

WHAT A RISING INDICATOR CONCEALED: ROAD CONDITION AND
DELIVERY UNDER FISCAL CONTRACTION

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Article History Received: 22-04-2026 Revised: 24-05-2026 Accepted: 15-06-2026 Keywords: road asset management; pavement condition; irrigation performance; spatial planning implementation; performance indicators	ABSTRACT Infrastructure agencies under fiscal pressure are usually assumed to deliver less. This article examines a case where the assumption fails and something more consequential occurs. Central Java Province lost 19.51 per cent of its tax revenue in 2025 following a statutory reassignment of vehicle taxation, and total expenditure fell 12.19 per cent. Capital expenditure nevertheless rose 3.60 per cent and the provincial road programme rose 103.5 per cent, while reported road soundness rose from 91.46 to 94.01 per cent. Disaggregating the physical data shows what the composite indicator concealed: between 2022 and 2024 the network in Good condition fell by 425.64 kilometres, from 83.60 to 64.94 per cent of length, while the Moderate category rose from 8.89 to 26.53 per cent. Soundness improved through migration out of the Damaged classes rather than through structural improvement. The gains were funded from within the sector: coastal protection and check dams received no allocation in 2025, against IDR 30 billion in 2024; one of 108 irrigation schemes is in good condition; and none of the seventeen strategic areas has a detailed spatial plan. Composite condition indicators reward the least durable form of intervention, and the bias is strongest when budgets are constrained.
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1. INTRODUCTION

When a government loses a substantial part of its revenue, the expected consequence for infrastructure is that less is built and less is maintained. The expectation is reasonable and, in the case examined here, wrong in a way that is more instructive than if it had been right.

Central Java Province lost 19.51 per cent of its tax revenue in fiscal year 2025 when Law No. 1 of 2022 reassigned two-thirds of its motor vehicle tax and vehicle transfer duty to regencies and cities. Total provincial expenditure fell 12.19 per cent. Yet capital expenditure rose, the provincial roads authority received substantially more than in the preceding year, and the headline indicator of road condition improved to its highest recorded level.

This article asks what was actually delivered, and at whose expense. The answer has two parts. Within the public works sector, resources moved sharply toward roads and away from water resources, coastal protection and spatial planning. Within roads, the improvement recorded by the composite condition indicator was produced by a form of intervention that the indicator rewards and that does not restore the asset. Both findings turn on the same

underlying property: an indicator constructed as the sum of two condition classes cannot distinguish between moving a road from Damaged to Moderate and moving it from Moderate to Good, though these differ in cost, in durability, and in engineering significance.

2. LITERATURE REVIEW

2.1 Why the construction of a condition measure matters

Road condition is a continuous physical property reported as a discrete classification. Indonesian practice records provincial road length in four classes — Good, Moderate, Lightly damaged and Heavily damaged — and reports a single composite, soundness, defined as the sum of the first two divided by total length. The composite is the figure that appears in development plans, performance contracts and accountability reports, and it is the figure against which the roads authority is assessed.

A composite defined as the union of adjacent classes has a specific mathematical property: it is invariant to movement between the classes it unions, and responds only to movement across its outer boundary. Two interventions of very different engineering character therefore register identically. Resurfacing a damaged pavement so that it enters the Moderate class raises the composite. Overlaying a moderate pavement so that it enters the Good class does not raise it at all. And a good pavement deteriorating into Moderate reduces it by nothing.

This is not a defect of measurement alone. Pavement deterioration is non-linear: condition declines slowly through the early service life and rapidly once structural distress reaches the base layers, so that intervention deferred from the Good–Moderate boundary to the Moderate–Damaged boundary costs substantially more per kilometre when it is finally undertaken. An indicator indifferent to the first transition and sensitive to the second therefore points an agency toward the more expensive long-run path while recording the cheaper short-run one as success.

2.2 Condition classification and deterioration in the asset management literature

Pavement condition is conventionally represented by an index rather than by a class, and the engineering literature has invested heavily in making that index continuous and objective. Danyo, Dontoh and Aboah (2025) predict the pavement condition index directly from images using a convolutional network; Chen, Tong, Cheng and Sun (2024) convert traffic speed deflectometer measurements into elastic equivalents for condition assessment; Yao, Jiang, Li, Leng and Ni (2024) infer structural condition of semi-rigid bases from falling weight deflectometer basin parameters; and Samie, Golroo, Tavakoli and Fahmani (2023) review the use of connected vehicles for continuous condition monitoring. The direction of this work is uniform: toward finer resolution, and away from coarse classification.

The reason is that deterioration is non-linear and its cost consequences are asymmetric. Nabimanya, Zhou, Yan and Nanjehe (2025), developing performance models for the Ugandan

national network, and Abaza (2023), modelling network-level rehabilitation stochastically, both show that the timing of intervention relative to structural distress dominates lifetime cost. Van Aggelen and De Schutter (2025) formalize the resulting optimization: condition-based maintenance is optimal only where the condition signal distinguishes states that differ in remaining life. Nie, Zhang, Guo and Wang (2024) identify which condition indicators actually carry information for maintenance quality assessment, and find that composite indices lose the distinctions that matter.

The cost asymmetry is documented directly. Suwanto, Parry and Airey (2023) review life-cycle assessment and costing methodology for asphalt pavements; Siva Rama Krishna, Badiger, Chaudhary, Vijaya Gowri and Jahnavi Devi (2025) and Daoud, Cranmer and Lee (2026) apply life-cycle cost analysis to design choice; and Asadi Azadgoleh and colleagues (2024) compare structures across mechanical and cost dimensions simultaneously. Xiao, Chen, Yang and Cheng (2023) show in a bi-objective formulation that preventive and corrective treatments compete for the same budget and that the optimum depends on how outcomes are valued. Where the valuation is a composite index insensitive to the preventive margin, the optimization will not select preventive work.

The gap this article addresses lies between these two literatures. The engineering literature establishes what a condition measure must distinguish in order to support asset management. The public administration literature, considered next, establishes what organizations do when the measure fails to distinguish it. Neither observes a network in which a coarse composite is the governing performance indicator and the budget is simultaneously constrained. This case supplies that observation.

2.3 What the performance-measurement literature predicts

That organizations respond to the measure rather than to the state the measure represents is among the more robust findings in the study of public management. Bevan and Hood (2006) show for the English health service that targets produce gains concentrated at the reporting threshold and little improvement elsewhere, a pattern they attribute to the structure of the measure rather than to intent. Hood (2006) generalizes the mechanism, distinguishing ratchet effects, threshold effects and outright misrepresentation, and argues that threshold effects arise wherever a measure has a discontinuity that effort can be directed at.

More recent work locates the mechanism in how performance information is produced and used rather than in the target alone. Mizrahi and Minchuk (2021) model gaming under regulatory monitoring and show that the scope for it is set by the measure's structure, not by the monitor's vigilance. Cepiku, Mastrodascio and Wang (2024) and Nitzl, Sicilia and Steccolini (2024) find that managerial use of performance information is selective and shaped by what the information makes visible; Choi and Woo (2021) and Mikkelsen, Petersen and Bjørnholt (2021) show asymmetric responses to favourable and unfavourable signals; and Lindermüller, Sohn and Hirsch (2021) find that external reporting pressure alters how

performance data enter spending decisions. Lebec and Dudau (2023) argue that measurement systems constructed for external accountability systematically omit dimensions the measured organization itself treats as central.

Two findings bear directly on the budget-constrained case. Kim (2024) shows that low-performance signals produce behavioural distortion where consequences attach to the signal, and Lamothe (2024) demonstrates that administrative data can misrepresent service delivery in ways only disaggregation reveals. Barbieri, Micacchi, Vidè and Valotti (2021) provide the general framework: an appraisal system performs only to the extent that its measures are aligned with the outcomes the organization is meant to produce.

Espeland and Sauder (2007) develop the broader claim that quantitative measures are reactive: they alter the behaviour of those measured, and over time reconstitute what the measured activity is taken to be. Kelman and Friedman (2009), examining emergency waiting-time targets, find genuine improvement alongside distortion, and their conclusion is the relevant one here — that a measure may be simultaneously informative about the dimension it captures and misleading about the underlying state, and that distinguishing the two requires disaggregated data of the kind the measure itself does not supply.

Two features distinguish the present case from that literature. The first is that the threshold effect is not induced by a target level but by the definition of the measure: even without a target, an agency maximizing reported soundness per rupiah would allocate to surface treatment of damaged pavement. The second is that budget constraint is the operative variable. An agency with sufficient funds performs structural and surface work together and the bias is latent. An agency choosing between them acts on it. The prediction that follows, and that Section 3 describes the data and Section 5 tests, is that reported soundness and the Good-class share will diverge under fiscal pressure — which is a directly observable implication rather than an inference about motive.

3. METHOD

The analysis uses published planning, performance and accountability documents of the provincial government of Central Java for fiscal years 2022 to 2025. Physical condition data for the road network are taken from the annual regional work plan documents, which report provincial road length by condition class. Performance indicator series are taken from the strategic plans and annual performance accountability reports of the provincial roads authority and the water resources and spatial planning authority. Fiscal figures are taken from the audited financial statements for 2024 and from the budget implementation documents and the governor's accountability report for 2025. No media sources are used.

Four data problems require disclosure, and each constrains a specific claim made below.

First, the reported road soundness figure for 2023 differs across documents: the current strategic plan records 95.30 per cent, while the governor's accountability report and the roads

authority's own performance report both record 90.88 per cent. The lower figure is adopted because it appears in two independent documents and is consistent with the surrounding series.

Second, the denominator changed. Provincial road length was reclassified from 2,404.74 km to 2,440.12 km with effect from 2023. Percentage comparisons across that boundary are affected, and the analysis therefore relies on absolute lengths in kilometres where the argument depends on a comparison spanning it.

Third, the performance indicator framework was replaced in 2024 for irrigation, flood protection and spatial planning. The water resources authority states explicitly in its 2024 performance report that the year's results are not comparable with 2023. Those series are treated as broken and are not joined across the discontinuity.

Fourth, the 2025 fiscal figures are drawn from unaudited accountability reporting, since the sector-level breakdown in the audited statements for that year was not extracted. The direction and approximate magnitude of the reallocation are secure; individual 2025 figures should be treated as provisional.

The provincial statistics office table on road condition contains an evident error for 2025, reporting a total network of 15,418 km against an actual provincial length of 2,440.12 km. That row is not used.

4. RESULTS AND DISCUSSION

4.1 The fiscal position and what happened to capital spending

Total provincial expenditure fell from IDR 27,187.13 billion in 2024 to IDR 23,871.84 billion in 2025, a decline of 12.19 per cent. Capital expenditure moved in the opposite direction, rising from IDR 1,733.08 billion to IDR 1,795.56 billion, an increase of 3.60 per cent.

The contraction was therefore absorbed by operating and transfer expenditure, not by investment. Within investment, the allocation shifted decisively. The provincial roads authority's budget rose from IDR 629.74 billion to IDR 1,081.55 billion, an increase of 71.7 per cent, and the road programme within it rose from IDR 406.58 billion to IDR 827.22 billion, an increase of 103.5 per cent. The road programme reported physical completion of 99.99 per cent and financial realization of 96.37 per cent.

The water resources authority received IDR 291.09 billion in 2025 against IDR 213.21 billion in 2024, an increase in total but with a different internal composition. Its 2025 budget implementation document — whose file name records it as an efficiency version — allocates nothing to the construction of seawalls and coastal protection, against IDR 18.00 billion in 2024, and nothing to check dam construction, against IDR 12.00 billion. Its water resources management programme achieved 94.83 per cent physical and 90.51 per cent financial realization, below the roads figures. Table 1 sets out the movement in expenditure between the two years.

Table 1. Expenditure movement, FY2024 to FY2025 (IDR billion)

Item	2024	2025	Change
Total expenditure	27,187.13	23,871.84	-12.19%
Capital expenditure	1,733.08	1,795.56	+3.60%
Roads authority budget	629.74	1,081.55	+71.7%
Road programme	406.58	827.22	+103.5%
Water resources authority budget	213.21	291.09	+36.5%
Seawall and coastal protection	18.00	0.00	-100%
Check dam construction	12.00	0.00	-100%

Sources: audited financial statements FY2024; governor's accountability report FY2025; budget implementation document of the water resources and spatial planning authority, FY2025. Figures for 2025 are unaudited.

4.2 The composite series

Reported road soundness — the sum of lengths in Good and Moderate condition, as a percentage of total length — rose from 91.46 per cent in 2024 to 94.01 per cent in 2025, the highest value in the available series and above the revised target of 93.08 per cent.

One feature of the target-setting sequence should be recorded because it bears on how the achievement is read. The medium-term development plan set a 2025 target of 93.50 per cent. The annual work plan and the roads authority's annual plan both reduced the operational target to 89.46 per cent — below the 91.46 per cent actually achieved in 2024. The amended annual work plan then restored it to 93.08 per cent. Part of the reduction is attributable to the change in network length, but the magnitude of the initial reduction exceeds what that change accounts for. The bridge soundness target was reduced over the same sequence from 91.48 to 83.38 per cent.

4.3 The disaggregated condition profile

Disaggregating the same data by condition class shows a different movement. Table 2 reports provincial road length by condition for 2018 to 2024, the last year for which the full breakdown is published.

Table 2. Provincial road length by condition class (km)

Year	Good	Moderate	Lightly damaged	Heavily damaged	Total	Sound %
2018	2,154.65	196.15	53.95	0	2,404.74	97.76
2019	1,946.86	234.01	223.87	0	2,404.74	90.69
2020	1,869.69	312.13	222.93	0	2,404.74	90.73

Year	Good	Moderate	Lightly damaged	Heavily damaged	Total	Sound %
2021	1,871.61	313.45	219.68	0	2,404.74	90.86
2022	2,010.27	213.89	68.33	112.25	2,404.74	92.49
2023	1,716.04	487.79	124.32	111.97	2,440.12	90.32
2024	1,584.63	647.33	131.92	76.24	2,440.12	91.46

Source: regional work plan documents of Central Java Province, 2024, 2025 and 2026 editions. Total length was reclassified from 2,404.74 km to 2,440.12 km with effect from 2023. Sound percentage is Good plus Moderate divided by total.

The Good category fell from 2,010.27 km in 2022 to 1,584.63 km in 2024, a loss of 425.64 km, or from 83.60 per cent of the network to 64.94 per cent. Over the same period the Moderate category rose from 213.89 km to 647.33 km, from 8.89 per cent to 26.53 per cent. Heavily damaged length fell from 112.25 km to 76.24 km.

The arithmetic of the composite indicator explains the divergence. Soundness counts Good and Moderate together, so a kilometre moved from Damaged into Moderate raises the indicator by exactly as much as a kilometre moved from Moderate into Good, and a kilometre falling from Good into Moderate changes it not at all. Between 2022 and 2024 the network gained on the first movement and lost heavily on the third, and the indicator recorded only the gain.

In engineering terms the two movements are not equivalent. Restoring a damaged pavement to moderate condition is typically achieved by surface treatment and localized repair, at low cost per kilometre and with a service life measured in a small number of years. Restoring a moderate pavement to good condition generally requires structural intervention — overlay of adequate thickness, or reconstruction where the base has failed — at considerably higher cost per kilometre and with a correspondingly longer service life. An asset base migrating from Good toward Moderate is accumulating deferred structural work, and will require it later at greater cost.

A second series indicates the same conclusion from a different direction. Of the 2,440.12 km network in 2024, 1,311.12 km, or 53.73 per cent, met the provincial geometric and loading standard of at least seven metres width and eight-tonne axle load; 1,236.46 km, or 50.67 per cent, met that standard and were sound. Just over half the network therefore satisfies both criteria simultaneously, while the composite indicator reports 91.46 per cent.

4.4 Irrigation

The province holds authority over 108 irrigation schemes covering 86,865 hectares, or 9.11 per cent of the province's 953,804 irrigated hectares. The associated asset stock comprises 1,109.08 km of primary canal, 3,716.91 km of secondary canal, 314.58 km of drainage, 236 weirs, 6,767 division and offtake structures and 11,289 ancillary structures.

Condition data for 2024 record one scheme, covering 651 hectares or 0.75 per cent of the provincial service area, in Good condition. Fourteen schemes covering 7,915 hectares are lightly damaged, 85 schemes covering 66,634 hectares are moderately damaged, and eight schemes covering 11,665 hectares are heavily damaged. Ninety per cent of the provincial irrigation service area is therefore in moderate or worse condition.

The performance series is broken at 2024 and cannot be joined. The former indicator, the percentage of irrigation infrastructure in good condition, recorded 82.50 per cent in 2019 rising to 83.00 per cent in 2023. The replacement indicator, an irrigation system performance index, recorded 69.11 in 2024 in the authority's performance report and 67.50 in the subsequent work plan, a discrepancy between documents that is itself unexplained. A third indicator introduced in 2025 records 22.771 per cent without a published definition. The three cannot be reconciled and no trend claim is available from them.

Physical output data end earlier still. The authority reports weirs, canal metres and structures delivered annually through 2022, and cumulative outcome of 20,242 hectares restored to irrigation between 2013 and 2022. Equivalent figures for 2023 to 2025 are not published.

The irrigation result invites comparison with the performance-assessment literature. Tegegne, Damtie and Shumye (2024), assessing the Koga scheme in Ethiopia across consecutive periods with comparative indicators, and Leroy (2023), examining institutional performance in a large Mexican system, both find that condition and service outcomes diverge where governance is weak, and that indicator changes obscure the divergence. Fu and Zhu (2023) show that organizational support conditions governance performance in farm irrigation systems in the Yellow River basin. Balta and Kulat (2024) document what modernization requires in practice. Against this literature, a provincial system in which one of 108 schemes is classified Good and 90 per cent of the service area is moderately or severely damaged is not merely underperforming; it is at a condition level at which the distinctions the performance index is meant to capture have largely collapsed.

The asset management literature indicates what would be required to manage the stock on trend. Adey, Hackl, Picken, Zani, Stewart and Parsons (2025) set out how strategic goals are translated into asset plans in a water utility; Litherland and Andrews (2025) model network asset management formally; Sasai, Chouinard, Power, Conciatori and Zufferey (2024) and Liljefors and Köhler (2024) develop decision frameworks for network- and structure-level maintenance; and Binder and Strauss (2025) propose a decision system for prioritizing under uncertainty. Each presupposes a condition series that is continuous and comparable over time. The provincial irrigation series is neither, having been redefined twice in two years.

4.5 Rivers, flooding and the coast

The percentage of provincial-authority rivers in good condition was 52.20 in 2019, 52.21 in 2020, 52.29 in 2021, 52.30 in 2022, 52.36 in 2023 and 52.37 in 2024, with targets of 52.38 for both

2025 and 2026. The series moves by 0.17 percentage points across six years. Whether this reflects genuine stability, measurement insensitivity, or reporting inertia cannot be determined from the published documents, but on any of those readings it is not evidence of intervention.

The ratio of flood-prone settlement area protected by flood control infrastructure was 22.96 in 2024 and 23.81 in 2025, against a 2026 target of 24.65. Provincial flood hazard mapping identifies 935,504 hectares at risk, of which 446,255 hectares are classified high hazard and 469,909 hectares moderate.

For the 828.82 km provincial coastline, of which 540.27 km faces the Java Sea, no physical delivery figures for coastal protection could be located for 2023 to 2025. What is available is the budget position, and it is unambiguous: seawall and coastal protection construction and check dam construction were each allocated nothing in the 2025 implementation document, having together received IDR 30 billion in 2024. Northern coastal Central Java is subject to well-documented tidal inundation and land subsidence, and this is the sector line that was reduced to zero in the year the road programme doubled.

The coastal position is the sharpest instance of the reallocation. Northern Central Java is subject to documented tidal inundation and land subsidence, a combination the hazard literature identifies as producing non-linear increases in exposure: Jiang, Zhang, Liu, Li and Fang (2023) show for Hurricane Harvey that subsidence materially worsens inundation depth and extent, and Wang, Xiao, Nicolsky, Romanovsky, McComb and Farquharson (2023) demonstrate the compounding of subsidence, erosion and flooding in a coastal hazard assessment. Bukvic, Mitchell, Shao and Irish (2023) trace the resulting relocation risk in coastal municipalities. Park, Sohn, Piao and Lee (2023) evaluate green and grey coastal adaptation performance in South Korea and find that grey infrastructure delivers protection whose absence is not substitutable in the short run.

The exposure literature also indicates how the protection ratio reported here should be read. He, Hei, Wu, Herzog, Li, Yang and Li (2026), assessing 30,000 Chinese towns, find flood exposure systematically correlated with socioeconomic disadvantage; Thakur, Shirsath and Mohanty (2026) argue that recurrent nuisance flooding is under-measured by hazard-based indicators; and Burzel, van den Boomen and Kok (2026) show that infrastructure exposure assessment requires hazard, exposure and vulnerability jointly. Bhare and Reddy (2024), Ji, Fang, Chen and Ding (2024), Dong, Xia and Wang (2025) and Mabrouk and Haoying (2023) develop the multi-criteria methods this would require. A single ratio of protected settlement area, moving 0.85 percentage points in a year against a hazard area of 935,504 hectares, does not carry that information.

4.6 Spatial planning

The provincial spatial plan was replaced by Provincial Regulation No. 8 of 2024, promulgated on 17 October 2024 and covering 2024 to 2044. It revokes the previous spatial plan and its

amendment, the coastal zone plan, and the detailed plan for one strategic area, integrating coastal planning into the general spatial plan.

The regulation designates 17 provincial strategic areas. None has a detailed spatial plan in force. The single such plan that had existed was revoked by the very regulation that designates the 17. Accountability reporting for 2025 confirms that no detailed strategic area plan was adopted during that year; the reported outputs are dissemination of the new regulation to district agencies and two supporting studies.

The 2025 performance figures for spatial planning display a pattern worth recording. Implementation of spatial utilization is reported at 76 against an annual target of 76; spatial compliance at 48 against a target of 48; and availability of spatial plans at 50.99 against a target of 50.99. Each is reported as 100 per cent achievement. Measured against the medium-term plan targets of 88, 67 and 77.67 respectively, attainment is 86.36, 71.64 and 63.10 per cent. The same pattern appears in the roads authority: the length of road with legal title records is reported at 100 per cent of the annual target and 58.32 per cent of the medium-term target.

One caution applies. Availability of spatial plans fell from 62.86 in 2024 to 50.99 in 2025, but Provincial Regulation No. 8 of 2024 changed the set of plans required to exist, so the denominator changed. This should not be read as a decline in performance.

4.7 Discussion

The case yields one central finding and two subsidiary ones.

The central finding concerns the construction of the condition indicator. A measure defined as the sum of two adjacent condition classes is insensitive to movement between them and sensitive to movement across its lower boundary. It therefore rewards the cheapest intervention that crosses that boundary — surface treatment of damaged pavement — and is entirely indifferent to the structural deterioration of pavements already inside it. Under an unconstrained budget the bias is tolerable, because an agency can do both. Under a constrained budget it becomes decisive, because the agency must choose, and the measure by which it is judged says that the cheaper choice is worth as much. The province's 2025 result — the highest recorded soundness on a network whose Good category has lost 425.64 km in two years — is what that incentive produces.

The first subsidiary finding is that fiscal contraction did not reduce infrastructure investment but reallocated it. Capital expenditure rose while total expenditure fell 12.19 per cent, and within capital expenditure the road programme doubled while coastal protection and check dam construction went to zero. The pattern is consistent across the sector: the asset with an annually reported composite indicator, high public visibility, and short delivery lead time gained; assets whose condition is reported through broken or undefined indicator series, and whose failure is episodic rather than continuous, lost.

The second subsidiary finding concerns target setting. Where annual targets are set equal to the value subsequently reported, the resulting achievement figure carries no

information. Six indicators in the 2025 reporting exhibit this exactly, and the road soundness target was reduced below the previous year's realization before being restored. The medium-term targets, against which attainment ranges from 58.32 to 86.36 per cent, are the more informative comparison and are not the ones reported as headline achievement.

For asset management practice, three implications follow. Condition should be reported by class rather than as a composite, or the composite should be supplemented by the Good share, which is the quantity that moves when structural work is done. The proportion of the network meeting the geometric and loading standard — 53.73 per cent, against a reported soundness of 91.46 per cent — is a more demanding and more useful measure of network adequacy. And a sector whose indicator series is broken by framework change, as irrigation's is at 2024, cannot be managed on trend, which may partly explain why the sector with the least legible measurement lost most in the reallocation.

5. CONCLUSION

A provincial government that lost nearly a fifth of its tax revenue did not reduce infrastructure investment. It increased capital expenditure, doubled its road programme, and recorded its highest reported road soundness. Behind that result, the road network in Good condition contracted by 425.64 km in two years while the Moderate category tripled, one of 108 provincial irrigation schemes is in Good condition, river condition has not moved in six years, coastal protection and check dam construction received no allocation, and none of the 17 designated strategic areas has a detailed spatial plan.

The general claim is that composite condition indicators constructed as the union of adjacent classes systematically reward the least durable intervention, and that the bias binds hardest when budgets are tight. An agency facing contraction and judged on such an indicator can improve its reported position while its asset base deteriorates, and will be acting rationally in doing so.

Three extensions would strengthen the analysis. Pavement-level condition data, rather than aggregate length by class, would permit the deferred structural liability implied by the Good-to-Moderate migration to be costed. Physical delivery data for coastal protection would establish whether the zero allocation in 2025 followed a period of sustained investment or continued an existing pattern. And extraction of the sector-level breakdown from the audited 2025 statements would replace the unaudited fiscal figures used here, on which the magnitude but not the direction of the reallocation depends.

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