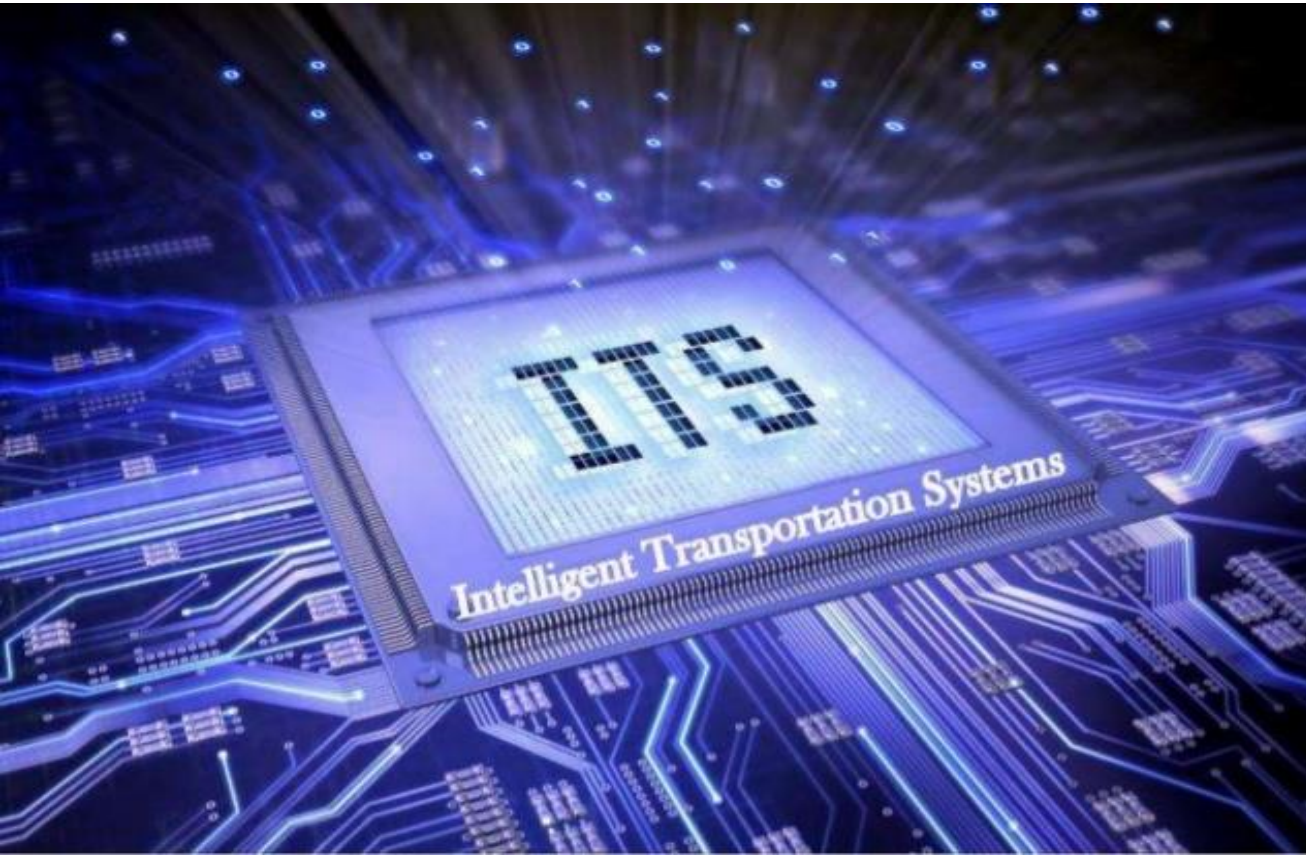




Government of Pakistan
Ministry of Communications



DEVELOPMENT of INTELLIGENT TRANSPORTATION SYSTEM IN OIC MEMBER COUNTRIES





Introduction to Intelligent Transportation Systems (ITS)



Definition

ITS refers to the integration of advanced technologies into transportation systems to improve efficiency, safety, and sustainability

Key Components

- Traffic management systems
- Vehicle-to-vehicle (V2V) communication
- Smart parking solutions
- Public transportation enhancements



Importance of ITS in OIC Member Countries

- **Economic Growth:** Enhances trade and mobility, leading to increased economic activities.
- **Safety Improvements:** Reduces traffic accidents and fatalities through better traffic management.
- **Environmental Benefits:** Decreases emissions by optimizing traffic flow and promoting public transport.
- **Social Inclusion:** Improves accessibility for all citizens, including those in rural areas.



Road Transportation Statistics



Total Roads: 500,000 KM
 National Highways & Motorways: 14,600 KM
 Road Carries 96% Inland freight & 92% Passenger traffic
 Motor vehicles: 37.7 million

- Smart Cities concepts are being taken up and being implemented in Major Cities.
- Lahore, Islamabad, Karachi, Quetta
- Smart Motorways: ITS is being adopted on 05+ Motorways having a length of 2000 KMs

MAP OF NATIONAL HIGHWAY NETWORK



Sr.	Road Description	Length (kms)
1	Northern Route	784
	- Khunjrab-Raikot	335
	- Raikot-Thakot	270
	- Thakot-Havelian	120
	- Havelian-Burhan	59
2	Western Alignment	2,481
	- Northern Route	784
	- Burhan-D.I.Khan	288
	- D.I.Khan-Zhob	205
	- Zhob-Quetta	331
	- Quetta-Surab	211
	- Surab-Hoshab	449
	- Hoshab-Gwadar	193
3	Central Alignment	2,542
	- Northern Route	784
	- Burhan-D.I.Khan (Partial Western Alignment)	285
	- D.I.Khan-Jampur	250
	- Jampur-Wangu Hillis	363
	- Wangu Hillis-Khuzdar	108
	- Khuzdar-Basima	110
	- Basima-Gwadar (Partial Western Alignment)	642
4	Peshawar-Karachi Motorway	1,512
	- Peshawar-Islamabad	155
	- Islamabad-Pindi Bhtain	235
	- Pindi Bhtain-Multan	298
	- Multan-Sukkur	392
	- Sukkur-Hyderabad	296
	- Hyderabad-Karachi	136
5	N-5 Karachi-Lahore-Peshawar-Torkham	1,819
6	N-5A Khaneval-Bahawalpur-Lothran	109
7	N-10 Makran-Coastal, Liari-Omarra-Gwadar-Jiwani	653
8	N-15 Mansehra-Naran-Jalkhad-Chilas	240
9	N-25 Karachi-Kalat-Quetta-Chaman	813
10	N-35 Hassanabad-Thakot-Khunjrab	806
11	N-40 Lakpass-Dalbandin-Taftan	610
12	N-45 Nowsehra-Dir-Chitral	309
13	N-55 Kotri-Larkana-D.G.Khan-D.I.Khan-Peshawar	1,284
14	N-65 Sukkur-Sibi-Quetta	385
15	N-70 Multan-D.G.Khan-Loralai-Qila Saifullah	447
16	N-75 Islamabad-Satra Mile-Lower Topa-Kohala	90
17	N-80 Tarnol-Fateh Jang-Jand-Khushal Garh-Kohat	146
18	N-90 Khwazakhele - Besham	64
19	N-95 Chakdara - Kalam	135
20	N-105 Larkana - Naudero - Lakhi	61
21	N-110 Gharo - Keti Bundar	90
22	N-120 Hyderabad - Mirpurkhas - Umarot - Khokhrapur (Indian Border)	220
23	N-125 Taxila - Khanpur - Haripur	44
24	N-155 Larkana - Moenjo Daro Road up to Airport	28
25	N-255 Larkana - Nasirabad via Rasheed Wagan	34
26	N-305 Sakrand - Shaheed Benazirabad	35
27	N-455 Larkana - Kamber - Shahdadkot	50
28	N-655 Ratodero - Naudero Road incl. Internal Road of about 2 Km	18
29	S-1 KKH-Skardu Road (Strategic Road)	167
30	S-2 Kohala-Muzaffarabad	40
31	S-3 Muzaffarabad - Chakothi	55
32	M-3 Lahore-Abdul Hakeem	230
33	M-10 Karachi Northern Bypass	57

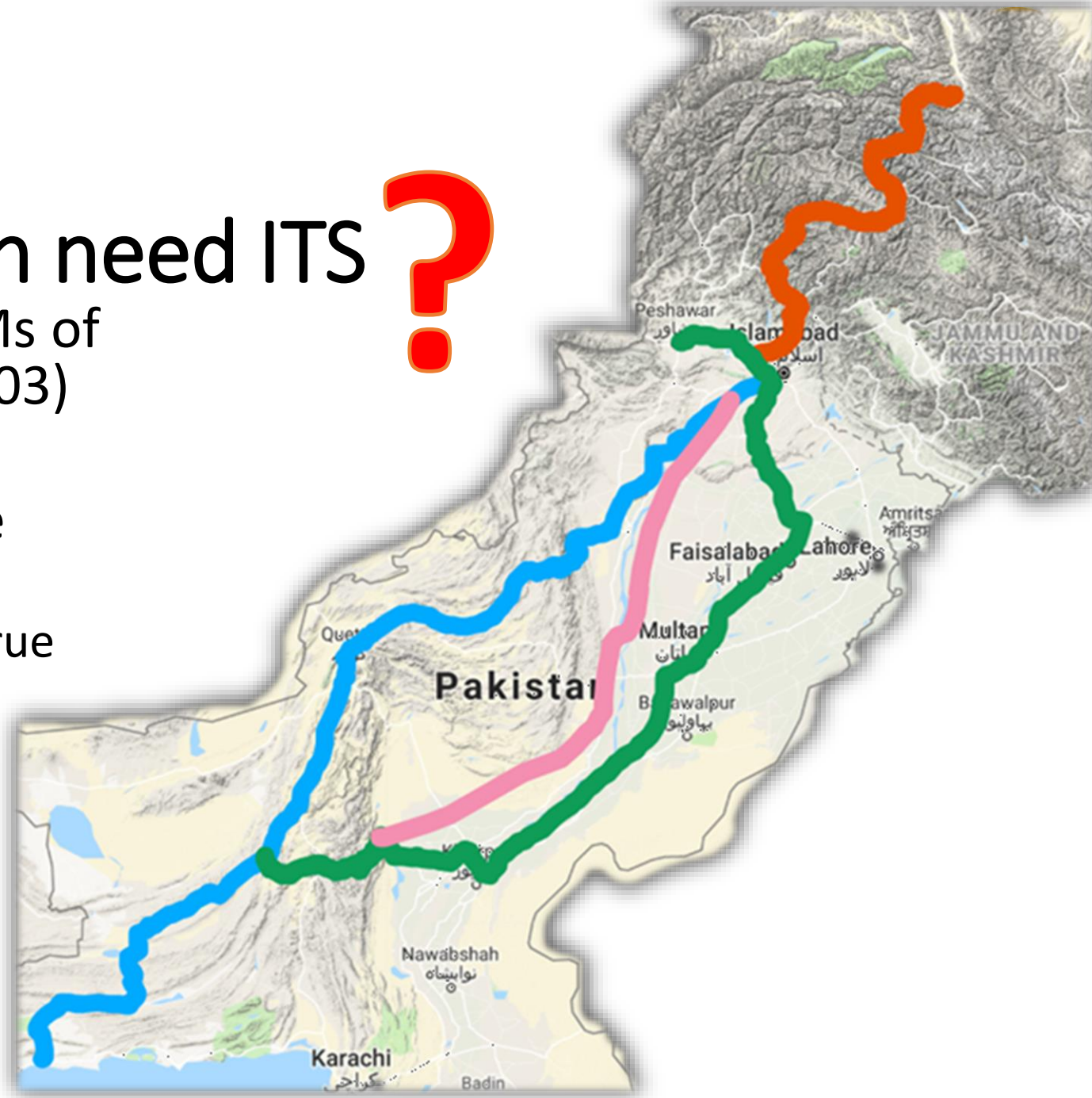
LEGEND

- KKH
- Western Alignment
- Central Alignment
- Peshawar-Karachi Motorway
- Indus Highway
- National Highway
- Under Construction
- Planned



Why Pakistan need ITS ?

- Addition of more than 1200KMs of new Motorways within three (03) years.
- Robust, Efficient, Cost Effective systems are required to:
 - Collect data for assessment of true revenue potentials,
 - Assessment of pavement conditions and its timely maintenance
 - Better quality of service to Commuters





Intelligent Transportation System in Pakistan

Highway & Motorways ITS:

- Electronic Toll Collection (ETC) systems + Traffic Management Systems (TMS) for monitoring and managing traffic flow
- CCTV cameras and sensors for monitoring and detecting traffic incidents
- Lane management systems for managing traffic flow and detecting lane violators

Examples of Highways & Motorways ITS Projects:

- Havelian – Thakot Motorway
- Sukkur – Multan Motorway (M-5)
- Lahore – Abdul Hakeem Motorway (M-3)
- [Lahore – Sialkot Motorway \(M-11\)](#)





ITS in Pakistan



FEATURES	Havelian-Thakot	Sukkur-Multan M-5	Lahore-Abdul Hakeem M-3
Length in kilometers	120 KMs approx.	392 KMs approx.	230 KMs approx.
ITS Cost	1.49 Billion	7.61 Billion	2.93 Billion
Total Contract Price	120 Billion	259 Billion	148 Billion
% of the Contract Cost	1.24 %	2.9 %	1.95 %
Contract Type	(EPC)	(EPC)	(EPC)
Contractor	M/s China Communications Construction company Ltd	M/s China State Construction Engineering Corporation	M/s China Railway 20 Group-ZKB JV



Intelligent Transportation System in Pakistan

City ITS

- Safe City initiatives for improving public safety
- Smart Traffic Management Systems for improving traffic flow and reducing congestion
- Public Transportation Management Systems for tracking buses and vehicles in real-time

Examples of City ITS Projects

- Lahore Safe City project
- Karachi Safe City project
- Islamabad Traffic Management System

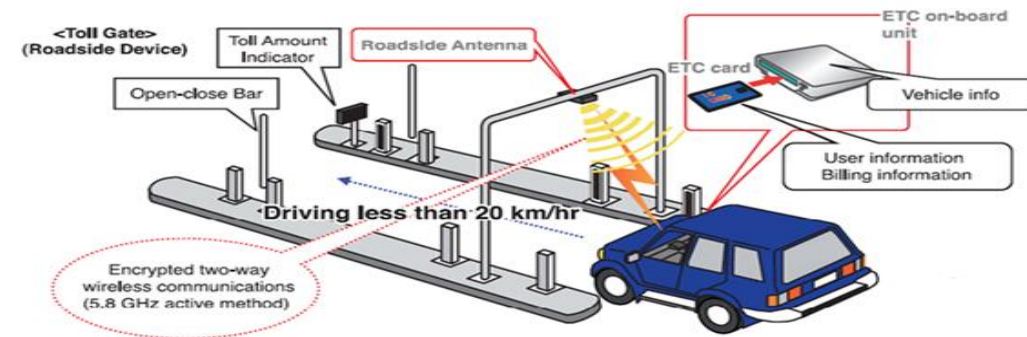




Mitigation: Optimization of Road Transport on Highways and Motorways



- Implementation of Axle Load Control
 - Around 160 Weigh stations have been installed throughout the country
- Electronic Toll Collection Systems are being installed to enable quick traffic flow and data collection.
 - 1/3 of highways toll plaza are having such systems.
- Free Flow Electronic Tags are being introduced on all major Motorways and highways





Way Forward

- Partner with international ITS providers and experts.
- Training of local engineers and technicians.
- Encourage public private sectors investment and innovation.
- Government to provide incentives and support for investment in ITS infrastructure.
- Develop scalable solutions that can be expanded nationwide.
- **Adoption of Emerging Technologies**
 - **Autonomous Vehicles:** Initiate pilot projects and research for self-driving vehicles.
 - **5G Connectivity:** Implement 5G technology for improved communication and data transfer.





CONCLUSION



- **Summary:** ITS offers significant benefits to Pakistan's transportation systems.
- **Future Vision:** A safer, more efficient, and sustainable transportation network.
- **Call to Action:** Urgent need for infrastructure development, policy formation, and technological adoption.
 - Collaborative Efforts: Engage stakeholders and support the development and implementation of ITS projects.
 - Continued Investment: Promote ongoing research and investment in ITS technology and infrastructure.



Q & A

Any
Question