Republic of Vanuatu
Republique de Vanuatu

Australian Government
AusAID

Vanuatu Transport Sector Support Program (VTSSP)

Design Document (Phase 1)

Road Transport

March 2009

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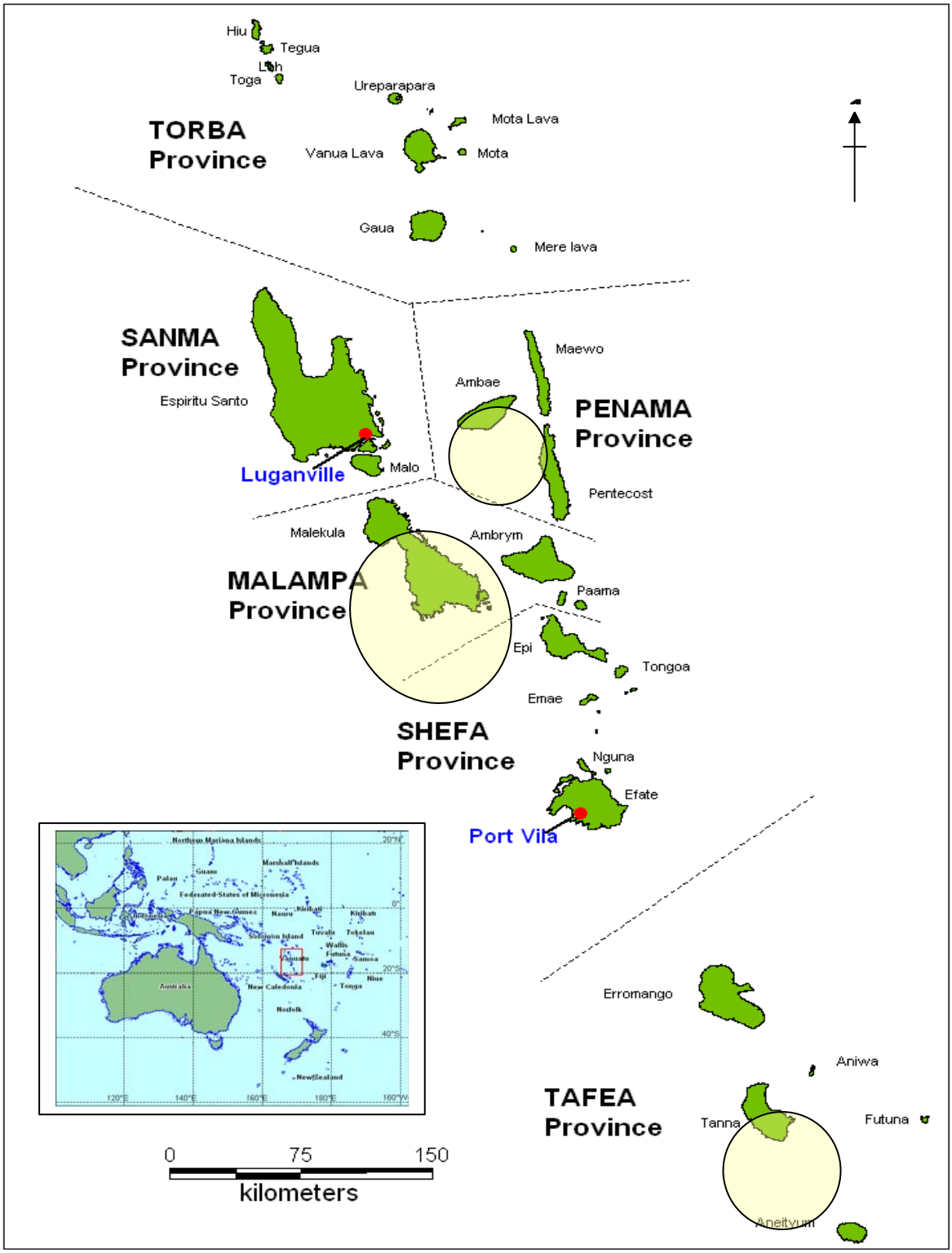
Acronyms

AADT	Average Annual Daily Traffic
ADB	Asian Development Bank
AFD	Agence Française de Développement
ASIST	Advisory Support Information Services and Training
AusAID	Australian Agency for International Development
CBC	Community Based Contractor
CG	Community Groups
CTB	Central Tenders Board
EU	European Union
GDP	Gross Domestic Product
GfG	Governance for Growth
GoA	Government of Australia
GoV	Government of Vanuatu
GPS	Global Positioning System
GST	Goods and Services Tax
HIES	Household Income and Expenditure Survey
HIV/AIDS	Human Immuno-deficiency Virus / Acquired Immuno-Deficiency Syndrome
ILO	International Labour Organization
ISP	Institutional Strengthening Project
JICA	Japanese International Cooperation Agency
LBAT	Labour Based and Appropriate Technology
LBC	Locally based contractor (provincial)
MCA	Millennium Challenge Account
MCC	Millennium Challenge Corporation
MDG	Millennium Development Goals
MFEM	Ministry of Finance and Economic Management
MIPU	Ministry of Infrastructure and Public Utilities
MPM	Ministry of the Prime Minister
NZAID	New Zealand Agency for International Development
ODA	Official Development Assistance
PAA	Priorities and Action Agenda
PEFA	Public Expenditure and Financial Accountability
PFM	Public Financial Management
PMO	Prime Minister's Office
PNG	Papua New Guinea
PRIF	Pacific Region Infrastructure Facility
PWD	Public Works Department
RM	Routine Maintenance
SI	Spot Improvement
SSC	Small Scale Contactors
TA	Technical Assistance
TL	Team Leader
TVET	Technical and Vocational Education and Training
VBC	Vanuatu Based Contractor
VIT	Vanuatu Institute of Technology
VTIP	Vanuatu Transport Infrastructure Program
VTSSP	Vanuatu Transport Sector Support Program

Map of Vanuatu



Executive Summary

This document presents the design of the Vanuatu Transport Sector Support Program (Phase 1) to be financed by AusAID. The design responds to the request from the Government of Vanuatu for assistance to Vanuatu's transport sector. Support in this area is seen as critical for broad based and inclusive economic growth and service delivery.

The Vanuatu Transport Sector Support Program (VTSSP) represents a long term partnership (10-15 years) with the Vanuatu Government to support the transport sector. The program will be delivered over three phases.

Phase 1 will run for 2 years and will complete road maintenance sub-projects on the islands of Tanna, Malekula and Ambae. There is a possibility of an extension of Phase 1 for a third year, should it be required. Phase 1 will also begin the process of building capacity within MIPU and PWD, as well as the design of future support to be provided under Phase 2.

Phase 2 will be a longer term (5 years) sector-based program of support which aims to improve performance of the transport sector more generally. Phase 2 may expand the focus beyond road transport to also include support for maritime and airport infrastructure. There is also the potential for Phase 2 to continue or complete any of the sub-projects of Phase 1.

Phase 3 will build on objectives and outcomes of the earlier phases. The key directions of Phase 3 will be decided following a review of implementation and progress under Phases 1 and 2.

This design document only covers Phase 1, although due to the links with the future phases, the goal, purpose and results are all of a long-term nature.

The Transport Sector in Vanuatu

Managing transport services in Vanuatu is particularly challenging. Vanuatu has a population of around 215,000 spread over an archipelago of around 65 populated islands. While economic growth in Vanuatu has improved in recent years, it remains concentrated in the main urban areas of Port Vila (island of Efate) and Luganville (island of Espiritu Santo).

Broad based economic growth and service delivery in rural areas is constrained by expensive, unreliable and limited transport infrastructure and transport services. Rural road infrastructure is inadequately maintained, and in need of both rehabilitation and more routine maintenance. The resources provided in the budget are currently insufficient to maintain the existing network. Poor road conditions are driving up transport costs, hindering access to services and restricting economic growth in rural areas.

Current donor funded assistance to the transport sector includes the Millennium Challenge Corporation's (MCC) Vanuatu Transport Infrastructure Program, and the

Outer Islands Airport Upgrading Project funded by Agence Francaise de Development. An EU funded program supporting community based contracting of road maintenance finished in 2007. NZAID has committed to support the MCC program to help address the short fall in completing the Efate Ring Road and Santo East Coast Road. JICA is funding a program of maintenance for the main wharf.

Activity Origin and Proposed Approach

The Joint Strategy on Development Cooperation (2005 – 2010) commits Australia to support long term stability for Vanuatu by accelerating development including broad-based growth, and improving the welfare of the general population.

In December 2007, the Government of Vanuatu approached Australia requesting possible assistance for road transport, particularly around the short fall in finance for works initially planned through the MCC Vanuatu Transport Infrastructure Program (VTIP). AusAID met with the Government of Vanuatu in February 2008 to discuss possible modalities and proposed a multi-phase program of support to the transport sector through the Ministry of Infrastructure and Public Utilities (MIPU). The concept and design of the proposed Vanuatu Transport Sector Support Program (VTSSP) was developed in conjunction with the Ministry of Public Utilities and the Public Works Department following a design mission in May 2008.

The VTSSP (Phase 1) is proposed to be the first phase of a long term partnership (10-15 years) between the Governments of Vanuatu and Australia in the transport sector.

Phase 1 will commence by supporting the Ministry of Infrastructure and Public Utilities and the Public Works Department to improve rehabilitation and maintenance of road transport infrastructure, with a focus on works in selected provinces. Initial works will be on the islands of Tanna, Ambae and Malekula, including works previously identified under the Vanuatu – MCC program.

Assistance provided to the PWD in Phase 1 will also include technical assistance, financing for selected physical road works, and support for the development of a viable and competitive local private sector – ranging from small scale island based contractors to medium scale Vanuatu wide contractors. Features of the proposed approach include a focus on strengthening and using local private sector capacity to undertake works, using small and medium scale contracting and labour based appropriate technology methods. The program will be managed through the Public Works Department, using Government of Vanuatu processes as much as is practicable.

Phase 2 of the VTSSP will be designed during Phase 1 and will build on Phase 1 progress and move towards providing a more sector based program of support in transport.

Expected Benefits

The expected benefits of improving the road transport network are significant. Improvements to road accessibility will make it easier for people in rural communities to access important services, such as health care and schools, and are also expected to contribute to economic development, by making it easier to transport goods to and from

markets. The program's focus on supporting labour-based appropriate technologies, together with its efforts to increase the role of private sector and communities in delivering road works, is also expected to provide important local employment opportunities and business opportunities for small scale contractors.

Improved management of the road network by PWD is also expected to lead to the more efficient allocation of limited budget resources, and better standards of maintenance, which should help to reduce costs of providing transport infrastructure in the long run. Taken together, all of these benefits can be expected to contribute to Vanuatu's progress towards meeting the Millennium Development Goals.

Vanuatu Transport Sector Support Program

Proposed Goal and Purpose

The proposed goal and purpose come from the vision articulated in Vanuatu's own Priorities and Action Agenda 2006 – 2015.

Proposed goal: *Social stability and economic growth to create and educated, healthy and wealthy Vanuatu.*

Proposed purpose: *To generate a reliable and adequately maintained transport system.*

Key Result Areas

The four result areas for the VTSSP are:

- Result 1: The Government of Vanuatu's management of the road transport sector is improved;
- Result 2: The quality of public financial management in the transport sector is improved;
- Result 3: The role of the competitive private sector and community groups in providing road maintenance services is increased; and
- Result 4: Sustained improvements in road transport access are supported using labour based appropriate technologies which generate local employment.

For each Phase of the VTSSP, specific measurable indicators will be developed which reflect planned outcomes under each of the result areas. Phase 1 is focused on providing agreed road transport maintenance and upgrading works in three provinces: Ambae, Malekula and Tanna, with program performance indicators reflecting this focus.

Summary of Phase 1 Assistance

Phase 1 will provide technical assistance and financing to support the PWD in each of the four key result areas:

Result 1 - Government of Vanuatu's management of the road transport sector is improved: This will include support to strengthen capacity in planning, budgeting and management of the road transport network centred on the principles of asset conservation.

Result 2 – The quality of public financial management in the transport sector is improved: This will include support to strengthen the financial management capacity of MIPU / PWD covering procurement, financial controls, monitoring, reporting and accountability.

Result 3 – Role of the competitive private sector and community groups in providing road maintenance is increased: Support in this area will help to strengthen

the role of the private sector and communities in the delivery of physical works, including skills training and facilitating access to appropriate tools and equipment.

Result 4 – Sustained improvements in road transport access are supported using labour based appropriate technologies which generate local employment: This will include support to strengthen PWD capacity to scope, contract, supervise and manage labour based appropriate technology road works through contracts with the private sector and community groups.

All physical works will be managed through the PWD using Government of Vanuatu systems, supported by technical assistance provided through the VTSSP. Financing will be provided through the Government of Vanuatu's Development Fund Account, and thus support integration of the VTSSP with the Government of Vanuatu's planning and budgeting cycle.

Management arrangements

Key partnerships and management arrangements proposed for VTSSP Phase 1 include:

- Joint GoA and GoV oversight and strategic direction through the GfG Management Committee with representation from the GoV and the GoA; and
- Implementation under the Government of Vanuatu Ministry of Infrastructure and Utilities (MIPU), through the Public Works Department (PWD).

Performance assessment

Outcomes under each of the result areas are identified for each phase of the VTSSP. Progress against the outcomes will be monitored, measured and evaluated on a routine basis, using Government of Vanuatu reporting systems and tools as much as possible, with the aim of strengthening systems and links to the Government of Vanuatu's own planning and reporting cycle. In addition, specific evaluation is proposed to periodically measure progress of implementation against the performance framework for the program. Refer to Annex E for the results framework and performance indicators that will be used to monitor implementation of Phase 1.

Other options considered for implementation of VTSSP

One option considered during earlier discussions was to provide additional financing for the MCC funded Vanuatu Transport Infrastructure Program to help address the financial shortfall to undertake identified works. This approach was reviewed, but was not supported for a number of reasons including:

- MCC VTIP's use of a single international contractor to undertake all works;
- the anticipated costs of works; and
- potential difficulties with sustainability, including:
    - the proposed technical standards;
    - that the MCC funded program is being implemented as a stand-alone project and managed by a Project Management Unit which would operate in parallel to government systems and processes.

Other options, including a five year project focusing solely on physical works, were also rejected because of identified problems with sustainability.

Risk management

Improving the performance of the transport sector in Vanuatu is a central part of the Vanuatu Government's strategy to improve economic growth, broad based and inclusive development, and service delivery. Supporting the Government of Vanuatu's Priorities and Action Agenda to improve the performance of the transport sector is strongly aligned with both Australian and Vanuatu Government policy aims.

Given the urgency noted by the Government of Vanuatu, and the new policy initiatives announced in the Australian budget, the phased approach allows for a prompt response to the Vanuatu government request, while also supporting the development of a longer term sector based program of support.

The over-arching risk for transport sector programs is the lack of sustainability of investments. This risk is being addressed through the establishment of a long term partnership in the transport sector, together with the phased move towards a sector based program of support which will strengthen and build on the Government of Vanuatu's own systems and processes. Sustainability is also being addressed by developing locally appropriate technical standards for works, as well as a focus on strengthening people, processes and systems within MIPU / PWD.

The VTSSP will focus on rehabilitation and maintenance of infrastructure, and increasing the role of the private sector in service delivery. This approach addresses the risk of poor sustainability resulting from limited local capacity to manage and deliver maintenance services. The use of Government of Vanuatu systems for contracting and financial management will be supported by technical assistance to ensure the accountability in the use of aid funded resources. The VTSSP will work closely with the AusAID funded *Governance for Growth Program,* which is assisting the Government of Vanuatu strengthen budget and financial management systems.

Finally, the proposed sector based approach for Phase 2 and 3 will support the better use of all resources – donor and government – and thus support stronger performance of the sector as a whole. While this may increase the initial risks around the delivery of specific physical inputs in the short term, it reduces the risk of the program having limited and unsustainable impacts on the transport sector in the longer term.

1 Background and Design Approach

1.1 Origin of the proposal

The Australia-Vanuatu Joint Development Cooperation Strategy 2005-2010 aims to advance the development objectives articulated in Vanuatu's national development plan, the Priorities and Action Agenda 2006-2015 (PAA). The PAA highlights the need for a more reliable and adequately maintained transport system to enhance social and economic development in Vanuatu.

Australia recognises the importance of investment in basic infrastructure services in partnership with governments across the Pacific. The 2008-09 Budget announced major increases in Australian development assistance financing for the Pacific Region Infrastructure Facility and the Pacific Partnerships for Development. The 2008-09 budget initiatives build on the 2007-08 Infrastructure for Growth Initiative.

The development of the proposed Vanuatu Transport Sector Support Program (VTSSP) follows a request from the Government of Vanuatu to the Government of Australia for assistance in the transport sector, particularly to help address the short-fall in finances for road works initially planned to be undertaken under the Millennium Challenge Corporation's Vanuatu Transport Infrastructure Program.

The proposed Vanuatu Transport Sector Support Program (VTSSP) is consistent with the Australian Government's policy directions and will help improve broad based and inclusive growth and service delivery in Vanuatu by helping address a key local constraint to broad based and inclusive development.

1.2 Context

Country Development Context

After a mixed performance over an extended period, the last few years have seen strong economic growth in Vanuatu. Growth in real GDP per annum was 7.2% in 2006, 6.5% in 2007 and an estimated 6.4% in 2008 - the highest per capita economic growth in the Pacific. Key drivers of performance have been sound macroeconomic management, political stability and improved performance in key sectors including tourism, construction and agriculture. However, economic growth has been concentrated in the two main urban areas of Port Vila and Luganville, rather than broad-based, and there is considerable inequity and variation in per capita growth and income, with about 8% of the population living in poverty.[1] Rural areas account for around 78% of the population.

Inadequate, unreliable and expensive transport is one of the major constraints to broad based and inclusive economic growth and service delivery in rural areas.

[1]Vanuatu Household Income and Expenditure Survey (HIES), 2006, identified a gini co-efficient for Vanuatu of 0.41, which suggests a significant level of income inequality. Vanuatu's GDP is around US$2,000 per capita.

Private sector development

Vanuatu was ranked 60 out of 181 countries in the World Bank's Doing Business 2009 assessment. Vanuatu scores relatively poorly on issues like registering property, starting businesses and cross border trading.

Currently the private sector plays a limited role in the maintenance of transport assets. While in Port Vila and Santo there are a number of medium size private road contractors, in many islands there is limited or no formal private sector capacity to undertake such work. The ADB 2003 Private Sector Assessment (Issues, Challenges and Policy Options) noted:

> *A key issue for infrastructure lies in understanding how the technology related to the cost and the regulatory structure of the country. Typically smaller scale technologies permit more diffused supply, which tends to favour competitive supply. If the government cannot regulate it, then a few hundred competing smaller providers…. may produce a more efficient result even if the underlying cost of production is higher'.*

Sector Context

Providing reliable, well-maintained transport services is difficult and costly in Vanuatu because of the difficulty of providing adequate services to the geographically dispersed and rural-based population, and the limited existing infrastructure. Vanuatu has a population of around 215,000, spread over an archipelago of around 65 populated islands. Although around 80% of Vanuatu's population live on six main islands, there are over 45 islands with populations of less than 1,000 people[2]. Transport services across the islands are highly variable – while twenty islands have air strips, some islands have no road network at all.

The interconnectivity of the transport modes (land, maritime, aviation) is essential for the functionality of transport services. The role of the road network is to provide cost effective services across the main islands, and connect people to markets, services and transport hubs (jetties, wharves, airstrips). Transport services are provided by a mix of public and private enterprises. But the cost of services is high, in part because of the unreliable and poor quality infrastructure. Road transport costs per kilometre also vary markedly across the country depending on the state and condition of the road and traffic volumes (e.g. from 10 – 25 Vatu per passenger per kilometre).

Institutional arrangements

The Ministry of Infrastructure and Public Utilities (MIPU) is responsible for the management of key national infrastructure assets in the areas of land transport, maritime transport, aviation and water supply. The Public Works Department (within MIPU) is responsible for the road network[3], outer island air strips and some water supply facilities[4] such as in Santo (Luganville), Malekula (Lakatoro and Norsup) and Tanna (Isangel). Physical works are managed by PWD through six Provincial Works Divisions.

[2] Vanuatu National Census, 1999
[3] Urban roads in Port Vila and Luganville are managed by the respective municipalities.
[4] The water supply system in Port Vila is managed by Unelco.

Transport policy and policy based budgeting

Currently Vanuatu's National development strategy is set out in the Priorities and Action Agenda 2005 – 2016 (PAA), which the government is using to strengthen prioritisation in the budget and the move toward more policy based budgeting. At this time, the PAA has limited analysis with regard to the transport sector. In particular, the Government of Vanuatu does not have a costed national transport plan that is linked to the budget and which supports the prioritisation of expenditure including maintenance, rehabilitation and new investments. Funding for maintenance is also inadequate, despite recent GoV funding increases in the budget for maintenance.

Assets

The major transport infrastructure assets[5] are:

- 1,767 km of roads, of which 73 km are paved, 1,303 are gravel and 400 km are earth;
- 26 air strips, of which 4 are sealed, 5 coral, and 19 grass. Two strips are currently being upgraded and sealed by AFD;[6] and
- 36 wharves, jetties and landing stages[7].

1.3 Road transport sector

Budgets and asset management

Road transport infrastructure maintenance is limited and budgeted resources are not sufficient to cover the asset maintenance requirements. The state of transport infrastructure assets varies from good to frequently poor. In the 2005 Public Works Department Corporate Plan 'Infrastructure for the Public', the Director notes that

"…. the PWD's annual budget ceiling does not reflect the required budget for operations and maintenance. …. The Vanuatu Government is faced with a growing problem with public infrastructure in Vanuatu, due to insufficient availability of funds. The condition of the infrastructure is deteriorating significantly. This is reducing the level of service provided by the infrastructure, increasing operation and maintenance costs, and creating a growing financial liability for the Government. If this is not addressed urgently, the infrastructure, which is meant to assist social and economic development in Vanuatu, may in fact become an impediment to such development..."

The recent increase in the annual maintenance budget to 500 million Vatu is a positive development for Vanuatu. However, based on 'back of the envelope' calculations, the actual funding required to maintain the existing network could be as much as 2 billion Vatu (A$20 million). On top of the annual required maintenance funding, initial rehabilitation of the network needs to be funded to bring it into a maintainable state.

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[5] PWD 2006 Road inventory update, and PWD 2005 Statement.

[6] The three international airports (Bauerfield, Pekoa and White Grass) are maintained by Air Vanuatu Limited (AVL).

[7] The port facilities in Port Vila and Luganville are the responsibility of the Ports Authority and operated under contract by a private sector company. Otherwise infrastructure consists of small wharves or jetties.

Functional classification of assets and asset management

The national roads are of highly variable standards and capacities, ranging from low traffic volume earth roads with less than 20 vehicles a day to major roads with traffic volumes greater than 100 vehicles a day and servicing significant proportions of the national population.

Strengthening asset management would assist government to improve planning and budgeting for the road network. Annual road condition surveys are currently a part of budget preparation in some, but not all provinces. However, as available funding is currently well below that required to adequately maintain the network, a strategy is needed to best use available funds – to keep the network conditions at optimum level that is affordable. The PWD has developed – with the assistance of the EU – a simple asset management data base, but more work is needed to link this with budget allocation decisions to the desired network standards and to improve the transparency and performance focus of budget implementation. For example, it would be useful to add criteria to the asset classifications – such as community access roads (traffic volumes < 20 vehicles per day); feeder roads (20 < Average vehicles per day < 100); and major roads (average vehicles per day > 100). Such categorisation would help in budget management and would also help to guide differentiated design standards which reflect actual road usage.

Standards and technical references

A key strategy to improve the standards and specifications is to directly link these with the road asset register and functional classification. Not all roads require the same standards – and standards should be better linked to actual road usage, environmental conditions and funding availability.

The definition of works would also benefit from another category which would cover roads that are in non-maintainable condition. Such works can be characterised by the need for interventions to keep the road open or 'transitable', by addressing those spots where the road is failing or about to fail. Such 'spot improvement' interventions should aim to keep the road open (in line with the design standard set for it), with less attention on the design speed and the surface riding quality, as these are not binding constraints on accessibility. This is considered appropriate and affordable under low traffic volumes (less than 20 vehicles per day).

Due to the terrain and high rainfall, road designs, routine and periodic maintenance should also place much more emphasis on drainage, including provision of scour checks, line drains, relief culverts and outlets and soak away pits. Drainage structures should also rely more on in-situ building of concrete pipe culverts rather than the use of corrugated pipes, given the aggressive environment and corrosion.

PWD would also benefit from a simplified list of standard drawings which could be used to meet road classification and road usage requirements.

Value for money outcomes in physical works

It is important to monitor and report on sector performance in a systematic way, in order to strengthen planning and management and to ensure that work is delivered to plan, within budget and to technical specifications. It is also important to monitor and evaluate

whether projects have effectively contributed to the policy or developmental objectives and to learn whether other approaches may improve outcomes. Audits of physical works – the costs of works and the outcomes achieved – can be very important in improving the quality and planning and management of works. Such audits may show for example, that the PWD should increase the attention on drainage or make changes in the way work is programmed, machinery is maintained or work is contracted out.

Supplementing monitoring and reporting with quality assurance audits can be important in assessing the relative costs and merits of various modes of program delivery (force account, contracting out, local contracting, international contracting, etc).

1.4 The private sector and transport service provision

The private sector has the potential to play a central role in service provision in the transport sector. Currently, the private sector is used for the delivery of some road works, plant hire and a range of smaller maintenance works, while community groups are engaged for basic maintenance (particularly grass cutting). But the role of the private sector could be greatly increased. Initially, this would help fill the gap between what the PWD can physically do (with its limited equipment and resources) and what the network requires. In the longer term, increased private sector involvement is expected to deliver more cost effective maintenance works and generate local employment.

The development of a small-scale private contracting industry based in the islands is intended to complement the role of PWD, by significantly expanding capacity to maintain and improve the road network. For most provinces, however, the shift to private sector provision will not bring immediate results because existing private sector capacity in this area is very limited. The development of a viable private sector is a slow process which will require years of mentorship and support. It is therefore essential that small scale contractors have an appropriate entry point to the market (i.e. simple low value maintenance contracts which ensure a steady workload and allow them to mature over time), whilst at the same time ensuring that PWD force account operations are continued to support capital intensive periodic maintenance work.

High mobilisation costs mean that involving more established national contractors or international firms for work in the small islands is only cost effective for major works or projects of a complex technical nature. Even where major national contractors are mobilised, local (province based) capacity – both private and public – will still be needed for the sustained delivery of routine maintenance, periodic maintenance and emergency works.

A number of other constraints must also be addressed in order to build a competent and competitive private sector based in the islands. These include consistency in work availability, and the availability of credit, equipment, and appropriate skills training. A preliminary study will be undertaken during the interim stage which will explore the opportunities and challenges in increasing private sector involvement in infrastructure provision. This study will be used to inform the implementation approach (refer to Annex A for further details).

Existing private sector capacity

There are some 15 medium scale building and civil works contractors that are regularly engaged to undertake road maintenance works. Most of these are based in Efate or Santo. Contractor registration is flexible in that registered contractors in one sector can move into another sector without additional requirements for licensing. No thresholds are defined for participation in tenders, which means that, in principle, any registered contractor can participate in a tender no matter the volume of work – unless the tender expressly specifies a minimum experience level.

In the provinces, there appear to be many small building contractors. Some are registered with the provinces, while others are running their businesses informally. Many of them are single person businesses, with skilled and casual labour contracted as needed to meet work requirements. These businesses have the potential to be transformed into formal petty (labour only) or small scale contractors and compete for government funded work. As well, community groups are regularly contracted to undertake simple road maintenance on their traditional land. Some of these groups may be interested in 'skilling up' and increasing the complexity of maintenance work through more formal contracting arrangements.

Access to finance and credit

Access to finance and credit is essential for small business to operate effectively. Reportedly, the banking system does have some level of confidence in the building sector, although conditions for loans and guarantees are likely to be linked to the size of the business and the provision of collateral. It appears that only limited small-scale credit facilities are available for starting or emerging businesses. The Vanuatu National Provident Fund is currently studying setting up a small to medium scale credit scheme.

Access to equipment and tools

Except for medium scale contractors in Efate and Santo, small scale contractors do not have easy access to equipment. Hiring opportunities on the islands exist in some places, but prices are excessive and most equipment is not appropriate for small scale road maintenance works. Although the PWD is allowed to hire out equipment, their equipment is typically of a scale which is beyond the requirements for a small scale contractor.

Community groups currently engaged in road maintenance works are not supplied with hand tools under contract arrangements. However, given relatively high labour rates, labour based work is only cost effective if workers can gain access to good hand tools. Production rates for simple activities like grass cutting, drain cleaning and excavation can be doubled with appropriate tools.

A preliminary study will be undertaken to identify equipment needs and explore possible equipment financing arrangements and requirements in more detail (refer to Annex A for further information).

Training

The main technical training centre is the Vanuatu Institute of Technology (VIT). The VIT runs certificate courses in a range of areas such as automotive engineering, tourism and language training. The VIT also runs tailor made courses for clients and has the capacity to deliver 'competency based training' aimed at the job market. The VIT is able to run courses out of Port Vila or to send its teaching staff to other places for programs. The Chamber of Commerce also runs a number of short training courses for businesses.

1.5 Government financial management and administration

The PEFA review of the Vanuatu finance system undertaken in 2006-07 concluded that Vanuatu performs very well in terms of accounting, budget management and funding control. However, it does less well in terms of linking policy with budget and also external audit and scrutiny. These findings also apply to MIPU, where overall expenditure control is strong, but where there are weaknesses in the strategic use of funds in terms of both forward budgeting and effective monitoring.

Many of the strong control and accounting elements of the PFM system in Vanuatu were developed under earlier Australian and other donor support for strengthening the public finance management systems. This has since continued, evolving from the earlier Ministry of Finance and Economic Management Institutional Strengthening Project (MFEM-ISP) and the Public Sector Reform Project to the current Governance for Growth Program (GfG). The GfG is providing ongoing support to the government improve the quality of Vanuatu's public expenditure management and public financial management systems.

The VTSSP will aim to build on and reinforce the use of existing government systems, which is in line with the program's longer term aim to support a sector based approach. Within the Ministry of Finance and Economic Management, the GoV has set up a specifically designed Development Fund Account, for the use of donors, so that donor funding is fully integrated in the budget execution process and funds are utilised using GoV systems. The Development Fund Account allows for full accountability and transparency in the use of the specified donor funds, and specific donor arrangements can be negotiated on the use and management of donor contributed funds, on reporting processes, procurement processes, and the processes for ongoing contributions.

Australia already uses the Development Fund Account to fund activities under the GfG and other programs. The GoV has also advised that they do not wish to have project specific Trust Accounts set up at an agency level, due to the risk of undermining budget processes and fragmenting financial accountability arrangements. Agency level accountability depends on line agency level financial management capacity which, according to the PEFA, is weaker than within the central agencies.

Australia uses similar arrangements in other countries including for the Transport Sector Support Program in PNG, which work well as a mechanism for channelling funds and strengthening partner government systems and accountability. The risks of inappropriate fund utilisation are minimised through tranched funding linked to jointly agreed work programs, financial reports (including cash-flow reports) and progress reports, alongside supportive technical assistance and system audits – both financial and technical – to support good robust systems and value-for-money outcomes.

A procurement and systems audit will be undertaken during the interim stage to assess existing MIPU / PWD personnel and systems in financial management. This will be used to further inform the implementation approach (refer to Annex A for more details).

National level financial management

Currently donor support is being provided to the Ministry of Finance and Economic Management (MFEM) to improve financial management and budgeting, and this work is being extended to improving financial management systems in line agencies and provincial headquarters. Assistance to MIPU and PWD to improve financial management must be linked to this work, and operate in a consistent and coordinated manner.

The MFEM is planning to strengthen financial management systems at the provincial level by rolling out of Provincial Finance Service Bureaus in selected provinces. The Finance Services Bureaus may be co-located within the PWD Provincial Offices in some of the provinces. This will involve setting up a small Finance presence in each of the provinces so that Finance officers can help the staff of line ministries manage their funds better. It is proposed that these services will be rolled out over the next few years, and MFEM builds up its own capacity to staff these functions. In 2008-09 the plan is to implement a Financial Service Bureau in the northern province of SANMA, based at Luganville on Espiritu Santo, and one in the southern province of TAFEA, based at Isangel on Tanna.

The functions of the Finance officers will include: the maintenance of key records and registers (e.g. bank accounts, assets registers); support for imprest (petty cash) management, in the form of advice, procedural training, support for record keeping and submission of imprest requests; and basic trouble shooting and reporting support functions, assisting officers in line ministries to understand their budget and how funds are being used.

Provincial PWD financial management

Improving financial management, public administration and budget systems are a crucial part of strengthening the performance of the transport sector as a whole. For example, if community and private sector capacity is to be built, contracting, contract management and financial management systems must work well, and contractors must be paid in a timely manner (ideally within 30 calendar days from the date of invoicing).

Strengthening financial management capacity and processes will also improve the effectiveness of budget implementation and the quality, timeliness and accountability of PWD processes. Functioning and effective information system linkages between PWD and the Department of Finance, and between PWD central and provincial offices, are essential for effective financial management. Systems seem to work well in some, but not all, provincial offices.

The issuing of warrants and the processing of approvals to purchase or enter into contracts and the issuing of cheques is all done centrally in Port Vila (following standard financial management processes). However, provinces also need good access to the finance system to support program management and ensure timely processing of approvals and purchase and delivery of fuel and supplies. Unlike some other countries

in the Pacific, and other line agencies, all payments are made by cheque – even for labour hire under force account arrangements. This can significant slow down transaction times.

In some provincial offices, finance equipment is well functioning, but staff report that it is not always the case. In one office, much of the equipment is not functioning, including the dial-up link for the finance system. Breakdowns in communications between the national and provincial PWD finance systems add considerable delays to approvals for work, the release of warranted funds and the issuing of payments for work completed. The breakdown in communication systems for finance necessitates a time consuming process of paper based communication – sent back and forth by plane. While some provinces advise that payments to contractors are completed within a month, one of the smaller provincial PWD offices advises that payment times average 2 months. This will need to be addressed, particularly is the role of the private sector is to be increased.

Supporting the GoV (MIPU/PWD) to use and strengthen systems and accountability requirements is the most appropriate approach for donor support to the sector. Donor support for small scale and community contracting will be most efficiently managed through suitably supported GoV systems to ensure that the systems are working well and accountably. The GoV financial management and accountability procedures are sufficient to meet Australian accountability requirements. However, the extent to which GoV systems are followed in a comprehensive and timely manner is currently unclear – as is the level of additional technical support required. A specific systems review of MIPU and PWD finance systems will be undertaken in the preparatory stage to ensure that financial and procurement TA is appropriately tasked, and to identify if there are areas where the current GoV systems need supplementing in order to meet Australian financial management and accountability requirements.

It may be appropriate for the VTSSP to provide basic financial and information management equipment in some circumstances in order to ensure more reliable and efficient financial management processes.

Contracting and Procurement

Contracting and procurement arrangements are set out in the Republic of Vanuatu, Government Contract and Tenders Act, No. 10 of 1998.

- Provincial Works Managers have the delegation to assign work for contract values up to 500,000 Vatu using a Small Works Agreement;
- For work up to the value of 1 million Vatu, contracts can be assigned, but need prior approval by the Director of PWD;
- For works up to the value of 5 million Vatu, three quotes are required and approval by the Director of PWD; and
- Above 5 million Vatu, the procurement process must go through the Central Tenders Board and be approved by the Council of Ministers.

Community contracts can only be entered into through the Small Works Agreement. If contracts are awarded to private contractors, they need to present their registration with the GST office and their business license from the Ministry of Finance. Multi-year contracts may be awarded under the conditions that budget commitments are available.

At the provincial level, small scale businesses need to be registered with the Provincial Administrations and pay a licence fee. The arrangement for registration of businesses nationally is much more complex and has been identified as a problem in the World Bank's "*Doing Business Indicators*.

The Government Contracts and Tenders Act does not allow for the breaking up of contracts into smaller amounts in order to circumvent tender requirements, however, the approval process could be simplified by developing and agreeing a standard proforma contract with the State Law Office.

There are no standard rules about the payment conditions within contracts. Up-front contract payments can vary, and sometimes suppliers require a 100% upfront payment (due in part to past problems of slow payment of suppliers by government). Standard work contracts do not require any performance bonds (or bank guarantees for advance payments) nor are retentions being deducted from invoices. For Australian funded contracts under VTSSP, modest advance payment should be facilitated of say 20 – 30% of the total contract value to help ensure that cash flow does not become a barrier to entry for small scale contractors.

Taxes and duty exemptions

PWD can request exemption from the Customs Department for taxes and duties for donor funded programs. In this case, a duty exemption certificate will be issued to contractors so that all invoices for work undertaken on aid funded projects to be issued without GST.

This process should be clarified and covered (as appropriate) in the project Subsidiary Arrangement, or through references to the overarching development cooperation arrangement. Arrangements need to be put in place to deal with the management of GST in the agreed procurement / contracting arrangements.

2 Analysis

2.1 Expected Benefits

Improving transport services is essential for service delivery, economic growth and broad based and inclusive development in Vanuatu.

The expected benefits of improving the road transport network are significant. Improvements to road accessibility will make it easier for people in rural communities to access important services, such as education and health care. For example, an improved road network will improve access to schools and health centres (contributing to MDG 2 - universal primary education, and MDGs 4 and 5 - reduce child mortality and improve maternal health).

Better roads will also help to reduce unit transport costs and times, and make it easier to transport goods to and from markets, thereby contributing to economic development (MDG 1). The program's focus on supporting labour based appropriate technologies, together with its efforts to increase the role of private sector and communities in delivering road works, is also expected to provide important local employment and business development opportunities for small scale contractors.

Improved management of the road network by PWD is expected to lead to more efficient allocation of limited budget resources, as well as improved routine maintenance of existing roads based on locally appropriate standards. This is in turn expected to reduce the opportunity costs of poor road maintenance, which can result in much higher costs in the long run. Improvements to road drainage are also expected to reduce the harmful effects of poorly maintained roads on the physical environment, such as excessive run off and erosion.

Taken together, all of these benefits can be expected to contribute to Vanuatu's progress towards meeting the Millennium Development Goals, particularly those goals associated with improving access. Without effective rural transport systems, the MDGs and all rural development and poverty initiatives, agriculture and growth are substantially constrained.

2.2 Challenges

Improving land transport services requires:

- Improved transport planning and management;
- A better maintained and reliable transport infrastructure, which is delivered in accordance with locally appropriate and affordable standards which meet the network's functional requirements;
- Improvements in the efficient and effective use of government's own resources – particularly around rehabilitation and maintenance of assets; and
- A stronger role for a competitive and performance oriented private sector in service provision – to improve the availability and cost effectiveness of services.

Improving the efficient and effective use of scarce resources – particularly on maintenance – will require government to operate differently in a number of ways. Currently the PWD undertakes most maintenance work through force account. But its capacity is limited. Even if the PWD had more funding, it would not be able to maintain the country's transport assets without contracting some of the work to the private sector. But as noted previously, there is currently little private sector capacity to work with the PWD, and mobilising large national or international firms to the many islands in the country is neither feasible nor cost effective. This underscores the need to build up local private sector capacity to undertake small-scale maintenance works.

2.3 Strengthening government capacity

Improving the performance of the land transport sector requires government to improve transport planning and management, strengthen asset maintenance and improve the efficient and effective use of the government's own resources. In part this requires the systems and processes of government – policy, planning, budgeting and managing budget implementation (financial management, contracting, contract management, reporting etc) to be undertaken in an efficient and effective manner. It also requires capacity building training with MIPU and PWD staff to strengthen their skills in these areas.

Vanuatu does not currently have the resources to maintain its transport assets, let alone rehabilitate and upgrade those assets. However, improving the transport sector does not require government to undertake all tasks, and partnership with the private sector and communities will be essential.

Strengthening government's capacity to plan and manage the sector is central to longer term and sustained improvements in sector performance. Donor programs that run in parallel to government can undermine basic government systems and lead to weaker sector outcomes. Donor assistance provided through flexible programmatic mechanisms – moving towards more sector based support – is likely to be the best approach to supporting consistent improvements in the use of all resources, and of the government systems required for sector management.

2.4 Private sector development

For most of the islands, it does not make economic sense to depend on imported large scale contracting capacity to undertake the ongoing and fairly straightforward requirements of routine maintenance, spot improvements, and construction of basic structures.

There is considerable experience internationally and in the region, confirming that a local, performance-oriented private sector with the capacity to maintain transport infrastructure can be developed. But developing such capacity takes time, requiring continuous efforts in training and mentorship of potential private sector operators, and targeted procurement approaches that support credible new entrants.

Potential contractors may develop from community groups, existing small scale entrepreneurs from other business sectors, retired PWD technical staff grouping together, and other groups who see the potential opportunities of becoming a road maintenance contractor. But entrepreneurs make savvy decisions on their future, and a

competitive and performance oriented private sector will only develop if they can see long term job opportunities, if work is packaged and contracted in a way that suits the developing market, and if work is awarded and supervised in a transparent and performance oriented manner.

Strengthening the role of the private sector makes economic, technical and social sense. There are large numbers of unemployed or under-employed people in the rural areas of Vanuatu. A local private sector creates jobs, spreads the benefits of work into the broader community, and helps build local pride in the assets and local responsibility for their upkeep.

2.5 Appropriate technological approaches

It is very costly to mobilise contracting resources to remote island sites to undertake relatively straightforward maintenance work. This means that technological approaches need to be appropriately tailored to meet local requirements – such an approach is essential to ensure that infrastructure investments are effective, affordable and sustainable. An appropriate and tailored solution might range from labour intensive periodic or routine maintenance for minor works such as grading and re-gravelling, to labour intensive machinery supported approaches for more technically demanding work, or machinery intensive approaches for large and complex works.

Three broad groupings of work were readily identified by the design mission:

- Straightforward and small scale work suitable for community groups and small scale contractors;
- Small structures and more complex work requiring some equipment – suitable for small and medium scale island based contractors; and
- More complex tasks suitable for medium scale experienced road work contractors based in Vanuatu.

All of this work could be undertaken in a more labour intensive manner using appropriate technology approaches (LBAT), with the scoping of the work and contracting arrangements appropriately tailored to the circumstances (both in terms of physical works and contracting capacity). The designs and design standards must also be appropriate - overly technical approaches using design standards developed for other countries can undermine efforts to develop a more sustainable and cost effective approach to managing infrastructure.

Appropriate technological approaches should aim to achieve the ‘right mix’ between labour and machinery, rather than just relying on importing machinery intensive approaches commonly used in high wage countries. Appropriate technology approaches are widely used in other parts of the world – including Sri Lanka, Cambodia and Africa. The International Labour Organization (ILO) has played a particularly important role in supporting and documenting these approaches through various country based projects and regional Advisory Support, Information Services and Training (ASIST) in Asia, Africa and South America.

Vanuatu has some experience with labour intensive community based contracting, and has used labour based–machinery supported approaches in the late 1980s (which

ceased when donor support stopped. While this experience can be built upon, long term engagement is needed. Previous experience indicates that strengthening government's capacity and developing a local private sector will take much longer than five years.

2.6 Lessons Learned

Donors have had mixed success at supporting better maintenance of infrastructure in the Pacific. Short term (3-5 years) capital investment programs have a poor record in supporting the institutional, policy and regulatory changes necessary for effective asset maintenance. More successful programs (e.g. PNG and Samoa) demonstrate that long-term sector based support which emphasises sector performance, improved asset and financial management, and greater private sector involvement in service provision are more likely to be sustainable and achieve the long term changes required.

The European Union had a four year program of technical assistance to the Public Works Department (2003-2007) that has useful lessons for the implementation of the VTSSP. An evaluation of the program found that former training had very little impact, that a lot of the prerequisite systems were not in place to ensure adequate routine and periodic maintenance, and that staff had been trained in different types of surveying.

One aspect of private sector development is encouraging the use of local contractors and local communities in the delivery of infrastructure programs. Experience in Vanuatu and elsewhere shows that these groups can be an efficient and cost-effective means to improve infrastructure whilst also maximising local employment.

Donors have also learnt that setting up parallel delivery systems is not conducive to building sustainability and can undermine local systems. In a program which emphasises long-term planning and maintenance, it is therefore essential to use and strengthen the Vanuatu government's own systems.

Finally, the design and implementation of aid activities in Vanuatu needs to define clear partnership approaches, including roles, objectives, and use of country expenditure systems; appropriate risk allocation and incentives for private sector participation; and building the capacity of men and women in local communities.

2.7 Other Donor Activities in Vanuatu

AusAID along with other major donors such as EU and New Zealand are working together to support the GoV's Priorities and Action Agenda (PAA).

Donor funds to Vanuatu are equivalent to 50 per cent of the GoV national budget, with Australian aid equivalent to around 30 per cent of the GoV national budget. The majority of AusAID's assistance to Vanuatu is currently in the sectors of Governance (55% of aid expenditure in 2006-07, includes economic governance, civil society, law and justice), Education (25%), and Health (11%).

The main transport related programs by other donors are:

- The MCC funded Vanuatu Transport Infrastructure Program;
- NZAID support to the MCC-VTIP;

- NZAID funded study on inter-island shipping;
- Agence Française de Développement (AFD) financed Outer Islands Airport Upgrading Program;
- JICA funded Port Vila Wharf Upgrading Program; and
- EU support for road maintenance (€2 million, completed).

In addition, Queensland State government's Department of Works is providing some targeted training for PWD staff, and assistance to help the GoV national laboratory develop standards and achieve accreditation for infrastructure testing.

Given the number of large donor funded infrastructure programs currently being undertaken, donors need to be aware of the constraints on MIPU and PWD to implement or manage these programs. Donors need to work more closely together to co-ordinate and harmonise approaches. This underscores the importance of moving towards a sector based approach in the transport sector.

VTSSP will work closely with other AusAID programs in Vanuatu, including those focused on: Economic Reform and Governance; Law and Justice; Education and Training; and Health. Particular programs of importance to VTSSP design and delivery include:

- **Governance for Growth Program ($50 million, 2006-15)** - this program's focus on better quality expenditure and public investment, and enhanced PFM is directly relevant to building to institutional capacity of PWD in this VTSSP component area;
- **Land Program ($13.9 million, 2009-14)** - VTSSP will work to complement activities undertaken through the Land Program including consultation on land tenure issues and appropriate consultation with land owners in relation to sub-project road maintenance.
- **Technical and Vocational Education and Training (TVET) Strengthening Program ($13 million, 2005-11)** - given the VTSSP focus on improving training for SSCs and local capacity building to improve ability to provide local roads-maintenance, VTSSP should coordinate with training delivered via TVET trainers and the Vanuatu National Training Council.
- **Education and Health initiatives:** The VTSSP program is intended to expand access for men, women, children and persons with disability to essential education and education services.

Several AusAID sector policies are also of relevance to the VTSSP including: Gender equality in Australia's aid program – why and how (2007); Tackling Corruption for Growth and Development (2007); and Meeting the challenge: Australia's international HIV/AIDS strategy (2004). These are addressed in further detail in Section 4.2 and Annex D.

3 Proposed approach

3.1 Rationale for AusAID involvement

The Government of Australia supports the Government of Vanuatu's Priorities and Action Agenda which identifies improving transport infrastructure services as key to strengthening broad based economic growth and inclusive development. As well, Australia has major infrastructure initiatives including the Infrastructure for Growth Initiative and the Pacific Region Infrastructure Facility, to increase support for economic infrastructure services in partner developing countries.

Australia has considerable experience to assist the Government of Vanuatu in the transport sector. In this region, AusAID is supporting the transport sector in PNG, Solomon Islands (in partnership with the ADB and NZAID), East Timor (with the ADB), and has major transport programs in other regions, particularly Indonesia. In addition, a transport sector support program would complement and support the work of the Government of Vanuatu in utilities reform supported by the Governance for Growth Program.

The sub-projects on the islands of Tanna, Malekula and Ambae were selected from the list of dropped MCC projects following consultation with the Vanuatu Government on priorities. Consideration was also given to the appropriateness of the roads for the mechanisms to be used through phase 1 (Labour Based Appropriate Technology mechanisms).

3.2 Strategy selection

Following an initial request from the Government of Vanuatu to help in addressing the short fall in financing the work proposed under the MCC funded Vanuatu Transport Infrastructure Program, AusAID developed a short options note for consideration by the Government of Vanuatu. The approach proposed and ultimately adopted in the program design is for a long term partnership between Australia and Vanuatu (the Vanuatu Transport Sector Support Program), commencing with a short first phase leading to more sector based (and possibly multi-donor) support in the longer term.

The option of providing funding direct to the MCC for the Vanuatu Transport Infrastructure Program (VTIP) was considered by AusAID in the earlier mission, but was not considered an appropriate approach given the use of a single international contract for the works, the design approach and identified problems with sustainability.

A further option of delivering the identified physical works through a stand-alone project was also considered, but was not considered appropriate for similar reasons as those identified above for the VTIP, including the likely limited sustainability of outcomes, and the potential undermining of the Government of Vanuatu's systems through parallel program delivery.

The proposed VTSSP will complement the MCC funded VTIP, and in the longer term, help improve the sustainability of the investments made under VTIP by improving the Government of Vanuatu's capacity to maintain its transport infrastructure. There are longer-term opportunities to work with other donors as VTSSP moves towards a sector

based approach in Phase 2. New Zealand, in particular, has expressed interest in contributing to VTSSP in Phase 2.

In summary, Australian support for the proposed VTSSP is consistent with Australian development assistance policy and the Government of Vanuatu's Priorities and Action Agenda. The proposed sector based approach is also consistent with the principles of the Paris Declaration on Aid Effectiveness, which emphasises greater use of government systems, ownership and harmonisation.

3.3 Program Description

The proposed approach is to develop a long term program of sector based support for transport in Vanuatu, which emphasises the importance of asset preservation to ensure a balanced and sustainable development of the transport network in Vanuatu. The proposed VTSSP will therefore provide direct resources for the maintenance of physical infrastructure (including for road maintenance under Phase 1).

Special attention will be paid to suitable engineering solutions with respect to Vanuatu's physical, environmental and economic conditions. For example, in the land transport sector, design and maintenance of road improvement works will be appropriate to local conditions to help ensure cost-effective service provision, reliable access (transitability), and to facilitate the expansion of services to a wider range of communities.

All physical works during Phase 1 will be scoped and delivered using local contracting with communities, small-scale contractors and medium-scale Vanuatu based contractors. The increased costs for managing and supervising a large number of small contracts is expected to be offset by the lower costs for actual works.

The proposed approach will also support the development of a competitive, performance oriented and diverse Vanuatu based private sector that is able to undertake the required maintenance and rehabilitation works (or at least the less complex works) in the future.

The phased approach allows the program to get some 'quick wins' through supporting the delivery of identified physical works and using local contracting capacity (which PWD has some experience in), while retaining the flexibility to design subsequent phases to best meet local requirements and respond to sector progress.

There is strong support from GoV for the proposed approach, including that the partnership be long term and sector-based, in order to support GoV led reforms to sustainably improve services in the sector. Positive feedback has also been received during consultations with other principal partners. These consultations have included: Prime Minister's Office (PMO); Ministry of Infrastructure and Public Utilities (MIPU) Public Works Department (PWD); Public Works' Provincial Offices; Ministry of Finance and Economic Management (MFEM), GfG office; Millennium Challenge Account (MCA); MCC and NZAID.

Currently in Vanuatu, there is significant marginalisation of women from discussions and decisions on areas of social and economic development, governance and human rights at community and national levels. Under the 1997 Comprehensive Reform Programme the Government introduced a Gender Equity policy comprising nine benchmarks to improve the situation of women.

Recognising that gender equality is integral to economic growth and development, but also that western concepts of formal gender equality often meets resistance in Vanuatu, VTSSP will aim to contribute to gender equality through increasing opportunities for women and youth to participate in the economy and increase access to services. The VTSSP will also link with research being undertaken by the Governance for Growth program that looks at promoting a better understand of women's role in the economy.

3.4 Community consultation and participation

The sub-projects selected for VTSSP Phase 1 were chosen from the MCC program. Therefore extensive consultations had already occurred on selecting the 12 sub-projects. This included environmental and social impact analysis, gender analysis of the proposed programs, and extensive community consultation on priority projects for implementation. The analysis in this design document, therefore, builds on this pre-existing work.

Community consultations will be a key plank of the implementation approach. Strong community ownership will be essential to ensuring longer term sustainability of investments in the road network, particularly as communities are expected to play a substantial future major role in routine road maintenance. The program will work closely with local communities and keep them informed about the planned works, in order to build community ownership and participation in maintenance activities.

3.5 Critical Elements of the VTSSP Partnership

The VTSSP is a partnership between Australia and Vanuatu. A partnership approach brings with it mutual responsibility and obligation, and requires a clear understanding of what both parties will bring to the table.

Australia is committed to a long-term partnership focused on strengthening Vanuatu's transport network. Australia will commit substantial resources to VTSSP. These resources will be available for both investment and also to help strengthen the supporting systems and build the required capacity to rehabilitate and maintain the network.

Australia will be guided by Vanuatu's priorities and will be implemented through PWD and utilise Vanuatu's systems. VTSSP is based on the premise that Vanuatu's financial management systems and practices are generally sound, which will enable Australia to directly use and help further strengthen these systems. A continued commitment by the Vanuatu government to maintain robust financial management systems and practices is therefore essential to the success of the VTSSP.

The Vanuatu government's undertaking (made under the MCC Compact) to maintain a high level of funding commitment for maintenance is fundamental because it demonstrates that Vanuatu, through an allocation of its own resources, is committed to improve transport infrastructure maintenance to the best of its ability. For Phase 1, AusAID will continue to commit funds as long as the current budget for maintenance within PWD is kept constant in real terms (to ensure additionally of funds rather than replacement). At present, 500 million Vatu is allocated to maintenance. If the PWD

maintenance budget is reduced, then the AusAID budget will be reduced proportionally, unless there have been exceptional circumstances to account for the reduction. AusAID will also take into account the performance and funding commitment of both MIPU and PWD during Phase 1, before committing to future Phases of the VTSSP.

There has been strong consultation with other donors to ensure a harmonised approach in developing the VTSSP. It is hoped that Australia's decision to support a sector based program of support will further strengthen donor harmonisation and cooperation within the transport sector. Other donor partners, including New Zealand and JICA have expressed potential interest in the future sector based program of support. The MCC, given its five-year compact term to March 2011 and commitment through the VTIP to improving infrastructure in Vanuatu, will also remain an important medium-term partner, particularly in terms of harmonising project activities and ensuring complementary of efforts.

This program will build on the Pacific Region Infrastructure Facility's coordination and harmonisation approach. While the World Bank and the ADB are not currently substantially involved in transport infrastructure in Vanuatu, future opportunities for collaboration may arise and would be welcome.

3.6 Interim Stage

The interim phase of VTSSP will consist of a number of detailed studies in preparation for Phase 1 of the Vanuatu Transport Sector Support Program (VTSSP). These studies will help guide the successful implementation of VTSSP Phase 1, and include: an evaluation of private sector capacity; a detailed design of the road works; a finance and procurement system audit; and, a study on the technical standards. These studies will be used to help inform the direction of the capacity building and strengthening within Public Works Department (PWD) and the Ministry of Infrastructure and Public Utilities (MIPU), as well as the approach to developing the private sector on the three selected islands. Further details on the preliminary studies are in Annex A.

During the interim phase, the tendering and contracting process for VTSSP will also be undertaken.

3.7 Goal and purpose

Goal and purpose

The proposed goal and purpose come from the vision articulated in Vanuatu's own Priorities and Action Agenda 2006 – 2015.

Proposed goal: *Social stability and economic growth to create and educated, healthy and wealthy Vanuatu.*

Proposed purpose: *To generate a reliable and adequately maintained transport system.*

3.8 Key Result Areas

The four result areas for the VTSSP are:

- Result 1: The Government of Vanuatu's management of the road transport sector is improved;
- Result 2: The quality of public financial management in the transport sector is improved;
- Result 3: The role of the competitive private sector and community groups in providing road maintenance is increased; and
- Result 4: Sustained improvements in road transport access are supported using labour based appropriate technologies which generate local employment.

The Results Framework is summarised on the following page. A detailed Results Framework, including expected outcomes and performance indicators, is in Annex E.

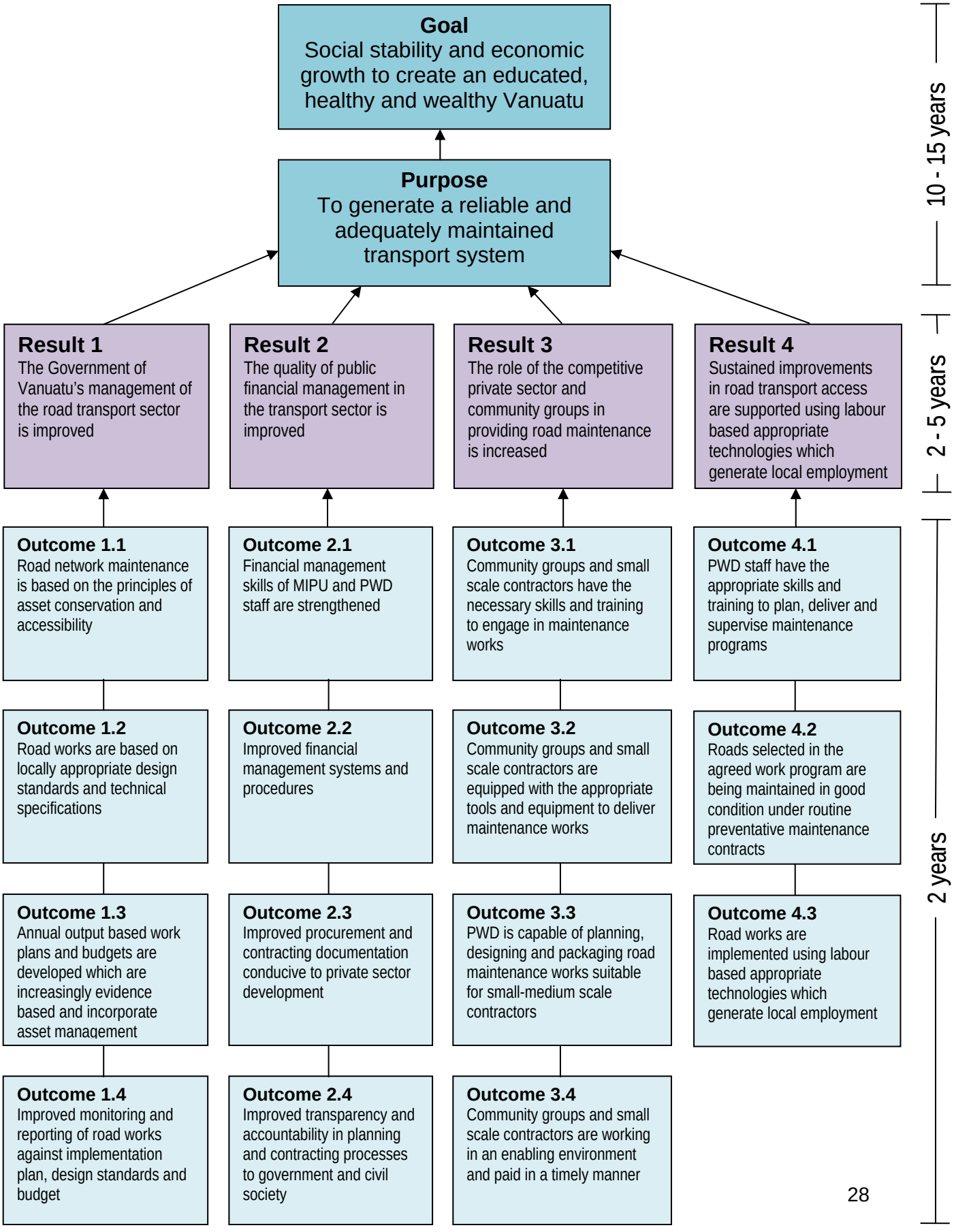
3.9 Expected outcomes for Phase 1

The planned outcomes for Phase 1 of the VTSSP are set out under each result area. Phase 1 is relatively short, and under Result Areas 1 and 2, the VTSSP will aim to strengthen the PWD basic systems of asset management, budgeting, planning, budget implementation, monitoring and accountability as a basis for longer term strengthening of government systems.

The approach is derived from requirements for strengthening asset management and planning and the Public Expenditure and Financial Accountability (PEFA) framework that is already being used in the Ministry of Finance and Economic Management for improving budget systems, financial management and accountability.

Result Areas 3 and 4 focus on strengthening the capacity of private sector and community groups to partner with the PWD to deliver road works, with a focus on preventative maintenance, and the use of labour based appropriate technological and contracting approaches in the implementation of maintenance works.

Vanuatu Transport Sector Support Program
Results Framework



3.10 Phase 1 – Description of Result Areas

Phase 1 has four Result Areas. All the long term TA positions, together with PWD, will work to varying extents on all four of the Result Areas. All four Result Areas work in different ways to support improved road maintenance – and thus the balanced and sustainable development of the road network in Vanuatu.

Result Area 1: The Government of Vanuatu's management of the road transport sector is improved

Result Area 1 will support the PWD to improve the management of the land transport sector, with a particularly focus on strengthening systems around road maintenance and asset management and budget management. This will require enhancements to current PWD processes, particularly around asset management, design standards, improving the linkage between asset management (maintenance) and work planning, and moving to output based work plans and budgets.

Outcome 1.1: Road network maintenance is based on the principles of asset conservation and accessibility

Activities under this outcome will include an update of the functional road classification and road asset register to help strengthen the planning and budgeting of works. VTSSP will support the functional classification of roads by strengthening annual road condition surveys (to include both functional classification and condition). This will serve as an important planning tool, i.e. design standards, affordable levels of accessibility and budget allocations for maintenance will follow road class and road usage (traffic levels). Any reclassification exercise will need to take account of the draft Roads Act, which is currently being considered by the Government of Vanuatu and is expected to be passed in mid-2009.

Outcome 1.2: Road works are based on locally appropriate design standards and technical specifications

The development of appropriate local technical standards for road works is essential for a small country like Vanuatu. On too many occasions, engineering firms have introduced 'foreign' standards into the design process leaving the country with over-designed infrastructure and maintenance requirements that the country can ill afford. VTSSP will support MIPU in the development of design guidelines which better reflect the practical realities prevailing in Vanuatu. Given high annual rainfalls, drainage and erosion protection must be a major aspect of all future road improvement projects. The program will also support MIPU with the preparation of an updated inventory of road building materials (including locally available materials), whilst at the same time promoting empirical research using alternative road building materials in trial projects.

Outcome 1.3: Annual output based work plans and budgets are developed which are increasingly evidence based and incorporate asset management requirements

Given that maintenance resources are limited, the PWD needs a process of developing annual work programs and allocating scarce resources to get the best value returns to

maintaining the road network. During Phase 1, VTSSP will support improvements to the PWD work planning and budgeting processes and advocate the use of policy and output based budgeting. Budgets should not only be linked to the physical outputs (i.e. kilometres of roads maintained / kept to a specified standard) but be attributable to specific performance indicators that are linked to the transport sector policies).

Maintenance plans and budgets should also be increasingly evidence based, drawing on up to date information (such as annual condition surveys and performance audits). The maintenance plan and budget should be developed on the basis of a clearly defined road network, agreed standards and an updated inventory (based on annual condition surveys). Maintenance is to be prioritised ahead of new investment activities in order to preserve road assets and reduce the total costs of keeping the network at an agreed standard. The principle of asset preservation strives to reduce total project life-cycle costs by prioritising maintenance above new investment activities, thereby preventing the high costs to the country from inadequately maintained and impassable roads. The use of multi-year maintenance planning, programming and budgets, and the use of multi-annual maintenance contracts will also be promoted within a longer time horizon.

Outcome 1.4; Improved monitoring and reporting of road works against implementation plan, design standards and budget

Systematic monitoring and reporting of work program implementation will help PWD improve its management of the overall program and its ability to report on budget outcomes to the Ministry of Finance and Economic Management. Internal auditing and quality control systems are important to signal problems in implementation and allow for the monitoring of 'value for money' outcomes of work to inform senior management on the best approaches for using scarce government (and donor) resources to achieve outcomes.

Result Area 2: The quality of public financial management (PFM) in the transport sector is improved

Strengthening public financial management is an essential part of improving the management of any sector by government agencies. This Result Area will focus on strengthening financial management, procurement, forms of contracting, and the accountability of the PWD to government and civil society in its use of resources. This will be essential if the PWD is to support the effective use of its budget resources, and effectively contract communities and the private sector to deliver works.

Outcome 2.1: Financial management skills of MIPU / PWD staff are strengthened

The program will provide relevant training and mentoring to help strengthen the financial management skills of MIPU / PWD staff. This will include training in areas such as: output based budgeting and work planning, financial controls, contracting and procurement. Some training may potentially be sourced through VIT and Rural Training Centres). Where necessary, the PWD Provincial Offices will also be supported with standard office equipment (computers, printers and copiers) and surveying tools (e.g. GPS, digital camera, etc), to strengthen communication channels between field, PWD Provincial Divisions and the Head office.

Outcome 2.2: Improved financial management systems and procedures

Result Area 2 will also support the strengthening of PWD's financial management and reporting systems so that they are accurate, robust, and support timely and accurate payment of invoices in line with contracts, and clear and agreed processes for the transparent and effective use of funds provided by AusAID through the Vanuatu Development Fund Account for VTSSP. Financial management must comply with the Financial Regulations of the Republic of Vanuatu and as required by the Commonwealth of Australia. Strengthening the transparency and accountability of the PWD in its use of budgeted and VTSSP funds to government and civil society will be supported.

In support of this approach, the VTSSP Senior Finance and Procurement TA will consult with and coordinate with the Governance for Growth (GfG) program to ensure that the financial management improvement approaches are consistent with and supportive of Vanuatu's financial improvement program through the MFEM, which is being supported by the GfG.

Outcome 2.3: Improved procurement and contracting documentation conducive to private sector development

The VTSSP will support PWD to develop procurement and contract documentation for LBAT community and small scale contracting, which is appropriate for the circumstances and encourages value for money outcomes in contracting. This work will be closely linked to the support and training for communities and small scale contractors provided under Result Area 3, and the effective delivery and management of the work program under Result Area 4.

Outcome 2.4: Improved transparency and accountability in planning and contracting processes to government and civil society

Improved liaison between PWD and provincial stakeholders will be critical to the successful implementation of the road maintenance program. Community input and support will also be vital to the success of any locally implemented program, including road improvements. VTSSP will promote improved liaison with provincial stakeholders and local communities during prioritisation, planning and design of the works - either directly through community consultations or indirectly through their representatives (i.e. elected provincial councillors, chiefs).

This Result Area will also work with PWD to increase the level of accountability and transparency in its procurement processes by encouraging the regular and timely publication of tenders, procurement processes and contract awards, as well as timely reporting of progress and expenditure to government and donors.

Result Area 3: The role of the competitive private sector and community groups in providing road maintenance services is increased

Note: During phase 1 this will only be in Malekula, Tanna and Ambae

Building the capacity of the private sector to engage in road maintenance is seen as an essential to complement the work of PWD. However, development of a local contracting

industry will require long term support e.g. through providing long term job perspectives, training and by creating an enabling business environment (e.g. timely payment of invoices, access to credit and appropriate equipment). VTSSP will promote the involvement of the private sector (small scale contractors and community groups) in routine road maintenance works in a number of ways. Activities planned under this Result Area aim to improve the enabling environment and provide community groups and small contractors with the necessary, skills, equipment and support to deliver maintenance works. VTSSP will provide opportunities for both men and women in the communities to engage in training and employment, where culturally appropriate. The TA in each province will need to work with women and youth groups when looking at developing opportunities in each community.

The development of local small scale contractors in Malekula, Tanna and Ambae is expected to contribute to local employment creation, create long term capacity for sustained road maintenance and reduce reliance on the mobilisation of external larger scale contractors to undertake works.

Outcome 3.1: Community groups and small scale contractors have the necessary skills, training and support to engage in maintenance works

Under this Result Area, community groups and small scale contractors in Malekula, Ambae and Tanna will be trained and supported to carry out road maintenance works. The VTSSP TA will work with the PWD to develop and deliver appropriate on-site and off-site training, mentoring and support programs, linked to the award and delivery of agreed work programs. The VTSSP will provide support and training and technical support to community groups and small scale contractors, both prior to contracting and during contracting, with the longer term objective of supporting the development of a competitive local contracting industry.

It is anticipated that more than 15 community groups (5 in each province) will be trained for routine maintenance contracts and be ready and able to undertake road maintenance contract works with the PWD. Following training of potential small scale contractors, it is anticipated that at least 9 local contractors (3 in each province) will pass the training program and register their businesses.

Selection and training of contractors will be carried out through a staged approach, which will involve a larger number of potential contractors commencing training and possibly undertaking some work. The VTSSP TA will develop (in conjunction with the other Result Areas) a strategy for engaging with potential small scale contractors, offering training, mentoring and supporting promising groups to progress in developing capacity and undertaking some work. A drop-out rate should be anticipated in the training, which should be compensated by inviting sufficient number of contractors during the initial stages of training.

Outcome 3.2: Community groups and small scale contractors are equipped with the appropriate tools and equipment to deliver maintenance works

Contracting arrangements need to support community groups and small scale contractors with appropriate tools and equipment for the intended works. Whereas communities can rely on hand tools for minor maintenance works, more sophisticated works for spot improvement and periodic maintenance depend on the availability of appropriate road building machinery / equipment. VTSSP will develop (linked to

contracting arrangements etc) a strategy based on the range of options (e.g. modest advance payments and equipment hire arrangements) to make equipment available to contractors, as well as sustainable arrangements for the provision of maintenance services and spare parts. Funding is provided under the VTSSP for this equipment to be made available through appropriate hire arrangements.

A more detailed assessment of options and possible approaches will be carried out during the interim phase and the VTSSP will identify an appropriate approach for supporting access to equipment.

Outcome 3.3: PWD is capable of planning, designing and packaging road maintenance works suitable for small-medium scale contractors

All works foreseen under VTSSP will be implemented by Vanuatu national contractors (small and medium scale) and community groups. The contracting methodology will consist of 3 different target groups, depending on the scope and complexity of works, namely: community based contracting for minor maintenance, local based contracting, and Vanuatu-wide (national) contracting for more complex works requiring larger experienced road firms. The contracting documentation and contracting approaches developed under Result Areas 2 and 3 need to be fair, effective and transparent in order to support quality and cost effective works and the longer term development of a competitive and performance oriented industry.

Small scale contractor development within VTSSP should promote the principle of diversification allowing contractors to have sufficient mobility to take on all types of civil works (building, roads, water supply, etc), given that they are unlikely to survive financially, if they focus on road works only.

Outcome 3.4: Community groups (CGs) and small scale contractors (SSCs) are working in an enabling environment and paid in a timely manner

The program will also work closely with PWD to improve responsiveness and timeliness of invoice payments, and to ensure that other contracting arrangements are conducive to private sector engagement.

Result Area 4: Sustained improvements in road transport access are supported using labour based appropriate technologies which generate local employment

During Phase 1 of the VTSSP, maintenance works will be financed on the islands of Malekula (Malampa), Tanna (Tafea) and Ambae (Penama). Exact costing for each of the roads will be developed after the detailed design study and scoping of the works, which will be carried out by MIPU / PWD and reviewed by an external consultant.

Planning, prioritisation and budgeting at provincial level will follow the general principles outlined under Result Area 1. Provincial Work Divisions in Malekula, Tanna and Ambae will be supported in preparing output based budget and work plans, and monthly or quarterly physical and financial progress reports. Capacity of provincial staff will also be strengthened to effectively manage maintenance works through long term technical assistance.

Outcome 4.1: PWD staff have the appropriate skills and training to plan, deliver and supervise maintenance programs

PWD staff will receive appropriate training and mentoring opportunities in the VTSSP program. Technical advisers will be located within PWD in each of the three provinces and work closely with and mentor counterparts to implement the program of works, and strengthen associated systems and procedures. The TA team will have explicit responsibility for ensuring that PWD's skills are upgraded through on-the-job training, supplemented by formal training courses. Areas of training may include, but are not limited to:

- Inventory and condition surveys;
- Maintenance planning and programming;
- Procurement;
- Design and surveying;
- Quality control procedures and simple testing;
- Contract management and administration procedures; and
- Supervision of works.

Provincial roads staff will also be supported with adequate resources necessary to carry out their roads management responsibilities. This includes sufficient transportation to regularly inspect roads and visit works sites on the islands.

Outcome 4.2: Roads selected in the agreed work program are being maintained in good condition under routine preventative maintenance contracts

All works will be implemented by Vanuatu contractors. As noted above, the contracting methodology will consist of 3 different target groups depending on the scope and complexity of works; community based contracting, local (island) based contracting and Vanuatu wide contracting.

- Community based contracting will be applicable for routine maintenance works and will be awarded to community groups living along the road. The contracts will be small in value (<500,000 Vatu) and will be directly awarded to the respective communities, working within the customary boundaries.
- Locally based contracting approaches will be adopted for routine maintenance and Spot Improvement works and will be open to civil works, building or road contractors from the relevant province (through expression of interest). Other interested business people or individuals may also participate, i.e. a retired or ex-foreman from PWD. More information about the selection procedure for contractors is presented in Annex B (under Outcome 3.1).
- Finally, the more complex works for Spot Improvements and Periodic Maintenance will be tendered nationally through Vanuatu wide tender processes to attract a wider range of capable and established road contractors. Table 1 below sets out the indicative procurement arrangements, in line with the Government of Vanuatu procurement requirements. More detail on the types of maintenance works, the road selection criteria and agreed works, adopted design

standards and the proposed contracting and procurement approach is set out in Annex B (under Outcome 4.2).

Outcome 4.3: Road works are implemented using labour based appropriate technologies which generate local employment

The program's focus on promoting the use of Labour Based Appropriate Technology (LBAT) approaches is expected to generate considerable local employment opportunities (within the proposed works, the potential for employment creation is estimated at **158,100 work days)**. Assuming most of the unskilled labour in maintenance works is recruited from the neighbouring communities, local income generation is estimated at around 30% of total VTSSP investment in road maintenance works. It is also expected that the skills and experience acquired by small-scale contractors and communities engaged in completing works under Phase 1 will help them to better compete for future public works contracts.

The maintenance works supported by VTSSP, totalling an estimated A$9 million are divided into 3 categories, namely: Routine Maintenance (RM), Spot Improvement (SI) and Periodic Maintenance (PM).

More details on the works will be available in the studies carried out in the interim stage.

Table 1: Procurement Arrangements

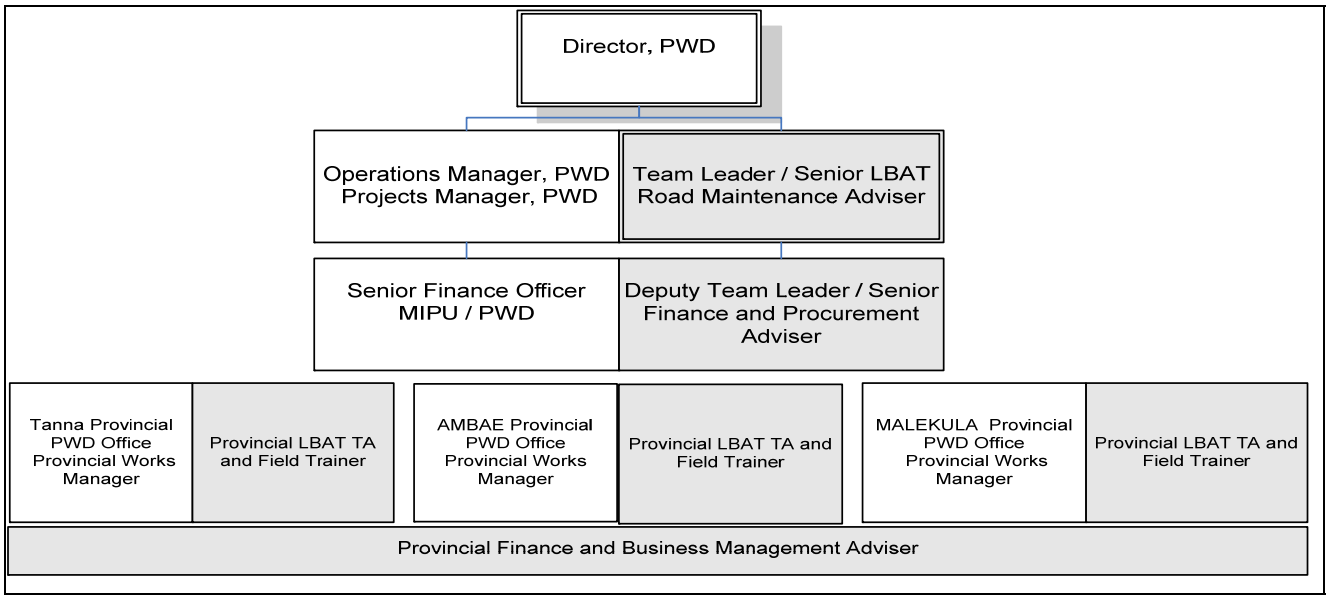
Contracting methodology	Type of works	Procurement method	Target group	Contract Value (Vatu)	Contract size (km)	Approval
Community Based Contracting (CBC)	Routine Maintenance	Direct Award	Community groups living along the road within the customary boundaries	< 500,000	< 5 km	PWD Division Manager
Limited Locally Based Contracting	Routine Maintenance Spot Improvements	Provincial Procurement 3 quotations	Civil works, building or road contractors from the province	< 5,000,000	< 20 km < 5 km	Director of MIPU / PWD
Locally based contracting	Spot Improvements	Provincial Procurement Open tender	Civil works, building or road contractors from the province or nearby islands	> 5,000,000	< 10 km	Central Tenders Board (CTB) Council of Ministers (CofM)
Vanuatu wide tendering and contracting	Spot Improvements Periodic Maintenance	National Procurement Open tender	Road contractors from Vanuatu	> 5,000,000	No limit	CTB CofM

3.11 VTSSP Phase 1 inputs

3.11.1 Technical assistance

The technical assistance will include six long term TA – three based in PWD headquarters (with the Provincial Finance and Business Management Adviser making frequent trips to the provinces), plus one adviser based in each of the three provincial PWD divisions in Tanna, Ambae and Malekula. The modality of technical assistance was selected after discussion with MIPU/PWD about the most efficient means to implement the program. While Phase 1 contains a heavy use of international technical advisers, this was deemed necessary given the human resource and capacity constraints within PWD.

If local based advisers are available, the managing contractors will be strongly encouraged to consider them as part of the TA team. The Provisional LBAT TA and Field Trainer position in each province will be twinned with a local contractor to build the capacity and the sustainability of the program. It is envisaged that this twinning would have the potential to increase the pool of local advisers and reduce the need for international TA in Phase 2.



PWD Positions (counterparts)	Long term TA Positions
Director, PWD	Team Leader and Senior LBAT Roads Maintenance Adviser[8]
Operations Manager, PWD	
Projects Manager, PWD	Deputy Team Leader and Senior Finance and Procurement Adviser[9]
Senior Finance Officer, PWD	
Provisional Managers, PWD (Tanna, Malekula and Ambae)	Provincial LBAT Field Trainers x 3 (one in each PWD Provincial Division)
Provisional Finance Officers, PWD (Tanna, Malekula and Ambae)	Provincial Finance and Business Management Adviser (1 to be shared between 3 Divisions)

The long term TA identified above, will be supplemented by short term TA inputs as proposed to the GfG management committee by the VTSSP Program Management Team for consideration.

3.11.2 Financing for agreed physical works

In keeping with the principles of mutual accountability, partnership and sustainability, Australian financing for the program will also be linked to the ongoing commitment of the Government of Vanuatu to maintain the level of resources allocated for maintenance in the annual budget in real terms (to ensure additionally of funds rather than replacement). At present, 500 million Vatu is allocated to maintenance. If the PWD maintenance budget is reduced, then the AusAID budget will be reduced proportionally, unless there

[8] based in PWD Central Office, Port Vila
[9] ibid

have been exceptional circumstances to account for the reduction. AusAID will also take into account the performance and funding commitment of both MIPU and PWD during Phase 1, before committing to future phases of the VTSSP.

Agreed physical works will be financed through the Development Fund Account. The proposed work program for funding under VTSSP Phase 1 will be developed by the PWD as part of their usual annual work programming processes for approval by the GfG Management Committee.

The work program should also set out procurement arrangements for the GfG Management Committee's consideration. Work will be undertaken following PWD's standard program management and supervision processes supported by the VTSSP TA.

Under Result Area 2, the VTSSP TA will work with the PWD to set out the business processes for the use of finances provided under the VTSSP by Australia through the Development Fund Account, including approvals, financial processing, financial reports (including cash flow reports) and requests for quarterly 'top ups' for agreed works. VTSSP business processes should be identical to GoV business processes, supplemented (only if necessary) by additional reporting / audit requirements to meet Australian financial management accountability requirements.

3.11.3 Goods (equipment, tools)

Provisions are made in the budget for the supply of appropriate equipment to the contractors, hand tools to the communities, as well as office equipment and surveying tools to the PWD Provincial Divisions.

The PWD Provincial Offices will be supported with standard office equipment (computers, printers and copiers) and surveying tools (GPS, digital camera, etc), where appropriate. The budget also allows for provisions to strengthen the communication channels between field, PWD Provincial Divisions and the Head office.

Community groups that will be contracted for small scale maintenance works need appropriate hand tools such as shovels, wheelbarrows, grass cutters, etc. VTSSP will assist the communities by supplying good quality hand tools on a commercial basis (i.e. monthly invoices submitted for work will be discounted to repay for the hand tools.). Tools will be supplied to the existing community structures for distribution to the workers. Such tools are readily available in common hardware stores on Santo and Efate, but more difficult to obtain on the outer islands.

For larger scale maintenance works, contractors need to have access to appropriate equipment, typically constituting of pedestrian rollers / plate compactors for compacting; fuel generated concrete mixers, water pumps and compressors / jack hammers for structural works under wet conditions; and tractor based versatile equipment for haulage and light grading under remote and difficult conditions.

VTSSP will look into various options to make equipment available to contractors. A more in depth assessment will be carried out during the interim phase to investigate: the existing capacity of the local construction industry; the availability of appropriate equipment on the domestic and regional market; and the options for financing equipment.

It is important that such arrangements are set up in a sustainable manner with appropriate risk sharing between client and contractor. It is anticipated at this stage that more sophisticated equipment will be made available to the contractors on a hiring basis through the PWD Provincial Divisions, and that more standard and commonly used equipment will be purchased by the contractors themselves through modest advance payments on the contracts.

Final arrangements for making equipment available to the contractors will be proposed by PWD and the Manager Contractor to the GfG management committee during the program inception phase, based on the recommendations from the equipment financing study carried out in the preparatory phase. Further details of the provisions for goods and equipment will be identified during the preliminary studies.

3.11.4 Training

VTSSP Phase 1 will provide training both to Public Works Department Officers and private contractors and communities in road maintenance works, tendering, procurement, contract management etc. Community groups and contractors will also receive training on HIV and Sexually Transmissible Infections prevention. Training plans will be drawn up by the TA officers in conjunction with PWD counterpart and will be adapted to meet the needs of the different communities. Training could potentially be sourced through VIT or Rural Training Centres.

4 Implementation Arrangements

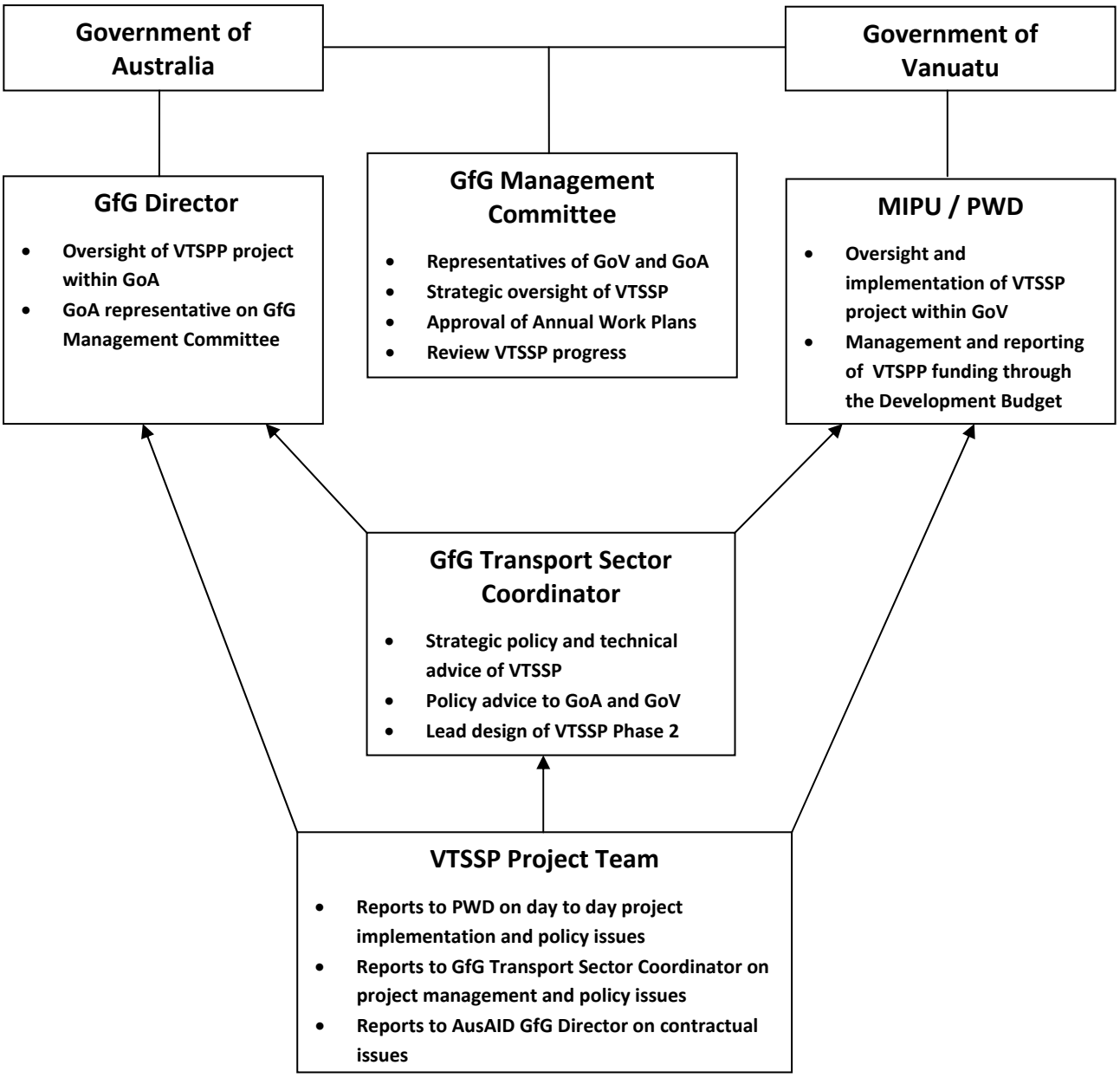
4.1 Management and Governance

Proposed Management Arrangements

The program represents a partnership between Vanuatu and Australia and the management arrangements reflect this. The management arrangements will support and be integrated within the Government of Vanuatu's own management arrangements in transport. The management arrangements will also facilitate substantial policy dialogue between the government of Vanuatu and Australia on the requirements and performance of the transport sector.

AusAID needs to provide substantive and high level engagement in the overall management and strategic direction of the program so that Australian support to the sector is flexible and responsive to the evolving requirements of Vanuatu's transport sector. The Program Director of GfG will be responsible for ensuring that the VTSSP is consistent with the directions of the GfG and Australia's Vanuatu Program as a whole. The VTSSP will have access to regular technical support from AusAID's advisory group. Reporting and management relationships are depicted in the diagram on the following page.

Reporting relationships



GfG Management Committee

It is proposed that the GfG Management Committee will be the formal GoV-GoA supervisory and coordination arrangement for the program, as well as serving as a platform for wider discussions in the transport sector. In addition to its high level strategic role, the GfG Management Committee will provide overall strategic direction to VTSSP, consider implementation issues, review progress and effectiveness of assistance (including technical assistance), consider the proposed future rolling work programs (physical works and procurement approach) and financing requirements. The GfG Management Committee will also provide direction to the future direction of the VTSSP – including input to the design of further Phases.

The GfG Management Committee already includes representatives of key agencies, including the Ministry of the Prime Minister, Ministry of Finance and Economic Management, the Ministry of Foreign Affairs and AusAID, and will be expanded to include MIPU for discussion on VTSSP. This would build on the complementary nature of the program to other GfG programs, particularly the work in Public Financial Management.

AusAID

The AusAID representative on the management committee is the Director of the Governance for Growth Office (the AusAID Counsellor also attends as an observer). The Director of Governance for Growth will be responsible for overall oversight of the VTSSP within AusAID.

AusAID will be responsible for: communications and managing contracts with the Managing Contractor; internal AusAID coordination and reporting; monitoring and reporting on the VTSSP progress, monitoring the performance of the managing contractor and team leader, and managing AusAID's responsibilities with regard to the recommendations (including funding/ resource allocations) from the GfG Management Committee.

AusAID will also contract a Transport Sector Coordinator, who will provide strategic policy advice to the Government of Vanuatu and the Government of Australia. The Transport Sector Coordinator will also provide technical advice for VTSSP, including development of VTSSP Phase 2.

Management of implementation

Phase 1 of the VTSSP will be implemented by the Vanuatu Public Works Department. The Team Leader and the Director of PWD will be responsible for agreeing on the work plan.

The PWD's current quarterly meetings will be central to VTSSP management and reporting arrangements. These quarterly meetings between the Central Office and the Divisions report on PWD budgets, work programs and progress.

The technical assistance provided under Phase 1 of the VTSSP should slot into the management arrangements of the PWD at the national and provincial levels to manage the VTSSP Phase 1 as follows:

- National PWD: Director PWD and the PWD Senior Management team and the VTSSP TA team leader and deputy team leader
- Provincial Level: Provisional PWD senior management team and VTSSP TA led by the PWD Provisional Manager

The day to day management of the VTSSP will thus be undertaken by PWD with support from VTSSP TA team.

The VTSSP TA Team leader will report to the Director of PWD and the Transport Sector Coordinator. The reporting arrangements will be agreed upon by all three parties at the beginning of implementation.

The VTSSP Team leader has the overall responsibility for the quality and effectiveness of the TA inputs, the preparation of work programs for the TA inputs and the management of the TA team and day-to-day communications with the Managing Contractor. The TA team leader will also work with PWD to ensure that Australian inputs to the VTSSP are utilised appropriately and in line with the strategic direction and work program agreed by the GfG Management Committee.

The finance advisers will also coordinate and consult with the GfG Public Financial Management Coordinator on financial management and other related matters to ensure coherency across the program.

Transport Sector Coordinator

The Transport Sector Coordinator position is a joint resource for Australia and Vanuatu. As such, the Coordinator will provide strategic technical and policy advice on the VTSSP on behalf of both Governments. The Transport Sector Coordinator will work closely with counterparts in the Prime Minister's Office (PMO), Ministry of Infrastructure and Public Utilities (MIPU), Ministry of Finance and Economic Management (MFEM) and the AusAID GfG Program. Key areas of responsibility include:

- Supervise VTSSP implementation and the VTSSP team on behalf of the GoA and GoV;
- Provide strategic policy and technical advice to the GoV on the development and implementation of transport sector policy;
- Ensure that the VTSSP and other AusAID-funded activities in the transport sector remain aligned with GoV policy priorities as well as coordinate with other donors to ensure donor harmonisation in the transport sector;
- Assist MIPU/PWD to the technical quality of the inputs of other contractors engaged through the VTSSP to ensure the program is implemented successfully;
- Develop and maintain excellent working relationships with key stakeholders especially staff within PMO, MIPU, MFEM, other GoV agencies, AusAID and other donors active in the transport sector;
- Lead the development of Phase 2 of the VTSSP;
- Assist PWD with VTSSP awareness raising; and

- Support MIPU / PWD during the interim stage in preparation for the start of VTSSP.

Long Term Technical Assistance

The Managing Contractor selected will be responsible for supplying six long term technical advisers and will have the capacity to recruit and mobilise short term TA as required by the VTSSP. The Managing Contractor would be accountable for the performance of the TA team as a whole and for the performance of individual members.

It is essential that the long term technical assistance team has experience in small scale contracting and labour based appropriate technology (LBAT) road maintenance. It is noted, however, that it may not be possible to recruit advisers who have both LBAT and regional experience, as the use of LBAT approaches in the Pacific has been limited.

Role of Team Leader

The Team Leader (TL) will have particular responsibility for: the effectiveness of the technical assistance team, and their partnership with PWD to plan, manage and deliver on scoping contracting and delivering on the agreed physical works. The TL will report to the Director, PWD and the GfG Transport Sector Coordinator.

Short Term Technical Assistance

The TL will also work with PWD to plan and scope short term technical assistance positions – through six monthly work programs for AusAID / GfG Management Committee consideration – for contracting where flexible assistance is required. The TL will also ensure provision of these positions is timely and cost-effective.

4.2 Cross Cutting Issues

The VTSSP is required to address cross-cutting issues within the program and ensure that all activities meet the relevant requirements of both the Government of Australia and the Government of Vanuatu. More details on cross-cutting issues, including HIV/AIDS, Occupational Health and Safety, and Anti-Corruption are found at Annex D.

The VTSSP must also meet 'Child Protection' Requirements and Fraud control requirements of the Government of Australia, and it will be the responsibility of the Managing Contractor to ensure that appropriate measures are in place. None of the contractors engaged under the project will be working directly with children.

Environment

The design of each VTSSP sub-project needs to take into account any environmental concerns. While no new roads or major works are planned under VTSSP, any drainage work and road maintenance must ensure environmental damage is minimised and/or mitigated. All works should be implemented in accordance with GoV's environmental standards. During the design of each sub-project, there will be extensive community consultation to minimise environmental impact. This consultation will also ensure that potential drainage run-offs and other works would not cause any land disputes or damage to kastom land. The design will also need to take into consideration the impact

of the road on climate change as well as the potential impacts of climate change on the road (e.g. storm surge etc).

Gender

The VTSSP will support AusAID's gender equality policy outcomes.[10] The objective of the program is to strengthen the reliability and effectiveness of transport services in Vanuatu, with particular attention to affordable and reliable connectivity. This is expected to have benefits for both men and women in improving access to services and markets.

In rural communities where women play an important role in getting produce to and from markets, improved access and connectivity should result in substantial benefits as it is expected to reduce the cost and time in getting produce to rural centres. Traditionally women often spend much time travelling to and from school, markets and health centres. The increased connectivity will improve access to schools and health clinics, thereby improving the availability of education and health care and reducing the time and travel cost and travel safety (including walking along roads).

Opportunities for women to be involved in actual physical works (through community contracting etc) will depend in part on the local cultural requirements. As part of the baseline analysis, an assessment will be undertaken to identify the expected benefits, opportunities and constraints of the program for men and women (see Annex F for more detail on the baseline study). Lessons learnt from the baseline study will be incorporated in implementation plans and monitored through the impact analysis. Any negative impacts can then be dealt with by the technical advisers and PWD during program implementation.

Land

Community consultation will be vital to ensure that any issues with the land surrounding the planned projects are fully considered. The upgrading projects selected for Phase 1 were originally planned for funding by the MCC. This process included discussion of land issues, which has provided a solid platform for progressing planned works. Consultations will also look at ensuring potential conflict analysis is undertaken in regards to potential sites for road surfaces, as well as the location of drains (as water run-offs could potentially impact on gardens and houses by the road side).

AusAID is in the final stages of the design process for the Land Sector Reform Program. Therefore consideration will need to be made of potential linkages with land conflict analysis and land use planning.

[10] *Gender equality in Australia's aid program – why and how, AusAID,* 2007

5 Monitoring and Evaluation

The VTSSP is structured around a Results Framework which outlines the Goals, Purpose, and result areas for the 10-15 year implementation period of the program. Under Phase 1 of the VTSSP, there are four Result Areas. While it is expected that tangible progress will be made against each of the four result areas within Phase 1 (two years), it is likely that many of these will only be fully achieved over a much longer time frame (5-10 years).

Expected outcomes for the Phase 1 are also included. These provide a more detailed picture of what the program plans to deliver over the next two years. Performance indicators are also included to measure and assess program progress (both in the short term and in the longer term). Progress towards achieving the outcomes in the results framework will be reviewed after 1 year of implementation and evaluated at the end of the program. Refer to Annex E for more detail on the Results Framework.

Reporting on program progress will be provided by the Program Management Group to the GfG Management Committee on a six monthly basis. The reporting should cover:

- Progress of works against plan;
- Expenditure against plan;
- Training and transfer of technology (particularly effectiveness); and
- Performance of the TA
- Contribution towards the results and outcomes indicated in the Results framework for Phase 1 (Annex E).

Baseline monitoring, including of road use, economic activity, and private sector capacity will be undertaken at the beginning of Phase 1 in order to be able to assess the impact of the program. The baseline study will provide the minimum information required to assess the quality of the program implementation and measure the effective development results of VTSSP (i.e. the impact at the level of Result Area result areas, purpose and goal). The baseline study will be closely linked with the results framework. This is to ensure that the data collected can be replicated, if necessary, for ongoing program monitoring and evaluation, any mid-term review, and when the program is being assessed for the completion report and impact study. The baseline study will also identify any necessary changes to the results framework (See Annex F for more information). The Transport Sector Coordinator, based in the GfG Office, will play an important role in monitoring the performance of the program, as well as providing technical oversight of the design of Phase 2.

6 Sustainability Issues

Sustained improvements in transport services come from long term sector improvements in policy and planning, the use of appropriate and affordable technical standards and approaches, asset management and, the development of a performance oriented private sector which is willing and able to partner with the PWD in delivering road maintenance services. Such changes require long term support to build the necessary capacity of the public and private sector. Long term support is also needed to improve the approach to road asset management and planning, including the better allocation of limited resources

to ensure the network is effectively maintained and to support more reliable and cost effective services.

It is neither appropriate nor sustainable to continue supporting the transport sector in line with past approaches, where donors provided large scale project based capital investments for physical works and depended on the limited fiscal and institutional capacity of the Government of Vanuatu to manage and maintain such assets. Nor is it appropriate to work in parallel to government systems.

The planned outcomes from Phase 1 of the VTSSP are unlikely to be sustained unless work can be continued and built upon during later phases of the VTSSP. International experience has shown that using government systems and supporting sector based approaches have the greatest potential for longer term impacts.

The intended phased approach gives the Government of Vanuatu and the Government of Australia a flexible response to circumstances, allowing the program to build on what works and to be adjusted where necessary to respond to emerging challenges. The long term VTSSP supports an increasing focus on policy and sector performance, thus highlighting the necessary long term changes required to improve transport functionality. The multiple foci of improving government capacity, technical standards, the use of appropriate technical approaches, maintenance, and strengthening the role and capacity of the private sector in service provision are all key initial steps.

Integrating public expenditure management and public financial management matters is central to the proposed approach. The program will emphasise and strengthen the linkages to the central agencies (and the GfG) and, in doing so, will support a more efficient flow of government finances together with an integrated and 'whole of government' consideration of transport sector matters.

The VTSSP Phase 1 has limited sustainability when considered in isolation of the longer term approach. But when considered as part of the proposed VTSSP multi-phase approach, Phase 1 lays the foundation for longer term changes in the way that road assets are managed and maintained. This seen as essential for sustained improvements in asset management practices – both for roads and in the transport sector more generally.

7 Risks and risk management

The risks of the proposed approach are considerable, but can be managed with good quality and strategic technical assistance, commitment by the Government of Vanuatu to the proposed approach, and good quality and strategic engagement between the Government of Vanuatu and the Government of Australia. This section briefly outlines the major risks to the program. A more detailed Risk Assessment Framework, including proposed risk management strategies, is provided at Annex G.

The initial focus on maintenance is essential for long term sustainability of improvements in the transport sector. However, increased resources from Australia must not be offset by the Government of Vanuatu reducing their own expenditure on maintenance. Over time, the VTSSP should support improved budgeting and resource management so as to improve the effective level of expenditure on asset management (within Vanuatu's capacity to afford). Such discussions will be supported by the GoV – GoA engagement and the GfG, as well as the VTSSP.

The VTSSP Phase 1 proposes introducing labour based appropriate technology approaches, using the local private sector and communities to undertake work. The technical specifications of works and contracting arrangements will need to be carefully developed so that the approaches recognise the current constraints on small scale private sector and community capacity and provide the support needed to nurture the nascent private sector (including training, materials and equipment, financing arrangements and mentoring).

The quality of works will also depend on good supervision mentoring and support to community groups and small scale contractors by the PWD Provisional Offices and the TA in the provinces. Understaffing in the Provisional offices is a risk, as is the provision of inappropriate technical advisers (i.e. who lack experience in LBAT, good interpersonal skills and training capacity, and a 'hands on' approach). There was some concern within the Government of Vanuatu that LBAT produces 'sub-standard works'. The effective scoping, supervision and mentoring of the small scale contractors and community groups will therefore be essential for the credibility of the approach.

Given the large number of new donor programs being managed / implemented through PWD, the absorptive capacity of PWD to deal with significant new programs is limited. For this program to be a success, there will need to be a significant level of technical assistance and capacity building. In the long-term, the VTSSP should look at addressing the capacity constraints in PWD, including through training and scholarships.

There is also a risk of Australian funds being channelled through the Vanuatu Development Fund Account being misused. The focus of technical assistance resources for procurement and financial management is intended to help the GoV strengthen its processes to minimise this risk. Ongoing engagement and support between the GfG and MFEM, including regular PEFA assessments, also provide overarching quality assurance.

Strengthening the processes for work program approval, procurement / contracting, contract management, payment of invoices and reporting are all necessary parts of improving financial accountability. The tranched funding arrangements with top-ups following financial reports (including cash flow reports), progress reports and a formal request for additional funding based on agreed work programs will help minimise risks, as further funds will not be made available unless previous funding has been fully acquitted. This approach, while high risk is also high return, as improving government systems has the added benefit of strengthening the GoV's use of its own funding.

Supporting a substantive and long term engagement between the Government of Vanuatu and the Government of Australia in the sector, with the potential for additional resources reflecting good progress are all incentives for the Government of Vanuatu to proactively manage the risks. There will be an opportunity for AusAID to review the level of GoV commitment and progress before committing to future phases.

There is a risk that there may be lags in the implementation of the VTSSP Phase 1 due to delays in tendering and contracting as well as potential delays caused by the wet season and unforeseeable occurrences. Given that Phase 1 is a component of a long-term program, there is the possibility to roll-over Phase 1 projects into Phase 2 to ensure completion.

Republic of Vanuatu
Republique de Vanuatu

Australian Government
AusAID

Vanuatu Transport Sector Support Program (VTSSP)

Design Document (Phase 1)

Annexure

March 2009

Table of Contents

Acronyms

ADB	Asian Development Bank
ANZ	Australia New Zealand Bank
AusAID	Australian Agency for International Development
BoQ	Bill of Quantities
CBC	Community Based Contracting
CG	Community Groups
CoC	Chamber of Commerce
CoM	Council of Ministers
CSO	Community Service Organisation
CTB	Central Tenders Board
CV	Curriculum Vitae
EU	European Union
FIDIC	International Federation of Consulting Engineers
FY	Financial Year
GoA	Government of Australia
GoV	Government of Vanuatu
GPS	Global Positioning System
HDM4	Highway Development Management System
HIES	Household Income and Expenditure Survey
HIV/AIDS	Human Immuno-deficiency Virus / Acquired Immuno-Deficiency Syndrome
LBAT	Labour Based and Appropriate Technologies
LBC	Locally Based Contracting
LTC	Lakatoro Trading Centre
M&E	Monitoring and Evaluation
MC	Managing Contractor
MCC	Millennium Challenge Corporation
MFEM	Ministry of Finance and Economic Management
MIPU	Ministry of Infrastructure and Public Utilities
MoU	Memorandum of Understanding
OH&S	Occupational Health and Safety
PEFA	Public Expenditure and Financial Accountability
PFM	Public Financial Management
PM	Periodic Maintenance
PT	Public Transport
PWD	Public Works Department
RM	Routine Maintenance
SI	Spot Improvement
SSC	Small Scale Contractors
STI	Sexually Transmitted Disease
TA	Technical Assistance
TLB	Tractor Loader Backhoe
ToR	Terms of Reference
TVET	Technical and Vocational Education and Training
VBC	Vanuatu Based Contractor
VIDA	Volunteering for International Development from Australia
VIT	Vanuatu Institute of Technology
VTSSP	Vanuatu Transport Sector Support Program

Annex A: Analysis of the road sector

This annex provides more detailed information on the road transport sector as a supplement to the main report. Findings and main problems identified during field trips and discussions are presented under each of the VTSSP result areas thereby providing an important rationale for inclusion of each of the result areas in the program.

The analysis undertaken as part of the program design identified a number of areas that require more detailed investigation. Accordingly, several preliminary studies are being undertaken prior to the program's inception, which will be used to help inform the implementation approach. The preliminary studies include:

- Assessment of existing private sector capacity: This study will investigate and report on the status and preparedness of the local construction industry to participate in VTSSP Phase 1 activity. The study will include a focus on identifying small scale contractors or entrepreneurs and interested community groups and considering their views and needs in regard to commercial participation in delivery of road maintenance services, including any obstacles to participation.
- Examination of possible equipment financing arrangements: This study will examine options for the provision of equipment to community groups and small scale contractors. The study will engage with the commercial finance sector to investigate interest or possible models for expanding credit availability or equipment lease facilities to small scale contractors seeking to build their capability.
- Systems audit of PWD / MIPU: A system audit will be undertaken to assess bottlenecks in financial management procedures, proposed measures for improving timely payment to contractors, and development of guidelines for procuring and administering community contracts.
- Detailed design of road maintenance works together with PWD: Works will be designed to reflect the use of local resources and labour based technologies. The design team will work with PWD engineers to develop an understanding of the specifications of the VTSSP, especially the difference in type of maintenance works and the focus on using local resources and building private sector capacity.

RESULT AREA 1: The Government of Vanuatu's management of the road transport sector is improved

Lack of appropriate functional classification of roads

National transport facilities are of highly variable standards and capacities, ranging from low traffic volume earth roads with less than twenty vehicles a day and only suitable for 4WD, to significant major roads with higher traffic volumes (above 150 vehicles per day) and servicing significant proportions of the national population.

While use (based on traffic volume or size of population) is not the only criteria for assessing the national importance of infrastructure, the current 'national infrastructure' classification is not a particularly useful tool for prioritisation and budgeting purposes.

Under the current classification system, a range of roads with markedly different traffic volumes are classified as 'national'. In order to improve the quality of planning and prioritisation, it would be useful to add other criteria in asset management inventories (including the width of the infrastructure asset, the number of structures and the type of surfacing) as these have a major impact on type and cost of maintenance. For example, in usage terms, the roads could be reclassified as community access roads, feeder roads or primary roads. Improved categorisation would help in budget management, and would then support differentiated design standards reflecting the traffic requirements – thus formalising the different investment and recurrent funding requirements of different parts of the road network.

Poor asset management

PWD's tracking of asset condition of the national transport network – particularly roads – should be strengthened to support better planning and budgeting for works. Some provinces undertake annual condition surveys as part of the preparation of work programs and budgets for the following year. However, given that funding is well below that currently required to maintain the existing network, a strategy is needed to best use available funds, in order to keep the network at a planned level that is affordable.

Current processes do not necessarily support the best use of limited resources to attain value-for money outcomes on the network as a whole. The PWD has developed – with the assistance of the EU – a simple asset management data base, but more work is needed to link work programming and budget allocations to the desired network standard and condition.

A simple spreadsheet based asset tracking and management system could be introduced and updated at least annually. Linking such a spreadsheet to map based condition reporting can improve the transparency and accountability of budget processes and budget implementation far more efficiently than complex computerised systems based on – for example HDM4 models – that rarely have sufficient data to support accurate planning.

Strengthening the monitoring and reporting of assets, asset condition, work program implementation and budget outcomes could assist in strengthening budget preparation (e.g. making it more evidence based), as well as increasing the credibility of the PWD budget processes with the MFEM. Monitoring information (condition surveys, achievement in work progress, etc) will also provide important benchmarks for future evaluations of the sector.

Shortfall in maintenance funding

Funding for MIPU is around 12.1% of the total 2008 government budget. Of this, 34% is for administrative budget (including salaries) and 66% is for the operational budget. However, it is difficult to ascertain exactly how much of MIPU's budget is used for road works (maintenance, rehabilitation and other works). While the budget for PWD is broken down into a number of sub-headings including a specific item for road maintenance – this line item understates the actual expenditure on road maintenance works by the PWD.

Until 2007, funding for road maintenance has been less than 200 million Vatu per annum. Under the agreement with the Millennium Challenge Corporation, annual

funding for maintenance has now increased to 500 million Vatu per year. While this is a very positive step, there is still likely to be a shortfall in maintenance funding.

While much of the network is currently not in a maintainable standard, using 'back of the envelope' indicative figures per km, the annual maintenance budget for a stable network of this size (say 1800 km and assuming all roads are in maintainable condition), should be around 2 billion Vatu (A$20 million)[1]. This means that even the substantially increased annual budget of 500 million Vatu (A$6 million) are only likely to meet around 25% of actual maintenance needs (or around 500 km of roads). Assuming that foreign aid partners take the brunt of investment projects (road upgrading / rehabilitation only), the GoV would still only be able to maintain a network of about 800 km of roads – which is less than half the size of the current national road network. This underscores the importance of better planning, management and prioritisation of funding decisions.

Table A.1: Intervention Cost for Road Maintenance in Vanuatu

	Routine Maintenance	**Periodic Maintenance**	**Rehabilitation**	**Total**
Intervention Cycle	Continues	5 years	15 years	
Average cost / km	A$3,000	A$25,000	A$50,000	
Length to be maintained annually	1680	360	120	1800
Total cost ($A)	5,040,000	9,000,000	6,000,000	20,040,000
Percentage	25%	45%	30%	100%

This table clearly demonstrates that the GoV has a problem financing the required routine and periodic maintenance works of the road network, let alone the investment budget for restitution of road assets. It is therefore not a surprise to find that the state of the road network asset is varying from average to frequently poor condition.

Road maintenance and accessibility levels can potentially benefit from improved prioritisation and funding allocations for road works and a shift of efforts to preventative maintenance and accessibility. Preventive maintenance regimes on priority roads will be important to maintain assets, reduce maintenance costs, and maintain roads to transitable standards. On less trafficked roads, applying so-called accessibility maintenance (spot improvement) would maintain access but at a lesser cost. Other gains can be expected from increased levels of competition and efficiencies involving the emerging private sector using appropriate and affordable design standards.

Allocation of funds

Table A2 shows that – apart from funding being insufficient for the maintenance of the network – the correlation between the provincial distribution of funds and road length / provincial population size is not clear. Although this correlation does not necessarily have to be proportional, linkages between the allocation of budget and requirements of the network and asset management should be evidence based, and support consistent outcomes for the sector.

[1] 1 AUD = 90.4195 Vatu (ie.1 AUD = approx 100 Vatu)

Average funding (budget) available per km of road varies from 452,000 Vatu / km (Torba, 2008) to as low as 27,000 Vatu / km (Sanma, 2007). Available funding per capita varies from 2,087 Vatu / capita (Torba, 2008) to as low as 255 Vatu / km (Shefa, 2007).

Table A.2: Maintenance Budget per province per capita

Province	**Road km[1] total earth (e) / gravel (g) / sealed (s)**			**Population (2006 HIES)**	**Total Budget (line item 8CRR) Road repair and maintenance M Vatu Allocation per km (Vatu / km) Allocation per capita (Vatu / capita)**	
					2007[2]	**2008 Q1[3]**
SHEFA	324			60,800	15.5 M (48,000/km) 255 / capita	19 M (59,000/km) 313 / capita
	72e	197g	55s			
SANMA	486			37,200	13 M (227,000/km) 355 / capita	19 M (38,000/km) 511 / capita
	6e	462g	18s			
MALAMPA	347			33,200	15.1 M (44,000/km) 455 / capita	19 M (55,000/km) 572 / capita
	120e	227g	0s			
TAFEA	216			33,500	12.6 M (58,000/km) 376 / capita	19 M (88,000/km) 567 / capita
	30e	186g	0s			
PENAMA	362			31,500	10.3 M (28,000/km) 327 / capita	19 M (52,000/km) 603 / capita
	172e	190g	0s			
TORBA	42			9,100	4.6 M (110,000/km) 505 / capita	19 M (452,000/km) 2,087 / capita
	0e	42g	0s			
Total	1,776 km			205,300	71.3 Million	270 Million [4]

[1] Public Works Department: Department 2006 Road Inventory Update

[2] Does not include the MCC maintenance funds, and understates the total investment in roads by the GoV because other budget lines are also partially used to support road maintenance

[3] Arising from some uncertainty regarding the total budget and the use of the maintenance funds committed under the MCC agreement, all provinces received 19 million Vatu in the first quarter, with allocations in following quarters to be based on work programs, progress and funding availability

[4] We were advised that the funds available for actual road works would be 270 million Vatu, as out of the 500 million Vatu, Finance subtracted 130 million Vatu expended late in 2007, and another 100 million Vatu are being used for equipment purchases

Actual cost and productivity of maintenance works

PWD mainly undertakes work through force account (i.e. using PWD's own personnel and equipment to undertake works). The main operational costs covered in the costing for works are fuel costs, spare parts for equipment, labour hire costs, and minor work contracts let to communities or equipment hiring firms – but this does not include all the actual costs of delivering works. Some costs included under the administrative budget are actually needed for delivering of work, whilst others under the operational budget are in fact administrative in nature. This makes it difficult to calculate the actual expenditure on physical works, including maintenance expenditure.

The format of the work program and budgets also make it also very difficult to monitor the performance and efficiency of the force account operations. To measure productivity, resource use needs to be compared against the outputs achieved. Current costings include fuel consumption and materials, but not all resources are quantified in the plan (machine days, workers days, etc.). Work costing also does not include equipment depreciation, and so understates the true cost of works. Furthermore, the

utilisation of resources is not directly linked to measurable outputs (quantities) of work (for example, kilometre of road graded etc).

Lack of standard technical references

The standard contract used for road works is based on the FIDIC short form of contract. The document is simple, solid and presents a good starting point for any further improvements. The contract would benefit from a set of standard technical specifications for road works, itemised for each activity. This may be available, but was not provided to the team.

Key to improving the design standards is to directly link these with the road asset register and functional classification. Not all roads require the same standards – and such an approach is unaffordable where resources are constrained. Standards should reflect the actual usage of the road.

Road maintenance works are divided into routine maintenance for sealed and unsealed roads and periodic maintenance for unsealed roads. The activities under each works are straightforward. Due to the terrain conditions and high rainfall, a number of items could be added to the standard Bill of Quantities (BoQ), such as installing and repairing scour checks. Each item on the BoQ should have a proper set of specifications which facilitates supervision in the provinces and allows contractors to properly price for the works.

Field visits further showed that most attention by PWD on maintenance works is applied to improving surface riding quality (grading and re-gravelling) and visibility (grass cutting). However, given climatic conditions, both routine maintenance and periodic maintenance should put more emphasis on drainage works, such as provision of sections of line drains, constructing of additional relief culverts and outlets, soak away pits, etc.

The definition of works could benefit from another category which covers roads that are in non maintainable condition. Such works can be characterised by the need for interventions to keep the road open or ‘transitable’, by addressing those spots where the road is failing. Such ‘spot improvement’ interventions will aim to keep the road open in line with the design standard set for it, with less attention to the design speed and the surface riding quality, as these are not the binding constraint on access. This is considered most appropriate and affordable under low traffic volumes (say with less than 20 vehicles per day).

A simplified list of standard drawings could be used by PWD to meet road classification and road usage requirements. The drainage structures should be relying more on in-situ building of concrete pipe culverts. These can be manufactured locally using steel moulds. The use of corrugated iron pipes should be discouraged (with the exception for emergency works) as they corrode away rapidly in the aggressive environmental conditions in Vanuatu (i.e. high annual rainfall and sediment run off).

Lack of policy based budgeting processes

A shortfall in maintenance funding is not the only constraint on the performance of the sector. Limitations on the use of policy based budgeting – including lack of network

prioritisation, poor asset management, weak administration and technical management of works all have the potential to undermine the value-for-money received from works undertaken.

PWD operational and capacity issues

Site visits and discussions with provincial staff further indicated that the planning, design and supervision of maintenance works in the provinces is seriously constrained. Provincial staff lack the confidence to plan more complicated drainage works due to a lack of training. This is further exacerbated by many provinces having only one roads foreman per division. Supervisory arrangements are often insufficient, particularly in provinces with larger and more geographically spread networks. Even where it is recognised that more staff resources are needed, vacancies are often not filled. The shortage of supervisory staff represents an even greater challenge when road maintenance works are contracted out to small scale contractors.

Systems for planning, managing and monitoring work programs, including achieved productivity rates, are weak and there is a lack of standard technical drawings – such as for culverts and other drainage structures, and work specifications in the provincial offices. This can undermine the quality of works. A further lack of appropriate equipment – such as plate compactors, pedestrian rollers and steel moulds for producing pipe culverts – is also restricting the inclusion of important structures in works.

Value-for-money outcomes of physical works not audited

MIPU / PWD do not have clear procedures defined for internal performance audit. Such procedures are important to monitor sector performance on a systematic basis to verify whether projects were delivered efficiently and according to plan, within budget and in line with the specified technical standards. It also evaluates whether projects have effectively contributed to the policy or development objectives of the sector (i.e. whether the right solutions were selected in the first place).

Audits of physical works – the cost of works, and the outcomes achieved - can be very important in improving the quality of planning and management of works. Such audits may show for example, that PWD should increase the attention on drainage, or make changes in the way that work is programmed, machinery is maintained, or work is contracted out.

Quality assurance audits can also be very important in assessing the relative costs and merits of various modes of program delivery (i.e. using force account operations, local contracting or international contracting). Such quality assurance audits provide important feedback to the project managers at head quarters and in the provinces, and channel information to senior management in the Ministry to monitor how the institution meets up with its planned objectives.

RESULT AREA 2: The quality of public financial management in the transport sector is improved

Overview of general issues related to financial management

Currently, donor support is being provided to the Ministry of Finance and Economic Management (MFEM) to improve financial management and budgeting. This work is being extended to improve financial management systems in line agencies and at provincial headquarters. Assistance to MIPU and PWD to improve financial management must be linked to this work, and operate in a manner that is fully consistent and coordinated.

GoV systems have been reviewed, including through PEFA assessments, and Australia currently uses government systems to support aid programs through the GoV's Development Account Fund. The Development Account Fund mechanism provides donors an opportunity to use government systems but in a manner that provides the donors the level of separate tracking and accountability for the use of resources. The Development Account Fund does not require the 'pooling' of donor funds – but allows for the clear and separate accounting for funds use. There has been considerable (and current) work with the central agencies, particularly the Ministry of Finance and Economic Management (MFEM), to improve financial management and budgeting. However, assessments have shown that financial management in line agencies and at the provincial levels remain much weaker than in the central agencies.

RESULT AREA 3: The role of the competitive private sector and communities in providing road maintenance services is increased.

Most of the major road maintenance works are currently carried out by government run maintenance units which are sometimes referred to as force account units (i.e. maintenance teams that work under the direct administration of MIPU / PWD, using PWD equipment and labour). Force account operations in Vanuatu are capital intensive, and operations have a large proportion of hidden cost and rely heavily on imported resources (machinery, fuel, parts and know-how). Monitoring and supervision is weak, providing little incentive to improve efficiencies in production. On a more positive note, they do provide a rapid response in cases of emergencies.

In most countries, force account operations have gradually been replaced by an emerging private sector, recognising that the private sector responds more effectively to the market for public service delivery. VTSSP aims to promote the involvement of the private sector in road works through supporting the local small scale contracting industry in Vanuatu. However, building a viable private contracting industry will be a long term endeavour.

Doing business in Vanuatu

Vanuatu was ranked 60 out of 181 countries in the World Bank's Doing Business 2009 assessment (Doing Business Project, World Bank Group). Vanuatu scores relatively weak on issues like registering property, starting businesses and cross border trading. It is particularly strong on tax payments (very low) and licensing.

The Vanuatu – A Private Sector Assessment (Issues, Challenges and Policy Options ADB May 2003) identified primary reasons for the failure of the private sector to develop more rapidly in Vanuatu. Some of the issues raised relate directly to the provision infrastructure services. For example: '*a key issue for infrastructure lies in understanding how the technique relates to the cost and the regulatory structure of the country. Typically, smaller scale technologies permit more diffused supply, which tends to favour competitive supply. If the government cannot regulate it, then a few hundred competing smaller providers… may produce a more efficient result even if the underlying cost of production is higher'.*

The report discusses at length options to improve the situation and makes several suggestions regarding how "*competition could be increased in the utilities sector."* In addition, it makes suggestions for *"increasing local participation in the building and maintenance of physical infrastructure*". According to the report, the framework for providing credit is also "*patently inadequate with the impact falling especially on ni-Vanuatu outside Port Vila. Although several local business people complained about high interest rates, our view is that access is a far more pressing problem and is hindering the development of rural areas".*

Potential role for private sector and community service delivery in transport sector

The role of the private sector in road maintenance is currently limited to the delivery of larger scale road works and plant hire. Most maintenance works at provincial level are carried out by PWD through force account operations. Although some smaller maintenance works are contracted to community groups - in particular grass cutting - there is a potential for the private sector to play a much larger role.

For example, in PENAMA province, the PWD Provincial Division is responsible for road works on the three islands of Pentecost (160 km), Maewo (46 km) and Ambae (157 km) with effectively one set of equipment (much of which is often not functioning and awaiting parts). The PWD manage this problem by mobilising the equipment to an island for a year (and undertaking as much work as possible) before transferring the equipment to another island by barge.

While this approach makes sense, it highlights the problems of a single unit being responsible for covering maintenance work on a number of islands. If there was a small scale contracting industry based on each of these islands, they could be contracted to undertake routine maintenance which does not rely on heavy machinery. This could be complemented periodically by PWD force account operations for large scale periodic maintenance, such as grading and re-gravelling operations.

Bringing in more established national contractors or international firms to the small islands for small-scale maintenance is also not cost effective, due to high mobilisation costs (unless they are contracted to undertake major works or projects of a complex technical nature). Even where major contractors are mobilised for large scale works – local (province based) capacity – both private and public – is still needed for a sustained delivery of routine maintenance, periodic maintenance and emergency works.

In SHEFA and SANMA provinces, some works are contracted out to the private sector, but in the past there have reportedly been problems with contract supervision and the

quality and cost effectiveness of outcomes. In smaller islands, there may be a monopoly supply situation driving up prices. For example, on Malekula, there is a single firm hiring equipment to the PWD, charging hourly fees of well over A$100 (9,800 Vatu) for a tipper truck. These costs appear to be well in excess of what might be expected if there was competition. Increasing the role of the private sector and communities in infrastructure delivery is therefore essential to improve the timeliness, efficiency and cost effectiveness of work. However, a simple shift to private sector provision of road maintenance services will not bring immediate results because of the limited capacity of available firms to respond to work opportunities in the short term.

The development of private sector capacity is a slow process which may require years of mentorship and support. It is essential that small scale contractors have an appropriate entry point to the market (i.e. simple low value maintenance contracts), ensuring a steady workload allowing them to mature over time, whilst at the same time the PWD force account operations are kept operational for more capital intensive periodic maintenance work.

Existing private sector capacity in the construction sector

A list obtained from PWD demonstrates that there are some 15 medium scale building and civil works contractors that regularly get involved in road maintenance works. Contractor registration in Vanuatu is flexible in the sense that building, civil works and road contractors can move across the board without requirements for additional licensing. No thresholds are defined for participation in tenders, which means that in principle, once registered, any contractor can participate in a tender no matter the volume of work (unless of course the client specifies a minimum required experience in the tender data sheet).

The visits to the islands and the discussion with provincial PWD staff indicated that there are many small scale building contractors on the islands. Some may be registered, while others are running their business informally. Many of them are single person businesses. Additional skilled and casual labourers are contracted as and when required. These businesses have the potential to be transformed into formal petty (labour only) or small scale contractors and compete for road maintenance works.

Payment procedures and access to finance

To minimise cash flow problems and subsequent delays in contract implementation, private contractors need to be paid in a timely manner and have access to credit for initial start up of the works.

Establishment of efficient and timely payment systems is critical to successfully involving the private sector in road maintenance works. Community and private sector contractors are paid by cheque for their work, so the availability of reliable banking services is an important pre-condition. It was noted that all provinces where road works are planned have branches of the Bank of Vanuatu at the provincial capitals.

Access to finance for small business is considered a prerequisite for any successful capacity building program. The existence of appropriate credit schemes for small and medium enterprise in Vanuatu is not very clear. Reportedly, the banking system does have some level of confidence in the building sector with respect to granting loans and guarantees. Conditions for loans are likely to be linked to the size of the business and

the provision of collateral. However, limited small-scale credit facilities seem to be available for starting or emerging business. The Vanuatu National Provident Fund is also currently studying setting up a small to medium scale credit scheme.

Another effective way of providing credit to contractors is through advance payment arrangements. This is commonly practiced by MIPU/PWD. Options for modest advance payments should also be adopted in VTSSP to facilitate initial start up of the works.

Access to appropriate equipment

Except for the medium scale contractors in Efate and Santo, most other small contractors do not have easy access to appropriate equipment hiring facilities. Hiring opportunities on the islands exist, but prices are excessive and most equipment (bull dozers, large tipper trucks, loaders and motor graders) is not appropriate for the nature of road maintenance works. While PWD is allowed to hire out equipment as a basis for revenue collection, their equipment is also of a scale which is beyond the requirement for a small scale contractor. For small scale contractors using LBAT approaches, there is a real need for intermediate equipment, typically defined as:

- Pedestrian rollers / plate compactors for compacting foundations and formation works over short sections;
- Fuel generated concrete mixers, water pumps and compressors / jack hammers for structural works under wet conditions; and
- Tractor based versatile equipment such as 4x4 tractors, trailers with removable loading bays, water carts and towed graders for haulage and light grading under remote and difficult conditions.

Community groups engaged in road maintenance works are not currently supplied with hand tools under the contract arrangements, however labour based works could be significantly more competitive if good hand tools were supplied to the workers. Production rates for simple activities like grass cutting and excavation can be doubled if little money and time is invested in finding good quality hand tools. Such tools are readily available in common hardware stores on Santo and Efate, but more difficult to obtain on the other islands.

Training opportunities

Although general skills levels in the building sector in Vanuatu are reportedly of a good level - it is easy to find a skilled labour force that has emerged from one of the many artisan and vocational training centres in Vanuatu - the existence of training institutions that can deliver specific training on road maintenance remains important.

The main technical training centre is the Vanuatu Institute of Technology (VIT). VIT runs certificate courses (2 years) in the areas of:

- Tourism and hospitality
- Automotive engineering
- Welding / plumbing
- Building and construction (masonry, carpentry, electrical, etc.)

- Information technology
- Business management and accounting
- Language courses (French / English)

VIT also runs tailor made course for a variety of clients. The educational facilities of VIT are most impressive. Over 600 students can be accommodated at any time. The school has a restaurant, library, information centre, sporting facilities, lecture / seminar rooms and all modern training equipment available to some 80 teachers. VIT has received long term support (1997 – 2008) from the AusAID funded VIT Strengthening Program (Phase 1 & 2) and through one component of the TVET Sector Strengthening Program (Phase 1, 2005 -2007). This has included rehabilitation of the centres facilities, human resource development, purchase of equipment and material and curricula development, amongst others. According to one of the TVET advisers VIT now has all the means available, it is now a matter of delivering 'competency based training' aimed at the 'job market' in Vanuatu. This would require a more market and commercial oriented approach to training.

Phase 2 of TVET Sector Strengthening Program will continue to strengthen training capacity in Vanuatu, but will not be specifically linked to VIT. This fits well with the VTSSP objective of training small scale contractors in the road sector. With some technical support, VIT would be able to deliver tailor made courses for small to medium enterprises. VIT can run courses in Port Vila (Efate) or transport its teachers to the other islands. VIT is also in the process of opening up more training facilities on the islands (pending budget allocation from GoV).

The Chamber of Commerce also runs a number of short training courses for businesses. All contractors who are registered automatically become members of the Chamber of Commerce (CoC). The CoC provides information to entrepreneurs on starting up a business in Vanuatu and also runs a series of training courses in the areas of business management, financial management and basic computer skills. From the short review undertaken by the team with the CoC and a civil work contractor, the following can be concluded:

- Financial institutions (ANZ, National Bank, Westpac, BRED) do assist contractors with the provisions of guarantees and credits, provided sufficient collateral is provided;
- Insurance companies are available for provision of securities and bonds should this be required by the contract;
- Payment on contracts with the Government of Vanuatu are generally processed within 30 days from invoicing; and
- Opportunities for hiring equipment do exist, but prices are high (monopolised).

RESULT AREA 4: Sustained improvements in road transport access are supported using labour based appropriate technologies which generate local employment.

Most maintenance works at provincial level are carried out by PWD through force account operations using heavy machinery (as outlined under Result Area 1). Key constraints in this approach are low productivity rates (and therefore costly works), the missed opportunity for local employment generation and the expensive mobilisation of equipment to the work sites.

Although some smaller maintenance works are contracted to community groups - in particular grass cutting - there is a very small role played by the private sector (see also the discussion under Result Area 3).

Considering the high unemployed rates, the large rural labour force, and the relatively low minimum daily wage rates, the use of Labour Based Appropriate Technologies through a small scale private sector is considered a viable strategy.

Annex B: Detailed Description of Result Areas

Program description: Phase 1

Introduction

Phase 1 of the VTSSP will have four result areas each subdivided into specific outcomes. This section provides a detailed description of the programme support and expected outcomes under each of the four result areas. The (sub) paragraphs in this section correspond to the main results of the program and the program outcomes following the results framework of VTSSP as described in section 3.10 of the design document (and provided at Annex E).

Result Areas 1 and 2 will provide institutional support to MIPU / PWD to improve overall technical and financial management in the transport sector, including areas such as asset management, budgeting, planning, procurement and monitoring as a basis for longer term strengthening of government systems. Result Areas 3 and 4 will provide support to selected provinces to strengthen the role and capacity of the small scale contracting industry and communities in the provision of road maintenance works, and provide funding for the actual improvement of road maintenance works.

Result 1: The Government of Vanuatu's management of the road transport sector is improved

Outcome 1.1: Road network maintenance is based on the principles of asset conservation and accessibility

VTSSP will support the implementation of a study on the functional reclassification of roads within the concept of a 'whole system' approach of planning land, aviation and maritime transport. The aims of this exercise are to classify roads into different categories, for instance national roads and community access roads, and to develop an up-to-date road asset register (based on the functional road classification) which can be used as the basis to improve the allocation of limited budget resources to maintain the road network. The reclassification exercise will need to take account of the draft Roads Act legislation, which is currently being considered by the Government of Vanuatu and is expected to be enacted by mid-2009.

For each category of roads, a set of design standards and levels of accessibility will be defined. Based a clearly defined road network and updated inventory and condition survey, a maintenance plan and budget can also be developed. MIPU needs to ensure that maintenance works are planned and implemented so as to preserve the investments and reduce total life-cycle costs of rehabilitation, maintenance and operation of the infrastructure. This principle of asset preservation strives to prevent the disproportionately high costs of neglected maintenance to society.

Within the specific context of road maintenance management, this requires:

- Maintenance to be prioritised ahead of new investment activities;
- The highest priority being given to effective routine maintenance;

- Periodic maintenance to be programmed, budgeted and implemented so that roads do not fail before their expected design life; and
- Rehabilitation or upgrading of roads should only be undertaken when future maintenance can be assured.

VTSSP will support MIPU / PWD to prepare coherent and balanced maintenance plans that prioritise asset preservation and further incorporate "transitability" as a guiding principle. Provincial level annual maintenance programs also need to be based on these underlying principles. This will require regular and systematic monitoring of plan and budget preparation from MIPU. Planning, budgeting, and funding commitment discipline will also be required at all levels.

Planning, prioritisation and budgeting at provincial level will follow the general principle as outlined above. Technical assistance will be used to support the PWD in preparing coherent and output based budget and work plans. Whether works are carried out by force account or through the private sector, work plans / budgets need to specify the exact location of the works (by chainage), the total length of the road to benefit, the scope of works (routine maintenance, periodic maintenance or spot improvement), the estimated cost and the expected duration of the project. Such information allows senior management to analyse the work plan and verify whether planned interventions are in line with the sector policies on a road by road basis, and whether estimated cost are proportional to the expected work load.

Outcome 1.2: Road works are based on locally appropriate design standards and technical specifications for road works

The development of appropriate local technical standards for road works is essential for a small country like Vanuatu. On too many occasions, engineering firms have introduced 'foreign' standards into the design process, leaving the country with over-designed infrastructure and maintenance requirements that the country can ill afford. VTSSP will support MIPU in the development of design guidelines which are contextualised to the practical realities prevailing in Vanuatu. Designs must be builder friendly, taking into account the equipment, materials and skill levels that are available in the country.

Given the limited availability of resources for both maintenance and for road rehabilitation / upgrade and the very low traffic volumes, it is essential that the design of investment projects strive for the most efficient and economical solutions. This entails careful scrutiny of the technical, economic and social requirements, so as to minimise life-cycle costs and maximise the impact of scarce resources.

One area of particular concern is in the geometric design of roads. Vanuatu cannot afford to design and construct roads that provide higher levels of service than the bare minimum required for the conditions. Where traffic is very low (i.e. normally less than 20 vehicles per day with few heavy vehicles), existing earth tracks should prevail, rather than providing expensive upgrades to improve surface riding quality. Where traffic volume or maintenance considerations demand the use of formation and gravel surfaces, road widths should be kept to a minimum, consistent with traffic and environmental conditions.

Drainage and erosion protection must be a major aspect of all future road improvement projects on Vanuatu, due to the high annual rainfall (often more than 3000 mm), mountainous terrain and aggressive run off conditions. Erosion causes significant maintenance problems, and could be reduced through proper design and planning of the drainage system. Most roads currently lack of adequate drainage structures.

Simple procedures need to be developed for hydraulic design of river crossings, including look-up tables for identifying the most appropriate structures (culverts, low level crossing, low level pipe crossing, bridges etc).

Locating and mapping suitable construction materials is an important aspect of designing road projects. Coronus (i.e. coral based) materials are widely available in Vanuatu, but not all of these deposits are suitable as road surfacing material or for concrete.

The real cost of not having access to a full inventory of available road materials is high. The absence of sound material investigation can contribute significantly to the high cost of maintenance projects. The high risk of transportation cost and contract delays can also greatly impact on overall pricing by bidders. VTSSP will support MIPU with the preparation of an updated inventory of road building materials whilst at the same time promoting empirical research using alternative road building materials in trial projects.

Outcome 1.3: Annual output based work plans and budgets are developed which are increasingly evidence based and incorporate asset management requirements

Phase 1 of VTSSP will advocate policy and output based budgeting around the principles of asset preservation, “serviceability” and “transitability”. Budgets allocated for road works are generally linked to outputs (i.e. kilometre of roads maintained or kept open to year round access), however, budgets should also be linked to specific transport sector performance indicators, such as:

- % of roads in good and fair condition;
- Number of daily vehicle trips; and
- Number of impassable days on the road network.

The use of multi-year maintenance planning, programming and budgets, and the use of multi-annual maintenance contracts will also be promoted within a longer time horizon. Due to budgetary constraints, some difficult choices need to be made to determine which roads should benefit from recurrent maintenance funding. VTSSP will support MIPU with the functional classification of the roads to assist with this process.

Not all roads in Vanuatu can be kept in a maintainable condition. Based on their functional classification, roads are managed around the principles of serviceability and transitability. The concept of ‘serviceability’ aims to reduce vehicle operating cost and follows traditional engineering practises, whereas ‘transitability’ aims to keep roads open for most of the year. The latter is especially relevant for a road that is the only source of accessibility for otherwise isolated populations.

This concept allows for situations where different roads deliver varying levels of service, and even accepts that certain sections may be poor (high roughness, low travel speeds) if they are at least kept passable. Reports produced in the transport sector should not

only present the physical and financial progress under the maintenance work contracts, but also quantify the achievements under the main performance indicators in the transport sector. Such results should be presented to Government and Civil Society.

Outcome 1.4: Improved monitoring and reporting of road works against implementation plan, design standards and budget

PWD will be supported to undertake routine monitoring of physical and financial progress of works against work plans and budgets. Budgets spent in the transport sector should be linked to sector policy (performance) indicators to evaluate effectiveness of public expenditure. Productivity of the force account operations can also be evaluated and compared to other approaches.

Internal auditing and quality control systems are also important to signal problems early on in the project cycle. VTSSP will improve the quality control practices within MIPU / PWD in order to:

- Ensure the consistency of provincial road maintenance plans in line with the sector objectives;
- Verify the conformity of the annual procurement plan and carry out spot checks on individual procurement files;
- Verify whether standard procedures, documents and specifications are used correctly;
- Verify the 'value for money' of ongoing or completed projects based on spot checks.

The internal audit will monitor and evaluate management of the organisation on a routine basis and provide important feedback to senior management. This is expected to contribute to institutional learning and development.

Result 2: The quality of Public Financial Management (PFM) in the transport sector is improved

Outcome 2.1: Financial management skills of MIPU / PWD staff are strengthened

The program will provide relevant training and mentoring to help strengthen the financial management skills of MIPU / PWD staff. This will include training in areas such as: output based budgeting and work planning, financial controls, contracting and procurement. Technical advisers will be located within PWD in each of the three provinces and will work closely with and mentor counterparts to supervise the implementation of the program of works, and strengthen associated systems and procedures. Some training may potentially be sourced through VIT or Rural Training Centres. Depending on the provinces allocated for TVET Phase 2, the TVET centres could also help identify adequate training providers.

Where necessary, the PWD Provincial Offices will also be supported with standard office equipment (computers, printers and copiers) and surveying tools (GPS, digital camera, etc), to strengthen communication channels between field, PWD Provincial Divisions and the Head office.

Outcome 2.2: Improved financial management systems and procedures

This outcome complements the work done under Result Area one, which includes strengthening planning, budgeting, monitoring and reporting of work plan implementation.

Improving the quality of financial management and public administration within the PWD is a priority for the VTSSP in order to support better public financial management and value-for-money outcomes for Vanuatu in the use of government resources in the sector. Effective financial and administration systems are essential for budget implementation and the effective, accountable and transparent use of government (and donor) funds. The VTSSP will use GoV systems, and channel funds for agreed work programs contracts through the GoV Development Account Fund. The GoV will manage, monitor and report on the use of funds, as required under the GoV Public Financial Management Act, and the financial regulations of the Republic of Vanuatu.

The GoV will provide AusAID with agreed reporting (as required to meet Australian financial management and accountability requirements). This may require, for example, for the Senior Finance and Procurement TA to co-sign on the quarterly financial reports of funds and request for top up to meet the requirements of the work program.

The Finance and Procurement TA (national and provincial) provided under the VTSSP will support the PWD to budget, monitor and report on the use of donor funds. The TA or contractors will also provide training to PWD staff, private sector contractors and community groups on contract management invoice preparation and invoice processing in order to ensure effective expenditure, invoicing and payments, financial reporting and requests for additional funds.

The Finance and Procurement TA will also support the strengthening of PWD/MIPU financial management systems (beyond management of VTSSP resources).

Outcome 2.3: Improved procurement and contracting documentation conducive to private sector development

To encourage community groups and small scale contractors to engage in road maintenance works, simple but appropriate procurement and contracting procedures need to be developed that share the risk between client and contractors. MIPU currently uses the FIDIC Short Form of Contract for major works and a simple two page Small Works Agreement for community implemented (minor) works. These contracts documents are a good starting point, but particular issues need to be reviewed, and if necessary, reformulated in line with the scope of works, such as:

- Use of labour based appropriate technologies;
- Contractual obligation to employ members of local communities;
- Fair and safe working conditions and equal employment opportunities for men and women;
- Minimum wage payment;
- Tender securities and performance bonds;
- Required staffing and equipment schedules;

- Required work experience; and
- Arrangement for advance payments and retentions.

VTSSP, through a consultant, will assist MIPU / PWD, to review existing procedures and develop appropriate contracting documents in line with the Contracting Tender Act. The review of contract documents should pay special attention to the many innovative maintenance contract forms already tested in other countries, and the special requirements for awarding multi-year contracts.

Routine maintenance contracts should have a significant contract period (e.g. at least 12 months) to give the contractor continuity of work and sufficient time to make a difference on the road. The specifications and conditions of contract for maintenance contracts will be reviewed and updated in line with the objective of involving small scale contractors in road works. Well defined specifications are essential to achieve good work outcomes and allow effective supervision.

Once private contracting is on board, the number of procurement processes and contract documents will increase significantly. Efficient approval procedures need to be established to avoid multiple required approvals. The preparation of annual procurement plans for the procurement entities (in this case PWD) is an effective means of introducing a 'one stop' approval procedure into the system. Once the annual procurement plan and budget is approved by the nominated body, PWD can initiate the individual tender process.

Outcome 2.4: Improved transparency and accountability in contracting processes to government and civil society

Transparent and accountable procurement and contracting is central to improving value-for-money outcomes in the use of government and donor funds. The Finance and Procurement TA will work with MIPU / PWD staff to strengthen procurement and contracting processes, as well as the transparency and accountability of contracting. At the provincial level, basic information about all contracts, the scope of works, timing and contract value should be publicly and readily available. Possible arrangements include notice boards at the PWD Provincial Offices and at Provincial Administration offices. At central level progress achieved in the transport sector should be communicated to central government and civil society.

Improved liaison between PWD and provincial stakeholders will also be critical to the successful implementation of the road maintenance program. Provincial government, representations of line ministries (such as agriculture, education and health), road users and local communities are all more aware of the problems and issues affecting the transport sector on the ground. Their input and support are vital to the success of any locally implemented program, including road improvements.

VTSSP will promote the involvement of the local communities during prioritisation, planning and design of the works, either directly through community consultations or indirectly through their representatives (i.e. elected provincial councillors, chiefs). The PWD is responsible for the supervision of all works implemented in the provinces, including road maintenance. VTSSP will promote to bring good 'hands on' engineering judgment into the maintenance system. This will require capable provincial maintenance

engineers, which in turn will require active training and mentorship by the technical advisers.

Result 3: The role of the competitive private sector and communities in providing road maintenance services is increased

Outcome 3.1: Community groups and small scale contractors have the necessary skills, training and support to engage in maintenance works

MIPU / PWD has very little experience in contracting out road maintenance works to emerging small contractors, although the involvement of community groups has been a long standing tradition in Vanuatu for minor maintenance works such as grass cutting. Development of the local private sector is expected to contribute to local employment creation, create long term capacity for sustained road maintenance, and reduce reliance on external labour and resources. However, the development of the local contracting industry will require long term efforts to build up the capacity and pool of small scale contractors and to create an enabling business environment.

Under Phase 1 of the program, it is anticipated that a total 15 community groups (5 in each province) will be trained for routine maintenance contracts and that an additional 9 local contractors (3 in each province) will pass the training course and register their businesses and become eligible for carrying out road maintenance contracts.

Small-Scale Contractors

As mentioned previously, contractors will benefit from various training courses related to road maintenance, business management and equipment maintenance through formal courses and on-site mentorship support by PWD and TA (Labour Based Field Trainers).

VTSSP aims to develop small scale contractors in road maintenance in the three targeted provinces, and possibly on a wider scale in later phases of the program. There is a need to build private sector capacity in the provinces outside Efate and Santo, in order to avoid expensive mobilisation costs to the outer islands for relatively straight forward maintenance works. The development of small scale contractors within VTSSP is designed so as to follow a phased approach to select the most qualified and motivated candidates in each of the three targeted provinces.

The proposed selection process is as follows:

- Expression of interest to participate in the VTSSP capacity building program (open to existing road contractors, civil work contractors and other individuals such as for example ex-foreman retired from PWD);
- Submission of application forms, screening and selection of potential candidates in each province;
- Initial classroom training on road maintenance and contracting and subsequent participation in small trial contracts;
- Evaluation and preliminary selection of contractors;
- Participation in first round of maintenance works in a protective environment (competition is simulated);

- Evaluation of contractors performance and final selection;
- Support to contractor registration / business licensing requirements, if necessary;
- Participation in full competitive tenders for subsequent road maintenance contracts with ongoing monitoring of contractors performance.

Only after final selection of the contractors will access to appropriate equipment and tools be facilitated by VTSSP, as well as the provision of continued technical and managerial skills training and job opportunities in road maintenance.

Most civil works contractors in the provinces are one-person companies with limited financial capacity, resulting in a very basic modus operandi and little capacity for expansion. They require some form of financial assistance, to meet the collateral requirements for tendering, to provide credit lines and bank guarantees, and for working capital. One simple means of addressing the cash-flow problem is to ensure that invoices are paid promptly within 30 calendar days and ensuring a modest (up to 20%) advance payment on contract signature to facilitate mobilisation, purchase of tools and light equipment.

Requirements for guarantees and performance bonds should be relaxed where the risks of the works allow this. Joint ventures and other partnerships such as subcontracting between large-experienced and small-inexperienced contractors will also be encouraged for larger periodic maintenance contracts. The small contractor would work with the established contractor on the major intervention, gaining valuable experience.

Community Groups

The involvement of community groups in road maintenance is common practice in Vanuatu. This has already proved to be an efficient and cost effective means of carrying out simple road maintenance activities such as grass cutting and cleaning road drainage. Involving the communities in road maintenance has also facilitated negotiations with landowners to allow opening of outlets for drainage. Even so, the involvement of community groups needs to be facilitated by appropriate contract documentation, fair and transparent conditions of work, timely payment of wages and proper supervision and quality control. Furthermore, appropriate hand tools and protective clothing need to be available to the workers to enhance their productivity. All of these aspects need improvement to be able to rely on this concept in a business oriented way with higher levels of professionalism.

VTSSP will support the provincial department of PWD to further strengthen their relationship with local communities through:

- Contracting out road maintenance works to community groups using improved procedures;
- Training of work leaders (supervisors) in maintenance activities and the use of task rates;
- Awareness raising on occupational health and safety;
- Proposing sustainable arrangements for purchase and replacement of hand tools and protective clothing.

Community groups or members that have demonstrated to be successful in road maintenance work may also want to scale up and participate in the contractor development program. By doing this, they may eventually register as a local small scale contractor and take on higher value contracts.

Outcome 3.2: Community groups and small scale contractors are equipped with the appropriate tools and equipment to deliver maintenance works

A successful program which aims to develop small scale contractors and community groups for road maintenance works will foremost need to address the issue of having access to appropriate tools and equipment. While communities can rely on hand tools for minor maintenance works, more sophisticated works for spot improvement and periodic maintenance depend on the availability of appropriate road building equipment to achieve desired standards of work. This is a prerequisite for a successful program i.e. to demonstrate that the local construction industry can be responsive to a demand for providing road maintenance services.

The availability of road building equipment in Vanuatu on the hire market is limited and monopolised. Prices charged are excessive and most equipment available is not appropriate for the scale and nature of the maintenance works. Bringing equipment in from outside is also expensive due to high mobilisation costs.

Furthermore, most communities and contractors do not have the financial means to purchase tools and equipment upfront, and the financial institutions in Vanuatu are unlikely to lend money to emerging and small scale contractors.

Developing appropriate funding arrangements for equipment is challenging task, requiring a delicate balance between setting acceptable levels of risks involved and achieving minimum levels of operations. Risks associated with supplying equipment to the contractors (many of them businesses without any track record) should be accompanied by appropriate measures in case of contract default.

Various arrangements for financing equipment can be set up within VTSSP; some of which have been tested with various degrees of success in other countries:

- Increasing advance payment to the contractors for them to purchase equipment upfront (generally acceptable up to 20% of the contract value which in some cases may not be sufficient to become fully operational);
- Lease arrangement through existing equipment suppliers (not a likely option in Vanuatu);
- Hire-purchase arrangements through financial institutions (if acceptable, this often comes with excessive administrative cost due to the size of the contracts and remoteness of the work sites);
- Hiring arrangements through the provincial PWD (could potentially be explored as current legislation does allow government departments to capitalise on their assets);

- The development of private plant hire companies (requires strong price regulation in order to avoid monopolistic behaviour).

VTSSP will look into various options to make equipment available to contractors, as well as sustainable arrangements for the provision of maintenance services and spare parts. A more in-depth assessment will be carried out during the interim phase to:

- Assess the existing capacity of the local construction industry, in particular the civil works contractors;
- Assess the availability of appropriate equipment on the domestic and regional market;
- Explore the aforementioned options for financing equipment;
- Propose final arrangements appropriate to the program.

For small routine maintenance contracts, initial investment for the purchase of tools would be limited to less than 5% of the contract value. This can be facilitated through an advance payment.

A standard set of equipment and tools needed to start spot improvement works is estimated at approximately A$35,000. This would represent something much more than 20% of the expected contract value.

The required equipment for a periodic maintenance contract should not be a constraint as these contracts are tendered at national level to established road contractors. They are already well equipped, and if required, have the financial means to acquire additional equipment upfront.

One can therefore conclude that the most critical and risky arrangements for equipment financing would be for the locally based small scale contracts (spot improvement works). These contractors are no more than single person companies with little track record. The private sector capacity study should therefore especially focus on submitting recommendations for equipment financing for this level of contracts. It is further important to mention that only after final selection of contractors will equipment financing arrangements be set up within the VTSSP program to avoid the risk of assigning equipment to early drop outs.

Outcome 3.4 Community groups (CGs) and small scale contractors (SSCs) are working in an enabling contract environment and paid in timely manner

Developing a viable private sector for the provision of small-scale maintenance works will require many years of nurturing and support. There are many challenges facing small-scale contractors which need to be addressed. Foremost, emerging contractors need to be presented with long term job perspectives and have access to working capital to start up their business. At Provincial level, other issues which need to be addressed in order to create an enabling environment for small scale contractors include:

- Timely payment of invoices;
- Options to hire (light) equipment;
- Basic maintenance and service support for equipment;

- Technical and managerial training;
- On-site on-the-job training and mentorship support.

Emerging and inexperienced contractors need to be supervised and supported through permanent site supervision. To facilitate timely payment, inspections need to be planned each month to jointly measure the works with the contractors, and to prepare the monthly invoice and work certificates. Contractors' invoices also need to be paid on time (ie. within a period of 30 calendar days). Some items of equipment are not frequently used for small scale maintenance works, such as compaction equipment, moulds for production of concrete culvert rings, compressors, etc. Such equipment needs to be made available to private contractors through appropriate hiring arrangements (Outcome 3.2)

All works foreseen under VTSSP will be implemented by Vanuatu national contractors and community groups. The contracting methodology will consist of 3 different target groups depending on the scope and complexity of works:

- Community Based contracting (CBC)
- Locally Based Contracting (LBC)
- Vanuatu-wide based contracting (VBC)

Community Based Contracting will be applicable for routine maintenance works and will be awarded to community groups living along the road. The contracts will be small in value (< Vatu 500,000), and work within the customary boundaries will be directly awarded to the respective community.

Locally Based Contracting approaches will be adopted for routine maintenance and spot improvement works and will be open to Civil Works, Building or Road Contractors from the province through an expression of interest. Other interested business people or individuals may also participate, i.e. ex foreman from PWD but now retired. Contractors under community based contracting and locally based training will receive training and technical on-site support. The program will also facilitate access to appropriate equipment and tools through financing arrangements.

More details about the proposed contracting and procurement methodology are presented in table B.1. Thresholds presented in table are taken from the Guidelines for the Procurement of Goods and Services, Ministry of Finance and Economic Management, GoV.

Table B.1: Details of contracting methodology and procurement methods by contract value

Contracting methodology	Type of works	Procurement method	Target group	Contract Value (Vatu)	Contract size (km)	Approval
Community Based Contracting (CBC)	Routine Maintenance	Direct Award	Community groups living along the road within the customary boundaries	< 500,000	< 5 km	PWD Division Manager
Limited Locally Based Contracting (LBC)	Routine Maintenance Spot Improvement	Provincial Procurement 3 quotations	Civil works, building or road contractors from the province	< 5,000,000	< 20 km< 5 km	Director of MIPU / PWD
Locally Based Contracting (LBC)	Spot Improvement	Provincial Procurement Open tender	Civil works, building or road contractors from the province or nearby islands	> 5,000,000	< 10 km	Central Tenders Board (CTB)Council of Ministers (CoM)
Vanuatu wide contracting (VBC)	Spot Improvement Periodic Maintenance	National Procurement Open tender	Road contractors registered in Vanuatu	> 5,000,000	No limit	CTB CoM

Small scale contractor development within VTSSP should promote the principle of diversification allowing contractors to have sufficient mobility to take on all type of civil works (building, roads, water supply, etc).

Equipment financing arrangements should also be set up along the same lines (i.e. creating versatility by using as much as possible tractor based equipment which can be easily hired out to farmers, plantations owners, municipalities during quieter periods).

Result 4: Sustained improvements in road transport access are supported using Labour Based and Appropriate Technologies (LBAT) which generate local employment

Outcome 4.1 PWD staff have the appropriate skills and training to plan, deliver and supervise maintenance programs

The VTSSP program will provide PWD staff with appropriate training and mentoring opportunities. The TA team that will be employed in the provinces will have explicit responsibility to ensure that PWD's skills are upgraded through on-the-job training, supplemented by formal training courses. Areas of training may include, but are not limited to:

- Inventory and condition surveys;
- Maintenance planning and programming;
- Procurement;
- Design and surveying;

- Quality control procedures and simple testing;
- Contract management and administration procedures;
- Supervision of works.

Provincial roads staff will also be supported with adequate resources necessary to carry out their roads management responsibilities. This includes sufficient transportation to regularly inspect roads and visits works sites on the islands.

All contracts will be managed by the PWD staff at provincial level supported by TA provided through the VTSSP. Contract management includes all tasks related to contract administrative procedures, budget and cash flow control, inspection and supervision. This requires the strengthening of provincial staff to effectively manage and supervise works, especially maintenance contracts. Improving the capabilities of the PWD provincial road staff requires that in the first place all vacant positions are filled with experienced and qualified staff in line with the latest approved staffing schedule.

Even with all positions filled, there is still a concern that the number of roads foreman might not be sufficient to start supervising many small maintenance contracts. Compared to the current situation in the three provinces, the number of contracts will on average increase by more than 50% whilst the budgets will more than double. Although each of the provinces will benefit from the presence of a labour based field trainer, there might be a need to recruit an additional roads foreman for each province. The need for this may be evaluated after the start of the first round of contracts.

Outcome 4.2 Roads selected in the agreed work program are being maintained in good condition under routine preventative maintenance contracts

The maintenance works supported by VTSSP are divided in three categories, namely:

- Routine or Preventive Maintenance (RM), which consists of grass cutting, tree pruning, cleaning / reopening of drains (if existent), clearing of drainage structures and some minor erosion repairs along the entire section of the road;
- Spot Improvement (SI) which consists of interventions that are aimed to provide solutions to certain rupture points on the road (stream crossings, steep gradients, soft spots, etc.). The aim is to (re)establish access and transitability to the required design standard;
- Periodic Maintenance (PM), which consists of major improvement to drainage, road surface and structures, including sectional (re)gravelling or surfacing on critical sections

Special attention will be paid to suitable engineering solutions which take into account Vanuatu's physical, environmental, and economic conditions. When road improvement works are properly designed for the local conditions and maintenance applied correctly, the effective cost of providing a basic level of service or transitability is reduced, and the potential for expanding those services to a wider range of communities is enhanced.

The following design standards are proposed based on preliminary consultations with MIPU / PWD for the agreed program of works:

- Type A (higher trafficked road, > 50 vehicles per day) will be improved to all weather access for normal two-wheel drive passenger vehicles at design speed of minimum 40 km/h. The road must not be closed on more than two occasions per year for no longer than two hours consecutively during normal rains;
- Type B (medium trafficked road, 20 – 50 vehicles per day) will be improved to all weather access for two-wheel drive pickup (or 3-ton truck) at design speed of minimum 30 km/h. The road must not be closed for more than 10 days per year and no longer than eight hours consecutively during a normal rainy season;
- Type C (low trafficked volume road, < 20 vehicles per day): will be improved to access for four-wheel drive pickup vehicle (or agricultural tractor) at design speed of 20 km/h. The road closed must not be closed for more than 20 days per year and no longer than 24 hours consecutively during a normal rainy season.

The design standards may be subject to revision based on the preliminary results of the detailed design study for the road maintenance contracts. The standards will also need to take into account the draft Roads Act, which is expected to be passed into law in February 2009.

Summary of planned works under Phase 1

The selection of roads was based on the following events and criteria:

- Request from the Government of Vanuatu to the Prime Minister of Australia to finance improvements of roads that were initially short-listed under the MCC program, but were later dropped due to a funding shortfall;
- Appropriateness for implementation by community groups and / or local small scale contractors (both existing road contractors and civil work contractors);
- Importance of the roads for accessing social and economic activities and the number of beneficiaries.

VTSSP emphasises the importance of asset preservation to ensure a balanced and sustainable development of the road network in Vanuatu. The program will therefore explicitly provide resources for routine maintenance. After consultation with MIPU / PWD, it was further decided that:

- During Phase 1, the program would not look beyond the three islands in which the sub-projects were located. Any expansion to other islands will be considered in the design of the long term transport sector support program (Phase 2 and beyond);
- Some roads in maintainable condition would be added to the MCC roads to further demonstrate the importance of preventive routine maintenance and that community contracting for routine maintenance works is a viable option.

Exact costing and lengths for each of the roads will only be available after the detailed design study and scoping of the works, which will be carried out in a series of preliminary studies. Table B.2 presents a summary of the total outputs expected by location and maintenance type, however this information will be updated in the preliminary studies.

Table B.2: Planned road maintenance works

Location	Routine Maintenance (km)	Spot Improvements (km)	Periodic Maintenance (km)	Total (km)
Malekula	48	33		81
Tanna	55	30	17	102
Ambae	45	40		85
Total	**148**	**103**	**17**	**268**

Outcome 4.3: Road works are implemented using labour based appropriate technologies which generate local employment

The program will promote the use of Labour Based and Appropriate Technology (LBAT). This approach has been adopted in many low income countries around the world with the aim of maximising the use of local resources (especially labour) in work execution supported by appropriate (intermediate) equipment.

The advantages of LBAT are manifold - creation of local employment, building capacity for local service delivery, retaining valuable foreign currencies (reduced fuel imports) and reducing the dependence on imported know how. If properly supervised, LBAT maintained roads can achieve very high standards of work satisfying the required technical specifications. Due to the labour based approach in road maintenance works, VTSSP has a high potential for local income generation. The estimated potential for employment creation within VTSSP is outlined in Table B.3.

Table B.3 Employment and Income generation

Location	Routine Maintenance			Spot Improvement			Periodic Maintenance			Total Work days
	Km	Work Days / km	Total Work Days	Km	Work Days / km	Total Work Day	Km	Work Day / km	Total Work Day	
Malekula	48	200	9,600	33	1,000	33,000				42,600
Tanna	55	200	11,000	30	1,000	30,000	17	1,500	25,500	66,500
Ambae	45	200	9,000	40	1,000	40,000				49,000
Total	**148**	**200**	**29,600**	**103**	**1,000**	**103,000**	**17**	**1,500**	**25,500**	**158,100**

Using a conservative estimate of average labour production rates per km of road maintenance works, an estimated total of **158,100 work days** of local employment could be generated through VTSSP (during Phase 1, Malekula – 42,600; Tanna – 66,500; Ambae – 49,000). This corresponds to around one year employment for 800 persons.

Assuming that most of the unskilled labour in maintenance works is recruited from the neighbouring communities, a fair share of the contract value will stay within the local economy. For example, experience from similar programs indicates that 60% (routine maintenance), 40% (spot improvement) and 30% (periodic maintenance) of the total contract value (less mobilisation and establishment cost) are invested in local labour wages, thereby contributing to the local economy.

Annex C: Findings from site visits

General findings

Table C.1: Provincial Budgets 2007

Budget 2007				
Province	**Personnel**	**Operating**	**Total (Vatu)**	**Total (A$)**
Malampa	**22,800,437**	**32,381,283**	**55,181,720**	**634,273**
Tafea	**18,277,772**	**26,036,679**	**44,314,451**	**509,362**
Penama	**12,520,825**	**24,024,957**	**36,545,782**	**420,066**
Sanma	36,834,614	44,481,682	81,316,296	934,670
Shefa	26,119,872	37,735,256	63,855,128	733,967
Torba	5,741,770	14,101,385	19,843,155	228,082

Table C.2: Number of contracts managed in 2008

Province	**Number of contracts (Small Work Agreements)**		**Total**
	Works	**Equipment Hiring**	
Malampa	7	12	19
Tafea	12	11	23
Penama	3	3	6

Findings from the visit to Ambae (14-15/4/2008)

PWD Office

The Provincial Office of PWD has 11 staff members, two technicians, five linked to the workshop and four support staff. Four positions are still vacant. The existing PWD office is old, but a new office is under construction. Power is sourced from a generator. PWD has computers (albeit mostly with viruses), printers and copy machines. The radio transmission system and internet are not operational. The isolated and remote location of the three islands in combination with poor communication systems further creates logistical difficulties in all aspects of PWD work.

Budget

The budget for the road works for the whole province of Penama (Pentecost, Ambae and Maewo) is 17 Million Vatu. Of this total, 11.8 Million (69%) goes to Ambae, with the remainder reserved for Pentecost (17%) and Maewo (14%). Works are planned in the dry season and will be implemented by PWD or by community groups. Contracts can be signed with a community using a standard Small Works Agreement. Up to the threshold of 500,000 Vatu these agreements may be signed by the Provincial Works Manager if budgeted for on the annual work program. Workers are paid on the basis of a piece-work system, which corresponds to a daily wage of about 800 Vatu / day.

Road works

The work plan constitutes of 6 road works planned for the period April – August of 2008. The most recent road inventory update was done in 2006. The total length of national (362 km) and provincial (51 km) roads in Penama is 413 km. Most of the roads are located on Ambae (157 km) and Pentecost (159 km). No condition surveys have been carried out recently. Road maintenance works are carried out by its force account brigade using heavy machinery for grading, shaping and sectional gravelling. Minor routine maintenance works (verge clearing and tree pruning) are also contracted to the communities. There is little or no attention to drainage works, structures and erosion control.

The PWD is struggling immensely with the timely implementation of its maintenance plan for various reasons amongst which the most important is the continuous battle to keep the equipment in working condition. Aging equipment, combined with the irregular and delayed supply of fuel (stock up to a maximum of 6,000 – 7,000 litres of fuel) and spare parts, often result in low utilisation rates which in turn reduces productivity.

Road building materials are scarce in Ambae. Coral stone for concrete works can only be extracted from the sea shore. Volcanic sands are mixed with in-situ soils on soft sections. Construction materials are expensive (i.e. one bag of cement costs1300 Vatu - imported from Santo).

Equipment

The following set of equipment is available through the PWD:

Table C.3: Equipment available through PWD in Ambae

Equipment	Number	Working	Not working	Comments
Pick up vehicle	1	1		Of age
Motor bicycle	1	1		
Steel drum roller	1	0	1	Under repair
Tipper truck	3	2	1	Under repair, lack welding material
Bulldozer	1	1		
Loaders	1		1	Under repair
Motor grader	2	1	1	Write off used for spare parts
Tractor Loader Backhoe (TLB)	1		1	Awaiting replacement of gear box
Generator	2	2		
Welding machine	2	2		
Compressor	1	1		

Most of the equipment is located on Ambae. Transporting the equipment to one of the other islands on a barge will cost about 600,000 Vatu. Some equipment (tipper truck, concrete mixer, tractor) is available through the private sector.

Contractors

The island of Ambae has no road contractors but reportedly over 30 small building contractors, although no written evidence of registration was presented to the team. Most of these contractors are small scale with little or no equipment. The village of Saratamata has a vocational training centre run by the Anglican Church. This centre trains carpenters, masons, plumbers and electricians for the building sector.

A meeting with the Provincial Secretary of the Provincial Government (Ministry of Internal Affairs) confirmed that the province has a council of 60 elected councillors to oversee an executive administration. The province has a limited development budget of about 500,000 Vatu / year. The provincial government is not formally involved in the approval of the annual road work plan but the relationship with PWD is reportedly good. Consultations do take place regarding prioritisation and planning of infrastructure.

Roads visited

The team visited the north (to Lolowai, ~ 20 km) and south (to Lolovoli, ~ 20 km) road from Saratamata. These roads were nominated for improvement by MCC. However, due to shortage of funds, planned works had to be cancelled. The south road from Saratamata to the airstrip is in reasonable condition due to frequent grading. After the airstrip, the road turns into a bush track with many streams and river crossings, and some steep gradients. Some of the streams have low level concrete crossings funded by the EU in the nineties. Traffic is limited to less than 10 vehicles per day, population is small (< 1,000) although some traffic may be suppressed due to the actual conditions of the road. Access is limited to a four wheel drive vehicle under dry weather conditions only. Access is virtually impossible during and after heavy rains. It is estimated that the road is closed for traffic for 20 days a year or more. There are some economic activities (cattle, copra) but population densities are low.

The north road shows a similar pattern, albeit the road is in slightly better condition and has more traffic on it, including public transport. The surrounding area is more populated (> 3,500) with many socio economic activities taking place (Agricultural production, Vocational Training Centre, Catholic Church, Commercial centre, Hospital, Secondary School, etc).

Findings from the visit to Malekula (16/4/2008)

PWD Office

The existing PWD office is newly built with financial support from the EU and has electricity. PWD has computers (albeit mostly with viruses), printers and copy machines. The radio transmission system and internet are both operational. The number of staff, technicians etc will be confirmed as part of the preliminary studies.

Budget

The budget for the road works for the whole province of Malampa (Malekula, Ambrym, Paama) is 29 Million Vatu. A large majority of the budget is consumed by Malekula. Works are planned in the dry season and will be implemented by PWD or by community groups. Contracts can be signed with a community using a standard Small Works Agreement. Up to the threshold of 500,000 Vatu, these agreements may be signed by the Provincial Works Manager if budgeted for in the annual work program. Workers are paid on the basis of a piece-work system, which corresponds to a daily wage of about 800 Vatu / day.

Road works

The work plan constitutes of 18 road works planned for the period April – August of 2008. The most recent road inventory update was done in 2006. The total length of national (347 km) and provincial (46 km) roads in Malampa is 393 km. Most of the roads are located on Malekula (227 km) and Ambrym (96 km). No condition surveys have been carried out recently. Road maintenance works are carried out by its force account brigade using heavy machinery for grading, shaping and sectional gravelling. Most of the routine maintenance works (verge clearing and tree pruning) are contracted to the communities. Some river crossings are being constructed in 2008. There is little or no attention to drainage works and erosion control.

The PWD equipment, except for the tipper trucks, is in reasonable condition. The irregular and delayed supply of fuel and spares does however result in relatively low utilisation rates. Productivity is low, for example a 10 km light reshaping of the carriage way from Aoup Junction to Lambumbu Wharf is planned to take 225 hours using a hired motor grader. This works out to be only 1 km in 3 working days (a normal production rate would be approximately 2 km per workday). The cost is estimated at A$2,800 per km, which is very high.

Road building materials such as coral stone are readily available through a number of borrow pits on Malekula.

Equipment

The following set of equipment is available through the PWD:

Table C.4: Equipment available through PWD in Malekula

Equipment	Number	Working	Not working	Comments
Pick up vehicle	1	1		
Steel drum roller	1	1		
Tipper truck	2	1	1	Of age
Bulldozer	1			
Loaders	1			
Back hoe	1			
Water bowser	1			
Motor grader	1			

The poor state of the tipper trucks forces PWD to hire equipment from Lakatoro Trading Centre (LTC), a private company. The rates are very high, as can be seen from table C.5.

Table C.5: Equipment and prices available through LTC

Type	Number	Hourly hire rate (Vatu/hr)
Roller	1	8,500
Motor grader	1	9,000
Tipper truck (5 m3)	2	7,500
Tipper truck (10m3)	2	9,500
Loaders	1	9,500
Dozer D7	1	10,000

Contractors

The island of Malekula has no road contractors but reportedly some smaller building contractors, although no written evidence of registration was presented to the team. Most of these contractors are petty contractors with little or no equipment. Peroni, a Vanuatu based contractor, has recently constructed some major structures on the island.

It was not possible to meet up with the Provincial Secretary of the Provincial Government (Ministry of Internal Affairs). MIPU has signed a MoU with the provincial government in Malampa for increased cooperation in the planning and implementation of infrastructure delivery.

Roads visited

The team visited the north ring road around Norsup to the main wharf (about 13 km in total). This road is heavily trafficked (150 - 200 vehicles per day) and provides important access to the wharf. Some 4 to 5 ships arrive every week to pick up agricultural produce from the island. The same road also provides access to the airstrip, the municipal facilities of Norsup and many commercial activities. MCC had planned to surface this road. Even so, the road surface condition holds up pretty well under the traffic. The main bottlenecks are some drainage works in the town of Norsup, construction of an embankment just after the airport (soft spot with heavy clayey soils) and a major structure on river Aoup (the old one was washed out recently).

The team also visited the road from Aoup Junction to Lambumbu (15 km). This road is in reasonable to good condition with medium traffic (Average Daily Traffic ~ 50 vehicle / day). The road links up to some estates (cocoa, vanilla and copra) on the west coast of the island. Population is sparse. The road requires some minor improvements on drainage and erosion repairs and a number of wet crossings and culverts. The road is in urgent need of routine and preventive maintenance which could be done by community groups or small contractors.

The last road visited was from Lakatoro to Vao (20 kms). This road passes through more densely populated areas with high agricultural production. Traffic levels are in excess of 50 vehicles / day. The road is in need of some spot improvement interventions to construct missing drainage structures and improve the approached to the streams and crossings. This work can be done using local contractors.

Findings from the visit to Tanna (18/4/2008)

PWD Office

The Provincial Office of PWD in Tanna has 18 staff members. The number of technicians, workshop staff etc will be confirmed as part of the preliminary studies. The existing PWD office is newly built with financing from EU. The office has power, computers (albeit mostly with viruses), printers and copy machines. The radio transmission system and internet are operational.

Budget

The budget for the road works for the whole province of Tafea (Tanna, Futuna, Erromango and Aneiytum) is 19 million Vatu, after the initial proposal of 124 million Vatu was rejected. Most of the budget goes to Tanna island. Works are planned in the dry season and will be implemented by PWD or by community groups. Workers are paid on the basis of a piece-work system, which corresponds to a daily wage of about 1000 Vatu / day.

Road works

The work plan for 2008 constitutes of 16 road works planned for the period April – August of 2008, and major stockpiling in various borrow pits on Tanna islands for sectional regravelling. The most recent road inventory update was done in 2006. The total length of national (206 km) and provincial (7 km) roads in Tafea is 212 km. Most of the roads (almost 80%) are located on Tanna.

No condition surveys have been carried out recently. Road maintenance works are carried out by its force account brigade using heavy machinery for grading, shaping and sectional gravelling (regravelling is done on cycles of 1 – 2 years). Minor routine maintenance works (verge clearing and tree pruning) are contracted to the communities. There is little attention to drainage works, structures and erosion control.

The PWD is struggling immensely with the timely implementation of its maintenance plan for various reasons, particularly the continuous battle to keep the equipment in working condition. The aging equipment, combined with the irregular and delayed supply of fuel and parts, often results in low utilisation rates which in turn reduces productivity.

Road building materials are readily available on Tanna. Coral stone cab be extracted from various pits at a price of 125 Vatu / m3 (to be paid to the land owner). Volcanic sands are also mixed with in-situ soils on soft sections. Construction materials are expensive and need to be imported (i.e. one bag of cement cost 1550 Vatu, a 6 mm steel rods cost 200 Vatu and Fuel is 200 Vatu / litre, as against 158 Vatu / litre in Vila).

Equipment

The following set of equipment is available through the PWD:

Table C.6: Equipment available through PWD in Tanna

Equipment	Number	Working	Not working	Comments
Pick up vehicle	5	4	1	Some are of age
Vibrating roller	1			New Dynapac. Has been in Vila for over a year. EU financed
Tipper truck	4	3	1	Poor condition, of age.
Bulldozer	1	1		New, EU financed
Loader	1	1		Of age but still working
Motor grader	1	1		Of age, but still working
TLB			1	Under repair
Tractors	1		1	Beyond repair
Vibrating hand compactor	1	1		
Water pumps	2	2		
Various work shop equipment such as welding equipment, compressor, generator, battery chargers, etc.				

Most of the equipment is located on Tanna. Some equipment (especially tipper trucks and tractors) is available through the private sector.

Contractors

The island of Tanna has some small building contractors, although no written evidence of registration was presented to the team. Most of these contractors are petty contractors with little or no equipment.

It was not possible due to time constraints to meet the Provincial Secretary of the Provincial Government (Ministry of Internal Affairs).

Roads visited

The team visited the road from Lenakel to Port Resolution crossing the island from West to East through across the Loanialu Mountain range and along Mt Yasur Volcano (34 km). This road was supposed to be financed by MCC, but lack of funding will not permit any works to be done. The visit took place during torrential rains which clearly demonstrated the current problems with drainage. Many vehicles got stuck, including the PWD vehicle.

The road is a very important link between the West and East coast of Tanna, linking the capital with important tourist destinations and agricultural productive areas. Traffic is high (100 – 200 vhs / day) and conditions are poor. The road climbs up to Mt. Loanialu with steep gradient and insufficient drainage. The road then flattens for some sections,

and starts to climb again with some improved concrete surfacing and line drains done by the British Royal Engineers in the eighties (this section holds very well).

Near the junction with Waisisi the road reaches a white sands area. This is a relatively flat area with a sunken road profile but, due to the permeable sands, water drains away pretty quickly. The section around Mt Yasur Volcano used to be a lake, but after an earthquake in 2002, the lake drained and left a large plain of volcanic sands and a 50 metre wide stream with a rock sheet bed. The river is wide and strong, but experienced drivers know how to pass through the river bed. The last section to Port Resolution has little traffic, and the road is overgrown by dense vegetation. The same vegetation keeps the road in a stable condition. There is a need for some minor drainage structures. The traffic level on this road may increase with a wharf proposed for this area.

Summarising, one can conclude that most of the work to be done on the road to Port Resolution is on the first 17 km from Lenakel. It would require major periodic maintenance, with minor surfacing, many culverts, line drains, reshaping and gravelling of the road. The road from Lenakel to the airport is in good condition and urgently requires routine and preventive maintenance.

Annex D: Cross Cutting Issues

The VTSSP is required to address cross cutting issues within the program and ensure that all activities meet the relevant requirements of both the Government of Australia and the Government of Vanuatu.

The VTSSP must also meet 'Child Protection' Requirements of the Government of Australia, and it will be the responsibility of the Managing Contractor to ensure that appropriate measures are in place. None of the personnel under the VTSSP will be involved in working directly with children.

Environment

The *Environmental Protection and Biodiversity Conservation Act 1999, Section 160,* requires that AusAID ensure that all matters affecting the environment to a significant extent are fully examined and addressed in AusAID projects. AusAID is committed to the promotion of sustainable development through the integration of economic, environmental and social considerations. AusAID's current environmental policy is contained in *Environmental Management Guide for Australia's Aid Program.* This program will also need to ensure that it is consistent with both of these documents as well as Government of Vanuatu's Environmental Management and Conservation Act (2002).

An Environmental and Social Assessment Reconnaissance Survey and Scoping Survey were undertaken for the three sub-projects as part of the original design for the MCC program. The detailed design of each sub-project will build on this Environmental Impact Assessment and will ensure that appropriate measures to mitigate negative impacts are undertaken.

While no new roads or major works are planned under VTSSP, any drainage work and road maintenance must ensure environmental damage is minimised and/or mitigated. All works should be implemented in accordance with GoA's and GoV's environmental standards.

Clearing of vegetation must be kept to a minimum and must be carried out in such a way that damage to adjacent areas is prevented or minimised. Where ever possible, labour intensive methods should be used in preference to heavy equipment. Damage to crops must be prevented or minimised. Community consultation on proposed works, and the careful design and implementation of all works (including using community groups), should be included to meet GoA and GoV environmental requirements.

Any bridge or culvert work should, where possible, be undertaken in the drier months (April – October). When culverts are constructed, the contractor should implement measures to ensure that erosion of streams and wetlands does not occur above or below the culverts as a result of the works activities. Steps should be taken to avoid pollution of the river during the construction process.

Recognising that Environmental Assessment capacity in Public Works Department is limited due to the large number of new donor programs, there is currently plans to recruit

an Australian VIDA (Volunteer for International Development) to build capacity within the Department.

The effects that this program has on climate change, such as increase in use of cars etc, will need to be monitored. The baseline and impact analysis will be the appropriate tool to measure these impacts and to build any appropriate mitigation measures into the design. A checklist of environmental impacts and mitigation measures to be considered during design and implementation of road works is provided at Table D.1.

Occupational Health and Safety Actions

The VTSSP managing contractor will ensure that each sub-projects work is in accordance with MIPU/PWD's occupational health and safety guidelines. Initial training will be provided for contractors on the proper use of equipment and occupational health and safety practices. The program will also work with contractors, PWD provincial offices and community groups to ensure that changes to the road system and vehicle flows do not increase the risk of accidents. Each worksite will have appropriate signage and warnings and safety measures to protect the welfare of workers, and accommodate increased traffic levels and increased speed on roads.

HIV and AIDS

The HIV epidemic is a major concern in Vanuatu despite the low prevalence of reported HIV infection rates. Actions under this program will be in line with *Vanuatu's National Strategic Plan for HIV and Sexually Transmitted Infections 2008-2012*. In particular, the program will ensure that it addresses Objective 1, to reduce the community vulnerability to HIV and STIs. The program will provide education and training to workers and contractors on the spread of HIV and STIs. It will work with communities to ensure the appropriate delivery of the messages and prevention programs and that no activity inadvertently causes the spread of HIV and STIs.

The VTSSP has an important role to play in mainstreaming HIV and AIDS into design, implementation, monitoring and evaluation of sub-project activities. This will need to be progressively addressed by Technical Advisers working with PWD in the development of procedures to manage sub-projects within the VTSSP, including through education and prevention programs for contractors, provision of education materials and other mechanisms.

Anti-corruption

The VTSSP will ensure policies and practices support strong anti-corruption messages within program delivery.

The program's focus on use and strengthening government systems is part of AusAID's approach to building capacity and improving governance. The program will support GoV priorities and plans to improve governance and tackle corruption, and will be consistent with Australia's, 'Tackling Corruption for Growth and Development' policy. It will consider means to work within and strengthen GoV MIPU or other agency anti-corruption efforts in the proper management of funds under the program. The program will seek opportunities to reduce corruption in the disbursement of program funds, such as through improving budget processes, public financial management, and procurement systems.

The Australia – Vanuatu Development Cooperation Anti-Corruption Action Plan will be provided to VTSSP staff as a guideline for implementation of the program. The preliminary studies on Public Financial Management and Procurement systems will form the basis for appropriate strategies to prevent corruption in the implementation of the program.

On formation, the VTSSP team will reach agreement with PWD and MIPU counterparts about the appropriate course of action to be undertaken in the event that leakage or corruption is identified during implementation.

Table I.1 Checklist of Environmental Impacts and Mitigation Measures

Issue	Objective	Suggested measures to achieve the objective
Reducing erosion	To minimise the amount of sediment lost from the site	• Reduce the time surfaces remain bare • Keep vegetation clearing to a minimum • Avoid disturbance on steep slopes • Keep vehicles on defined tracks • Construct necessary temporary/permanent control structures • Encourage revegetation after construction activity finishes
Controlling sediment	To minimise impact of stormwater containing sediment on streams and coasts	• Install control structures at the outset of construction phase. These may need to include silt traps along flow lines • All disturbed areas which are not to be paved (eg. Batters) should be revegetated or prepared for natural revegetation after final land shaping • Ground disturbance should be phased so that it is limited to areas of a workable size • Construction should be scheduled so that large areas of soil are not laid bare during wet seasons • Construction sites should be placed on flat ground • Construction areas should be contained using a bund or trench, or isolated from other surface runoff, and cleaned and rehabilitated when construction is complete • If the road is on loose or unstable rock the batters will need to slope gently, high batters will need steps or horizontal benches, and revegetation will be necessary • Avoid discharging water onto unstable slopes or old landslips
Controlling stormwater	To minimise the impact of contaminated runoff water	• Runoff from non-construction areas should be diverted (temporarily) around the construction areas to keep natural flow separate from construction runoff • Stormwater runoff from construction areas should pass through a gross pollutant trap (to filter plastics, cans etc) and over a vegetated surface to remove petroleum-based organic pollutants before discharge into culverts or drainage systems • Drains and culverts should be designed to remove all runoff water without scour. On steep slopes culverts may need to be stepped using rock slabs or gravel in gabion baskets • Oil and bituminous products should be stored at a contained location away from drainage lines, in an appropriate manner

Issue	Objective	Suggested measures to achieve the objective
Management of stockpiles, spoil heaps, batters	To manage these features so dust and sediment runoff are minimised	• Discussions about dumping be held with local landowners • Site plans should include all drainage provisions suggested for construction sites • The stockpile or spoil heap location should be chosen to avoid blocking surface runoff or drainage lines. If this is not a crest of a ridge or flat plain site, the base should be leveled and contained • If the spoil heap or stockpile containing fine sediments is to remain bare for long in a high rainfall area, it should be covered to prevent erosion and sediment runoff • Spoil heaps and stockpiles must be subject to stability calculations to safeguard against major slips occurring • After discussions with local landowners or community groups there may be plans to use spoil locally. If so a clear level site must be prepared on which the spoil can be dumped • Where possible spoil should be used to backfill quarry areas or waste disposal pits before they are re-vegetated
Quarry management	To minimise long-term impacts of quarrying and gravel extraction	For solid rock quarries identify • The proposed plan of extraction • The methods which will be used for containment of sediment-loaded runoff and contaminants) at the site • Safety measures which will be employed to avoid any loss of load from trucks • Methods which will be employed to reduce dust emission from the loads • Number and timing of truck trips to and from the quarry site • Safety methods which will be put in place to reduce potential road accidents in village or urban areas • Safety measures which will be employed to ensure stability of exposed faces or overburden stockpiles • Plans to rehabilitate or revegetate the site after use, to reduce visual impacts and sediment runoff Additionally, for river or floodplain gravel quarries the quarry management plans should address: • The areas to be quarried and the removal sequence • The channel and bank stability in the area to be quarried • Methods which will be established to protect the channel banks, to avoid causing discontinuities in the bed, and to minimize erosion impacts upstream, and sediment loading problems downstream of the quarry site

Issue	Objective	Suggested measures to achieve the objective
		• Methods for containing oil leaks or spillages to prevent pollutants reaching the river
Waste management	To avoid contamination from solid wastes and sewage	• Contain all stores waste within construction sites • During site clean-up burn all spilled fuel oils • Crush, burn, and bury all inorganic solid waste in an approved disposal area. • Remove all disabled machinery from the project area • Compost or use as animal food all green or organic wastes
Protection of (sensitive) natural areas and heritage or archaeological items	To minimise negative impacts on sensitive ecosystems, or the natural environment	• Identify natural areas, especially environmentally sensitive or ecologically fragile areas • Identify items of heritage or archaeological value • Locate optional construction sites/activities away from them • Ensure construction personnel are aware of locations of sensitive areas and keep out of them • If the proposed construction must encroach onto or pass close to these areas, construct temporary fences or permanent bunds or trenches to confine machines and activities • Use geotextiles or matting to minimize mechanical/ construction activities in wetlands • Incorporate community members in monitoring environmental impacts
Social or community concerns	To minimise social disturbance and maximize Community benefits from project	• Ensure all community concerns are addressed and documented and maintain close and sensitive community consultation • Advise the local community of project plans in advance of construction, and where possible involve them in planning • Avoid disturbances near living areas when possible • Avoid disturbing garden areas • Identify culturally sensitive areas and avoid disturbing them • Control runoff and manage sediments near garden areas • Arrange for local people to be employed and trained • Include women's and other community groups in project activities • Negotiate with community about disposal areas, stockpiles

Annex E: Results Framework

Item	Objective Verifiable Indicators (What will success look like?)	Means of Verification (How do we measure it?)	Risks and Assumptions
Goal: Social stability and economic growth to create an educated, healthy and wealthy Vanuatu	• **Majority of GoV vision level indicators are improving**	• **Government of Vanuatu Annual Development Report**	Risk of natural disasters such as cyclones and tsunamis. Potential effects of global economic crisis. Assumes that GoV starts reporting on development progress
Purpose: To generate a reliable and adequately maintained transport system	• **At least 75% of the national road network is in maintainable (good / average) condition by the end of 2020** • **Number of days that roads on the national network are impassable is reduced by at least 25% by the end of 2015**	• **Annual road condition surveys** • **Baseline and impact study**	Assumes funding for road maintenance remains constant or increases in real terms. Risk of climate change and increased frequency of adverse weather events
Result 1: The Government of Vanuatu's management of the road transport sector is improved	• **Road asset management, planning, prioritisation and budgeting are increasingly evidence based** • **Roads are being adequately maintained to locally appropriate standards**	• **Baseline and impact study** • **Annual road condition surveys**	Assumes asset registers and classification systems are kept up to date Assumes funding for road maintenance remains constant or increases in real terms.
Outcome 1.1: Road network maintenance is based on the principles of asset conservation and accessibility	• Road classification system and asset register are functional and up to date • At least 500m Vatu is provided for road maintenance in the annual GoV budget (starting 2009 & maintained in real terms)	• Publication of road classification • GoV budget documents	Assumes road condition surveys are undertaken on a regular basis Some estimates indicate up to 2 billion Vatu may be required annually to adequately maintain the road network
Outcome 1.2: Road works are based on locally appropriate design standards and technical specifications	• Locally appropriate design standards and technical specifications are developed and applied	• Program progress reports	
Outcome 1.3: Annual output based work plans and budgets are developed which are increasingly evidence based and incorporate asset management requirements	• Output based work plan and budget developed by FY 2010, and based on Annual Condition Survey	• PWD / MIPU annual work plans and budgets	

Item	Objective Verifiable Indicators (What will success look like?)	Means of Verification (How do we measure it?)	Risks and Assumptions
Outcome 1.4: Improved monitoring and reporting of road works against implementation plan, design standards and budget	• PWD undertakes performance audits of road maintenance works on a routine basis • Performance audits show increasing number of projects were delivered according to plan, within budget and in line with specified technical standards	• Site visit reports • Program progress reports	Assume performance are conducted by PWD on routine basis
Result 2: The quality of public financial management in the transport sector is improved	• **Contracting is undertaken in accordance with relevant legislation** • **External audits show a decreasing number of deficiencies** • **There are no reported breaches of the Public Financial Management Act within MIPU / PWD**	• **Program progress reports, external audit reports** • **External audit reports (MFEM)** • **Financial Regulation 2.2 Report**	Risk that that use of small scale / community contracting could increase overall costs in short term Assumes external audits are conducted on a routine basis Assumes MFEM produces Financial Regulation 2.2 Report
Outcome 2.1: Financial management skills of MIPU / PWD staff are strengthened	• PWD / MIPU staff successfully complete training in relevant financial management and contracting procedures	• Program progress reports	
Outcome 2.2: Improved financial management systems and procedures	• PWD provides accurate and timely reports against work program • PWD produces timely Quarterly Financial Reports • Provincial imprest accounts are functioning effectively and meeting expenditure needs • Budget execution is consistent with MIPU's appropriations (linked to Outcome 1.4) • Higher proportion of public servants report timely access to funds	• Output based reports • Financial reporting • Financial reporting • Portfolio Budget Statement, Financial Reports • Public Sector Survey	Assumes timely reconciliations between PWD and MIPU and from MIPU to MFEM are
Outcome 2.3: Improved procurement and contracting documentation conducive to private sector development	• Simple procurement and contract documentation are developed and being applied	• Contract and procurement documentation	Assumes new contract proformas are approved by the Contracts and Tenders Board

Item	Objective Verifiable Indicators (What will success look like?)	Means of Verification (How do we measure it?)	Risks and Assumptions
Outcome 2.4: Improved transparency and accountability in planning and contracting processes to government and civil society	• Contracting processes administered in accordance with Financial Regulation 5.1 and Contracts & Tenders Act • Complaint register established	• Program progress reports	
Result 3: The role of the competitive private sector and community groups in providing road maintenance services is increased	• **Increasing proportion of road maintenance works are carried out by private sector and community groups (target of 30% by 2015)** • **Number of new entrants (CGs and SSCs) awarded contracts for maintenance works increases**	• **MIPU / PWD Annual work and procurement plan** • **Program progress reports**	**Assumes that there will be sufficient private sector interest and availability to undertake maintenance works**
Outcome 3.1: Community groups and small scale contractors have the necessary skills, training and support to engage in maintenance works	• At least 15 community groups / small scale contractors (5 in each province) have successfully completed VTSSP training • At least 9 local contractors (3 in each province) register their business • Standards of work achieved are acceptable (i.e. fewer than 20% of properly rendered invoices are rejected for non-performance)	• Training reports / training evaluation forms • Project progress reports / invoices	
Outcome 3.2: Community groups and small scale contractors are equipped with the appropriate tools and equipment to deliver maintenance works	• Communities have access to a standard set of tools through appropriate risk sharing financial arrangements • Small scale contractors have access to a standard set of equipment through appropriate risk sharing financial arrangements	• Site visit reports • Site visit reports	
Outcome 3.3: PWD is capable of planning, designing and packaging road maintenance works suitable for small-medium scale contractors	• Road maintenance contracts are packaged to an appropriate size and format	• Tender documentation	
Outcome 3.4: Community groups (CGs) and small scale contractors (SSCs) are working in an enabling contract environment and paid in timely manner.	• Properly rendered invoices are paid within 30 calendar days (target of at least 90%)	• Project files and accounts	Assumes invoices meet required standards and no delays in approval between PWD/MIPU and MFEM

Item	Objective Verifiable Indicators (What will success look like?)	Means of Verification (How do we measure it?)	Risks and Assumptions
Result 4: Sustained improvements in road transport access are supported using labour based appropriate technologies which generate local employment	• **Select roads in Ambae, Malekula and Tanna are effectively maintained to the required design standard using labour based appropriate technologies**	• **Baseline and impact study**	
Outcome 4.1: PWD staff have the appropriate skills and training to plan, deliver and supervise maintenance programs	• PWD / MIPU staff successfully complete relevant training in asset maintenance, planning, contract management and supervision	• Program progress reports	
Outcome 4.2: Roads selected in the agreed work program are being maintained in good condition under routine preventative maintenance contracts	• 148 km of roads in three selected provinces are maintained to the required design standards using SSCs or community groups	• Completion report and Annual Road Condition Surveys	
Outcome 4.3: Road works are implemented using labour based appropriate technologies which generate local employment	• Increase in the number and % of contracts executed by locally based contractors and community groups	• Program progress reports	
Program wide performance indicators	• **Cross-cutting issues including gender, environment, HIV/AIDS and OH&S are considered in sub-activity design, implementation and monitoring**	• **Program progress reports**	
Environment: Adverse environmental impacts from program activities are minimised	• Sub-projects consider environmental impacts and employ appropriate mitigation strategies (e.g. address issues such as kastom land, control of run-off, drainage, potential effects of climate change).	• Program progress reports	
Gender: Both men and women benefit from improvements to the road network and employment opportunities	• Base line study, impact study and sub-projects include consideration of gender and collect gender disaggregated data	• Program progress reports • Baseline and impact study	
HIV/AIDS: Program activities do not contribute to the spread of HIV/AIDS	• Sub-projects include consideration of HIV/AIDS and appropriate prevention strategies (eg. training workers)	• Program progress reports	Risk greater where migrant or inter-island labour is used
Occupational Health and Safety (OH&S): Program activities are delivered in accordance with MIPU/PWD's occupational health and safety guidelines	• Sub-projects include appropriate measures (eg. training in safe use of equipment and OH&S; ensuring changes to the road system / vehicle flows do not increase the risk of accidents).	• Program progress reports	

Annex F: Draft ToR Baseline and Impact study

Terms of Reference
Baseline and Impact Study
Vanuatu Infrastructure Transport Program, Phase 1

Background

The Australian Government's aid program has five guiding themes that link its poverty reduction strategy with individual aid activities – governance, globalisation, human capital, security and sustainable resource management.

Baseline and impact studies are vital for linking the poverty reduction strategy of the Australian Government's aid program to the specific program. Such studies are equally important for the implementing partner as they provide important information to help them assess the extent to which the program is contributing to the specific and broad development objectives.

These Terms of Reference (TOR) outline the proposed framework for the baseline and impact studies to be carried out under the Vanuatu Transport Sector Support Program Phase 1 (VTSSP). The purpose of these studies is to provide an information base against which to monitor and assess the programs progress and effectiveness during implementation and to assess program impact after completion. The final study framework is to be agreed between AusAID and the consultant as part of the inception report.

The primary development objective of the VTSSP is to strengthen the reliability and effectiveness of transport services in Vanuatu, with particular attention to affordable and reliable connectivity. Key themes for the program include sustainability, sector performance, network planning, policy and evidence based budgeting, asset management, maintenance (especially preventative maintenance), increasing the quality and value for money outcomes from the budget, and increasing private sector and community involvement in road maintenance.

VTSSP Phase 1 consists of four Result Areas for which objectives are defined as:

- **Result Area 1: The Government of Vanuatu's management of the road transport sector is improved** (i.e. improved planning, budgeting and monitoring function by MIPU / PWD based on the principles of asset conservation and policy / output based budgeting making more efficient use of local resources and minimising future dependence on external support)
- **Result Area 2: The quality of public financial management in the transport sector is improved** (i.e. improved public administration function by MIPU / PWD based on the principles of efficiency, transparency and accountability in financial management, procurement and contract management)
- **Result Area 3: The role of the competitive private sector and community groups in providing road maintenance is increased**; (i.e. PWD has the appropriate skills to plan, contract and supervise road works; and small scale contractors and communities have the necessary skills, equipment and support to effectively undertake routine preventative maintenance works).

- **Result Area 4: Sustained improvements in road transport access are supported using labour based appropriate technologies which generate local employment.**

Objectives

The baseline study should provide the minimum information required to assess the quality of the program implementation and measure the effective development results of VTSSP (i.e. the impact at the level of component objectives or result areas, purpose and goal).

A clear distinction should be made between the baseline / impact studies and monitoring and evaluation as explained below:

- Monitoring and evaluation describes the quality of program implementation (efficiency of aid), including assessing the progress in achieving objectives and the professionalism of activity management in terms of specific actions, contractual deliverables and outputs; and
- Baseline and impact studies measure the development results (effectiveness of aid), such as the achievement of the program result area objectives and the wider development objective as specified in the results framework.

Scope and methodology of work

Study framework

The baseline study should be closely linked with the monitoring and evaluation plan (refer to Annex E) so that the data collected can be replicated, if necessary, during ongoing program monitoring, for any mid-term review, when the program is being assessed for the completion report, and for any subsequent evaluations.

A simple framework of pre-established indicators will be presented and quantified for selected study areas. The selection of indicators and study areas (sample base) should be such as to allow comparing the situation 'before and after' the program (ie. measure change over time during the program period).

Given that the program aims to improve the maintenance standards of the existing major road in each of the provinces, and that the program is only running for two years, it is not deemed to be cost effective or necessary to assess the 'with and without' scenario.

The baseline and impact studies will be carried out in Port Vila and on the islands of Ambae, Malekula and Tanna.

In Port Vila, key sector data will be collected and analysed with respect to the objectives of Result Areas 1 and 2 (i.e. how the road sector is managed by MIPU / PWD). The baseline study will also draw together relevant information collected as part of the preliminary studies for the VTSSP (which will include a Systems Audit, Road Design Study and Assessment of Private Sector Capacity) to provide an overall baseline assessment.

On the islands of Ambae, Malekula and Tanna, the baseline study will look into the management function of PWD (Result Areas 1 and 2) and quantify the expected benefits from the maintenance works (Result Area 4) and the involvement of the private sector (Result Area 3). Three sample roads will be selected, one on each of the islands. The roads to be sampled are to be drawn from those which should benefit from spot improvement or periodic maintenance contracts under the program.

A total of four communities / villages will be randomly selected (with at least one community in each province). To ensure comparability of data across provinces, selections will be randomly drawn from road communities/villages located within a distance of < 2 km from the main road.

Proposed Indicators

Defining the right indicators is an important step towards understanding the quality and effectiveness of the program, and thereby understanding how to improve management of the activity. Indicators are pieces of information that help to assess the quality of activity implementation and measure the development results.

Indicators should be clearly linked to the various levels of the program log frame – goal, purpose and component level (result area) objectives.

Indicators should be:

- Specific – clear, simple, single items of information;
- Measurable – items that can be reliably quantified;
- Attainable – data that are easily and cost-effectively gathered and available for the duration of the program;
- Relevant – information that relates to the goal, purpose, result area level objectives and outputs of the program;
- Timely – data that can be collected and analysed quickly enough to be useful in program management.

Some of suggested indicators to be included as part of the baseline and impact study are provided in the following Table F.1. Final indicators are to be identified and agreed with the baseline study consultants.

Table K.1 – Suggested Indicators for Baseline and Impact Study

Indicators	Unit of measurement
Goal / purpose level	
Access to social and economic services	
Number of days per year that the road is impassable	No. Days
Travel time to the provincial capital	Minutes
Number of registered public transport vehicles (eg. number of PTs, taxis)	No.
Average cost of transport of passengers and goods to nearest market.	A$ / passenger A$ / tonne
Economic development in the study area	
No. of commercial establishments along the roads	No.
No. of informal traders (selling points) along the road	No.
Volume of traffic	
Traffic counts of motorised transport and non-motorised transport during two weekdays (one market and one non market day).	No. vehicles / day No. persons / day
Direct and indirect benefits due to the road construction (only for the impact study)	
Number of people employed under road maintenance contracts in three target areas	No.
Number of people benefited from the road improvements (living within the area of influence – assumed to be 2 km from road)	No.
Result Area 1	
Assessment of road network management by MIPU / PWD	Analytical description based on the indicators from the results framework (Annex E)
Result Area 2	
Assessment of financial management by MIPU / PWD	Analytical description based on the indicators from the results framework (Annex E)
Result Area 3	
Assessment of levels of private sector and community participation in road maintenance work	Analytical description based on the indicators from the results framework (Annex E)
Result Area 4	
Number of kms of road being effectively maintained Qualitative assessment of the benefits to local communities and levels of satisfaction with road maintenance projects along the selected road projects on Ambae, Malakula and Tanna (impact study only)	No. Analytical assessment based on the indicators from the results framework (Annex E)
Cross cutting issues	
The baseline study should also include an assessment of the likely impacts (positive and negative) of the activity on cross cutting issues, particularly gender and the environment. Gender disaggregated data should be collected where ever possible	Refer to Annex E

Data collection

The study will rely on both the use of qualitative and quantitative data collection exercises such as:

- focus group discussions (chiefs, transporters, farmers, women groups, shop owners, contractors, etc);
- meetings with 'key informants' (provincial government, PWD, Council of Chiefs, line ministries, CSO's, Associations, etc);
- more formal surveys, such as traffic counts; and,
- analysis of existing PWD / MIPU data (e.g. road condition surveys, contract records)

Appropriate consideration is to be given to the collection and analysis of data to allow for disaggregation of relevant data by gender and major socioeconomic, ethnic and/or age group. Detailed household level surveys will not form part of the study.

Visual items, including photographs, maps and diagrams will also be important pieces of data. A photographic survey of the road (before and after at identical locations using geo-referencing) should also be included.

Wherever possible, the baseline and impact studies should maximise the use of existing good-quality local data. New data should only be collected where it is needed to effectively monitor the quality of program implementation and measure the development results.

Proposed methodology

Based on this TOR, the consultant will propose the study framework, including the following aspects, without necessarily excluding others:

- Propose final selection of roads and sample of communities to be surveyed;
- Review and propose a final set of indicators for the baseline and impact studies;
- Based on the baseline study, make recommendations for amendment (if required) of the program's Results Framework (Annex E);
- Present the data collection methodology, for approval by AusAID.

After the impact study, the consultant is expected to quantify and summarise the overall benefits of VTSSP extrapolating the results of the study over the entire length of roads improved to be improved under VTSSP, with particular reference to:

- Direct and indirect benefits to the local communities;
- Local employment generation;
- Development of private sector; and,
- Management capacity of MIPU / PWD to maintain the road network.

Timing of consultancy

The baseline study will be carried out before the start of the physical road works, which are planned to start in the second half of 2009. The impact study will be carried out at the end of VTSSP phase 1, anticipated around the end of 2010.

Total expected time for the consultancy input is estimated at 3 work months and specified as follows:

- 7 weeks for the baseline study;
- 5 weeks for the impact study.

The estimated periods of time include travel time, data collection, data processing, report writing and meetings.

Reporting requirements

The consultant is required to produce the following reports in English to MIPU:

- Two weeks after signing the contract, an inception report outlining the study framework and proposed indicators (one electronic copy);
- Draft baseline study report, 2 months after approval of inception report (one electronic copy);
- Final baseline study report, 2 weeks after receiving comments from MIPU and AUSAID (one electronic copy);
- Draft impact study report, 3 months after letter of notification to start the impact study (one electronic copy);
- Final impact study report, 2 weeks after receiving comments from MIPU and AUSAID (one electronic copy).

Qualifications

The leading consultant will have a relevant graduate degree in a social or an economic science (or related discipline) and relevant work experience. The leading consultant will have carried out baseline / impact studies of a similar nature, preferably in the Pacific region.

Fluency in English and good working knowledge in Bislama.

The consultant will recruit the necessary auxiliary staff to support the data collection exercises under his / her direct supervision.

Consultant's financial and technical proposal

The Consultant's technical proposal will include:

- Proposed work program and estimate of work days per staff category (consultant and assistants) for each phase of the study;
- A table with fee rates and reimbursable costs (i.e. cost for transport, accommodation, per diems, production of reports, photographic report and other project related expenses);
- CVs of leading consultant.

The proposal will need to include all foreseen expenses, including payment of local taxes according to the law of Vanuatu. Payment of the consultancy cost will be based and agreed upon as a lump sum amount for the work (based on fees and reimbursables) and not on actual days worked. Payment will be linked to the delivery of key milestones, including the inception report, draft reports and final reports.

Coordination, contacts and logistics

The consultant will work under the responsibility of MIPU and report to the Director General. The study will be coordinated with the VTSSP Team Leader and the AusAID Transport Sector Coordinator.

MIPU / PWD, the VTSSP and the Governance for Growth Program will provide all the necessary background information.

The consultant will be responsible for organising his or her workplace in Port Vila and on the selected islands, as well as organising communication, transport, insurance and all other logistical arrangements for the study.

Annex G: Risk Matrix for VTSSP Phase 1

Risk type	Risk impact	Likeli-hood	Impact	Overall Rating	Risk management strategy
Less GoV priority on infrastructure in general and road maintenance in particular	Fewer financial and / or staff resources available to manage and deliver transport asset maintenance programs	L	H	M	Ensure funding tranches and commitments are linked to GoV's continued commitment to transport infrastructure (e.g. maintaining the annual maintenance budget of 500 million Vatu in real terms). Review program allocations if level of GoV commitment changes.
PWD Provincial Offices don't have the capacity to implement and supervise sub-projects	Lack of capacity at provincial level will significantly undermine output delivery and outcomes. TA and financial resources may be wasted/under-utilised.	M	H	M	Careful, regular monitoring of progress at Provincial level and sub-project level will be required. Location of advisers in each of the provincial offices aims to ensure appropriate training, resources and support are provided to PWD staff in the provinces.
Inconsistent GoV tendering and contracting decisions / systems – resulting in lack of transparency, accountability and use of VTSSP funds	Reduced timeliness and efficiency of contracting, adverse effect on funds flows and delays in implementation of projects.	M	M	M	Early establishment of MOU and policies, procedures and practices for PWD implementation in Phase 1. Long term TA to build PWD capacity in procurement, tendering and funds management. Funds through Development Fund Account
Decrease in efficiency of Public Financial Management (PFM) of funds provided through GoV systems	Will compromise accountability of MIPU PWD processes, GoV, GoA and Commonwealth Procurement Guidelines.	M	M	M	Ensure appropriate monitoring and evaluation processes are included in design to ensure accountability around the use of Australian funds.

Risk type	Risk impact	Likeli-hood	Impact	Overall Rating	Risk management strategy
					Secure up-front clear commitments from Government of Vanuatu to maintain financial management systems and practices and agree measures to monitor performance.
Poor communication between Provincial PWD offices and head office	Inadequate communication between provincial PWD offices and head office has the potential to undermine program efforts to strengthen financial management in the provinces, and create problems with flow of finances and payments to contractors	L	M	L	The program will provide communications and office equipment (e.g. phones, faxes, photocopiers), where needed to support communications. Imprest accounts will also be closely monitored to ensure they are functioning effectively.
Lack of local sub-contractors and/or inability or lack of interest amongst SSC and community to deliver works	Lack of engagement or quality of sub-contractors. Timeliness and quality of works delivery could be reduced.	M	M	M	Target appropriate small scale contractors and communities, and provide appropriate training and support to help them participate in the provision of maintenance works. Ensure complete community consultation about the program so that all potential stakeholders are fully informed.
Enabling environment for local contractors remains weak (lack of ongoing GoV works contracts, limited access to finance and equipment in the provinces)	There are only a few national contractors and even fewer small scale local contractors (some un-registered). Private sector reluctant to step into an uncertain market without long term job perspectives and access to capital and appropriate equipment	L	M	M	Build capacity to ensure emerging small scale contractors understand the tender process and can successfully compete for maintenance contracts. Put in place appropriate risk sharing arrangements which provide small scale contractors and communities with access to equipment and tools. Ensure PWD prioritise timely payment of invoices for completed works (i.e. within 30 days)

Risk type	Risk impact	Likeli-hood	Impact	Overall Rating	Risk management strategy
Private sector participation is constrained by inappropriate risk allocation, lack of incentives	Lack of entry points for private sector participation and inappropriate risk allocation reduces viability of local infrastructure service delivery	L	M	M	Structure downstream opportunities for contracting into design to encourage Community Based Contractors/Small Scale Contractors. i.e. Contracting for Level 1, Level 2, and Level 3 works for community group, small petty/civil work contractors and national contractors
Program objectives for private sector development are too ambitious for the 24 months time frame	Procurement of equipment and training of contractors is time consuming and leads to a delay in the delivery of physical outputs	H	M	M	Option for possible 6 month program extension and possibility to roll over to phase 2 of VTSSP. Explore options for partnering with national contractors to ensure works can still be delivered Target small scale contractors (ie. builders and provide training)
Communities oppose road works	Inadequate consultation with communities could lead to disputes over proposed works (eg. over Kastom land, location of drainage etc) and impact on delivery of physical works	L	M	L	Program will support PWD to undertake consultation with affected communities. Risk is expected to be minimal as the program is improving existing roads, rather than building new roads. Program is also expected to create local employment opportunities for communities.

Risk type	Risk impact	Likeli-hood	Impact	Overall Rating	Risk management strategy
Monitoring and Evaluation Framework lacking detail to assess effectiveness of TA, resource inputs/outputs, and capacity building	Lack of clarity on performance measures and basis for improving performance (e.g. of TA, MC etc) can undermine program effectiveness and continuous improvement principles.	L	M	M	M&E should be built in to all activities and linked to progress reports and financial payments from outset. Baseline study will also test the proposed M&E framework. This will build foundation for later Phase 2 performance incentives/bonuses through VTSSP sub-projects/ operations. May require independent verification of TA/MC effectiveness.
Ongoing data collected for M&E purposes insufficient to demonstrate program impact	Lack of M&E data at program and sub-project level undermines outputs and outcomes that may be achieved. Also, difficult to substantiate the case for further VTSSP phases/funding	M	L	L	Clear policies, procedures and practices required – and responsibilities allocated – for collection and analysis of M&E data required at sub-project and program level.
Ineffective technical advisers, unskilled in LBAT/SSC fail to build PWD capacity	PWD capacity to roll-out VTSSP constrained by lack of practical, technical and systems support	L	M	L	Ensure that advisers are appropriate for the job through a thorough selection process with PWD officers included on the selection panel.
Project start up is delayed leading to delay in the delivery of physical works into wet season	Wet season rains could impede the delivery of road maintenance works	M	L	M	Planning and delivery of works is to be undertaken in parallel with other components of the program to minimise the potential impact of implementation delays. Possibility of rolling Phase 1 projects into Phase 2.