

Contractual Correspondence as Governance:
*Examining Incomplete Contracts, Authority, Control and
Accountability in National
Highways PPP Projects in India*

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ABSTRACT

Public–Private Partnerships (PPPs) have become mainstreamed for transport infrastructure delivery in post-1991 India, accounting for approximately 45–50 per cent of national highway construction. Yet, despite increasingly standardised concession agreements, disputes remain widespread. Between 2015 and 2025, contractors filed claims aggregating to approximately ₹90,000 crore in highway projects, with arbitral awards amounting to about ₹30,000 crore and an estimated ₹1 lakh crore remaining locked in pending claims. Even if a conservative one-third of the claimed amounts, based on historical arbitration outcomes, is assumed to represent genuine contractual entitlement, the volume of capital immobilised in disputes is substantial. Given the well-recognised multiplier effects of infrastructure investment on gross domestic product, such lock-ups have economic consequences extending beyond individual projects.

Our experience of more than three decades shows that a key generator of disputes in project management in PPPs is the nature of contractual correspondence. Practitioners and project managers often treat administrative record-keeping as a primarily technical or procedural function. This paper argues that correspondence in contract execution is governance. Drawing on practice experience and scholarly literature on incomplete contracts, this paper makes two key arguments. First, project correspondence functions as a core mechanism of contractual governance rather than passive administrative procedure. Second, that project correspondence, a function of human judgment and accuracy compounds the problem of incomplete contracts and their implementation. The outcomes are contentious where the nature of state business relationships enacted through correspondence practices significantly determines whether routine contractual disagreements evolve into negotiation, reconciliation, or formal dispute, impacting internal accountabilities and external risks.

Drawing on practitioner-led analysis of letters, notices, instructions, and clarifications exchanged during project execution in 15 disputed highway Public–Private Partnership (PPP) projects, the paper examines how correspondence functions as a site where authority is mutually exercised, contested, stabilised, risks are re-allocated or hedged and accountability is asserted or deferred. It shows that in PPP companies, when correspondence practices are weak, recurring failure modes such as ambiguity, correspondence overload, fragmented authorship, weak escalation pathways, and institutional memory loss due to personnel turnover, undermine this governance interface and contribute to the escalation of routine project-level disagreements into formal disputes and claims. The paper examines conventional perception that structured workflows, adherence to standard concession templates, durable institutional memory, and auditable escalation mechanisms supports earlier resolution through conciliation, reduces capital lock-ups in disputes, and helps sustain investment momentum across governance scales at policy and project levels. By foregrounding contractual correspondence as a mode of governance, the paper contributes to debates on institutional variety, policy praxis, and state capacity in hybrid infrastructure regimes.

INTRODUCTION

Public–Private Partnerships (PPPs) have become mainstream for transport infrastructure delivery in post-1991 India, accounting for approximately 45–50 % of national highway construction. Yet, despite increasingly standardised concession agreements, disputes remain widespread. Between 2017 and 2022, contractors filed claims of approximately Rs. 88,100 crore against the National Highways Authority of India, with 122 cases pending in arbitration at the close of that period (Standing Committee on Transport, Tourism and Culture, 2022). The Ministry of Road Transport and Highways separately estimated total contractor claims in dispute at around Rs. 1 lakh crore as of January 2022 (MoRTH, 2022). Standardisation has reduced neither the volume nor the value of these disputes. Even if a conservative one-third of the claimed amounts, based on historical arbitration outcomes, is assumed to represent genuine contractual entitlement, the volume of capital immobilised in disputes is substantial. Given the well-recognised multiplier effects of infrastructure investment on gross domestic product, such lock-ups have economic consequences extending beyond individual projects. The scale has prompted successive resolution-stage interventions: the Vivad se Vishwas II contractual disputes scheme in 2023, targeting roughly 500 cases worth an estimated Rs. 1 trillion, and a pre-arbitration conciliation mandate in December 2025 (Ministry of Finance, 2023). Both address disputes after they have formed.

Our experience of more than three decades shows that a key generator of disputes in project management in PPPs is the nature of contractual correspondence. Practitioners and project managers often treat administrative record-keeping as a primarily technical or procedural function. This paper argues that correspondence in contract execution is governance. Within this premise, drawing on scholarly literature on incomplete contracts (Oliver Hart, 2017), this paper makes two key arguments. First, project correspondence functions as a core mechanism of contractual governance rather than passive administrative procedure. Second, project correspondence, a function of human judgment and accuracy, when accompanied by what we frame as ‘failure modes’, including ambiguity, correspondence overload, fragmented authorship, weak escalation protocols and institutional memory loss, compounds the problem of incomplete contracts and their implementation. The outcomes are contentious where the nature of state business relationships enacted through correspondence practices significantly determines whether routine contractual disagreements evolve into negotiation, reconciliation, or formal dispute, impacting internal accountabilities and external risks.

Drawing on practitioner-led analysis of letters, notices, instructions, and clarifications exchanged during project execution in 15 disputed highway Public–Private Partnership (PPP) projects, the paper examines how correspondence functions as a site where authority is mutually exercised, contested, stabilised, risks are re-allocated or hedged, and accountability is asserted or deferred. It shows that in PPP companies, when correspondence practices are weak, recurring failure modes such as ambiguity, correspondence overload, fragmented authorship, weak escalation pathways, and institutional memory loss due to personnel turnover undermine this governance interface and contribute to the escalation of routine project-level disagreements into formal disputes and claims. The paper examines the conventional perception that structured workflows, adherence to standard concession templates, durable institutional memory, and auditable escalation mechanisms support earlier resolution through conciliation, reduce capital lock-ups in disputes, and help sustain investment momentum across governance scales at policy and project levels. By foregrounding contractual correspondence as a mode of governance, the paper contributes to debates on institutional variety, policy praxis, and state capacity in hybrid infrastructure regimes.

I. CONTEXT

1.1 THE STAKES: SCALE AND PERSISTENCE OF DISPUTES

India's national highway programme is one of the largest infrastructure undertakings in the world. In the three decades since the 1991 liberalisation, successive governments made PPPs the dominant instrument of highway delivery, private capital financing and executing close to half of national highway construction through long-term concession arrangements. The institutional scaffolding built around this programme – NHAI, the Model Concession Agreement, sector-specific regulatory frameworks – has been refined across multiple policy cycles. By most conventional measures, the programme should have matured into stable delivery.

It has not. Between 2015 and 2025, contractors and concessionaires filed claims against highway authorities aggregating roughly Rs. 90,000 crore. Arbitral awards total approximately Rs. 30,000 crore, and an estimated Rs. 1 lakh crore remains locked in pending disputes. Even at a conservative one-third recovery rate, consistent with historical arbitration outcomes, the capital immobilised in these disputes is economically significant. Infrastructure investment has well-documented GDP multiplier effects; capital tied up in arbitration is capital withheld from those effects. The cost extends well beyond individual projects involved.

This is not an episodic problem. Approximately 50% of highway PPP projects implemented between 2003 and 2016 experienced material delays; around 80% remained incomplete against scheduled timelines (MoSPI, 2015). The pattern has persisted: MoSPI's Flash Report for April 2026¹ records 1981 central sector projects under implementation with a cost overrun of approximately Rs. 5.65 lakh crore across all infrastructure sectors, with financial progress being 47.59%. With respect to Highway projects – 1137 projects are ongoing with Rs. 26,593 crore of cost overrun at a progress of 34.21%. This indicates that the cost overrun may go even higher. These delays lead to recurring downstream consequences like stretched lending, non-performing assets, and concessionaire insolvencies. The pattern has persisted across policy cycles and across increasingly refined concession templates. It demands an explanation beyond individual project failure.

1.2 THE PUZZLE: WHY DOES CONTRACT STANDARDISATION NOT RESOLVE DISPUTES

The institutional response to PPP disputes in India has been, persistently, to improve the contract. The evolution from early BOT concessions through the Model Concession Agreement framework to the Hybrid Annuity Model and the Ministry of Finance's Model Concession Guide (DEA, 2025) represents a sustained effort to tighten risk allocation, reduce ambiguity, and standardise obligations. These reforms have produced better-drafted agreements. They have not produced fewer disputes.

This is the central puzzle. If disputes were primarily products of poor contract drafting, standardisation should have reduced them. If they were primarily products of opportunistic renegotiation, clearer risk provisions should have contained them. Neither has proved sufficient. Something else is generating disputes at scale and it is generating them during execution, not at the point of contract award.

Despite increasingly standardised concession agreements, disputes in Indian highway PPPs persist at scale because weaknesses in governance lie in incomplete contracts, design and execution. Incomplete contractual correspondence – the letters, notices, site instructions, clarifications, and formal communications exchanged

¹https://www.mospi.gov.in/uploads/publications_reports/publications_reports1779688125413_332125c5-1fb9-4d23-87ca-dd89fc14cd15_Flash_Report_April_2026.pdf

between grantor, concessionaire, lenders, and the Independent Engineer – are the primary mechanisms through which authority is exercised, risks are reallocated, and accountability is constructed or avoided during a project's operational life. Normally, when correspondence practices are strong, disagreements are better documented, escalation pathways are clearer, and the evidentiary record is more complete. When correspondence is weak and incomplete, the conditions for formal dispute are created or compounded, resulting in prolonged litigation.

But the relationship is not straightforwardly causal in either direction. In India's highway PPP context, the normal institutional tendency at the grantor's field and project level is towards denial of concessionaire entitlements – irrespective of the strength of the case, and even where contractual entitlement is clear. Denial is often the default, not the considered outcome. Strong correspondence does not eliminate dispute; it changes its character – from a contest over what was communicated, to a contest over what was contractually owed. The five failure modes of correspondence this paper identifies, i.e., ambiguity, correspondence overload, fragmented authorship, weak escalation pathways, and institutional memory loss due to personnel turnover, therefore operate at two levels: they impair the governance interface directly, and provide institutional cover for decisions that may have been taken regardless of what the correspondence record showed.

Notwithstanding project risks which have their origins in contractual correspondence, India's December 2025 shift toward pre-arbitration conciliation is a reform directed at dispute resolution. This paper shows that the failure modes we identify, operate at the stage of dispute formation, prior to the conciliation stage. We conclude the paper with a policy orientation that unless the correspondence practices that generate disputes are addressed, the reform will reduce the cost of disputes without reducing their volume. Further, Contract Correspondence Management Systems (CCMS), considered as a solution, must be designed as governance tools, not merely document repositories – as systems that enforce escalation discipline, preserve institutional memory, and flag risk-bearing ambiguities before they become claims.

1.3 THE GAP: WHAT THE LITERATURE HAS NOT EXAMINED

The PPP governance literature on National Highway projects in India, mainly offers insights on legal frameworks (Phuyal, M., 2020), general negative factors, including time overruns (Malek, M and Gundaliya, PJ, 2020; Sharma, V.K, Gupta, P.K, and Khitoliya, R.K, 2021), contract design and incentive structures (Singh, R, 2018; Peri, R, Chen, C and Devayan Dey, D, ADB 2019), renegotiation and concession management (DEA, 2014), institutional competencies for PPP procurement and project management in India (Devkar, Mahalingam and Kalidindi, 2013), contract management and project performance (Sunit Kumar, S and Naik, D.S, 2025; Gopalkrishna, N and Karnam, G, 2015) and state capacity in blended finance governance regimes (DEA, 2024). India's programme has generated further work on financial structuring, land acquisition failure, and the politics of infrastructure delivery.

What this body of research has not examined is the governance of contracts during execution - specifically, the correspondence practices through which contracts are interpreted, contested, and governed in real time. The issue is that correspondence in contract execution compounds the problem of incomplete

contracts, when contracting parties claim stakes to residual control rights, acting in self-interest as opposed to public interest (Grossman and Hart, 1986; Hart and Moore, 1990; Hart, 2003 and 2017). The context of correspondence as incomplete contractual terms of reference deepens the question of structure of the government (in a PPP arrangement) and the boundaries of a firm (Maskin and Tirole, 1999: 01). Institutional variety (Srinivas, 2012; Papaioannou and Srinivas, 2016) and scale (Jenkins, Kennedy and Mukhopadhyay, 2014;

Kennedy, 2014) further complicate relationships between a variety of public and private parties in national highway PPPs, where mis-aligned contracting parties interact at multiple scales of decisions.

Government guidance documents, including the CAG's Public Auditing Guidelines (2009), the Kelkar Committee Report (2015), and the Ministry of Finance's *Model Concession Guide* (DEA, 2025), give passing attention to correspondence between parties. Academic literature on PPP project management focuses on procurement competencies, project performance and the design of policy/ contractual incentives, but does not treat correspondence itself as incomplete contracts and governance mechanisms. This paper directly addresses this gap in knowledge.

1.4 RESEARCH QUESTIONS AND RESEARCH METHODS

Three questions structure the paper:

- Which correspondence failure modes most consistently drive the escalation of routine project disagreements into formal disputes in India's highway PPP programme?
- How does incomplete contractual correspondence function, in practice, as the interface through which authority, risk allocation, and accountability are negotiated across the policy, procurement, and execution stages of PPP governance?
- What do these findings imply for correspondence governance systems and for India's current conciliation-oriented policy reform?

The empirical basis is a practitioner-led analysis of correspondence from 15 disputed highway PPP projects in India, covering a time period between 2003 and 2024. The material analysed includes letters, site instructions, variation orders, clarification requests, escalation records, and formal dispute notices exchanged among grantors, concessionaires, Independent Engineers, and lenders. All 15 projects proceeded to arbitration or formal conciliation. Cases were selected for dispute severity, project type diversity across BOT, HAM, and hybrid structures, and completeness of the correspondence record available for analysis.

Our practitioner engagement with these projects – across contract management, claim preparation, and arbitration support – provides access to primary correspondence that is not publicly available and is rarely accessible to researchers outside the sector. This position gives the analysis unusual granularity, but it requires acknowledgement: case selection and pattern identification carry a potential for confirmation bias. We have structured the analysis against the failure modes typology developed inductively from the corpus, rather than attributing failure modes retrospectively to individual cases. Limitations of this approach are discussed in the conclusion.

II. CONCEPTUAL FRAMEWORK: CORRESPONDENCE AS GOVERNANCE

2.1 BACKDROP TO THE PPP MODE

A Public-Private Partnership is a collaboration between misaligned agencies: government organisations involved in provisioning infrastructure facilities and private companies, in which private businesses finance, build, operate infrastructure (depending on the model adopted) and provide management services through long-term concession agreements. Governments seek to transfer risk to the private sector, in return for charges levied to users of the infrastructure facility, over the time-frame of the project, usually at least 25 years (see World Bank, Public-Private Infrastructure Advisory Facility² (PPIAF)). The private sector partially contributes equity in building the infrastructure facility and avails a loan from lending agencies for the balance, with a debt-to-equity ratio generally ranging between 51:49 % (maximum equity) and 75:25 % (minimum equity) (corroborating interviews and PPP Guidelines). The public-sector partner is known as the grantor, and the private investor is the concessionaire.

The PPP model is purposefully designed to accommodate various options for financial structuring of projects and financial risk-share arrangements. These are calibrated depending on a range of contextual forces. The scale and location of the project have an implication on the project's financial viability and risk-share agreements. In a rescaled State, a complex juxtaposition of administrative jurisdictions, political prerogatives and electoral territories in which projects are located are all variables that shape demand for the infrastructure amenity. Political will and backing at national as well as sub-national levels play an important role in the project's implementation and its financial viability. There are a variety of PPP modes, Design Build Operate and Transfer (DBOT), Build Operate and Transfer (BOT), Hybrid Annuity Model (HAM), to name a few, where the allocation of scope, accountability and risks vary. The choice of PPP model depends on the institutional capacities of public-private sector agencies and the strength of their relations in navigating contextual forces and contingencies. Grantors and concessionaires thus explore a variety of models for financial structuring of projects. Each financial iteration is founded mainly on the viability of revenue share arrangements and risk distribution.

A key concern in PPP projects is the long-term nature of contracts, which tends to produce disputes across multiple stages of the project cycle, including public procurement, design and construction, and operations and maintenance. As mentioned earlier, in the case of NHAI projects, pending disputes alone have accrued up to 1 lakh crore INR. Arbitration between disputing parties so far has offered respite from the pendency of cases. Addressing pendency of cases, in December 2025, the national government issued a circular mandating pre-arbitration resolution of cases. While justified on grounds of fiscal discipline and efficiency, this shift raises concerns about investor confidence and the rule of law in public contracting.

Arbitration had long been central to infrastructure projects because it offered a faster, commercially oriented alternative to slow civil litigation, especially in complex highway contracts involving land acquisition, scope changes, and regulatory disputes. The new policy replaces arbitration with conciliation followed by civil court litigation for high-value disputes, reflecting the government's growing distrust of arbitration due to delays, inconsistent awards, and rising liabilities against NHAI. Although these concerns are valid, the circular arguably misidentifies arbitration as the core problem.

² <https://www.ppiaf.org>

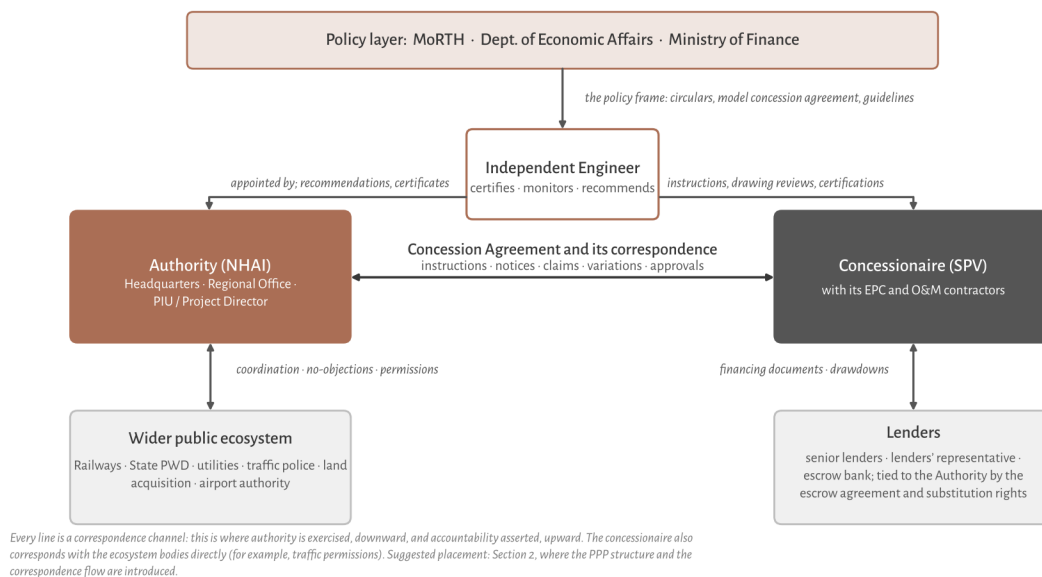
The deeper issues lie in weak institutional arbitration systems, poor contract management and weak and fragmented correspondence practices that have historically undermined effective dispute resolution. Below we develop an argument for systematic correspondence as a key governance gap.

2.2 GOVERNANCE IN PPP EXECUTION: THE CASE FOR A CORRESPONDENCE LENS

PPP governance is most often studied at the level of the concession agreement – the document that specifies obligations, allocates risks, and structures the relationship between grantor and concessionaire across a project lifecycle of twenty-five to thirty years. That focus makes sense for understanding the architecture of a PPP arrangement. It is insufficient for understanding how the arrangement actually works.

Concession agreements are incomplete contracts by necessity. They are drafted in advance of conditions that cannot be fully anticipated, as Grossman and Hart explain (1986). Ground conditions, traffic outcomes, regulatory shifts, force majeure events, and the specific disputes that will arise from specific site circumstances are factors of uncertainty. The agreement sets the framework; what happens within that framework depends on how the parties communicate, interpret, and contest obligations in real time. In India's highway PPP programme, that communication happens primarily through correspondence (see Fig. 1).

Figure 1. The actors in a highway PPP and the correspondence among them

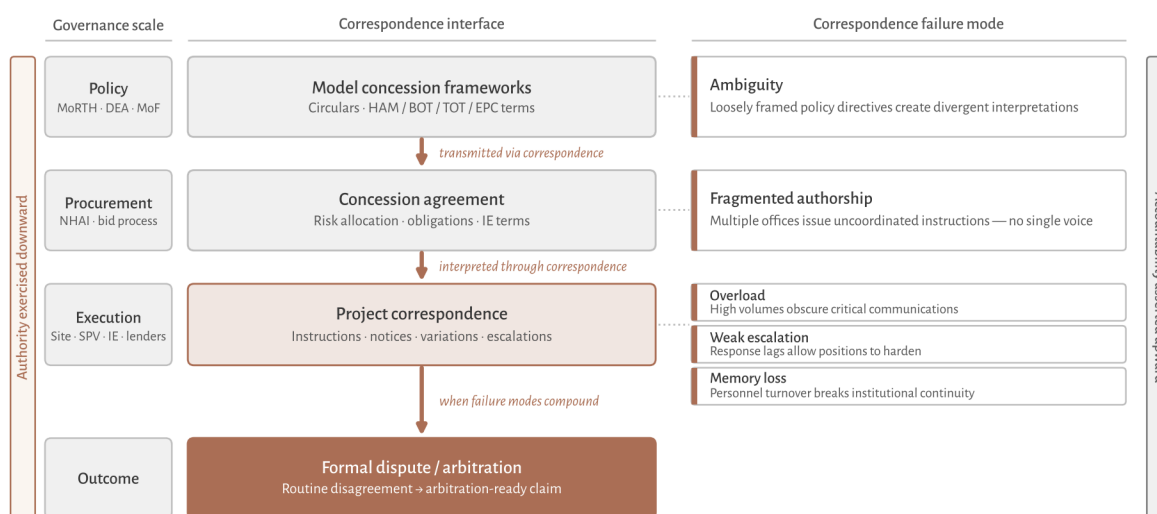


Our argument is that correspondence is not the record of governance decisions taken somewhere else; it is often the site where decisions are actually made. When authority, like NHAI, issues a site instruction, a risk is being allocated. When a concessionaire contests the scope of that instruction, authority is being negotiated. When an acknowledgement is delayed or withheld, accountability is being deferred. The correspondence chain does not merely document the governance of a project; it constitutes it. That shift in framing, from correspondence as record to correspondence as governance practice, is the conceptual foundation of the paper.

2.3 GOVERNANCE ACROSS SCALES AND FAILURE MODES: POLICY, PROCUREMENT, AND EXECUTION

Correspondence governance does not operate at a single level. It runs as a transmission chain connecting macro-level policy positions – changes to HAM concession terms, MoRTH circulars, regulatory amendments – to meso-level procurement interpretations, and from there to micro-level site instructions and concessionaire response protocols. Authority travels down this chain through correspondence. Accountability is asserted upward through it (see Fig. 2).

Figure 2: Contractual correspondence as governance: scales and failure modes



Source: Authors' analysis of 15 disputed highway PPP projects, 2003–2024. Failure modes interact cumulatively — no single mode operates in isolation.

This multi-scalar character has two practical consequences. A failure at any point propagates in both directions: an incomplete, loosely drafted ministerial circular generates ambiguous concession terms, which generate contested site instructions, which generate claims. The problem is not confined to individual projects; it is an institutional design issue spanning the Authority (NHAI/ MORTH/ State PWDs) and concessionaire relationship at every level of operation.

This produces what we term an ambivalent governance condition. Authority, control and accountability are claimed and disowned in turn, neither fully held nor fully relinquished by either party. Correspondence is the medium through which this ambivalence is enacted, and at times exploited.

III. CORRESPONDENCE FAILURE MODES AND ESCALATION MECHANISMS

3.1 A TYPOLOGY OF CORRESPONDENCE FAILURE MODES

Analysis of the 15-project correspondence corpus reveals five recurring failure modes. They are not simply instances of poor communication practice; each is a structurally distinct pattern with a characteristic governance effect and a characteristic pathway to dispute escalation. Table 1 presents the typology. The subsections that follow elaborate each mode.

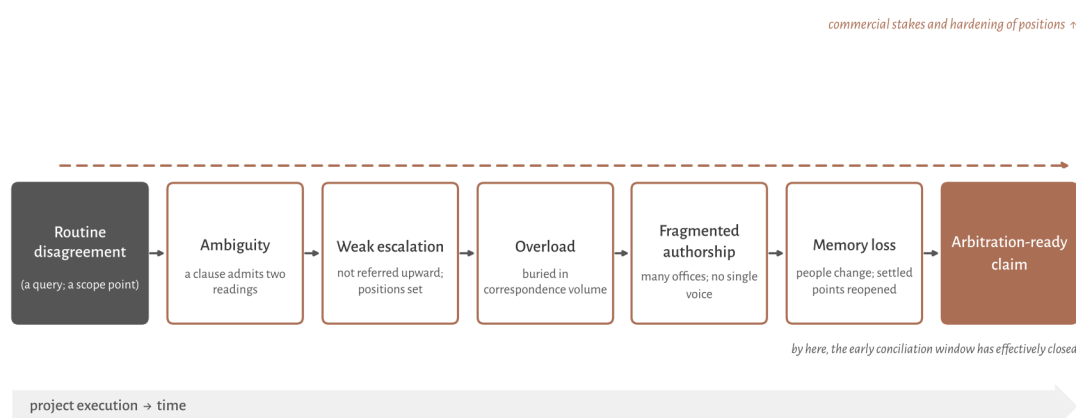
Table 1: Correspondence failure modes and escalation pathways

Failure Mode	What Happens in Correspondence	Governance Effect	Escalation Mechanism
Ambiguity in risk and instruction language	Instructions are framed in general terms; scope of obligation left undefined. Parties record different understandings of the same directive. Precisely drafted terms and unstated methods do the same.	Authority over risk allocation is effectively diffused. Neither party accepts clear ownership of a decision.	Ambiguity is later excavated as evidence when a claim is filed. The correspondence record becomes a disputed artefact rather than a settled one.
Correspondence overload during delay or cost review	Periods of project stress generate high volumes of letters, counter-letters, and clarifications. Signal is lost in volume. Critical communications go unacknowledged.	Decision-making is fragmented across SPV and authority levels. No single accountable record of what was agreed, when.	Delayed or missing acknowledgements are cited as constructive refusal. Disputes are triggered by absence of response rather than express disagreement.
Fragmented authorship and multi-nodal correspondence	Different personnel at the same authority level issue instructions that are inconsistent or uncoordinated. Concessionaire receives conflicting signals. Separate public authorities do the same tasks across jurisdictions.	Ownership of decisions dissolves. Accountability cannot be attributed to any individual or position.	Disputes harden when parties reconstruct the correspondence chain and find no definitive instruction to rely on. Claims are filed on the basis of inconsistency.
Weak or absent escalation protocols	Unresolved issues are not formally escalated within defined timelines. Response lags extend from days to months. Issues accumulate without resolution.	Positions entrench in the interim. What begins as a technical query hardens into a contractual position through the passage of time and the absence of a decision.	By the time escalation occurs, the commercial stakes have increased significantly. Early conciliation becomes structurally unavailable.

Failure Mode	What Happens in Correspondence	Governance Effect	Escalation Mechanism
Institutional memory loss due to personnel turnover	New officials inherit correspondence files without context for earlier decisions. Previously settled issues are reopened, re-argued, or treated as fresh.	Continuity of governance is broken. Institutional commitments made by predecessors are effectively disowned.	Re-litigation of settled positions forces the adversarial posture into the correspondence itself, accelerating the path to formal dispute.

Source: Authors' analysis of 15 disputed highway PPP projects, 2003–2024.

Figure 3. How correspondence failure modes compound a routine disagreement into a claim



The sequence is typical, not fixed: the modes compound rather than act in strict order. Suggested placement: Section 3.7 (Interaction Effects).

A] Ambiguity

Ambiguity in contractual correspondence arises when the language of instructions, clarifications, or risk-allocation communications is sufficiently general that parties can hold materially different understandings of the same directive without either being demonstrably wrong. In PPP execution, this is most consequential when it affects scope-of-obligation provisions – particularly those governing unforeseen ground conditions, force majeure thresholds, and variation entitlements. Ambiguity is not confined to loosely drafted language. In the corpus it appears as often in precisely drafted terms that nonetheless admit two readings, and in provisions that fix a standard or a rate but leave its method of application unstated.

Ambiguity is not always inadvertent. In institutional contexts characterised by political pressure to maintain project momentum and reluctance to make binding decisions on contested claims, correspondence is sometimes deliberately framed in general terms to avoid creating a clear record of commitment. This practice protects individual officials in the short term while generating significant governance costs in the aggregate. Ambiguous positions are excavated and weaponised at the claims stage, where they serve as evidence for

radically divergent interpretations of what was agreed, producing a classic site of misaligned interests between fundamentally dissimilar contracting parties- public and private.

A two-laning project on a national highway in the north-east illustrates the point. Generally, contracts fix specifications for the design of each national highway floor, within a broader national code for road design. The specification in this project fixed the pavement's design traffic as a minimum, not less than ten million standard axles (MSA), which the contractor designed and priced against. However, after conducting the required traffic studies, the Contractor arrived at thirty million standard axles and designed the pavement for that. The Authority's engineer treated that minimum as a mere floor and, during execution, insisted on a design traffic of fifty and seventy-three million standard axles on the two reaches, a several-fold and far costlier increase. The single phrase carried both readings honestly, and the difference, valued on its first head at over twenty crore, could be resolved only as a change of scope claim in arbitration. A related variety appears in a concession project, where a maintenance clause fixes a damages rate but is silent on the unit of computation, so that identical facts support widely different sums depending on the method chosen.

B] Correspondence overload

During periods of project stress – construction delay, cost review, lender intervention – correspondence volumes increase significantly and rapidly. Letter volumes that may average ten to fifteen per month in stable execution phases can rise to fifty or more per week during a delay cascade. In this environment, critical communications are lost in volume; acknowledgement lapses increase; and the correspondence chain ceases to function as a decision-support mechanism and becomes a documentary noise field instead.

Overload does not merely slow decision-making; it fragments it. When the volume of incoming correspondence exceeds the institutional capacity to process and respond, decisions migrate to informal channels (telephone conversations, site meetings) that leave no documentary record. The formal correspondence record then reflects not what was actually decided, but what was formally communicated, which may be significantly different. This gap between decision and documentation is a primary site of dispute formation when public and private parties tend to act in organisational or self-interest as opposed to public interest.

On a BOT toll concession on an inter-city national highway in the south, the file was thick with repeated correspondence on an issue pertaining to a change of scope in design due to incomplete information on the site, costs to the concessionaire and lack of response from the Authority. The works on this national highway stretch were scheduled for completion 910 days after the date of appointment of the concessionaire. But the project got delayed repeatedly. The correspondence grew until the concessionaire's pleading record alone ran past a thousand dated communications. Yet, the Authority made no decisions. The concessionaire lodged extension-of-time applications, at least seven of them as comprehensive ones, each forwarded with an extension date determination by the Independent Engineer. The Authority continued to provide no response. The concessionaire made several other pleas for change of scope, requests for information such as road over bridge drawings to proceed with revised road design. By the time the matter was pleaded in court, it had split into eight separate heads of claim, from interest during construction through to the cost of the arbitration itself, every one traceable to the same unresolved delay. The point is not that the parties failed to write to each other. They wrote constantly. It is that an active, voluminous file recorded facts leading to the formation of a dispute, where the authorities refrained from a decision.

C] Fragmented authorship

In NHAI and state highway authority structures, correspondence authority is distributed across multiple offices, departments, and personnel levels, at various scales of decision-making. On large highway projects, a concessionaire may receive instructions from the project director, the regional office, the headquarters' contract management unit, and the Independent Engineer, and, on projects that touch other jurisdictions, from entirely separate public authorities such as the railway authority, state agencies and utility or traffic bodies, none of which answer to the others; instructions that are not always consistent with each other. Fragmented authorship means that no single voice speaks authoritatively for the grantor; instead, the grantor's position must be reconstructed from a correspondence chain in which multiple authors have spoken without coordination.

This failure mode directly undermines the accountability function of correspondence. When authorship is fragmented, disputes over what was decided become disputes over who had authority to decide a prior question that the correspondence record often cannot resolve definitively.

On a DBFOT toll concession, a single question, how to compute maintenance damages, was answered by four different offices in four different ways, and the figure moved with each. The Independent Engineer first put the damages at about a sum of one hundred crore on a location-wise method, then set out three methods side by side and recommended based on month-wise, which came to about a sum of twenty crore; the Authority's project unit, in writing, agreed with the month-wise figure. No decision came down from the Head Offices of the Authority. While it waited, the Independent Engineer kept billing on the location-wise basis, and the running total climbed past rupees two hundred crore. A project review meeting, of which no minutes were ever shared, then directed an item-wise method instead, producing a fourth figure of about Rs fifty crore, and the engineer reversed itself to match and directed the concessionaire to deposit that sum, although under the agreement it can only recommend, not impose. Four offices, four positions, one unanswered question, and a demand the Authority's own analysis had valued at anywhere between twenty and two hundred crore. The same fragmentation runs across separate authorities elsewhere in the corpus, where a highway authority field unit, the railway authority and the railway board took conflicting positions on one change while the Independent Engineer held part of the works, leaving no single grantor position to rely on.

D] Weak escalation protocols

Most concession agreements specify, in principle, that unresolved disputes should be escalated through defined channels within defined timeframes. However, interactions between internal parties and external stakeholders occurring in formal and informal ways at national, state and local levels produce gaps in escalation pathways. In practice, these protocols are inconsistently observed. Response lags of weeks or months on significant contractual queries are common and partially deliberate, skewing control over residual rights in favour of the grantor or the concessionaire. The absence of a formal escalation obligation, or the absence of institutional consequence for breach of escalation timelines, means that unresolved issues accumulate— while the project continues to be executed and the commercial stakes of each unresolved issue grow.

There is a characteristic dynamic here: early in a project, ambiguous or contested issues are treated as manageable – something to be sorted out informally as the project progresses. The failure to resolve them formally means that positions harden in the interim. By the time escalation is forced – usually by a significant commercial event such as a delay milestone or a payment dispute – the dispute has acquired a complexity and a

financial scale that makes early conciliation structurally unavailable. The failure of escalation protocols effectively foreclosed the conciliatory pathway (that the December 2025 policy reform is now trying to re-open).

The same concession shows how a prolonged unresolved question resulted in inexplicable decisions made by the Authority, disregarding the escalation protocols available in the Contract. The Independent Engineer in charge of overseeing the maintenance obligations of the Concessionaire had recommended a basis for mending the damages for the defaults in maintenance as per the Concession Agreement, and the project unit had agreed. A final decision from the Authority was awaited. For more than a year, no decision on that recommendation came from the Authority. The concessionaire's objections went unanswered, and when it finally served a formal notice of dispute and asked for the conciliation the agreement provides, it received no date and no reply. What it received instead, while the conciliation request was still open, was a letter from the Authority to the escrow bank instructing it to take the disputed sum, roughly Rs 50 crore, straight from the project's account; the concessionaire learned of this from the bank, not the Authority. With the escalation route ignored and the money about to leave the account, its only remaining move was to the Court, which granted an injunction restraining the appropriation, after which the matter went to arbitration. Nothing in the relationship had forced the question upward while it was small and resolvable through the means available in the Contract Agreement.

E] Institutional memory loss

Institutional memory loss is not a failure mode confined to the grantor. It operates on both sides of the concession relationship and in the Independent Engineer's office, though its consequences differ depending on who loses continuity and at what stage.

On the grantor's side, the NHA's project management structure is characterised by relatively frequent personnel rotation. Project directors and contract management officers change during execution; regional office staff turnover; and the institutional knowledge embedded in prior correspondence – the context for earlier decisions, the reasoning behind settled positions, the commitments made in exchange for concessionaire accommodations – is not systematically transferred to incoming officials. Newly appointed officials inherit a correspondence file without the context to interpret it accurately. Previously settled issues are reopened; commitments made by predecessors are implicitly or explicitly disowned. The result is a form of institutional amnesia in which the grantor's position effectively resets, forcing the concessionaire to re-argue ground it had already secured.

On the concessionaire's side, the failure mode takes a different but equally damaging form. Large infrastructure projects, particularly BOT and HAM concessions spanning fifteen to twenty-five years, routinely see multiple changes in site management, contract leadership, and project directors. When a concessionaire's key personnel change, the continuity of its own correspondence positions breaks. Incoming management may be unaware of earlier concessions made to the grantor, informal understandings reached with Authority's officials, or strategic decisions about which issues to press and which to hold. This can result in the concessionaire either undermining its own established positions or reopening issues that had been tactically set aside, both of which generate fresh correspondence friction and provide the grantor with opportunities to contest previously stable arrangements.

The Independent Engineer (IE) occupies a third position of vulnerability. IE firms regularly rotate their assignment engineers, sometimes at critical project stages, and the loss of an IE's accumulated knowledge of site conditions, earlier certifications, and the history of disputed instructions is a frequent source of inconsistent

decisions. A newly assigned IE who certifies a variation differently from how a predecessor had framed it, or who declines to acknowledge an earlier verbal understanding, can restart disputes that were effectively closed.

What is common across all three is the structural condition that makes memory loss consequential: the correspondence record, however complete, does not carry its own interpretive context. Documents record what was communicated; they do not record why a particular position was taken, what was exchanged for it, or what the parties understood at the time. When the people who held that context leave, the record becomes a site of contested interpretation rather than settled fact. The absence of systematic handover protocols, decision logs linked to correspondence, and continuity mechanisms across personnel transitions erodes institutional memory and stable project governance.

On another concession, the institution's memory failed at a change of personnel. The works had been completed and certified years earlier: the Independent Engineer of the day, in charge of quality compliance, had issued the completion certificate, and the outstanding items had been fixed in a punch list agreed among the Independent Engineer (IE), the Authority and the Concessionaire on the basis of the site as it then stood. Some years into the operation period, the Independent Engineer changed. The incoming IE, reading the file without the history behind it, revisited the scope the previous IE had closed, treated one issue - plantation and related works as deficient against a standard in the Concession Agreement, disregarding the prior agreements amongst the stakeholders (Concessionaire, Authority and previous IE) and recommended damages afresh for a period four years into the project. The concessionaire's answer was that the question had been settled when the completion certificate was issued by the previous Independent Engineer, and could not be reopened merely because the person holding the file had changed, and that the concessionaire considered the certificate issued earlier as legitimate. A deeper point is that the record did not carry its own context; it was incomplete: it showed what had been certified, but not why, and once the person who knew why had gone, a closed matter returned as a live claim.

3.2 INTERACTION EFFECTS: FROM FAILURE MODE TO DISPUTE TRAJECTORY

These five failure modes do not typically operate in isolation. The most significant dispute trajectories in the 15-project corpus involve two or more failure modes interacting simultaneously and cumulatively. A typical trajectory begins with ambiguity in a risk-allocation provision (Mode 1), which is not escalated within the prescribed timeframe (Mode 4). Attempts to resolve the issue generate high correspondence volumes during a concurrent delay period (Mode 2), with contributions from multiple authority offices (Mode 3). By the time a resolution is sought, the officials with institutional memory of the original provision's intent have rotated out (Mode 5). At this point, the dispute has acquired its own documentary momentum: each party's formal correspondence positions have hardened into a claims narrative, and arbitration is the path of least institutional resistance. The implication is that effective governance intervention must address failure modes as a system of incomplete contracts, not as individual cases in point. A Contract Correspondence Management System (CCMS) that reduces ambiguity but does not enforce escalation timelines will not break the dispute-formation dynamic.

IV. EMPIRICAL EVIDENCE: HIGHWAY PPP CASE ANALYSIS

4.1 EXPLANATORY NOTE FOR CASES AND DATA

The evidence base presented above is from a corpus of disputed highway PPP concessions in India, spanning the principal contracting structures, BOT and DBFOT toll, hybrid annuity, annuity and EPC, and roughly two decades of practice. Each concession has been reconstructed from its contractual correspondence and the record of pleadings including the statements of claim, the Independent Engineer's determinations, the parties' notices and replies, and the arbitral filings. The method draws on a keen reading of the correspondence. The correspondence for each project is read in sequence; each consequential exchange is corroborated against the five failure modes outlined in Section III. The trajectory of each case is traced from the first contested communication to the formal dispute.

From the five examples presented above, two concessions are presented below³, as anchor cases, chosen not because they are extreme, but because each shows how several failure modes compound to produce contested dynamics and outcomes. Analysis of a third concession followed by the failure-mode matrix (Table 2.0) then generalises the pattern in relation to incomplete contracts across the corpus.

All material is anonymised. Names of parties and places, project identifiers and exact sums have been removed or banded; figures are retained only where they carry the analysis and cannot identify the project. One caveat follows from the design. The corpus is of disputed concessions, so it shows how disputes are formed, not how often correspondence governance succeeds in its resolution. The claim throughout is about the mechanism of dispute formation from incomplete correspondence, not its frequency.

4.2 CASE A. AMBIGUITY AND WEAK ESCALATION: A DESIGN STANDARD READ TWO WAYS

The first anchor is an EPC package for the two-laning of a national highway in the north-east, a contract of a few hundred crores let in 2015, embedded within a PPP project. The dispute that came to define it can be traced to a single line in the technical specification of the contract for load capacity in the design of the highway, and prolonged neglect of interpretation of the standard by both parties. The pavement was to be designed for a traffic load expressed only as a minimum, 'not less than ten Million Standard Axles (MSA)'. The contract fixed the floor of the highway to this standard. The contract said nothing about how the actual design figure was to be established, or who should assess the nature and volume of traffic on the highway.

The contractor first established the floor of the highway to align with the ten-MSA standard. Going beyond contractual requirements, to further reinforce the design to suit additional loads, they carried out traffic surveys on the section, and, on the strength of their results, revised the design loading upward to around thirty million standard axles, a figure reflecting the traffic that the road would actually carry. This was the orthodox method, and it produced a reasoned, evidence-based number well above the contractual minimum.

The Authority's engineer was, however, not satisfied. He demanded a markedly higher design loading, of the order of fifty million standard axles on one section and seventy-three on the other. The Authority's engineer also maintained that this requirement was not in reference to this package's own traffic but on studies carried out for an adjacent package. The difficulty was that the adjacent stretch carried atypically heavy loads for reasons local and temporary, conditions that said little about the traffic this package would bear over its design life.

³ The paper is work in progress research; it will entail a wider discussion of cases in its final form

The engineer was, in effect, importing a worst-case figure from a different road and applying it here. The original specification set only a minimum benchmark- “not less than ten million standard axles,” and fixed no ceiling. So, the Authority’s engineer was also justified in defining a higher standard for design of the highway floor. The result was a far thicker and costlier floor than the contractor’s own surveys could justify.

Neither position was a misreading of the text in the contract or correspondence that followed, because the text had not been addressed or was incomplete on the question of design for maximum load. In this regulatory gap, each party employed a logic most suited to its organisational interest: the contractor advanced its own site-specific surveys, as opposed to the Authority’s engineer, who borrowed a higher benchmark from another project and context as precedent. This is an ambiguity of the kind Section III described, i.e., a minimum benchmark that leaves the method of arriving at the standard and design specifications unstated. The result is that two competent parties produced figures ranging from three to seven times the contractual floor, each able to claim fidelity to the contract as their residual rights.

The Engineering Procurement Contract structure sharpened the problem. Under it, the Authority’s engineer holds the power to consent to or comment on the contractor’s design, and a contractor that wishes to keep the works moving has little practical choice but to comply with an instruction, while deferring an argument against it for later. So the contractor ended up building the road section to the heavier standard, albeit under protest, recording its disagreement and reserving its right to be paid for the difference. The disagreement was now on the file. What was missing was any step that would convert the contractor’s plea into a decision.

That is where the second failure mode becomes relevant. Instead of escalating their plea in a timely manner, the contractor allowed the entitlement to accumulate as unrecovered cost over the remaining life of the works, into a formal claim. The contractor incurred over Rs. 20 crores of expenditure, which was eventually settled through an arbitral tribunal, five years later, in the contractor’s favour.

Four aspects become clear in the case. One, that ambiguity and weak escalation protocols were latent in the terms and correspondence, to become visible when a disagreement arose. By then, the contractor had executed the load standard to suit their own commercial interest, and the Authority’s engineer took objection through a logic led by a government agency’s rationale for public safety. Two, that the contractor’s correspondence failed to claim timely closure to their own demand for compensation towards additional works. Three, the correspondence recorded the disagreement faithfully, including the contractor’s survey, its rejection of the Authority’s demand, and reservation of their rights to claim compensation. But recording is not deciding. A faithful record of an unresolved question is only a well-documented dispute waiting to be filed. Four, that the contractor’s vindication was an outcome of an incomplete quality standard and correspondence, coupled with the Authority engineer’s exercise of dominant control, leading to unanticipated cost escalation for both parties- public and private.

4.3 CASE B. OVERLOAD AND FRAGMENTED AUTHORSHIP: A DELAY CASCADE AND THE HARDENING OF POSITIONS

The second anchor is a Build-Operate-Transfer (BOT) toll concession on an inter-city national highway in the south of India, which reached financial close⁴ around 2010. The concessionaire was to complete the four-laning

⁴ See, World Bank, PPP Resource Centre: Financial close is when all the project and financing agreements have been signed, all conditions on those agreements have been met, and the private party to the PPP can start drawing down the financing to start work on the project;

of a national highway stretch, 910 days after the date of its appointment. It did not. The programme was overtaken by an event beyond the concessionaire's control. The correspondence that followed encompassed two entangled failure modes.

The problem finds its origins at a location where the highway crossed a railway line near a town bypass. Late in the design phase, the railway authority decided to raise the rail level by about two metres. That decision invalidated the highway crossing structures already designed against the earlier level and forced the concessionaire to rework the engineering design. The gap in correspondence and timely instruction to the concessionaire rested with the grantor. The concession agreement mandated that the grantor would furnish the 'general arrangement drawing' to the concessionaire within 90 days of financial closure. However, this drawing was furnished after two years, without any registration of the 2-meter increase in the rail line level.

What followed was voluminous, inconclusive, fragmented correspondence. The Authority's own field unit set out in detail why the change in level would unsettle structures already designed; the railway authority pressed regardless, for a change in the design of the highway to align; revised guidance from the railway board ushered in other logics suited to the railways; and the Independent Engineer, required to evaluate the project progress, caught between them, placed the affected stretch on hold while releasing the rest. The concessionaire was left to mediate instructions issued by authorities that did not reconcile multiple demands of misaligned stakeholders. The bypass, in view of the above challenges, was eventually descope'd from the Concession, on record, for reasons the concessionaire attributed to the grantor. However, by then the programme had already incurred inordinate delays and cost escalations.

This case also shows how incomplete correspondence overload causes contingencies. With inordinate delays in decisions, the record from the concessionaire alone exceeded a thousand dated letters. The concessionaire lodged applications for extension of time for completion of works, at least through seven letters across the years 2016 to 2018, each forwarded with a determination of eligible extension of time by the Independent Engineer. However, to each, the Authority made no response. The concessionaire's pleas for change of scope met the same silence. The file became enormous and active, as the correspondence grew. The Authority treated all communication with the same level of distance, be it the bulk traffic of correspondence or a few targeted communications that called for a decision, time extension determinations and the drawing approvals. The lenders involuntarily watched the construction timelines extend, while the interest on loans to the concessionaire escalated. The concessionaire was caught between a grantor that would not make a decision and a debt that would not wait.

In this case, two failure modes got compounded into multiple trajectories of residual claims. The delay extended the construction period; the extended construction period inflated the cost of finance, with interest accruing on drawn debt while the asset earned nothing. Since the concessionaire's pleas for time extensions were never answered, the recourse to entitlement for recovery of that cost followed the course of litigation. By the time the dispute was pleaded in court, it had split into eight separate heads of claim, interest during construction at the start of the list and the cost of the arbitration itself at the end, each traceable to the same unresolved delay and silent grantor.

<https://ppp.worldbank.org/achieving-contract-effectiveness-and-financial-close#:~:text=Financial%20close%20occurs%20when%20all,start%20work%20on%20the%20project>.

The analytical lesson is that correspondence volume and fragmentation, even when intertwined, can cause contractual incompleteness. A grantor that fails to communicate with many claims generates more correspondence, because every stakeholder must be written to and every inconsistency followed up. This accrued volume of correspondence is what leads to the matter for decision being lost.

A third concession shows a pattern of fragmented correspondence from the maintenance and operations stage of the project cycle. On a DBFOT toll concession in the south of India, a dispute over maintenance quality brought to the fore questions on which method should be used to compute damage. The Independent Engineer set out three methods producing very different figures, and recommended the lowest, of about Rs. 20 crores. The Authority's project unit agreed with this amount. However, no decision followed for more than a year. In an un-minuted review meeting then, the Authority changed its previous position and approved a computation method amounting to about Rs. 50 crore. The Authority's engineer, a body that can only make recommendations, surpassed its role and directed the concessionaire to deposit that sum into the escrow account of the PPP company. When the concessionaire served a notice of dispute and asked for conciliation, it received no reply; what it received instead was the Authority's instruction to the bank where the escrow account was held, to take the money directly from the project account, bypassing the concessionaire. The concessionaire learned of this instruction not from the Authority, but from the bank. The concessionaire sought a court injunction. The same concession had earlier also experienced institutional memory loss in correspondence, when the change of an Independent Engineer led to re-opening a scope involving a completion certificate, generating fresh claims to damages that had long been closed.

4.4 CROSS-CASE SYNTHESIS: THE FAILURE-MODE MATRIX AND THE PATTERN ACROSS THE CORPUS

The two anchors are not outliers. Read against the wider corpus, the same failure modes recur, and they recur in combination, as Table 2 below shows.

Table 2: Failure modes across the three documented concessions

Failure mode	Case A (EPC within PPP)	Case B (BOT toll)	Case C (DBFOT toll)
Ambiguity	● primary	○ present	○ present
Correspondence overload		● primary	○ present
Fragmented authorship		● primary	● primary
Weak escalation	● primary	○ present	● primary
Institutional memory loss		○ present	○ present
Outcome	Arbitration	Arbitration	Arbitration

● *primary driver* · ○ *present* · blank: *not material*

A diagonal reading of the three cases and five failure modes helps us understand three patterns of impact. First, each case of dispute is the result of multiple failure modes. Each case entails an ambiguous specification, a fragmented instruction, fragmentation amplified by correspondence overload, and settled positions undone by memory loss. Second, a weak escalation mechanism is an underlying issue. In every case, the failure was not an outcome of an original disagreement but the absence of contractual mechanisms that forged timely, binding answers. The outcomes were contentious as misaligned stakeholder positions hardened. In most cases, commercial stakes of the concessionaire grew until conciliation through correspondence was no longer realistic.

Third, the correspondence record is both the medium and the casualty. It is where the failure modes operate, and it is what is an incomplete residue, a faithful and unresolved account of what parties failed to do, leading to a dispute eventually handled by a tribunal for justice.

These three cases are presented in depth because they are documented in depth, but the pattern they show is representative of the wider set. What varies across the corpus is the trigger and the sum at stake. What does not vary is the mechanism: governance during execution happens through correspondence, and where the correspondence fails in these recurring ways, the governance fails with it.

V. DISCUSSION: AUTHORITY, ACCOUNTABILITY AND RISK

Let us return to the three questions we set out with: Which correspondence failure modes most consistently drive the escalation of routine project disagreements into formal disputes in India's highway PPP programme? How does incomplete contractual correspondence function, in practice, as the interface through which authority, risk allocation, and accountability are negotiated across the policy, procurement, and execution stages of PPP governance? What do these findings imply for correspondence governance systems and for India's current conciliation-oriented policy reform?

First, our cases show that disputes in highway PPP projects are often produced not simply by contractual disagreements, but by systemic failures in project communication and institutional governance. We elaborate on five types of correspondence failure modes: ambiguity in contractual correspondence, correspondence overload, fragmented authorship, weak escalation protocols and institutional memory loss. Across the fifteen-project corpus, and in the three cases documented in Section IV, no dispute was the product of a single failure mode. An ambiguous design standard in one case also entails correspondence overload and institutional memory loss. A fragmented instruction by multiple parties on an unregistered increase in a railway-level crossing reaches arbitration due to fragmented correspondence and weak or absence of escalation mechanisms.

Second, channels of authority, control and accountability mediate these modes in ambivalent ways. Ambiguity in contractual correspondence allows public authorities and private concessionaires to interpret the same instructions differently, particularly on issues such as unforeseen conditions, force majeure, and payment variations; in most cases, ambiguity produces ambivalent accountability. The EPC two-laning case is apt, where the loading standard is interpreted differently by the contractor (who designed for 30 MSA) and the Authority (which demanded 75 MSA). The result is escalated costs of 20 crore for the concessionaire and prolonged arbitration, with risks distributed across both parties.

During periods of project stress, correspondence volumes increase dramatically, overwhelming institutional capacity and pushing decisions into informal channels such as meetings and phone calls that leave little documentary record, thereby creating gaps between what was actually decided and what was formally recorded. In the BOT toll concession, the pleading record of the concessionaire alone ran past a thousand dated letters, with no response from the grantor, producing weak public accountability.

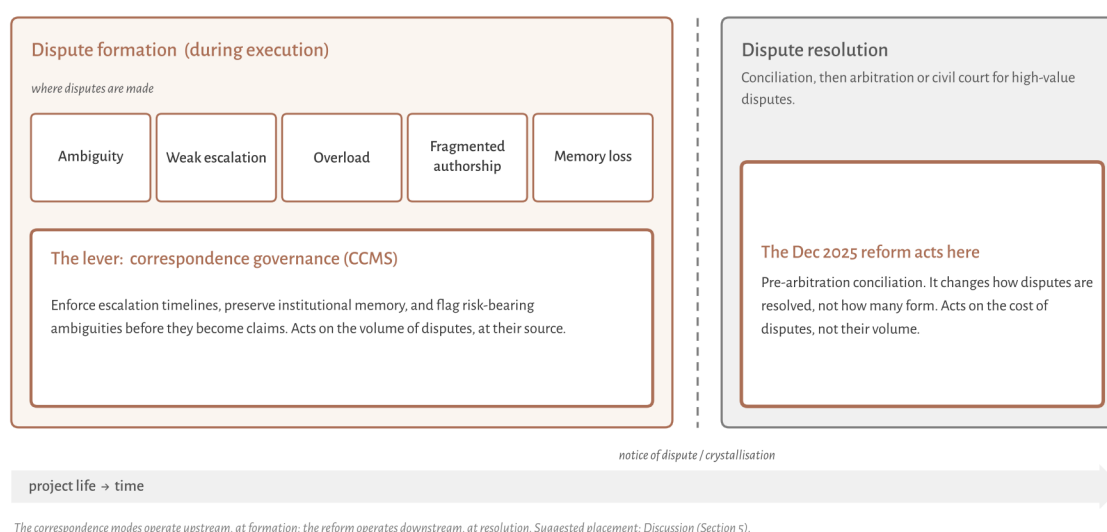
At the same time, fragmented authorship across multiple government offices and officials means that no single, coherent position represents the grantor, leading to conflicting instructions and disputes over authority itself. On the DBFOT toll concession, the problem of how to compute maintenance damages was answered by four stakeholder offices in four different ways, with additional cost estimates ranging between twenty and two hundred crore, while the head office of the National Highways Authority of India made no decision. In an ownerless circumstance: each stakeholder acted in its own interest, while none owned the outcome. The residual right to fix the sum was exercised by default, by the party that controlled the escrow account, rather than by an authority that the contract had named.

Weak escalation mechanisms further exacerbate these problems because unresolved issues are allowed to accumulate over long periods without timely resolution, causing initially manageable disagreements to harden into large and financially significant disputes. Again, in the DBFOT toll concession, the Independent Engineer's recommendation awaited a decision for more than a year. Even when the concessionaire finally served notice of dispute and sought a decision, it received no reply. Instead, it learned from its lending agency that the Authority

had instructed them to debit the disputed sum of approximately Rs. 50 crore from the concessionaire's share in the PPP company's escrow account directly. The concessionaire sought the court's intervention. By instructing the bank rather than answering the conciliation request, the Authority exercised control while shifting the accountability for the resulting loss onto the concessionaire and, ultimately, the court. These challenges are compounded by institutional memory loss resulting from frequent personnel changes within government agencies, concessionaires, and Independent Engineer teams, where incoming officials inherit documents without the contextual understanding behind earlier decisions or informal settlements. The case where a change of the Independent Engineer led to reopening a closed scope pertaining to plantation works along a national highway as being deficient against subjective standards led to a penalty for the concessionaire four years into commercial operations. Together, these failures transform correspondence from a tool of coordination and accountability into a source of contested interpretation, mistrust, and dispute escalation in long-term infrastructure projects.

Third, on policy implications, India's December 2025 shift toward pre-arbitration conciliation is a reform directed at dispute resolution. The failure modes this paper identifies operate at the stage of dispute formation – upstream of the conciliation stage. Unless the correspondence practices that generate disputes are addressed, the reform will reduce the cost of disputes without reducing their volume. Each of the documented concessions had already constituted itself as a dispute – its positions hardened, its record complete – well before any conciliation stage could have been reached; conciliation would have inherited a fully formed claim rather than prevented one. It follows that Contract Correspondence Management Systems (CCMS) must be designed as governance tools, not document repositories – systems that enforce escalation discipline, preserve institutional memory, and flag risk-bearing ambiguities before they become claims (see figure 4).

Figure 4. Where disputes form, where they are resolved, and where the 2025 reform acts



Drawing on these, we make two assertions to inform practice and theory.

First, that contractual correspondence is constitutive governance. While fragmented, weakly coordinated, incomplete correspondence can amplify the problem of incomplete contracts, attributing systemic value to

correspondence offers a practical solution. A key theoretical issue we underscore is that correspondence in long-term contracts is incomplete. Incomplete contracts generate the problem of residual control rights. In other words, contractual gaps produce ownerless circumstances when both parties act on their own intuition and judgement, often in their own interest, in fragmented ways. Under ambiguous allocation of authority, control rights, accountability and risks, neither the public nor the private party has the right to information on the other party's behaviour. The problem that ensues is a lack of complete ownership and accountability for decisions and risks.

A second assertion is that fragmented correspondence produces and reproduces risk hedging, contingent accountability and evasion. Here, accountability is made and avoided in the correspondence chain through the exercise of authority and control. This uncertain dynamic has implications for Comptroller and Auditor General (CAG) audits and arbitral tribunals to consider policy reforms that address fundamental concerns and not merely symptoms of the core problem, which is deeper.

VI. CONCLUSIONS

A fundamental problem that incomplete contractual correspondence brings to the fore is about the boundaries of public and private agencies in PPPs, their exercise of authority, control, accountability and risk management. Theoretical foundations in property rights show that the PPP mechanism is not a straightforward principal-agent relationship. The relationship between the grantor and the concessionaire is neither an employee-employer relationship, nor is it an arm's length relationship, such as a client-consultant contract, where both parties maintain independent status. In long-term PPP contracts, ownership, control, authority, and accountabilities are not distributed in institutional binaries and are less clear. The corpus shows this concretely: when four offices answer one question with four figures, or when an incoming engineer reopens a certificate a predecessor had closed, the boundary between who decides and who is bound is not fixed by the contract but renegotiated, case by case, through correspondence. The ambivalence is compounded by institutional variety and state-scaling. In relation to incomplete correspondence and contracts, two specific problems need further research in transport infrastructure projects.

First, the ambiguous condition of authority and accountabilities is inherent to the logic of design of a PPP company, where both public and private parties are to steer the course of decisions. While the core objective is to meet public purpose, partners generally hold divergent goals, as our cases of correspondence show. A question that needs investigation is: what incentive structures can facilitate better delivery of accountabilities by both parties? The corpus of cases involving escalation timelines that carry an institutional consequence for breach, decision logs tied to the correspondence record, and mandatory response windows on Independent Engineer determinations, or repeated appeals for extension of deadlines that go unanswered, is testimony.

Second, a related concern is that allocation of risks is ambivalent in the PPP mechanism, which aims to transfer risks onto parties best capable of handling them. While this conundrum is unresolved, the outcome is risk hedging, through extended correspondence as governance of accountability and risks. Our cases show that under all conditions of failure modes of correspondence, misaligned interests of contracting parties persist and are exacerbated. In incomplete contractual correspondence and risk hedging, building ecosystem capacity and an environment of mutual trust between public and private parties promise a long-term solution. Further research on circumstances under which internal governance of companies can produce trust relationships across misaligned parties needs to be explored.

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