty} = \text{Daily Payment} * (1 - \text{System Availability})$$

$$\text{Where Daily Payment} = \frac{\text{Quarterly O\&M Payment} / 3}{\text{Number of calendar days in the particular mont}}$$

6.5.5. System Performance

System Performance refers to the performance of System with regards to system capacity, and performance. The Contractor shall ensure that the System Performance meets the Key Performance Indicators (KPIs) in accordance with the MPSS.

The Vendor shall install specialized software, or subscribe to services, that help monitor the performance across various parameters automatically on a real-time basis. The chosen system performance monitoring software shall, at a minimum, comply with the following requirements

- Tracking: 24/7
- Frequency: 1 minute
- Supported Protocols: HTTP, HTTPS, SMTP., POP3, DNS, FTP and other Ports
- Alert via: Email and SMS
- Reporting: Ability to generate reports on defined frequency (Daily, Weekly, Monthly Quarterly and Yearly reports), and on-demand.
- Performance at Toll Plazas/Lanes/Central Level

The subsequent sections define the measurement strategy for these KPIs, and the KPI Deductions associated with the KPIs, if any. It is also imperative to note that even in case of no penalty, the

Vendor shall strive to perform a causal analysis, and fix the issues, especially if the issues are repeated over certain specific time intervals.

6.5.6. KPI 2: System Response Time.

Definitions

System Performance is defined as the capacity of the System to meet the required standards, at the Defined Load Levels, over the total hours in a day (the “total hours” defined as 12:00:00 AM to 11:59:59 PM), on any given Day. It is imperative that the System is able to process a transaction starting from receiving of FASTag signal from Toll Plaza to the desired action at the Toll Plaza in less than one second.

Measurement

The System Response Time KPI shall be tracked by the following measures:

- By accessing the performance logs from system performance monitoring software executed on hourly basis during office hours for defined load.
- By time taken in issue closure reports tracked via reports that track issues logged by Plazas/IHMCL employees.

The System Response Time shall be tracked by logs of the system performance monitoring software, and keeping a count of the number of incidents when the IT System performance falls below the threshold.

6.5.7. KPI 2 Deduction

*KPI 2 Deductions (for a day) = (Number of System Response Breaches/Total Number of Tests) * Daily Payment*

Where *Daily Payment* =
$$\frac{\text{Quarterly O\&M Payment}/3}{\text{Number of calendar days in the particular month}}$$

Number of System Response Breaches is defined as number of instances when the response time does not meet the Expected Response Time defined above.

Total Number of Tests is defined as number of instances when the System performance was tested randomly during the day, at every six (6) hours during the day either via performance logs, or via generated reports², while excluding the tests that were carried out during the Application downtime for Authorised Users and attracted KPI 1 Deduction.

Daily Payment for a particular month =

² In case of issue reported via NHA users; the breaches shall be counted as number of subsequent hourly System Performance tests that the test fails

$$\frac{\text{Quarterly O\&M Payment} / 3}{\text{Number of Days in that month}}$$

To calculate the total KPI Deductions, the daily KPI Deductions shall be aggregated and reduced from Quarterly O&M Payments.

6.5.8. KPI 3: Issue Resolution

Definitions

Issue Resolution is defined as the capacity of the System, or the Vendor, to resolve issues raised by the IHMCL management or Toll Operator regarding mismatch in data captured by System, and ground data.

Measurement

The System Response Time KPI shall be tracked by the following measures:

- By accessing the issues raised by IHMCL employees in their portal
- By time taken in issue closure reports tracked via the System

The System Response Time shall be tracked by logs of the system performance monitoring software, and keeping a count of the number of incidents when the IT System performance falls below the threshold.

6.5.9. KPI 3 Deduction

$$\text{KPI 3 Deductions (for a month)} = \text{Min} ((\text{Median} (\sum_{i=1}^j D_i) / 72) * \text{Monthly Payment}), 0)$$

Where

- D_i is “Issue Resolution Time” or the number of hours between issue raising and issue resolution.
- j represents the number of issues resolved during the month
- $\text{Monthly Payment} = \text{Quarterly O\&M Payment} / 3$

The deductions for all the month of a quarter shall be aggregated for computing the total penalty in the quarter for this KPI.

6.5.10. System Management

System Management is defined as the set of activities that need to be performed to ensure that the System adheres to the defined performance standards. The Contractor shall ensure that an industry standard IT management framework – e.g. ITIL V2 or V3, or ISO 20000 standard– or a proprietary or non-proprietary equivalent, is implemented to manage service support and delivery.

Application Maintenance shall refer to ensuring that the System application is in line with the current business requirements of the Grantor.

The Contractor shall ensure that the Application Maintenance shall adhere to the following principles:

- a. Capacity management: monitor IT capacity utilization and match IT capacity to current and forecasted business needs.

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- b. Test management: prior to implementing the updates, the System must undergo appropriate testing i.e., unit testing, user acceptance testing, stress testing, etc.
- c. Availability management: monitor IT availability and undertake corrective measures in case service levels are not met.
- d. Continuity management: define and maintain actions & processes to restore IT services in case of disasters. Disasters can be man-made or force majeure (e.g. labour strikes, earthquake, flooding).
- e. Service level management: define and maintain the service catalogues in line with business needs.
- f. Security management: identify security threats and vulnerabilities and take corrective actions in case of realistic risk exposure.

6.5.11.KPI 4: Application Maintenance

Definition

Application Maintenance shall refer to ensuring that the Application is in line with the current business requirements of the Grantor.

Measurement

The service levels of Application Maintenance shall be tracked via Change Requests (CR). The Vendor shall maintain an exclusive link within IHMCL Dashboard to record System CR and deploy incident management software to track the same.

The CRs shall be classified on the basis of following definitions:

Category	Description
Emergency	The change must be implemented immediately, (for example, termination of services at any toll plaza, or updating the toll rates at any toll plaza).
Standard	The change can be implemented via pre-defined process, or procedures, (for example, defining a new vehicle class once it has been approved via legislations).

A CR shall be deemed as initiated once the details have been reported by the IHMCL official, and shall be treated as closed once the changes have been implemented by the Vendor.

The Vendor, by means of appropriately trained support staff and system processes, shall ensure that the CR resolution levels adhere to the following standard:

Category	Acceptable Resolution time (working hours: 8:00 AM – 6:00 PM)
Emergency	30 minutes

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Standard	4 hours
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6.5.12. KPI 4 Deductions

In case of non-compliance with the service levels, the KPI Deductions shall be calculated as per following formula for every breach:

In case the System Management Standards do not adhere with the defined service levels, the KPI penalty for a particular day shall be calculated as per the following formula

$$\text{KPI 4 Penalty} = \text{Daily Payment} * (\text{Number of Working Days to solve the issue}^3 \\ - \text{Number of Working days as per service levels to fix the issue}^4)$$

Penalties for all errant days in a quarter shall be aggregated to compute the total KPI penalty in the quarter under this KPI.

³ If the service levels are defined in minutes, or hours, the same shall be translated in corresponding days.

⁴ If the service levels are defined in minutes, or hours, the same shall be translated in corresponding days.

6.5.13. Total KPI Deductions

The penalties across various categories discussed in the preceding sections shall be aggregated to compute the total penalty (“Total Penalty”) that shall be deducted from the total quarterly payments. However, the levied penalty (“Levied Penalty”) for any quarter shall not exceed 10% of the total Quarterly O&M Payment for the month.

6.5.14. Termination Mechanism

If the Total Penalty exceeds 50% of the Quarterly O&M Payment for any quarter, IHMCL may adopt the following measures

- i. Notice to the Vendor regarding unacceptable system performance and to fix the system by ensuring the Total Penalty does not exceed 25% of Quarterly O&M Payment for the next quarter within a period of 15 days (“Curing Period”)

If the Vendor is not able to bring the system as per specifications within the Cure Period, IHMCL/NHAI reserves the right to terminate the Contract with the Vendor as per conditions agreed in the Concession Agreement, including but not limited to forfeiture of PBG (without intimation), Blacklisting, etc.

6.6. Technical Specifications of Common Tolling Software

6.6.1. Functional Requirements

a) General Requirements

This functionality shall meet the lane operation described in the subsequent sections.

b) Transaction Data Format:

The following shall be the minimum data that make up an ETC transaction

- i. Transaction ID
- ii. Tag ID (TID, EPC, and User Memory)
- iii. Plaza and Lane ID
- iv. Date and Time Stamp
- v. AVC Class
- vi. Image of vehicle (AVC, License Plate and Incident Capture Camera)

The above may be modified during project execution in order to optimize the performance.

c) Transaction Processing

The System shall:

- i. Have functionality to feed in transaction data through RFID ETC transceiver, Handheld RFID Reader devices and manually entry of Registration no. of vehicles.

- ii. Validate each transaction for completeness (e.g. possessing all the related information like Tag ID, Vehicle class etc.)
- iii. Check for duplicate transactions (e.g. the same tag cannot be used in the same direction within a specified duration at the same plaza)
- iv. Support generation of a wide variety of reports as given below but not limited to:
 - Revenue reports (Lane Wise)
 - Traffic reports (Lane wise all mode of traffic report)
 - Penalty Collection report lane wise
 - Daily / Weekly / monthly reconciliation reports
 - Violation reports
 - AVC Accuracy Report (Lane Wise/ Overall)
 - Separate ETC report for Handheld reader
 - Equipment uptime reports (RFID Reader, AVC, TLC, LPIC, ICS and Server)

v. Security

- Login feature for accessing the System
- Access the system based on roles definition, toll collector cannot minimize the lane application and limited accessibility to work on workstation by toll staff.
- Storage of Sensitive data like password in an encrypted format
- Use of Complicated passwords: password should be more than 6 characters and should have at least one numeric character.
- Automatic logging of every sensitive action in the system.
- TLS 1.3 or higher for all communications between the toll operator and the cloud server where the distributed ledger is hosted.

vi. Scalability

The System / Servers shall be scalable to support increase in Tag Users / ETC transactions in future. During the time of system commissioning each lane of the system shall be capable to support 10 million tag users and 100,000 (One Lakh) transactions per day and at the end of 5 years shall be capable enough to support 50 million tag users and 5,00,000 (Five Lakh) transactions per day.

Automatic Lane closure

The ETC lane shall close automatically in case of detection of failure of critical equipment like RFID Transceiver, Boom barrier, LPIC camera, AVC system. In such cases the OHLS shall display that ETC lane is closed and the ETC exit barrier shall remain closed.

d) General System Requirements

S.No	General Requirements
i.	The information flow should be designed to ensure that the system can operate with minimum bandwidth (128 Kbps) for access and operation.
ii.	The System should be deployed as easy-to-use plug and play application at Plaza servers. These applications should automatically transmit report related data (as captured in reporting layers) to a Central system at each minute for re-reporting and dashboard purpose.
iii.	System should be interoperable with various systems deployed across toll plazas. <ul style="list-style-type: none">• AVC interface• WIM interface• RFID transponder• Acquirer systems related to various electronic transactions• Payment gateway• Smart cards
iv.	The User interface of the web-enabled parts of the system should be designed to open in at least the following standard/popular browsers <ul style="list-style-type: none">• Microsoft Internet Explorer• Mozilla Firefox• Google Chrome• Apple Safari
v.	The System should have accuracy in the capture, processing, communication and reporting of Toll Transactions and associated information as per defined standards.
vi.	The System should have features to ensure integrity and reliability as per defined standards in conditions like high humidity, dust, rains, temperature variations, and other adverse conditions, that may happen in the Toll Plaza.

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S.No	General Requirements
vii.	The System should be browser independent to the extent possible, the look and feel and the accessibility of the application should be similar across browsers.
viii.	The System should automatically detect access by mobile browsers and adjust contents accordingly.
ix.	The System must allow archival, retention and deletion of records as per IHMCL/NHAI's records retention policy of retaining records for a period of 10 years.
x.	The System should require captcha-based sign-on for any sign-on to the system, unless otherwise specified in this document for a particular module (e.g. Biometric login for TLC)
xi.	The System should be designed in a modular approach to ensure that it can easily interface with new IT applications and systems that IHMCL/NHAI intends to implement during the project lifecycle, for example, GPS based tolling system.
xii.	The System should be scalable to other electronic media - Use of other ETC media e.g. Contactless Smart card (e.g. NCMC)), QR based payment, mobile ticketing etc. for rapid toll payment
xiii.	The System should have convenience of Plug and Play feature – Support easy integration with various existing all HETC infra equipment/software at toll plaza, Interface with complementary systems (e.g. Plaza Queue monitoring) for TMS performance management
xiv.	The System should be intuitive, easy to learn system based on level of use with users becoming effective with minimal training time.
xv.	The System should be designed in a modular approach to ensure that it can easily interface with new IT applications and systems that IHMCL/NHAI intends to implement during the project lifecycle, for example, GPS based tolling system.
xvi.	All webpages should have pop-in as well as separate help menus to help users navigate easily across the system.
xvii.	The System should be integrated with mobile wallet / PPI business as prescribed by the Grantor.
xviii.	The System should cater to various solutions as required by Acquirer Bank as per ICD 2.5 (included in Appendix 4), or the current version as amended from time to time.

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S.No	General Requirements
xix.	<p>The System should have features to integrate with various hardware specifications as specified by IHMCL within this RFP and the following RFP:</p> <p>Tender No. IHMCL/HETC/2020/01;</p> <p>However, IHMCL/NHAI reserves the right to delete from /modify/ add to these specifications, from time to time, in the interest of system improvement.</p>
xx.	<p>The System shall have provision of Data archiving as described below:</p> <ul style="list-style-type: none"> Summarised data shall be archived on removable media on a regular basis so as to free system resources. All plaza level data shall be transferred to removable electronic media at monthly intervals and stored. The archived data should be secured as per Data Encryption Policy 2017 (https://www.meity.gov.in/writereaddata/files/Guidelines-Contractual_Terms.pdf) After the expiration of the prescribed period for retention of the data on the various system levels, the data may be removed from the systems. The TMS backend shall provide the facility to perform these functions. The archived data written to the electronic media shall be fully accessible by the TMS and the various reporting facilities of TMS without the necessity of having to restore the data.
xxi.	<p>Data should be retained with the following frequency, at a minimum:</p> <ul style="list-style-type: none"> TMS Lane Level :3 months TMS backend Detailed Data: 12 months Summarised Data :24 months
xxii.	<p>The System should have adequate backup and redundancy provisions. All transaction and incident data shall be retained, duplicated and stored within the various levels of the TMS such that should any level or component of that level suffer a partial or total failure, the data is not irretrievably lost to the system. In addition, it shall be possible to reconstruct and restore the data for the failed level from the stored data into its original format.</p>
xxiii.	<p>The Graphic User interface on the TCT shall be clutter-free and shall use colours with adequate contrast so as to cause minimum fatigue to the toll collector over the duration of her / his shift. The high contrast shall also make the TCT screen display adequately visible during a high incidence of ambient light like when sunlight directly</p>

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S.No	General Requirements
	falls on it. All the displayed text and graphics shall be large enough to be recognized with minimum effort.
xxiv.	<p>The System shall incorporate features that will enhance the toll collector's productivity while performing repeated transactions over the shift period.</p> <p>These shall include, at a minimum:</p> <ul style="list-style-type: none"> • Minimum key presses to complete a cash transaction • Large on-screen text and graphics size • Optimum arrangement of keys on the TCT keyboard
xxv.	<p>The System should adhere to best in class performance requirements. The minimum standards are specified as follows:</p> <ul style="list-style-type: none"> • Time for the Toll Receipt to be printed: Less than 1.5 seconds after payment confirmation on the TCT by the Toll Collector • Maximum time for validation of a Return ticket / Daily pass: 0.5 seconds • Maximum read time of FASTag (from vehicle arriving over the presence loop and the barrier opening): 1 Second • Maximum time for Open loop Contactless Smart Card transaction (Offline) (from the time the card is presented to the validator to the barrier opening): 5 seconds • Any response on GUI to Toll collector key press on the TCT: Less than 1 second • Maximum transaction completion time from vehicle leaving the AVC area until the system getting ready for the next transaction: 1 Second

e) Vehicle Processing

S.No	Vehicle Processing and Plaza Operations
i.	<ul style="list-style-type: none"> • The System should perform the following operations, in the following sequence, for processing a vehicle at the Toll Plaza • The Boom Barrier should be closed • The System should check if the vehicle can be processed via electronic transactions. If the vehicle can be processed electronically, then Electronic/RFID Tags processing related rules should be followed.

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S.N o	Vehicle Processing and Plaza Operations
	<ul style="list-style-type: none"> • For vehicle that do not have active electronic payment modes, Fare Calculations and Cash Operations related rules should be followed. • The Vehicle's fare should be displayed to the Lane Operator and vehicle user • Receipt should be printed for cash operations. The receipts should have a QR/bar code that should be able to display following information upon input <ul style="list-style-type: none"> i. Date and Time of operation ii. Plaza details iii. Vehicle details iv. Cash collected v. Lane number vi. Receipt number • Triggers should be initiated to capture vehicle's image via various cameras. The number plate details should be specifically captured • The Boom Barrier should be opened • The loop sensors should detect once the vehicle has passed, and close the boom barrier accordingly • Steps eland f listed above should not be executed for exempted vehicles. However, step should be executed without fail.
ii.	<ul style="list-style-type: none"> • The System should automatically capture the following minimum details associated with each transaction • Date and time • Plaza and lane ID • A sequential number assigned based on the data above • Vehicle classification (by toll Collector or as read from the FASTag and that received from the AVC in both cases) • Discrepancy in vehicle classification, if any • Vehicle number • Toll Collector ID in case of manual user fee collection • Toll amount collected • Fine/Penalty and another amount charged

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S.N o	Vehicle Processing and Plaza Operations
	<ul style="list-style-type: none"> • Method of Payment: FASTag/CASH/ETC-Card/etc. • Exceptional transaction (exemption, convoy and other cases)
iii.	<p>The System should automatically transmit the following details regarding the lane to a monitoring system at a Central location</p> <ul style="list-style-type: none"> • Lane Mode: Open/Closed/Maintenance • Status of following equipment: <ul style="list-style-type: none"> ➤ Lane Controller ➤ Boom Barrier ➤ RFID transceiver ➤ Weight in Motion (WIM) equipment ➤ Automatic Vehicle Classifiers (AVC) ➤ Internet connectivity (via lease line/dongle/etc.) • Total collections via cash/electronic mode since last transmission/for the day • Number of vehicles processed since last transmission <p>The System should also have features to identify lanes that are not transmitting the above information as per frequency and issue alerts as per defined strategy.</p>
iv.	<p>The system should support following components/devices for the operations</p> <ul style="list-style-type: none"> • An Overhead Lane sign (OHLS) / Canopy Lane Status Display (CLSD) that indicates to an approaching road user whether the toll lane is open for toll collection or it is closed and if open (in case of the CLSD), the lane mode. • An automatic Lane exit barrier (ALB) that allows the road user to leave the lane after toll payment. • A traffic light (with Red and Green aspects) (TL) that indicates to the road user whether the vehicle should remain at the toll lane or can exit. • The system should also have features for traffic control and guidance of toll paying vehicle through the toll lane
v.	<p>The OHLS sign should display the following details</p>

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S.No	Vehicle Processing and Plaza Operations				
	S.No	OHLS	Automatic lane exit barrier	Traffic Light	Traffic control / guidance
	1	Red	-	-	Don't enter lane
	2	Green	Closed	Red	Stop /wait at toll booth (pay axis)
	3	Green	Open	Green	Cleared for Exiting the Toll lane
vi.	In case a CLSD is used instead of an OHLS, the following will be the status details of the CLSD				
	Lane Mode	Lane Status	CLSD Message Displayed	CLSD Message Color	
	FASTag – Hybrid mode (also supports other electronic media, validation and cash)	Lane is Open	LANE OPEN	Green	
	All modes	Lane is Closed	LANE CLOSED	Red	
	FASTag only mode – Dedicated	Lane is Open	(FASTag Logo) ETC TAG ONLY	Orange	
	Cashless only mode – FASTag / Other Electronic media	Lane is Open	CASHLESS – No Cash Payment	Purple	

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S.N o	Vehicle Processing and Plaza Operations					
		FASTag – Hybrid mode for Specific vehicle class	Lane is Open	(Vehicle class Logo) CAR (Vehicle Class) ONLY	Based on lane (MOP) mode	

f) Electronic Tags processing

S.No	Electronic Tag processing
i.	<p>The System should interface with the RFID transceiver installed at the toll plaza to receive the following details regarding an RFID tag</p> <ul style="list-style-type: none"> - TID - EPC Code - User Code
ii.	<p>The System should automatically determine if the Tag is in the Exception list based on Exception list file inputs from the NPCI. Alternatively, the system should also have provision to push the TID/EPC code to designated servers and get the response.</p>
iii.	<ul style="list-style-type: none"> • The System should have flexibility to be interoperable with new electronic processing systems based on technologies like EMV/ Credit / Debit card (supporting online transactions), that IHMCL/NHAI may choose in the future. For such technologies, the System should have features to push the relevant code read at the Plaza to the electronic processing system (e.g. Acquirer) via API push, and accept the response via API pull. The APIs in use shall be OpenAPI compliant. • The system shall also have the feature of integration with local Smart card validators (located on the same Toll lane) capable of generating off-line smart card (e.g. contactless, Open-loop, EMV/Rupay bank card) transactions. In this case the system shall send the vehicle class read from the FASTag or through other means, to the validator via a local data link (RS 232/ TCPIP)
iv.	<p>The System should automatically open the toll gates for non-blacklisted vehicles, or if the Central Server send the signals to open the gate.</p>
v.	<p>System should deploy the following logic for handling the Exception List files.</p>

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S.No	Electronic Tag processing
	<p>The TMS shall periodically download the Exception files from their respective Acquirers.</p> <p>On obtaining the FASTag details from the RFID transponder the system shall verify the Tag's Id (based on the EPC code/ TID code) in the current Exception list present in the system. If not found the system shall store the read-in FASTag details for transmission to the Acquirer.</p>
vi.	<p>If the Tag's Id is found in the Exception list, the System should offer other modes of Electronic transaction (e.g. off-line/on-line Smart card pre-paid / Credit card / Debit card -based transaction). If the user does not avail of any of these or if they fail during an attempt, the system shall offer cash-based transaction for the user.</p>
vii.	<p>The CTS Vendor shall be required to facilitate integration of WIM/ SWB system available toll plaza/ or during installation as such with its ETC system. The ETC System deployed by CTS Vendor should have the capability to accept the information regarding vehicle overweight (with the Vehicle weight received from the WIM) and add the applicable penalty to the payable amount.</p> <p>However, this is to clarify that operation and maintenance of WIM/SWB system available at toll plaza is not under the scope of CTS Vendor.</p>
viii.	<p>The vehicle owner/driver should have features to protest the fine and get the vehicle weighed at a static Weighbridge. In case, the vehicle is not overweight at the Static Weighbridge, the System should send message to Acquirer Bank via automatic integration/manual input, to reverse the transaction and initiate a new transaction without the penalty amount.</p>
ix.	<p>The System should have the capability to automatically calculate the fare details based on the toll plaza and time of operation.</p>
x.	<p>System should be able to calculate penalties if a non FASTag vehicle has entered the FASTag lane as per IHMCL/NHAI rules.</p>
xi.	<p>The System should have feature to alert the customer, Issuer Banks, and NPCI in case of following potential frauds</p> <ul style="list-style-type: none"> - The tag has been used across different toll plazas within 15-minute window - The tag is used across toll plazas that are not frequently used by the customer - The tag has been used after a considerable period of non-usage

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S.No	Electronic Tag processing
xii.	The System should have features to automatically push the captured images to the TMS backend and tag them with FASTag number, time of operations, lane number and the unique transaction number.
xiii.	<p>The System should automatically alert the Lane Operator in case of following issues</p> <ul style="list-style-type: none"> - Vehicle is overweight - The vehicle class as derived from the Mapper and the class from profiler does not match - Vehicle has been highlighted by NHAI/IHMCL/other agencies
xiv.	In case the System has issued alerts, the Lane Operator should have option to close the lane and prevent the vehicle from passing. If the above is not possible, then the System should automatically alert designated IHMCL/NHAI officials for necessary actions.

g) Fare Calculations and Cash Operations

S.No	Fare Calculations and Toll Operations
i.	As the vehicle approaches the Pay-axis on the Toll Lane, the Lane operator in the Toll booth classifies the vehicle on the TCT keyboard. The System shall also capture the videos/images of such vehicles and tag them with transaction time, and vehicle number (as captured by the system).
ii.	The system should have features to automatically detect the vehicle number show the same on the screen. In case of issues, there should be provision for the operator to enter the vehicle number. The operator should have provision to skip the number entry, if required. However, the system should mandatorily require the input/capture of vehicle number in case the Class has been over ridden.
iii.	<p>The system shall have the facility to automatically calculate the fare based on the following details</p> <ul style="list-style-type: none"> - Toll plaza - Class of vehicle - Time of operation - Vehicle weight

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S.No	Fare Calculations and Toll Operations
	<ul style="list-style-type: none"> - Return journey - Cash vehicle entering the ETC Lane (double the Toll amount) <p>It is possible that all the above parameters or a subset among them may be used for fare calculation. It shall be possible to configure the system accordingly during system commissioning.</p>
iv.	<p>System should be configurable to configure customized Toll fares at each individual toll plaza for different category of vehicle as per toll guidelines issued from time to time, and automatically push the same to individual Toll Plazas from a central system.</p>
v.	<p>System should have feature to receive the images from various toll plazas and store them at a Central location. The images should be tagged with transaction based on the time stamp and the toll plaza/lane location. The retention period for these images shall be 90 days, or till the dispute (associated with the transaction) is resolved, whichever is higher</p>
vi.	<p>System should have the capability to accept the information regarding vehicle overweight (with the Vehicle weight received from the WIM) and add the applicable penalty to the payable amount.</p> <p>The CTS Vendor shall be required to facilitate integration of WIM/ SWB system available toll plaza/ or during installation as such with its ETC system. The ETC System deployed by CTS Vendor should have the capability to accept the information regarding vehicle overweight (with the Vehicle weight received from the WIM) and add the applicable penalty to the payable amount.</p> <p>However, this is to clarify that operation and maintenance of WIM/SWB system available at toll plaza is not under the scope of CTS Vendor.</p>
vii.	<p>The system should have features to perform the following activities upon receipt of cash by the operator</p> <ul style="list-style-type: none"> - Enter the cash received - Display the change payable - Open the cash register - Print the Toll receipt - Open the Boom Barrier
viii.	<p>The System should automatically alert the Lane Operator in case of following issues</p> <ul style="list-style-type: none"> - Vehicle is overweight

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S.No	Fare Calculations and Toll Operations
	<ul style="list-style-type: none"> - Vehicle has been highlighted - The vehicle class is different at different plazas
ix.	In case the System has issued alerts, the Lane Operator should have option to close the lane and prevent the vehicle from passing. If the above is not possible, then the System should automatically alert designated IHMCL/NHAI officials for necessary actions.
x.	<p>The System should have features to handle following categories of exceptions and calculate fare as per policy specified by IHMCL/NHAI</p> <ul style="list-style-type: none"> - Single Journey/Return Ticket / Daily pass - Monthly Pass - Local vehicle Pass (concessional Toll) - Exempt Vehicle <p>The system should be able to perform the above calculations for both electronic and cash-based payments.</p>
xi.	<p>The System should have features to handle Convoy vehicles via the following approach</p> <ul style="list-style-type: none"> - Lane Operator should be required to press the Convoy button to start the transactions - The display boards should display fare as Zero - There should be no receipts for these vehicles - Alert the supervisor regarding Convoy operations - Capture images and videos and mark them accordingly - Continue the operations until the Toll Operator presses Convoy key followed by the 'accept' key, post which the system should resume normal operations
xii.	The System should have features to capture details of “run-through vehicles” that pass the Toll Plaza without paying toll. The System should automatically capture images of such vehicles and send to IHMCL/NHAI/relevant authorities at the end of day. The above features should also be available for vehicles that have been classified inaccurately.
xiii.	System should have the capability to capture the information regarding vehicle overweight by fetching the data from the WIM system (if installed), and add the

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S.No	Fare Calculations and Toll Operations
	applicable penalty to the payable amount. The System should also display the word “Over Weight Vehicle” prominently at the lane display.
xiv.	The vehicle owner/driver should have features to protest the fine and get the vehicle weighed at a static Weighbridge. In case, the vehicle is not overweight at the Static Weighbridge via automatic integration/manual input, the System should display the new amount (after deducting the penalty), and have features to accept the fees. For this purpose, the system shall support a suitably featured user interface on a Desktop computer / Mobile device located at the Static Weighbridge
xv.	<p>The System should have features to accept “Towed vehicles”, such vehicles should be processed only via cash. Even if the Vehicle has a FASTag, or electronic payment instrument, the System should not send the transaction for processing. The following steps should be adopted for processing these vehicles</p> <ul style="list-style-type: none">- The Toll Collector Presses Towed Vehicle key- The Toll Collector enters number of vehicles being towed and their class- The System displays the total amount payable- Toll Collector confirms receipt of due amount- Boom barrier is opened- The loop sensors allow Boom Barrier to be opened till the entered number of vehicles have passed

h) Plaza/Lane Management Module

S.No	Plaza/Lane Management Module
i.	<p>The Lane management module should have the following features</p> <ul style="list-style-type: none"> • Login/Logout <ul style="list-style-type: none"> ➤ Toll Collector/Fee Collector ➤ Supervisor ➤ Maintenance • Lane Mode /Configuration <ul style="list-style-type: none"> ➤ Hybrid Lane (supporting Cash, and ETC) ➤ ETC Lane (Dedicated) ➤ Cash (Semi-Automatic) • Mode of Operation <ul style="list-style-type: none"> ➤ Idle/Closed Mode ➤ Open Mode ➤ Local Mode <ul style="list-style-type: none"> ▪ Local Mode Without TMS (Server) ➤ Maintenance Mode • Mode of Payment <ul style="list-style-type: none"> ➤ Cash ➤ Local/Monthly Pass ➤ Smart card ➤ Barcode/QR code - Multiple/Return journeys ➤ Credit card/ Debit Card ➤ Wallet ➤ FASTag / Electronic mode/Other electronic mode ➤ National Common Mobility Card ➤ Exempt • Journey Type <ul style="list-style-type: none"> ➤ Single

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S.No	Plaza/Lane Management Module
	<ul style="list-style-type: none"> ➤ Return ➤ Exempt <ul style="list-style-type: none"> ▪ Emergency/Authorised Exemption ▪ Non- Emergency/Local Exemption ➤ Violation ➤ Multiple
ii.	<p>The following steps should be performed to complete the login of the Toll Collector</p> <ul style="list-style-type: none"> - The Toll Collector scans his/her card and/or scans the biometric sensor - The Toll Collector enters details of the cash-in-hand before starting operations - The supervisor verifies the above details via biometric verification - System maintains a log of above events and their respective time <p>The lane is tagged as “Under Maintenance”, and no operations are allowed on the same till the above are completed.</p> <p>Post completion of the above steps, the lane operations can resume and the lane mode changes from “Under Maintenance” to “Operations”</p>
iii.	<p>The following steps are performed once the Toll Collector finishes the duty, or takes a temporary break</p> <ul style="list-style-type: none"> - Toll Collector selects the “Log Off” option and verifies the same via biometric, and/or card input - System puts the lane under “Maintenance Mode” and no operations are allowed - A report is generated of the total cash collected. The report also displays the total cash expected from the Toll Collector - The supervisor accepts the log off activity - The lane remains in “Maintenance Mode” till a new login is performed on the same <p>The System prompts the supervisor to tally the cash collected and automatically adds the above to the total amount to be submitted in the Bank,</p>

i) Plaza Activity Module

S.No	Plaza Activity Module
i.	<p>The System should have features to perform the following plaza related activities</p> <ul style="list-style-type: none"> • Admin Activity <ul style="list-style-type: none"> ➤ Authorize Staff - to add new staff/add authorization levels ➤ User Rights – to add/remove/update rights of various users ➤ User Rights Report – To generate report of various system users and their rights ➤ Unlock Shift – manually treat shift as complete if the operator has to leave due to emergency ➤ Release Login – release the plaza from systems' preview as per instructions ➤ Vehicle Tracking – capture details of vehicles being tagged in the system • The System should have features to ensure that the activities above capture the details of various instructions issued by IHMCL related to the activity.

j) Finance and Accounting Module

S.No	F&A Module – General Requirements
i.	The System should have the provision for not to allow the vehicle to pass in case the funds are not sufficient for operations for dues, or if the tag has been debarred by user/ IHMCL/NHAI.
ii.	The System should also create a provision where the above control can be overridden to varying degrees (like part payment accepted, no payment accepted) based on approval received from the appropriate IHMCL/NHAI authority
iii.	The System should have a provision for requesting such relaxations for predefined reasons which will then be approved by appropriate authority
iv.	The System should have provision to create, edit, delete predefined reasons

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S.No	Accounting Requirements
i.	The System should facilitate definition and configuration of the Chart of Accounts (CoA) to capture all financial transactions pertaining to the Operators/User. The CoA should have multiple level and the levels should hierarchical relation i.e. parent-child relationship
ii.	Facility for creation, modification and deactivation of CoA should be available
iii.	Newly created CoA should be automatically available for payment deposit, payment posting etc.
iv.	The System should facilitate the system to automatically transfer the due amount to an escrow account, and transfer the amount to Vendor as per specifications of IHMCL/NHAI.
v.	The System should maintain electronic payment register, cash book, ledger accounts and sub ledger accounts as the case may be for each Operator as applicable
vi.	The System should update the payment register as soon as it becomes due and must automatically update the cash book and ledger account for each Operator based on the payment made or reconciliation
vii.	The System should capture/post the accounting transaction as per the defined chart of accounts
viii.	The System should capture the timing of each transaction
ix.	The System should ensure prohibition of CoA use based on the user profile
x.	Facility should provide to adjust the advance with multiple payment head (fully or partially)
xi.	During partial payment The System should appropriately handle penalty, interest and fees
xii.	The System shall implement mechanisms to split and allocate the total amount received from the User to the respective transactions, if User has paid a lump sum /consolidated amounts for multiple transactions together
xiii.	The System should have capability to handle payment and accounting of each offices separately

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xiv.	The System should automatically post different components (Fee, penalty, tax etc.) of a transaction in respective heads of account
xv.	The System should have facility for segregating revenue earned component and tax payable component to enable IHMCL/NHAI to calculate their tax deposit liability
xvi.	The System should automatically compile the accounts statement and reports at the level of IHMCL/NHAI HQ, Regional Offices, User, Operator, Service Types, etc. for each financial year

S.No	Payment Reconciliation
i.	The System should reconcile the operations at a toll plaza with ETC amount debited from the customer. The system should automatically issue alerts to the operator and IHMCL/NHAI in case of any issues.
ii.	In case of mismatch between debited and demanded amount, the lesser of the two should be highlighted to the Operator for raising disputes, if applicable.
iii.	The System should have the facility to capture/upload bank statement/transaction detail from bank's software/web services/External drive etc.
iv.	The System should have facility to link its own financial record with the bank transaction record and reconcile the same
v.	Failed reconciliation is to be reported
vi.	Facility should be provided for auto reconciliation of batch data or reconciliation by manual selection of payment detail.
vii.	Transaction should be posted in cash register once the reconciliation is complete

k) Integration Module

S.No	Financial Partners
i.	<p>The System should have features to calculate the following details for any Lane/Plaza at any point in time</p> <ul style="list-style-type: none"> - Cash issued to the Lane Operator

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S.No	Financial Partners
	<ul style="list-style-type: none"> - Cash expected from the Lane Operator (basis vehicles passing through the plaza)
ii.	The System should enable designated officials to view the above report and verify if the cash expected was received. The System should also have features to enter number of currency notes/coins' designation received from the Lane Operator and tally the results.
iii.	The System should have designated module to enable cash submission at the bank. This module should automatically display number of various currency/note denominations and the total amount to be submitted at the bank.
iv.	The System should have features to integrate with the bank statement (excel/xml/csv) and confirm the details of submitted amount versus bank details. The System should automatically flag transactions that do not match, or do have corresponding statement.

S.No	Technology Partners
i.	<p>The System should have features to integrate the system with following IHMCL/NHAI Systems</p> <ul style="list-style-type: none"> - Tag registration mobile application <p>In addition, the System should also have capability to integrate (by exposing APIs; by default, Open APIs are to be used) with Five (5) additional applications defined by IHMCL/NHAI, subject to the overall transaction volume not exceeding ten (10) times of current load, as a result of the changes.</p>
ii.	<p>The interface to the FASTag transaction Acquirer system is implemented on TCP/IP over a public internet. The transaction processing and interfacing with the Acquirer system shall meet all relevant requirements included in the following documents:</p> <ul style="list-style-type: none"> • Procedural Guidelines, National Electronic Toll Collection Network (NETC Network), version 1.7, Jan 2018 • Central Clearing House (CCH) Interface Control Document, version 2.4 (or the current version)
iii.	While the present system relies on the Secure File Transfer Protocol (SFTP) for transferring both Vehicle Identification records (Toll Transaction related) to the FASTag Acquirer as well as to receive the Exception (Black) list , Toll & violation

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S.No	Technology Partners
	Reconciliation records and Discounts related data from the FASTag Acquirer, IHMCL may adopt and specify an approach in the future involving online data transfer (e.g. using an Open API) or any other approach to enhance performance. The Contractor shall implement this approach in the TMS as an addition to the existing approach (i.e. SFTP) with an option of either approach to be used by the TMS operator / Vendor.
iv.	<p>The TMS shall provide secure interfaces via a TCP/IP link (dedicated link / VPN / Public internet) for MoRTH/NHAI/IHMCL authorized remote monitoring systems to acquire data from it in real time.</p> <p>The data required will include all those captured in the TMS including TMS lane system performance data, Toll collector performance data, traffic data including Toll Plaza throughput, Transaction data, financial data and all relevant data to determine all aspects of Toll plaza performance including its operational efficiency and effectiveness.</p>
v.	The TMS shall provide performance monitoring via the Lane Status Display Unit. This will involve the comprehensiveness and the level of detail the TMS provides for on-line system performance monitoring.
vi.	The TMS shall provide flexibility to define toll fee tariffs over and above the NHAI toll fee tariff table which will enable extending of tariff table to include more vehicles (e.g. two wheelers, three wheelers) and toll schemes (e.g. Toll Tariff depending on day of week, time of day can be predefined and stored in system for activation on a specified date)
vii.	<p>The TMS shall provide on-line transmission of FASTag Vehicle Identification records from the lane controller to the TMS server.</p> <p>On-line transmission to TMS server results in quick transfer of vehicle identification records to the Acquirer system thus resulting in faster updates of exception which in turn enhances road user experience as well as reduces the potential of chargebacks.</p>
viii.	The TMS shall provide Live Performance Monitoring of the TMS. This feature helps monitoring the lane-wise Toll Plaza traffic on-line.
ix.	The TMS shall provide option to select lane operation mode which will help in configuration of the different modes of lane operation (e.g. Hybrid, Dedicated etc.) proposed. For example, in case of failure of a Dedicated FASTag lane, an

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S.No	Technology Partners
	adjacent Hybrid lane can be quickly configured to be a Dedicated lane, until the original Dedicated lane is set right.
x.	The TMS toll products shall be configurable which will allow new toll products / schemes like e.g. time -based (e.g. Weekly pass, Monthly pass) or Trip-based (Limited trips) or a combination of both (e.g. Monthly pass with limited number of trips) can be introduced.
xi.	The TMS shall enable user configurable toll vehicle classes i.e. new vehicle classes can be introduced into the system and can be effectively implemented provided the AVC system can uniquely classify them with a high level of accuracy.
xii.	The TMS Toll collector user interface shall use high contrast between graphics/text and the background for easily readability even in the presence of high ambient light. Toll collector interface should facilitate easy readability and high contrast enhance toll collector efficiency and reduce toll collector fatigue.
xiii.	<p>The TMS should capture presence of a Media (RFID) for audit. For example, whether a single daily pass is fraudulently shared by several vehicles and mis-used or daily pass that is paid by cash (with a printed barcode on a receipt) or even with a FASTag affixed to a portable glass plate and shared between vehicles.</p> <p>The system should have functionality to highlight and mark such records for enabling authorities take necessary steps.</p>
xiv.	<p>The TMS should have functionality for transaction audit and availability of evidence. The Auditor in the TMS has the responsibility of resolving incident / violation transactions like:</p> <ul style="list-style-type: none"> a) Where AVC class does not match with the Toll Collector class (in case of cash transaction) or when AVC class does not match with the vehicle class written on FASTag. b) When a vehicle has been exempted from paying toll by the toll collector. c) When a vehicle has 'run through' a toll lane without paying toll. <p>The TMS should provide a rich list of evidence to the Auditor including Vehicle Image/ Video, License Plate, AVC profile, WIM Measurement, SWB measurement to help her/him make an informed decision.</p>
xv.	The TMS should facilitate user customizable report. Such a feature aids the user to generate specific analytical reports that provide a better insight into the TMS performance for its improvement. Such reports may not be a part of the standard list of reports present in the TMS but can be customized as per requirement.

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S.No	Technology Partners
xvi.	The TMS shall provide web-based performance monitoring and transaction audit feature for remote performance monitoring and transaction auditing.
xvii.	The TMS shall have functionality to detect and highlight error in Lane Status Display Unit (used for performance monitoring) through which an issue alert shall automatically be sent to IHMCL.

S.No	System Integration		
i.	The System should have features to integrate with the following peripherals		
	S. No	Device	Typical connection type from the System (as per specification, or similar solution)
	1	Incident Camera & License plate recognition camera	TCP/IP
	2	User Fare Display	RS 232
	3	Automatic Lane Exit Barrier	Digital I/O
	4	Traffic Light	Digital I/O
	5	Over Head Lane Signal (OHLS) / Canopy Lane Status Display (CLSD)	Digital I/O or data link using RS 232/RS 485 or TCP/IP
	6	Credit/ Debit/ CSC/NFC reader / validator	RS 232 or TCP/IP
	7	AVC system data	Via RS 232 to Lane controller and TCP/IP to the TMS backend OR

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S.No	System Integration		
			Via TCP/IP to both the Lane controller and the TMS backend
	8	TLC / AVC door status	Digital input
ii.	The above interactions should be via secure/encrypted communication protocols.		
iii.	The above requirements are indicative, and the System designers can recommend new backward compatible connectivity protocols for the above equipment basis the latest industry protocols/Indian requirements.		
iv.	Although the main information transfer in many peripheral devices is only one way (i.e. output) from the TMS lane system (e.g. OHLS/CLSD, TL, UFD), the TMS lane system shall support two-way communication and obtain the device status, in as much detail as possible, based on the hardware connectivity / Device driver / communication protocol provided by the device manufacturer/ vendor.		
v.	In general, the TMS shall communicate adequately to activate all possible controls/displays supported by the peripheral device/system and to obtain all possible information provided by the Peripheral device / System.		
vi.	A non-response of the Device / system over the communication channel shall be tagged as an event and communicated on-line to the TMS backend. Further the restoration of communication shall also be tagged as an event and communicated on-line to the TMS backend.		
vii.	The communication shall be secure to the maximum extent possible supported by the device connectivity.		
viii.	Loop Failures (related to loop for Presence detection or AVC or barrier) shall be automatically detected.		
ix.	All such obtained device/ system status information, as detected and captured above, shall be transferred on-line to the TMS backend.		

I) Employee Module

S.No	Configuration Dashboard
i.	The System must support Role-based access for administrators and users.
ii.	The System should have facility for creating/editing/deleting Vehicle category, toll rates, plaza contracts, employee assigned, etc. so that the same may be used for toll calculations
iii.	The System configuration module should be accessible only to a selected group of users across each department and office
iv.	Every update in the System configuration should require approvals from a user at least one level above the updating user. All the changes should also be available for audit purposes.
v.	By default, the System should populate the related fields of a form if one parameter is selected, therefore list of meta data should be created for all possible fields
vi.	The System should have facility for creating/editing/deleting fee rates for various services rendered by IHMCL/NHAI
vii.	The System should keep history of year wise fee rate and facilitate automatic calculation of fee for a given year for a given service
viii.	The System should have facility for creating/editing/deleting various rate of penalties or interests relating to specific service, time period etc.
ix.	Facility for multiyear fee, penalty and interest calculation should be provided considering variable rate for multiple year
x.	The System should have facility for creating/editing/deleting Account Head or Chart of Account (CoA)
xi.	The CoA should have hierarchical relation between its various levels
xii.	Facility for creating relation between CoA and services/fees should be provided
xiii.	The System should have facility for creating/editing/deleting document list required for various application type/service type and the minimum information that needs to be captured in the Form for each of the applications

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S.No	Configuration Dashboard
xiv.	The System should facilitate creation and modification of workflows related to activities like changes in new plaza, updates in fare rules, modification in issuer banks list, etc.
xv.	The System should have facility for creating/editing/deleting various roles, users etc. for System use
xvi.	The System should have facility for creating/editing/deleting linkages between roles, users, workflow etc.
xvii.	The System should have facility for creating/editing/deleting tasks and linking/assigning the same with roles/users
xviii.	Facility should be there for assigning, reassigning, activating, deactivating etc. for various task, users and roles
xix.	The System should have facility for creating/editing/deleting list of standard comments/reasons and facility to link it with various task/workflow etc.
xx.	The System should facilitate definition, configuration and criteria setting for the key events and related alert or messages
xxi.	The System shall facilitate making necessary changes to the existing structure for fee, fines and other charges based on the revisions in the policy
xxii.	The System should have facility to define and configure exemptions, rebates, special cases etc. for various transactions and also for financial matters
xxiii.	During various processes/operation in the System, these exemptions, rebates should be automatically considered
xxiv.	The System should provide provision for creating, editing, deleting various type of commissions for different transactions
xxv.	The System should have facility for creating vendor/contract users and their commission for different type of transactions
xxvi.	The System must maintain an audit trail of all updates in the meta data
xxvii.	The System shall require following additional security mechanisms for following categories <ul style="list-style-type: none"> - One-time password for critical approvals (for example updating the toll rates)

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S.No	Configuration Dashboard
	<ul style="list-style-type: none"> - Digital signatures for senior management - TLS 1.3 or higher for all data communications within the system

S.No	Workflow Approvals
i.	The System should facilitate creation and modification of workflows
ii.	Facility should be there for assigning, reassigning, activating, deactivating etc. for various task, users and roles
iii.	The System should have facility for creating/editing/deleting various roles, users etc. for The System use
iv.	The System should have facility for creating/editing/deleting linkages between roles, users, workflow etc.
v.	The System should have facility for creating/editing/deleting tasks and linking/assigning the same with roles/users
vi.	Definition of transactions should include issuing unique identification code to the transaction, name of the transaction, brief description of the transaction, etc.
vii.	The System shall facilitate definition of master list of transactions under the respective service types
viii.	The System shall facilitate definition and configuration of mandatory transactions from the master list of transactions including its periodicity
ix.	The System should enable many-many relationship between various activities, roles and users.
x.	The System should have facility for re-assigning any task to other relevant user from the front-end GUI to handle absence of any user on a particular day
xi.	The System should have facility for creating/editing/deleting list of standard comments/reasons and facility to link it with various task/workflow etc.
xii.	The System should facilitate definition, configuration and criteria setting for the key events and related alert or messages
xiii.	The System should enable linear as well as parallel approvals.

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S.No	IHMCL Dashboard
i.	The System shall have an online work space for each of the designated employee within IHMCL/NHAI.
ii.	The entry to the dashboard should be via employee id and password.
iii.	For certain employee categories, The System must only allow entries to machines that have a security certificate installed on the machines.
iv.	The System should automatically require password reset after 90 days.
v.	<p>The dashboard shall present the following information to employees by pushing relevant information from Plazas to a central system</p> <ul style="list-style-type: none"> • Different disputes/issues regarding payment reconciliation • Role base hierarchical dashboard. • Status of ETC toll plazas across various tolls plazas under the jurisdiction of the employee. The status should display the following information, at a minimum <ul style="list-style-type: none"> ○ Plaza Name ○ Number of lanes ○ Lanes where ETC equipment is not functional ○ Lane-wise name of the non-functional equipment ○ Contact details of following – Vendor and IHMCL/NHAI employee • Integrated Dashboard to monitor real time cash collection across different toll plazas along with ETC transaction and health status of HETC equipment installed at each toll plaza. • Reporting dashboard with (at least) following reports <ul style="list-style-type: none"> ➤ Revenue target vs. actual revenue generated ➤ Plazas with maximum issues with ETC lanes ➤ Resolution time for the ETC issues. <p>The reporting dashboard should have a hierarchical integration. For example, supervisor should be able to see reports for all reporting employees at an individual and aggregate level</p>

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S.No	IHMCL Dashboard
	<p>Following additional reports should be available for senior management across with option to split the same across department/plaza operator/region</p> <p>Revenue targets vs. actual collection across ROs/PIUs</p> <p>Override reports across offices</p> <p>The management dashboard should also be hierarchical and allow senior management at Central office to view reports across all offices, while regional offices should be able to see only their data. Similarly, the views of department heads should be restricted to their departments.</p> <p>The management dashboard should have option to select any/all of the following items and generate the report(s)</p> <p>time,</p> <p>office,</p> <p>revenue,</p> <p>transaction type,</p> <p>vehicle type,</p> <p>User Type,</p> <p>Plaza Operator,</p> <p>HETC Equipment,</p> <p>Account Heads</p> <p>The dashboards should have easy to use Graphical User Interface to customize reports and make comparisons.</p> <ul style="list-style-type: none"> The dashboard should also display KPI adherence for all the KPIs defined under the provision of Operation and Maintenance, for identified IHMCL/NHAI users.
vi.	The dashboard must have facility to generate on-demand reports based on criteria defined above.
vii.	The dashboard must have facility to enable identified users to download data for archival purpose in an easy to use format (for example excel).
viii.	The dashboard should also have the facility to define the frequency of report generation and the intended recipients. The System should then automatically email the reports to defined users.

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S.No	IHMCL Dashboard
ix.	The System should have facility to allow only certain IP addresses to access some sections of the solution
x.	The System should highlight tasks that have allocated to IHMCL/NHAI officials via a pop-up window. They should have option to act on task, or postpone for later. For tasks that have not been acknowledged within a time-frame, The System should highlight details to supervisor for reallocation.

S.No	System Dashboard
i.	The System shall have a System Dashboard for defined class of IHMCL/NHAI users. The System Dashboard should allow users to change the system configuration as per requirements/legislative changes.
ii.	The entry to the dashboard should be via employee id and password.
iii.	For System Dashboard access, The System must only allow entries to machines that have a security certificate installed on the machines.
iv.	<p>The system dashboard should allow for editing of following Toll plaza details –</p> <ul style="list-style-type: none"> - Add a new toll plaza - Change the number of lanes - Change the ETC lanes - Change the Toll Operator - Delete the toll plaza - Edit the mapping between plaza and rates
v.	<p>The system dashboard should allow for editing of following Vehicle Class details</p> <ul style="list-style-type: none"> - Add a new Vehicle Class - Drop a vehicle class - Change the rates associated with the vehicle class
vi.	<p>The system dashboard should allow for editing of following Toll Operator details –</p> <p>Add a new Toll Operator</p> <ul style="list-style-type: none"> - Assign a Plaza to Operator

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S.No	System Dashboard
	- Drop the Plaza from Operator
vii.	The system dashboard should allow for editing of following Employee details – <ul style="list-style-type: none">- Add a new Employee- Assign a Plaza to Employee- Drop the Plaza from Operator

m) Reporting Module

S.No	Revenue Dashboard
i.	<p>The System should have module to generate the following reports, but not limited to: -</p> <ul style="list-style-type: none">• Shift Collection Report• Manual/Cancel Report• Till Time Collection report• Periodic system collection Report• Transaction Report• Periodic Transaction Report• Day Collection Report• Discrepancy Transaction Report• ETC Collection <p>System should also have features to automatically integrate the above reports, or to dissect the same at a plaza/project/PD level.</p>

S.No	Other Dashboard
i.	<p>The System should have module to generate the AVC reports</p> <ul style="list-style-type: none">• AVC comparison/Accuracy Report• AVC Traffic count Report

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S.No	Other Dashboard
	<ul style="list-style-type: none"> Back up AVC Transaction Report
ii.	<p>There should be features to generate the following Traffic reports</p> <ul style="list-style-type: none"> Lane Wise Report Class Wise Report Traffic Count Report Traffic count summary Report Monthly Traffic Report
iii.	<p>There should be features for following Event reports</p> <ul style="list-style-type: none"> Day Violation Report User Activity Report Exempt Vehicle Report Cash collection in FASTag exclusive lanes Total ETC Collection Total Cash Collection Simulation History Report Exemption Report
iv.	<p>There should be features for following Audit Reports</p> <ul style="list-style-type: none"> Audit Transaction Report Post Audit Collection Report
v.	<p>There should be following WIM reports in the system</p> <ul style="list-style-type: none"> Overweight Revenue Report Overweight Amount Summary Report WIM Transaction Report SWB overloaded Transaction Report WIM Transaction Vs SWB Report WIM data received Report
vi.	<p>The system should have features for following ETC reports</p>

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S.No	Other Dashboard
	<ul style="list-style-type: none"> • Acquirer File Upload Download Details Report • Acquirer File Transaction Report • ETC Transaction Report • TMS CCH Transaction Reconciliation Report • Transaction Vs missing Reconciliation Report • Vehicle number wise ETC Transaction Report
vii.	The system should have features to automatically track the status of various equipment at the plazas/lanes on an hourly basis
viii.	The system should have features to automatically report all the above reports to authorized representatives/IT systems in IHMCL/NHAI.
ix.	<p>The system should be customizable to include any of the following incidents in the reports:</p> <ul style="list-style-type: none"> • Date / hour change • Hybrid lane open • Dedicated/FASTag Exclusive lane open • Lane closed • Invalid toll collector • Tariff change • Lane into maintenance mode • Lane out of maintenance mode • Vehicle detected without collector classification (run through) • Vehicle discrepancy • Time exceeded for vehicle exit from lane • Classification cancelled [for toll collector, lane] • Vehicle reclassified • Extra receipt printed • TLC enclosure opened [sound buzzer] • TLC enclosure closed

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S.No	Other Dashboard
	<ul style="list-style-type: none">• Low disk space warning on TLC• Low disk space warning on TMS related server• Low disk space warning on local drive• Insufficient memory warning on TMS related server• Loss of communication with TMS lane system (specific TLC/AVC)• Communication with TMS lane system re-established specific TLC/AVC)• Loss Communication with specific TMS backend server• Communication with TMS lane system re-established• Change of TLC mode without permission• Equipment failure: Sensor 1• Equipment failure: Sensor 2• Equipment failure: exit barrier• Equipment failure: AVC• Equipment failure: etc. for all equipment• Database corrupt [all database]• Toll collector confirmed bleed-off• Vehicle without valid FASTag detected in the toll lane• Panic alarm initiated• Shift opened• Shift closed• Change in toll collector database• Change in user access level• FASTag unreadable• FASTag in Exception List• Failure reading tariff table• Toll collector login• Toll collector logout

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S.No	Other Dashboard
	<ul style="list-style-type: none">• Run through violation• Class discrepancy – Over-classification• Class discrepancy – Under-classification• Pass back of any vehicle (any vehicle passing through the Toll plaza in the same direction within in a pre-defined time period) <p>In addition to the above, IHMCL/NHAI can design/make any activity to be an incident in the TMS and get its status/reports.</p>

n) Other Features

- i. Performance monitoring
- ii. TMS Administration
 - User Management
 - Shift Consolidation
 - Day Consolidation
 - Data Reconciliation User Interface
- iii. Axle weight Measurement
- iv. Independent Vehicle class and Image Acquisition
- v. Maintenance Tool
- vi. Data security and Data integrity (Lane level & TMS Level)
- vii. Remote Monitoring - Head Quarter Management System
- viii. Architecture related - Modular organization

6.7. IHMCL's Responsibility

- a) IHMCL shall observe, undertake, comply with and perform, in addition to and not in derogation of its obligations elsewhere set out in this Agreement, the obligations set forth in this Article:
- b) To release payments to Successful bidder in accordance with the Agreement
- c) To reasonably cooperate with the Successful bidder to enable it to render its services in terms of the Agreement.

6.8. Successful bidder's Responsibility

The Successful bidder shall observe, undertake, comply with and perform, in addition to and not in derogation of its obligations elsewhere set out in this Agreement, the obligations set forth in this clause:

- a) To perform the Scope of Work as set out in Section 6.
- b) To be responsible for compliance with Applicable Laws;
- c) To procure, as required, the appropriate proprietary rights, licenses, agreements and permissions for, inter alia, materials, methods, processes, software, operating systems, designs, trademarks, documents and systems used or incorporated into the ETC system.
- d) To provide Performance Security in the form of Bank Guarantee to IHMCL, in accordance with relevant section of RFP;
- e) To carry out its obligations hereunder with all due diligence, efficiency and economy, in accordance with generally accepted professional techniques and practices, and to observe sound management practices, and employ appropriate advanced technology and safe and effective equipment, machinery, materials and methods;
- f) To keep sufficient accessories, spares, parts, etc., while discharging Scope of Work;
- g) To provide onsite support for the complete system;
- h) To provide necessary information and reports including those pertaining to problems relating to HETC System to IHMCL and the entities authorized by IHMCL;
- i) To reasonably cooperate with IHMCL and other stakeholders concerned in relation to the matters covered under this Agreement; and
- j) To be responsible for safety and security of its equipment and staff;
- k) To deploy adequate number of resources with qualifications and skills commensurate to the job requirement;
- l) To maintain adequate insurance covers to safeguards its interest regarding any loss/damage/theft to its equipment and or personal during conduct of the assignment;
- m) Indemnify IHMCL against any damage/loss of property or personal of the agency during conduct of assignment.

- n) Sign the Non-Disclosure Agreement (NDA) with IHMCL.

7. ANNEXURE

7.1. Annexure 1: Bid Covering Letter

(In the letterhead of the Bidder)

To

Chief Operating Officer

Indian Highways Management Co. Ltd. (IHMCL)

G-5&6, Sector 10 Dwarka

New Delhi 110 075

Subject: _____

Ref. No. RFP. No. _____ dated _____ -

Dear Sir,

1. I/We, the undersigned, have carefully examined the contents of the document including amendments/ addendums (if any) thereof and undertake to fully comply and abide by the terms and conditions specified therein and hereby submit our application. Our application is unconditional and unqualified.
2. I/We undertake that, in competing for (and, if the award is made to us), for executing the above contract, we will strictly observe the laws against fraud and corruption in force in India.
3. I/We understand that:
 - a. this Bid/Proposal, if found incomplete in any respect and/ or if found with conditional compliance or not accompanied with the requisite application fee and/ or prescribed supporting document shall be summarily rejected.
 - b. if at any time, any averments made or information furnished as part of this application is found incorrect, then the application will be rejected
 - c. IHMCL is not bound to accept any/ all Bid (s) it will receive.
4. I/We declare that:
 - a) I/We understand that you may cancel the Bidding Process at any time and that you are neither bound to accept any Proposal that you may receive nor to invite the Bidders to submit Proposals for RFP Name _____, without incurring any liability to the Bidders, in accordance with relevant clause of the RFP Document
 - b) We undertake that in case, due to any change in facts or circumstances during the Bidding Process, we become liable to be disqualified in terms of the provisions of disqualification, we shall intimate IHMCL of the same immediately.

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- c) We agree and understand that the Proposal is subject to the provisions of the Bidding Documents. In no case, we shall have any claim or right of whatsoever nature if the contract is not awarded to us or our Proposal is not opened.
 - d) We undertake that none of the hardware/software/other component being proposed by us infringes on any patent or intellectual property rights as per the applicable laws.
 - e) I/We confirm that we are operating in the field of Software development/IT Solutions for at least five (5) years as on 31 March 2021.
 - f) **I/We have not been declared** blacklisted or debarred by any government department/ agency/PSU, IHMCL for material non-performance or contractual non-compliance in the last 1 year as on bid due date.
5. I/We declare that our bid is valid for 180 days.

Name

Designation/ Title of the Authorized Signatory.....

7.2. Annexure 2: Brief Information about the Applicant(s)

(To be prepared on letterhead of the Applicant)

Subject: Selection of _____

1. Bidder Details

- a. Name of Applicant:
- b. Year of establishment:
- c. Registered Address:
- d. Constitution of the Applicant entity e.g. Government enterprise, private limited company, limited company, etc.

2. Address for correspondence with Telephone/ Fax numbers/ e-mail address:

- (a) Authorized Person with Complete postal address:
- (b) Fixed telephone number
- (c) Mobile number
- (d) E-mail address

3. Name of the Statutory Auditor certifying the documents along with his/ her Membership number, if applicable:

4. Applicant details (Please include details for each Consortium Member, if applicable)

Required Info	Documentary Evidence Attached (Yes/No, along with page no.)
Field of business	
Registration Status	
CMMi level of organization	
Qualifying Projects – value, client, key features	
Average Turnover	

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Is Bidder debarred by any Government entity (Yes/No)	
---	--

5. Financial details/projects meeting the qualifying criteria

Name

Designation/ Title of the Authorized Signatory.....

7.3. Annexure 3: Undertaking

Subject: Selection of Bidder for _____

1. I, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.
2. The undersigned also hereby certifies that neither our Company/firm M/s _____ have abandoned any work of National Highways Authority of India/IHMCL nor any contract awarded to us for such works have been rescinded, during last five years prior to the date of this bid.
3. The undersigned hereby authorize(s) and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by IHMCL to verify this statement or regarding my (our) competence and general reputation.
4. The undersigned understands and agrees that IHMCL may ask for further qualifying information, and agrees to furnish any such information at the request of IHMCL.
5. We confirm that we have not been blacklisted /debarred by any central/state Government department/organization or Quasi Government agencies of PSU.
6. We confirm that no criminal proceeding is pending against our company/firm or any of its Directors/ Partners in any court of law.
7. We also confirm that we have not been convicted by any court of law for any of the offences under any Indian laws

(Signed by an Authorized Officer of the bidder)

Title of Officer

Name of bidder

DATE

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7.4. Annexure 4: Bidder's Annual Turnover

RFP Ref _____ (Date)

From,

(Name & Address of the Bidder)

To,

Chief Operating Officer,
Indian Highways Management Co. Ltd.
G-5&6, Sector 10 Dwarka
New Delhi 110 075

Subject: -----

Dear Sir/Madam,

We hereby certify that the average annual turnover of M/s. _____ (name of the bidder) for the last three financial years (ending 31st March 2020) is as given below:

Annual Turnover for the last 3 Financial Years (FYs) in Indian Rupees (INR)			
FY 2019-20	FY 2018-19	FY 2017-18	Average

Annual Net worth for the last 3 Financial Years (FYs) in Indian Rupees (INR)			
FY 2019-20	FY 2018-19	FY 2017-18	Positive /Negative as on 31 st March 2020

Yours Sincerely,

(Signature of Statutory Auditor)

Name of the Statutory Auditor:

Name of the Statutory Auditor Firm:

Seal:

7.5. Annexure 5: Power of Attorney/Letter of Authorization

Know all men by these presents, we, M/s (name of Firm/ Company and address of the registered office) do hereby constitute, nominate, appoint and authorize Mr./ Ms..... son/daughter/wife of..... and presently residing at, who is presently employed with us and holding the position of as our true and lawful attorney (hereinafter referred to as the “**Authorized Signatory or Attorney**”) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our quotation for empanelment as the agency for -----, proposed by Indian Highways Management Co. Ltd., including but not limited to signing and submission of all applications, proposals and other documents and writings, and providing information/ responses to IHMCL, representing us in all matters before IHMCL, signing and execution of all contracts and undertakings consequent to acceptance of our proposal and generally dealing with IHMCL in all matters in connection with or relating to or arising out of our proposal for the said assignment and/or upon award thereof to us.

AND, we do hereby agree to ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Authorized Signatory or Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Authorized Representative in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE,THE ABOVE-NAMED PRINCIPAL HAVE PURSUANT TO THE RESOLUTION DATED OF THE BOARD OF DIRECTORS IN THAT BEHALF CAUSED ITS COMMON SEAL, EXECUTED THIS

POWER OF ATTORNEY ON THIS DAY OF, 2022

For
(Signature, name, designation and address)

Witnesses:

1.

2.

Notarized

Accepted

.....
(Signature, name, designation and address of the Attorney)

Notes:

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 executants(s) and when it is so required

*the same should be under common seal affixed in accordance with the required procedure. **The Power of Attorney should be executed on a non-judicial stamp paper of appropriate denomination and should be registered or duly notarized by a notary public.***

Wherever required, the Applicant should submit for verification the extract of the charter documents and other documents such as a resolution/power of attorney in favor of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Applicant.

For a Power of Attorney executed and issued overseas, the document will also have to be legalized by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney is being issued. However, Applicants from countries that have signed The Hague Legislation Convention 1961 need not get their Power of Attorney legalized by the Indian Embassy if it carries a conforming Apostles certificate.

7.6. Annexure 6: Power of Attorney for Lead member

(On Non – judicial stamp paper of appropriate value or such equivalent document duly attested by notary public)

Power of Attorney

Whereas Indian Highways Management Company Ltd. (IHMCL), has invited Proposals from eligible entities for RFP Namethe “Project”,

Whereas, the members of the Consortium are interested in bidding for the Project and implementing the Project in accordance with the terms and conditions of the Request for Proposal (RFP) Document and other connected documents in respect of the Project, and

Whereas, it is necessary under the RFP Document for the members of the Consortium to designate the Lead Member with all necessary power and authority to do for and on behalf of the Consortium, all acts, deeds and things as may be necessary in connection with the Consortium’s bid for the Project who, acting jointly, would have all necessary power and authority to do all acts, deeds and things on behalf of the Consortium, as may be necessary in connection the Consortium’s bid for the Project.

NOW THIS POWER OF ATTORNEY WITNESSETH THAT;

We, M/s. (Lead Member) and M/s (the respective names and addresses of the registered office) do hereby designate M/s. being one of the members of the Consortium, as the Lead Member of the Consortium, to do on behalf of the Consortium, all or any of the acts, deeds or things necessary or incidental to the Consortium’s bid for the Project, including submission of Proposal, participating in conferences/meetings, responding to queries, submission of information/ documents and generally to represent the Consortium in all its dealings with IHMCL, any other Government Agency or any person, in connection with the Project until culmination of the process of bidding and thereafter till the Agreement is entered into with IHMCL.

We hereby agree to ratify all acts, deeds and things lawfully done by Lead Member, 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/ Consortium.

Dated this theDay of2022

.....

(Executants)

(To be executed by all the members of the Consortium)

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Notes:

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.

7.7. Annexure 7: Format for Performance Bank Guarantee

To,
Chief Operating Officer,
Indian Highways Management Company Ltd
G-5&6, Sector 10 Dwarka
New Delhi – 110075, India

WHEREAS _____[Name and address of Agency]
(hereinafter called “the Service Provider”) has decided to apply to IHMCL for providing services, in
pursuance of IHMCL letter of work award No. _____ dated dd/mm/yyyy for “**Request for Proposal
(RFP) For** _____”

” (hereinafter called the “Contract”).

1. AND WHEREAS it has been stipulated by IHMCL in the said letter that the Service Provider shall furnish a Bank Guarantee for the sum specified therein as security for compliance with his obligations in accordance with the terms & conditions of the Contract Agreement.

2. AND WHEREAS we have agreed to give the Service Provider such a Bank Guarantee:

3. NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Service Provider up to a total of `/- (Rupees) only, such sum

being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of `/- as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

4. We hereby waive the necessity of your demanding the said debt from the Service Provider before presenting us with the demand.

5. We further agree that no change or addition to or other modification of the terms of the service provider or of the works to be performed there under or of any of the Contract documents which may be made between you and the Service Provider shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

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6. We undertake to pay to the IHMCL any money so demanded notwithstanding any dispute or disputes raised by the Service Provider(s) in any suit or proceeding pending before any Court or Tribunal relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Service Provider(s) shall have no claim against us for making such payment.
7. The liability of the Bank under this Guarantee shall not be affected by any change in the constitution of the Service Provider or of the Bank.
8. This guarantee shall also be operable at our _____ branch at New Delhi, from whom, confirmation regarding the issue of this guarantee or extension/ renewal thereof shall be made available on demand. In the contingency of this guarantee being invoked and payment thereunder claimed, the said branch shall accept such invocation letter and make payment of amounts so demanded under the said invocation.
9. This bank guarantee shall be valid from
10. Notwithstanding anything contained herein:
- (i) Our liability under this Bank Guarantee shall not exceed `/-
- (ii) The Bank Guarantee shall be valid up to.....
- (iii) We are liable to pay the Guarantee amount or any part thereof under this Guarantee only and only if you serve upon us a written claim or demand on or before

Name:

Date:

Designation:

Employee Code Number:

Telephone Number:

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Name of issuing bank branch _____

Address _____

Telephone number _____

E-mail: _____

Name of bank branch at New Delhi _____

Address _____

Telephone number _____

E-mail: _____

Name of controlling bank branch _____

Address _____

Telephone number _____

E-mail: _____

* The bank guarantee shall be verified through SFMS package.

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7.8. Annexure 8: Self Certificate - Format for Project Citation by the Bidder

The details of projects executed by the Bidder:

Name of the Project & Location	
Client's Name, Contract Details Complete Address	
Brief narrative description of Project – highlighting relevant scope of work such as number of ETC Lanes, etc.	
Contract Value for the Project (in INR)	
Date of Start of Project	
Date of Completion of Project/Status of Completion	
Activities undertaken by Lead Member or Consortium member	

N.B - If the project is ongoing, bidder must clearly specify, the stages/phases/milestones

(Copies of Work orders/Contract Agreement/Client certificate to be attached along with)

Signature & Seal:

Name:

Designation:

Bidding entity's name

Address:

Date:

7.9. Annexure 9: Format for Bid Securing Declaration Form

(To be submitted by Lead Bidder in the Letter head)

Date: _____

RFP Ref: _____

To,

COO,

IHMCL

I/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

- a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
- b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown)

in the capacity of (insert legal capacity of person signing the Bid Securing Declaration)

Name: (insert complete name of person signing the Bid Securing Declaration)

Duly authorized to sign the bid for an on behalf of (insert complete name of Bidder)

Dated on _____ day of _____ (insert date of signing)

Corporate Seal (where appropriate)

8.10 Annexure-10: Consortium Agreement

DRAFT MEMORANDUM OF UNDERSTANDING EXECUTED BY MEMBERS OF THE CONSORTIUM

[On Non-judicial stamp paper of INR 100 duly attested by notary public]

This Memorandum of Understanding (MoU) entered into this day of [Date] [Month] 2020 at [Place] among _____ (hereinafter referred to as "_____") and having office at [Address], India, as Party of the First Part and _____ (hereinafter referred to as "_____") and having office at [Address], as Party of the Second Part and _____ (hereinafter referred to as "_____") and having office at [Address], as Party of the Third Part.

The parties are individually referred to as Party and collectively as Parties.

WHEREAS, Indian Highways Management Company Limited (IHMCL) has issued a Request for Proposal dated [Date] (RFP) from the Applicants interested in **Request for Proposal for** _____ :

AND WHEREAS the Parties have had discussions for formation of a Consortium for bidding for the said Project and have reached an understanding on the following points with respect to the Parties' rights and obligations towards each other and their working relationship.

AS MUTUAL UNDERSTANDING OF THE PARTIES, IT IS HEREBY AGREED AND DECLARED AS FOLLOWS:

- i. The purpose of this Agreement is to define the principles of collaboration among the Parties to:
 - a. Submit a response jointly to Bid for the **"Request for Proposal _____"** as a Consortium.
 - b. Sign Contract in case of award.
 - c. Provide and perform the supplies and services which would be ordered by the Purchaser pursuant to the Contract.
- ii. This Agreement shall not be construed as establishing or giving effect to any legal entity such as, but not limited to, a company, a partnership, etc. It shall relate solely towards the Purchaser for **"Request for Proposal for _____"** for and related execution works to be performed pursuant to the Contract and shall not extend to any other activities.

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- iii. The Parties shall be jointly and severally responsible and bound towards the Purchaser for the performance of the works in accordance with the terms and conditions of the BID document, and Contract.

- iv. ----- (Name of Party) shall act as Lead Partner of the Consortium. As such, it shall act as the coordinator of the Party's combined activities and shall carry out the following functions:
 - a. To ensure the technical, commercial and administrative co-ordination of the work package
 - b. To lead the contract negotiations of the work package with IHMCL.
 - c. The Lead partner is authorized to receive instructions and incur liabilities for and on behalf of all Parties.
 - d. In case of an award, act as channel of communication between the Purchaser and the Parties to execute the Contract

- v. That the Parties shall carry out all responsibilities as Developer in terms of the Project Agreement.

- vi. That the broad roles and the responsibilities of each Party at each stage of the Bidding shall be as below:

Party A: _____

Party B: _____

- vii. That the Parties affirm that they shall implement the Project in good faith and shall take all necessary steps to see the Project through expeditiously.

- viii. That this MoU shall be governed in accordance with the laws of India and courts in New Delhi shall have exclusive jurisdiction to adjudicate disputes arising from the terms herein.

In witness whereof the Parties affirm that the information provided is accurate and true and have caused this MoU duly executed on the date and year above mentioned.

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(Party of the first part) (Party of the second part)

Witness:

- i. _____
- ii. _____

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7.10. Annexure 11: Format for Financial Proposal

(To be submitted on in the excel format uploaded on the website)

S. No.	Particulars	Quantity (A)	Unit (B)	Unit Rate (in Rs.) excl GST (C)	Amount (in Rs.) excl GST D= A * C
1	One time cost of development of software – “Development Cost”	01	Lumpsum		
2	Cost of deployment of software at toll plaza [#]	500	Toll plazas		
3	Quarterly Operations & preventive maintenance cost of Software	12	Quarters		
Total Cost, excluding GST					

P.S – IMPORTANT

- i. The sum of “One-time cost of development of software –Development Cost” in SI # 1 and “Cost of deployment of software at toll plaza” as in SI # 2 should NOT be more than 80% of the Total Cost, excluding GST.*
- ii. If any financial bid is found to be non-compliant to above condition, shall be summarily rejected.*

The actual number of toll plazas may increase or decrease during project implementation. The payment shall be made on a pro-rata basis.

- Bidder Need to fill ONLY the yellow cells

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7.11. Annexure 12: Details of resources proposed

Summary of resources proposed

Sl. No.	Name of the Resource	Proposed Role	Highest degree	Basic Qualification (E.g. B.E. or MCA)	Certifications (ex. PMI or Prince 2 etc.)	Total Experience (in years)

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Curriculum Vitae (CV) of Team Members (ONLY Project Director and Project Manager)

1	Name:				
1.	Proposed position or role	(only one candidate shall be nominated for each position)			
2.	Date of Birth		Nationality		
3.	Education	Qualification	Name of School or College or University	Degree Obtained	Year of Passing
4.	Years of experience				
5.	Areas of Expertise and no. of years of experience in this area	(as required for the Profile)			
6.	Certifications and Trainings attended				
7.	Employment Record	Employer	Position	From	To
		[Starting with present position and last 2 firms, list in reverse order, giving for each employment: dates of employment, name of employing organization, positions held.]			

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1	Name:	
8.	Detailed Tasks Assigned	(List all tasks to be performed under this project)
9.	Relevant Work Undertaken that Best Illustrates the experience as required for the Role)	
Project 1		
Name of assignment		
Year		
Location		
Employer		
Main project features		
Position held		
Activities performed		
Project 2		
Name of assignment		
Year		
Location		
Employer		
Main project features		
Position held		
Activities performed		

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7.12. Annexure 15: Indicative List of Fee Plazas

Sl. #	Plaza Name	Plaza Type (PF/Conc.)	RO	State
1	Manesar Toll Plaza	Conc.	Delhi	Delhi
2	IGI Toll Plaza	Conc.	Delhi	Delhi
3	Srinagar Toll Plaza	Conc.	Delhi	Delhi
4	Mahuvan Toll Plaza	Conc.	Delhi	Delhi
5	Main Plaza Village Jakhauli	PF	Delhi	Delhi
6	Maujpur	PF	Delhi	Delhi
7	Chhajju Nagar	PF	Delhi	Delhi
8	Mavikala	PF	Delhi	Delhi
9	Duhai	PF	Delhi	Delhi
10	Dasana	PF	Delhi	Delhi
11	Bilakbarpur	PF	Delhi	Delhi
12	Fatehpur Rampur	PF	Delhi	Delhi
13	Chhajarsi	PF	Delhi	Delhi
14	L&T Panipat	Conc.	Chandigarh	Haryana
15	Jat Gangaicha Toll Plaza	Conc.	Chandigarh	Haryana
16	Dighal Toll Plaza	Conc.	Chandigarh	Haryana
17	Makrauli Kalan Toll Plaza	Conc.	Chandigarh	Haryana
18	Dahar Toll Plaza	Conc.	Chandigarh	Haryana
19	Gharonda Toll Plaza	Conc.	Chandigarh	Haryana
20	Ghagghar Toll Plaza	Conc.	Chandigarh	Haryana
21	Ladowal Toll Plaza	Conc.	Chandigarh	Haryana
22	Rohad Toll Plaza	Conc.	Chandigarh	Haryana
23	Badarpur Faridabad Toll Plaza	Conc.	Delhi	Haryana
24	Madina Toll Plaza	Conc.	Chandigarh	Haryana
25	Mayar Toll Plaza	Conc.	Chandigarh	Haryana
26	Narwana	Conc.	Chandigarh	Haryana
27	Bado Patti	Conc.	Chandigarh	Haryana
28	Chaudhariwas	Conc.	Chandigarh	Haryana
29	Bhavdeen Plaza	PF	Chandigarh	Haryana
30	Khuian Malkna	PF	Chandigarh	Haryana
31	Bhagan Toll Plaza	PF	Sonepat	Haryana
32	Landhari Toll Plaza	PF	Chandigarh	Haryana
33	Thana Village Toll Plaza	PF	Chandigarh	Haryana
34	Saini Majra Toll Plaza	PF	Chandigarh	Haryana
35	Khatkar Toll Plaza	PF	#REF!	Haryana
36	Jaloli Fee Plaza	PF	Chandigarh	Haryana
37	Dolhu Nallah Fee Plaza	PF	Shimla	Himachal Pradesh
38	Bann Toll Plaza	PF	Jammu	Jammu & Kashmir
39	Mada Fee Plaza	PF	Jammu	Jammu & Kashmir
40	Thandikhui Toll Plaza	PF	Jammu	Jammu & Kashmir
41	Kachkoot Toll Plaza	PF	Jammu	Jammu & Kashmir
42	Ambala Chandigarh	Conc.	Chandigarh	Punjab

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Sl. #	Plaza Name	Plaza Type (PF/Conc.)	RO	State
43	Ladpalwan Toll Plaza	Conc.	Chandigarh	Punjab
44	Waryam Nangal Toll Plaza	Conc.	Chandigarh	Punjab
45	Jatl Dhillwan Toll Plaza	Conc.	Chandigarh	Punjab
46	Jatl Nijerpura Toll Plaza	Conc.	Chandigarh	Punjab
47	Chandimandir Toll Plaza	Conc.	Chandigarh	Punjab
48	Chiddan Toll Plaza	PF	Chandigarh	Punjab
49	Bsc-C&C Kurali Toll Plaza	Conc.	Chandigarh	Punjab
50	Harsa Mansar Toll Plaza	Conc.	Chandigarh	Punjab
51	Chollang Toll Plaza	Conc.	Chandigarh	Punjab
52	Milkmajra	PF	Chandigarh	Punjab
53	Badbar	PF	Chandigarh	Punjab
54	Lehra Begga	PF	Chandigarh	Punjab
55	Kalajhar Toll Plaza	PF	Chandigarh	Punjab
56	Usma Toll Plaza	PF	Chandigarh	Punjab
57	Zidda Toll Plaza	PF	Chandigarh	Punjab
58	Dhareri Jattan Plaza	PF	Chandigarh	Punjab
59	Dharer Azizpur Toll Plaza	PF	Chandigarh	Punjab
60	Kot Karora Kalan Plaza	PF	Chandigarh	Punjab
61	Paind Toll Plaza	PF	Chandigarh	Punjab
62	Chak Bamniya Toll Plaza	PF	Chandigarh	Punjab
63	Barajore Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
64	Anantram Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
65	Niyamatpur Ekrotiya Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
66	Thiriya Khetal Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
67	Tundla Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
68	Gurau (Formerly Semra Atikabad) Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
69	Babina Toll Plaza	PF	Lucknow - West	Uttar Pradesh
70	Salemgarh Toll Plaza	Conc.	Lucknow - East	Uttar Pradesh
71	Muzaina Hetim Toll Plaza	Conc.	Lucknow - East	Uttar Pradesh
72	Tendua Toll Plaza	Conc.	Lucknow - East	Uttar Pradesh
73	Chaukadi Toll Plaza	Conc.	Lucknow - East	Uttar Pradesh
74	Mandawnagar Toll Plaza	Conc.	Lucknow - East	Uttar Pradesh
75	Nawabganj Toll Plaza	Conc.	Lucknow - East	Uttar Pradesh
76	Ahmadpur Toll Plaza	Conc.	Lucknow - East	Uttar Pradesh
77	Ronahi Toll Plaza	Conc.	Lucknow - East	Uttar Pradesh
78	Ait Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
79	Semri Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
80	Brijghat Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
81	Joya Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
82	Itaunja Toll Plaza	Conc.	Lucknow - East	Uttar Pradesh
83	Khairabad Toll Plaza	Conc.	Lucknow - East	Uttar Pradesh
84	Katoghan Toll Plaza	PF	Lucknow - West	Uttar Pradesh
85	Kokhraj (Sirohi) Toll Plaza	Conc.	Lucknow - East	Uttar Pradesh

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Sl. #	Plaza Name	Plaza Type (PF/Conc.)	RO	State
86	Handiya (Sujala) Toll Plaza	Conc.	Lucknow - East	Uttar Pradesh
87	Nawabganj Toll Plaza	Conc.	Lucknow - East	Uttar Pradesh
88	Soraon Toll Plaza	Conc.	Lucknow - East	Uttar Pradesh
89	Sahson Toll Plaza	Conc.	Lucknow - East	Uttar Pradesh
90	Lalanagar Toll Plaza	PF	Lucknow - East	Uttar Pradesh
91	Madrak Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
92	Baros Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
93	Badauri Toll Plaza	PF	Lucknow - West	Uttar Pradesh
94	Aliyapur Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
95	Khanna Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
96	Sivaya Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
97	Luharli Toll Plaza	Conc.	Lucknow - West	Uttar Pradesh
98	Gabhana Tollplaza	Conc.	Lucknow - West	Uttar Pradesh
99	Nuruddinpur Toll Plaza	PF	Lucknow - East	Uttar Pradesh
100	Kunwarpur	PF	Lucknow - East	Uttar Pradesh
101	Raibha Toll Plaza	PF	Lucknow - West	Uttar Pradesh
102	Aaini Toll Plaza	PF	Lucknow - East	Uttar Pradesh
103	ALEP Ramp Plaza 108	PF	Lucknow - East	Uttar Pradesh
104	ALEP Ramp Plaza 284	PF	Lucknow - East	Uttar Pradesh
105	ALEP Ramp Plaza 204	PF	Lucknow - East	Uttar Pradesh
106	ALEP Ramp Plaza 269	PF	Lucknow - East	Uttar Pradesh
107	ALEP Ramp plaza 101	PF	Lucknow - East	Uttar Pradesh
108	Chamari Toll Plaza	PF	Lucknow - West	Uttar Pradesh
109	Dakhina Shekpur Toll Plaza	PF	Lucknow - East	Uttar Pradesh
110	Vighakhet Toll Plaza	PF	Lucknow - West	Uttar Pradesh
111	Harro Toll Plaza Near Ganne	PF	Lucknow - East	Uttar Pradesh
112	Sahahbpur	PF	Lucknow - East	Uttar Pradesh
113	Nainsar	PF	Lucknow - East	Uttar Pradesh
114	Hadwa	PF	Lucknow - East	Uttar Pradesh
115	Akshda	PF	Lucknow - East	Uttar Pradesh
116	Mohammad Ibrahimpur	PF	Lucknow - West	Uttar Pradesh
117	Belon	PF	Lucknow - West	Uttar Pradesh
118	Amdi Fee Plaza	PF	Lucknow - East	Uttar Pradesh
119	Chapwa	PF	Lucknow - East	Uttar Pradesh
120	Amreha	PF	Lucknow - East	Uttar Pradesh
121	Mungari	PF	Lucknow - East	Uttar Pradesh
122	Pidhi Toll Plaza	PF	Lucknow - East	Uttar Pradesh
123	Andiyari	Conc.	Lucknow - East	Uttar Pradesh
124	Aindhi Toll Plaza	PF	Lucknow - East	Uttar Pradesh
125	Naini Toll Plaza	PF	Lucknow - West	Uttar Pradesh
126	Bharatkhund	PF	Lucknow - East	Uttar Pradesh
127	Sabli Toll Plaza	PF	Lucknow - West	Uttar Pradesh
128	Deoria Toll Plaza	Conc.	Dehradun	Uttarakhand
129	Banushi	PF	Dehradun	Uttarakhand

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Sl. #	Plaza Name	Plaza Type (PF/Conc.)	RO	State
130	L&T Vadodra	Conc.	Gandhinagar	Gujarat
131	IRB Boriach	Conc.	Gandhinagar	Gujarat
132	IRB Charoti	Conc.	Gandhinagar	Gujarat
133	IRB Bhagwada	Conc.	Gandhinagar	Gujarat
134	IRB Choryasi	Conc.	Gandhinagar	Gujarat
135	Ahmedabad Toll Plaza	Conc.	Gandhinagar	Gujarat
136	Ahmedabad (Ring Road) Toll Plaza	Conc.	Gandhinagar	Gujarat
137	Nadiad Toll Plaza	Conc.	Gandhinagar	Gujarat
138	Anand Toll Plaza	Conc.	Gandhinagar	Gujarat
139	Vadodara Toll Plaza	Conc.	Gandhinagar	Gujarat
140	Kheda	Conc.	Gandhinagar	Gujarat
141	Vasad	Conc.	Gandhinagar	Gujarat
142	Vantada Toll Plaza	PF	Gandhinagar	Gujarat
143	Kathpur Toll Plaza	PF	Gandhinagar	Gujarat
144	Pithai Toll Plaza	Conc.	Gandhinagar	Gujarat
145	Vavadi Toll Plaza	Conc.	Gandhinagar	Gujarat
146	Khaniwade Toll Plaza	Conc.	Gandhinagar	Gujarat
147	Pithadiya Toll Plaza	Conc.	Gandhinagar	Gujarat
148	Bharudi Toll Plaza	Conc.	Gandhinagar	Gujarat
149	Bhatwada Toll Plaza	Conc.	Gandhinagar	Gujarat
150	Khemana Toll Plaza	PF	Gandhinagar	Gujarat
151	Varahi Toll Plaza	Conc.	Gandhinagar	Gujarat
152	Makhel Toll Plaza	Conc.	Gandhinagar	Gujarat
153	Bhiladi Toll Plaza	Conc.	Gandhinagar	Gujarat
154	Bhalgam Toll Plaza	Conc.	Gandhinagar	Gujarat
155	Surajbari Toll Plaza	Conc.	Gandhinagar	Gujarat
156	Vaghasiya Toll Plaza	Conc.	Gandhinagar	Gujarat
157	Vanana Toll Plaza	Conc.	Gandhinagar	Gujarat
158	Dhumiyani Toll Plaza	Conc.	Gandhinagar	Gujarat
159	Samakhiali	Conc.	Gandhinagar	Gujarat
160	Undvariya Toll Plaza	PF	Gandhinagar	Gujarat
161	Bhatia Toll Plaza	Conc.	Gandhinagar	Gujarat
162	Mandal Toll Plaza	Conc.	Gandhinagar	Gujarat
163	Mokha Toll Plaza	Conc.	Gandhinagar	Gujarat
164	Mandva Toll Plaza (Narmada Bridge)	PF	Gandhinagar	Gujarat
165	Gadoi Toll Plaza	PF	Gandhinagar	Gujarat
166	Dari Toll Plaza	PF	Gandhinagar	Gujarat
167	Nandgaon Toll Plaza	Conc.	Nagpur	Maharashtra
168	Mansar Toll Plaza	Conc.	Nagpur	Maharashtra
169	Kamptee Kanhan Bypass Check Toll Plaza	Conc.	Nagpur	Maharashtra
170	Nagpur Bypass Check Toll Plaza	Conc.	Nagpur	Maharashtra
171	Borkhedi Toll Plaza	Conc.	Nagpur	Maharashtra
172	Karanja Toll Plaza	Conc.	Nagpur	Maharashtra

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Sl. #	Plaza Name	Plaza Type (PF/Conc.)	RO	State
173	Tasawade Toll Plaza	Conc.	Mumbai	Maharashtra
174	Kini Toll Plaza	Conc.	Mumbai	Maharashtra
175	Sawaleshwar Toll Plaza	Conc.	Mumbai	Maharashtra
176	Varwade Toll Plaza	Conc.	Mumbai	Maharashtra
177	Gondkhairi Plaza	Conc.	Nagpur	Maharashtra
178	Patas Plaza	Conc.	Mumbai	Maharashtra
179	Sardewadi Plaza	Conc.	Mumbai	Maharashtra
180	Anewadi Toll Plaza	Conc.	Mumbai	Maharashtra
181	Khed-Shivapur Toll Plaza	Conc.	Mumbai	Maharashtra
182	Daroda	PF	Nagpur	Maharashtra
183	Mathni	Conc.	Nagpur	Maharashtra
184	Sendurwafa Toll Plaza	Conc.	Nagpur	Maharashtra
185	Shirpur	Conc.	Nagpur	Maharashtra
186	Songir	Conc.	Nagpur	Maharashtra
187	Chandwad Toll Plaza	Conc.	Mumbai	Maharashtra
188	Laling Toll Plaza	Conc.	Mumbai	Maharashtra
189	Baswant Toll Plaza	PF	Mumbai	Maharashtra
190	Ghoti Toll Plaza	Conc.	Mumbai	Maharashtra
191	Arjunalli Toll Plaza	Conc.	Mumbai	Maharashtra
192	Khambara Toll Plaza	PF	Nagpur	Maharashtra
193	Patanswangi Toll Plaza	PF	Nagpur	Maharashtra
194	Tamalwadi Toll Plaza	Conc.	Mumbai	Maharashtra
195	Yedashi Toll Plaza	Conc.	Mumbai	Maharashtra
196	Pargaon Tp	Conc.	Nagpur	Maharashtra
197	Padalshingi Tp	Conc.	Nagpur	Maharashtra
198	Maliwadi Tp	Conc.	Nagpur	Maharashtra
199	Dhoki	PF	Mumbai	Maharashtra
200	Dumbarwadi	PF	Mumbai	Maharashtra
201	Husnapur	PF	Nagpur	Maharashtra
202	Hiwargaon Pavasa	Conc.	Mumbai	Maharashtra
203	Milanpur Toll Plaza	PF	Nagpur	Maharashtra
204	Ashiv Fee Plaza	PF	Nagpur	Maharashtra
205	Haladgao Toll Plaza	PF	Nagpur	Maharashtra
206	Kelapur	PF	Nagpur	Maharashtra
207	Phulwadi Toll Plaza	Conc.	Mumbai	Maharashtra
208	Talmod Toll Plaza	Conc.	Mumbai	Maharashtra
209	Chalakwadi Toll Plaza	Conc.	Mumbai	Maharashtra
210	Badewadi	PF	Mumbai	Maharashtra
211	Gegal	Conc.	Jaipur	Rajasthan
212	Pipalaz	Conc.	Jaipur	Rajasthan
213	Jaipur Plaza	Conc.	Jaipur	Rajasthan
214	Kishangarh Plaza	Conc.	Jaipur	Rajasthan
215	Shahjahanpur Toll Plaza	Conc.	Jaipur	Rajasthan
216	Manoharpura Toll Plaza	Conc.	Jaipur	Rajasthan

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Sl. #	Plaza Name	Plaza Type (PF/Conc.)	RO	State
217	Daulatpura Toll Plaza	Conc.	Jaipur	Rajasthan
218	Jojro Ka Kheda Toll Plaza	Conc.	Jaipur	Rajasthan
219	Narayanpura Toll Plaza	Conc.	Jaipur	Rajasthan
220	Khandi Obri Toll Plaza	Conc.	Jaipur	Rajasthan
221	Korai Toll Plaza	Conc.	Jaipur	Rajasthan
222	Barkheda Toll Plaza	Conc.	Jaipur	Rajasthan
223	Sonwa Toll Plaza	Conc.	Jaipur	Rajasthan
224	Tatiawas Toll Plaza	Conc.	Jaipur	Rajasthan
225	Similiya	PF	Jaipur	Rajasthan
226	Fatehpur	PF	Jaipur	Rajasthan
227	Malera	PF	Jaipur	Rajasthan
228	Gogunda	PF	Jaipur	Rajasthan
229	Ludhwai Toll Plaza	Conc.	Jaipur	Rajasthan
230	Amoli Toll Plaza	Conc.	Jaipur	Rajasthan
231	Sikandra Toll Plaza	Conc.	Jaipur	Rajasthan
232	Rajadhok Toll Plaza	Conc.	Jaipur	Rajasthan
233	Raipur	Conc.	Jaipur	Rajasthan
234	Indranagar	Conc.	Jaipur	Rajasthan
235	Birami	Conc.	Jaipur	Rajasthan
236	Uthman	Conc.	Jaipur	Rajasthan
237	Methoon Toll Plaza	PF	Jaipur	Rajasthan
238	Kishorepura Toll Plaza	Conc.	Jaipur	Rajasthan
239	Mandawara Toll Plaza	Conc.	Jaipur	Rajasthan
240	Negadiya Toll Plaza	Conc.	Jaipur	Rajasthan
241	Rupakheda Toll Plaza	Conc.	Jaipur	Rajasthan
242	Mujras Toll Plaza	Conc.	Jaipur	Rajasthan
243	Doli Toll Plaza	PF	Jaipur	Rajasthan
244	Lasedi	Conc.	Jaipur	Rajasthan
245	Dhadhar	Conc.	Jaipur	Rajasthan
246	Sobhasar	Conc.	Jaipur	Rajasthan
247	Banthri	PF	Jaipur	Rajasthan
248	Tamdoli	PF	Jaipur	Rajasthan
249	Lambiya Kalan	Conc.	Jaipur	Rajasthan
250	Khedi	Conc.	Jaipur	Rajasthan
251	Kondar	PF	Jaipur	Rajasthan
252	Chilla Chond	PF	Jaipur	Rajasthan
253	Nimbayani	PF	Jaipur	Rajasthan
254	Kota Bypass Toll Plaza	PF	Jaipur	Rajasthan
255	Nimbasar	PF	Jaipur	Rajasthan
256	Kair Fakir Ki Dhani Toll Plaza	PF	Jaipur	Rajasthan
257	Nekawala	PF	Jaipur	Rajasthan
258	Salasar Toll Plaza	Conc.	Jaipur	Rajasthan
259	Nokhra Toll Plaza	Conc.	Jaipur	Rajasthan
260	Kheerwa Toll Plaza	Conc.	Jaipur	Rajasthan

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Sl. #	Plaza Name	Plaza Type (PF/Conc.)	RO	State
261	Hathitala Toll Plaza	PF	Jaipur	Rajasthan
262	Bor Charnan Toll Plaza	PF	Jaipur	Rajasthan
263	Rajora Khurd	PF	Jaipur	Rajasthan
264	Nimbi Jodha	PF	Jaipur	Rajasthan
265	Harimma	PF	Jaipur	Rajasthan
266	Para Plaza	PF	Jaipur	Rajasthan
267	Limdi Toll Plaza	PF	Jaipur	Rajasthan
268	Netra	PF	Jaipur	Rajasthan
269	Tankala	PF	Jaipur	Rajasthan
270	Gumanpura	PF	Jaipur	Rajasthan
271	Jasnathnagar	PF	Jaipur	Rajasthan
272	Khanori	PF	Jaipur	Rajasthan
273	Khachrol	PF	Jaipur	Rajasthan
274	Leelamba Plaza	PF	Jaipur	Rajasthan
275	Lathi	PF	Jaipur	Rajasthan
276	Ramdevvara	PF	Jaipur	Rajasthan
277	Akhepura	PF	Jaipur	Rajasthan
278	Mandana Toll Plaza	PF	Jaipur	Rajasthan
279	Hanumangarh	PF	Jaipur	Rajasthan
280	Bassi	PF	Jaipur	Rajasthan
281	Aroli	PF	Jaipur	Rajasthan
282	Dhaneshwar	PF	Jaipur	Rajasthan
283	Morani	PF	#REF!	Rajasthan
284	Titoli	Conc.	Jaipur	Rajasthan
285	Rabawata	Conc.	Jaipur	Rajasthan
286	Pahammawlein Toll Plaza	PF	Guwahati	Assam
287	Pasyih	PF	Guwahati	Assam
288	Lomshinong	PF	Guwahati	Assam
289	Diengpasoh Toll Plaza	PF	Guwahati	Assam
290	Dahalapara	PF	Guwahati	Assam
291	Patgaon Toll Plaza	PF	Guwahati	Assam
292	Mikirati Hawgaon Toll Plaza	PF	Guwahati	Assam
293	Daffi Toll Plaza	Conc.	Patna	Bihar
294	Mohania Toll Plaza	Conc.	Patna	Bihar
295	Sasaram Toll Plaza	Conc.	Patna	Bihar
296	Saukala Toll Plaza	PF	Patna	Bihar
297	Hariabara	Conc.	Patna	Bihar
298	Asanpur Toll Plaza	Conc.	Patna	Bihar
299	Maithi	Conc.	Patna	Bihar
300	Parsoni Khem	PF	Patna	Bihar
301	Maranga	PF	Patna	Bihar
302	Barsoni Toll Plaza	PF	Patna	Bihar
303	Balgudar Toll Plaza	PF	Patna	Bihar
304	Raje Toll Plaza (T-2)	Conc.	Patna	Bihar

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Sl. #	Plaza Name	Plaza Type (PF/Conc.)	RO	State
305	Runni Shaidpur Toll Plaza	PF	Patna	Bihar
306	Murlitol	Conc.	Patna	Bihar
307	Mahant Maniyari	Conc.	Patna	Bihar
308	Didarganj	Conc.	Patna	Bihar
309	Saidpur Patedha	PF	Patna	Bihar
310	Kharik	PF	Patna	Bihar
311	Sonho Fee Plaza	PF	Patna	Bihar
312	Pokhrai Fee Plaza	PF	Patna	Bihar
313	Chapraitha Fee Plaza	PF	Patna	Bihar
314	Brindawan Fee Plaza	PF	Patna	Bihar
315	Durg Bypass	Conc.	Raipur	Chhattisgarh
316	Thakurtolla Toll Plaza	Conc.	Raipur	Chhattisgarh
317	Chhuhipali Toll Plaza	Conc.	Raipur	Chhattisgarh
318	Dhank Toll Plaza	Conc.	Raipur	Chhattisgarh
319	Lakholi Toll Plaza	Conc.	Raipur	Chhattisgarh
320	Jagtara	PF	Raipur	Chhattisgarh
321	Mashora	PF	Raipur	Chhattisgarh
322	Badaiyguda	PF	Raipur	Chhattisgarh
323	Mudhipar Toll Plaza	PF	Raipur	Chhattisgarh
324	Bhojpuri Toll Plaza	PF	#REF!	Chhattisgarh
325	Kumhari	PF	Raipur	Chhattisgarh
326	Rasoia Dhamna Toll Plaza	PF	Ranchi	Jharkhand
327	Hazaribagh-Ranchi Expressway (Pundag)	PF	Ranchi	Jharkhand
328	Tand Balidih	PF	Ranchi	Jharkhand
329	Ghanghri Toll Plaza	PF	Ranchi	Jharkhand
330	Sosokhurd	PF	Ranchi	Jharkhand
331	Navasari	PF	Ranchi	Jharkhand
332	Kokpara Toll Plaza	PF	Ranchi	Jharkhand
333	Brajrajnagar Toll Plaza	PF	Ranchi	Jharkhand
334	Kothiya	PF	Ranchi	Jharkhand
335	Khalghat Toll Plaza	Conc.	Bhopal	Madhya Pradesh
336	Choundha	Conc.	Bhopal	Madhya Pradesh
337	Baretha Or Jajau	Conc.	Bhopal	Madhya Pradesh
338	Mehra	Conc.	Bhopal	Madhya Pradesh
339	Malthone	Conc.	Bhopal	Madhya Pradesh
340	Chitora	Conc.	Bhopal	Madhya Pradesh
341	Titarpani	Conc.	Bhopal	Madhya Pradesh
342	Ramnagar	PF	Bhopal	Madhya Pradesh
343	Raksha	PF	Bhopal	Madhya Pradesh
344	Guna	Conc.	Bhopal	Madhya Pradesh
345	Jamli Toll Plaza	Conc.	Bhopal	Madhya Pradesh
346	Idtl Toll Plaza-A	Conc.	Bhopal	Madhya Pradesh
347	Idtl Toll Plaza-B	Conc.	Bhopal	Madhya Pradesh

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Sl. #	Plaza Name	Plaza Type (PF/Conc.)	RO	State
348	Mundiyar	PF	Bhopal	Madhya Pradesh
349	Jungawani	PF	Bhopal	Madhya Pradesh
350	Jaitpur	PF	Bhopal	Madhya Pradesh
351	Sonway Toll Plaza	Conc.	Bhopal	Madhya Pradesh
352	Panihar	Conc.	Bhopal	Madhya Pradesh
353	Mud Kheda	Conc.	Bhopal	Madhya Pradesh
354	Pagara Toll Plaza	Conc.	Bhopal	Madhya Pradesh
355	Jogipur Toll Plaza	Conc.	Bhopal	Madhya Pradesh
356	Purankhedi Toll Plaza	Conc.	Bhopal	Madhya Pradesh
357	Methwada	Conc.	Bhopal	Madhya Pradesh
358	Dattigaon	Conc.	Bhopal	Madhya Pradesh
359	Chapra New Delhi	Conc.	Bhopal	Madhya Pradesh
360	Rojwas	Conc.	Bhopal	Madhya Pradesh
361	Khadda	PF	Bhopal	Madhya Pradesh
362	Sonvarsha	PF	Bhopal	Madhya Pradesh
363	Allonia	PF	Bhopal	Madhya Pradesh
364	Mungwari	PF	Bhopal	Madhya Pradesh
365	Odaki Pipkhar	PF	Bhopal	Madhya Pradesh
366	Kherwasani	PF	Bhopal	Madhya Pradesh
367	Pathoroundi	PF	Bhopal	Madhya Pradesh
368	Majhgawan	PF	Bhopal	Madhya Pradesh
369	Shadol/Dhuwar	PF	Bhopal	Madhya Pradesh
370	Saliwada	PF	Bhopal	Madhya Pradesh
371	Pandutala	PF	Bhopal	Madhya Pradesh
372	Mohtara Toll Plaza	PF	Bhopal	Madhya Pradesh
373	Ujara	PF	Bhopal	Madhya Pradesh
374	Bakori	Conc.	Bhopal	Madhya Pradesh
375	Kelwad	PF	Bhopal	Madhya Pradesh
376	Chikhalikala	PF	Bhopal	Madhya Pradesh
377	Fulara	PF	#REF!	Madhya Pradesh
378	Madai Fee Plaza	PF	Bhopal	Madhya Pradesh
379	Sehatganj	PF	Bhopal	Madhya Pradesh
380	Bahoripar Fee Plaza	PF	Bhopal	Madhya Pradesh
381	Sergarh Toll Plaza	PF	Bhubaneswar	Odisha
382	Manguli Toll Plaza	Conc.	Bhubaneswar	Odisha
383	Gudipada Or Gangapada Toll Plaza	PF	Bhubaneswar	Odisha
384	Gurapali	PF	Bhubaneswar	Odisha
385	Sambalpur Baragarh Tollways	Conc.	Bhubaneswar	Odisha
386	Hasanpur	Conc.	Bhubaneswar	Odisha
387	Kantaghar	Conc.	Bhubaneswar	Odisha
388	Banajodi	Conc.	Bhubaneswar	Odisha
389	Srirampur Toll Plaza	PF	Bhubaneswar	Odisha
390	Panikoili Toll Plaza	PF	Bhubaneswar	Odisha
391	Pipili	PF	Bhubaneswar	Odisha

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Sl. #	Plaza Name	Plaza Type (PF/Conc.)	RO	State
392	Brajarajnagar (Nuadeeh)	PF	Bhubaneswar	Odisha
393	Laxamannath Plaza	Conc.	Kolkata	West Bengal
394	Rampura Plaza	Conc.	Kolkata	West Bengal
395	Rajchandrapur Toll Plaza	Conc.	Kolkata	West Bengal
396	Jaladhulagori Toll Plaza	Conc.	Kolkata	West Bengal
397	Debra Toll Plaza	Conc.	Kolkata	West Bengal
398	Paschim Madati	PF	Kolkata	West Bengal
399	Sonapetya	Conc.	Kolkata	West Bengal
400	Beliyad Toll Plaza	Conc.	Kolkata	West Bengal
401	Chandermore Plaza	Conc.	Kolkata	West Bengal
402	Shibpur Plaza	Conc.	Kolkata	West Bengal
403	18th Mile Toll Plaza	Conc.	Kolkata	West Bengal
404	Gazole Toll Plaza	Conc.	Kolkata	West Bengal
405	Banskopa Plaza	Conc.	Kolkata	West Bengal
406	Palsit	PF	Kolkata	West Bengal
407	Dankuni	PF	Kolkata	West Bengal
408	Surjapur	PF	Kolkata	West Bengal
409	Guabari Toll Plaza	PF	Kolkata	West Bengal
410	Km 267.250 Of NH 60	PF	Kolkata	West Bengal
411	Km 801.120 Of NH 31	PF	Kolkata	West Bengal
412	Km 114.430 Of NH 117	PF	Kolkata	West Bengal
413	Km 9.640 Of NH 2	PF	Kolkata	West Bengal
414	Km 74.49 of NH 48	PF	Kolkata	West Bengal
415	Km 117.050 of NH 31 C	PF	Kolkata	West Bengal
416	Km 14.550 of NH 60 A	PF	Kolkata	West Bengal
417	Sali Bamandanga	PF	Kolkata	West Bengal
418	Amakthadu Toll Plaza	PF	Vijayawada	Andhra Pradesh
419	Kasepalli Toll Plaza	PF	Vijayawada	Andhra Pradesh
420	Marur Toll Plaza	PF	Vijayawada	Andhra Pradesh
421	Sullurpet Plaza (NH- 16), (Old NH-5)	Conc.	Vijayawada	Andhra Pradesh
422	Budhanam Plaza (NH- 16),(Old NH-5)	Conc.	Vijayawada	Andhra Pradesh
423	Nellore Plaza (NH 16), (Old NH-5)	Conc.	Vijayawada	Andhra Pradesh
424	Keesara Plaza (NH-65), (Old NH-9)	Conc.	Vijayawada	Andhra Pradesh
425	Kaza Toll Plaza Mangalgiri	Conc.	Vijayawada	Andhra Pradesh
426	Bellupada	Conc.	Vijayawada	Andhra Pradesh
427	Madapam	PF	Vijayawada	Andhra Pradesh
428	Chilakpelam	PF	Vijayawada	Andhra Pradesh
429	Nathavalasa	PF	Vijayawada	Andhra Pradesh
430	Agnampadi	PF	Vijayawada	Andhra Pradesh
431	Vempadu	Conc.	Vijayawada	Andhra Pradesh
432	Krishnavaram	Conc.	Vijayawada	Andhra Pradesh
433	Kalaparru	PF	Vijayawada	Andhra Pradesh
434	Bollapalli Toll Plaza	Conc.	Vijayawada	Andhra Pradesh
435	Tangatur Toll Plaza	Conc.	Vijayawada	Andhra Pradesh

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Sl. #	Plaza Name	Plaza Type (PF/Conc.)	RO	State
436	Musunur Toll Plaza	Conc.	Vijayawada	Andhra Pradesh
437	Panchvati Colony(Vishakapatnam Port Connectivity)	Conc.	Vijayawada	Andhra Pradesh
438	Laxmipuram	Conc.	Vijayawada	Andhra Pradesh
439	Palempalli Toll Plaza	Conc.	Vijayawada	Andhra Pradesh
440	Chagalmarri Toll Plaza	Conc.	Vijayawada	Andhra Pradesh
441	Unguturu Toll Plaza	Conc.	Vijayawada	Andhra Pradesh
442	Eethakota At Km.946.300	Conc.	Vijayawada	Andhra Pradesh
443	Nannur	Conc.	Vijayawada	Andhra Pradesh
444	Mekalavaripalli	PF	Vijayawada	Andhra Pradesh
445	Raviguntapalli	PF	Vijayawada	Andhra Pradesh
446	Chinthalapalem Toll Plaza	PF	Vijayawada	Andhra Pradesh
447	Rapur Toll Plaza	PF	Vijayawada	Andhra Pradesh
448	Badava	PF	Vijayawada	Andhra Pradesh
449	Bhramanapalli	PF	Vijayawada	Andhra Pradesh
450	Durgamvaripalli Toll Plaza	PF	Vijayawada	Andhra Pradesh
451	Pottipadu	PF	Vijayawada	Andhra Pradesh
452	Chapirevula	PF	Vijayawada	Andhra Pradesh
453	Davaluru	PF	Vijayawada	Andhra Pradesh
454	Basapuram	PF	Vijayawada	Andhra Pradesh
455	Halaharvi	PF	Vijayawada	Andhra Pradesh
456	Millampali	PF	Vijayawada	Andhra Pradesh
457	Gollaprolu	PF	Vijayawada	Andhra Pradesh
458	D C Palli	PF	Vijayawada	Andhra Pradesh
459	Buchireddypalem	PF	Vijayawada	Andhra Pradesh
460	Goshtani Gate Of Navy(Vishakapatnam Port Connectivity)	Conc.	#REF!	Andhra Pradesh
461	Chinaganjam Fee Plaza	PF	Vijayawada	Andhra Pradesh
462	Raha	PF	Vijayawada	Andhra Pradesh
463	Vanagiri	Conc.	Bangalore	Karnataka
464	Shahapur	Conc.	Bangalore	Karnataka
465	Hitnal	Conc.	Bangalore	Karnataka
466	Karjeevanhally Toll Plaza	Conc.	Bangalore	Karnataka
467	Guilalu Toll Plaza	Conc.	Bangalore	Karnataka
468	Electronic City Phase 1	Conc.	Bangalore	Karnataka
469	Attibele Toll Plaza	Conc.	Bangalore	Karnataka
470	Bijapur Toll Plaza	Conc.	Bangalore	Karnataka
471	Nagarhalla Toll Plaza	Conc.	Bangalore	Karnataka
472	Kognoli	PF	Bangalore	Karnataka
473	Hattargi	PF	Bangalore	Karnataka
474	Hirebgewadi Toll Plaza	Conc.	Bangalore	Karnataka
475	Bankapur	PF	Bangalore	Karnataka
476	Chalageri	PF	Bangalore	Karnataka
477	Hebbalu	PF	Bangalore	Karnataka
478	Kulumapalya Toll Plaza	Conc.	Bangalore	Karnataka

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Sl. #	Plaza Name	Plaza Type (PF/Conc.)	RO	State
479	Chokkenahalli Toll Plaza	Conc.	Bangalore	Karnataka
480	Plaza 1 @ Km 14+825	Conc.	Bangalore	Karnataka
481	Devanahalli Toll Plaza	Conc.	Bangalore	Karnataka
482	Bagepalli Toll Plaza	PF	Bangalore	Karnataka
483	Nelamangala Toll Plaza	Conc.	Bangalore	Karnataka
484	Bellur Toll Plaza	Conc.	Bangalore	Karnataka
485	Hoskote Toll Plaza	Conc.	Bangalore	Karnataka
486	Mulbagal Toll Plaza	Conc.	Bangalore	Karnataka
487	Shantigrama Toll Plaza	Conc.	Bangalore	Karnataka
488	Kadabhalli (Kirasave) Toll Plaza	Conc.	Bangalore	Karnataka
489	Nangli Toll Plaza	Conc.	Bangalore	Karnataka
490	Sasthan Toll Plaza	Conc.	Bangalore	Karnataka
491	Hejamadi Toll Plaza	Conc.	Bangalore	Karnataka
492	Talapady Toll Plaza	Conc.	Bangalore	Karnataka
493	Kamkole	Conc.	Bangalore	Karnataka
494	Kannole	PF	Bangalore	Karnataka
495	Harwal	PF	Bangalore	Karnataka
496	Mangalgi	Conc.	Bangalore	Karnataka
497	Brahamarakotlu	PF	Bangalore	Karnataka
498	Yeddore	PF	Bangalore	Karnataka
499	Kannegala	PF	Bangalore	Karnataka
500	K N Huindy	PF	Bangalore	Karnataka
501	Belekeri	Conc.	Bangalore	Karnataka
502	Holgegadde	Conc.	Bangalore	Karnataka
503	Surathkal Toll Plaza	PF	Bangalore	Karnataka
504	Shirur	Conc.	Bangalore	Karnataka
505	Paliyekkara Toll Plaza	Conc.	Kerala	Kerala
506	Kumbalam Toll Plaza	Conc.	Kerala	Kerala
507	Pampampallam Toll Plaza	Conc.	Kerala	Kerala
508	Poonarimangalam	PF	Kerala	Kerala
509	Sriperumbadur	PF	Chennai	Tamil Nadu
510	Chennasamaduram	PF	Chennai	Tamil Nadu
511	Vikkravandi Toll Plaza	Conc.	Chennai	Tamil Nadu
512	Sengurichi Toll Plaza	Conc.	Madurai	Tamil Nadu
513	Thirumandurai Toll Plaza	Conc.	Madurai	Tamil Nadu
514	Surapattu Toll Plaza	PF	Chennai	Tamil Nadu
515	Vanagaram Toll Plaza	PF	Chennai	Tamil Nadu
516	Kappalur	PF	Madurai	Tamil Nadu
517	Nanguneri	PF	Madurai	Tamil Nadu
518	Omalur Toll Plaza	Conc.	Chennai	Tamil Nadu
519	Samayapuram Toll Plaza	Conc.	Madurai	Tamil Nadu
520	Vijayamangalam Toll Plaza	Conc.	Chennai	Tamil Nadu
521	Vaiguntham Toll Plaza	Conc.	Chennai	Tamil Nadu
522	Ponnambalapatti Plaza	Conc.	Madurai	Tamil Nadu

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Sl. #	Plaza Name	Plaza Type (PF/Conc.)	RO	State
523	Kozhinjiipatti Plaza	Conc.	Madurai	Tamil Nadu
524	Rasampalayam Plaza	Conc.	Chennai	Tamil Nadu
525	Mettupatti Plaza	Conc.	Chennai	Tamil Nadu
526	Nathakkarai Plaza	Conc.	Chennai	Tamil Nadu
527	Veeracholapuram Plaza	Conc.	Chennai	Tamil Nadu
528	Thiruparaithurai Plaza	Conc.	Chennai	Tamil Nadu
529	Manavasi Plaza	Conc.	Chennai	Tamil Nadu
530	Krishnagiri Plaza	Conc.	Chennai	Tamil Nadu
531	Vaniyambadi Toll Plaza	Conc.	Chennai	Tamil Nadu
532	Pallikonda Toll Plaza	Conc.	Chennai	Tamil Nadu
533	Nallur Toll Plaza	PF	Chennai	Tamil Nadu
534	L&T Krishnagiri Thopur Toll Plaza	Conc.	Chennai	Tamil Nadu
535	Velanchettiyur	Conc.	Madurai	Tamil Nadu
536	Athur	PF	Chennai	Tamil Nadu
537	Valvanthankottai	Conc.	Madurai	Tamil Nadu
538	Elliyarpathy	Conc.	Madurai	Tamil Nadu
539	Pudurpandiyapuram	Conc.	Madurai	Tamil Nadu
540	Pondicherry Tindivanam Toll Plaza	Conc.	Chennai	Tamil Nadu
541	Vagaikulam Toll Plaza	PF	Madurai	Tamil Nadu
542	IVRCL Chengapally Tollways Limited	Conc.	Chennai	Tamil Nadu
543	S.V Puram Toll Plaza	PF	Chennai	Tamil Nadu
544	Pattarai Toll Plaza	PF	Chennai	Tamil Nadu
545	Shenbagampettai Toll Plaza	PF	Madurai	Tamil Nadu
546	Palaya Gandharvakottai Toll Plaza	PF	Madurai	Tamil Nadu
547	Salaipudur	PF	Madurai	Tamil Nadu
548	Paranur	PF	Chennai	Tamil Nadu
549	Lembalakudi	PF	Madurai	Tamil Nadu
550	Lechchumanapatti	PF	Madurai	Tamil Nadu
551	Chittampatti	PF	Madurai	Tamil Nadu
552	Boothakudi	PF	Madurai	Tamil Nadu
553	Etturvattam	PF	Madurai	Tamil Nadu
554	Mathur Toll Plaza	PF	Chennai	Tamil Nadu
555	Tirupachethi	PF	Madurai	Tamil Nadu
556	Bogalur	PF	Madurai	Tamil Nadu
557	Pantangi	Conc.	Hyderabad	Telangana
558	Koralaphad	Conc.	Hyderabad	Telangana
559	Chillakallu	Conc.	Hyderabad	Telangana
560	Raikal Toll Plaza	Conc.	Hyderabad	Telangana
561	Guduru Toll Plaza	Conc.	Hyderabad	Telangana
562	Rolmamda	PF	Hyderabad	Telangana
563	Gamjal	PF	Hyderabad	Telangana
564	Indalwai	Conc.	Hyderabad	Telangana
565	Sakapur Toll Plaza	Conc.	Hyderabad	Telangana
566	Pullur	PF	Hyderabad	Telangana

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Sl. #	Plaza Name	Plaza Type (PF/Conc.)	RO	State
567	Chinthapally	PF	Hyderabad	Telangana
568	Kadthal	PF	Hyderabad	Telangana
569	Pippalwada	PF	Hyderabad	Telangana
570	Bhiknoor Toll Plaza	PF	Hyderabad	Telangana
571	Manoharabad	PF	Hyderabad	Telangana
572	Konetipuram	PF	Hyderabad	Telangana
573	Muthojipet	PF	Hyderabad	Telangana
574	Dilawarpur Fee Plaza	PF	Hyderabad	Telangana

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7.13. Annexure 16: Summary of Project Experience Submitted by Bidder

Name of Bidder - _____

Sl. No.	Name of Project	Client Name	Contract Value of Project (in Rs. Cr)	Start Date of Work	Completion Date of Work	Status (Completed/Ongoing)	Reference for Documentary Evidence to the Technical Proposal/Bid Submitted (Page no., Document name)
For Experience PQ - Relevant Experience 1							
For Experience PQ - Relevant Experience 2							
For Experience TQ – B1 - Experience in large scale ICT projects involving transactions							
For Experience TQ – B2 - Experience of deployment of Toll Management Software (TMS)							
For Experience TQ – B3 - Evidence of having used ‘emerging technologies’ – 1							
For Experience TQ – B4 - Evidence of having used ‘emerging technologies’ – 2							

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7.14. Annexure 17: Pre-bid Query Format

(To be submitted in Excel Format ONLY)

Name of Bidder: _____

Sl #	Ref to RFP (Clause, Page no.)	Category of Query (Technical/ Legal/ General/ Others)	Original Clause of RFP	Clarification Sought
		Technical		
		Legal		
		General		
		Others		

Bidders are required to submit their queries in the above format ONLY.

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7.15. Annexure 18: Change Control Note (CCN)

Change Control Note		CCN Number:
Part A: Initiation		
Title:		
Originator:		
Sponsor:		
Date of Initiation:		
Details of Proposed Change		
(To include reason for change and appropriate details/specifications. Identify any attachments as A1, A2, and A3 etc.)		
Authorized by Purchaser	Date:	
Name:		
Signature:		
Received by the Bidder	Date:	
Name:		
Signature:		
Change Control Note		CCN Number:
Part B : Evaluation		
(Identify any attachments as B1, B2, and B3 etc.) Changes to Services, payment terms, payment profile, documentation, training, service levels and component working arrangements and any other contractual issue.		
Brief Description of Solution:		
Impact:		

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Deliverables:	
Timetable:	
Charges for Implementation: (including a schedule of payments)	
Other Relevant Information: (including value-added and acceptance criteria)	
Authorized by the Bidder	Date:
Name:	
Signature:	
Change Control Note	CCN Number :
Part C : Authority to Proceed	
Implementation of this CCN as submitted in Part A, in accordance with Part B is: (tick as appropriate)	
Approved Rejected Requires Further Information (as follows, or as Attachment 1 etc.)	
For Purchaser and its nominated agencies	For SI
Signature	Signature
Name	Name
Title	Title
Date	Date