A decorative network diagram is located in the top left corner of the slide. It features a complex web of interconnected nodes and lines. The nodes are represented by circles of varying sizes and colors, including light grey, dark grey, and blue. Some nodes are highlighted with a blue outline. The lines connecting the nodes are thin and light grey.

Infrastructure - Road Infrastructure (Tolling)

April 2020

A decorative network diagram is located in the bottom right corner of the slide. It features a complex web of interconnected nodes and lines. The nodes are represented by circles of varying sizes and colors, including light grey, dark grey, and blue. Some nodes are highlighted with a blue outline. The lines connecting the nodes are thin and light grey.

Sr. No.	Contents
1.	Existing Road Infrastructure
2.	NHA – Rehabilitation of Roads
3.	Motorways / Expressways
4.	Development Partners’ Projects
5.	Eastern, Western & Central Alignment – Highways & Motorways
6.	BOT & PPP Arrangements
7.	BOT & PPP Key Projects
8.	Pakistan – Rated Universe



Pakistan | Existing Road Infrastructure

Road Infrastructure of Pakistan (Kms)

Years	Punjab	Sindh	KPK	Baluchistan	GB & AJK	Aggregate
FY19	110,518*	83,536*	44,063*	30,362*	1,627*	270,971
FY18	109,687	82,908	43,732	30,134	1,614	268,935
FY17	108,899	82,312	43,418	29,918	1,603	267,002
FY16	108,451	81,974	43,239	29,795	1,596	265,905
FY15	107,992	81,543	43,072	29,742	1,593	263,942
FY14	107,973	81,493	43,035	29,692	1,592	263,785

Depiction of existing road infrastructure, over last five years, highlights Punjab province enjoys the major chunk of developed roads being most populous province

**proportionate*

Source: Ministry of Finance, Economic Survey 2018-19, Chapter 13, NHA website

National Highway Authority | Rehabilitation of Roads

NHA Network	47 National Highways, Motorways, expressways and strategic roads
Length of Network	12,743 Kms
Existing Development Portfolio	72 ongoing projects
Cost of on-going Projects	PKR 176bln
	Foreign Exchange Component - PKR 66bln
	Local component - PKR 110bln
PSDP 2018-19	Another 8 schemes with total estimated cost of PKR 8.6bln are planned
CPEC	Currently there are PKR 700 bln worth projects related to NHA

Motorways/ Expressways | Pakistan

Sr. #	Motorway/ Expressways	Length (Km)	Status
1.	Islamabad – Peshawar (M-1)	156	Completed
2.	Lahore – Islamabad (M-2)	357	Completed
3.	Lahore – Multan (M-3)	230	Completed
4.	Pindi Bhattian – Faisalabad, (M-4)	57	Completed
5.	Faisalabad – Gojra (M-4)	58	Completed
6.	Gojra – Shorkot (M-4)	62	Completed
7.	Shorkot – Khanewal (M-4)	64	Completed
8.	Khanewal – Multan (M-4 Extension)	56	Completed
9.	Sukkur – Multan (M-5)	392	Completed
10.	Hyderabad – Sukkur (M-6)	296	Procurement under process
11.	Dadu – Hub (M-7)	270	Under construction
12.	Ratodero – Gwadar (M-8)	892	Under construction
13.	Karachi – Hyderabad (M-9)	136	Completed
14.	Havelian – Mansehra	39	Completed
15.	Hazara Motorway (E-35)	59	Completed
16.	Hakla – D.I.Khan	285	Completion – Jun 20
17.	Sialkot – Lahore	91	Completed
	Total	3,500	

Development Partners Projects | Pakistan



Asian Development Bank

- **Flood Emergency Rehabilitation Project, Phase I (343KM),***
- **Construction of Gojra-Khanewal M-4, 126 KM,**
- **Flood Emergency Rehabilitation Project, Phase II – 335KM.**
- **Baluchistan:** 1) Zhob –MughalKot Section of N-50, 80 KM, 2) Qilla Saifullah – Waigum – Rud Section of N-70, 124 KM,
- **Burhan – Havelian Expressway (E-35), 59 KM,**
- **Corridor Development Investment Program**
 - Tranche-I: 1) Petaro - Sehwan Section, N-55 – 128KM . 2) Rehabilitation of Peshawar - Dara Adam Khel, N-55-36 KM. 3) Shikarpur – Ratodero N-55 - 44 KM.
 - Tranche-II: 1) Shikarpur – Rajanpur Section, N-55- 222 KM Planning Stage 2) D.G.Khan – D.I.Khan Section, N-55 -315KM Planning Stage. 3) Petaro – Schwan Section, N-55 -128 KM Planning Stage

• (All projects are Under Construction)



Islamic Development Bank

- **Multan Khanewal Section – M4 Extension, 57 KM, Completed**



Japan International Cooperation Agency

- **Sehwan – Ratodero Section (200km), N-55 (Completed)**
- **Rakhi Gajj – Bewata Section (34 km), N-70, (Under Construction)**

Development Partners Projects | Pakistan



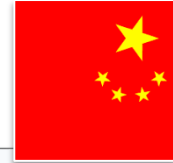
Korean Exim Bank

- **Chakdarra - Chitral Section** (141 km) of N-45 (Procurement stage)
- **Malakand Tunnel** (Procurement stage)



US AID Grant

- **Quetta - Chaman Section** of N-25 (120 km) (Completed)
- **Peshawar - Torkham Section** of N-5 (45 km) (PC-I is in process of approval)



Chinese

- **Raikot - Thakot Section** of KKH (276 km) (Loan arrangement is under process)
- **Multan – Sukhar (M-5)** (392 km) (Completed)

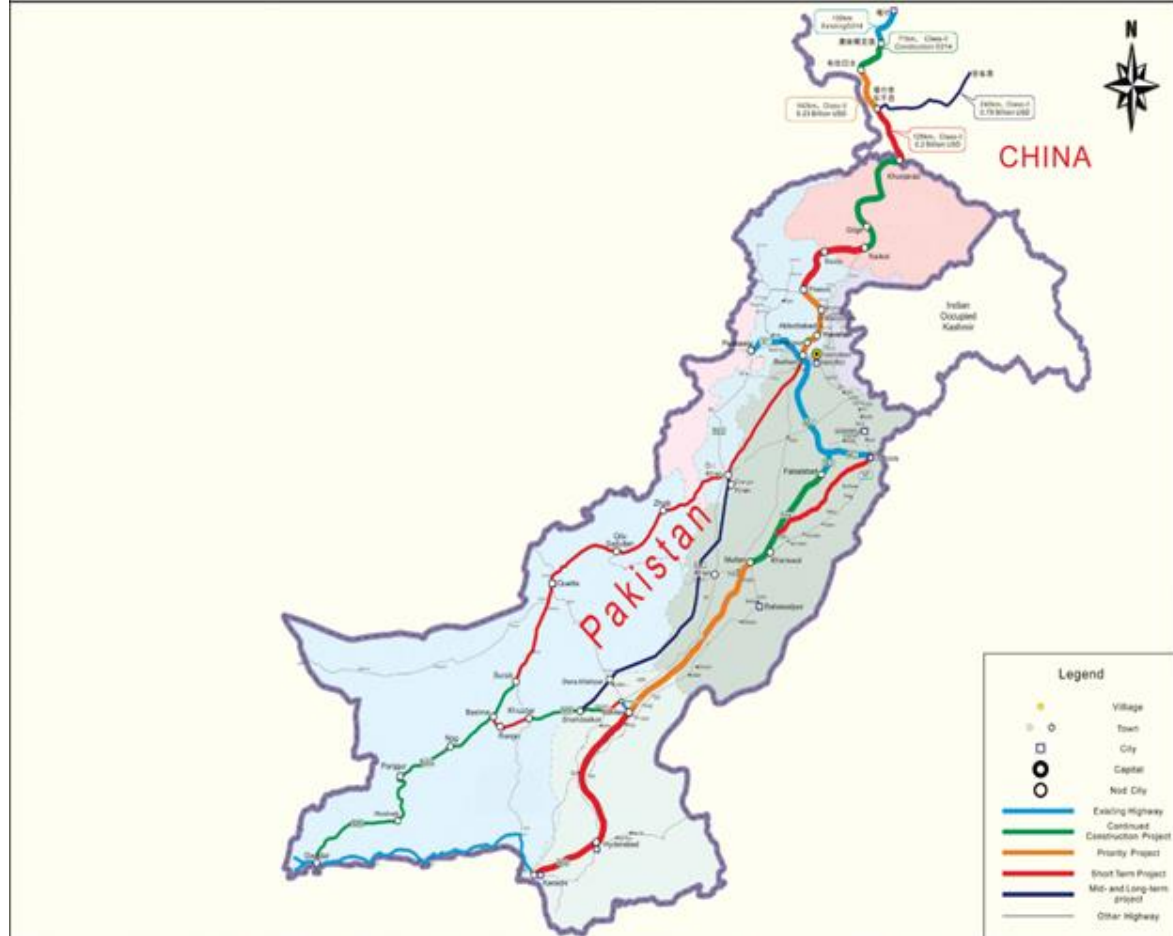
Pakistan | CPEC Road Map

Adjacent map outlines the construction projects under CPEC

Motorways under construction include Havelian – Manserah and Hazara Motorway (E-35)

Short to Medium term projects includes Hakla-Yarik, Yarik – Zhob (N-50), Zhob – Quetta (N-50), Quetta – Khuzdar (N-25), Surab – Hoshab (N-85) , Hoshab – Gwadar (M-8)

Mid-term to long term projects include D.I. Khan – DG Khan, DG Khan – Dera Allah Yar, Dera Allah Yar – Wangu Hills



Eastern Alignment | Highways & Motorways

Sr. #	Starting Point	Ending Point	Length	Status	Indicative Plan Period
1.	Khunjrab	Raikot	335	Completed	-
2.	Raikot	Thakot (N-35)	270	Planning stage	2018-23
3.	Thakot	Havelian (E-35)	118	Under Construction	2016-20
4.	Havelian (M1)	Burhan (E-35)	59	Completed	-
5.	M1	Gojra (M1, M2, M4)	402	Completed	-
6.	Gojra	Khanewal (M4)	127	Under Construction	2013-20
7.	Khanewal	Multan (M4 Ext)	57	Completed	-
8.	Multan	Sukkur (M-5)	392	Completed	2013-19
9.	Sukkur	Hyderabad (M-6)	296	Under Procurement	2018-23
10.	Hyderabad	Karachi (M-9)	136	Completed	-
11.	Sukkur	Shikarpur (N-65)	40	Completed	-
12.	Shikarpur	RatoDero (N-55)	49	FS for dualization commenced	2018-23
13.	RatoDero	Quba Saeed Khan (M-8)	59	Completed	-
14.	Quba Saeed Khan	Wangu Hills (M8)	42	Completed	-
15.	Wangu Hills	Khuzdar(M-8)	113	Completed	-
16.	Khuzdar	Basima (N-30)	110	PC-I approved	2019-22
17.	Basima-Hoshab	Gwadar	400	Completed	-
	Total		3,005		

Western Alignment | Highways & Motorways

Sr. #	Starting Point	Ending Point	Length	Status	Indicative Planned Period
1.	Hakla (Islamabad)	Yarik (D.I. Khan)	285	Under Construction	2013-20
2.	Yarik	Zhob (N-50)	235	PC-I approved	2018-23
3.	Zhob (N-50)	Quetta	331	PC-I approved	2018-23
4.	Quetta	Khuzdar (N-25)	306	Design in process	2018-23
5.	Surab	Hoshab (N-85)	449	Completed	-
6.	Hoshab	Gwadar (M-8)	193	Completed	-
Total			1,799		

- Eastern alignment comes under short term projects
- Western alignment comes under short to medium term projects under CPEC

Central Alignment | Highways & Motorways

Sr. #	Starting Point	Ending Point	Length	Status	Indicative Planned Period
1.	D.I. Khan	D.G. Khan	229	Planned	2025-30
2.	D.G. Khan	Dera Allah Yar	303	Planned	2025-30
3.	Dera Allah Yar	Wangu Hills	94	Planned	2025-30
Total Length			626		

- Central alignment comes under medium to long term projects under CPEC

CPEC | Infrastructure Projects

Sr .#	Project Name	Length (KM)	Estimated Cost (US \$ mln)	Indicative Planned Period	Financing
1.	KKH Phase – II	118	1,315	Mar-20	Governmental Concessional loan
2.	Peshawar-Karachi Motorway (Multan-Sukkur Section)	392	2,889	Completed and inaugurated on 5 th November 2019	Governmental Concessional loan
3.	Khuzdar-Basima Road N-30	110	PKR 19.2 bln	PC-I completed	-
4.	Upgradation of D.I.Khan (Yarik) - Zhob, N-50 Phase-I	210	PKR 76 bln	PC-I Approved	-
5.	KKH Thakot-Raikot N35 remaining portion	136	PKR 8.15bln	-	-

Road Rehabilitation | BOT/ PPP

The Public Private Partnership (PPP) or Build, Operate & Transfer (BOT) are arrangements between Government (NHA) and the private sector with following procedure;

- **Competitive Bidding:** successful bidder from the private sector incorporates a Project Company – Special Purpose Vehicle (SPV)
- **Concession Agreement** between NHA-SPV: includes, inter alia, the accepted bid parameters, scope of work, concession period and other detail necessary which deemed for implementing the project under PPP/BOT arrangement
- **Financing arrangements:** SPV
- **Design, Construction, Operation and Maintenance:** SPV
- **Right on Toll/other revenue for a certain period of the project:** SPV (which is long enough to recover its investment with reasonable profit)
- **Transfer back** to NHA at the end of concession period

Risk factors | BOT/ PPP Arrangements

- ◆ **Execution Risk** | Delays in securing lands/related approvals | in case of new roads
- ◆ **Completion Risk** | Ensuring timely delivery of project | EPC Contractor profile | Regular Monitoring
- ◆ **Operations & Maintenance Risk** | O&M Operator | Adherence to performance parameters
- ◆ **Revenue Risk** | Traffic volume and Toll rates
- ◆ **Sponsor Risk** | Financial muscle and Reputation | Profile and Past record

BOT/ PPP | Key projects

Sr. #	Project Name	Length-Km	Project Details	Status
1.	Service Areas 10 Nos. (M-2)	-	10 service areas under 15 years concession period	Handed over to M/s MORE as part of M-2 concession
2.	Overlay & modernization of Lahore-Islamabad (M-2)	357	Total solution/ intelligent Transportation System (ITS) on M-2	Concessionaire: M/s MORE, Pakistan – Under Construction
3.	Habibabad bridge (N-5)	2	New 4-lane Railway Overhead Bridge on N-5 with 2 km approach roads	M/s HOME, Pakistan – Construction Completed
4.	Karachi-Hyderabad Motorway (M-9)	136	Conversion of existing 4-lane to 6-lane motorway	M/s SCORE
5.	Lahore-Sialkot Motorway Project	91	Construction of 4-Lane Motorway	Completed
6.	Hyderabad- Sukkur Motorway	296	Construction of new 6 lane	Project Preparation Stage
7.	Karachi Northern Bypass (M-10)	50	Construction of existing 2-lane highway into 4-lane divided facility	Project Preparation Stage
8.	Lakpass Tunnel (N-25)	0.18	Tunnel is operational under a 25 year's concession	M/s IBEX Construction Co., Pakistan

In addition to these BOT projects, NHA has planned projects on Public Private Partnership basis (PPP) worth PKR 210 bln to be started in near future.

Road Infrastructure - Conclusion

- ◆ Establishment and rehabilitation of national highways, expressways and motorways is underway since many years. During last few years, the country's road infrastructure was given special emphasis in the wake of CPEC and related projects.
- ◆ Eastern and Central alignment are largely completed whilst the western alignment is underway to be completed in medium to long term. After completion of whole network, traffic volume is likely to rise manifolds as time duration (time to travel) will shorten.
- ◆ With completion of eastern and central alignment of motorways and highways in next few years, more connected trade route will be beneficial for CPEC related activities.
- ◆ However, as per Covid-19 implications, declined traffic volume is likely to be observed in next few months, as tourism to northern areas is likely to be curtailed.

Analysts

Sehar Fatima

Assistant Manager – Ratings
sehar.fatima@pacra.com

Jhangeer Hanif

Unit Head – Ratings
jhangeer@pacra.com

Contact Number: +92 42 3586 9504

DISCLAIMER

PACRA has used due care in preparation of this document. Our information has been obtained from sources we consider to be reliable but its accuracy or completeness is not guaranteed. The information in this document may be copied or otherwise reproduced, in whole or in part, provided the source is duly acknowledged. The presentation should not be relied upon as professional advice.