



People's Republic of China
Poverty Reduction and
Regional Cooperation Fund

4th Railway Working Group Meeting

22–24 April 2019 | Tashkent, Uzbekistan

4-е заседание Рабочей группы по
железнодорожному транспорту

22–24 апреля 2019 г. | Ташкент, Узбекистан

Case Study: Revitalization of rail freight services

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- How to improve railways to become competitive as freight transport mode?
 - Reliability and Service Quality
 - Efficiency
 - Economies / Sustainability
 - Market orientation / Innovation

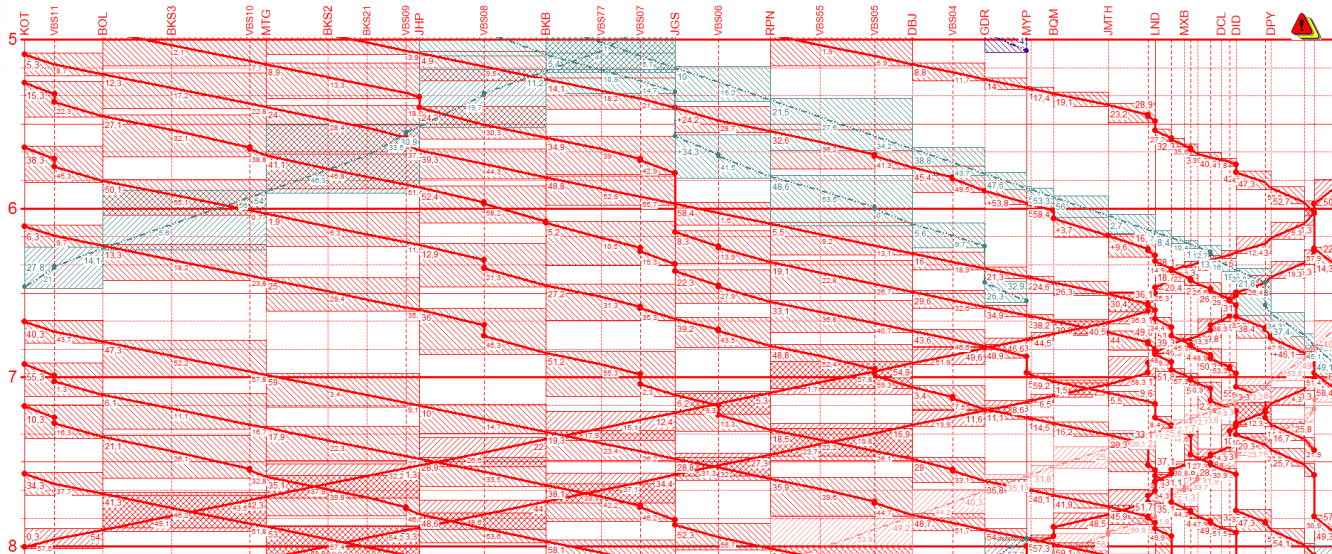


- Reliability and Service Quality

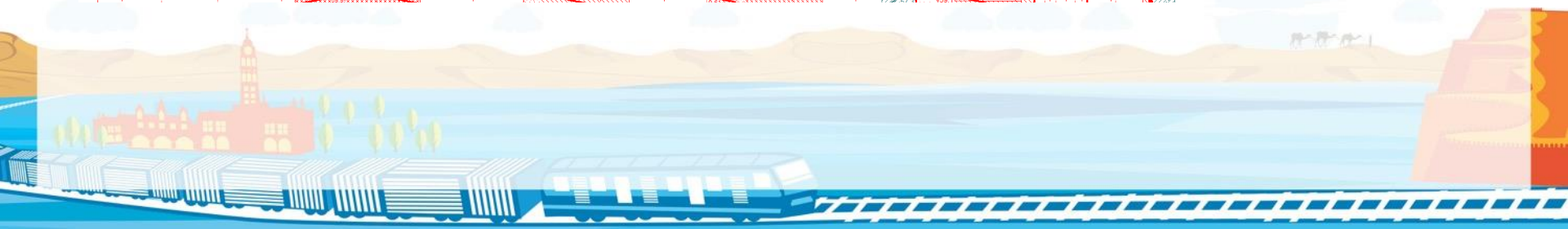
- Punctuality
- Asset reliability
- Asset availability
- Customer satisfaction



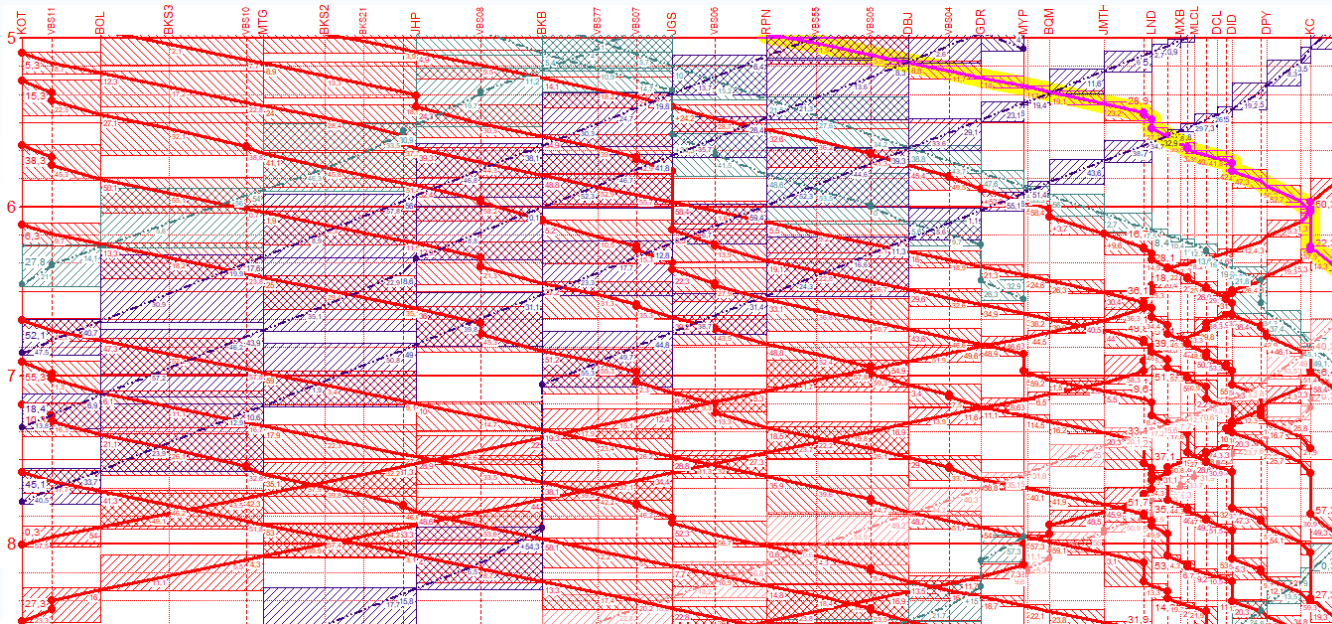
- Reliability and Service Quality
 - Scheduled traffic and capacity use - Pakistan



Karachi-Kotri
5h-8h a.m. –
today



- Reliability and Service Quality
 - Scheduled traffic and capacity use



Karachi-Kotri
5h-8h a.m. –
optimized



- Reliability and Service Quality
 - Visualize infrastructure capacity and quality
 - Compare planning with reality
 - Register failures and restrictions
 - Calculate asset utilization
 - Promise realistic schedule to customers
 - Discussion of quality with customers



- Efficiency
 - Rolling Stock utilization
 - Staff optimization
 - Network utilization



- Efficiency

- Example: Freight service in Turkey – Container train from Kayseri to Mersin



• Efficiency

- Freight service Kayseri – Mersin

	Current Case	Optimum Timetable Case	Modern Loco Case	Optimum Case - Electrified
Average speed	30	40	40	40
Distance	343	343	343	343
Total hours per roundtrip	22,87	17,15	17,15	17,15
Locomotive cost TL per roundtrip	11.452	8.589	4.985	4.465
Personnel TL per roundtrip	681	510	510	510
Infrastructure TL per roundtrip	1.372	1.372	1.372	1.372
Energy TL per roundtrip	18.110	18.110	6.174	1.336
Wagon TL per roundtrip	7.380	4.428	4.428	4.428
Shunting TL per roundtrip	2.640	1.760	1.760	1.760
Pushing locomotive TL per roundtrip	0	0	2.400	2.400
Overhead TL	6.245	5.216	3.244	2.441
Total TL per roundtrip	47.881	39.986	24.874	18.712
Total TL / TEU 100% full utilization	319,20	266,57	165,83	124,75
Total TL / TEU single trip 75%	425,61	355,43	221,10	166,33
Total TL / TEU roundtrip 75%	851,21	710,86	442,21	332,67
TL/ train km	69,80	58,29	36,26	27,28
% of energy	37,82%	45,29%	24,82%	7,14%
TL / ton km	0,124	0,104	0,064	0,048

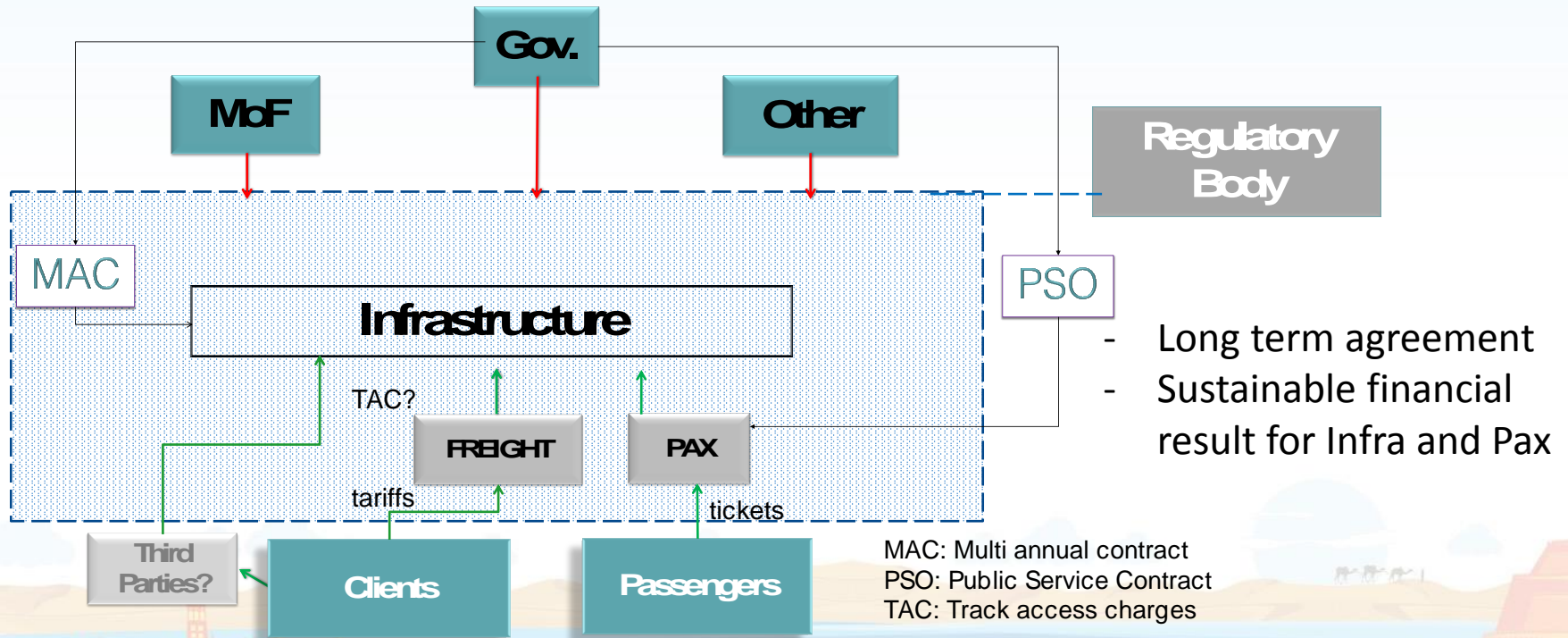
Numbers from 2013 in TL

- Significant cost reduction with higher average speed
- Double traction avoided
- More km performed with assets
- Energy-efficient

- Economies / Sustainability
 - Cost Control
 - Pricing
 - Subsidy structures
 - Asset maintenance
 - Investment decisions



- Economies / Sustainability
 - PSO/MAC implementation in Europe



- Economies / Sustainability
 - Cost monitoring
 - Cost related price structures in freight
 - Service units (maintenance, terminals) as Business Units
 - Infrastructure costs to be defined in advance
 - Investments with clear economic target

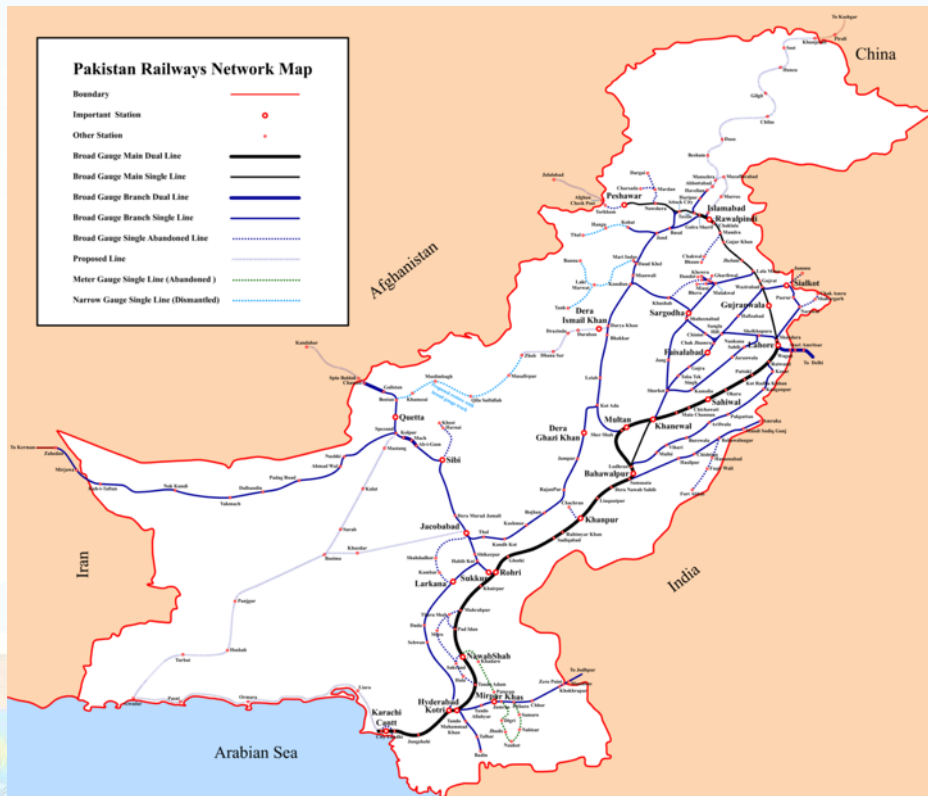


- Economies / Sustainability
 - KPI “Cockpit” for Management

Financial View	Operating View	Customer View	Commercial View
Revenues/costs (monthly basis)	Train/km performed	Passengers/ Freight transported	Revenues per Ton/Passenger
Costs per train/km	Km per unit/asset	Number of clients in freight	Revenues per Ton/km Pax/km
Costs per ton-km/ pax-km	Tons/tkm/Pax/Pkm per year	Punctuality	Revenues per Seat-km / wagon
Costs per ton per passenger	Trips per year	Travelers satisfaction	Revenues per Line
Costs per operating hour	Assets required		Revenues per staff

• Economies / Sustainability

– Example: PPP – “TAC” Project in Pakistan

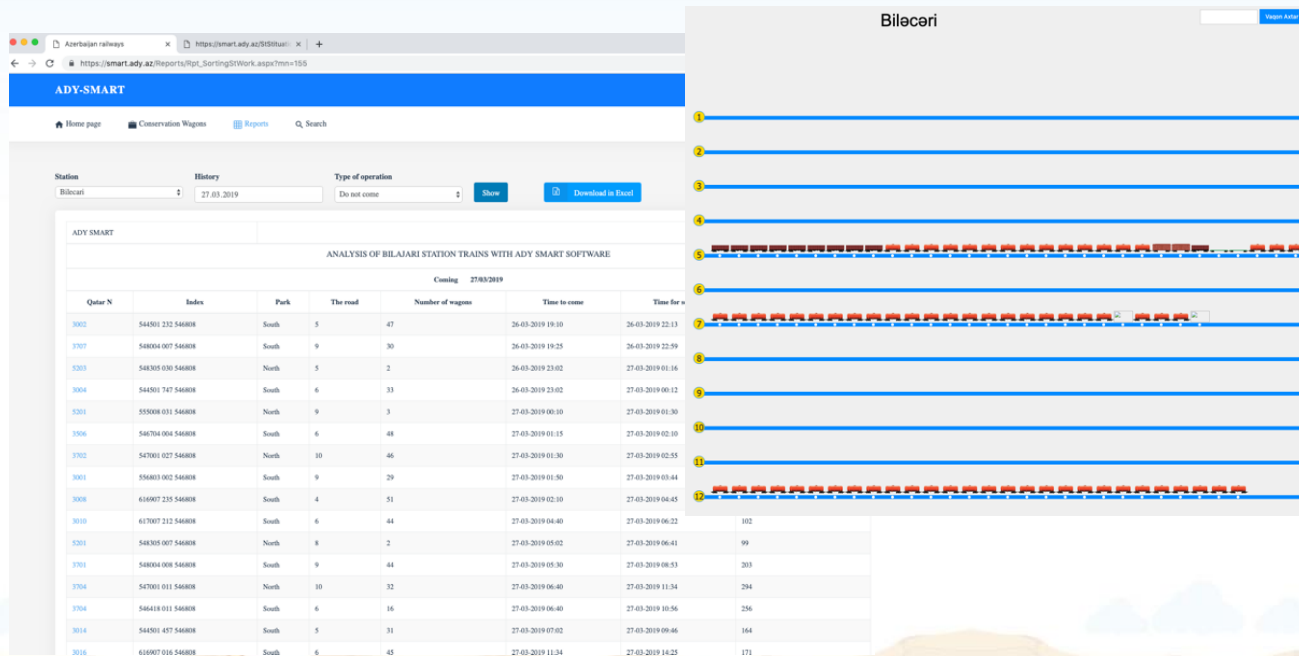


- Invitation to bid for concessions – corridor and commodity
- Own assets
- Usage of tracks (TAC)
- Own facilities/terminals
- Optimize service

- Market Orientation / Innovation
 - Market Share
 - New Business
 - New added values
 - Adaptability
 - Market Research
 - Sales Channels



• Market Orientation / Innovation – Customer needs (ADY Smart)



- Wagon Management and tracking

- Market Orientation / Innovation
 - Accessibility for customers (booking options)
 - Transparency in services
 - Discussion of requirements and adjustment of services

