

MS 687

4921 words

Reporting issues challenging the National Roads Authority of Papua New Guinea: The case for using local indigenous mechanisms

Alistair Brown a,

a Curtin Business School, Curtin University, Western Australia 6845.

* Corresponding author.

E-mail address: Alistair.Brown@cbs.curtin.edu.au

Telephone 61 8 92661069

Alistair Brown is an Australian academic with an interest in developing country reporting.

Manuscript Submission to Public Money & Management

Summary

There appear benefits in framing textual analysis of the audit reports by the Office of the Auditor General of Papua New Guinea of the National Roads Authority of Papua New Guinea through the theory of indigenous alternatives. The National Roads Authority's annual financial statements regularly receive qualified reports from the Auditor General. It is perhaps time for donor organizations to consider how to divert donor funds to local indigenous mechanisms to improve the accountability of the authority's reporting.

Keywords: National Roads Authority of Papua New Guinea; Office of the Auditor General of Papua New Guinea; road assets, reporting; theory of indigenous alternatives.

ABSTRACT

For many years, considerable resources have been expended on the National Roads Authority of Papua New Guinea to help build up and maintain the road assets for the economic and social development of Papua New Guinea. Evidence from the audit reports of the Office of the Auditor General of Papua New Guinea suggests that there appears room to improve the reporting and accountability of this authority through local indigenous mechanisms.

Reliance on local level management for the reporting and accountability of road administration in low income economies has an uncertain history (Robinson and Stiedl, 2003). A lack of accountability about road authority activities at the local level may have substantial monetary and non-monetary effects on key stakeholders who rely on this information to make decisions about the authority's activities.

Investment in roads is seen as critically important in low income countries because it enhances community access to essential services (Vaughan, 2010) and poverty reduction, and provides social networks and economic opportunities (Whitzman, et al., 2013). Financial reporting of road assets is also important because it enables many stakeholders to assess the efficiency and effectiveness of funding, pricing (Noordegraaf, et al., 2014; Bonsall, et al., 2007), monitoring (Sørensen, et al., 2014) and strategic control (Enoch, et al., 2005) of those roads. Financial reporting may also provide explanations about economy-wide and

employment effects of road investments (Tan and Tsolakis, 2013), assessments of road accidents (Sinha and Sengupta, 1989) and reassurances that a road authority's internal controls and governance protocols are present. Indeed, national and local road authorities are recognized as key players in maintaining major road infrastructure in the developing world and are under increased pressure to provide improved road services through enhanced planning, control, communication and evaluation of their activities (Adelle, et al., 2015; Putterill, and Maani, 1992).

In a more specific sense, sound reporting systems may facilitate calculations by transport policy makers of marginal on-road exposure costs and health costs of on-roads' air pollution exposure (Bigazzi and Figliozzi, 2013). Sound reporting systems may also help transport policy makers improve capacity decisions for congested self-financed roads (Grahm-Voorneveld, 2013), inform transportation practitioners about bottleneck congestion pricing (Mirabel and Reymond, 2011) and facilitate calculations of private road financing (Shaoul, et al., 2011).

Papua New Guinea (PNG) comprises around 7,000,000 people, with about 85% of the population living in rural-subsistent areas with poor access to transport networks (World Bank, 2012). About 17% of PNG's population has no access to roads and 35% of the population live more than 10 km from a national road (World Bank, 2012). Many multilateral aid agencies assist PNG in building, rebuilding and maintaining roads. Examples include the World Bank's Road Rehabilitation and Maintenance Program, which has recently improved over 1500 km of roads (World Bank, 2012), AusAID, which helps maintain over 2000 km of PNG roads (AusAID, 2012) through a A\$394 million five year aid program (including the Transport Sector Support Program with annual expenditure of A\$65 million), and the China Government through the Exim Bank, which has provided a A\$3billion soft 30 year loan to PNG to rebuild its roads (Callick, 2012). However, recent calls for greater accountability of PNG road maintenance has derived from the foreign actors such as the Australian based Department of Foreign Affairs and Trade (DFAT, 2014).

Theory of indigenous alternatives for development

The theory of indigenous alternatives for development takes into account locally-based social, cultural, legislative and socioeconomic practices in policy making and providing solutions to local level problems (Curry, 2003). The theory emphasizes the capacity by indigenous people to frame agendas from the 'centre' rather than from the 'periphery', giving weight to local enactments, regulations and institutions rather than foreign codes, global initiatives and overseas consultants.

A local indigenous entity, the National Roads Authority (NRA) of Papua New Guinea, was established by the *National Roads Authority Act, 2003 (NRA Act)*, and started operations in 2004. It attempts to raise funds for the maintenance of public roads, prepare annual road maintenance programs and

ensure that all routine, periodic and emergency maintenance of roads, road rehabilitation and reconstruction as funded by the Authority are executed in a transparent, effective and efficient manner in order to optimise the contribution of road assets to the economic and social development of Papua New Guinea (NRA, 2014).

It has, in recent times, taken over increasing amount of the national roads network of PNG.

A total of 2,200 km of the National Roads Network have since been transferred to NRA on 01st October 2009 by the then Minister for Works and Transport from which 443 km of these national roads were being maintained in 2010. Progressive takeover of the entire, 2,200 km is envisaged by 2015, based on the approved annual work plan (NRA, 2014).

As with many other developing country road authorities which devote considerable energy and time to raising adequate capital for the construction of roads (Davidson, 2010), the NRA needs to report on its activities and to have those reports audited. The *Audit Act, 1989 (amended 1995)* explicitly empowers the indigenously-run Auditor General's Office of the Papua New Guinea (Auditor General) to inspect and audit the account, finances and property of NRA. The Auditor General also reports to the Ministers under *Section 8* of the *Audit Act, 1989 (as amended)*, on the financial statements of NRA.

Textual analysis

Textual analysis of the reporting compliance of the NRA used electronic data from annual reports of the Auditor General's Office of Papua New Guinea (Auditor General) for 2005-2014 (Auditor General, 2007; 2008; 2009; 2010; 2011, 2012; 2013; 2014) to appraise the reporting milieu of the NRA of Papua New Guinea. The annual reports represent extremely important local interpretations of the compliance processes of an authority's activities.

Textual analysis attempts to make sense of this phenomena within a complex environment (Mishra, 2012) and consistent with Brown (2015) explored critical and interpretive understandings of the impact of state auditor's reporting concerns of an authority. Textual analysis was initially conducted to discern the general milieu of reporting as reflected by audit reports by the Auditor General of the NRA. It was also used to take into account meaning from management's responses to these audits. The framing of the analysis was conducted following the expectations of four reporting compliance instruments. Here, the submission of NRA financial statements is required under the *Audit Act, 1989 (amended 1995)*, Sections 48 and 63 of the *Public Finances (Management) Act, 1995*, and the *National Roads Act (NRA Act) 2003*. Section 6(1) of the *NRA Act* outlines the primary functions of funding, data management systems, road asset improvement and maintenance, reporting and human resource management. Section 6(1) of the *NRA Act* also highlights the importance of internal controls, documentation and recording functions, and demonstrating the close link between the legal and accounting domains of a road authority.

Each annual report was also verified to see if the processes of auditing and reporting by the Auditor General were exercised. Textual analysis also analysed the written comments made by the Auditor General in its audit report to parliament about NRA's income statement, balance sheet, accounts of revenue and expenditure, summary of financial accounting policies, and plant property and equipment.

Local Audit Findings

NRA's financial statements for years ending 2005 and 2006 were issued in 2007 and 2008 respectively. Both sets of financial statements contained similar qualifications and thus this analysis focuses on the year ending 2006 financial statements for these two financial years. Two basis of qualification arose from NRA's year bank balance and government grant

account. The balance of the bank account was recorded in NRA's books as K662, 942 but an "independent confirmation" found the balance should have been K668,484 (Auditor General, 2008, p. 182). There was insufficient documentation to verify whether the government grant should be recorded as nil and other income as K4.055. The Auditor General (2008) also found that monthly bank reconciliations were neither completed nor checked by a senior officer. Board fees and sitting allowances totaling K97,560 were also paid to the directors without any tax deductions.

Board members were paid K53,350 as stipend allowances through company invoices rather than individual invoices which incorrectly included GST of K4,850. This was not in compliance with the Boards (Fees and Allowance) Act, 1995. Stipend allowances totaling K23,000 relating to 2005 were taken up in the expense account in 2006 resulting in the overstatement of expenses in the profit and loss statement (Auditor General, 2008, p. 183).

NRA management responded by saying that human error was at fault rather than any systematic error of internal control procedures:

...arrangements were being made to deduct tax from future stipends starting from 2004 to 2007, GST on stipends incorrectly paid were to be received, and indicated that overstatement of expenses was a result of posting error by unqualified staff (Auditor General, 2008, p. 183).

There were other matters of concern raised by the Auditor General. NRA did not have policy guidelines for travel and entertainment expenses, and had a conflict of interest in paying consultancy fees to consultants who were NRA board members. Business Withholding Tax (BWT) of 10% was not deducted and remitted to IRC from the consultancy payments. Again, the response NRA management appeared to lay blame on consultancy errors rather than any systematic flaws in the reporting procedures:

...the Consultants did not provide the certificate of compliance and therefore will be notified of their tax liability (Auditor General, 2008, p. 183).

The Auditor General (2008) also picked up on a further matter of concern with the detection of a Treasury warrant of K91,000 deposited into NRA's operating account and subsequently reversed. Yet again, NRA management responded by finding fault outside the reporting system with little reflection on broader accountability issues of sound reporting:

...this was done by the Department of Finance with no explanation to the Authority (Auditor General, 2008, p. 183).

NRA's financial statements for year-ending 2007 were also qualified by the Auditor General (2009) chiefly because government equity of NRA was stated as K39, 341,708 but accompanied by no supporting documentation or explanatory note for an adjustment of K419,668 to the opening balance of K17,253,529 in NRA's Statement of Changes in Equity. Consequently, the Auditor General was unable to verify the adjustment to the opening balance. The difficulty with having an incorrect Statement of Changes in Equity is that it makes it difficult for the authority's management to decide whether to pay dividends or to retain earnings. The lack of explanatory note for the relatively large adjustment also suggests a shortfall in governance by senior management.

Further examples of a lack of internal control arose with bank reconciliations not periodically carried out by NRA management. The Auditor General (2009) also noted that the Board of Directors' fees and sitting allowances totaling K26,950 were paid to the directors without deducting any tax. The difficulty with weak controls and erroneous payments is that it casts doubts about the truthfulness, completeness and fairness of the authority's activities. As shown in the following passage of the year ending 2007, these doubts were heightened when a breach of a specific enactment and understatement of expenses occurred to provide a misleading picture of NRA profit in the profit and loss statement:

Board members were paid K26,950 as stipend allowances through company invoices rather than individual invoices which incorrectly included GST of K2,450. This was not in compliance with the *Boards (Fees and Allowance) Act, 1995*. Stipend allowances totaling K4,675 relating to 2006 were reversed in the expense account in 2007 resulting in the understatement of expenses in the profit and loss statement. The tax method used in the calculation of the K26,356 accrued stipends was based on the assumption that amounts paid were annual incomes (Auditor General, 2009, p. 99).

In response to these concerns, management sidestepped issues of broad accountability and the importance of control systems by responding as follows:

deficiencies mentioned occurred in the absence of proper qualified accounting staff at the time and will not occur in future and also, overpayments and under payments of stipends have been reconciled. (Auditor General, 2009, p. 99).

NRA spent K168, 838 on consultancy fees, K142, 084 of which was paid to two consultants who were board members of NRA. The Auditor General pointed out that section 6(1)(j) of the NRA Act obliges NRA to avoid conflicts of interest by ensuring contracts are tendered through a transparent and competitive procedure. This is to overcome the temptation by officers of the authority, such as board members, to pursue or appear to pursue matters of self-interest ahead of the interests of the authority and the public it serves. In this instance, the Auditor General noted that these payments were made without proper procedures of tendering with follow-on taxation effects.

The Auditor General also emphasized that no proper fixed assets register was maintained. It is well to note that the purpose of a fixed asset register is to improve management control and security of non-current assets such as computers and equipment. Lack of accurate information about what the NRA owns may create under-utilization, theft or inefficient maintenance of these assets. In addition the lack of asset information makes it difficult to account for their depreciation and disposal values. This is particularly important as non-current assets may help generate the revenue of the authority.

Audit reports of NRA's financial statements for the years ended 2008 and 2009 were issued in 2011 (Auditor General, 2011). Both 2008 and 2009 reports contained similar qualified audit opinions. For year-ending 2009 the financial statements of NRA lacked evidence supporting an account for fuel levy which was stated as K15,611,78. Indeed, the NRA could not confirm that the reconciliations prepared by the Internal Revenue Commission (PNG's tax authority) on NRA's fuel levy account was correct (Auditor General, 2011), leaving open the question of the reliability and validity of the NRA profit and loss statement. The Auditor General was also

not provided sufficient evidence that reconciliations were done on the levy collections as the IRC records were not vouched to the source documents relating to litres of fuel imported/consumed and the rates applied (Auditor General, 2011, p. 143).

The Auditor General was again critical that bank reconciliations for NRA's bank operating account and road fund account were not done properly.

The Authority did not adhere to proper internal control procedures regarding cash at bank and as a consequence the lack of control over the reconciliation process may result in opportunities for embezzlements, fraud and improper use of limited public funds (Auditor General, 2011, p. 143).

Further internal control issues raised by the Auditor General included the additional note that payments totaling K120,932 were not properly authorized by NRA officials and that advance acquittals totaling K141,856 were not supported by evidence from an advance register. The Auditor General reminded management that it was customary for authorities to require all advances paid, including cash advances, whether for travel or some other purpose, to be controlled and managed by the authority's financial delegates through a register of advances to ensure these advances were used for the proper purposes intended.

In 2012 the Auditor General gave NRA's year-ending 2010 financial statements a qualified audit opinion, the sixth consecutive qualified opinion received by the NRA from the Auditor General. The Auditor General found difficulties in verifying the accuracy and correctness of the NRA's calculations of the contract and retentions balance, which amounted to K8,547,985 and included a sum of K704,538 for contract payments retentions made in 2010. During this year,

K397,037 was retained from payments made to contractors and the balance of the contract retention at 31 December, 2010 was K9,707,778. A variance of K307,501 and K1,159,793 was noted respectively in the balances for the amounts retained and the cumulative account balance at year end. I was not provided sufficient and appropriate evidence to enable me to confirm and verify these differences (Auditor General, 2012, p. 109).

Here again, the audit report bears witness to contractual difficulties particularly in relation to supply of substantial evidence verifying the underlying contractual arrangement. The Auditor General was, thus, unable to attest to the correctness of the balance of the liability owed by NRA.

NRA's year-ending 2010 financial statements also disclosed an amount in the account 'other receipts' as K35,685, which supposedly included K18,500 in tender fees for the purchase of bid documents and K17,185 for differences/surplus from bank telegraphic transfers and foreign currency transactions with overseas suppliers. However, no supporting documents for these amounts were provided to the Auditor General and thus the account 'other receipts' could not be confirmed for accuracy and completeness.

The Auditor General also drew attention to payment vouchers totaling K40,428, which, according to the Auditor General, were not authorized and certified by appropriate NRA officers in-charge and thus could not be verified by the Auditor General. The non-provision

of the respective authorized paid vouchers was responded to by NRA management in the following way:

All claims for expenditures are authorized by the Chief Executive Officer and certified by Assistant Manager Finance & Budget (AMF&B) and checked by Road Fund Manager before payments are made (Auditor General, 2012, p. 110).

It appears copies of invoices and receipts issued by suppliers to the NRA for payments totaling K56,897 of supplies were also misplaced (Auditor General, 2012).

By year ending 2014, the Auditor General completed the audits of the NRA's year-ending 2011 and 2012 financial statements, which again contained similar qualified opinions (Auditor General, 2014). For year-ending 2012, the basis of the qualified opinion was the unsubstantiated amount of K31,057,571 for a contract balance and retentions account and the unsubstantiated account of K10,873,520 for a fuel levy receivable account. The Auditor General noted that the NRA did not have a corporate plan, had insufficient internal control mechanisms (for example, written policies, operational guidelines and accounting manuals) and irregular bank reconciliations

Conclusion and Implications

Despite the efforts of PNG's legislators to ensure sound transparency from the NRA, the authority's financial statements throughout the sample period received qualified opinions from the Auditor General's office. Financial accounting information is valuable if it assists the authority with the smooth running of business and provides evidence of actions and decisions showcasing the authority's accountability. However, because the financial accounting information was qualified, it did not appear a particularly useful source of information as a basis for stakeholders' decision-making or as a form of evidence of the authority's actions. Audit reports of the NRA's financial statements are sent to relevant Ministers for reasons of oversight but it is difficult for parliamentary members to glean meaningful information if these statements are qualified.

Clearly, as part of the foundation of the theory of indigenous alternatives, NRA management needs to improve the quality of reporting through the collection and maintenance of accurate and complete documentation in order to construct meaningful financial reports that are consistently recorded over time and compliant with domestic legislation. The qualified accounts indicate NRA is not fulfilling the spirit of Section 20(2)(c) of the NRA Act which requires a commitment to transparency of operations. Quite apart from benefits accruing to NRA management, improved transparency allows external stakeholders to make better decisions based on complete information.

Despite the NRA's generation of qualified reports, there appears evidence that the indigenous-based Auditor General's Office performed its stewardship role in accordance with the spirit of the theory of indigenous alternatives. Here, the Auditor General was able to provide NRA advice on its accounts as required by Section 20(2)(e) of the NRA Act. This auditing expectation also fulfilled the local remit of Section 29 of the *Public Finances (Management) Act 1995* which stipulates that NRA financial statements should be audited in accordance with Part III of the *Audit Act 1989*. This is an important point for road policies of other developing countries that legislate for mandatory financial reporting. To keep national road authorities on track, it is necessary to have a well-resourced Auditor General's office not

only to verify the accounts but also to provide local management with feedback on how to improve the accounts. It may have helped the auditing process if the findings of this local independent external audit office were read and acted upon by NRA management. It was not always clear from the audit reports whether NRA management fully dwelled, or acted, upon on the Auditor General findings, particularly as some of these findings were often repeated from year to year.

The implications for external donors, including overseas governments and multilateral aid organizations, of developing country road infrastructure, is that there appears room to work within the ambit of the theory of indigenous alternatives by donating funds towards local indigenous mechanisms that help improve the accountability of national roads authorities. As part of its own broader reporting responsibilities, foreign donors might need to justify why they fund developing country authorities that regularly generate qualified financial statements. Under the theory of indigenous alternatives the lack of transparency by NRA not only short-changes local PNG taxpayers who represent conscripted funders of the authority but also undermines PNG locally-based legislative reporting expectations. Clearly there is room for PNG parliamentary oversight bodies to take a greater role in the improvement of NRA's accountability.

Possibly, the most far-reaching implication of the results of the study rests in the message it sends to the managers of other developing country road authorities. They may see in PNG a road authority that is encouraged by local legislation to seek funds from many sources. They may further notice that the NRA of PNG receives a relatively large amount of foreign donations for its operations but is unable, or unwilling, to fulfil its responsibility to provide unqualified timely financial statements. Managers from other developing country road authorities might form various interpretations of this finding. On the one hand, it appears foreign donor funding for road maintenance does not dry up even if the donee national road authority continues to generate qualified accounts and does not comply with legislative reporting regulations. There is, in other words, room for opportunism by other developing country road authority managers to source funds from similar 'unaccountable' donor funding arrangements. On the other hand, management of other developing country road authorities might interpret the results of the study as an indication that more needs to be done to fulfil their legislative accounting and auditing functions with transparent, non-qualified accounts and use this as a basis for receiving preferential donor funds.

Although it is beyond the remit of this paper to dwell into how foreign donors might offer technical assistance for improving a donee road authority's reporting, it is clear from the viewpoint of the theory of indigenous alternatives that many stakeholders of a road authority might welcome an authority's commitment to its accounting and legislative responsibilities

References

Adelle, C., Macrae, D., Marusic, A., Naru, F. (2015), Regulatory impact assessment in developing countries – tales from the road to good governance, *Public Money & Management*, 35, 3, 233-238.

Auditor General (2007), *Independent Audit Report on the Auditor General's Office for the year ended 31 December 2006*, (Auditor-General's Office of Papua New Guinea, Port Moresby, Papua New Guinea).

Auditor General (2008), *Report of the Auditor-General- 2007 on the public accounts and the control of and on transactions with or concerning the public moneys and property of Papua New Guinea, Part IV, Section A - Public bodies and their subsidiaries*, (Auditor-General's Office of Papua New Guinea, Port Moresby, Papua New Guinea).

Auditor General (2009), *Report of the Auditor-General - 2008 on the public accounts and the control of and on transactions with or concerning the public moneys and property of Papua New Guinea, Part IV, Section A - Public bodies and their subsidiaries*, (Auditor-General's Office of Papua New Guinea, Port Moresby, Papua New Guinea).

Auditor General (2010), *Report of the Auditor-General - 2009 on the public accounts and the control of and on transactions with or concerning the public moneys and property of Papua New Guinea, Part IV, Section A - Public bodies and their subsidiaries*, (Auditor-General's Office of Papua New Guinea, Port Moresby, Papua New Guinea).

Auditor General (2011), *Report of the Auditor-General - 2010 on the accounts of public authorities and statutory bodies established under the act of parliament and government owned companies established under the Companies Act, Part IV, Public bodies and their subsidiaries, national government owned companies, national government shareholdings in other companies*, (Auditor-General's Office of Papua New Guinea, Port Moresby, Papua New Guinea).

Auditor General (2012), *Report of the Auditor-General - 2011 on the accounts of public authorities and statutory bodies established under the act of parliament and government owned companies established under the Companies Act, Part IV, Public bodies and their subsidiaries, national government owned companies, national government shareholdings in other companies*, (Auditor-General's Office of Papua New Guinea, Port Moresby, Papua New Guinea).

Auditor General (2013), *Part 4 Report of the Auditor General 2012 on the Accounts of Public Authorities and Statutory Bodies established under the Act of Parliament and Government Owned Companies established under the Companies Act*, (Auditor-General's Office of Papua New Guinea, Port Moresby, Papua New Guinea).

Auditor General (2014), *Part 4 Report of the Auditor General 2013 on the Accounts of Public Authorities and Statutory Bodies established under the Act of Parliament and Government Owned Companies established under the Companies Act*, (Auditor-General's Office of Papua New Guinea, Port Moresby, Papua New Guinea).

AusAID (2012), Australian Government Overseas Aid Program (AusAID): Papua New Guinea – AusAID Assistance (www.ausaid.gov.au).

Bigazzi, A.Y., Figliozzi, M.A. (2013), Marginal costs of freeway traffic congestion with on-road pollution exposure externality. *Transportation Research Part A: Policy and Practice*, 57, 2-24.

Bonsall, P., Shires, J., Maule, J., Matthews, B., Beale, J. (2007), Responses to complex pricing signals: Theory, evidence and implications for road pricing. *Transportation Research Part A: Policy and Practice*, 41, 672-683.

- Brown, A.M. (2015), Reporting Compliance of National Fisheries Authority of Papua New Guinea, *Marine Policy*, 51, 196-201
- Callick, R., (2012), China gives PNG \$3bn loan to build roads. *The Australian*, Canberra, 19 June, p. 5.
- Curry, G.N. (2003), Moving beyond postdevelopment: Facilitating indigenous alternatives for development, *Economic Geography*, 79, 4, 405-423.
- Davidson, J. (2010), Driving growth: Regulatory reform and expressways in Indonesia, *Regulation & Governance*, 4, 4, 465-484.
- DFAT (2014), Transport Sector Support Program, Department of Foreign Affairs and Trade, (<http://aid.dfat.gov.au/>)
- Enoch, M., Potter, S., Ison, S. (2005), A strategic approach to financing public transport through property values, *Public Money & Management*, 32, 137-144.
- Grahn-Voorneveld, S. (2013), The effects of decentralized capacity decisions for congested self-financed roads. *Transportation Research Part A: Policy and Practice*, 56, 49-60.
- Krüger, N.A. (2012), To kill a real option – Incomplete contracts, real options and PPP. *Transportation Research Part A: Policy and Practice*, 46, 1359-1371
- Mirabel, F., Reymond, M. (2011), Bottleneck congestion pricing and modal split: Redistribution of toll revenue. *Transportation Research Part A: Policy and Practice*, 45, 18-30.
- Mishra, S. (2012), The Shame Games: a textual analysis of Western press coverage of the Commonwealth Games in India. *Third World Quarterly*, 33, 5, 871-886.
- NRA (2014), National Roads Authority, (www.nra.gov.pg/)
- Onuoha, L.N., Amponsah, E.B. (2012) Bank reconciliation as a due process imperative for effective financial management. *Canadian Social Science*. 8, 3, 52-56.
- Putterill, M., Maani, K. (1992), Development in performance monitoring systems for roading at the local authority level. *Transportation Research Part A: Policy and Practice*. 26, 471-482
- Noordegraaf, D.V., Annema, J.A., van Wee, B. (2014), Policy implementation lessons from six road pricing cases. *Transportation Research Part A: Policy and Practice*. 59, 172-191.
- Robinson, R., Stiedl, D. (2003), Decentralization in developing countries, *Proceedings of the ICE-Transport*, 156, 2, 65-71.
- Shaoul, J., Stafford, A., Stapleton, P. (2011), Private finance: bridging the gap for the UK's Dartford and Skye bridges?, *Public Money & Management*, 13, 51-58.

Sinha, S.N., Sengupta, S.K. (1989), Road Traffic Accident Fatalities in Port Moresby: A Ten Year Survey. *Accident Analysis and Prevention*, 21, 3, 297-301.

Sørensen, C.H., Isaksson, K., Macmillen, J., Åkerman, J., Kressler, F. (2014) Strategies to manage barriers in policy formation and implementation of road pricing packages. *Transportation Research Part A: Policy and Practice*, 60, 40-52

Tan, F., Tsolakis, D. (2013), Economy-wide and employment impacts of road construction and maintenance investment. *Road & Transport Research*, 22, 4, 56-69.

Vaughan, C. (2010), “When the road is full of potholes, I wonder why they are bringing condoms?” Social spaces for understanding young Papua New Guineans' health-related knowledge and health-promoting action, *AIDS Care: Psychological and Socio-medical Aspects of AIDS/HIV*, 22, 2, 1644-1651.

Whitzman, C., James, K., Poweseu, I. (2013), Travelling together: participatory research methods for disability inclusive, road development in Papua New Guinea. *Journal of Transport Geography* 26, 65–71

World Bank (2012) Papua New Guinea – Country Brief. (<http://web.worldbank.org/>)