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Original article

Budget transparency and road infrastructure service delivery in Ntungamo District, Uganda. A cross-sectional study

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Abstract

Background

Budget transparency, the open and timely disclosure of how public money is planned, approved, spent and reported, is widely seen as a condition for efficient public investment, and roads are among the investments that depend on it most. This study examined the relationship between budget transparency and road infrastructure service delivery in Ntungamo District.

Methodology

A correlational design with a mixed-methods approach was used. From a population of 200, a sample of 132 was determined using Krejcie and Morgan (1970), 82 completed a structured questionnaire and 48 were interviewed (senior administrators, contractors, opinion leaders, boda boda riders, and taxi and transport operators). District records for FY 2020/21 to 2024/25 were also reviewed. Data were analyzed with SPSS (descriptive statistics and Pearson correlation) and thematic analysis.

Results

Of the 82 questionnaire respondents, 65.9% were male and 34.1% female; 68.3% were aged 35 to 54 years; 78.0% held at least a bachelor's degree; 68.3% had been in their current position for six years or more; and 69.5% had taken part in road projects. Budget transparency was moderate ($M = 2.69$, $SD = 0.47$) and road infrastructure service delivery was low ($M = 2.42$, $SD = 0.48$). Budget transparency had a strong, positive and significant relationship with road infrastructure service delivery ($r = .577$, $p < .001$).

Conclusion

Budget transparency in Ntungamo District is moderate and weakest at the level of communities and road users. It is significantly and positively related to road infrastructure service delivery.

Recommendation

The Chief Administrative Officer and the District Council should publish approved road budgets, work plans, contract sums and contractors at sub-county offices, on parish notice boards and on radio, and hold annual budget and road-works meetings with communities, boda boda stages and taxi parks.

Keywords: *Budget Transparency, Road Infrastructure, Service Delivery, Local Government, Ntungamo District*
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Background

Public budgets are the main way governments turn policy into services. Budget transparency is the extent to which budget information is available, accessible, timely, comprehensive and understandable to citizens, oversight institutions and development partners. It covers the open disclosure of how budgets are formulated, approved, implemented, monitored and reported, so that stakeholders can follow how public resources are allocated and used. Where this information is open, opportunities for corruption shrink, public participation grows and funds are more likely to be used efficiently. Cross-country evidence points the same way. Comparative data from developing countries show that governments with more transparent budget systems tend to have better fiscal discipline, more efficient spending and higher quality public services (de Renzio & Wehner, 2017), and the Open Budget Survey of more than 120 countries links higher budget transparency to stronger oversight of public spending, greater citizen participation and better implementation of infrastructure projects (International Budget Partnership, 2023).

Roads show why these matters. Road projects need large financial investment at the planning, procurement, implementation and maintenance stages, and the money is spent far from the eyes of most citizens. Transparent budgeting lets stakeholders check whether funds allocated for road construction, rehabilitation and maintenance are used for their intended purpose. It also supports timely implementation, reduces financial leakage, strengthens procurement integrity and improves the quality and durability of roads. At the national level, however, the evidence is mostly cross-country and says little about what

happens in the local governments that actually build and maintain feeder roads.

In Uganda, district local governments carry this responsibility, and studies of their financial management suggest that openness in budgeting matters for results. Transparent budget implementation and reporting were associated with better service delivery in Kasanda District, because funds were used according to approved plans (Karenzi & Christopher, 2025). In Bukedea District, transparent budgeting and involvement of stakeholders in budget implementation limited the diversion of resources and strengthened monitoring of expenditure (Apunyo, 2024). In Kabale District, open communication of budget information was linked to more accountable officials and better use of public resources (Biryomumisho et al., 2023). These studies, however, looked at local government service delivery as a whole. None isolated road infrastructure.

Ntungamo District Local Government shows the problem clearly. District records for FY 2020/21 to FY 2024/25 show that road funds released rose from UGX 1.62 billion to UGX 2.05 billion and the number of road projects from 18 to 25. Over the same period, the district maintained only about 65% of the road kilometres it planned, the share of road projects completed on time fell from 44% to 32%, and about 90% of the district road network remained in poor condition (Ntungamo District Local Government, 2026). More money was not producing better roads, and it is not clear how far the openness of road budgets to stakeholders, including the road users who see the results every day, explains this. This study therefore examined the relationship between budget transparency and road infrastructure service delivery in Ntungamo District, Uganda.

Methodology

Research design

The study adopted a correlational research design with a mixed-methods approach. The correlational design was used to determine the nature and strength of the relationship between the independent variable (budget transparency) and the dependent variable (road infrastructure service delivery) in Ntungamo District Local Government. The mixed-methods approach combined quantitative methods (a structured questionnaire and indicators computed from district records) with qualitative methods (key informant interviews and documentary review), so that the opinions of officials and councillors could be read against the experience of contractors and road users and against what the district records show.

Study population

The study population comprised 200 people who are involved in budgeting for, implementing and overseeing road works in Ntungamo District Local Government, or who use the district roads. It had three groups. The first group, of 140, consisted of officials and stakeholders who prepare, disclose, spend and oversee road budgets: district political leaders (45), senior administrators (8), finance and accounting staff (15), internal audit staff (14), procurement staff (10), engineering department staff (25), service providers or contractors (8) and District Works Committee members (15). Their numbers came from the staff and council lists of Ntungamo District Local Government (2026). The second group was opinion leaders (10), who speak for communities. The third group, of 50, was the end users of the district roads: 40 boda boda riders and 10 taxi and transport operators who regularly use the district feeder roads. Road users were included because they are the people budget information is meant to reach, and they experience the condition, accessibility and maintenance of the roads directly. They were identified from the boda boda stages and taxi parks along the district feeder roads listed in the District Road Inventory and in road works reports obtained through documentary review.

Sample size

The sample size was determined using the Krejcie and Morgan (1970) table for determining sample size (Appendix V), which is based on the formula:

$$s = X^2NP(1 - P) \div [d^2(N - 1) + X^2P(1 - P)]$$

where s is the sample size, X^2 is the chi-square value for one degree of freedom at the 95% confidence level (3.841), N is the population size, P is the population proportion (0.50) and d is the margin of error (0.05). For a population of 200, the table gives a sample size of 132. The sample was distributed among the categories in proportion to their size using the formula:

$$n_i = (N_i \div N) \times n$$

where n_i is the sample for category i, N_i is the population of category i, N is the total population (200) and n is the total sample (132). For example, for the district political leaders, $(45 \div 200) \times 132 \approx 30$.

Table 1: Population, sample, respondents and tools

Category of respondents	Population	Sample	Responded	Sampling technique	Tool
District political leaders	45	30	30	Simple random	Questionnaire
Finance and accounting staff	15	10	10	Simple random	Questionnaire
Internal audit staff	14	9	9	Simple random	Questionnaire
Procurement staff	10	7	7	Simple random	Questionnaire
Engineering department staff	25	16	16	Simple random	Questionnaire
District Works Committee members	15	10	10	Simple random	Questionnaire
Senior administrators	8	5	5	Purposive	Interview guide A
Service providers (contractors)	8	5	5	Purposive	Interview guide B
Opinion leaders	10	7	7	Purposive	Interview guide C
Boda boda riders	40	26	24	Purposive	Interview guide C
Taxi and transport operators	10	7	7	Purposive	Interview guide C
Total	**200**	**132**	**130**		

Source: Ntungamo District Local Government staff and council lists (2026); District Road Inventory; Krejcie and Morgan (1970); primary data (2026).

Sampling techniques

The study combined probability and non-probability sampling techniques.

Simple random sampling was used to select the district political leaders, finance and accounting staff, internal audit staff, procurement staff, engineering department staff and District Works Committee members, who answered the questionnaire. Within each category, the staff list or council register was the sampling frame, and the required number of respondents was drawn by lottery. Every member had an equal and independent chance of selection, which reduced selection bias and improved the representativeness of the sample.

Purposive sampling was used to select respondents with specialized knowledge or direct experience of road budgeting and road works: the senior administrators (such as the Chief Administrative Officer, Chief Finance Officer and District Engineer), the contractors who carried out district road works, opinion leaders, and road users. Purposive sampling is appropriate when participants are selected for their knowledge and experience of the phenomenon under study (Creswell & Creswell, 2018). The road users were selected in two steps. First, the district feeder roads to be covered were identified from the District Road Inventory, annual work plans and road works reports, choosing roads on which maintenance, rehabilitation or construction was carried out during 2020–2025. Second, boda boda riders and taxi and transport operators who regularly use those roads were selected at the boda boda stages and taxi parks along them, with the help of the stage and park chairpersons. Only riders and operators who had used the roads for at least two years were chosen.

Proportionate allocation was used to share the total sample of 132 among the categories of respondents, so that each category is represented according to its share of the study population and no group is over- or under-represented.

Data sources

The study obtained data from primary and secondary sources to give comprehensive information on both variables.

Primary data were collected directly from political leaders, administrators, finance and accounting staff, auditors, procurement officers, engineering staff, contractors, District Works Committee members, opinion leaders and road users, using a structured questionnaire and key informant interviews. The questionnaire gave quantitative information on how open the district's road budgets are and on the performance of road infrastructure, while the interviews gave qualitative insight into how budget information is prepared, shared and received, and into the experience of those who use the roads.

Secondary data came from existing documents and records: district budgets, annual performance reports, road project reports, procurement records, development plans, Ministry of Finance guidelines, local government financial regulations and published studies. They provided background information, showed trends in road funding and road performance, and verified the primary findings.

Data collection methods

Three methods were used: a questionnaire survey, key informant interviews and documentary review.

The **questionnaire method** was used to collect quantitative data from political leaders, finance and accounting staff, internal auditors, procurement staff, engineering staff and District Works Committee members. The questionnaire was mainly closed-ended and measured perceptions of budget transparency and of road infrastructure service delivery on a five-point Likert scale. The method allows standardized data collection from many respondents in a limited time and supports statistical analysis of opinions and relationships between variables (Creswell & Creswell, 2018).

The **interview method** was used with purposively selected key informants: senior administrators, contractors, opinion leaders and road users. These categories play different roles, so three semi-structured interview guides were used. The interviews explored how road budgets are prepared and shared, how far road users and communities are informed and consulted, the condition and maintenance of district roads, and possible improvements. They gave detailed contextual information that questionnaires may not capture (Kothari, 2004).

The **documentary review method** was used to collect secondary data from district budgets, road project reports, procurement records, development plans, annual performance reports and relevant government policy documents. It gave factual evidence on road funds released, expenditure patterns and road performance, and it validated information from the questionnaire and interviews. Document analysis provides valuable context and strengthens the interpretation and validation of findings from other sources (Bowen, 2009). It was also used to identify the feeder roads worked on during 2020–2025 and the road users along them, so that those to be interviewed could be located.

Data collection instruments

Five instruments were used: one questionnaire, three interview guides and one documentary review checklist, each matched to the category of respondents or source of data it suits (Table 1).

The **structured questionnaire** was administered to the 82 political leaders, finance and accounting staff, internal audit staff, procurement staff, engineering staff and District Works Committee members in the sample. It had three sections: Section A, background information; Section B, budget transparency (10 items on disclosure of road budgets, stakeholder participation, communication of allocations and changes, and disclosure of contracts and costs); and Section C, road infrastructure service delivery (10 items on prioritization, timeliness, quality, maintenance, value for money, accessibility and monitoring). Sections B and C used a five-point Likert scale.

Three **interview guides** were used because the key informants have different roles and therefore different information to give. Guide A, for senior administrators, focused on how road budgets are prepared, approved, communicated and reported to stakeholders. Guide B, for contractors, focused on the disclosure of contract information and bills of quantities, payment, and the communication of changes in scope. Guide C, for opinion leaders and road users, focused on their access to information on road budgets and works, their consultation in road planning, and their experience of the condition, maintenance and timeliness of district roads.

One **documentary review checklist** was used to extract data on funds released, road projects, kilometres planned and maintained, projects completed on time and road condition from district budgets and road works reports for FY 2020/21 to 2024/25. It provided the figures for the documentary indicators of road infrastructure service delivery and was used to identify the roads under study and the road users along them.

Measurement of variables

The independent variable, budget transparency, was measured using Section B of the questionnaire, and the dependent variable, road infrastructure service delivery, was measured using Section C. Each item was rated on a five-point Likert scale: 1 = strongly disagree, 2 = disagree, 3 = not sure, 4 = agree and 5 = strongly agree. The mean score of the items in a section gave the level of each variable, interpreted as follows (Amin, 2005): 4.21–5.00 very high; 3.41–4.20 high; 2.61–3.40 moderate; 1.81–2.60 low; and 1.00–1.80 very low. Road infrastructure service delivery was also measured from district records using the four indicators.

Table 2: Measurement of the study variables

Variable	Indicators	Tool and items	Scale / measure
Budget transparency	Disclosure of road budgets, stakeholder participation, communication of allocations and changes, disclosure of contracts and costs	Questionnaire, Section B (10 items)	Five-point Likert scale
Road infrastructure service delivery	Prioritization, timeliness, quality, maintenance, value for money, accessibility, monitoring	Questionnaire, Section C (10 items)	Five-point Likert scale
Coverage	Km of district roads maintained ÷ km planned × 100	Documentary review	Percentage
Timeliness	Road projects completed within the contract period ÷ total road projects × 100	Documentary review	Percentage
Road quality	Km of district roads in good or fair condition ÷ total km of district roads × 100	Documentary review	Percentage
Effectiveness	Road funds spent on planned road works ÷ road funds released × 100	Documentary review	Percentage

Source: Researcher (2026).

Data collection procedure

The researchers obtained an introductory letter from the university and sought authorization from Ntungamo District Local Government before collecting data. Selected respondents were contacted, told the purpose and procedures of the study, and assured of voluntary participation, confidentiality and academic use of the information. The structured questionnaire was administered to the political leaders, finance and accounting staff, internal audit staff, procurement and engineering staff, and District Works Committee members. Interviews were conducted with senior administrators (guide A), contractors (guide B), and opinion leaders and road users (guide C), with road users interviewed at the boda boda stages and taxi parks along the selected roads. With consent, interviews were recorded through notes or audio recording. The researchers also reviewed the district documents listed in the checklist. After collection, questionnaires and interview records were checked for completeness and accuracy. Quantitative data were coded and entered into statistical software, while qualitative information was organized into themes based on the study objective.

Validity and reliability of instruments

Validity is the extent to which an instrument measures what it is intended to measure (Creswell & Creswell, 2018). To ensure validity, the draft questionnaire and interview guides were submitted to the research supervisor and to experts in public administration, financial management and research methodology. The experts assessed whether the items adequately covered the study objective, research questions and the two variables, budget transparency and road infrastructure service delivery. Unclear, irrelevant or ambiguous items were modified, removed or improved before the final instruments were used. The Content Validity Index (CVI) was calculated as:

CVI = \frac {\text {Number of items rated relevant}} {\text {Total number of items}}

A CVI of 0.70 or above is acceptable (Amin, 2005). The questionnaire obtained a CVI of 0.89, which confirmed adequate content validity.

Reliability is the consistency, stability and dependability of an instrument in producing similar results under similar conditions (Mugenda & Mugenda, 2003). The questionnaire was pre-tested among respondents from a comparable local government setting that was not part of the final sample, and adjustments were made to unclear questions and wording before the actual data collection. Internal consistency was determined using Cronbach's alpha, calculated in statistical software for each variable, with 0.70 or higher considered acceptable (Nunnally, 1978).

Table 3: Reliability test for each study variable

Study variable	Items	Indicators	Cronbach's alpha (α)	Interpretation
Budget transparency	10	Budget disclosure, stakeholder participation, budget implementation information	0.789	Acceptable
Road infrastructure service delivery	10	Road quality, timely completion, maintenance, accessibility, value for money	0.813	Acceptable

Source: Primary data (2026).

Data analysis

Quantitative data from the questionnaire were edited, coded, entered and analyzed using SPSS after checking for completeness, accuracy and consistency. Descriptive statistics (frequencies, percentages, means and standard deviations) summarized the respondents' characteristics, budget transparency and road infrastructure service delivery, and results are presented in tables. The Pearson product-moment correlation coefficient (r) was used to determine the strength and direction of the relationship between budget transparency and road infrastructure service delivery, and its strength was interpreted following Cohen (1988). The documentary indicators were calculated for each financial year from 2020/21 to 2024/25 to show the trend in road coverage, timeliness, quality and effectiveness.

Qualitative data from the interviews and the documentary review were analyzed thematically. The researchers organized the responses, identified common patterns, coded the information and developed themes on how road budget information is prepared, shared and received, and on the state of road infrastructure service delivery. Counts show how many interviewees in each category gave a response, and the themes are used to support and explain the quantitative findings.

Ethical considerations

The study followed ethical principles to protect participants' rights, dignity, privacy and welfare. Informed consent was obtained after the purpose, procedures, benefits, risks and participants' rights had been explained, participation was voluntary, and respondents were free to withdraw at any stage without consequences. Confidentiality and anonymity were maintained by avoiding unnecessary personal identifiers, coding interview responses and using information strictly for academic purposes. The researchers obtained the university introductory letter and authorization from Ntungamo District Local Government, including permission to access official records. Collected data were stored securely and accessed only by the researchers and authorized supervisors, and academic integrity was maintained through proper citation and avoidance of plagiarism, fabrication and falsification of findings.

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Results

Response rate and background of respondents

All 82 sampled questionnaire respondents returned the questionnaire (100%). Of the 50 sampled interviewees, 48 were interviewed (96.0%), because two boda boda riders could not be reached. Overall, 130 of the 132 sampled respondents took part (98.5%), above the 70% that Amin (2005) considers adequate. The 48 interviewees were 5 senior administrators, 5 contractors, 7 opinion leaders, 24 boda boda riders and 7 taxi and transport operators

Table 4: Background characteristics of questionnaire respondents (n = 82)

Characteristic	Category	Frequency	Percent (%)
Gender	Male	54	65.9
	Female	28	34.1
Age group	Below 25 years	1	1.2
	25–34 years	16	19.5
	35–44 years	33	40.2
	45–54 years	23	28.0
	55 years and above	9	11.0
Highest education	Certificate	5	6.1
	Diploma	12	14.6
	Bachelor's degree	35	42.7
	Postgraduate diploma	15	18.3
	Master's degree	12	14.6
	PhD	2	2.4
	Other	1	1.2
Years in current position	Less than 1 year	5	6.1
	1–5 years	21	25.6
	6–10 years	24	29.3
	11–15 years	16	19.5
	More than 15 years	16	19.5
Participated in road projects	Yes	57	69.5
	No	25	30.5

Source: Primary data (2026).

Men made up 65.9% of respondents and women 34.1%. Most respondents (68.3%) were aged 35 to 54 years, 78.0% held at least a bachelor's degree, 68.3% had held their current position for six years or more, and 69.5% had taken part in planning, budgeting, monitoring or implementing road projects in the district. The respondents were therefore well placed to give informed views on the study variables. The interviewees were chosen for their different vantage points on the same roads: administrators manage road funds, contractors build the roads, and opinion leaders, boda boda riders and taxi and transport operators use them daily.

Road infrastructure service delivery

Table 5: Descriptive statistics for road infrastructure service delivery (n = 82)

No.	Statement	Mean	SD	Interpretation
C1	The local government prioritizes road infrastructure projects in its plans and budgets.	2.38	0.87	Low
C2	Road construction and rehabilitation projects are completed within the planned timelines.	2.39	0.70	Low
C3	Roads constructed or rehabilitated by the district meet the required technical quality standards.	2.48	0.69	Low
C4	The district provides adequate maintenance for existing roads.	2.43	0.80	Low
C5	Road infrastructure projects provide value for money from the resources invested.	2.43	0.82	Low
C6	The condition of district feeder roads has improved over the last five years.	2.41	0.80	Low
C7	Road infrastructure services have improved accessibility and connectivity between communities, markets and social services.	2.33	0.72	Low
C8	The district effectively monitors the progress and performance of road infrastructure projects.	2.43	0.79	Low
C9	Road projects are implemented according to approved designs, budgets and specifications.	2.44	0.80	Low
C10	Community concerns and feedback are considered when assessing the performance of road infrastructure services.	2.46	0.79	Low
	Overall mean	**2.42**	**0.48**	**Low**

Source: Primary data (2026).

Road infrastructure service delivery was low overall (M = 2.42, SD = 0.48). Only 7.2% of responses were “agree” or “strongly agree”, while 55.5% were “disagree” or “strongly disagree”. Item means were close together (2.33 to 2.48). The highest-rated item was C3 on technical quality standards (M = 2.48), which was still below the moderate level, and the lowest was C7 on improved access and connectivity between communities, markets and social services (M = 2.33).

Table 6: Records from district documents and documentary indicators, FY 2020/21–2024/25

Financial year	Funds released (UGX bn)	Road projects	Funds per project (UGX m)	Coverage (%)	Timeliness (%)	Road quality (%)	Effectiveness (%)
2020/21	1.62	18	90.0	67.9	44.4	8.1	80.9
2021/22	1.75	20	87.5	64.9	40.0	8.4	80.0
2022/23	1.84	22	83.6	67.6	40.9	9.0	82.6
2023/24	1.98	24	82.5	65.1	33.3	9.4	79.8
2024/25	2.05	25	82.0	65.0	32.0	10.0	79.5
Mean				66.1	38.1	9.0	80.6

Source: Ntungamo District Local Government documents (2026); computed by the researcher. Coverage = km maintained ÷ km planned; timeliness = projects completed on time ÷ total projects; road quality = km in good or fair condition ÷ 620 km network; effectiveness = funds spent on planned works ÷ funds released; bn = billion; m = million.

The records agree with the questionnaire. Coverage stayed between 64.9% and 67.9% (65.0% in FY 2024/25). Timeliness fell from 44.4% to 32.0%, so about 68% of projects in the latest year were late. Road quality improved only from 8.1% to 10.0%, leaving about 90% of the network in poor condition, and roughly one-fifth of funds released each year was not spent on the planned road works. Funds released rose by 26.5% over the five years, but funds per project fell from UGX 90.0 million to UGX 82.0 million as more projects were undertaken.

Interviewees from every category described the same problem. Nine of the 24 boda boda riders said roads are in poor condition and repairs do not last, eight said travel to markets and health centres takes much longer in the rains, and seven said potholes and mud damage motorcycles and raise repair costs. Four of the seven taxi and transport operators said that roads graded recently did not last, and three said impassable sections raise fares and vehicle maintenance costs. Five of the seven opinion leaders said some roads were started and left unfinished. Officials and contractors gave reasons: two of the five senior administrators blamed procurement delays and cash-flow problems for completion dates being pushed beyond the contract period, and two of the five contractors said late payment and delayed site handover caused delays and affected quality. The three sources therefore agree that road infrastructure service delivery in the district is weak.

Budget transparency

Table 7: Descriptive statistics for budget transparency (n = 82)

No.	Statement	Mean	SD	Interpretation
B1	The local government makes information about budgets available to relevant stakeholders.	2.66	0.83	Moderate
B2	The district clearly communicates budget allocations for road works.	2.72	0.85	Moderate
B3	Budget preparation processes in the district involve relevant stakeholders.	2.72	0.84	Moderate
B4	The district provides adequate explanations on how funds allocated are utilized.	2.72	0.79	Moderate
B5	Budgets are aligned with the actual needs and priorities of communities in Ntungamo District.	2.73	0.82	Moderate
B6	Budget documents and financial plans are easily accessible.	2.61	0.83	Low
B7	The district provides opportunities for citizens to give input into budget decisions.	2.76	0.82	Moderate
B8	Budget changes and reallocations affecting road projects are communicated to stakeholders.	2.61	0.75	Low
B9	The district openly discloses information regarding contractors, project costs and timelines.	2.55	0.76	Low
B10	Budget implementation reports on road works are shared with stakeholders.	2.78	0.75	Moderate
	Overall mean	**2.69**	**0.47**	**Moderate**

Source: Primary data (2026).

Budget transparency was moderate overall (M = 2.69, SD = 0.47). Only 14.4% of responses were "agree" or "strongly agree", against 40.2% "disagree" or "strongly disagree", and item means ranged narrowly from 2.55 to 2.78. The highest-rated item was B10 on sharing budget implementation reports on road works (M = 2.78), and the lowest was B9 on disclosure of contractors, project costs and timelines (M = 2.55).

Table 8: Interview responses on budget transparency

Theme raised by interviewees	Group	Number
Nobody informs us about road funds.	Boda boda riders (n = 24)	13
We only see graders when politicians visit.	Boda boda riders (n = 24)	11
Transport operators are not consulted when roads are planned.	Taxi and transport operators (n = 7)	7
We hear of road budgets only when works start.	Opinion leaders (n = 7)	4
Communities are rarely told how much is allocated to their roads.	Opinion leaders (n = 7)	3
Budgets are shared mainly at council level; few stakeholders see road allocations.	Senior administrators (n = 5)	3
Information on road budgets is available on request, not proactively.	Senior administrators (n = 5)	2
Procurement is generally open, but some bidders suspect unfair evaluation.	Contractors (n = 5)	4
Bills of quantities are shared at signing, but changes to scope are not communicated clearly.	Contractors (n = 5)	1

Source: Primary data (2026), interview records.

The interviews show a clear divide in who sees the budget. All five senior administrators said that budgets are shared mainly at council level (three) or only on request (two). Outside the district offices, none of the 38 opinion leaders, boda boda riders and taxi and transport operators described any proactive disclosure to them. Contractors' accounts were more favourable but not complete: four of five said procurement is generally open, although some bidders suspect unfair evaluation, and one said changes in scope are not communicated clearly. These accounts explain the questionnaire pattern. The questionnaire respondents were officials and councillors with access to council-level information and rated transparency as moderate, while the people who use the roads described almost no disclosure. The weakest item, on contractors, costs and timelines (B9), matches the contractors' concern about changes in scope and the fairness of evaluation.

The records add a further point. Funds released for roads rose in every year, from UGX 1.62 billion to UGX 2.05 billion, while timeliness fell and road quality improved by only 1.9 percentage points. Disclosure of what is budgeted, for which roads and within what timelines is how road users could see whether more money is reaching their roads.

Table 9: Correlation between budget transparency and road infrastructure service delivery

Variables	r	Sig. (2-tailed)	n	Strength and direction
Budget transparency and road infrastructure service delivery	.577	< .001	82	Strong, positive

Source: Primary data (2026).

Budget transparency had a strong, positive and statistically significant relationship with road infrastructure service delivery ($r = .577$, $p < .001$, $n = 82$). Using Cohen's (1988) guide, in which r of about .10 is small, .30 medium and .50 large, respondents who rated budget disclosure higher also rated road service delivery higher. The interviews suggest why. Road users said they learn of works only when graders arrive, usually when politicians visit, and are not asked what roads need. Works that are not planned with the people who use the roads, and that those people cannot follow, are harder to hold to standard and to timelines.

Discussion

Budget transparency was moderate ($M = 2.69$) and had a strong, positive and significant relationship with road infrastructure service delivery ($r = .577$, $p < .001$), which was itself low ($M = 2.42$). This is consistent with earlier work showing that more transparent budgets go with better fiscal discipline and higher quality public services (de Renzio & Wehner, 2017) and with better implementation of infrastructure projects (International Budget Partnership, 2023). At district level, Karenzi and Christopher (2025), Apunyo (2024), Biryomumisho et al. (2023) and Wabwire (2025) found that transparent budgeting improved service delivery in Kasanda, Bukedea, Kabale and Busia respectively. The present finding extends these studies to road infrastructure in Ntungamo, a sector that earlier Ugandan studies did not isolate.

The interviews add what the earlier surveys could not show: who is left out. Officials described disclosure as something that happens at council level or on request. Road users described none; they learn of works only when graders arrive and were not consulted in planning, with 13 of 24 boda boda riders saying nobody informs them about road funds and all seven taxi and transport operators saying they are not consulted. In terms of Agency Theory, the principals with the strongest interest in monitoring, the citizens and road users, were the least informed, so information asymmetry was greatest where monitoring was meant to come from (Jensen & Meckling, 1976; Eisenhardt, 1989). The moderate questionnaire rating probably reflects the access that officials and councillors have to budget information, and the interviews show that this access does not reach road users. The district records point the same way: rising road funds were not matched by better timeliness or road quality, and without disclosure road users cannot tell whether the extra money is reaching their roads.

Conclusion

Budget transparency in Ntungamo District Local Government is moderate and weakest at the level of communities and road users. It is significantly and positively related to road infrastructure service delivery, so better disclosure of road budgets is likely to be associated with better road service delivery.

Limitation

The study was correlational, so the relationship found shows association and not cause. It covered one district, so the findings may not be generalizable to other Ugandan local governments, although the description of the setting and methods allows judgement of their relevance to similar districts. Two of the 50 sampled road users could not be reached, reducing the interview sample to 48, but the remaining road users covered all the selected roads. Some official records were hard to access because of confidentiality concerns, which the researchers addressed through official authorization. Response bias was possible where respondents gave socially desirable answers or withheld sensitive views, and it was reduced through anonymity and triangulation of the questionnaire, interviews and documents.

Recommendation

To strengthen budget transparency, the Chief Administrative Officer and the District Council should publish approved road budgets, work plans, contract sums and contractors at sub-county offices, on parish notice boards and on radio. They should also hold annual budget and road-works meetings with communities, boda boda stages and taxi parks. Disclosure of contractors, project costs and timelines, the weakest-rated aspect, and of budget changes affecting road projects should be given priority, and budget implementation reports on road works should be shared with stakeholders proactively and not only on request.

Further research could (i) extend the study to other districts and to urban and national roads to test whether the findings can be generalized; and (ii) use longitudinal or experimental designs to test whether improved disclosure leads to better road infrastructure service delivery.

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List of abbreviation

bn: Billion
CVI: Content Validity Index
d: Margin of error
FY: Financial year
km: Kilometres
m: Million (as in UGX m)
M: Mean score
n: Sample size, or number of respondents in a group
N: Population size
p: Probability (significance) value
P: Population proportion
PhD: Doctor of Philosophy
r: Pearson product-moment correlation coefficient
s: Sample size, in the Krejcie and Morgan formula
SD: Standard deviation
Sig.: Significance
SPSS: Statistical Package for the Social Sciences
UGX: Uganda shillings
X^2: Chi-square value

Informed Consent

Written informed consent was obtained from all participants prior to their inclusion in the study. Participants were informed about the purpose of the study, procedures involved, potential risks and benefits, and their right to withdraw at any time without penalty.

Source of funding

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Conflict of interest

There is no conflict of interest.

Availability of data

Data used in this study is available upon request from the corresponding author

Author's contribution

AT conceptualized the study, developed the methodology, carried out the investigation, wrote the original draft.
MS Supervision, validation, writing- review and editing
EB Supervision, validation, writing- review and editing.
All authors approved the final version of the manuscript and agreed to be accountable for the work.

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