

# TRANSPORT NOTES

## OPERATIONAL GUIDANCE



THE WORLD BANK, WASHINGTON, DC

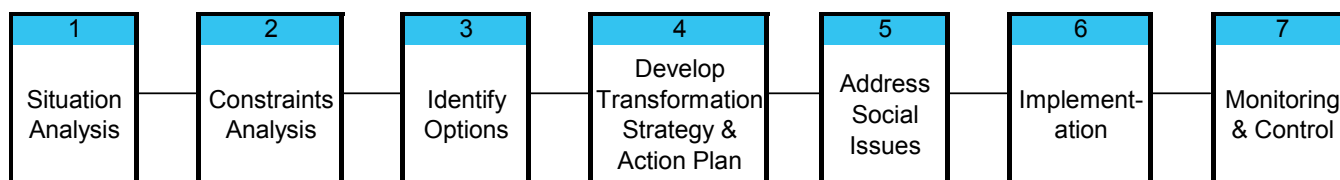
Transport Note No. TRN-31

June 2006

### How a Road Agency Can Transform Force Account Road Maintenance to Contracting

Adam Andreski, Subhash Seth and Wendy Walker

Recent international trends in the reform of road management, point to the need to transform force account road maintenance services. With Force Account, funding tends to be erratic; management of equipment and its support facilities inadequate, planning, supervision and execution require high standards of staffing, quality control may be poor; and reporting systems weak. Contracted works have the advantages that payment of work is done to specification, rates are known making budgeting and planning easier, risk is transferred from the Public Sector to the Private Sector, and the profit motive tends to promote efficiency and reduce unnecessary waste. An ILO study in Cambodia found that contracted road maintenance is 24% cheaper than force account (Munters 2003) and Talvitie (1996) found contracting out gave 5-15% in efficiency gains. Many countries have already gone through this process and every country has a different experience. This paper brings a systematic approach with a focus on situation analysis, identification of options, developing transformation strategy, addressing social issues, management options, and monitoring efficiency and effectiveness of the program as illustrated in the 7-step process below.



This Note has been produced with the financial assistance of a grant from the Transport & Rural Infrastructure Services Partnership (TRISP): a partnership between the UK Department for International Development and the World Bank for learning and sharing knowledge in the fields of transport and rural infrastructure services. It is based on [World Bank Transport Paper No. TP-11](#) that includes case studies on Lesotho, Malawi, Mozambique, Tanzania and Zambia.

#### INTRODUCTION

The objective of this Note is dissemination of best practice and knowledge sharing on how a Government road agency can prepare for phasing out force account procedures in the public sector and creating an enabling environment for contracting out road maintenance. In the past many countries have gone through the process in a rapid and perhaps unsystematic manner. A more measured approach is recommended here with a focus on situation analysis, identification of options, developing transformation strategy, addressing social issues, management options, and monitoring efficiency and effectiveness. This would enable road ministries or agencies considering introducing or increasing private sector participation to avoid the pitfalls of the past, and ensure pre-requisites are adequately addressed.

#### 1. SITUATION ANALYSIS

The first task is to prepare some basic statistics on the sector to set the context, scope and scale of the transformation. This will include an inventory of the road network and workload in terms of maintenance funds required for road lengths of various classes, at national and local levels. It should take into account road

condition, maintenance backlog, strategic development plans, traffic levels and vehicle fleet in country and compare this with current funding arrangements. This information would provide the basis for assessing the demand for road services.

Public Road Sector		Private Road Sector	
Legal Framework	G	Construction Industry Policy	E
Transport Policy	M	Contractor Registration System	G
Road Maintenance Strategy	E	Contractor Training Program	M
Institutional Structure	P	Contractors Associations	G
National Construction Council	G	Credit Availability	P
Leadership	E	Bonding & Contractual Environment	P
Central Capacity - skills/numbers	G	Capacity of Large Contractors	G
Local Capacity - skills/numbers	P	Capacity of Medium Contractors	M
Adequacy of Funding for Roads	P	Capacity of Small Contractors	P
Financial Control	M	Quality of Work	M
Governance & Transparency	M	Volume of Work	G
Personnel Management	P	Regularity of Work/Payments	P
Road Management Systems	M	Availability of Equipment	M
Autonomy of Road Agencies	P		
		Excellent	E
		Good	G
		Mediocre	M
		Poor	P

#### Box 1: Indicative Road Sector Evaluation Grid

Also required is data on current capacity in terms of staff numbers and skills, equipment holdings, for both private and public sectors. This will include reviewing

administrative structure of the sector in terms of Ministries, local councils, road agencies/authorities, construction councils, road fund agencies, equipment hire centers, banking facilities, degree of decentralization etc. Such information would allow the true costs of force account to be identified to assist in the justification of transforming to a contracting environment. An overall evaluation of the situation in the country should be prepared and illustrated as shown in box 1.

Government legal instruments such as a Road Transport Act may need to be updated in terms of road classification, institutional set-up taking into account, where appropriate, autonomous road funds, agencies and local authorities. Strategies and policies in regard to management and financing of roads, network development, removal of backlog and maintenance should be evaluated. It is important that maintenance is given high priority. Policy statements may not be in just one document such as the Transport Policy. Other relevant policies may include those for the Construction Industry, Civil Service Reform, Rural Development, and Decentralization. Relevant legislation may include Transport, Highways, Labor, Construction Industry, Financing, Autonomous Agencies' Acts of Parliament and Regulations. Particular Ministries or Agencies may also have strategic plans for the relevant sectors.

An analysis should then be carried out to determine whether these strategies, policies and legislation are adequate, and to what degree they are being implemented or enforced. The following questions should be asked when evaluating the policy:

- ❖ What is the quality of the National Transport Policy?
  - Does it involve all main stakeholders?
  - Is it consistent with international agreements such as the achievement of Millennium Development Goals?
  - Are cross-cutting issues such as social and environmental issues integrated into the policy?
- ❖ Are the policies or strategies feasible financially?
- ❖ Is there appropriate decentralized management?
- ❖ Is the policy or strategy sustainable? (e.g. maintenance, right level of intervention)

Assessments can then be given in terms of the adequacy of the leadership and institutional structures to deliver these policies and what capacity is available in the public organizations to manage works at central and local levels. The quality of financial control, personnel and management systems and the degree of Government transparency and accountability are important considerations. An assessment will be required of the adequacy of financing of the maintenance of the network.

This work may require a study or series of studies to establish the scale, scope, context and constraints in the sector at the starting point of the transformation. Later on this information would be used as baseline data for monitoring progress of the transformation and the sector as a whole.

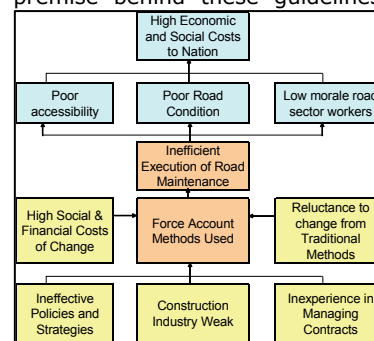
## 2. ANALYZE CONSTRAINTS

Having established the demand for road maintenance services and capacity for delivering them, a gap will

often emerge. This may be in terms of a need to upgrade Government policies and legislation, a shortfall in the ability of Government to administer the services and a shortfall in capacity of the private sector to deliver the services. Once these gaps and constraints are identified options can then be considered to remove them. A good way to illustrate these constraints is in the form of a problem tree. This process normally has the following steps as follows:

- Step 1: Brainstorm road maintenance problems with stakeholders
- Step 2: Select an individual core problem e.g. efficiency
- Step 3: Look for related problems to the core problem
- Step 4: Establish a hierarchy of cause and effects connected with arrows showing links
- Step 5: Review the diagram and verify its validity and completeness.

A possible example is given in box 2 but in practice each country will have its own complexities. The central premise behind these guidelines is that force account



**Box 2: Possible Problem Tree**

methods lead to inefficient road maintenance execution as shown in the problem tree. For the transformation to be worthwhile, it must be established that this is in fact the case. In some countries such as Tanzania it was evident by inspection that the force account system had broken down. In other countries further studies may be required including a full financial analysis of maintenance operations. This may include full identification of administrative overheads, capital costs, and depreciation. In some countries only direct operating costs are taken into account such as labor or fuel.

## 3. IDENTIFY OPTIONS

Force account units are highly dependant on good management. In some countries force account operations may have almost collapsed and so a fast track process would be necessary.

It is important to involve all key stakeholders in this process such as Government, central and local, parastatals, regulators, standards bodies (e.g. ISO), non-state actors, unions, consultants and contractors.

A decision should be taken early regarding the degree of force account to be phased out and whether this should be on a pilot basis first in one province then replicated to others. In some cases there will be benefits in continuing with a small force account capability for training purposes of agency staff, or in sparsely populated remote areas where contractors are reluctant to mobilize. Emergency works will have to be catered for, and framework contracts may be more expensive to operate than to have a certain amount of equipment and labor on standby or being put to other tasks.

There are three complementary parts to the transformation process: first preparation of government to undertake planning and management of contracts, second phasing out direct public sector execution of works and third, phasing in the private sector.

#### Preparation

Following the situation and constraint analysis described above and setting up a transformation team, government has options on how far it desires the transformation to go. A functional analysis should be undertaken addressing the following questions:

- ❖ What existing functions are undertaken?
- ❖ What functions will need to be retained and developed within the public sector?
- ❖ What new functions will need to be added to public sector?
- ❖ What new functions will need to be implemented by the private sector?
- ❖ What existing functions will be switched to the private sector?

Functions to consider can be grouped as follows: planning and defining standards, programming work, preparing and letting contracts and contract management, supervision, monitoring road condition, materials testing, undertaking physical work (including management of labor and plant) and various types of training. Other functions are common to all types of work including the general administrative functions of personnel management, finance, legal, and public relations.

Options chosen will need to take into account Government's strategy on how far it wishes to proceed with private sector participation. Options include standard unit cost, framework, area based, performance based, medium/long term and management contracts. Concessions are also an option that can include private finance, such as: Design, Build, Finance and Operate (or maintain); or Build, Operate and Transfer.

Depending on options chosen, the district and/or regional engineers will need training and motivating on how to perform their new role as "network managers". They will need to think differently about what needs to be done and how to do it. They may need additional training on how to specify work for a contract and how to let and run particular types of contract.

Major changes in organizational finances will be required. Initially there is a very strong possibility that an increase in observed maintenance expenditure will be required as the organization moves towards full cost recovery. This is because many force account operations do not adopt full cost recovery principles in their budgeting. Often the costs of running capital equipment are ignored within internal government budgetary procedures. (Capital equipment is often financed via donor grants or via ad hoc payments).

#### Phasing Out: Public Sector

The decision to transform force account has profound implications on the public sector organizations managing the sector. Since much of the work will now be outsourced, the required staffing levels will be reduced for operational/execution functions and those that remain will need a different set of skills. Hence one of the first

strategic decisions to be made would be what sort of institutional structure should administer the Road Sector. Options in this regard would include:

- **Provide autonomy to road agencies.** Different arrangements will be required for different classes of road. A very small country may be able to manage everything centrally. A very large country may need separate agencies at state, provincial and district levels.
- **Strengthen existing government structures at the various levels for contract management.** This may include Ministry Headquarters, Provincial and District offices as described in the "preparation" section above.
- **Combinations of the above** such as setting up an agency managing national roads and use existing local council structures to manage local roads.
- Establish **contract management units** such as the AGETIPS (WB Technical Note 411) used in francophone Africa.
- **Public Private Partnerships or Concessions** (See Amos, TP-1). This approach may be viable for highly trafficked main roads

Autonomous road agencies can greatly improve the efficiency of management of national roads, and Tanzania's road agency TANROADS and Road Fund are good examples. (Reference can be made to Heggie and Vickers, 1998 on how to do this) However, at local level the ILO (Edmonds & Johannessen, 2003) recommend, where possible, building up the capacity of existing institutions. Care needs to be taken to ensure that any new structure does not duplicate and compete with existing government structures. Having established the institutional structure, plans should be put in place to handle the personnel implications. A number of options need to be considered, taking into account both financial and social factors which may include:

- **Recruit Chief Executive using transparent criteria** for autonomous agency who then recruits own staff
- **Transfer staff to autonomous agencies or local councils** or encourage that agency to recruit from government. (Generally it is best to recruit staff from any source but this would reduce redundancy costs.)
- **Transfer staff to a government formed road contractor or contractors.** These may then be given guaranteed work for a period of time and then fully privatized. (e.g. Namibia and Ethiopia)
- **Second government staff to contractors or consultants** (This has worked in a pilot project in South Africa)
- **Transfer staff from central government to local government** (This requires good cooperation between Government Ministries as was not the case in Malawi)
- **Privatize or commercialize particular elements of the organization** such as Training Schools or Materials Laboratories.

Having considered the options for staff transfers, some may then become redundant, and funded plans need to be put in place. Options here include:

- **Voluntary redundancy.** (Best staff may leave)

- **Retrenchment.** (Decisions here may not be made on the basis of merit unless done with transparent criteria.)
- **Natural wastage** – or not replace retired or resigned staff. (Staffing profile may become overly aged.)
- **Temporarily reduced retirement age** - if sufficiently good conditions are offered this will reduce the number of aged staff and may improve staffing profile.)
- **Training support** - in particular for unskilled staff, may enable some staff to get other jobs.
- **Attrition or do nothing** – although not usually an intended strategy, this often results in working conditions becoming so poor that staff eventually leave anyway.

Clearly, there are advantages and disadvantages of various methods, and combinations of the above may be best depending on circumstances. The worst option, but a very common one since it avoids making hard decisions, is the do nothing one. This largely happened in Malawi and Zambia.

The most important consideration is staffing, but it is also important to avoid wasting other resources such as plant and equipment. Good working road construction and maintenance equipment is often scarce in developing countries thus driving up the cost of works. A number of options on how to handle Government owned plant include:

- **Transfer equipment to state owned company** (See references for Namibia and British Columbia )
- **Transfer equipment to Government owned plant hire/leasing centre** with the option of privatizing or closing it down later once equipment has reached the end of its useful life.
- **Sell equipment** (This can be done as one big auction or a series of them, or as hire purchase). One big auction may depress the price received but low prices may be desirable to kick start local contractors businesses.
- **Include equipment as assets that contractors bid for as part of road works tenders.** This is similar to selling the equipment but ensures that it is used on road projects and also offsets agency expenditure.
- **Attrition or Do nothing** (Let equipment get cannibalized and devalue over time)

There are pros and cons of the various options and the best combination will generally depend on country specifics. Generally, many Government established contractors or plant hire companies have long term sustainability problems, but they can provide a useful transition role while the private sector builds up its experience and capability. Unfortunately, the last (do nothing) option is very common as mentioned in the case studies and is likely to be the worst economically, but again avoids the need for any hard decisions.

#### Phasing In Contracting Options

**Let private sector respond on its own.** If there is a market for contracting services with payments available on a regular and timely basis, entrepreneurs will emerge to fill the demand. These may be transporters,

shopkeepers or former employees of road administrations. However, there are a number of ways of accelerating this process discussed below:

**Packaging contracts** is one of the best ways of providing a range work for the spectrum of the local construction industry and avoids the total value of the contract becoming too large for small and medium sized companies. This can be done vertically or horizontally. **Vertical packaging** is where projects are divided into several contracts each covering a short length of road. **Horizontal packaging** is where works are awarded within the same stretch of road according to particular activities, for example culvert contracts, drainage contracts, shoulder repairs or haulage. This method is particularly useful in that it enables some activities such as drainage to be low cost labor based and others such as providing compacted gravel would require high cost plant. It should be noted that road agency administration or supervision consultancy costs may increase but these could be offset by local firms providing lower rates.

**Set up National Construction Council (NCC) to develop contractors.** Such councils have been established in a number of countries. Tanzania created one in 1979, and Malawi and Zambia in mid 1990s. (Brushett & Seth, 2005) identify four main roles for these councils namely: regulatory, contractor development, advisory to Government, and information dissemination.

Tanzania separated out the regulatory function in 1998 through the creation the Contractors Registration Board although both this Board and the NCC are involved in contractor development. Having been released of the regulatory function, the NCC is now looking further afield and promoting a number of initiatives such as the Construction Industry Development Fund. Unfortunately it is struggling financially, not having revenues from contractor registrations, but Government remains supportive. This initiative could well be pivotal since many countries have made little progress on addressing the financial constraints that prevent small contractors growing into medium ones.

A number of NCCs have taken up the functions of the old Public Works Departments' Roads Training Centers. The NCC in Zambia has inherited the labor based training school for contractors, that was supported by NORAD and ILO. The Malawi NCC is actively training contractors but perhaps at the expense of the contractor registration function which is still rather weak.

**Regulate contractors through registration system.** Many countries have set up a national system that classifies contractors according to financial and technical capability. Zambia and Malawi register contractors through their construction councils. Care needs to be taken that such systems do not become rent-seeking exercises where contractors just pay for the classification they want, so inspection and verification of contractors' resources is essential. Registration systems may be more effective at provincial level where the logistics of verification are much easier. Andreski & Byabato (1997) describe such a scheme for Iringa Region, Tanzania where contractors were upgraded or downgraded depending on performance.

**Facilitate creation and operation of contractors associations.** These associations enable contractors to promote and defend their interests as a group and this

has much more weight than individuals. They can agree contract conditions, payment procedures and regulations with Government or other major clients. They can provide advice, training, financial support and improved access to banking, insurance, materials and equipment to their members. Larcher and Miles (2000) identify four issues that must be addressed when planning a contractors association: 1) It must be accepted by Government as representing their group, 2) Funding must be available through membership fees or grants, 3) There must be a good number of members, and 4) Like any other organization, it must have a good leadership and management.

**Provide subsidised plant and equipment to contractors.** Availability of equipment is often a major constraint to domestic contractors in developing countries. One option is to provide equipment at subsidized rates. However, this option will be difficult to sustain and is probably only viable as a kick starter.

**Train contractors.** An emergent industry is likely to lack technical and business skills and training is a means of enabling new contractors to develop quickly. There is also likely to be a high turnover of both contracting companies and the staff within them so the training process needs to be continuous over a long period of time rather than a one-off exercise. Several types of training are available and these include, classroom training, "greenhouse contracts", technical competitive tendering after training seminars and mentoring on site.

**Classroom training** can take many forms. Typical technical aspects of labor and machine based road construction include: basic road engineering, identifying objectives, project planning using critical path analysis to develop bar charts and optimal use of resources, balancing plant and equipment, quality control, site supervision, work measurement and estimating, progress charts, contract monitoring and reporting. Business skills training may include cash flow management, contract conditions, tendering regulations and techniques, bonding and contract law. This training may last from one day to one month depending on the seniority of the staff concerned but should not be too long since contractors are very busy people needing to earn money to run the business.

**"Greenhouse"** contracts are those set up for newly established contractors where much of the risk is removed. Consultants could be on call to provide advice. Easy contract terms may be available such as cost-plus or many of the equipment and materials provided by the client. Indicative rates may be provided or the total budget made known in advance. Another option may be to provide a bill of quantities with rates and invite each contractor to bid a certain percentage above or below. The type of "greenhouse" should depend on the level of development of the local construction industry. Airtight greenhouse (windows closed) contracts with rates fully fixed could be provided at early stages and then gradually opened up to full financial competition once the industry approaches maturity.

**Technical competitive tendering** similar to that used to procure consultants is another option. Andreski & Byabato (1997) present a method developed in Iringa Region, Tanzania in the early 1990s. Here all contractors or entrepreneurs interested in moving into the business in

the region were requested to express interest in the Regional Engineers road maintenance program. Compulsory training was provided on how to carry out the works and prepare tenders. Short lists were then drawn up and contractors invited to submit technical proposals based on a priced bill of quantities. The technical proposals were then marked according to pre-published criteria and the technically best chosen. This had the advantage of ensuring contractors paid full attention to the training and prevented them from submitting unrealistically low bids.

Similar to the "greenhouse" concept is to allow **"high risk tendering"** and management of contracts. This may include reduced or no bonding, large advances with easy repayment terms, fast track payments, short listing of contractors thus reducing competition, price controlled or internet tendering. These types of contracts throw a lot of the risk on the client and even the individuals managing such tenders. Hence the client project managers will need the full support of their superiors and such techniques should be included in policy documents. For a well developed industry this may be expensive, but for an emerging industry it would accelerate its development and hence avoid many costly failed contracts.

Capital is a major constraint for newly emerging contractors. Banks in developing countries are notoriously risk averse and particularly reluctant to provide credit to what they perceive as high risk industries such as construction. **Enhanced credit availability** is one way around this problem. It may be necessary for the client or development partners to provide guarantees to local banks, thus removing or sharing the risk. They could also subsidize interest rates thus reducing them to levels affordable by contractors. Often collateral at high percentage rates is demanded and this could also be reduced if third parties are prepared to take some of the risk. If good cooperative local banks are difficult to find, other vehicles can be found such as Tanzania's Construction Industry Development Fund.

**Appropriate standard specifications** should be included in the contract to suit the emerging local industry. They may include specifications allowing for local products. Specifications may also be simplified for the smaller contracts thus easing complexities for smaller firms and those that imply use of sophisticated imported equipment should be avoided.

Local entrepreneurs often produce **innovative local products**. These may include items such as wood stave culverts, bamboo reinforced concrete pavement or locally manufactured rollers and trailers. Local councils are frequently very conservative in regard to such innovations and prefer what they perceive as the "tried and tested" but more expensive foreign technology like Armco pipes. It is important that Government policies promote the local industry and also that these policies are fully disseminated at all levels.

Some countries remove **subsidies to foreign firms or create advantages for local contractors**. Often Development Partners insist that local taxes such as import duties are not applied to their credits or grants. This means that large foreign companies can import new equipment without paying duty whereas the smaller local companies are offering to provide their services having already purchased duty paid equipment. This creates a

big advantage to foreign companies particularly for the larger contracts. It would be better if the playing field was leveled by all parties paying the same level of tax. Alternatively, barriers can be placed on foreign firms. This could include high registrations fees or extra taxes on imported equipment. A domestic preference of around 5 to 15% can also be included in tender documents. Another advantage may be to require foreign contractors to subcontract a percentage of their contract to local firms.

**The Development Team Model.** In this model, the aspects of the work are packaged into the four basic functional components: construction management, materials management, materials supply, and the works. The work is contracted out to a small-scale contractor, materials management and supply is contracted out on a fee-basis to a materials manager, and construction management is contracted out on a fee-basis to a construction manager. The materials manager and construction manager may be either consulting firms or established contractors. They make up the development team and provide the necessary support to emerging contractors. The uniqueness of the model is that it combines contract packaging (unbundling); on the job hand holding; and provision of support in resource mobilization for the emerging contractors.

**4. DEVELOP TRANSFORMATION STRATEGY & ACTION PLAN**

Based on the options chosen, a transformation strategy and action plan should be drafted. This should be time bound (3-10 years) with costs and identified responsibility for implementation. (Indicative outline example given in box 3). A means of monitoring progress against key indicators will be required. A **Transformation Project Team** should be set up to manage the process in the Ministry or Agency responsible for roads. It should be led by a senior roads administrator and have advice available from consultants, contractors and academia. Technical assistance may also be provided to strengthen this team. The Team Leader would need to have direct access to top decision makers responsible for roads.

The strategy should have a **Vision** of where the transformation should be in say 10 years. Base on the road network size, an example may be 95% of road maintenance works contracted out, and for example 400 small, 50 medium and 20 large local capable contractors available to carry out rehabilitation and maintenance of roads, and corresponding professional autonomous roads administrations to manage them with competent support from consultants.

**Strategic Objectives** should then be set. This would include type of national and local road administrations to manage that network, and size and structure of road contracting industry to maintain and develop the network. Such a plan must be realistic and achievable taking into account the economy of the country and anticipated demand for road transport services. A broad financial envelope should be established using asset management principles.

Changes to the organization structure to administer the road network will be necessary. The current Ministry may possess three times as many engineers as required in the

estimate for contract management. However, other engineers will be required for planning, evaluation and specialist activities. Professional expertise will be necessary in the areas of economics, accounting, law, construction materials, personnel and office administration in addition to support staff. Unfortunately, it is likely that many supervisors, artisans and unskilled laborers will become redundant, but efforts should be made to transfer or prepare them for a role in the private sector via training or secondment.

Having established the vision, objectives, scope and scale of the transformation, a strategic action plan is required to manage it. This should be the first task of the Transformation Project Team. The plan should be time bound identifying resource and those responsible for implementation.

Year	1	2	3	4	5
<b>Preparation Phase</b>					
<b>Phasing Out Force Account</b>					
Design new public sector organisation(s)					
Prepare Personnel Transfer/Retrenchment Scheme					
Establish new institutional framework					
Train Staff for new role					
Transfer/retrench staff					
Prepare privatization scheme for Materials Lab					
Transfer/Sell Plant & Equipment					
<b>Phasing in Contracting</b>					
Set up (or strengthen) National Construction Council					
Establish contractors registration scheme					
Package contracts horizontally & vertically					
Create/support Contractors associations					
Train & develop contractors					
Encourage joint ventures with foreign companies					
Review bonding and other contract conditions					
Review contract specifications					
Establish Industry Development Fund					

**Box 3: Possible Action Plan**

**5. ENSURE SOCIAL ISSUES ARE ADDRESSED**

The transformation from force account to private contracting can have negative impacts on workers because of the need for redundancy or retrenchment, but these impacts should be anticipated and can be mitigated. However such a transformation also provides numerous opportunities for poverty alleviation through labor based techniques and gender mainstreaming, the use of social and environmental clauses in contracts, and attention to HIV/AIDS outreach and awareness among workers and communities adjacent to civil works.

One important key to the success of force account transformation is proper attention to and planning for mitigation of the impacts on affected personnel. First and foremost is adequate expertise on the steering committee to deal with issues of redundancy and retrenchment. Appropriate identification of the impacts, skills assessments and training programs need to be devised and workers given a chance to participate in decisions regarding timing, compensation packages, re-training opportunities, etc. In some cases, training for opportunities beyond the transport sector should be considered. Support to new institutions such as small contractor associations can help to further create and sustain a safety net of resources, facilitate information exchange, provide additional training, and also serve as an important forum for dispute resolution.

Lessons learned in Lesotho point to the importance of addressing the gender and age dimensions of contractor training and national policies. Although some women have participated in the contractor training program in Lesotho, married women are still unable to open bank accounts on their own. This restricts their autonomy and has been viewed as an important blockage to their growth. Attention to gender and age criteria in tender evaluations can help to address some of these concerns.

In some cases under force account, many workers receive social working benefits as a part of the Ministry policy. These items cover diverse issues such as: location of camp sites and sanitation measures, worker safety, labor recruitment and payment format (with attention to gender and other relevant social dimensions), relations with local communities and authorities, etc. Inclusion of these clauses helps to ensure that the benefits of creating both assets and employment are equitably shared. It is important that contractor training programs cover social issues and mitigation measures, and that these clauses are used within contracts and regularly monitored.

Many donor funded large contracts in Africa include HIV/AIDS clauses. These clauses ensure that workers are given adequate HIV/AIDS training and access to resources (i.e., condom distribution, access to health workers, etc.) and that communities living adjacent to civil works are included in information and education campaigns (IEC). These actions help to mitigate the spread of HIV/AIDS and potentially save lives. Large contractors often sub-contract the HIV/AIDS activities out to qualified NGO's for the duration of the works. Small contractors are at a disadvantage for using this system and efforts need to be made to ensure that the clauses, activities and awareness continue, even if they are offered by or done in collaboration with the Ministry and that the activities are monitored as a part of the contract.

## 6. IMPLEMENTATION

The key to implementation is consultation. Ideally a **Steering Committee** comprising major figures in Government from the Roads, Finance, Civil Service, and Local Government ministries will be members. A strong representation from the private sector is also important in areas such as Chambers of Commerce, Roads Associations, NCC, Institution of Engineers, Academia, Transport Operators, Agriculture, Tourism, Contractors and Consultants. This Committee should meet every two months. Regular communication with stakeholders is essential and a communications matrix should be prepared indicating who, frequency, what information and medium of transfer.

Implementation of the reform will be the responsibility of the department undergoing the transformation. The key unit will be the **Implementation Team** that must have a Team Leader with good access to top decision makers when necessary. One of the first jobs of the Team is to write its own Terms of Reference and get these approved by the Steering Committee. This will basically cover the steps mentioned in this guidance note but tailored to country specifics. After steps 1 to 3 shown in figure which is essentially the inception stage, the Team will need to prepare a project proposal i.e. step 4 – Transformation Strategy and Action Plan, and get this approved by the Steering Committee and any other bodies involved in financing the project.

This Team will need a range of skills and roles, and individuals would be assigned to cover planning, engineering, legal, economic, personnel, administration, financial and accounting issues. The Team is likely to employ consultants to carry out institutional studies but it is important that these studies are fully interactive with the client. The Team must meet once or twice a week and have at least one or two full time members. There will need to be at around every quarter, a **wider conference** including the Steering Committee and other stakeholders, particularly those in the Government Departments most affected by the changes.

The Team will need a **budget** to organize meetings, seminars, conferences and consultancies. Sums of money will need to be set aside to cover transfer and redundancy costs and this should involve the personnel departments of the organizations concerned. Some of these costs can be offset by plant, equipment and buildings being sold off or off-hired.

Should new autonomous agencies be created such as Road Funds or Road Authorities to enhance the process, enabling legislation maybe required and early preparations are necessary to allow for the legal and Parliamentary process to take place. Even without legislation, Cabinet approval is likely to be necessary and an appropriate **Cabinet Paper** should be prepared at an early stage. Finally, once the transformation has started, the monitoring systems mentioned below should be put in place including proposals on how training of contractors and public administrators can be continued.

## 7. MONITORING AND CONTROL

The purpose of monitoring is to exert control, learn lessons and improve the system over time. There will be two types of monitoring. The first will monitor key milestones in the transformation process treating it as a project using bar charts such as shown in box 3 and critical path methods and other standard project management techniques. The second type will monitor the results or impact of the transformation once it is complete over a longer period using **logical framework methods** (see EU Project Cycle Management Guidelines). The baseline study proposed in Step 1 will set the status of the sector at day zero in this regard.

Ideally, the impact monitoring should be part of an overall monitoring system of the sector as a whole, and much of the information may already be available from a Road Maintenance Management System. The purpose of this transformation is to improve efficiency of delivery of maintenance services and will not necessarily improve the effectiveness of maintenance [i.e. are the right roads being maintained to appropriate standards]. Key relevant indicators may include:

- ❖ Road Asset [A standard method of calculating this is given by Road Liaison Group, 2005 and a simplified method by Andreski, 2005]
- ❖ Unit maintenance costs for selected key activities
- ❖ Overall value and numbers of contracts performed grouped by contractor class and contract value
- ❖ Timeliness of contract procurements and payments
- ❖ Volume of force account works being carried out in terms of expenditure and coverage of network
- ❖ The number of bidders for contracts

An assessment of the status should be made every year, preferably by an independent agency. Full monitoring every year of each indicator over the entire network is likely to be impractical and statistical sampling techniques will be required. In remote and lightly trafficked areas a rolling 3 or 5 year survey program may be more appropriate.

## REFERENCES

- Amos, Paul. 2004. *Public & Private Sector Roles in the Supply of Transport Infrastructure and Services – Operational Guidance for World Bank Staff*. Transport Paper TP-1. World Bank, Washington, DC.
- Andreski, A. and Byabato. 1997. *Development of Local Contractors in Iringa Region Tanzania*. South African Transport Conference.
- Andreski, A. and Lusenge. 1992. *Road Maintenance Planning: An Approach at the Iringa Regional Engineers Office*. Institution of Engineers/Ministry of Works/JICA 1st Seminar on Roads.
- Andreski, A. 2005. *Road Asset Valuations*. Senior Executives Roads Course, Birmingham University, UK. <http://www.itransport.co.uk/documents/Road%20Asset%20Valuation.doc>
- ANE. July 2005. *Integrated Road Sector Strategy for Mozambique*.
- Brushett, S. and Subhash Seth. 2005. *Construction Industry Development and the Road Sector - Effectiveness of National Construction Councils*. Sub-Saharan Transport Policy Program Note 38. World Bank, Washington, DC.
- Burningham, Sally and Natalya Stankevich. 2005. *Why road maintenance is important and how to get it done*. World Bank, Transport Note 4,. World Bank, Washington, DC.
- Colquhoun, Brian, Hugh O'Donnell & Partners in Association with Kampsax and Ernst & Young. 2005. *Review of the Zambian Construction Industry*. National Council for Construction Contractors Registration Board Tanzania. *Corporate Strategic Plan 2004-2008*.
- European Commission. March 2004. *Project Cycle Management Guidelines*.
- Heggie, I. G, and Vickers, P. 1998. *Commercial Management and Financing of Roads*. World Bank Technical Paper No. 409. Washington, DC. <http://www.worldbank.org/afr/ssatp/techpaper/tp409.pdf>
- ILO. Bentall, Beusch & de Veen. 1999. *Employment Intensive Infrastructure Programmes – Capacity Building for Contracting in the Construction Sector*.
- ILO. Edmonds & Johannessen 2003. *Building Local Government Capacity for Rural Infrastructure Works*.
- ILO. Munters 2003. *Jobs or Machines – Comparative Analysis of Rural Road Work in Cambodia*.
- Johannssen, Bjørn. 2002. *Developing Labour-based Small-scale Contracting in Dedza and Lilongwe*. CARE, Malawi.
- Larcher, P. 2001. *Rural Travel and Transport Program Case Study: A Comparison of Four Contractor Development Programmes*. Rural Transport Knowledge Base.
- Larcher and Miles. 2000. *Roads and Realities: How to promote road contracting in developing countries*. <http://www.lboro.ac.uk/wedc/publications/rr.htm>.
- Lund, Earl, A. 1996. *Privatization of Road and Bridge Maintenance in British Columbia*, World Bank Road Management Training Seminar.
- Ministry of Communications and Transport Zambia. 2002. *Transport Policy 2002*. <http://www.nrfa.org.zm/Approved%20Transport%20Policy%20May%202002.pdf>.
- Malmberg-Calvo, C. 2001. *Options for Managing and Financing Rural Transport Infrastructure*. World Bank Technical Paper 411. Washington, DC. [http://www.worldbank.org/transport/rt\\_over.htm](http://www.worldbank.org/transport/rt_over.htm).
- Ministry of Transport Malawi. 2002. *Draft National Transport Policy*.
- Ministry of Works Tanzania. 2004. *Draft Roads Act*.
- Ministry of Works, Transport and Communications, Namibia. 1997. *Draft Legislation to Establish an Independent Roads Contractor Company*.
- National Construction Council Tanzania. 2002. *Articles of Association of Construction Industry Development Fund*.
- National Roads Authority. Malawi. 2002. *Annual Report 2002/3*.
- Parkman, Madelin, Robinson & Toole. 2001. *Developing appropriate management and procurement approaches for road maintenance*. [http://www.transport-links.org/transport\\_links/publications](http://www.transport-links.org/transport_links/publications).
- Phillips, Sean. 2004. *Expanding employment in public works in South Africa*. ILO ASIST.
- Queiroz, C. 1999. *Contractual Procedures to Involve the Private Sector in Road Maintenance and Rehabilitation*. Transport Sector Familiarization Program, World Bank, Washington, DC.
- Roads Liaison Group. 2005. *Guidance Document for Highway Infrastructure Asset Valuation*. The Stationary Office, UK.
- Seth, S. 2004. *Training of Small Scale Contractors for Rural Road Maintenance in Lesotho*. SSATP Note 36. World Bank, Washington, D.C. <http://www.worldbank.org/afr/ssatp/technotes/ATTN36.pdf>.
- Sibanda G. 1999. *Creating an Enabling Environment for Small Scale Contractors*. ILO ASIST.
- Talvitie, Anti. 1996. *International Experiences in Restructuring the Road Sector*. Paper presented at Transportation Research Board Annual Meeting, Washington DC.
- Tanzania Civil Engineering Contractors Association. 2004. *Profile of TACECA - Contractor Capacity Building Activities*.
- World Bank. March 1997. *DOC1082 Issue: 1. Examples of competition for road maintenance services*. Washington, DC.
- World Bank Construction and Maintenance Website. <http://www.worldbank.org/transport/>
- World Bank. 2003. *ROADSIP II Bankable Document*. Zambia. <http://www.nrfa.org.zm/include/searchfrm.php>.
- World Bank. 1994. *World Development Report – Infrastructure for Development*, Washington, DC.