SECTOR ASSESSMENT (SUMMARY): TRANSPORT (ROAD TRANSPORT [NONURBAN])

I. Sector Performance, Problems and Opportunities

1. The transport sector contributes about 10% to Pakistan’s gross domestic product and more than 6% to the country’s overall employment.\(^1\) Upgrading Pakistan’s transportation system is critical to both export competitiveness and economic growth. Roads are the predominant mode of transport in Pakistan, accounting for over 92% of passenger and 96% of freight traffic in 2010; total inland traffic by road and rail was estimated at 325 billion passenger-kilometers (km) and 159 billion freight ton-km.\(^2\)

2. Pakistan’s road network of 263,000 km consists of about 12,500 km of national highways, 93,000 km of provincial highways, with the remainder classified as either district or urban roads. The national highway network, which is less than 5% of the total road network, caters to about 80% of commercial traffic.\(^3\) The National Highway Authority (NHA) is responsible for national highways, including access-controlled motorways and expressways, while provincial and district administrators are responsible for provincial highways and district roads. Despite the high reliance on road transport, the quality of the road infrastructure causes severe capacity constraints. Although the quality of the national highways has considerably improved, thanks to continuous investments and better road asset management, the overall condition is wanting—only 56% of highways are assessed as being in good or fair condition.\(^4\) The motorways are maintained much better—35% are in good condition and 65% in fair condition—thanks to access control of overloaded trucks, and nonmotorized and slow-moving traffic. The condition of the provincial highways is worse than that of the national highway network. Many are either permanently impassable or subject to closure during bad weather.

3. Key sector problems include (i) insufficient capacity and low average speeds, mainly caused by nonmotorized and slow-moving traffic and exacerbated by progressive urbanization along the highways; (ii) an unorganized and unregulated trucking industry; and (iii) inadequate attention to road safety. A better sector performance hinges on (i) an increase in the average vehicle speed from 25 km/hour to 50 km/hour; (ii) a stronger regulatory framework to govern truck manufacturing, load-carrying limits, and freight forwarding; and (iii) a more determined focus on road safety, including regulations, their enforcement, and public awareness.

4. Transport policy framework. A national transport policy is a prerequisite for the effective development of a sustainable and cost-effective transport system. Recognizing its importance, the government developed a national transport policy in 2008 with the assistance of the Asian Development Bank (ADB). It covers transport policy and governance; institutional development; policy implementation and management capabilities; and infrastructure financing, investment, and maintenance. It focuses on (i) greater efficiencies of railways; (ii) effective road asset management; (iii) viable urban transport options; (iv) commercialized port operations; (v) improved shipping operations; (vi) liberalized, open skies for civil aviation; (vii) a multimodal planning system; and (viii) trade facilitation. This comprehensive national transport policy, which was supposed to guide the government as well as aid agencies, has yet to be approved and adopted. In 2014, the Ministry of Communications (through the NHA), the Ministry of Railways, and the Ministry of Ports and Shipping revived their interest and advocated that the policy be

---


\(^3\) NHA statistics.

updated and duly established as a foundation for the long-term sustainability of the transport sector. Related technical assistance and terms of references for consultants are being developed and will be provided in 2016.

5. **Road funding.** Road investment is mainly funded from the annual budget allocation to the federal Public Sector Development Program. Federal budget allocations have historically been insufficient for a timely and necessary expansion of road capacity, leading to the road network’s poor quality. The inconsistency of annual allocations, as shown in the table below, has made it very difficult for the NHA to plan and fund road development effectively.

<table>
<thead>
<tr>
<th>Road Expenditures</th>
<th>FY2009</th>
<th>FY2010</th>
<th>FY2011</th>
<th>FY2012</th>
<th>FY2013</th>
<th>FY2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction (PSDP) (PRs billion)</td>
<td>32.3</td>
<td>44.7</td>
<td>28.3</td>
<td>56.5</td>
<td>50.7</td>
<td>57.6</td>
</tr>
<tr>
<td>Annual growth (%)</td>
<td>12.8</td>
<td>38.4</td>
<td>(36.6)</td>
<td>99.6</td>
<td>(10.3)</td>
<td>13.6</td>
</tr>
<tr>
<td>Maintenance (PRs billion)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toll revenue</td>
<td>6.5</td>
<td>8.3</td>
<td>10.4</td>
<td>12.4</td>
<td>12.8</td>
<td>14.0</td>
</tr>
<tr>
<td>Federal grants</td>
<td>0.9</td>
<td>1.0</td>
<td>1.1</td>
<td>1.2</td>
<td>1.4</td>
<td>1.5</td>
</tr>
<tr>
<td>Others (police fines, ROW revenue, weigh bridges)</td>
<td>1.4</td>
<td>2.0</td>
<td>1.6</td>
<td>2.5</td>
<td>2.3</td>
<td>2.9</td>
</tr>
<tr>
<td>Total (PRs billion)</td>
<td><strong>8.8</strong></td>
<td><strong>11.3</strong></td>
<td><strong>13.1</strong></td>
<td><strong>16.1</strong></td>
<td><strong>16.5</strong></td>
<td><strong>18.4</strong></td>
</tr>
<tr>
<td>Annual growth (%)</td>
<td>28.3</td>
<td>15.9</td>
<td>22.9</td>
<td>2.5</td>
<td>11.5</td>
<td></td>
</tr>
<tr>
<td>Unconstrained maintenance requirement under HDM-4 (PRs billion)</td>
<td>15.8</td>
<td>19.0</td>
<td>25.1</td>
<td>28.6</td>
<td>28.0</td>
<td>40.4</td>
</tr>
<tr>
<td>Actual maintenance versus unconstrained requirement (%)</td>
<td>55.6</td>
<td>59.4</td>
<td>52.2</td>
<td>56.3</td>
<td>58.9</td>
<td>45.5</td>
</tr>
</tbody>
</table>

( ) = negative, FY = fiscal year, HDM-4 = Highway Development and Management Model-4, PSDP = Public Sector Development Program, ROW = right-of-way, PRs = Pakistan rupees.

Source: NHA Road Asset Management System Report.

6. **Sustainable maintenance.** Through lengthy policy dialogues led by key aid agencies, the government established a dedicated road maintenance fund in 2003, which is financed by toll revenue from the motorways and national highways, federal grants, and other road revenues. Accordingly, the NHA has secured a stable source for road maintenance expenditure, free from federal fiscal budget allocations that are usually influenced by political consideration. This has enabled the NHA to adequately plan and effectively prioritize maintenance needs, setting priorities according to the rankings of the road asset management system. As the table above shows, maintenance spending increased year by year compared with that on road construction, except for FY2009 when the national economy shrank because of the global financial crisis. However, resources generated by the road maintenance fund are chronically short of the unconstrained requirement to maintain the entire road network at quality levels. The challenge is how to expand the base of toll collection. Consideration could be given to building more toll-based motorways and transform existing national highways into toll-based ones with some improvement, or imposing fuel levies, to generate additional funding for maintenance works, which could only be pursued from a mid- to long-term perspective.

7. On a short- or medium-term basis, however, the adequacy of toll rates needs to be assessed and the rates made comparable with international practices. Currently, toll rates in Pakistan are among the lowest in the world, particularly compared with those of comparator countries. According to the NHA Tolling Policy (2010), the NHA is authorized to raise toll rates based on inflation every 3 years or as needed. Since 2011, no increase in toll rates has been made. The NHA should assess the optimum level of toll rates in Pakistan, particularly compared with those of comparator countries, and make them realistic enough to recover road expenditure and ensure an adequate user-pays system. This will help narrow the gap between maintenance
requirements and resources generated through the road maintenance fund, and slow down the accumulation of maintenance backlogs.

8. **Road safety.** Road safety is a serious issue in Pakistan. Insufficient safety design, lack of sufficient attention to safety, inadequate traffic enforcement and driver training all contribute to Pakistan’s poor safety record. In 2010, an estimated 30,130 persons were killed in road collisions.\(^5\) A national road safety strategy with a defined action plan and clear targets must be adopted and implemented urgently. Further action is needed to (i) strengthen road safety management capacity and governance; (ii) develop a national traffic accident data collection system; (iii) enhance the capacity of traffic police to enforce traffic laws; (iv) bolster road safety engineering (e.g., by introducing a black-spot treatment program, and by assisting with road safety audits); (v) improve vehicle safety; (vi) improve the behavior of road users and roll out national road safety awareness campaigns; and (vii) improve the emergency response.

9. **Public–private partnership.** Large investments in road infrastructure are needed to support accelerating economic growth, which is necessary to reduce poverty and unemployment. The existing resource base, mainly from the government’s development program and aid agencies’ assistance, is inadequate to meet the road development needs, and private sector investment is necessary to fill the resource gap. ADB provided technical assistance and loans to help the NHA establish a public–private partnership (PPP) framework of policy, laws, and regulations; and improve the legal and regulatory framework. The government adopted and announced the PPP policy for the national highway subsector. Awareness and ownership at the highest levels of government was deepened, as evidenced by the rapid approval of the policy by the NHA executive board and the National Highway Council, chaired by the Minister of Communications, and establishment of a PPP cell in the NHA in 2007. Thereafter, the NHA identified 35 PPP projects with a total value of at least PRs420 billion. Yet, while identified, these projects have made little progress toward financial closure, demonstrating the difficulty to price the risks shared by private investors. Nonetheless, the NHA makes a great effort to move forward and reach financial closure for identified PPP projects to accelerate road investments unconstrained by scarce public resources. The key challenge is how to reduce the country risk to a tolerable level for private sector investors, to properly price it, and internalize it in the financing structure.

II. **Government’s Sector Strategies**

10. **Strategic objectives and approach.** The government’s Vision 2025 includes transport and connectivity as one of the seven priorities to achieve high, sustained, and inclusive growth. The government is updating its Medium-Term Development Framework, which includes the transport sector. Previously, the government’s plan for the transport sector envisaged rehabilitation and upgrades of the existing network, selective investment in new roads to facilitate regional trade, enhanced private sector participation, and control of overloading.\(^6\)

11. Pakistan joined the Central Asia Regional Economic Cooperation (CAREC) Program in 2010. The CAREC Transport and Trade Facilitation Strategy 2020 included an expanded CAREC transport network, with CAREC corridors 5 and 6 now routing through Pakistan. CAREC corridors 5 and 6 link key domestic urban centers (e.g., Lahore, Islamabad) to each other, to neighboring countries in the north (People’s Republic of China, Afghanistan, and Central Asian countries), and to Gwadar and Karachi ports in southern Pakistan. As part of the

---


CAREC strategy, Pakistan is committed to upgrading assistance to provide a safe, affordable, and sustainable transport system in Pakistan.

12. A proposal for a Pakistan–China Economic Corridor was initiated in 2013 to promote an economic corridor along the link from Khunjab Pass (Chinese border) to Gwadar Port in Balochistan. The initiative includes new or upgraded roads, railways, pipelines, and airports. The economic corridor development, once launched with a clearly defined financing plan, will mark a substantial change in the government’s strategy for nationwide road network development.

III. ADB Sector Experience and Assistance Plan

13. ADB’s assistance to Pakistan’s road sector has been significant, amounting to more than $2.17 billion. Since 2005, ADB has financed upgrades to existing national highways as well as construction of new motorways totaling 480 km. ADB is also considering investing in better border-crossing facilities at several points along the road and rail network. Prior to 2009, ADB had individual projects in each province, including improvements to national and provincial highways, and to rural roads. However, each project involved more than one executing agency, which made it difficult to implement. The experience and lessons learned will be reflected in any new projects. ADB’s country partnership strategy, 2009–2013 for Pakistan focused ADB interventions on four key areas: (i) investment and reforms in energy and infrastructure (including the national trade corridors); (ii) development of urban services; (iii) reforms to strengthen governance, and (iv) effective implementation and capacity development. For transport, ADB assistance was designed to improve regional connectivity and transport efficiency through physical investment and technical assistance.

14. Despite ADB’s efforts and those of counterpart agencies, significant implementation challenges remain, such as completing projects on time and on budget. Efficient project implementation requires further improvements by implementing agencies in terms of managing procurement, safeguards, and contracts. A review of the effectiveness of ADB interventions in Pakistan noted that while some progress had been made in making transport corridors function better, the NHA’s revenue remained insufficient and, especially at provincial level, road administrations lacked asset management systems, sustainable means of revenue generation, contract management skills, needs-based allocations of funds, focus on maintenance, and compliance with international practice on safeguards.

15. During 2015–2019, the goal of ADB’s transport strategy in Pakistan will be to support economic and social development by ensuring that transport infrastructure is accessible, safe, environment-friendly, and affordable as proposed in its Sustainable Transport Initiative – Operational Plan. In the road sector, ADB will focus on the improvement of regional connectivity, transport efficiency, and road safety, with particular attention on upgrading the CAREC corridors. ADB will continue to assist the construction or rehabilitation of national and provincial highways, to strengthen institutions, and to build the capacity of transport agencies in areas such as road safety, strategic planning, transport policy development, road asset management, safeguard compliance, and procurement.

---

8 Financed under the multitranche financing facilities for the National Highway Development Sector Improvement Project and the National Trade Corridor Highway Improvement Program. These projects were expected to be completed by end-2014. Since the facilities close in 2015 and 2017, no further tranches will be processed.
Problem Tree for the Transport Sector

Effects

- Reduced Economic Growth
- Lack of Competitiveness
- Negative Impact on Environment & Health

Problem

Inefficient transport system with poor levels of service

Causes

- Inadequate infrastructure
- Inefficient transport operation and maintenance
- Policy / institutional development deficiencies

Underdeveloped transport assets

1. Untapped inland waterway potential
2. Aged and insufficient infrastructure in road and rail sector
3. Poor infrastructure and low quality of service in urban transport
4. Uneven quality of regional road network

Insufficient funding

1. Insufficient investment in new infrastructure and maintenance in roads subsector
2. Lack of funding for Pakistan Railways to operate, maintain and improve existing rail network
3. Funding constraints holding back development of urban transport systems

Roads

1. Rapid motorization leading to increased congestion and safety issues
2. Poor enforcement resulting in encroachment, increased number of road collisions, and vehicle overloading issues

Rail

1. Poor service quality and frequency in rail sector
2. Lack of private sector involvement / competition in rail sector leading to suboptimal outcomes for consumer

Other modes of transport

1. Lack of safe, reliable, and affordable options in urban transport
2. Limited private sector involvement in port sector leading to inefficient operations

Road transport

1. Lack of comprehensive transport strategy and action plan
2. Inadequate institutional capacity
3. Poor coordination between agencies on road safety

Railway and inland waterways

1. Lack of formal government commitment to railway reform agenda road map
2. Lack of appropriate human resources policy in Pakistan Railway
3. Lack of institutional management structure to support integrated waterway policy and management

Regional cooperation and integration

1. Lack of consistent plan on regional cooperation
2. Poor coordination among border management agencies

Urban transport

1. Lack of transport authority to organize, plan, and manage competing modes
2. Lack of traffic demand management and parking policy
3. No incentive policy to promote green public transport in cities, limit vehicle emissions and congestion
### Sector Results Framework (Transport, 2015–2019)

<table>
<thead>
<tr>
<th>Country Sector Outcomes</th>
<th>ADB Sector Operations</th>
<th>Main Outputs Expected from ADB Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcomes</strong></td>
<td><strong>Indicators with Targets and Baselines</strong></td>
<td><strong>Country Sector Outputs</strong></td>
</tr>
<tr>
<td>Increase in movement of people and goods within Pakistan in a more efficient, safe, and sustainable manner.</td>
<td>Rail passenger traffic increases by 2%–3% per annum during 2015–2018 (2014 baseline: 41 million passenger-km).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Average travel time from Peshawar to Karachi reduced from 45 hours (2014) to 36 hours (2019).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rail freight traffic increases by 2%–3% per annum during 2015–2018 (2014 baseline: 374 ton-km).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Households in Karachi with access to safe, reliable, and efficient mass transit system increases from 0% in 2014 to 10% in 2018.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Passenger traffic by road increases by 2%–3% per annum during 2012–2018 (2011 baseline: 322.7 billion passenger-km).</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>