

Transports and Logistics

11111111111

Nadeem Ul Haque Saba Anwar

www.pide.org.pk

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means — electronic, mechanical, photocopying, recording or otherwise without prior permission of the author and or the Pakistan Institute of Development Economics, P. O. Box 1091, Islamabad 44000.

© Pakistan Institute of Development Economics, 2024.

The report is designed by **Fiza Zia Ul Hannan, Graphic Designer, PIDE.**

Table of Contents

1. Introduction	02
2. Road Transport	04
2.1. National Overview	04
2.2. Road Transport in Twin Cities	08
2.2.1. Length and Type of Roads	08
2.2.2. Vehicles on Roads (Public & Private)	09
2.2.3. Public Routes	10
3. Rail Transport	12
3.1. National Overview	13
3.2. Circular Railways	14
3.3. International Freight Forwarders Survey on Railways	14
Recommendations	15
4. Air Transport	15
5. Postal Services	17
5.1. National Overview	17
5.2. Postal Services in Twin Cities	18
6. Dry Ports	20
6.1. Dry Ports in Pakistan	20
6.2. Dry Ports in Pakistan	21
7. Inland Water Transport	21
7.1. Institutional Framework	22
8. Maritime Transport	22
Conclusion	24

List of Figures

Figure 1. Logistics Contributions to GDP (Percent)

Figure 2. Transport Modal Shares in Pakistan: 2020 (Percent)

Figure 3. Transport Modal Shares in India (Percent)

Figure 4. Share of Transport Sector in GDP (Percent)

Figure 5. Share of Employment in the Transport & Other Sectors (Percent)

Figure 6. Types of Roads (Km)

Figure 7. Provincial Distribution of Roads (Km)

Figure 8. Total Vehicles on Roads (Thousands)

Figure 9. Light Vehicles on Roads (Thousands)

Figure 10. Heavy Vehicles on Roads (Thousands)

Figure 11. Annual Growth Rate of Vehicles: Rawalpindi (Percent)

Figure 12. Freight Volume & Share

Figure 13. PIDE Survey of Freight Forwarders: Why They Do Not Use Pakistan Railways?

Figure 14. Air Transport Pakistan: Passengers Carried (Thousands)

Figure 15. Air Freight Transport Pakistan: Million Ton Per Km

Figure 16. Pakistan Post: Number of Post Offices Over the Years

Figure 17. Cargo and Container Handling: Karachi Port

Figure 18. Trade Activity: Port Qasim (Thousand Tons)

Figure 19. Trade Activity: Gwadar Port (Thousand Tons)

List of Tables

 Table 1. Logistics Performance Index of South Asian Countries

Table 2. Comparison of Road Transport Indicators: 1947 & 2021

Table 3. Road Class and Length: Islamabad (Km)

Table 4. Road Classes and Length: Rawalpindi (Km)

Table 5. Traffic Volume in Twin Cities

Table 6. Functional Routes and Transport Vehicles: Islamabad

Table 7. Functional Routes and Transport Vehicles: Rawalpindi

Table 8. ICT & Rawalpindi: Intercity Routes and Vehicles

Table 9. Pakistan International Airlines Corporation Performance

Table 10. Pakistan Post Offices in Twin Cities

Table 11. TCS Branches in Twin Cities

Table 12. Liner Shipping Connectivity Index

Table 13. Commercial Performance of PNSC: 2022-23 (July-March)



 The estimated potential of Pakistan's logistics sector is USD 30.7 billion but it has not been realized as yet. Where is it today?

Pakistan is nowhere in the global scenario according to the recent Logistics Performance Index prepared by the World Bank 2023.

The modal shares are highly skewed towards roads accounting for more than 92% of passengers and 96% of freight. On average this should be 60%.

The motorways and highways constitute less than 10% of the total road network but carry almost the entire freight traffic.

The inadequacy and inefficiency of the public transport system in Islamabad bring more private vehicles on the roads.

Heavy losses in the railway sector have necessitated an increase in grants from PKR 45 billion in 2022-23 to PKR 55 in 2023-24. Per-passenger grants amount to PKR 1,261 and PKR 5,556 per ton for freight in 2021-22.

Pakistan Railways has so far failed to adopt the open access policy approved in 2011, which reflects bureaucratic hurdles and governance failures.

PIDE survey reveals that freight forwarders do not use Pakistan Railways because of the non-availability of relevant information, but mainly because of the non-reliability of the services.

Pakistan Post has 10,293 post offices in Pakistan, of which 87% are incurring losses, while TCS has a market share of 43% with less than 10% of branches than Pakistan Post.

The labour unions in public sector organizations have played a major role in resisting reforms, ensuring inefficiencies and substantial losses to the exchequer.

1. Introduction

The transport and logistics infrastructure plays a critical role in domestic commerce in facilitating buying and selling. In fact, transport infrastructure is the asset that increases the productivity of other players in the ecosystem like trucks (Baldwin & Dixon, 2008).

The estimated potential of the logistics sector in Pakistan is USD 30.7 billion (World Bank, 2015), however, this has not been realized due to the sector suffering from several challenges. Pakistan was ranked 122 out of 160 countries in the Logistics Performance Index (LPI) 2018, while disappeared from the international scenario in the 2023 LPI. This calls for immediate attention to the sector that faces several challenges, which must be addressed if it is to compete in the global economy, especially in the region where other countries are performing much better.

Country	LPI Rank	Customs	Infrastructure	International Shipments	Logistics Competence	Tracking & Tracing	Timeline
India	44	2.96	2.91	3.21	3.13	3.32	3.5
Maldives	86	2.4	2.72	2.44	2.55	2.77	3.18
Sri Lanka	94	2.58	2.49	2.51	2.42	2.79	2.79
Bangladesh	100	2.3	2.39	2.56	2.48	2.79	2.92
Nepal	114	2.29	2.19	2.36	2.46	2.65	3.1
Pakistan	122	2.12	2.2	2.63	2.59	2.27	2.66
Bhutan	149	2.14	1.91	1.8	2.35	2.35	2.49

Table 1. Logistics Performance Index of South Asian Countries

Source: Pakistan Export Strategy Logistics; Logistics Performance Index, World Bank 2018



Figure 1. Logistics Contributions to GDP (Percent)

Source: Pakistan Export Strategy Logistics

The authors acknowledge the contribution of Babar Badat in screening the report.

In Pakistan, the modal shares are highly skewed towards roads. Roads are the predominant source of transportation in Pakistan accounting for more than 92% of passengers and 96% of freight. This imbalance has increased the cost of transportation through congestion, pollution, and expenditure on the maintenance of roads. In contrast, although the share of rail in both freight and passenger traffic in India is declining (Figure 10.3), it is greater than in Pakistan.

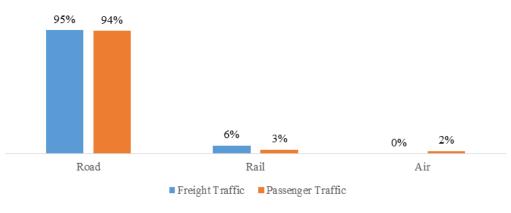


Figure 2. Transport Modal Shares in Pakistan: 2020 (Percent)

Source: Pakistan Economic Survey

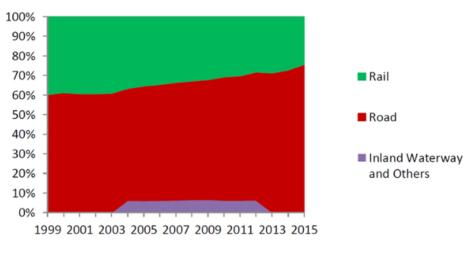


Figure 3. Transport Modal Shares in India (Percent)

Source: Gu et al. (2020)

The National Freight and Logistics Policy (2021) document has rightly pointed out that the logistics sector is fragmented and in need of modernization. A lack of institutional framework has further impeded the growth of the logistics sector and a mixture of old and new laws govern what is supposed to be a sector operating in the modern world. The main obstacle lies in the absence of a unified Ministry of Transport responsible for creating and executing a comprehensive National Transport Policy (Shaikh, 2019). Currently, the logistics sector is divided among multiple federal ministries, making it extremely difficult to establish coherent regulations for the sector's growth and integration.



The Ministry of Commerce handles foreign and transit trade.

- Shipping services are overseen by the Ministry of Ports and Shipping
- The Ministry of Defence is responsible for airports and aviation

- The Ministries of Communications and Railways manage rail and road infrastructure as well as freight.
- Customs and cargo clearance affairs fall under the jurisdiction of the Ministries of Finance and Interior.

This fragmented structure prevents the effective implementation of existing important regulations like the Trucking Modernization Plan and the National Transport Policy, which were approved in 2007. Consequently, Pakistan has not ratified or adopted international standards and conventions concerning the transportation of goods and products, intensifying the challenges faced by the sector. **Furthermore, red tape, which includes burdensome documentation requirements and customs procedures, results in delays, escalates shipment costs, and reduces the ease of doing business in the country.**

2. Road Transport

Pakistan's transport and logistics are dominated by road transport. The fuel consumption is the highest in the case of road transport. In the case of freight transport, fuel consumption is three times as much as compared with railways and 7.2 times as compared to waterways. The cost of road transport including forward and backward linkages of road transport amounts to PKR 5.6 million and PKR 6.7 million in the case of protests, such as *dharnas*. Moreover, for metro service, a subsidy of PKR 4 per passenger will be paid by the government in 2023-24. The transport network in Pakistan is concentrated as 57% of the total road network lies in Punjab.

2.1. National Overview

The transport sector contributes around 10.7% to the GDP of Pakistan and employs more than 5.8% of the labor force (see Figure 10.4 and Figure 10.5).

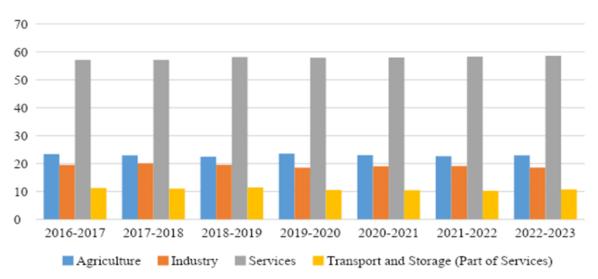
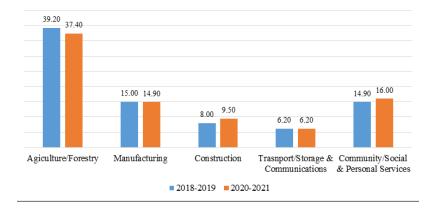


Figure 4. Share of Transport Sector in GDP (Percent)

Source: Pakistan Economic Survey

Figure 5. Share of Employment in the Transport & Other Sectors (Percent)



Source: Pakistan Economic Survey

"Road transport is particularly suited to the conditions and requirements of Pakistan ... the motor vehicle is more adaptable than the railways to varying degrees of traffic intensity and permits a greater degree of speed and efficiency in haulage over short distances... there is a close relationship between the volume of transport and the level of economic activity because each depends upon the other."

- The Government of Pakistan, Planning Commission 1960).

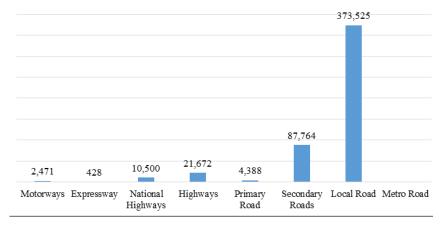
In Pakistan, despite having a wide railway network at the time of independence, there has always been a fixation on building roads at the expense of other modes of transport and logistics. In the Second Five-Year Plan (1960-65), the allocation of financial resources prioritized roads over railways, and the larger cities witnessed an immense expansion of road networks and road-based public transport systems.

The emphasis of the policymakers remained on the hardware of the country, especially on roads. The road density now stands at 0.58. The road investment policy did not originate from any industrial development policy, but the heavy investment in roads left no money for the public transport system (Imran and Low, 2007). The same Plan encouraged the private sector to participate in road-based public transport, which resulted in private wagons being run on assigned routes.

Indicator	1947	2021
Registered Vehicles (Number)	30,577	30,968,000
Registered Trucks/Trailers (Number)	800	300,000+
Total Roads (km)	50,367	500,000
Motorways (km)	0	2500+
National Highways (km)	0	12,000
Road Density	0.06	0.58

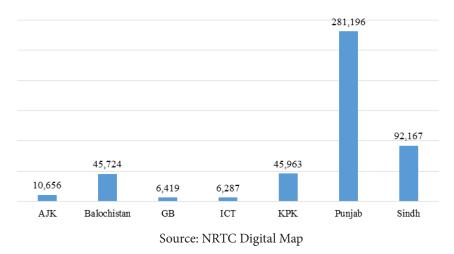
 Table 2. Comparison of Road Transport Indicators: 1947 & 2021





Source: NRTC Digital Map

Figure 7. Provincial Distribution of Roads (Km)



As a result, the number of vehicles on the road in the country has also been increasing as can be seen from the figures below.

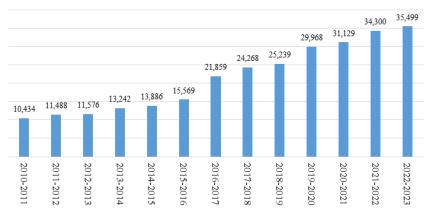


Figure 8. Total Vehicles on Roads (Thousands)

Source: Pakistan Economic Survey

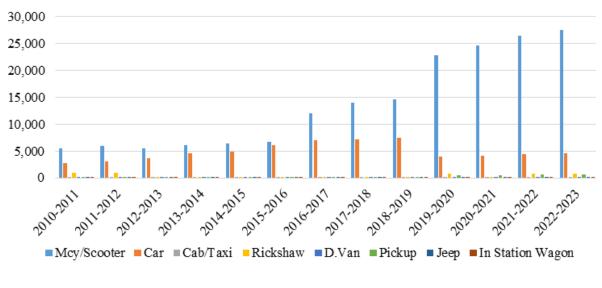
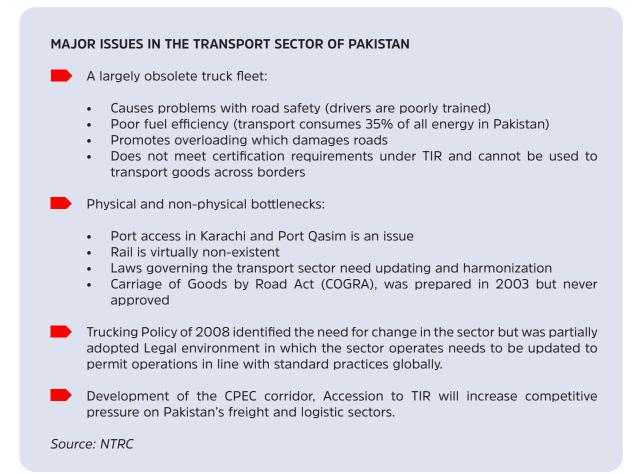


Figure 9. Light Vehicles on Roads (Thousands)

Source: Pakistan Economic Survey



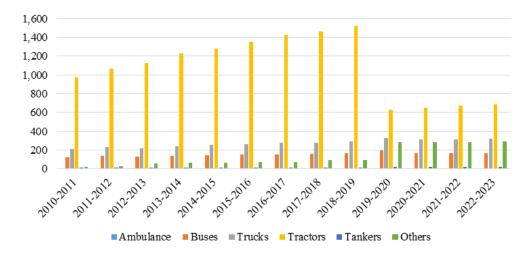


Figure 10. Heavy Vehicles on Roads (Thousands)

Source: Pakistan Economic Survey

2.2. Road Transport In Twin Cities

2.2.1. Length and Type of Roads

Islamabad and Rawalpindi together constitute a 278 km3 area for 1.8 million residents. (RDA 2021; NTRC 2006). The twin cities are viewed as one urban agglomeration. Islamabad is a medium-density planned city, while Rawalpindi is a high-density mix use city. The daily twin city commuters account for almost 70,000 (RDA, 2012). The motorways and highways constitute less than 10 % of the total road network but carry almost the entire freight traffic (NLP, 2020). The tables below contain information about the motorways, expressways, highways, primary roads, secondary roads, local roads, and metro roads that are situated in twin cities.

Road Class	Road	Length
Motorway	Islamabad Motorway	11
Highways	Islamabad Highways	192
Primary Road	Primary Road in Islamabad	208
Secondary Road	Secondary Roads in Islamabad	503
Local Road	Local Roads in Islamabad	5,641
Metro Road	Metro Roads Islamabad	17
Expressway	Islamabad Expressway	56

Table 3	. Road	Class an	d Length:	Islamabad	(Km)
---------	--------	-----------------	-----------	-----------	------

Road Class	Length
Motorway	74
G.T. Road	145
Primary Road	315
Secondary Road	544
Tertiary/Collector	906
Street/Local	1,063

Table 4. Road Classes and Length: Rawalpindi (Km)

Source: NESPAK (2015)

2.2.2. Vehicles on Roads (Public & Private)

Around 1.3 million vehicles were registered in Islamabad by April 2022. With an estimated population of 2.6 million, this amounts to around one vehicle per two residents, indicating a huge volume of traffic. This quantum of vehicles far exceeds the capacity of the secondary and tertiary roads in the planned city. Perhaps the most alarming indicator is the average vehicle registration per month, which is reported to be around 2-3 thousand.¹ This indicates the inefficiency of the public transport to cater to the needs of the commuters in the twin cities. With fewer buses, the public transport fleet mainly comprises 18-seater wagons and 12-seater vans. These vehicles are not at all adequate for the use of the elderly, females, and people with disabilities (Adeel, 2016).

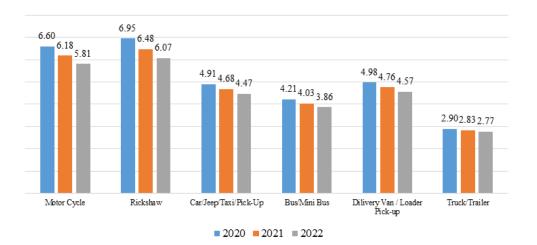


Figure 11. Annual Growth Rate of Vehicles: Rawalpindi (Percent)

Table 5. Traffic Volume in Twin Cities

Location	Direction	Total Traffic	Total PCU
	Faisal Ave. to 7th Ave.	13,029	11,939
Khiaban-e-lqbal	7th Ave. to Faisal Ave.	12,109	10,935
line h Aug	Jinnah Park to Secretariat	33,075	30,141
Jinnah Ave	Secretariat to Jinnah Park	37,322	32,736
	Khayaban-E-Jinnah to Kashmir HW	19,400	17,750
7th Ave	Kashmir HW to Khayaban-E-Jinnah	17,914	16,456
	Faisal Masjid to Zero Point	50,605	48,160
Faisal Ave	Zero Point to Faisal Masjid	72,758	66,507
Oth Ave	I-9 to IJP	31,368	28,173
9th Ave	IJP to I-9	37,412	32,380
Comulas Dood E	Margalla Rd to Jinnah Ave	22,474	20,840
Service Road E	Jinnah Ave to Margalla Rd	18,239	16,955
Islamabad Highway	Rawat To Faizabad	59,982	61,470
Islamabad Highway	Faizabad to Rawat	48,043	52,117
LIP Near 9th Ave	Pirwadhai to Faizabad	25,152	32,104
IJP Near 9th Ave	Faizabad to Pirwadhai	23,323	28,804
Muuuna Del Nasu Fairabael	Chandani Chowk to Faizabad	46,666	42,101
Murree Rd Near Faizabad	Faizabad to Chandani Chowk	40,289	37,009
Chadium Daad	IJP to Stadium	29,921	23,680
Stadium Road	Stadium to IJP	20,152	15,194
Calidary Daad	Saidpur Rd to IJP	11,881	7,864
Saidpur Road	IJP to Saidpur Rd	11,233	8,008
Rawal Road	Chandani Chowk to Airport	14,262	11,901
Kawal Kudu	Airport to Chandani Chowk	20,126	14,278
GT Road Peshawar Side	Rawalpindi to Peshawar	44,075	56,096
	Peshawar to Rawalpindi	39,907	48,400
CT Dood Loberto Cide	Rawat to Kacheri	40,207	37,825
G.T. Road Lahore Side	Kacheri to Rawat	40,016	38,446

Source: MTSSRI Traffic Survey

2.2.3. Public Routes

The public transport network for Rawalpindi and Islamabad was planned in early 1980. Out of the 89 planned public routes, 52 routes remained inoperative owing to low commuters (Adeel et al, 2014). The absence of public transport led to paratransit services in the twin cities. In 2015, ride-hailing services started operating in Pakistan as a substitute for unreliable and inaccessible public transport. The latest addition has been the 24 km long Pakistan Metro Bus Service operationalized in 2015. The route carries 68 buses and 24 stops.

As shown in Table 3, the route between Faisal Mosque and the zero point has the highest traffic volume. However, 25 coasters and 80 wagons have been issued licenses to carry the traffic count of 72 thousand commuters.

No.	Route No.	Route Area	Vehicles (Numbers)
1	101	Pirwadhai to Faisal Masjid	25 Coasters
2	104	Tarnol to Pak Secretariat	24 Coasters
3	104-A	Tarnol to Pak Secretariat	9 Coasters
4	105	G-15 to Pak Secretariat	50 Wagons
5	105-A	G-15 to Pak Secretariat	47Wagons
6	110	Khataar to Pirwadhai More	151 Wagons
7	111	Rawat to F-8 Markaz	60 Wagons
8	113-A	Pirwadhai to Secretariat	05 Coasters
9	115	Pirwadhai to G-11/1	48 Pickup van
10	115-A	Peshawar to G-14	35 Pickup van
11	120	Hajj Complex to Bari Imam	210 Wagons
12	121	Hajj Complex to Faisal Masjid	24 Wagons
13	121-A	Pirwadhai Morr to Faisal Mosque	47 Wagons
14	122	Chirah to Pak Secretariat	70 Wagons
15	122-A	Khanna to Pak. Secretariat	42 Wagons
16	124	Arri Syedan to Faisal Masjid	80 Wagons
17	127	Chattar to F-8 Markaz	35 Wagons
18	127-A	Bhera Pull to G-11	27 Wagons
19	128	Gulshan-e-Jinnah to Pir Sohawa	210 Wagons
20	131	Faizabad to Kurry Sher	60 Coasters
21	133	Pirwadhai to Chonpra	64 Coasters
22	136	PWD Colony to Pak Secretariat	40 Wagons
23	138	Alipur to G-15 Markaz	55 Wagons

Table 6. Functional Routes and Transport Vehicles: Islamabad

Source: Regional Transport Authority (RTI) RWP & ISB

No.	Route No.	Alignment of Route	Wagons (Numbers)
1	1-C	1-C: Liagat Colony CDA Stand Islamabad	381
2	1	Route No.1: Humrahi Ada Sowa to Islamabad Secretariat	551
3	3	Liaqat Road to Foreign Office	115
4	5	Route No.5: RMA Building Tomogah to village Koth Kala, Aara Machine.	70
5	6	Railway Station to Pak Secretariat	42
6	7	Route No. 7: Hajj Complex to SOS Village Sawan	529
7	21	Route No.21: Pak Secretariat to SOS Village Sawan	
8	24	Route No. 24: Adiala to Pak Secretariat Islamabad	143
9	29	Route No. 29: Liagat Road near Baldia Complex to Rawat	129
10	35	Route No.35: Railway Station to Wah Factory	174

Table 7. Functional Routes and Transport Vehicles: Rawalpindi

Source: Regional Transport Authority (RTI) Rawalpindi & Islamabad

Table 8. ICT & Rawalpindi: Intercity	Routes and Vehicles
--------------------------------------	----------------------------

No.	Route No.	Alignment of Route	Vehicles (Numbers)
1	1	Haider Road Rawalpindi to Pak Secretariat	72 Wagons
2	1-C	Chungi No. 22 to Karachi Company	60 Wagons
3	3	Liaquat Road Rawalpindi to Noor Pur Shahan	42 Wagons
4	6	Railway Station to Pak Secretariat	42 Wagons
5	21	High Court to Pak Secretariat	67 Wagons
6	23	Gharibabad Rawalpindi to Pak Secretariat	37 Wagons
7	24	Lalkurti Rawalpindi to Pak Secretariat	65 Wagons

Source: Regional Transport Authority (RTI) RWP & ISB

3. Rail Transport

In Pakistan, rail transport is a neglected sector. Figures show that the losses incurred by Pakistan Railways during the five years – from 2015 to 2020 – amounted to a prodigious PKR 144 billion. Despite these losses, the grant to the sector has increased from PKR 45 billion in 2022-23 to PKR

55 billion as per budget 2023-24. The grant per passenger was PKR 1,261 and PKR 5,556 for freight per ton in 2021-22.

3.1. National Overview

Until the 1960s, rail transport was expanding and there was considerable focus on developing the rail infrastructure in the country. Several policies and plans were initiated to this effect. After the Second Five-Year Plan, investment in rail infrastructure declined in favor of road infrastructure, which had an overall negative impact on the rail network as well as Pakistan Railways (PR). At present, Pakistan Railways is the sole entity responsible for freight and passenger traffic through the rail network and has 650 stations, 461 locomotives, and a route length of 7,791 km. Freight and passenger revenues have been declining, which has had an impact on the gross earnings of the entity and its share in transport.

Nationwide Pakistan Railways owns 167,690 acres of land. The 145 000 acres of land is used for operational purposes. The remaining 33 000 acres is the "Right of Way" entitled to PR (Anwar, S; 2022). Since the land is not put to any productive use, land encroachments is becoming a regular phenomenon in PR.

In 2022, PR reclaimed 267 acres of land in Punjab, 133 acres of land in Khyber Pakhtunkhwa, from Sindh PR claimed 106 acres of land, and 23 acres of land in Baluchistan. From the total surface area, the commercial land was of 91 acres, 309 acres were residential, and 104 acres were agricultural.

There are a total of seven stations in Narowal, Okara, Hasan Abdal. which are not being used. This dead capital (Haque, 2018, Anwar, 2022) can be used to tap commercial resources of the railway stations by building hotels, hostels and markets on unused stations to strengthen its finances.

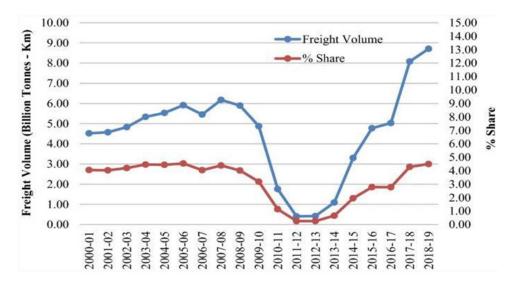


Figure 12. Freight Volume & Share

Source: Railway Yearbook 2018-19

The stiff competition from road transport and the inability of the PR to adopt a customercentric business plan because of the complex bureaucratic structure has led to an inefficient, underfinanced, and overstaffed public agency. The ability of the PR to revert to the open access policy approved in 2011 and other governance reforms reflects the sheer failure of the governance and raises questions as to why and how PR has successfully managed to retain a forty-year-old governance model.

3.2. Circular Railways

One of the initiatives of the PR included circular railways which was included in the Second Five-Year Plan (1960-65). The Karachi Circular Railway was planned as the first rail-based public transport project to serve the entire city and its periphery. The 44 km long project was successful for the first 15 years (1964-79) though it was partially built. As the investment in infrastructure declined, fuel prices rose, the losses crept in and the KCR was eventually suspended in 1999. The KCR was revived in 2020 on the orders of the supreme court, with an expected ridership of half a million passengers per day. The actual ridership is critically low, thus, making it an inefficient and costly mass transit project. Similarly, another circular train as a mass transit project was proposed for Lahore in 1973 which never materialized.

Similar projects were initiated in Islamabad and Rawalpindi as well. In 1996, rail-based mass transit was initiated in Rawalpindi and Islamabad. The objective was to use the existing railway infrastructure and reduce congestion and pollution. The service started with six trains but was reduced to four within three months. The inefficiencies in the form of the absence of timetables, facilities at the stations, feeder buses, and relatively higher fares led to the shutdown of the services. Currently, the BRT with no feeder routes serves as the mass transit project.

3.3. International Freight Forwarders Survey on Railways

PIDE conducted a survey of freight forwarders in five major cities of Pakistan. The survey revealed that they neither use railways nor are aware of the online railway freight charges, schedules, or the booking system. The prime reason put forward for not using railways is the non-reliability of the services.

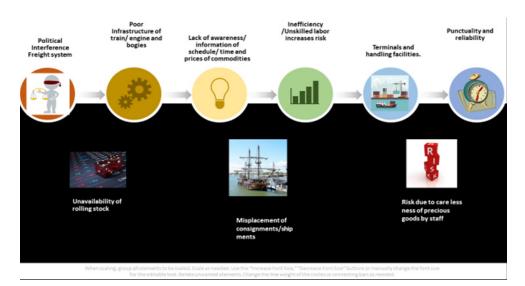


Figure 13. PIDE Survey of Freight Forwarders: Why They Do Not Use Pakistan Railways?

RECOMMENDATIONS

Based on the findings of the PIDE survey, the following suggestions are put forth:

- There is a need for the reliability of facilities and modern train infrastructure.
- A tracking system by booking number must be introduced because Pakistan Railways do not provide such a service, which indicates the primitiveness of the railway system in Pakistan.
- There is a need for training of the handling staff to avoid any damage.
- Trains should specialize in large shipments to attract higher volumes.
- As the PIDE survey revealed that the schedule of trains is neither easily accessible nor reliable, therefore, the timetable should be improved.
- The introduction of a shuttle service to both pick up the cargo and deliver it would attract more freight. Ie manage the last mile once again a management issue

4. Air Transport

Once one of the best airlines in the region, Pakistan International Airlines (PIA) is in dire straits. It has been incurring heavy losses for long now. As a result, PIA received PKR 15 billion as a loan from the government in 2023. The grant given to PIA per passenger is PKR 3,503 and PKR 14 for freight per ton per km. On average, there are 500 employees handling one plane in PIA.

Pakistan has a total of 46 airports for conducting commercial operations. Out of these airports, 42, including 10 internationals, are owned and operated by the Pakistan Civil Aviation Authority (CAA). At present, out of these 42 airports, 13 are being used for both international and domestic operations, whereas 11 are only for domestic operations, and the remaining 22 are either scaled down or closed for operations due to various reasons.

Air transport is another avenue where Pakistan faces challenges, especially when it comes to its airports. Pakistan has consistently failed to perform well against its regional competitors in terms of airport usage and the volume of passengers and freight catered to by the airports (Batool et al., 2018). There are several reasons for this including inefficient management and regulation of airports, security threats, operating inefficiency, financial issues, and technical problems. Airports face infrastructure constraints and all airports are far from meeting world-class standards. Technologies at airports. Unlike other regional competitors, Pakistan has been unable to show extraordinary vision and planning to develop attractive aviation infrastructure along with support industries of international standards (Deen & Arshad, 2007).

The public sector passenger and freight transport services are provided by Pakistan International Airlines (PIA), which has a total fleet of 35 aeroplanes. The performance of PIA can be seen in the Table below.

Table 9. Pakistan International Airlines Corporation Performance

Indicators	2018	2019	2020	2021	2022
PIAC Fleet (No. of Planes)	32	32	30	30	35
Route (Km)	332,303	389,725	778,609	374,054	341,821
Passenger Load Factor (%)	77.3	81.3	74.5	66.9	80.3
Revenue Flown (000 Km)	70,089	70,515	38,114	34,544	53,811
Revenue Passengers Carried (000s)	5,203	5,290	2,541	2,657	4,281
Revenue Passengers (Million Km)	13,975	14,938	6,629	5,138	10,497
Operating Revenue	100,051	146,097	94,683	86,185	172,038
Operating Expenses	170,447	160,037	102,912	101,212	183,345

Source: Pakistan Economic Survey

Figure 14. Air Transport Pakistan: Passengers Carried (Thousands)

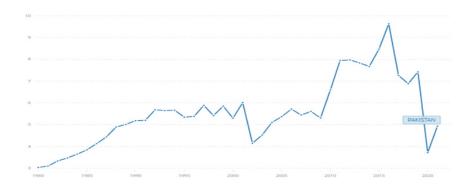
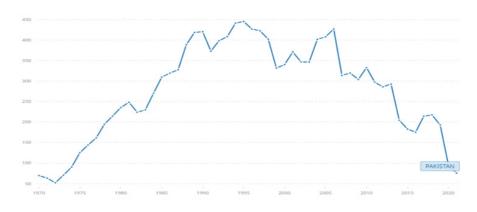
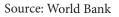




Figure 15. Air Freight Transport Pakistan: Million Ton Per Km





Airport connectivity for users is also poor, especially for international airports. Unlike in other countries, airports in Pakistan have not been built keeping in mind the ideal requirement of being centrally located and accessible to travelers through various modes of public transport. Commercialization of non-aeronautical areas is also insufficient and is an area that is less focused on (e.g. real estate, car parking, food & beverages, retail stores, etc.).

The landside facilities, passengers and cargo terminals, ground access facilities, and general amenities are inadequate. The arrangements of airline check-in facilities are not scientific; therefore, passengers have to remain in long queues and wait for long hours. Facilities, such as waiting areas and restaurants are very limited and also, and retail shops are just a few, and prices charged by retailers are several times higher than the actual prices (Batool et al., 2018).

5. Postal Services

5.1. National Overview

Pakistan Post has around 10,293 post offices and employee base of 40,000 in Pakistan, and 87% of the branches are incurring losses. On the other hand, Tranzum Courier Service (TCS), which has 900 branches has 43% of the market share.

In the public sector, Pakistan Post is providing delivery services to about 20 million households and businesses as community service without any cost considerations. The consumers lost confidence in Pakistan post as it failed to align its services with modern technology. The private companies which were more responsive to technology and customers easily captured the market share in 90s. In addition to its traditional role, the Pakistan Post also performs agency functions on behalf of Federal and Provincial governments, which inter-alias include Savings Bank, Postal Life Insurance, Collection of Taxes, Collection of Electricity, Water, Sui Gas, and Telephone bills. Despite its substantial significance, the postal services was attached with ministry of communications that never prioritized Pakistan Post (Mansoor et al, 2011).

The need to reform and the new vision "To provide every household in Pakistan with the ability to communicate and conduct business with each other and the world efficiently and economically" faced severe resistance from the National Organization of Postal Employees (NOPE) in 2000. The NOPE was then banned and the reforms were implemented with the formation of an autonomous and high powered board by Postal Services Management Board Ordinance, 2002. The powers were delegated to the chief postmasters, the removal from service ordinance was practiced, there was effective communication about the reforms across the country, human resource development was prioritized, Western Union and DHL opened counters in GPOs and the organization became self sufficient. (Mansoor et al, 2011).

Pakistan Post has made great strides in terms of aligning itself with international standards. In the 2021 Universal Post Union rankings, Pakistan ranked 62 out of 168 countries, having improved its ranking from 92 in 2018 (2021). Since then, Pakistan has improved its ranking to 55 in 2022. This ranking was awarded building on the Integrated Index for Postal Development (2IPD) which currently ranks 168 countries across four dimensions: reliability, reach, relevance, and resilience (2021).

However, there is still considerable room for improvement in terms of digitization and removing logistic bottlenecks. Pakistan Post has around 10,293 post offices in Pakistan, with 67% of these being in rural areas, which make up 87% of the branches incurring losses (Bukhari, 2019; 2023). Figure 5.16 shows the number of post offices over the years.

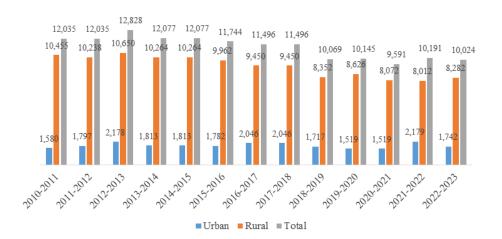


Figure 16. Pakistan Post: Number of Post Offices Over the Years

Source: Pakistan Economic Survey

In comparison, TCS, which is Pakistan Post's largest private-sector competitor operates with only 900 retail outlets across the country and has more than 43% of the market share (Bukhari, 2019; Jat & Jajja, 2020). TCS moves up to 130 million documents and parcels and 140,000 metric tons of freight annually (Jat & Jajja, 2020).

The major difference between both entities is in infrastructure and use of technology with Pakistan Post lagging in terms of technology use (Bukhari, 2019). However, since Pakistan Post is a service-providing entity, it cannot close down its rural offices since compared to the private sector, it performs much broader functions, which range from a savings bank, postal life insurance, collecting utility bills, receiving international remittances, selling savings certificates, and working on behalf of the Ministry of Finance and the federal and provincial governments (Bukhari, 2019).



5.2. Postal Services in Twin Cities

There are 28 post offices in Islamabad and 20 in Rawalpindi.

Table 10. Pakistan Post Offices in Twin Cities

Islamabad	Rawalpindi		
Aiwan-e-Saddar Islamabad	Attock Oil Company Post Office		
Allama Iqbal Open University	Bahria Town		
B-Block Pak Sectt	Chak Jalal Din		
DHA Phase-II	Chaklala Air Field		
E-9 (Air Hq)	Dhamial Camp		
F-7 Markaz	Fazaia Colony		
F-8 Markaz	GHQ		
Federal Board	High Court Post Office		
G-10 Markaz	Judicial Town		
G-5 Foreign Office	Kohinoor Colony		
G-8 Markaz	Kutchery		
G-9 Markaz	Maira Post Office		
I-10 Markaz	Momin Pura		
Islamabad I-8/4	Murre Brewery Post Office		
Islamabad Post Office	Pir Wadhai		
Jagiot	Raja Town		
Kirpa	Rawalpindi Post Office		
Kuri	Satellite Town		
Lohi Bher	Urdu Bazar		
Malpur	Westridge		
Mara Jaffar			
Model Town Humak			
National Health Laboratories			
Nirole Post Office			
Noorpur Post Office			
Prime Minister Sectt			
Quaid-e-Azam University Post Office			
Rawal Town Post Office			

Source: PIDE State of Commerce Survey

There are 8 TCS locations in Islamabad and 15 in Rawalpindi.

Islamabad	Rawalpindi	
Aabpara Express Center	Rawalpindi Lalkurti	
Bara Kahu	Adiala Road Express Center	
F-6 Markaz	Bahria Town Express Center	
F-7 Markaz	Blue Plaza Express Center	
F-8 Markaz	Chaklala Express Center	
Royal Express Center	Chandni Chowk Express Center	
Umar Plaza	Gulzar-e-Quaid Express Center	
Zero Point Branch	Khanna Express Center	
	Liaqat Bagh Express Center	
	Morgah Express Center	
	Peshawar Road Express Center	
	Raja Bazar Express Center	
	Saidpur Road	
	GPO Branch	

Table 11. TCS Branches in Twin Cities

Source: PIDE State of Commerce Survey

6. Dry Ports

The dry ports were established by both the public and the private sector in Pakistan. There are six dry ports constructed and managed by Pakistan Railways, one by National Logistics Cell. The remaining are managed by the private sector under the trust. These dry ports are regulated by the respective provincial board of revenues. The growth and potential of Pakistan's dry ports are constrained by several obstacles and limitations, much like those faced by many other countries, and have been graded as "little potential" by UNESCAP in 2013. These difficulties, however, also present chances for growth and development. Pakistan's dry ports are dealing with the following difficulties, constraints, and opportunities.

6.1. Infrastructure Cess

The Punjab Revenue Authority has placed a 0.9% cess on total value of the shipment purchase order on imported goods entering Punjab through many ports, airports, and customs stations. According to the Punjab Infrastructure Cess Act of 2015, this levy raises exporters' overall cost of doing business

TRANSACTION COSTS: SHIPPING LINES-RELATED ISSUES

- Container Detention charges: High container detention charges due to delays in returning empty containers can increase costs for importers/exporters. Improved coordination and communication between shipping lines and port operators can help address this issue.
- Security: Ensuring container security is crucial to prevent theft and damage during transit. Implementing advanced container tracking and security systems can enhance security measures.
- D.O. Charges: The imposition of Delivery Order (D.O.) charges can add to the overall cost of import/export operations. Evaluating and rationalizing these charges can improve cost-effectiveness.

6.2. Dry Ports in Pakistan

At present, there are six dry ports which are being operated by Pakistan Railways:

- Lahore Dry Port
- Karachi Dry Port
- Quetta Dry Port
- Peshawar Dry Port
- Multan Dry Port
- Rawalpindi Dry Port (AIG).

An additional six dry ports are also being operated by the private sector:

- Sialkot Dry Port
- Faisalabad Dry Port
- Pak-China Sust Dry Port
- NLC Dry Port Thokar Niaz Beg Lahore
- NLC Dry Port Quetta
 - QICT Dry Port at Prem Nagar Railway Station (AIG).

7. Inland Water Transport

Pakistan inherited an extensively developed riverine and canal network at independence, which stretches from Sindh to Khyber Pakhtunkhwa (Tehsin & Nasir, 2019) This system encompasses around 30,000 kilometers, comprising both horizontal and vertical stretches, and serves as a vital physical integration mechanism for the country's riparian regions. The extensive river and canal networks in Pakistan possess significant untapped potential for the advancement of inland waterway transportation by leveraging the Indus River System. In Pakistan, the utilization of waterways for purposes such as irrigation, hydropower generation, and flood protection takes

precedence over inland waterways transport, and these alternative uses hold greater significance and dominance (Zaidi et al., 2022).

7.1. Institutional Framework

The absence of a comprehensive institutional, legal, and regulatory framework has hindered the progress of the inland water transport (IWT) sector, despite its numerous advantages. When considering the institutional arrangements for developing IWT in Pakistan, there are crucial factors to be taken into consideration.

Presently, due to the 18th Amendment, provincial assemblies hold legislative authority over shipping and navigation within inland waterways (Zaidi et al., 2022). However, as the Indus River traverses three provinces - Khyber Pakhtunkhwa, Punjab, and Sindh - it necessitates legislation by each province, which could complicate coordination among the authorities. Consequently, it would be more appropriate to establish a Federal-level "Inland Waterways Authority" that can assume responsibility for overseeing and coordinating IWT operations.

There are provisions within the Constitution that can address the challenge of inland waterways being devolved to provinces. Firstly, under Part V (Relations between Federation and Provinces), Chapter 1 (Distribution of Legislative Powers), Article 141 grants Parliament the power to enact laws with extra-territorial operation. Secondly, Article 144 empowers the Parliament to legislate for one or more provinces with their consent. Thirdly, the Parliament can directly address this matter by utilizing entry No. 27 of the Federal Legislative List, which pertains to the "Commerce Clause" of the Constitution, allowing it to legislate and establish the necessary institutional structure for the Federal-level Inland Waterways Authority. Notably, there are existing precedents for such institutional bodies, including the National Electric Power Regulatory Authority (NEPRA) and the Indus River System Authority (IRSA).

8. Maritime Transport

Pakistan has a 1,050 km long coastline along which 8 seaports are operating. Among these, more than 95% of maritime trade is carried out by the ports of Karachi, Qasim, and Gwadar (Alam, 2020). Pakistan has tremendous maritime transport and trade potential due to its central location in the Arabian Sea, with pathways to the Middle East and Africa and a potential source of access route to the Central Asian region. However, this potential remains underutilized, due to the presence of competing countries. According to World Bank's Liner Shipping Connectivity Index, Pakistan is ranked 34, with the highest value for the index being 100.

Country	2018	2019	2020	2021
Bangladesh	13.2	12.2	13.8	14.7
India	55.5	54.3	57.2	58.9
Iran	18.4	18.1	31.2	31.1
Oman	55.5	52.6	60.7	59.3
Pakistan	34.0	33.9	40.8	34.1
Qatar	34.7	34.0	36.9	37.7
Sri Lanka	63.6	62.2	72.0	70.7
United Arab Emirates	71.7	72.1	76.5	73.9

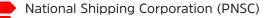
Table 12. Liner Shipping Connectivity Index

Maritime transport and related affairs fall under the domain of the Ministry of Maritime Affairs. No single National Shipping Policy exists at the moment. However, the Pakistan National Shipping Corporation Regulations 1984, Pakistan Merchant Marine Policy 2001, and the Merchant Marine Policy of 2019 collectively govern maritime transport and trade in the country (Urooj, 2020).

The existing seaports are:



Four public sector agencies operate and regulate maritime freight in the country, which includes:



Karachi Port Trust (KPT)

Port Qasim Authority (PQA)

Gwadar Port Authority (GPA)

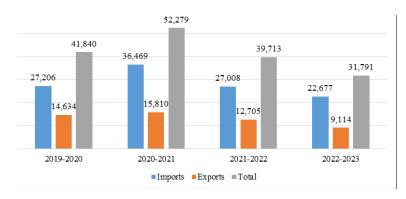
KPT, PQA, and GPA are non-budgeted entities. Figures 7.1 to 7.4 show the performance of PSNC and the cargo handled by the three port authorities.

Tanker	Chartering	SLOT Consolidated	
Liquid Cargo	Dry Cargo (MT)	TEUs	Slot BB/LCL
7,250,105,91	1,215,162.39	856	61.141

Source: Pakistan Economic Survey

At present, PNSC only has 12 vessels due to which despite being Pakistan's largest and sole flag carrier, Pakistan National Shipping Corporation (PNSC) moves only 11% of cargo (Gul & Alam, 2021). Pakistan lacks containerships and ordinary cargo ships making its fleet smaller than regional rivals, for instance, 3,004 out of 70,094 registered ships are American (Gul & Alam, 2021). Pakistan's dependence on foreign oil necessitates the procurement of oil tankers and bulk carriers by the relevant government.





Source: Pakistan Economic Survey

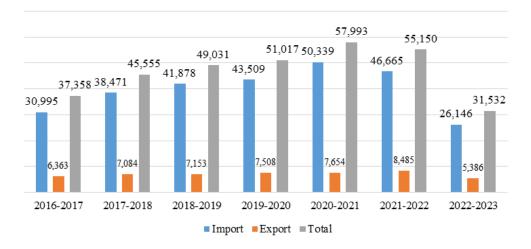
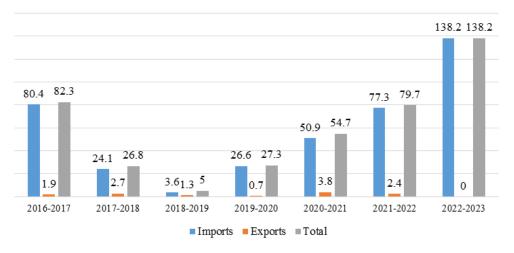


Figure 18. Trade Activity: Port Qasim (Thousand Tons)

Source: Economic Survey of Pakistan

Figure 19. Trade Activity: Gwadar Port (Thousand Tons)



Source: Economic Survey of Pakistan

Conclusion

Different regions within the domestic market lack full integration. Given the state of logistics sector, the transportation of goods not only takes more time but also incurs higher costs. This leads to significant price disparities for goods in both domestic and international markets. The inefficiency in connectivity increases the risk associated with joint ventures involving businesses from different geographical areas. Consequently, this not only hampers the growth of domestic commerce but also stifles innovation, as individuals are compelled to adhere to traditional business practices.

To enhance the effectiveness of multimodal transportation, there is a necessity to modernize the legal and regulatory framework to safeguard and align the interests of various stakeholders. The restructuring of the regulatory framework and the protection of stakeholders' interests must conform to global standards, industry practices, and international conventions to meet the expectations of trading partners. Given the potential for expanding cross-border trade with Pakistan's neighboring countries and within regional organizations like the Economic Cooperation Organisation (ECO), Central Asia Regional Economic Cooperation (CAREC), and the South Asian Association for Regional Cooperation (SAARC), it becomes imperative for Pakistan to update its legal statutes and reinforce the mechanisms for enforcement.

The absence of Pakistan in the Global Logistics Index 2023 indicates that the highlighted issues, put forward by each player in the logistics sector, need to be addressed immediately. Once the initial regulatory issues are resolved, we can move on to the policy's proposals, which include creating contemporary logistics parks, building multimodal transport hubs,

References

About us: DHL . DHL. (n.d.). https://www.dhl.com/pk-en/home/about-us.html Agility. (2023, February 7). *Rankings*. Agility. https://www.agility.com/en/emerging-markets-logistics-index/ rankings/

Ahmed, A., Mehdi, M. R., Baig, M. A. U., & Arsalan, M. (2022). The Assessment of Sustainability of Freight Transportation in Pakistan. *Iranian Journal of Science and Technology, Transactions of Civil Engineering*, 1-16.

AIG. (n.d.). Ports/Terminals. List of dry ports in Pakistan. https://www.aigshipping.com/page13.html

Alam, M. A. (2020, February 11). *Prospects of maritime economy for Pakistan*. Matime Study Forum. https://www. maritimestudyforum.org/prospects-of-maritime-economy-for-pakistan/

Al-Hader, M., & Rodzi, A. (2009). The smart city infrastructure development & monitoring. *Theoretical and Empirical Researches in Urban Management*, 4(2 (11), 87-94.

Baldwin, J. R., & Dixon, J. (2008). Infrastructure Capital: What is it? Where is it? How Much of it is There? *Where is it*.

Batool, I., Hussain, G., & Abid, M. (2018). Airport Privatization in Pakistan. Policy Perspectives, 15(3), 157-177.

Bucsky, P., & Kenderdine, T. (2020). Is the Iron Silk Road Really So Important? Rail Freight Use on China's "Silk Road Economic Belt". Вестник МГИМО Университета, (5 (74)), 168-193.

Bukhari, M. F. (2019, May 7). *Pakistan Post has changed for the better. but will this be good enough?*. Profit by Pakistan Today. https://profit.pakistantoday.com.pk/2019/05/06/can-this-career-bureaucrat-change-pakistan-posts-career-bureaucrats/

DEEN, H. U. D. H. U., & ARSHAD, S. (2007). Challenges for the commercial airline industry in Pakistan. Market Forces, 2(4).

Fan, S., & Zhang, X. (2009). Infrastructure and regional economic development in rural China. *In Regional Inequality in China* (pp. 177-189). Routledge.

Fourie, J. (2006). Economic infrastructure: a review of definitions, theory and empirics. South African Journal of Economics, 74(3), 530-556.

GlobalMobilityCall. (Sep 2023). *Examples of sustainable transport*. https://www.ifema.es/en/global-mobility-call/ sector-news/examples-of-sustainable-transport

Gong, H., Chen, C., Bialostozky, E., & Lawson, C. T. (2012). A GPS/GIS method for travel mode detection in New York City. *Computers, Environment and Urban Systems*, 36(2), 131-139.

Gul, A., & Shah, K. A. (2021). *Policy insights to maritime economy in Pakistan - PIDE*. PIDE. https://pide.org.pk/ research/policy-insights-to-maritime-economy-in-pakistan/

Gu, Y., Loh, H. S., & Yap, W. Y. (2020). Sustainable port-hinterland intermodal development: Opportunities and challenges for China and India. Journal of Infrastructure, Policy and Development, 4(2), 228-248.

Haque, N. U. (2006). Awake the sleeper within: releasing the energy of stifled domestic commerce!

Haque, N. U., & Waqar, I. (2006). Domestic Commerce—the Missing Link. *Ministry of Commerce, Government of Pakistan.*

Harvey, J., & Kumar, S. (2020). A survey of intelligent transportation systems security: challenges and solutions. 2020 IEEE 6th Intl Conference on Big Data Security on Cloud (BigDataSecurity), IEEE Intl Conference on High

Performance and Smart Computing,(HPSC) and IEEE Intl Conference on Intelligent Data and Security (IDS),

Hassan, T. (2021, May 30). *The state of play in Pakistan's freight industry and how startups plan to change it*. Profit by Pakistan Today. https://profit.pakistantoday.com.pk/2021/05/23/the-state-of-play-in-pakistans-freight-industry-and-how-startups-plan-to-change-it/

Hofmann, J., Guan, D., Chalvatzis, K., & Huo, H. (2016). Assessment of electrical vehicles as a successful driver for reducing CO2 emissions in China. *Applied energy*, *184*, 995-1003. https://databank.worldbank.org/metadataglossary/world-development-indicators/series/IS.SHP.GCNW.XQ

Shaikh, A. (2019, April 15). Unblocking Pakistan's logistics quagmire. Aurora Magazine. https://aurora.dawn.com/ news/1143412

Skytrax. (2020, July 31). Islamabad International Airport is a 3-star airport. Skytrax. https://skytraxratings.com/airports/ islamabad-international-airport-rating

ISLAMABAD, N. H. A. (July 2017). Traffic Study Report. https://nha.gov.pk/uploads/topics/16244486166661.pdf

islamabad.infoisinfo.com.pk. *The 6 Best Warehouse Storage Companies in Islamabad*. https://islamabad.infoisinfo.com. pk/search/warehouse-storage

Ivanova, E., & Masarova, J. (2013). Importance of road infrastructure in the economic development and competitiveness. *Economics and management*, 18(2), 263-274.

Jat, M. N., & Jajja, M. S. S. (2020). TCS: 'Hazir SubKuch'—Making Everything Present. Asian Journal of Management Cases, 17(1), 17-35.

Kasznar, A. P. P., Hammad, A. W., Najjar, M., Linhares Qualharini, E., Figueiredo, K., Soares, C. A. P., & Haddad, A. N. (2021). Multiple dimensions of smart cities' infrastructure: A review. *Buildings*, 11(2), 73.

Khan, D. J. (2022, November 23). Maritime sector. Brecorder. https://www.brecorder.com/news/40210310

Knupfer, S. M., Pokotilo, V., & Woetzel, J. (2018). Elements of success: Urban transportation systems of 24 global cities. *New York: McKinsey & Company.*

Meijer, J. R., Huijbregts, M. A., Schotten, K. C., & Schipper, A. M. (2018). Global patterns of current and future road infrastructure. Environmental Research Letters, 13(6), 064006.

Ministry of Communications. (n.d.-a). National Freight and Logistics Policy . https://communication.gov.pk/SiteImage/Policy/NFLP%20Main%20Document%20(Final)%2013%20September%202020-converted.pdf

Ministry of Finance. (2023). Pakistan Economic Survey - Chapter 13 Transport and Communications . Government of Pakistan | Finance Division . https://www.finance.gov.pk/survey/chapters 23/13 Transport.pdf

Mohan, D. (2008). Mythologies, metro rail systems and future urban transport. Economic and Political Weekly, 41-53.

NESPAK. (2015). Transporting Modeling for Mass Transit System in Rawalpindi & Islamabad.

Niall McCarthy. (Nov 1, 2017). The World's Top Cities For Sustainable Transport. statista.com. https://www.statista.com/ chart/11658/the-worlds-top-cities-for-sustainable-transport/

Pakistan Post. (n.d.). Pakistan Post|About Us. Pakistan Post. https://pakpost.gov.pk/about.php

Pakistan Post jumps Five places in world ranking. The Express Tribune. (2021, October 12). https://tribune.com.pk/ story/2324467/pakistan-post-jumps-five-places-in-world-ranking

PakistanRailway. Pakistan Transport Plan Study in the Islamic Republic of Pakistan (PTPS). https://openjicareport.jica. go.jp/pdf/11821907_02.pdf

quizlet.com. National and Global Finance. https://quizlet.com/180191364/1105-quiz-national-and-global-finance-flash-cards/#:~:text=What%20is%20domestic%20commerce%3F,products%20within%20a%20particular%20country

Planning Comission. (2018). Transport and Logistics . Ministry of Planning. https://www.pc.gov.pk/uploads/docs/Ch27-Transport-logistic.pdf

Raza, S. M. (2019). Outsourcing the management of major airports of Pakistan: challenges and opportunities (Unpublished graduate research project). Institute of Business Administration, Pakistan. Retrieved from https://ir.iba.edu.pk/research-projects-emba/12

Razmjoo, A., Gandomi, A. H., Pazhoohesh, M., Mirjalili, S., & Rezaei, M. (2022). The key role of clean energy and technology in smart cities development. Energy Strategy Reviews, 44, 100943.

SDPI. (2022, June). Resource Center. Retrieved from Bank of Punjab: https://www.bop.com.pk/Documents/Resource_Center/Blue.pdf

Snieška, V., & Šimkūnaitė, I. (2009). Socio-economic impact of infrastructure investments. Inžinerinė ekonomika(3), 16-25.

Tehsin, M., & Nasir, heikh I. (2019). Inland Water Transport in Pakistan: Limits and prospects. Global Social Sciences Review, IV(I), 441–448. https://doi.org/10.31703/gssr.2019(iv-i).57

thenews.com. (April 02, 2022). Record number of vehicles causing traffic issues in Islamabad. https://www.thenews.com. pk/print/946937-record-number-of-vehicles-causing-traffic-issues-in-islamabad

tlb.gov.hk. (June 2022). Hong Kong Moving Ahead: A transport strategy for the future. https://www.tlb.gov.hk/eng/ publications/transport/publications/hk_move_ahead_txt.html#:~:text=Hong%20Kong%20is%20a%20highly,%2C%20 taxis%2C%20trams%20and%20ferries.

Trade Development Autority Pakistan. (2022). Pakistan Export Strategy Logistics. Trade Development Authority of Pakistan (TDAP). https://tdap.gov.pk/wp-content/uploads/2022/08/Logistics-functional-strategy-Pakistan-3_web.pdf

trainonrails.com. Distance Between Different Cities. https://trainonrails.com/distance-between-different-cities

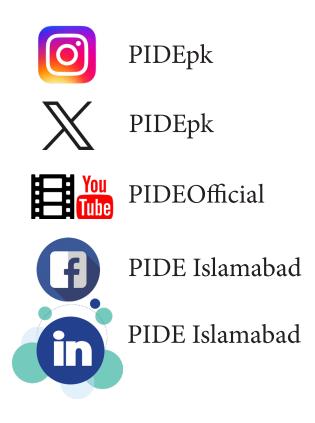
Urooj, A. (2020, July 24). Shipping in Pakistan - a review of policies, organizations and management. Maritime Study Forum. https://www.maritimestudyforum.org/shipping-in-pakistan-a-review-of-policies-organizations-and-management/

www.ntrc.gov.pk/. Length of Roads in Pakistan. http://www.ntrc.gov.pk/punjab/?ydqnaywjzynhfbtd?ocldgtmpvqepojqg

www.yoys.pk. warehouse in Rawalpindi, Islamabad. https://www.yoys.pk/places/warehouse/Rawalpindi,-Islamabad

Zaidi, H. A., Hoang, D. A., Said, D., Leijer, H. de, Chaudhry, F., Haneef, R., Liere, R. V., Quamber, R., Nasim, U., Malik, S. J., & Paracha, M. B. (2022, February 3). Inland Waterways Transport Study in Pakistan : An implementable vision for Revival and Development. World Bank. https://documents.worldbank.org/en/publication/documents-reports/ documentdetail/767691635863022447/an-implementable-vision-for-revival-and-development

Zakir, F. (2023, March 5). The Blue Economy of Pakistan . The Nation. https://www.nation.com.pk/06-Mar-2023/theblue-economy-of-pakistan#:~:text=Despite%20having%20more%20than%20100,of%20dollars%20from%20this%20 sector.



Copyright © PIDE, 2024

Pakistan Institute of Development Economics P.O. Box 1091 Quaid-e-Azam University Campus Islamabad - 44000 Pakistan