MYANMAR TRANSPORT SECTOR POLICY NOTE

Summary for Decision Makers

CHALLENGES

- **20 million** people without basic road access
- **60%** of highways and most rail lines in poor condition
- **4,300 people** killed on roads in 2014, twice as many as in 2009
- In the last **4 years**:

  ... the vehicle fleet has **doubled**

  ... the paved highway network has increased by **35%**

  ... travel in Yangon has become **two to three times** slower

  ... public transport operators have lost **35%–65%** of the market
- **$60 billion** in transport infrastructure investments required for 2016–2030
- Road user fees cover just **one third** of infrastructure costs
- Railway fares pay only **half** of operational costs

POTENTIAL BY 2030

- **13% gross domestic product** increase—a $40-billion opportunity annually
- Basic road access for **10 million** more people, enabling them to reach development opportunities
- Long-distance transport that is **30%** cheaper (and much faster)
- More than **40,000 lives** saved

MAIN POLICY MESSAGES

Better transport is essential to Myanmar's development. After decades of underinvestment, Myanmar's transport infrastructure lags behind that of other countries in the region. Sixty percent of trunk highways and most of the railways need urgent maintenance or rehabilitation. River infrastructure does not exist, while 20 million people lack basic road access. The Government of Myanmar must decide what to prioritize and how to deliver. In 2014–2015, the Asian Development Bank (ADB) assisted the government in reviewing, analyzing, and assessing options and recommended improvements to the national transport system.

Investment Recommendations

The main recommendation is to **increase transport sector investments to 3.0%–4.0% of gross domestic product (GDP)**, up from 1.0%–1.5%, in line with other countries at similar stages of development (e.g., the People's Republic of China, Thailand, and Viet Nam).

Investments should focus on key national corridors, on Yangon, and on infrastructure maintenance. This review identifies the following short-term priorities:

- **Yangon.** Develop high-capacity bus rapid transit lines, manage car demand and parking, invest in traffic engineering, and rehabilitate sections of the Yangon Circular Railway.
- **Highways.** Upgrade the international corridors to Myawaddy and Muse, open the expressway to trucks, rehabilitate and modernize the pavement of highways with high traffic, and improve road safety.
- **Railways.** Modernize the Yangon–Mandalay line and scale up the maintenance of other main lines.
- **Ayeyarwady River.** Implement low-cost navigation aids, channel works, and ports up to Mandalay.
- **Rural areas.** Launch a new National Rural Road Access Program to provide access to all.

Suggested Policy Reforms

- **Empower the new Ministry of Transport and Communications** to oversee the sector and coordinate policy, planning, investments, management, and regulations. A new department of policy and planning would ensure that investments follow the plans and focus strictly on high economic and social priorities.

The Transport and Communications Division of the Southeast Asia Department of ADB prepared the *Myanmar: Transport Sector Policy Note*. The Government of Myanmar's support to this study is gratefully acknowledged.

50 YEARS ADB

- **Issue a National Transport Sector Policy Statement** that gives clear market-oriented policy directions. A sector-wide transport law may be considered after public consultations.
- **Corporatize, restructure, and, when possible, privatize state-owned enterprises** that operate in competitive markets, e.g., Inland Water Transport, Road Transport, and all public road and bridge construction units currently under the Ministry of Construction.
- **Transform Myanma Railways into an autonomous, business-oriented state-owned enterprise**, restructure its financial obligations, and rationalize the rail network and services. Efforts to develop rail freight should complement this.
- **Create a single Department of Highways and Bridges** with management responsibility over the trunk road network, and advance its decentralization. Audit existing long-term concessions (build–operate–transfer [BOT]) to ensure that they can deliver needed investments and cancel, renegotiate, or restructure nonperforming contracts.
- **Create an overarching transport authority for Yangon**, and perhaps for Mandalay, or assign this responsibility to the regional governments. Place road and transport administration under its helm and task it with developing all forms of public transport and with regulating car ownership.
- **Finance investments** by raising road and transport budgets initially and seeking larger private sector and development partner investments. Then raise user charges; introduce new fees, such as a fuel levy; and create a special transport account to ensure long-term financing.
- **Outsource civil works, gradually but fully, to the private sector.** Make fair and open competitive procurement a norm for all civil works contracts and public concessions.

Study Overview

Purpose of the Note

Based on ADB's analytical work for the government on the transport sector,[1] this note aims to advise the government and key stakeholders and to inform:

- the transport sector's situation in 2016 and medium-term perspectives;
- investments and initiatives that would have the highest economic impact;
- institutional and policy changes needed to put the sector on a self-sustaining development path; and
- actions that could be launched in the short, medium, and longer-term.

State of the Transport Sector in 2015

After years of low and sometimes poorly targeted investment, Myanmar's transport infrastructure lags behind the rest of Southeast Asia.

Myanmar has not been investing enough in transport. Investments were 1.0%–1.5% of GDP between 2005 and 2015. At a similar level of development, other countries typically invest 3%–5% of their GDPs in their transport infrastructure.

Despite a lack of funds, significant progress has been made in recent years. Between 2004 and 2014, the Department of Highways (previously Public Works) added more than 10,000 kilometers (km) of new trunk roads. Myanma Railways operated a 3,330 km network in 1990. The rail network reached 6,107 km in 2015.

It is estimated that 20 million people—half the rural population—do not yet have basic road access. This is unusual for Asia. People's transport costs are 10 times higher without a road than with one. Myanmar's village road densities are the lowest in ethnic minority areas, particularly in Chin, Kachin, and Kayin states.

Myanmar's transport sector has suffered, not only because needs have exceeded resources, but also because few investments have been effective and efficient. Sixty percent of the rail network serves fewer than 1,000 passengers a day, a level too low to justify even maintaining rail services. Spending on road and rail maintenance has been two to three times below what is needed. And despite its large potential, river transport has not received any investment.

Because of insufficient maintenance, Myanmar's transport infrastructure has declined between 1990 and 2015 to well below international standards. A 2014 survey found that 60% of the trunk road network is in poor or bad condition, requiring urgent maintenance or rehabilitation. Because of poor track conditions, Myanma Railways is forced to operate at 50% of its potential speed. The main waterways cannot be operated for 3 months a year because they are too shallow.

Myanmar's road network needs better trunk highways and more rural roads. The network is three times less dense than neighboring Thailand's. It is also of lower quality—only 20% of the roads are paved, against 53% in Thailand—and the roads are narrower. In Yangon, the street network is adequately

[1] This note builds on the *Myanmar: Transport Sector Policy Note* study, which includes nine reports, prepared by ADB staff and consultants in 2014–2015, and the technical assistance for Transport Sector Reform and Modernization, which started in 2015.

dense, but the roads are much narrower than those in Bangkok. We estimate that Myanmar needs to increase its road network from 157,000 km to about 260,000 km just to connect all the villages.

Myanmar's trunk rail lines need modernization, but the tertiary network should be scaled down. The country's rail network is by far the longest in Southeast Asia, but part of it is unproductive. Neither the current design standards nor the potential demand for over half the network suffices to make commercial operation viable.

The waterways—i.e., the low and middle reaches of the Ayeyarwady and Chindwin rivers—connect Myanmar's main cities, which is something unique in Southeast Asia. As of 2015, they are in their natural states. Small investments and increased funds for waterway maintenance and operations would be enough to enable modern river navigation.

Transport service markets are experiencing quick, destabilizing changes.

Decades of isolation and mismanagement saw transport markets highly controlled and distorted. The government subsidized state-owned transport companies, which charged users rates below their costs. Policies restricted the imports of cars and trucks, preventing the development of a private transport market. In-house government units either directly delivered road or rail construction works or handed them over to private developers without open and transparent competition.

The market reforms of 2011–2015 have transformed the transport sector:

- Car and truck ownership doubled from 2012 to 2015, a sign of quick economic growth. A competitive private transport market has appeared. Because newly imported trucks are of better quality, we estimate that freight transport costs have dropped by 20% since 2012.
- The reduction of car import restrictions has had negative effects in Yangon, where 70% of the fleet is registered. Travel speeds have halved since 2012. The market share of public transport was once over 80%, but in 2015 registered only 50%, while shrinking by 10% each year.
- Fatalities from road crashes have risen from 2,173 in 2009 to 4,314 in 2014. According to hospital data, 31%–36% of injured people admitted to Myanmar's hospitals were injured in crashes.
- The market share of state-owned transport companies has suddenly deteriorated. Myanma Railways lost one-third of its passengers and freight customers between 2009 and 2014. During the same period, Inland Water Transport lost 65% of its freight and 83% of its passenger turnover.

Looking ahead, vehicle fleet growth is expected to stabilize at 10%–15% annually, i.e. the number of vehicles will double every 5–7 years. Motorized vehicle ownership in Yangon remains 5–8 times lower than in similar cities. Unless it is capped, the city will likely experience a gridlock similar to that of Bangkok in the 1980s. Road fatalities may double by 2020, and reach 15,000 annually in 2025.

Road transport now dominates long-distance travel, carrying 90% of freight transport and 86% of passenger transport. The reforms have accentuated a long decline of rail and river transport. In 1990, rail had a 44% passenger market share, but it had only a 10% share in 2013. In 1990, 40% of all freight moved on rivers or by trains, but by 2013 only 10% did. Rail market share has probably shrunk further since 2013.

The downfall of rail and river transport outside of cities—and of public transport in Yangon—is driven by lack of policy attention and mismanagement, but it is not a structural trend. The analysis suggests that, with determined government action, rail and river transport could recapture two-thirds of their 1990 market shares. Without it, rail and river transport could quickly become marginal, with ultimately less than a 2% market share for each. Similarly, foreign experience suggests that public transport in Yangon could preserve its current market share of 50% or shrink further to 20%–30%.

Transport institutions need deep cultural change and restructuring to be able to guide the sector.

The transport ministry structure (until March 2016) was a remnant of the 1992 ministerial reform, which separated the Ministry of Rail Transportation from the Ministry of Transport. The government also allocates a significant transport role to the Ministry of Construction, which manages and executes works on the highway network. State-owned road, rail, river, and air transport enterprises report to the ministries. They operate with limited managerial and financial autonomy and mix up regulatory, commercial, and political missions.

These government departments and state-owned companies are skilled at execution, and many have strong corporate cultures. For instance, following the 2015 floods, the highway and bridge departments were able to restore access in record time. They are either monopolies (railways, road and bridge construction) or are larger than competing private companies (road and river transport). However, their equipment is old and their low salaries do not attract high-quality staff.

The confusion of policy, regulatory, and delivery functions has been a constraint. The transport ministries also have only had limited influence over key policy areas, such as investment planning, tariff setting, and resource mobilization. There is also a dearth of tools available for managing change (e.g., statistical information, performance targets, strategic plans, and policy statements) and of people with appropriate incentives and skills.

The government has made little progress toward commercializing service delivery and separating it from regulatory functions. This initiative of the President's office was originally met with goodwill from the transport ministries. However, a lack of understanding among the staff of what separation means, of how different commercial operations would be, and of how to get there, has slowed down change.

There has also been insufficient high-level interest in restructuring the state-owned companies that are not viable businesses and must receive operational subsidies to survive—i.e., Inland Water Transport, Myanma Railways, and Road Transport. This has stifled progress in addressing the excess liabilities of state-owned enterprises: overstaffing, historic pensions, and inherited debt.

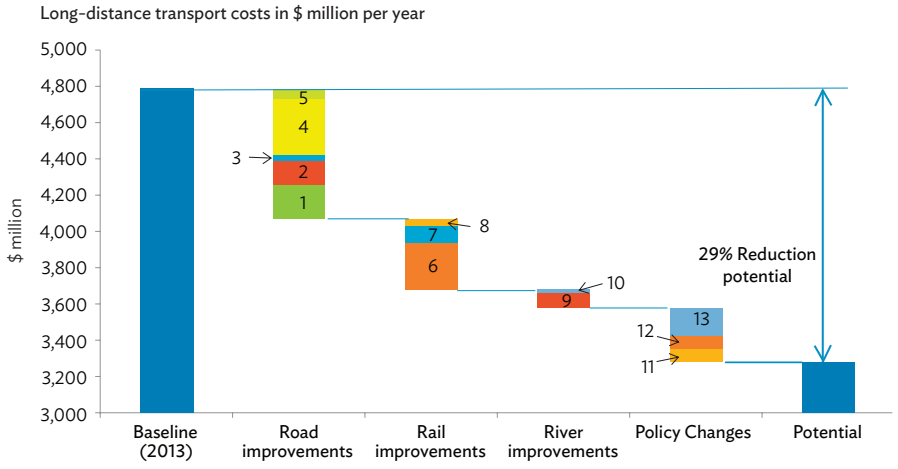
What Could Be Achieved

A focused and affordable program of transport infrastructure investments and operational changes launched in the next 5 years could, by 2030

- reduce transport costs by close to **30%** (Figure 1),
- ultimately increase Myanmar's annual GDP by **$40 billion**,
- provide basic road access to close to **10 million people**, and
- save **40,000 lives** on the roads that would otherwise be lost.

A transport strategy that fully taps into all modes would maximize economic impacts. The road sector dominates, and should thus receive a larger share of investments. However, in the long run, Myanmar cannot depend narrowly on just one mode. Because river and railway transport have been operating below potential, reforms and improvements of these systems could have a significant beneficial impact.

Figure 1: Targeted Investments Could Reduce Nationwide Transport Costs by Close to 30%



Transport investments and operational changes tested:

- 1. Allow trucks on the Yangon–Mandalay Expressway
- 2. Improve GMS Northern Corridor highway to the PRC
- 3. Improve the GMS East–West Corridor highway to Thailand
- 4. Improve the pavement of 3,000 km highways
- 5. Widen 1,000 km narrow highways
- 6. Improve the Yangon–Mandalay railway line
- 7. Rehabilitate 1,500 km secondary rail lines
- 8. Develop rail freight
- 9. Improve the Ayeyarwady river bed to 2 meters
- 10. Improve river ports
- 11. Increase by 15% the legal truck axle load
- 12. Improve the road user charging system
- 13. Reduce by 20% the road accident rate

PRC = People's Republic of China, GMS = Greater Mekong Subregion, km = kilometer, m = meter.

Note: Myanmar's total long-distance transport costs were estimated to be $4,800 million in 2013. The investments and operational changes tested would lower Myanmar's annual transport costs by close to 30%.

Source: Asian Development Bank estimates based on a model developed for the study.

To effect large changes with limited capacity, the number of initiatives should remain limited but they should be on a large scale.

Highways. To serve the needs of a market-based economy, investments should concentrate on projects that have the highest economic returns. These projects involve improving the operations, maintenance, and rehabilitation of the most highly utilized road corridors. As of 2015, only a few roads required capacity expansion, so major improvements should be reserved for the critical links to countries with which Myanmar trades the most by land. The following initiatives would have the most significant impact:

Allowing trucks on the Yangon–Mandalay Expressway could almost overnight reduce freight costs on the main national corridor by 20%, an $8.5-billion savings over a 15-year period. Doing so safely would likely require only maintenance and minor improvement works.

The *international highways to Muse and Myawaddy* carry most of Myanmar's border trade, but are substandard and in poor condition. Upgrading to Class II Asian Highway standards could reduce cross-border transport costs by $9.4 billion over a 15-year period.

A systematic *Program of Highway Pavement Maintenance and Improvements* could, within 5 years, bring all major highways to good condition. In contrast with the current approach, the program would focus on roads where traffic is highest, be implemented by the private sector, and include works needed to preserve roads before they deteriorate. For a cost of $300 million annually, it would unlock up to $30 billion of transport cost savings over a 15-year period.

As it strengthens roads pavements, the Department of Highways could consider *increasing the legal axle load of trucks* on main corridors. For a moderate increase in road infrastructure costs, freight user costs could be reduced by close to 15%.

A *Highway Safety Program* should be launched in parallel. Better roads result in higher speeds, an unfortunate side effect of which is higher fatalities. At first the program would include low-cost investments in safety features, engineering treatment of "blackspot" sections responsible for most deaths, and "soft" investments in safety systems and education.

Railways. Myanma Railways is currently not in a good position to meet increased demand. Investments on the main corridor, for maintenance and for freight development, are proposed. However, it is clear such investments will only yield a return if the government reforms Myanma Railways and the state-owned enterprise takes a resolutely more commercial focus.

The government should proceed with its plans to *upgrade the Yangon–Mandalay Railway Corridor*, where demand is the highest. The railways there could provide a low-cost alternative equal to or better than road transport and capture a large market. However, this will take several years—possibly a decade. In the interim, Myanma Railways is at risk of losing a large part of its existing market.

The immediate priority is to implement policies that will enable Myanma Railways to retain as much of the market as is economically justified, while ensuring its finances are robust enough to allow for a vigorous *Track Maintenance Program*.

At the same time, Myanma Railways should reallocate assets, staff, and resources to *developing long-distance rail freight*. Myanma Railways has prioritized passenger transport. However, freight trains are much more profitable. With limited investments and some market development, Myanma Railways could double its share of a growing market.

Waterways. The rivers' shifting channels and low depth limit the size of vessels that can use them, while the absence of landing facilities outside of Yangon severely reduces operational efficiency. Cost reduction by up to a factor of three seems possible, with only limited-scale investments.

Deepening the Ayeyarwady waterway up to Mandalay to a minimum 1.5–2.0 meters, together with more modern navigation aids, would enable 500-ton vessels to run year round at higher speeds and for longer hours daily. An initial investment of perhaps $100 million could unlock $3 billion in transport savings.

Developing river ports with mechanized loading would raise the throughput capacity and raise vessel utilization rates. Priority areas are in Magway, Mandalay, Monywa, Pakokku, and Pyay. The issue here is to find an institutional model: river ports are a regional government responsibility, but the Ministry of Transport and Communications oversees the rivers and river frontage.

Rural access. The exceptionally low levels of rural road access in Myanmar and its consequences with regard to poverty ought to make rural road accessibility a nationwide priority. Funds available for investments and maintenance should double to perhaps $400 million annually.

The government could launch a *Nationwide Rural Access Improvement Program*, similar to India's experience in the early 2000s. It would aim to achieve gradually higher all-season road access in rural areas, with targets raised periodically. In contrast to the current approach, it would focus on establishing a *core village road network*, i.e. the minimal road network needed to provide all-weather road connectivity to villages in an area. The union government could manage the program, but planning should remain bottom-up. Union government grants, development partner funds, and possibly earmarked taxes (e.g., India's earmarking of a tax on diesel) could finance it.

Urban transport in Yangon. The rapidly expanding vehicle fleet in Yangon will surely exceed the government's investment in new road capacity. A superior strategy would restore some controls on the car fleet until the government can implement a quality public transport alternative. The government could consider the following options:

Demand management schemes could include raising taxes on purchases of cars or fuel, regulating increases in the number of vehicles, and banning the driving or parking of cars in certain areas. Revenues could finance public transport deployment.

Full-scale *bus rapid transit* (BRT) would provide fast, high-capacity service for a far smaller investment than rail-based ones. The main difference from the current BRT "light" initiative is that road lanes would be segregated for exclusive bus use and new stations would be built. It would take 3–4 years to implement high-standard BRT corridors (e.g., starting with Phone Gyi Street–Pyay Road). Conditions for success are: (i) central government financial backing, (ii) the will to reform bus operations on selected corridors, and (iii) coordination between Yangon City and regional governments.

In parallel, the government should aggressively pursue *traffic engineering and management*. This includes signalization, barriers, turns, channelization, and better management of street vendors and bus stops. As a priority, street parking should be controlled in the historic center and relocated to off-street fee-paying parking. Such investments are much less costly than, for instance, a flyover, but their design requires technical skills not yet available in Myanmar.

Finally, the plans to modernize the Yangon Circular Railway should proceed and then the number of at-grade road crossings should be reduced to enable faster and more frequent service. Station area development could help finance further modernization and the development of other lines.

The Policy and Institutional Conditions for Change

To increase transport investments, Myanmar needs a new policy paradigm. The traditional approach has involved budget financing, delivery of infrastructure and services by state-owned companies, "deals" with influential private investors, and "light" policy making and planning. This approach would not provide sufficient financial resources to deliver the above initiatives, and would face severe capacity constraints.

A new paradigm would require mobilizing more resources—particularly from users—and concentrating these resources on a limited number of high-return investment programs implemented by the private sector through competitive procurement under the leadership of streamlined government institutions. The transition would require that the government corporatize state-owned enterprises and give them autonomy.

Streamlining government organization

To deliver a multisector transport policy reform and investment program, Myanmar should have a leading ministry and an effective cross-ministerial collaboration. In April 2016, the government merged the Ministry of Transport with the Ministry of Rail Transportation and the Ministry of Communications to create a new Ministry of Transport and Communications (MOTC). The new ministry should be given overall responsibility for planning, policy setting, financing, regulation, and monitoring of service delivery across the sector. The MOTC should also coordinate national and regional/state road investment plans with the Ministry of Construction. In the long-term, the government could consider further transferring MOTC the responsibility for road infrastructure and create a unitary ministry in charge of transport, an effective setting used in Thailand and many developed countries.

The MOTC and the Ministry of Construction should no longer deliver directly transport services and construction works. The government should corporatize and, where viable, commercialize and possibly privatize all service providers.

The review identified various institutional options for managing the transport sector, each of which is based on an existing example elsewhere. The main common features include:

- a powerful common policy and planning department, office or coordinating agency, possibly overseeing statistical and policy research units;

- a single department or agency of highways and bridges managing the road network (possibly merged later on with the Road Transport Administration Department, to better address road safety);
- a railway division or department to interact with the corporatized Myanma Railways; and
- a maritime division or department in charge of sea and river transport policy making and regulation, which would oversee a Ports and Waterways Authority that would be the result of a merger between the Myanmar Port Authority and the Directorate of Water Resources and Improvement of Water Systems.

Given stronger national organization, *transport could become a leading sector for administrative decentralization*. The government could already consider decentralizing the management of traffic, transport services, and the vehicle fleet.

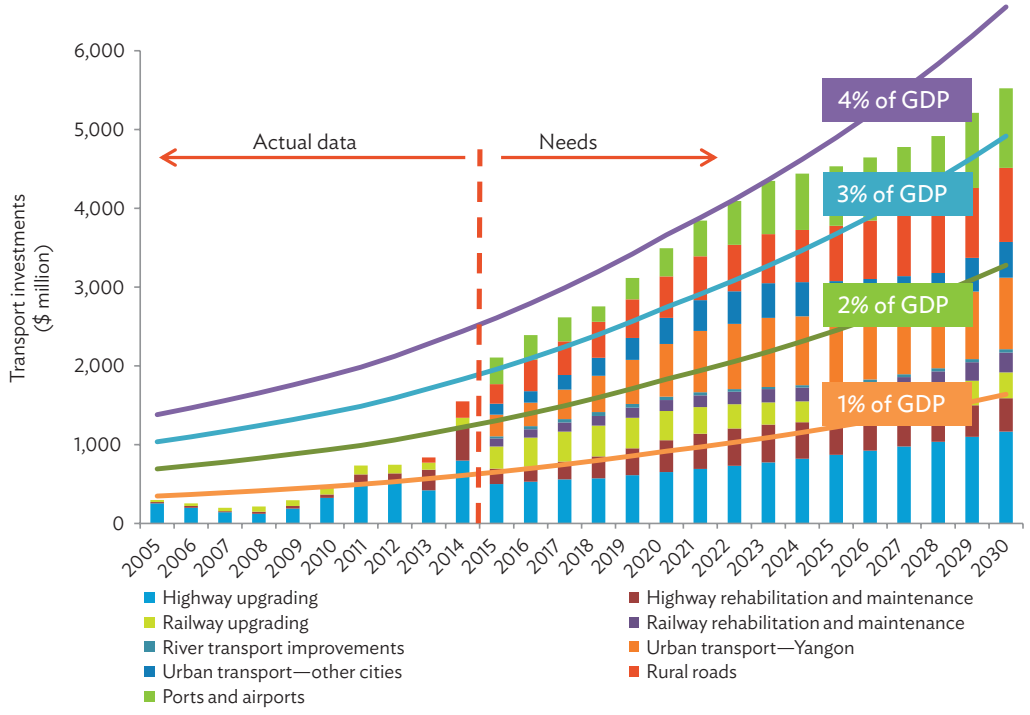
Further, it could decentralize the management of state, regional, and rural road networks, as well as railways in local areas. Execution could remain with union-level agencies until the local governments have sufficient capacity. Two models seem possible: relationships could become contractual or the government could gradually transfer its authority over local staff.

Scaling up transport financing

A high-priority investment program would be in the range of $6 billion–$8 billion over 5 years; the government could achieve this by increasing revenues, reallocating existing budgets and taking concessional loans, several of which are underway, from development partners.

In the longer run, *Myanmar needs to spend 3%–4% of its GDP for transport investments* (Figure 2), which is 2 to 3 times higher than historic levels, and amounts to $60 billion over the next 15 years. Funding to support the national budget will need to come from new sources, including development partner loans, bond finance, private sector investment, and investment

Figure 2: Transport Investments Need to Rise from 1.0%–1.5% to 3.0%–4.0% of Gross Domestic Product



GDP = gross domestic product.

Sources: Asian Development Bank estimates of investments in trunk road maintenance and rehabilitation, rural roads, and urban transport in cities other than Yangon; Japan International Cooperation Agency (JICA). 2014. *The Survey Program for the National Transport Development Plan in the Republic of the Union of Myanmar*. Naypyidaw (for the figures on investments in trunk road upgrading, railway upgrading, river transport improvements, and ports and airports); JICA. 2013. *The Project for the Strategic Urban Development Plan of Greater Yangon. Final Report*. Naypyidaw (for the figures on investments in urban transport in Yangon).

by state-owned enterprises (once they become financially self-sustainable).

Users should increasingly finance transport investments. To pay for road improvements, our review suggests considering a new *fuel levy* at $0.10 per liter, a *heavy vehicle license fee* to compensate for the damages caused to pavements, and *higher tolls* for all vehicles except the largest trucks traveling on upgraded highways. We estimate that these measures could generate $600 million annually.

We do not anticipate higher road user fees to lead to inflation, as long as revenues are used to finance better roads. Also, the analysis shows that the government could *cancel tolls on all low-traffic roads* at little cost. Up to 18,000 highway km could become toll-free.

Focusing on high-return investments

To overcome a history of inefficient spending in the transport sector, the government should create *a new public body with planning and policy-making functions*, the objective of which would be to orient resources toward achieving the highest economic and social returns, to propose transport policies on the basis of an objective comparison of costs and benefits, and to coordinate policy execution across the transport sector.

A policy and planning department or agency would need to develop and control the following:

- **Investment processes.** The agency should act as gatekeeper regarding the inclusion of investments in the government budget. The preparation of large investments should follow a common cycle involving a feasibility study, public consultations, an administrative appraisal of costs and benefits, and a detailed design. The agency should lead the appraisal process and develop guidelines.
- **Plans and programs.** This agency should be responsible for proposing to parliament for approval transport-wide, sectorial, and regional master plans, as would have the powers to enforce them. It would lead with resource mobilization and would maintain a medium-term investment program that would serve as a single reference point for budgeting and coordination with the private sector and international development partners.
- **Information.** The agency should create a new transport statistical system, make information quickly and widely available, and develop the capacity to analyze information for policy making.
- **People.** The agency would need seasoned staff from each sector, as well as newly recruited highly skilled administrators, business managers, and economists. As these skills are scarce in Myanmar, the agency could initially be supported by international experts.
- **Funds.** The agency should have a sufficient budget for launching feasibility studies for large investment projects and public–private partnerships.

Unlocking private sector growth

Government units and state-owned enterprises are facing constraints that prevent them from quickly scaling up and modernizing to meet transport investment needs. The government thus needs to rely on the private sector.

The government could consider a policy of outsourcing 100% of publicly financed civil works, with the possible exception of some infrastructure maintenance. This will raise the risks of corruption, so, in parallel, a highly visible good-governance agenda would be needed. A first step would be to make all public procurement open, fair, transparent, and competitive, following good international models. Preferably, a public procurement law should embed the new principles.

A private sector development policy should also include:

- a revision of the Road and Inland Water Transport Law, which was designed for a controlled economy, and limits private competition in transport services; and
- the gradual transfer of several government functions and units to the private sector, including road vehicle inspection, road construction units, and noncore rail services, as well as, increasingly, some freight rail services.

Public–private partnerships should be pursued, but in a more prudent way than in the past. Many bids in the road and rail sector have failed to come to a closure because of poor project preparation and lack of clarity. The government should review these projects and possibly reopen bidding on more appropriate terms.

In particular, there is a need to restructure or renegotiate many of the Ministry of Construction's BOT contracts. These long-term contracts (40 to 55 years) cover all roads with moderate to high traffic—the same ones in need of improvements. However, the contracts do not clearly require long-term maintenance and upgrading of the roads, and do not provide for sufficient revenues from tolls to finance that maintenance and upgrading. Many contracts have already failed on performance: a 2015 survey revealed that, on average, the condition of BOT roads was worse than that of other roads.

Restructuring state-owned transport enterprises

Myanma Railways needs quick decisive action. Myanma Railways now operates in a competitive market and needs to be able to respond to changing conditions. However, it needs the Ministry of Transport and Communication's approval for even routine matters. Myanma Railways' revenues cover only about half its operational costs—losses in 2013–2015 reached about $80 million—but the company is unable to focus on revenue-earning segments.

Myanma Railways needs to be quickly separated from the Ministry of Transport and Communications and given managerial autonomy so that it can redeploy resources to meet market needs. The government should corporatize it as soon as possible, probably through a law, and it should receive a clear corporate plan. The Ministry of Finance should restructure its financial obligations. Myanma Railways should in parallel change its management structure to one that is business-led.

Inland Water Transport can rebound from its very degraded situation on the condition that (i) it receives public financial support for at least 2 more years, (ii) the Ministry of Finance restructures its financial obligations, and (iii) the Ministry of Transport and Communications redeploys or retrenches excess staff. The company could then become commercially viable. Otherwise, it will likely be quickly bankrupt, and a 150-year history would come to an end.

The construction units under the Ministry of Construction need to be corporatized and commercialized to compel them to function more efficiently. For the same reason, the road sector market should be opened to participation by private sector companies.

What Is Corporatization?

Corporatization means establishing a fully government-owned entity that has a separate balance sheet and is a legal person, allowed to enter into agreements or contracts that are more clearly defined in its charter.

The second stage of corporatization involves commercializing the corporation, which means placing selected publicly owned corporate enterprises into a position similar to that of the private sector while retaining public ownership. It involves establishing clear corporate governance and business relationships between the owner and the entity. Only after this stage can the government consider proceeding to privatization.

Successful corporatization relies on the following principles: (i) applying a centralized approach to establish the corporatized companies under a specific government ministry, agency, or holding company; (ii) introducing full autonomy from the government; (iii) introducing an independent and experienced board of directors; (iv) allowing the corporatized companies to start with a clean balance sheet; and (v) providing the corporatized companies with sufficient start-up capital and full control over their resources.

Source: Asian Development Bank.

Possible Short-Term Actions

A change-management organization

The government could form a small team in charge of piloting reforms and investment plans that would prefigure the proposed Department of Policy and Planning. This team could identify a list of major reforms achievable in the next 2 to 4 years.

High-level implementation teams, composed of civil servants and external experts, could be appointed to lead its main policy initiatives. These teams would directly report to the ministers.

The government should partly replace the management of the state-owned companies and departments. Besides new hires and appointments, the government could consider appointing foreign executives to mentor their Myanmar counterparts, either as deputies or as members of the boards of the state-owned companies.

Quick wins

A few measures could yield immediate positive economic and social impacts. The government could reallocate part of the 2016 budget to increase road, rail, and waterway maintenance. After a review of the safety implications, it could allow trucks to use the Yangon–Mandalay Expressway. Finally, it could cancel tolls on low-volume roads directly managed by the Department of Highways.

Most of the investment proposals and reforms identified above could be implemented within a 4-year period, with the exception of the largest projects. They could be financed through budget reallocations.

To provide a leeway for new initiatives, the government should launch an audit of (i) government-financed road or

rail infrastructure projects started or to be started, (ii) ongoing bidding procedures for public–private partnerships, and (iii) long-term concessions. These audits would be followed by reform action.

Clear directions for reforms: a National Transport Sector Policy Statement

The government could quickly signal its commitment to market reforms, sound planning, and efficient management. Long-term reforms need to follow a set of principles and themes that define what form of transport system should be developed. Typically, other countries develop a national transport policy statement that clearly identifies the type of changes that are anticipated. These deal, for instance, with competition within the sector, the role of the public and private sectors, the separation of governance functions from service delivery, pricing policies, and decentralization or deconcentration of responsibility and authority. Statements also announce major legal revisions and institutional reforms.

The Ministry of Transport and Communications and the Ministry of Construction have drafted a *National Transport Sector Policy Statement*. If approved, it should serve as the foundation of the subsequent transport sector developments, including the development of a first *Transport Law*.

The government could also, after a review, confirm its general adherence to the National Transport Master Plan, prepared with Japan International Cooperation Agency support, and the Arterial Roads Master Plan, prepared with Korea International Cooperation Agency support. It could then request agencies support to prepare an initial medium-term investment program.

The government should finally decide upon the future of state-owned enterprises and other transport service delivery units. It could require each state-owned transport enterprise to identify its financial needs; draw up a restructuring plan; and prepare corporate plans. On this basis, the government could decide upon common terms regarding debt, pensions, and staff.

Working with development partners

Development partner financing and technical assistance are already significant in the transport sector. They may consider increasing it at government request.

To receive greater assistance in a context of limited absorptive capacity, the government may consider using a partnership approach, announcing the reforms and a limited number of investments and programs that it intends to deliver, and requesting development partner support. To reduce the administrative burden of having to deal with multiple development partners and projects, the government could consider more systematic cofinancing. The existing transport sector working group encompassing the government and development partners is a good mechanism, which could be further enhanced.

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