

CAREC Corridors and BCPs

Corridor Performance Measurement and Monitoring (TA 6437 REG)

**2 March 2010
Almaty, Kazakhstan**

Objectives

- 1 To review the **time / cost performance** of each CAREC corridor
- 2 To discuss the **delays and costs of activities** along each CAREC corridor
- 3 To understand the **bottlenecks and the causes of delays/high costs** at border crossing points
- 4 To prioritize and focus on **actively used routes** in CAREC corridors for data collection

Contents

1 CPMM Methodology

2 Persistent Problems

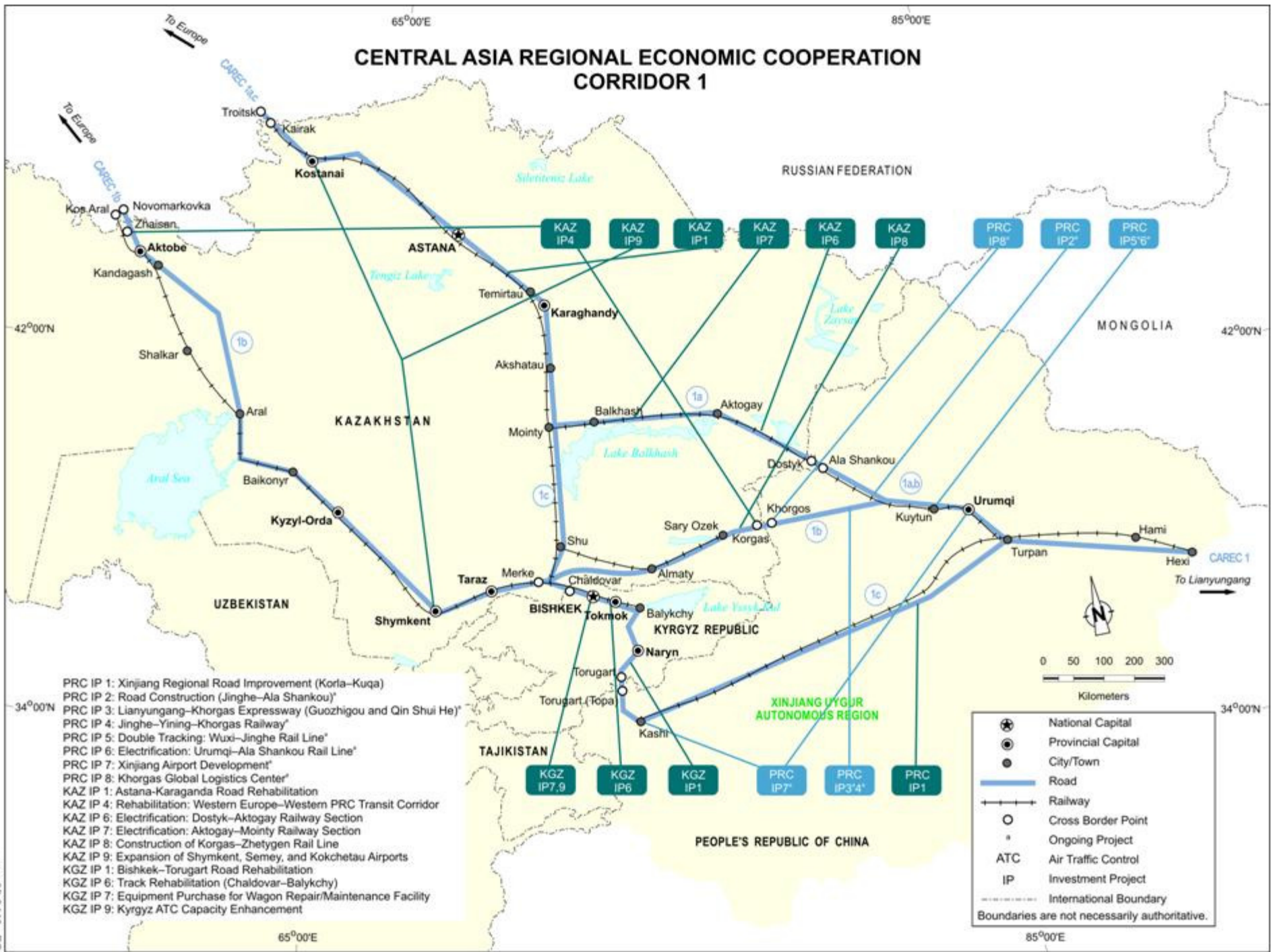
3 Time Efficiency

4 Unofficial Payments

5 Border Delays

6 Summary

CENTRAL ASIA REGIONAL ECONOMIC COOPERATION CORRIDOR 1



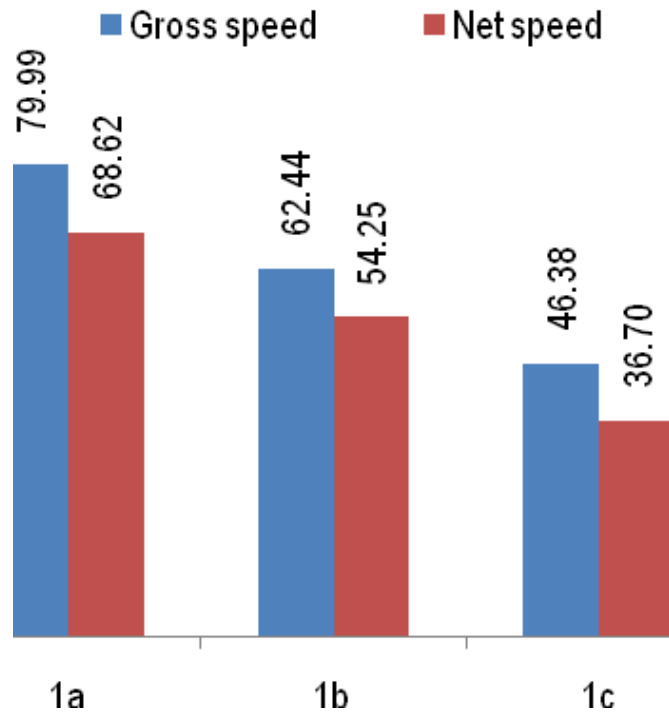
- PRC IP 1: Xinjiang Regional Road Improvement (Korla-Kuqa)
- PRC IP 2: Road Construction (Jinghe-Ala Shankou)
- PRC IP 3: Liangyungang-Khorgas Expressway (Guozhigou and Qin Shui He)
- PRC IP 4: Jinghe-Yining-Khorgas Railway
- PRC IP 5: Double Tracking: Wuxi-Jinghe Rail Line
- PRC IP 6: Electrification: Urumqi-Ala Shankou Rail Line
- PRC IP 7: Xinjiang Airport Development
- PRC IP 8: Khorgas Global Logistics Center
- KAZ IP 1: Astana-Karaganda Road Rehabilitation
- KAZ IP 4: Rehabilitation: Western Europe-Western PRC Transit Corridor
- KAZ IP 6: Electrification: Dostyk-Aktogay Railway Section
- KAZ IP 7: Electrification: Aktogay-Moıntıy Railway Section
- KAZ IP 8: Construction of Korgas-Zhetygen Rail Line
- KAZ IP 9: Expansion of Shymkent, Semey, and Kokchetau Airports
- KGZ IP 1: Bishkek-Torugart Road Rehabilitation
- KGZ IP 6: Track Rehabilitation (Chaldovar-Balykchy)
- KGZ IP 7: Equipment Purchase for Wagon Repair/Maintenance Facility
- KGZ IP 9: Kyrgyz ATC Capacity Enhancement

	National Capital
	Provincial Capital
	City/Town
	Road
	Railway
	Cross Border Point
	Ongoing Project
	ATC
	IP
	International Boundary

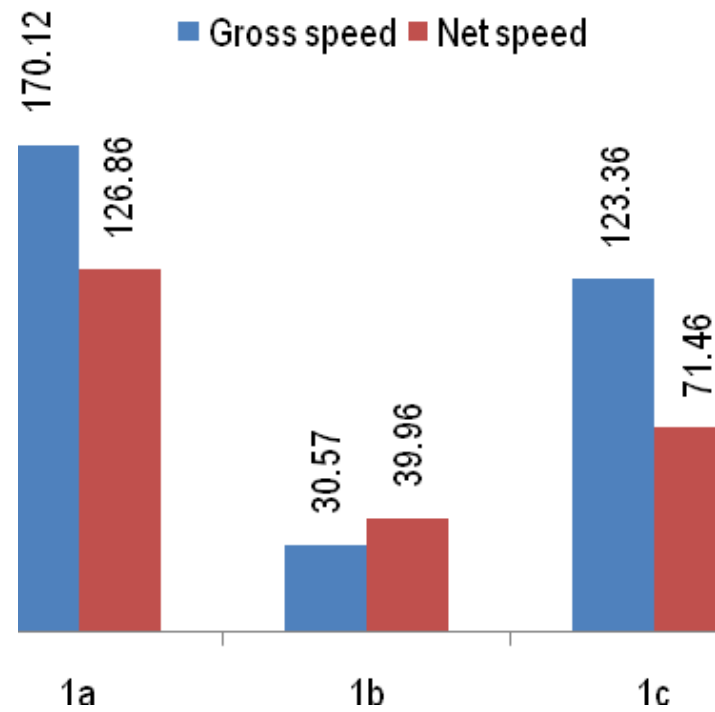
Boundaries are not necessarily authoritative.

Speed and Reliability (Road Transport)

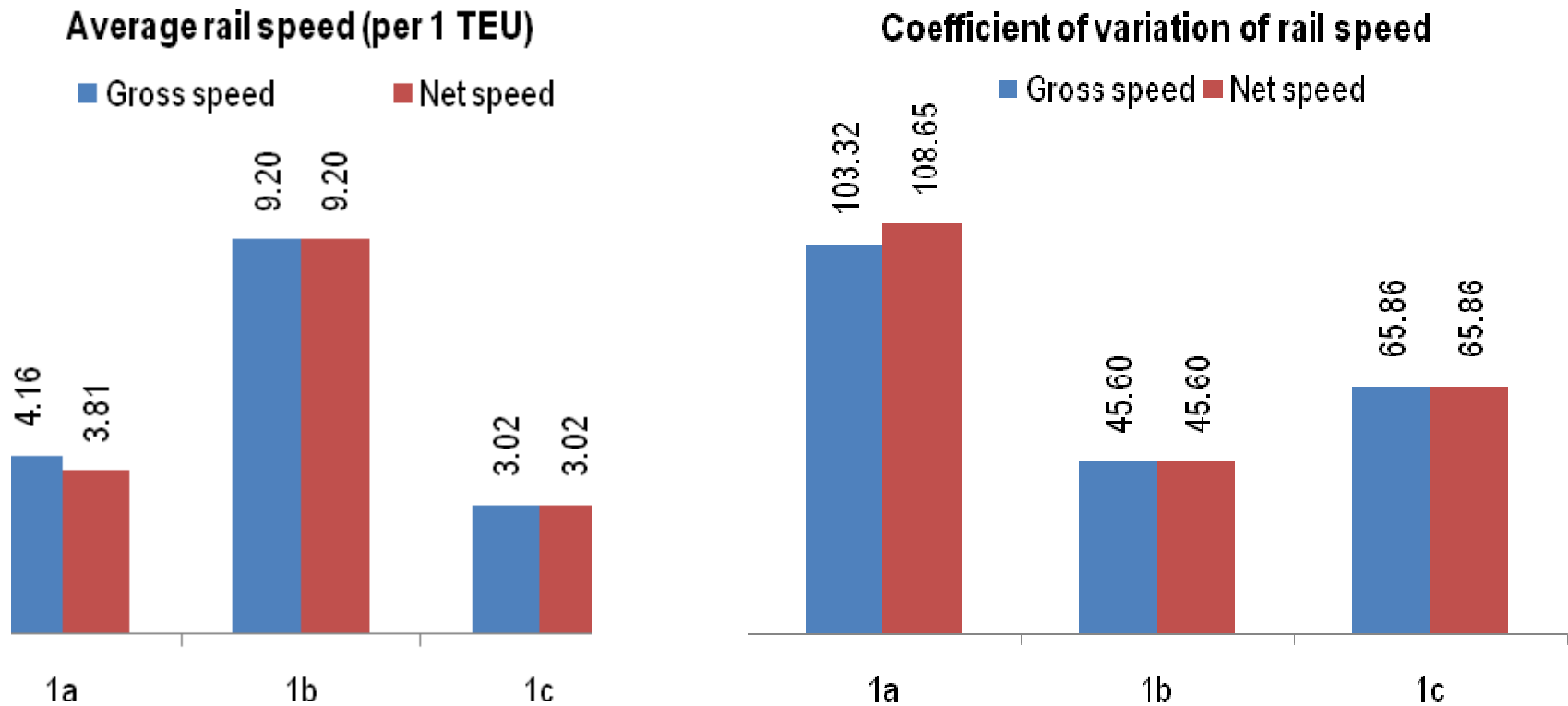
Average road speed (per 20-ton cargo)



Coefficient of variation of road speed

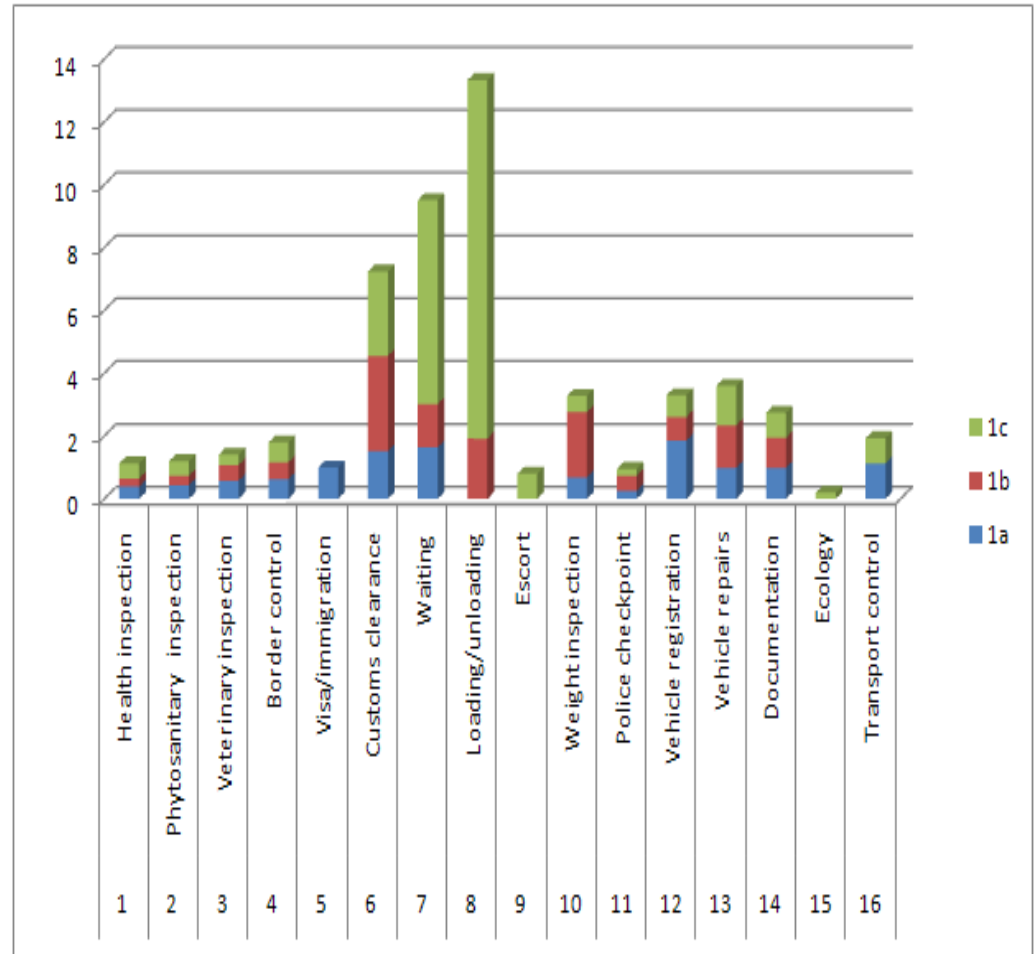


Speed and Reliability (Rail Transport)



Corridor 1 Activities Time (Road)

Activities	Time (Hours)		
	1a	1b	1c
Health inspection	0.39	0.26	0.48
Phytosanitary inspection	0.44	0.29	0.47
Veterinary inspection	0.58	0.5	0.33
Border control	0.63	0.53	0.64
Visa/immigration	1		
Customs clearance	1.52	3.03	2.69
Waiting	1.64	1.38	6.49
Loading/unloading		1.92	11.41
Escort			0.8
Weight inspection	0.69	2.07	0.52
Police checkpoint	0.26	0.48	0.21
Vehicle registration	1.86	0.75	0.69
Vehicle repairs	0.99	1.35	1.26
Documentation	0.99	0.95	0.8
Ecology			0.2
Transport control	1.13		0.8

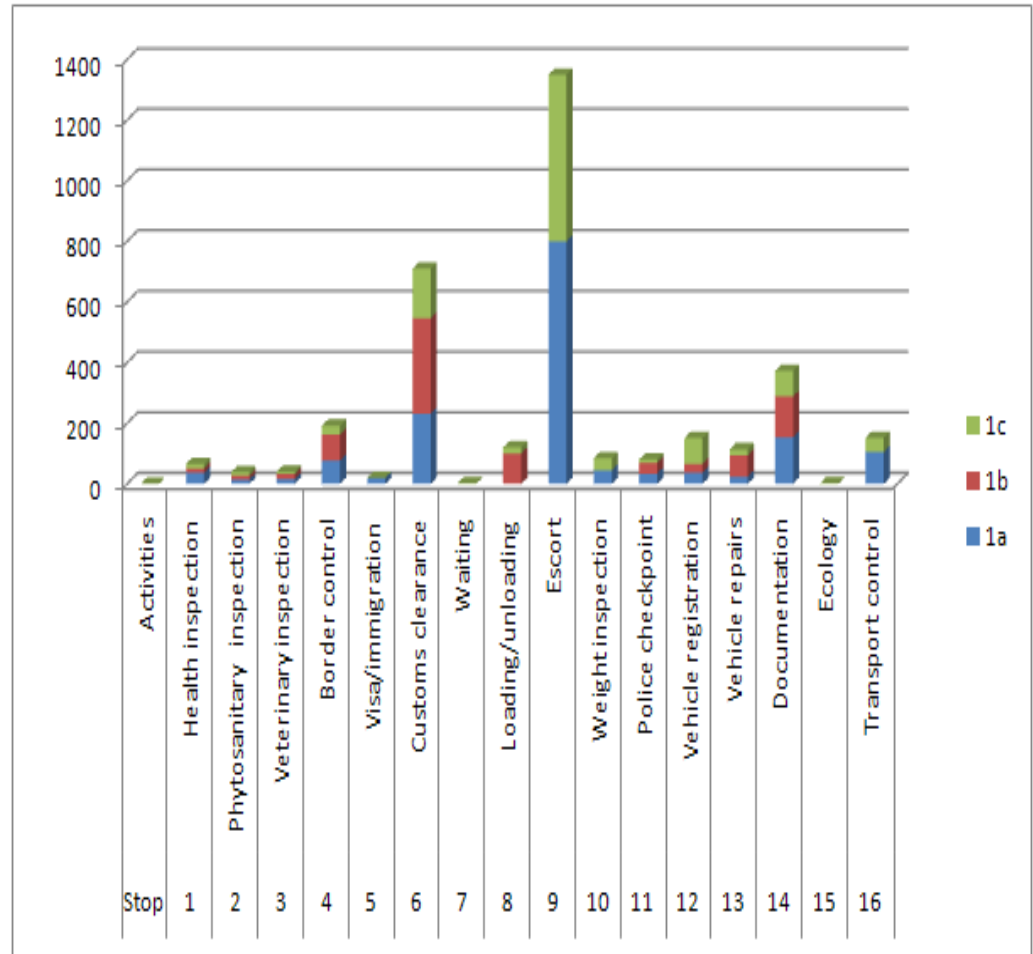


Time in Hours

Corridor 1 Activities Cost (Road)

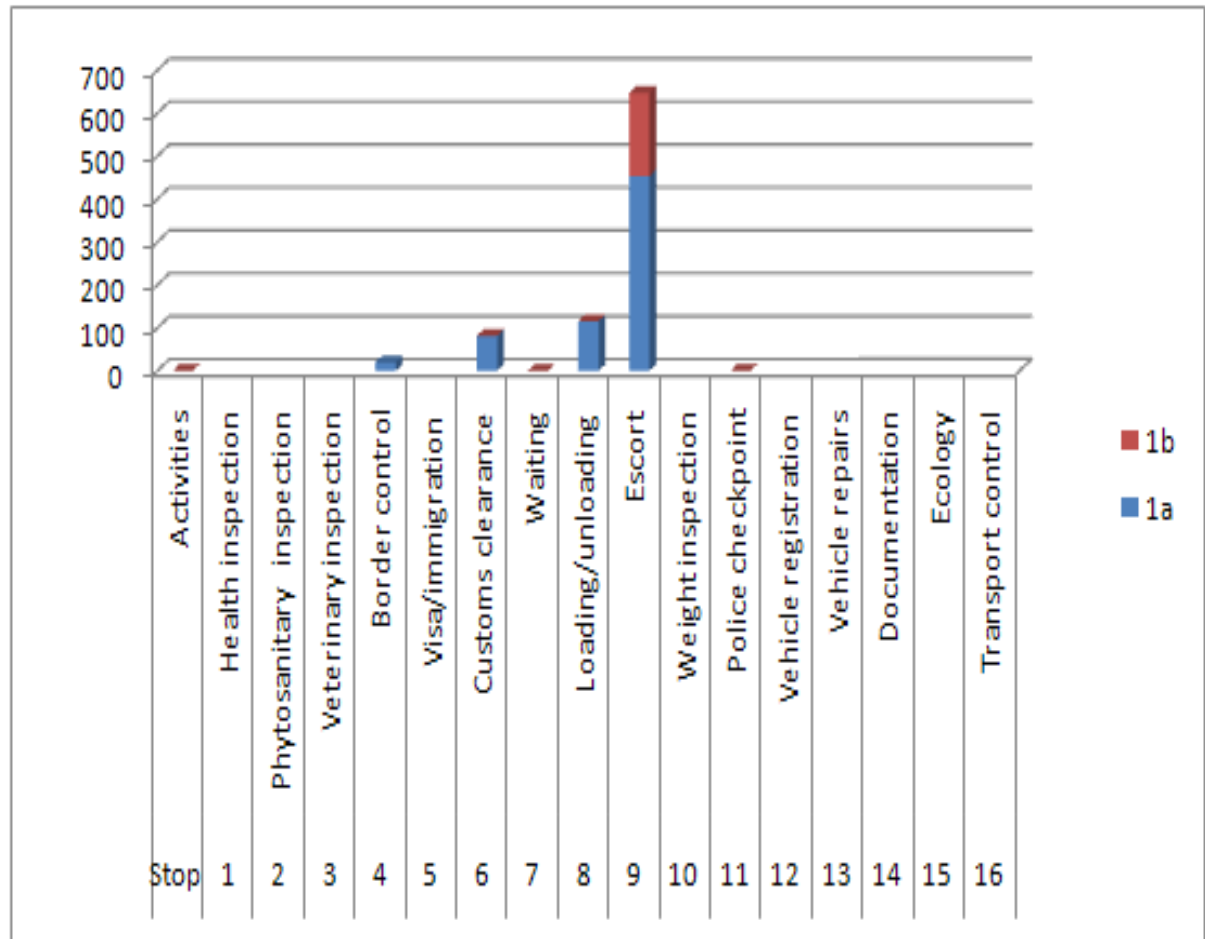
Activities	Cost (US\$)		
	1a	1b	1c
Health inspection	36.25	15.04	14.68
Phytosanitary inspection	15	12.67	11.48
Veterinary inspection	15.33	17	7.45
Border control	77.25	85.69	29.47
Visa/immigration	20	.	.
Customs clearance	231.86	314.45	163.81
Waiting	.	.	3.3
Loading/unloading	.	100	20.27
Escort	800	.	550
Weight inspection	45.5	.	39.34
Police checkpoint	33.96	35.34	10.86
Vehicle registration	37.11	29	84.67
Vehicle repairs	24.13	70.23	19.81
Documentation	153.75	134.36	84
Ecology	.	.	2.46
Transport control	105	.	47

Units in US\$



Corridor 1 Activities Time (Rail)

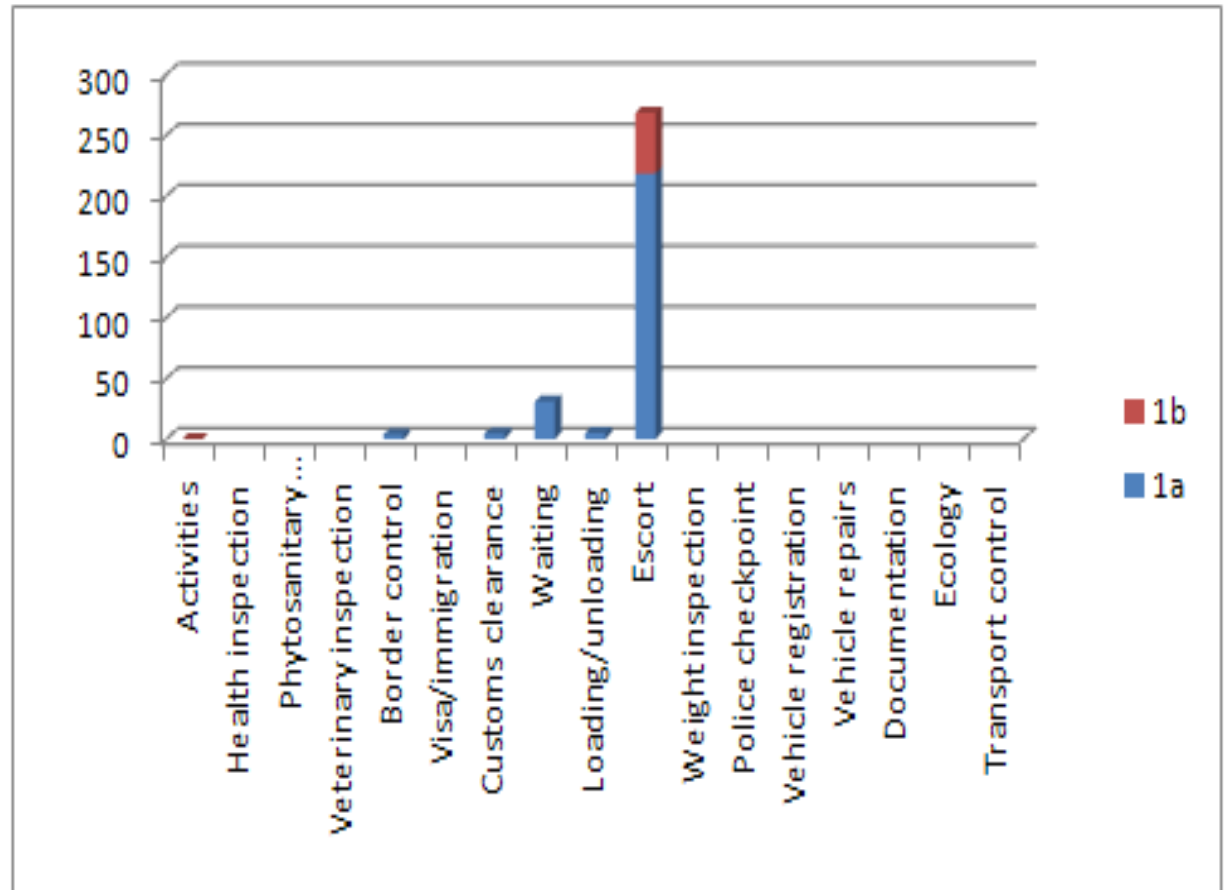
Activities	Time (Hours)	
	1a	1b
Health inspection		
Phytosanitary inspection		
Veterinary inspection		
Border control	20	
Visa/immigration		
Customs clearance	81.68	
Waiting		
Loading/unloading	115.47	
Escort	453.45	194.08
Weight inspection		
Police checkpoint		
Vehicle registration		
Vehicle repairs		
Documentation		
Ecology		
Transport control		



Time in Hours

Corridor 1 Activities Cost (Rail)

Activities	Cost (US\$)	
	1a	1b
Health inspection		
Phytosanitary inspection		
Veterinary inspection		
Border control	3.53	
Visa/immigration		
Customs clearance	4.06	
Waiting	30.82	
Loading/unloading	5.1	
Escort	218.5	49.8
Weight inspection		
Police checkpoint		
Vehicle registration		
Vehicle repairs		
Documentation		
Ecology		
Transport control		



Units in US\$

Corridor 1 BCP Delays

BCP			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average
Alashankou	PRC	Rail					3.53	2.96	8.3	6.9	218.5							240.19
Dostyk	KAZ	Rail						8.2	36.45	4.65								49.3
Merke	KAZ	Road	0.63	0.63	.	.	0.79	2.5	5.5	.	.	0.9	.	0.5	.	.	2	13.44
Erkeshtam	PRC	Road	.	0.21	0.17	.	0.31	0.42	8	4	.	0.25	.	.	.	.	.	13.35
Chaldovar	KGZ	Road	0.63	0.63	.	.	0.86	1.88	3.5	.	.	1	.	0.5	.	.	.	8.98
Torugart	KGZ	Road	0.08	0.09	0.1	.	0.35	1.1	3.67	.	0.5	0.38	0.5	0.17	.	.	.	6.93
Korgas	KAZ	Road	0.21	.	.	.	0.49	1.32	1.43	.	.	0.3	0.68	.	.	1.2	.	5.63
Zhaysan	KAZ	Road	0.23	0.26	.	.	0.57	0.99	0.58	.	.	0.5	0.59	0.75	.	0.88	.	5.34
Dostyk	KAZ	Road	0.25	0.5	.	.	0.5	0.75	0.92	.	.	0.25	0.42	.	.	0.67	.	4.25
Torugart/Topa	PRC	Road	.	.	.	.	0.18	.	1.61	.	.	.	.	.	1	.	.	2.79
Troitsk	RUS	Road	0.19	.	.	.	0.51	.	0.5	.	.	.	1.06	.	.	.	.	2.27
Yierkeshitan	KGZ	Road	.	.	.	.	0.17	0.17	.	.	.	0.42	0.31	.	.	.	.	1.06
Irkeshtam	PRC	Road	.	.	.	.	0.33	0.63	.	.	.	.	.	.	.	.	.	0.96

1 =Health inspection; 2=Phytosanitary inspection; 3=Veterinary inspection; 4=Border control; 5=Visa/immigration; 6=Customs clearance; 7=Waiting time; 8=Loading/unloading; 9=Escort; 10=Weight inspection; 11=Police checkpoint; 12=Vehicle registration; 13= Vehicle repairs; 14=Documentation; 15=Transport control

Corridor 1 BCP Costs

BCP			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average
Dostyk	KAZ	Rail	.	.	.	.	20	44.7	.	402	453.5	.	.	.	.	.	.	919.98
Korgas	KAZ	Road	6.67	.	.	.	102	428	.	.	.	.	108	.	.	171	.	816.36
Zhaysan	KAZ	Road	20	13.3	.	.	73.5	382	.	.	.	7	89.1	15	.	151	.	750.05
Dostyk	KAZ	Road	20	.	.	.	94.4	293	.	.	.	.	107	.	.	144	.	658.89
Merke	KAZ	Road	27.3	11.1	.	.	37.1	230	.	.	.	96	.	60	.	.	140	601.54
Chaldovar	KGZ	Road	15.6	16.9	.	.	35.7	188	.	.	.	40	.	30	.	.	.	325.71
Alashankou	PRC	Rail	.	.	.	.	.	221	.	20	.	.	.	.	.	.	.	240.5
Troitsk	RUS	Road	.	.	.	.	90	.	.	.	.	.	115	.	.	.	.	205
Torugart	KGZ	Road	2.68	5.43	3.53	.	4.25	26.8	.	.	.	5.42	5	.	.	.	.	53.08
Yierkeshitan	KGZ	Road	.	.	.	.	1.25	2.33	.	.	.	.	11	.	.	.	.	14.58
Erkeshtam	PRC	Road	.	2.3	2.4	.	1.75	2.05	.	.	.	1.6	.	.	.	.	.	10.1
Torugart/Topa	PRC	Road	.	.	.	.	2.79	.	.	.	.	.	.	.	5.6	.	.	8.37
Irkeshtam	PRC	Road	.	.	.	.	2.4	1.2	.	.	.	.	.	.	.	.	.	3.6

1 =Health inspection; 2=Phytosanitary inspection; 3=Veterinary inspection; 4=Border control; 5=Visa/immigration; 6=Customs clearance; 7=Waiting time; 8=Loading/unloading; 9=Escort; 10=Weight inspection; 11=Police checkpoint; 12=Vehicle registration; 13= Vehicle repairs; 14=Documentation; 15=Transport control

CENTRAL ASIA REGIONAL ECONOMIC COOPERATION CORRIDOR 2

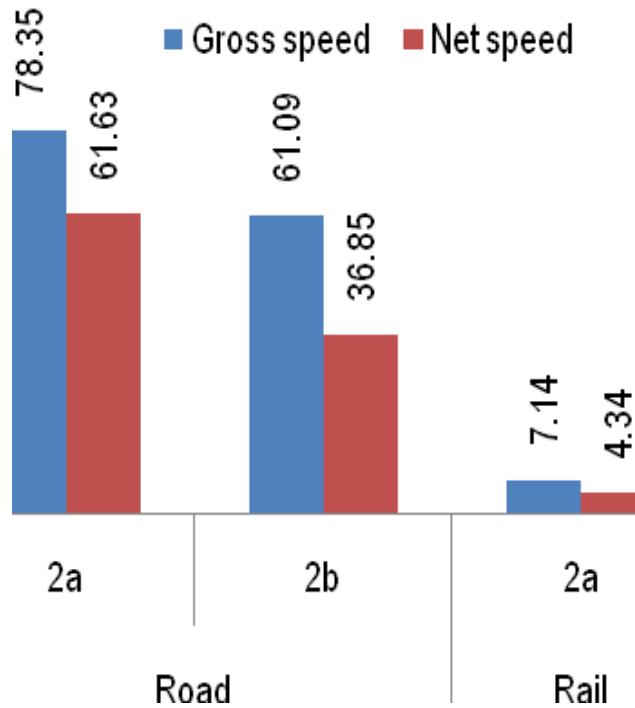


- National Capital
 - Provincial Capital
 - City/Town
 - Road
 - Railway
 - Cross Border Point
 - Ongoing Project
 - Investment Project
 - International Boundary
- Boundaries are not necessarily authoritative.

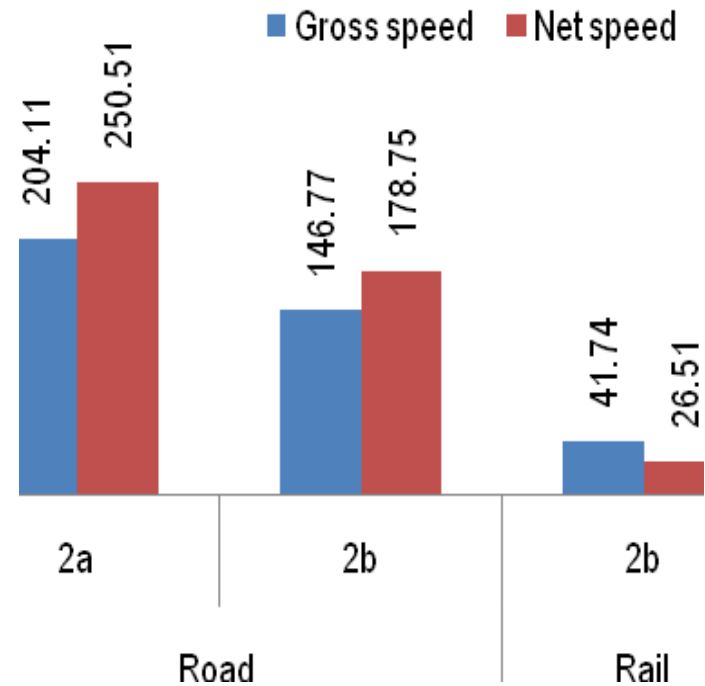
- AZE IP 1: East-West Highway Improvement*
- AZE IP 2: Railway Trade and Transport Facilitation
- AZE IP 3: Acquisition of High Capacity Ferries and Ro/Ros by Caspian Sea Shipping
- PRC IP 1: Xinjiang Regional Road Improvement (Korla-Kuqa)
- PRC IP 7: Xinjiang Airport Development*
- KAZ IP 3: Aktau-Beyneu Road Rehabilitation
- KAZ IP 10: Expansion of Aktau Port*
- KGZ IP 2: Southern Transport Road Rehabilitation (Osh-Sary Tash-Irkeshtan)*
- KGZ IP 8: Rehabilitation of Osh Airport
- UZB IP 1: CAREC Regional Road Improvement
- UZB IP 2: Regional Railway
- UZB IP 3: Acquisition of New Locomotives
- UZB IP 5: Electrification: Samarkand-Navoi and Samarkand-Karshi Sections
- UZB IP 6: Electrification: Navoi-Bukhara and Bukhara-Kashi Sections
- UZB IP 7: Electrification: Navoi-Uchkuduk Section

Speed and Reliability (Road / Rail Transport)

Average road and rail speed



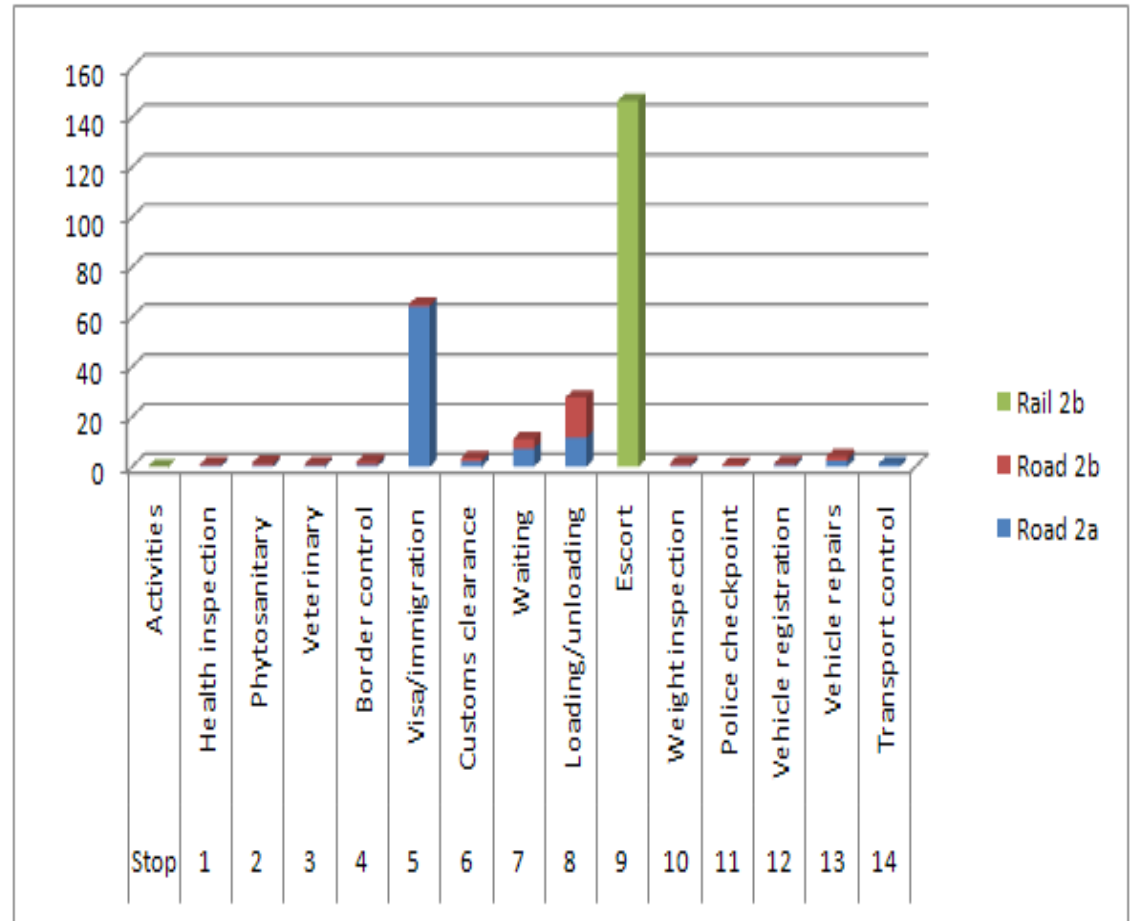
Coefficient of variation of speed



Corridor 2 Activities Time (Road+Rail)

Activities	Duration (hours)		
	Road 2a	Road 2b	Rail 2b
Health inspection	0.71	0.36	
Phytosanitary	0.67	0.86	
Veterinary	0.66	0.37	
Border control	0.84	1.2	
Visa/immigration	64.4	0.59	
Customs clearance	2.19	1.37	
Waiting	7.36	3.81	
Loading/unloading	11.66	16.09	
Escort			146.6
Weight inspection	0.66	0.76	
Police checkpoint	0.38	0.42	
Vehicle registration	0.9	0.58	
Vehicle repairs	2.54	1.63	
Transport control	1.24		

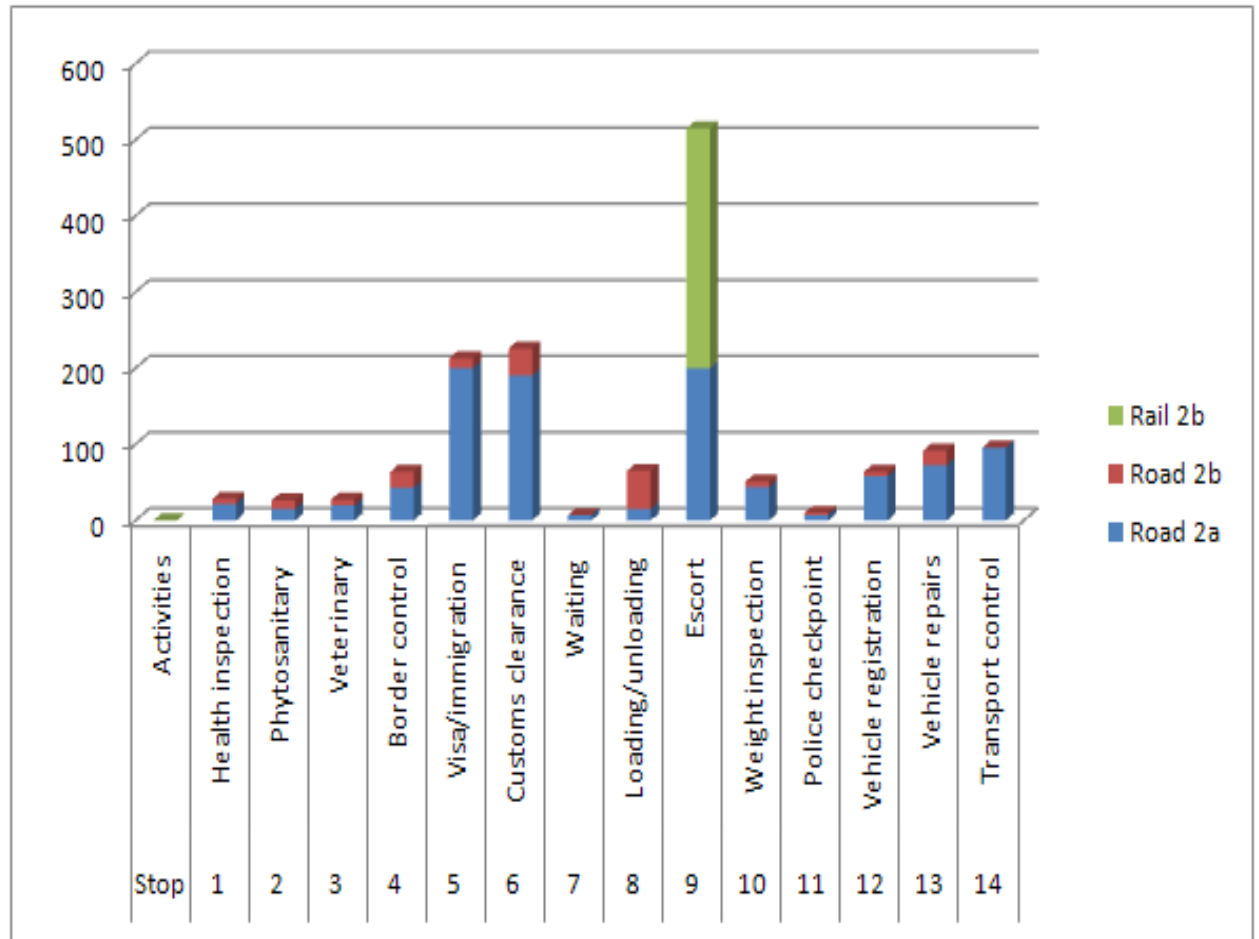
Time in Hours



Corridor 2 Activities Cost (Road + Rail)

Activities	Cost (US\$)		
	Road 2a	Road 2b	Rail 2b
Health inspection	21.63	6.86	
Phytosanitary	15.28	11.46	
Veterinary	19.73	7.6	
Border control	43.32	20.69	
Visa/immigration	200	13	
Customs clearance	190.75	35.16	
Waiting	7	.	
Loading/unloading	15.2	50	
Escort	200	.	315.07
Weight inspection	44.12	6.96	
Police checkpoint	7.35	2.81	
Vehicle registration	58.16	5.63	
Vehicle repairs	72.93	18.75	
Transport control	95.88	.	

Units in US\$



Corridor 2 Road BCP Delays

BCP			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average
Tazhen	KAZ	Road	0.79	0.72	0.74	.	1.06	2.47	6	.	.	0.93	0.64	0.99	1	.	1.2	16.53
Erkeshtam	PRC	Road	.	0.21	0.17	.	0.31	0.42	8	4	.	0.25	.	.	.	.	.	13.35
Alat	UZB	Road	0.29	0.74	0.29	0.5	1.13	1.28	2.08	.	.	1.05	0.44	0.25	2	.	.	10.05
Farap	TKM	Road	0.39	0.62	0.39	0.58	1.27	1.37	2.34	.	.	0.62	0.43	0.67	.	.	.	8.68
Daud Ata	UZB	Road	0.4	0.43	0.41	.	0.54	2	1.83	.	.	0.58	0.36	0.33	1	.	.	7.89
Irkeshtam	PRC	Road	.	.	.	.	0.33	0.63	.	.	.	.	.	.	.	.	.	0.96
Kr. Most (AZE)	AZE	Road	.	.	.	.	.	0.42	.	.	.	.	.	.	.	.	.	0.42
Kr. Most (GEO)	GEO	Road	.	.	.	.	.	0.4	.	.	.	.	.	.	.	.	.	0.4

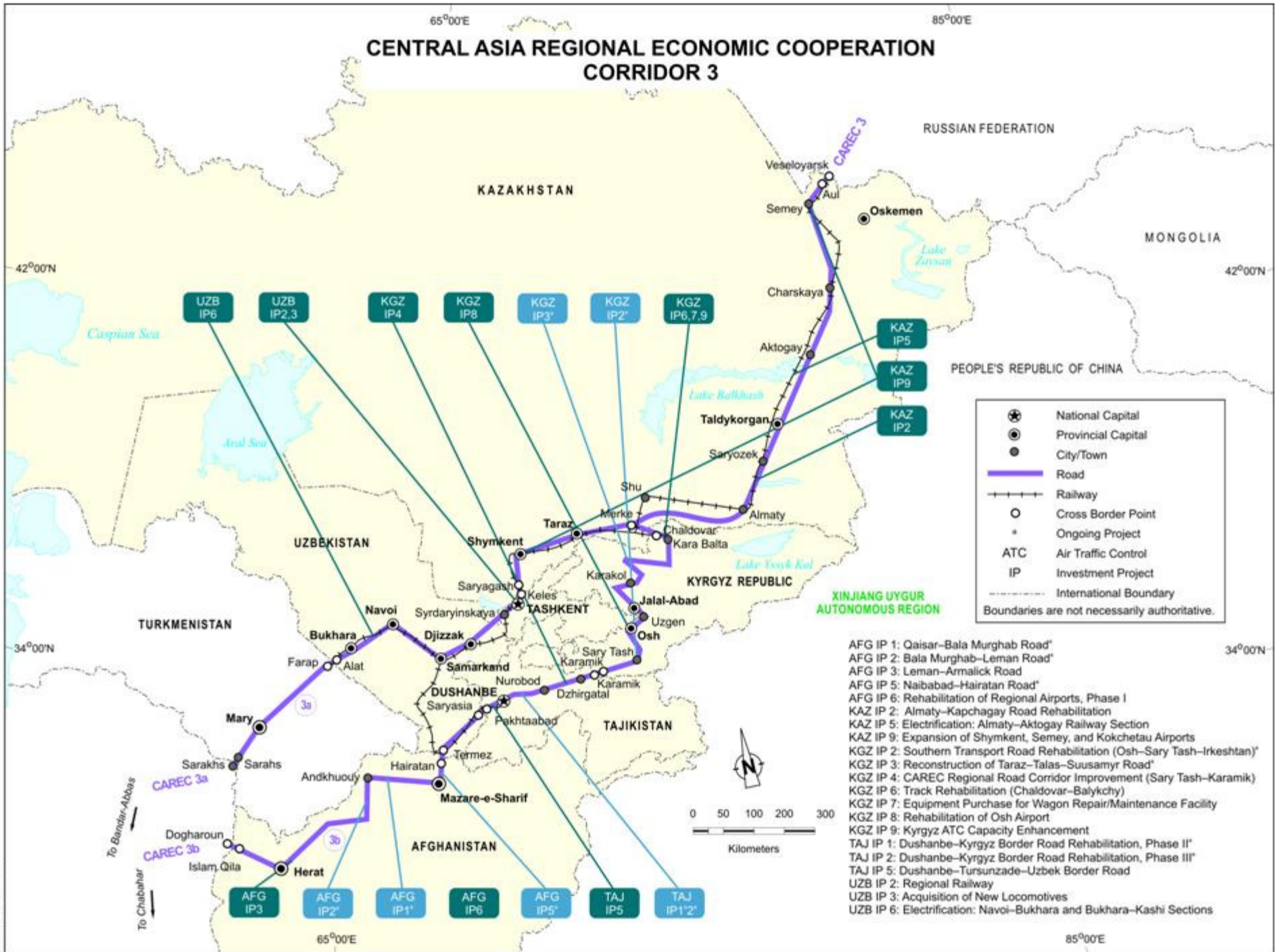
1 =Health inspection; 2=Phytosanitary inspection; 3=Veterinary inspection; 4=Border control; 5=Visa/immigration; 6=Customs clearance; 7=Waiting time; 8=Loading/unloading; 9=Escort; 10=Weight inspection; 11=Police checkpoint; 12=Vehicle registration; 13= Vehicle repairs; 14=Documentation; 15=Transport control

Corridor 2 Road BCP Costs

BCP			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average
Tazhen	KAZ	Road	22.8	15.2	14.3	.	49.1	222	.	.	.	56	19.6	70.9	52	.	114	635.19
Farap	TKM	Road	4.67	10.6	11.3	13	22.5	27.1	.	.	.	4.95	3.97	5.52	.	.	.	103.6
Daud Ata	UZB	Road	20	15	.	.	30	25	.	.	.	5.67	4.33	.	.	.	.	100
Alat	UZB	Road	.	11.8	.	.	14	21.6	.	.	.	5.5	2.22	3	20	.	.	78.1
Erkeshtam	PRC	Road	.	2.3	2.4	.	1.75	2.05	.	.	.	1.6	.	.	.	.	.	10.1
Irkeshtam	PRC	Road	.	.	.	.	2.4	1.2	.	.	.	.	.	.	.	.	.	3.6
Kr. Most (AZE)	AZE	Road	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-
Kr. Most (GEO)	GEO	Road	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-

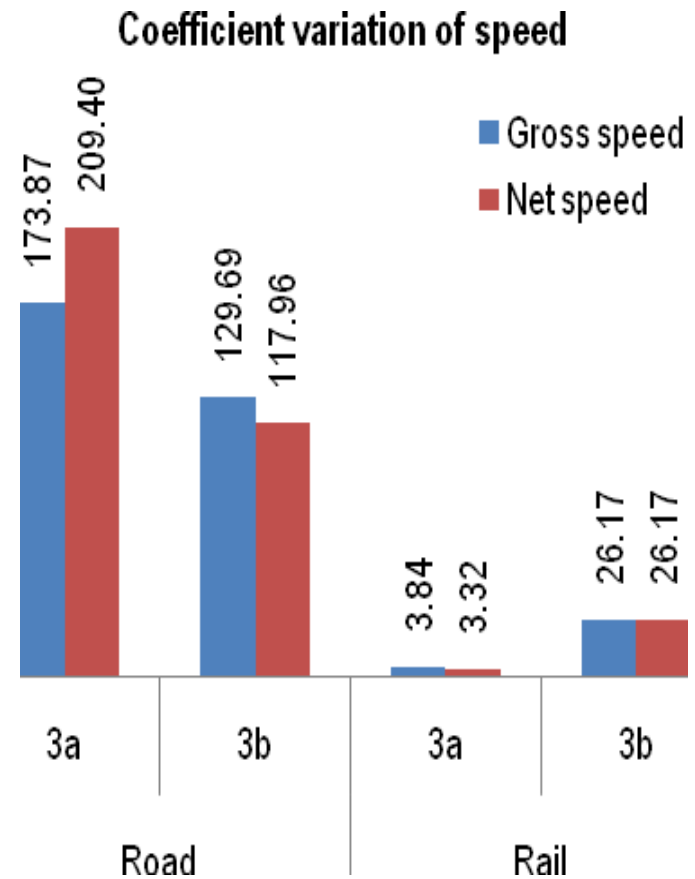
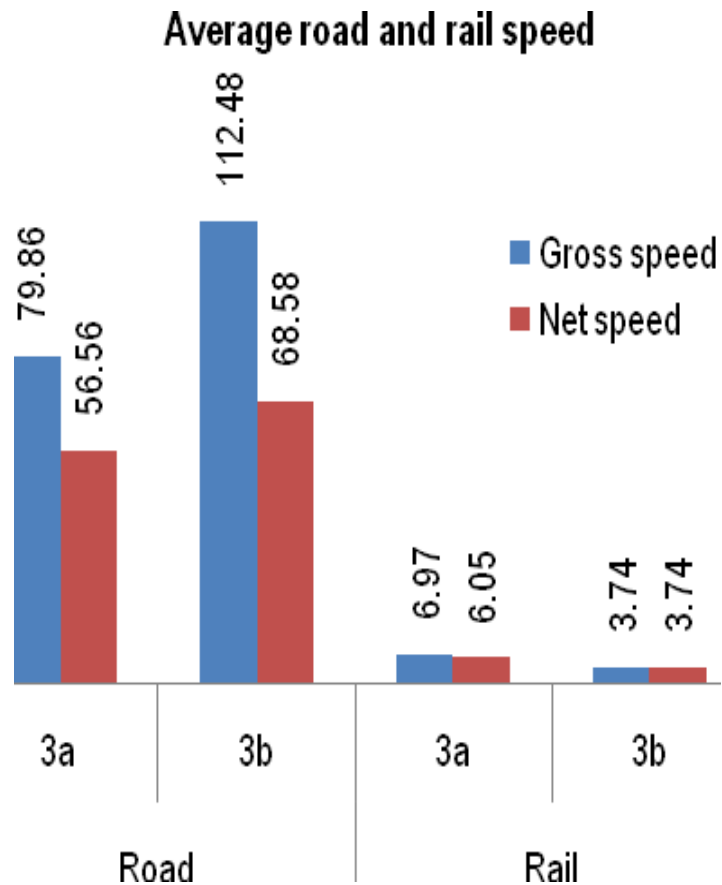
1 =Health inspection; 2=Phytosanitary inspection; 3=Veterinary inspection; 4=Border control; 5=Visa/immigration; 6=Customs clearance; 7=Waiting time; 8=Loading/unloading; 9=Escort; 10=Weight inspection; 11=Police checkpoint; 12=Vehicle registration; 13= Vehicle repairs; 14=Documentation; 15=Transport control

CENTRAL ASIA REGIONAL ECONOMIC COOPERATION CORRIDOR 3



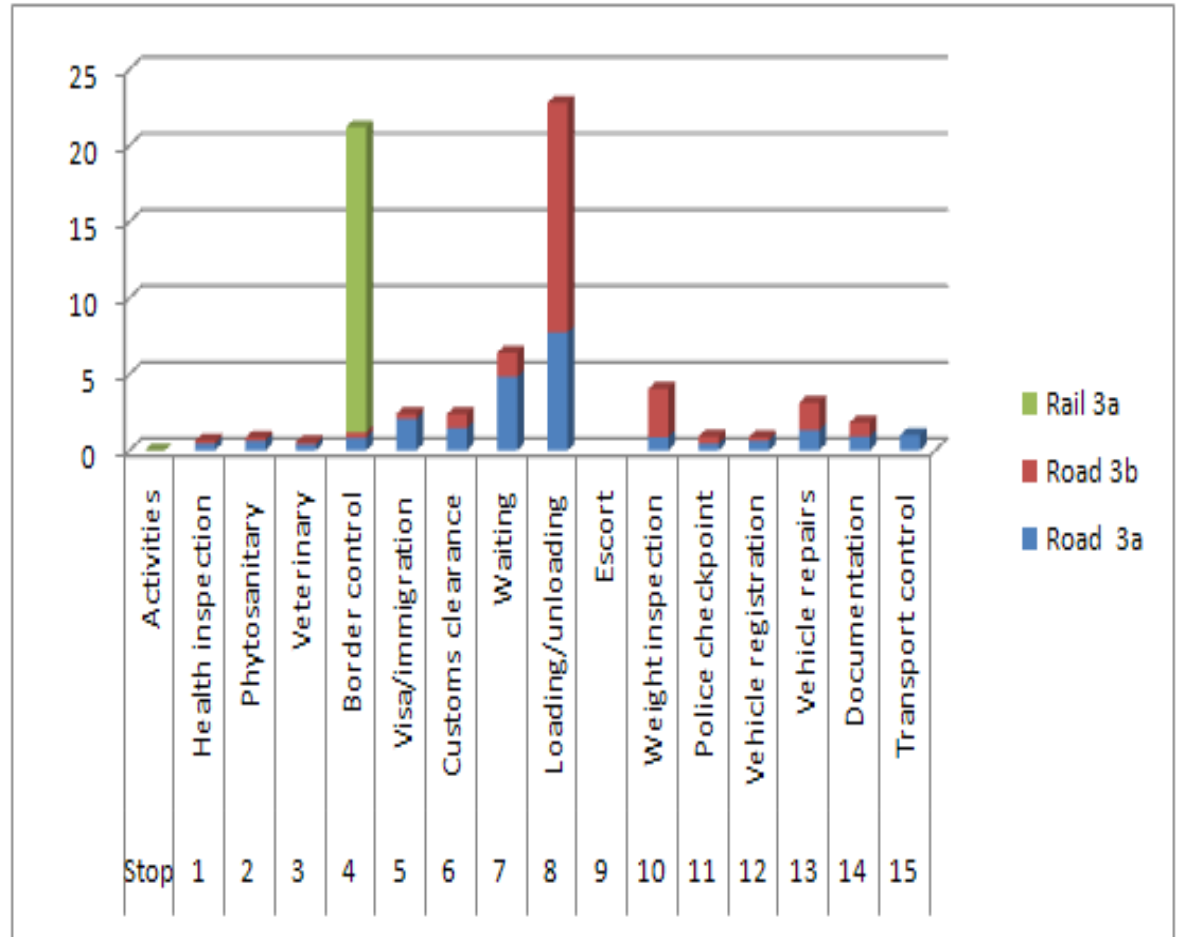
- AFG IP 1: Qaisar–Bala Murghab Road*
- AFG IP 2: Bala Murghab–Leman Road*
- AFG IP 3: Leman–Armalick Road
- AFG IP 5: Naibabad–Hairatan Road*
- AFG IP 6: Rehabilitation of Regional Airports, Phase I
- KAZ IP 2: Almaty–Kapchagay Road Rehabilitation
- KAZ IP 5: Electrification: Almaty–Aktogay Railway Section
- KAZ IP 9: Expansion of Shymkent, Semey, and Kokchetau Airports
- KGZ IP 2: Southern Transport Road Rehabilitation (Osh–Sary Tash–Irkeshtan)*
- KGZ IP 3: Reconstruction of Taraz–Talas–Suusamyr Road*
- KGZ IP 4: CAREC Regional Road Corridor Improvement (Sary Tash–Karamik)
- KGZ IP 6: Track Rehabilitation (Challdovar–Balykchy)
- KGZ IP 7: Equipment Purchase for Wagon Repair/Maintenance Facility
- KGZ IP 8: Rehabilitation of Osh Airport
- KGZ IP 9: Kyrgyz ATC Capacity Enhancement
- TAJ IP 1: Dushanbe–Kyrgyz Border Road Rehabilitation, Phase II*
- TAJ IP 2: Dushanbe–Kyrgyz Border Road Rehabilitation, Phase III*
- TAJ IP 5: Dushanbe–Tursunzade–Uzbek Border Road
- UZB IP 2: Regional Railway
- UZB IP 3: Acquisition of New Locomotives
- UZB IP 6: Electrification: Navoi–Bukhara and Bukhara–Kashi Sections

Speed and Reliability (Road / Rail Transport)



Corridor 3 Activities Time (Road+Rail)

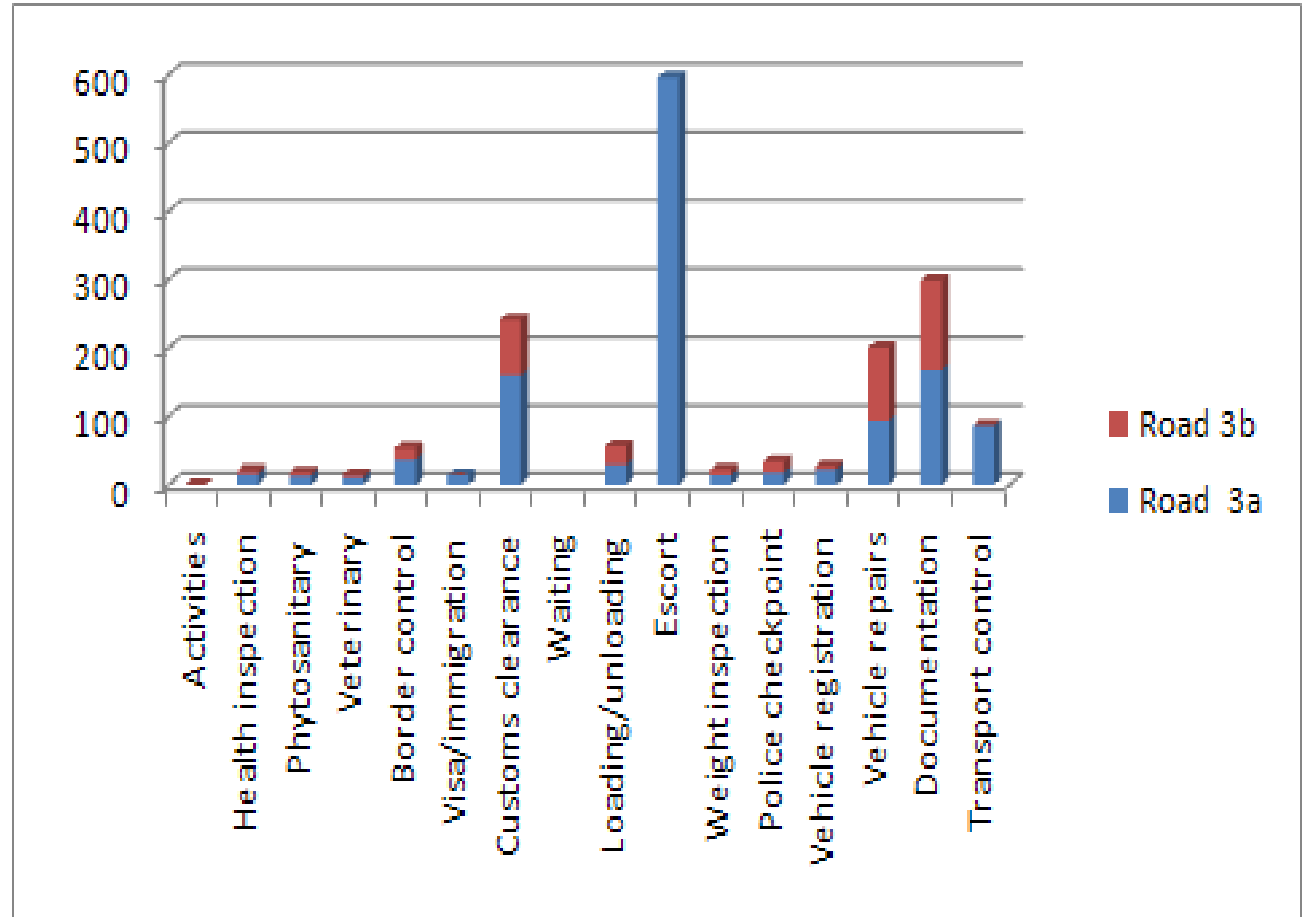
Activities	Duration (hours)		
	Road 3a	Road 3b	Rail 3a
Health inspection	0.44	0.2	
Phytosanitary	0.65	0.18	
Veterinary	0.4	0.13	
Border control	0.82	0.37	20
Visa/immigration	2.07	0.33	
Customs clearance	1.46	0.93	
Waiting	4.82	1.58	
Loading/unloading	7.73	15.07	
Escort			
Weight inspection	0.88	3.15	
Police checkpoint	0.43	0.48	
Vehicle registration	0.65	0.22	
Vehicle repairs	1.32	1.81	
Documentation	0.91	0.92	
Transport control	1		



Time in Hours

Corridor 3 Activities Cost (Road + Rail)

Activities	Cost (US\$)	
	Road 3a	Road 3b
Health inspection	15.51	4.9
Phytosanitary	12.76	5.07
Veterinary	10.92	3.44
Border control	36.64	16.73
Visa/immigration	14.17	.
Customs clearance	159.7	82.19
Waiting		
Loading/unloading	29	27
Escort	595.45	
Weight inspection	13.6	8.33
Police checkpoint	17.49	15.9
Vehicle registration	22.38	4.83
Vehicle repairs	93.44	106.67
Documentation	168.08	130
Transport control	86.67	.



Units in US\$

Corridor 3 BCP Delays

BCP			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average
Saryagash	KAZ	Rail	.	.	.	.	20	.	.	.	.	.	.	.	.	.	.	20
Alat	UZB	Road	0.29	0.74	0.29	0.5	1.13	1.28	2.08	.	.	1.05	0.44	0.25	2	.	.	10.05
Saryasia	UZB	Road	0.67	.	.	0.33	0.92	3.13	3	.	.	.	1	1	.	.	.	10.05
Krasnyi Aul	KAZ	Road	0.32	0.36	.	.	0.53	1.38	2	.	.	0.63	0.47	0.5	0.96	1.21	1	9.36
Farap	TKM	Road	0.39	0.62	0.39	0.58	1.27	1.37	2.34	.	.	0.62	0.43	0.67	.	.	.	8.68
Pakhtaabad	TAJ	Road	.	.	.	.	0.94	1.48	3	.	.	.	1	1	.	.	.	7.43
Veseloyarskiy	RUS	Road	0.88	0.5	.	.	0.75	2.57	.	.	.	0.63	0.42	0.33	.	.	0.5	6.57
Jibek Joli	KAZ	Road	1.33	0.75	.	.	0.56	0.75	.	.	.	0.56	0.33	0.33	.	.	.	4.61
Karamik	KGZ	Road	0.15	0.16	0.13	.	0.16	0.3	.	.	.	.	0.16	0.13	.	.	.	1.2
Kichi Karamyk	TAJ	Road	.	0.17	0.17	.	0.33	0.38	.	.	.	.	.	.	.	.	.	1.04

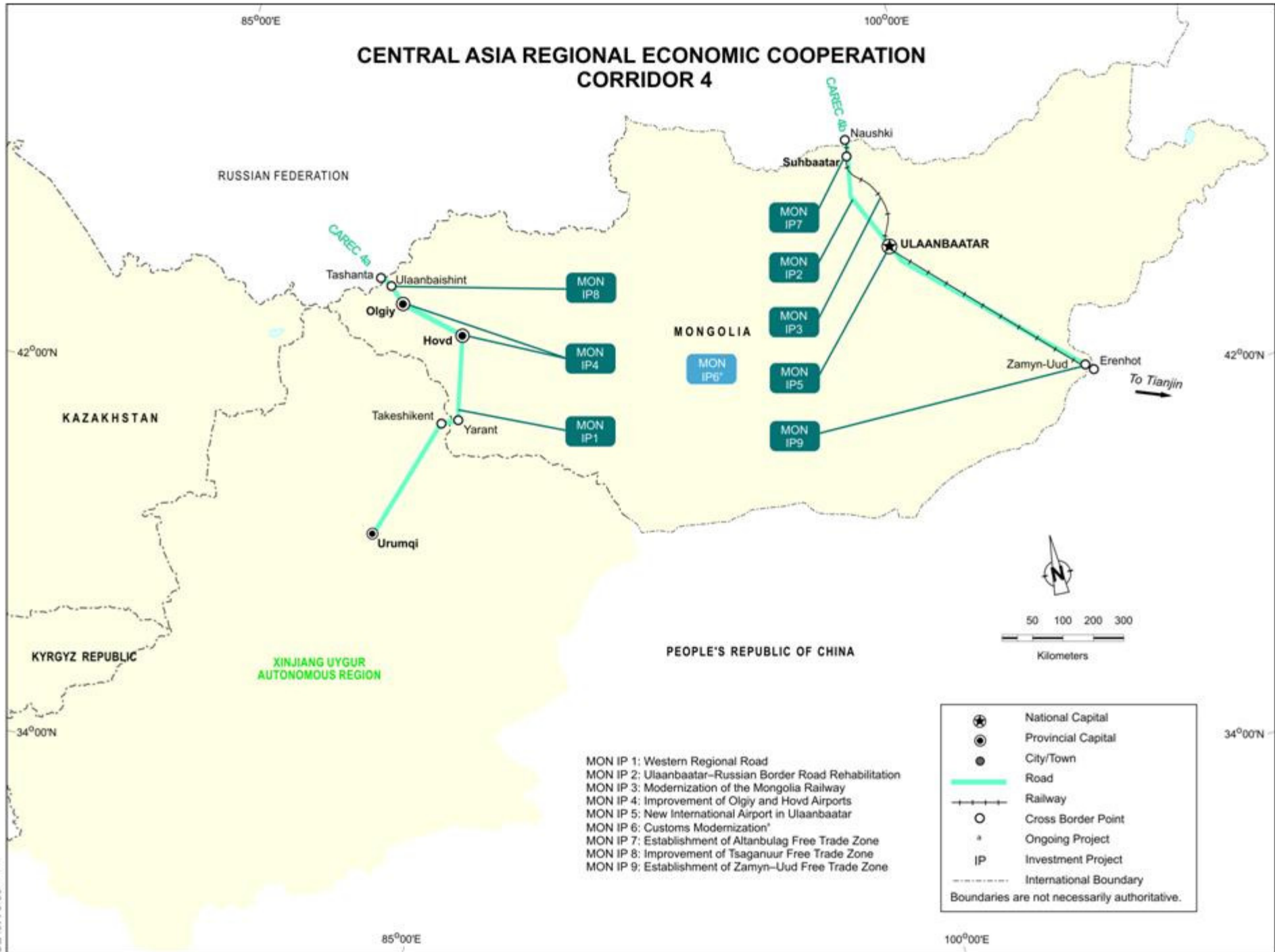
1 =Health inspection; 2=Phytosanitary inspection; 3=Veterinary inspection; 4=Border control; 5=Visa/immigration; 6=Customs clearance; 7=Waiting time; 8=Loading/unloading; 9=Escort; 10=Weight inspection; 11=Police checkpoint; 12=Vehicle registration; 13= Vehicle repairs; 14=Documentation; 15=Transport control

Corridor 3 BCP Costs

BCP			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average
Krasnyi Aul	KAZ	Road	10.84	15.63	.	.	57.22	344.63	.	.	.	94	55.45	8	173.34	194.07	50	943.17
Veseloyarskyi	RUS	Road	30	18.75	.	.	35	212.86	.	.	.	31.25	12.5	5	.	.	50	395.36
Jibek Joli	KAZ	Road	10	19	.	.	25	36.67	.	.	.	5.57	3.44	7.17	.	.	.	106.94
Farap	TKM	Road	4.67	10.64	11.33	13	22.45	27.08	.	.	.	4.95	3.97	5.52	.	.	.	103.6
Alat	UZB	Road	.	11.76	.	.	14	21.62	.	.	.	5.5	2.22	3	20	.	.	78.1
Pakhtaabad	TAJ	Road	.	.	.	.	10	24.44	.	.	.	.	12	10	.	.	.	56.44
Karamik	KGZ	Road	3.49	4.78	3.43	.	4.95	18.32	.	.	.	.	5.48	4.41	.	.	.	44.84
Kichi Karamyk	TAJ	Road	.	.	.	.	.	4.98	.	.	.	.	.	.	.	.	.	4.98
Saryagash	KAZ	Rail	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-
Saryasia	UZB	Road	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-

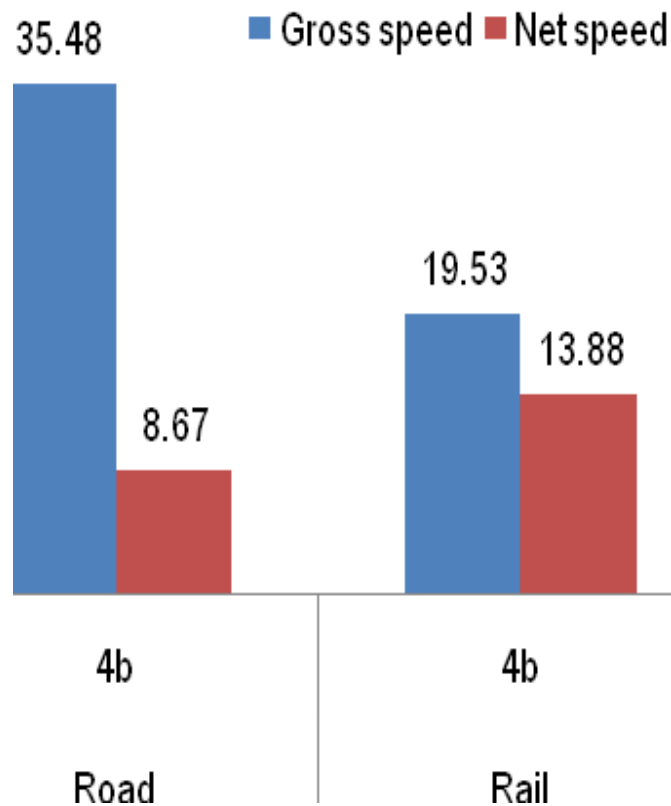
1 =Health inspection; 2=Phytosanitary inspection; 3=Veterinary inspection; 4=Border control; 5=Visa/immigration; 6=Customs clearance; 7=Waiting time; 8=Loading/unloading; 9=Escort; 10=Weight inspection; 11=Police checkpoint; 12=Vehicle registration; 13= Vehicle repairs; 14=Documentation; 15=Transport control

CENTRAL ASIA REGIONAL ECONOMIC COOPERATION CORRIDOR 4

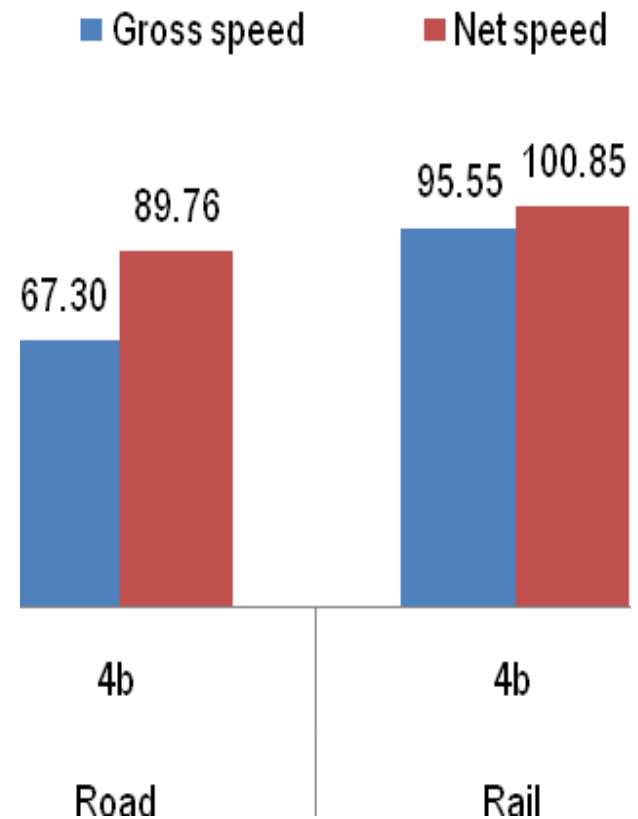


Speed and Reliability (Road / Rail Transport)

Average road and rail speed



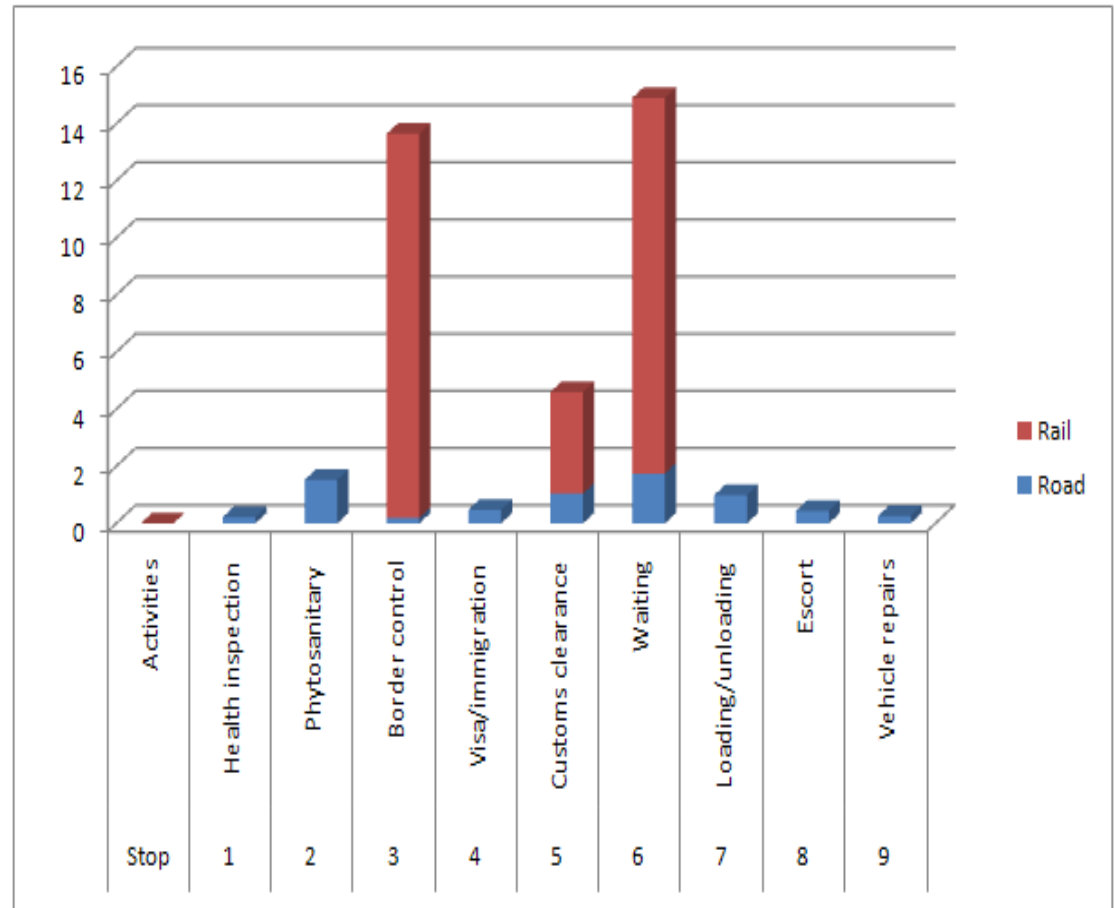
Coefficient of variation of speed



Corridor 4 Activities Time (Road + Rail)

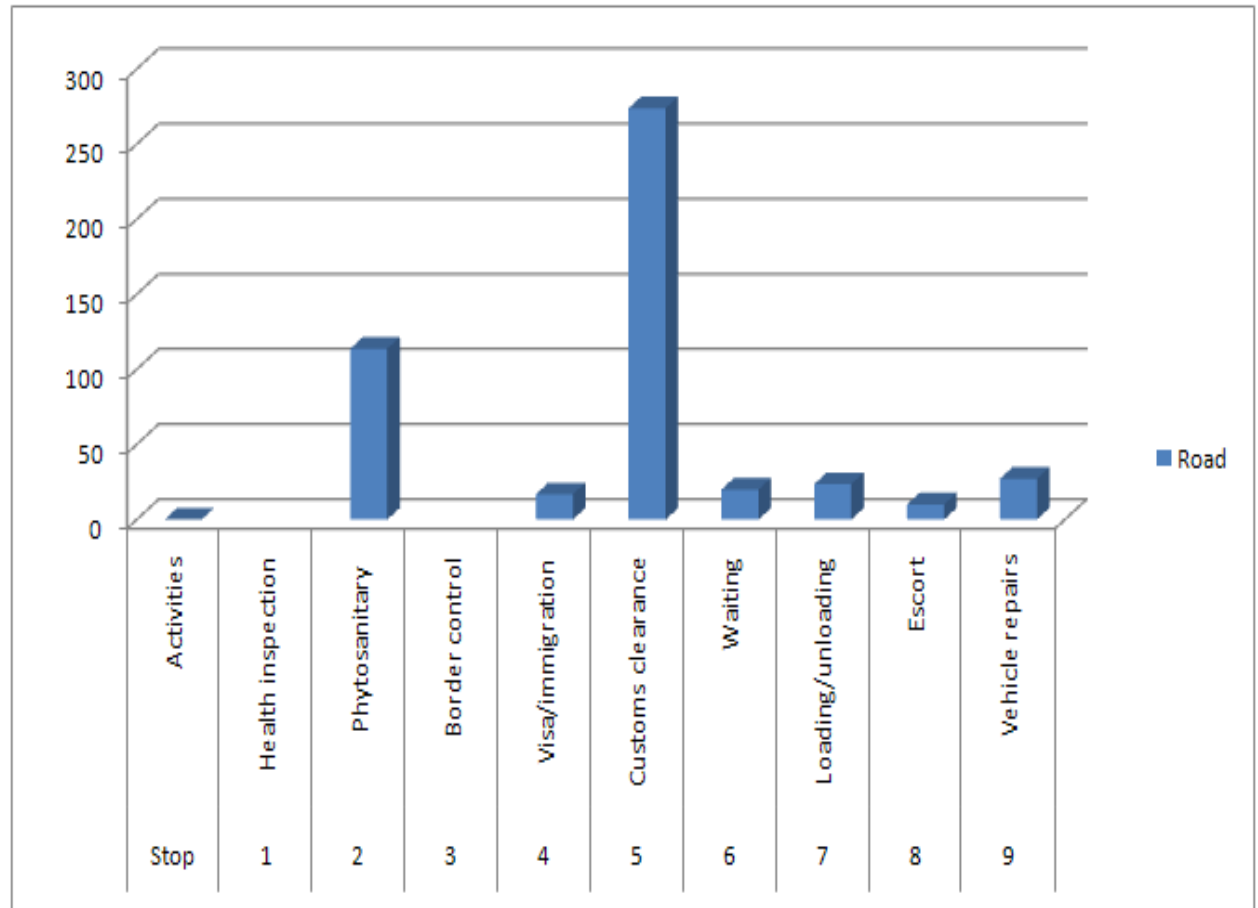
Stop	Activities	Duration	
		Road	Rail
1	Health inspection	0.22	
2	Phytosanitary	1.52	
3	Border control	0.19	13.46
4	Visa/immigration	0.48	
5	Customs clearance	1.04	3.56
6	Waiting	1.75	13.16
7	Loading/unloading	0.99	
8	Escort	0.44	
9	Vehicle repairs	0.26	

Time in Hours



Corridor 4 Activities Cost (Road + Rail)

		Cost
Stop	Activities	Road
1	Health inspection	
2	Phytosanitary	113.74
3	Border control	
4	Visa/immigration	16.79
5	Customs clearance	273.94
6	Waiting	20
7	Loading/unloading	23.57
8	Escort	10
9	Vehicle repairs	27.1



Units in US\$

Corridor 4 BCP Delays

BCP			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average
Zamiin-Uud	MON	Rail	.	.	.	.	13.46	.	12.26	.	.	.	.	.	.	.	.	25.73
Erlia	PRC	Rail	.	.	.	.	.	.	10.43	.	.	.	.	.	.	.	.	10.43
Sukhbaatar	MON	Rail	.	.	.	.	.	3.56	.	.	.	.	.	.	.	.	.	3.56
Erlia	PRC	Road	.	.	.	0.49	0.19	0.88	.	.	0.33	.	.	.	.	.	.	1.89

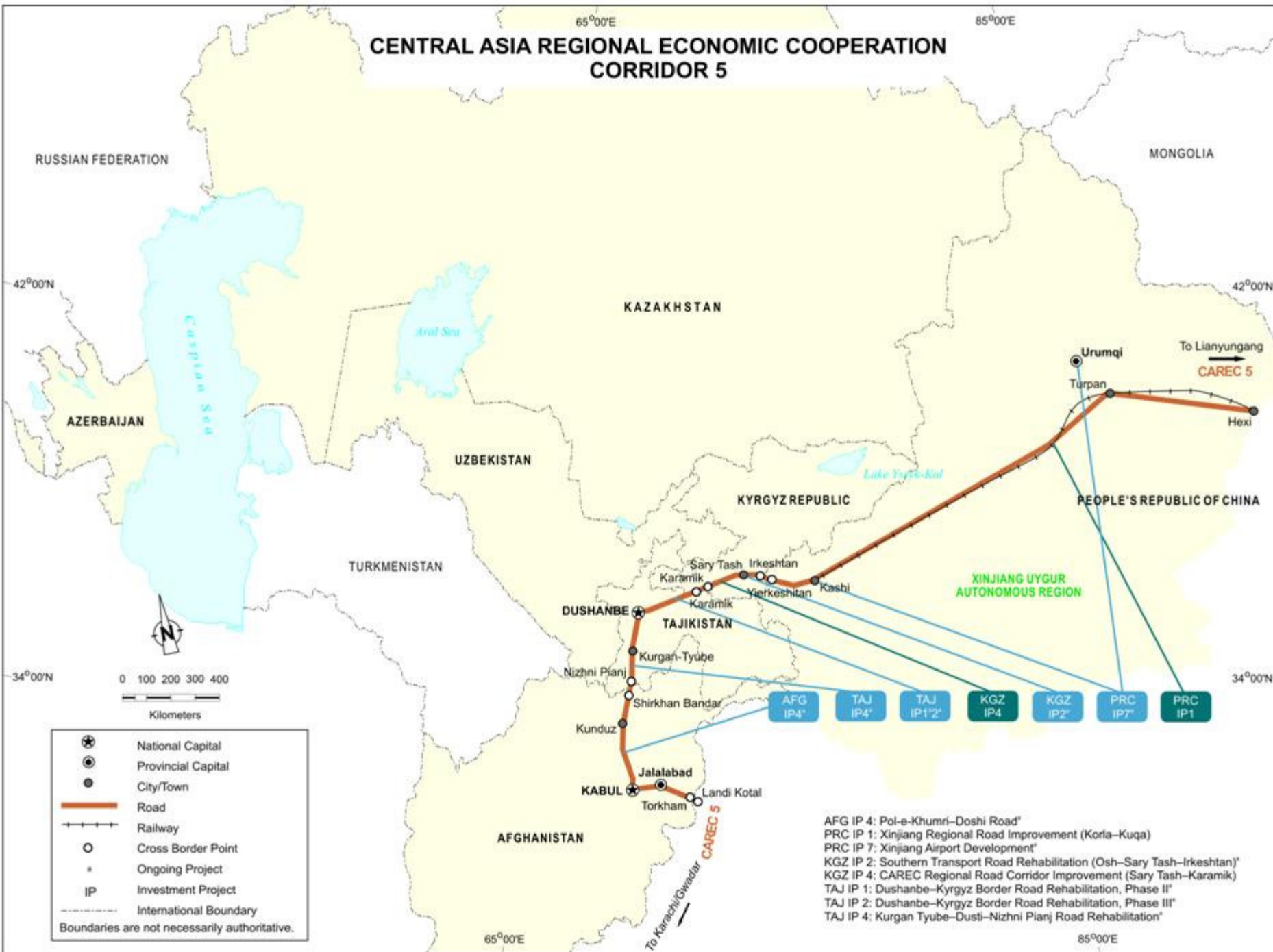
1 =Health inspection; 2=Phytosanitary inspection; 3=Veterinary inspection; 4=Border control; 5=Visa/immigration;
 6=Customs clearance; 7=Waiting time; 8=Loading/unloading; 9=Escort; 10=Weight inspection; 11=Police checkpoint; 29
 12=Vehicle registration; 13= Vehicle repairs; 14=Documentation; 15=Transport control

Corridor 4 Rail BCP Costs

BCP			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average
Erlia	PRC	Road	.	.	.	16.81	.	300.92	.	.	.	.	.	.	.	.	.	317.73
Zamiin-Uud	MON	Rail	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-
Erlia	PRC	Rail	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-
Sukhbaatar	MON	Rail	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	-

1 =Health inspection; 2=Phytosanitary inspection; 3=Veterinary inspection; 4=Border control; 5=Visa/immigration;
 6=Customs clearance; 7=Waiting time; 8=Loading/unloading; 9=Escort; 10=Weight inspection; 11=Police checkpoint;
 12=Vehicle registration; 13= Vehicle repairs; 14=Documentation; 15=Transport control

CENTRAL ASIA REGIONAL ECONOMIC COOPERATION CORRIDOR 5



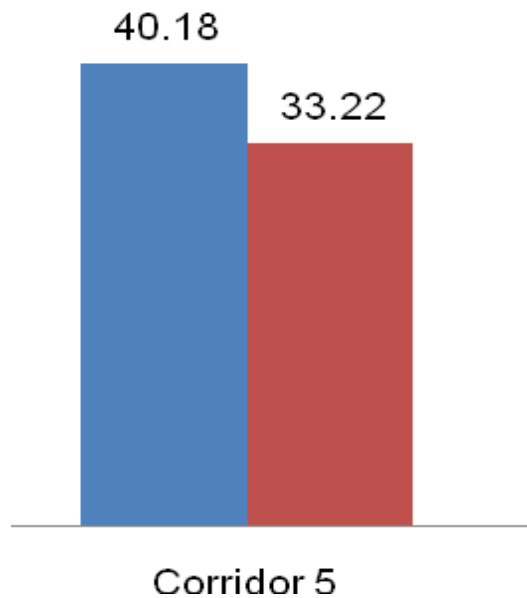
- National Capital
 - Provincial Capital
 - City/Town
 - Road
 - Railway
 - Cross Border Point
 - Ongoing Project
 - Investment Project
 - International Boundary
- Boundaries are not necessarily authoritative.

- AFG IP 4: Pol-e-Khumri–Doshi Road*
- PRC IP 1: Xinjiang Regional Road Improvement (Korla–Kuqa)
- PRC IP 7: Xinjiang Airport Development*
- KGZ IP 2: Southern Transport Road Rehabilitation (Osh–Sary Tash–Irkeshtan)*
- KGZ IP 4: CAREC Regional Road Corridor Improvement (Sary Tash–Karamik)
- TAJ IP 1: Dushanbe–Kyrgyz Border Road Rehabilitation, Phase II*
- TAJ IP 2: Dushanbe–Kyrgyz Border Road Rehabilitation, Phase III*
- TAJ IP 4: Kurgan Tyube–Dusti–Nizhni Pianj Road Rehabilitation*

Speed and Reliability (Road / Rail Transport)

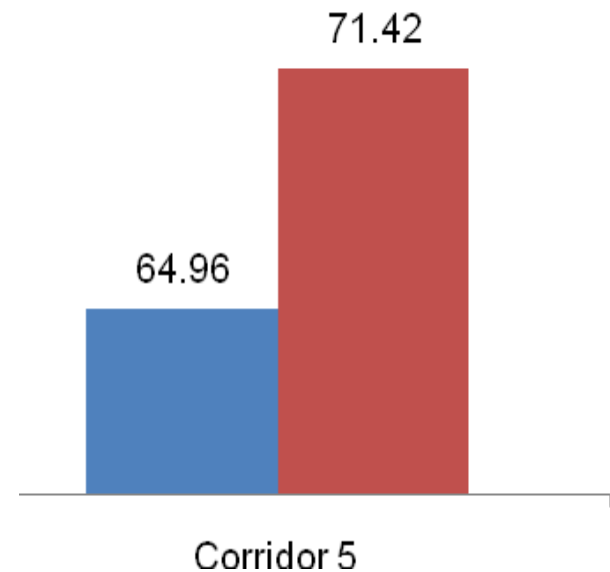
Average road speed

■ Gross speed ■ Net speed



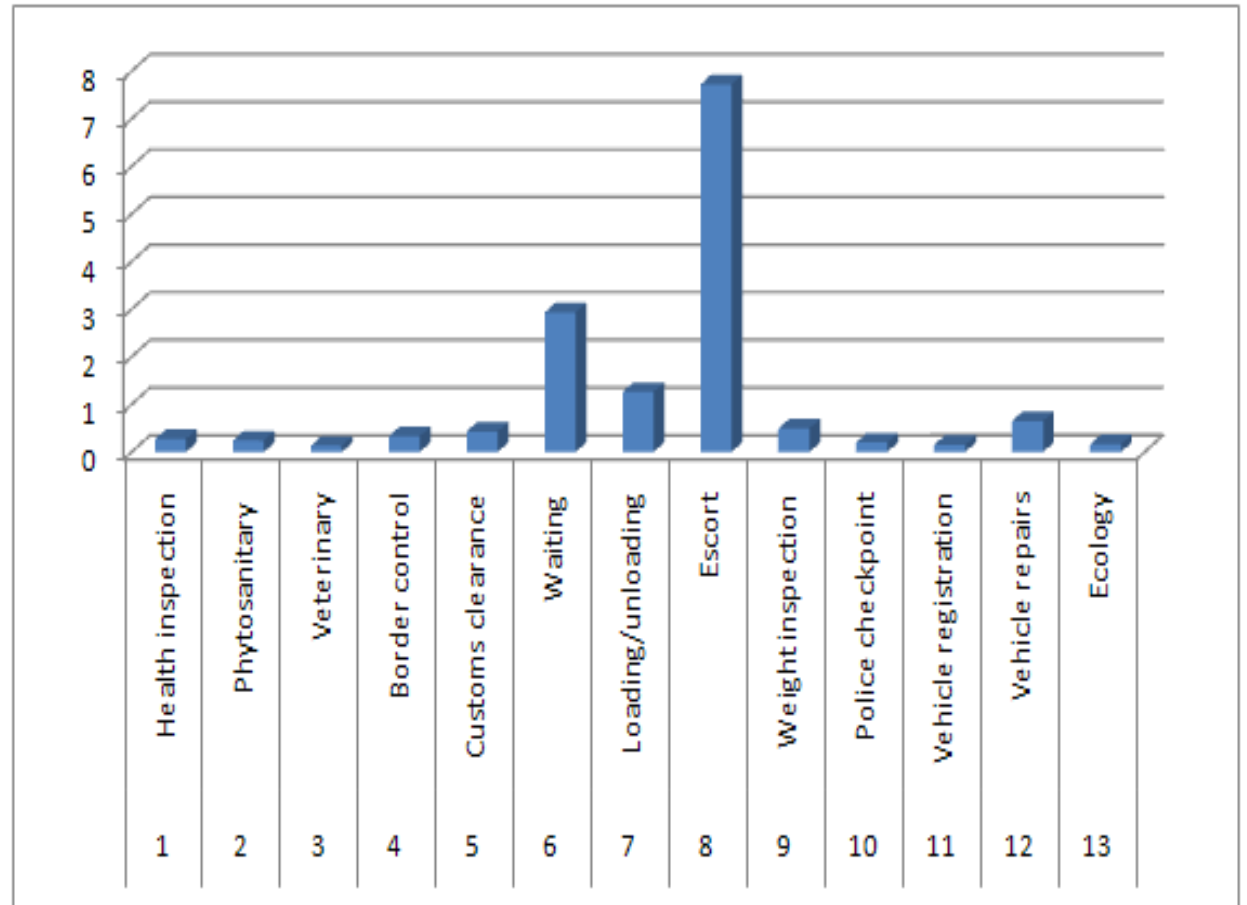
Coefficient of variation of speed

■ CV-Gross speed ■ CV-Net speed



Corridor 5 Activities Time (Road)

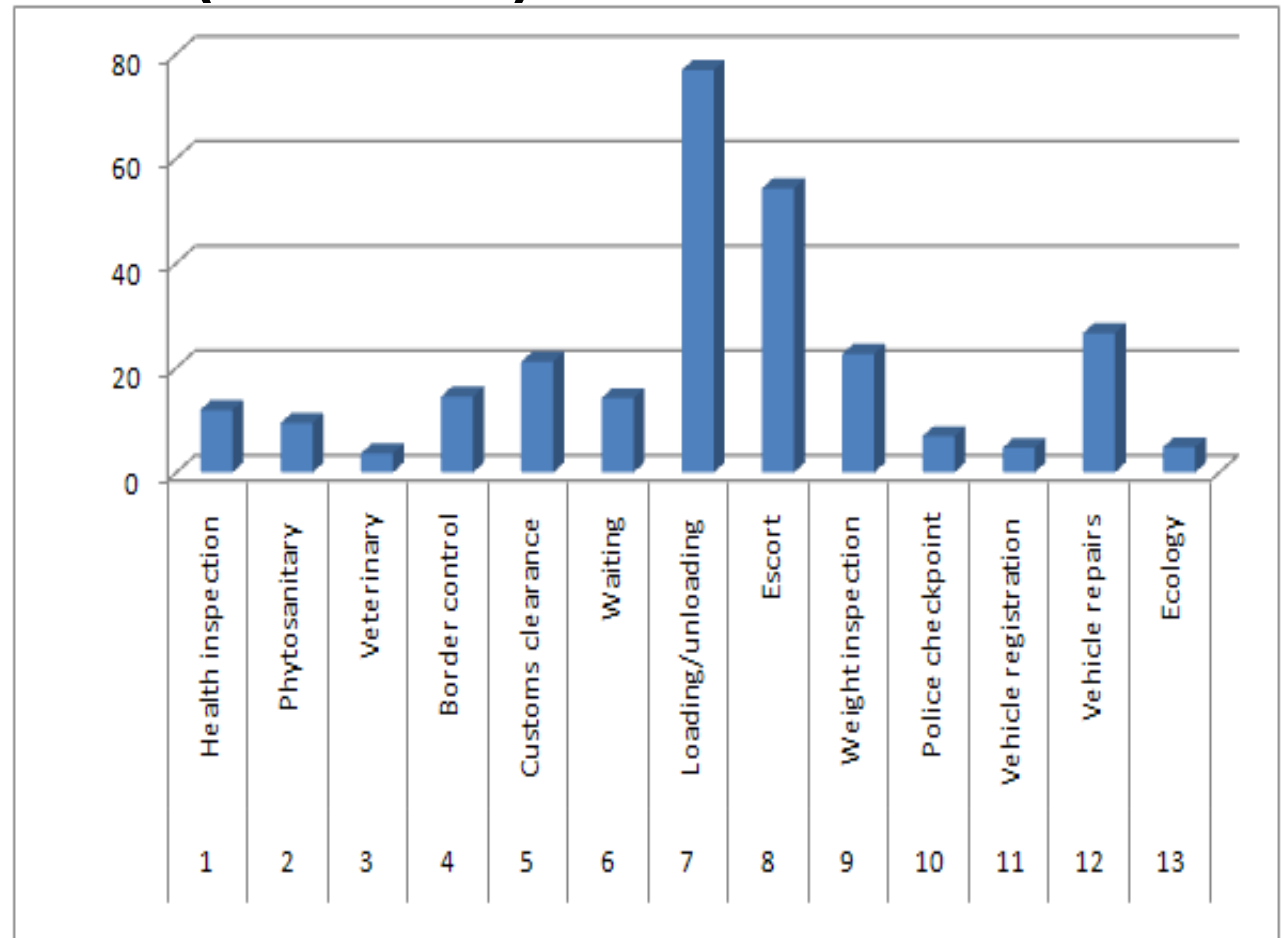
Activities	Duration (hours)
Health inspection	0.27
Phytosanitary	0.24
Veterinary	0.13
Border control	0.33
Customs clearance	0.43
Waiting	2.93
Loading/unloading	1.26
Escort	7.72
Weight inspection	0.49
Police checkpoint	0.2
Vehicle registration	0.15
Vehicle repairs	0.65
Ecology	0.16



Time in Hours

Corridor 5 Activities Cost (Road)

Activities	Cost (US\$)
Health inspection	11.96
Phytosanitary	9.46
Veterinary	3.64
Border control	14.55
Customs clearance	21.21
Waiting	14.25
Loading/unloading	76.93
Escort	54.33
Weight inspection	22.68
Police checkpoint	6.93
Vehicle registration	4.72
Vehicle repairs	26.63
Ecology	4.83



Units in US\$

Corridor 5 Road BCP Delays

BCP			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average
Erkeshtam	PRC	Road	.	0.21	0.17	.	0.31	0.42	8	4	.	0.25	.	.	.	.	.	13.35
Hayratan	AFG	Road	0.47	0.32	.	.	0.49	0.46	.	1.41	.	0.55	0.29	.	.	.	.	3.99
Torkham	AFG	Road	0.37	0.45	.	.	0.4	0.42	.	1.11	.	0.53	0.29	.	.	.	.	3.58
Sharkhan Bandar	AFG	Road	.	.	.	.	.	.	.	1.23	.	.	0.17	.	.	.	.	1.39
Karamik	KGZ	Road	0.15	0.16	0.13	.	0.16	0.3	.	.	.	.	0.16	0.13	.	.	.	1.2
Kichi Karamyk	TAJ	Road	.	0.17	0.17	.	0.33	0.38	.	.	.	.	.	.	.	.	.	1.04
Nijhniy Paynj	TAJ	Road	0.13	0.15	0.13	.	0.15	0.31	.	.	.	.	.	0.14	.	.	.	1.01

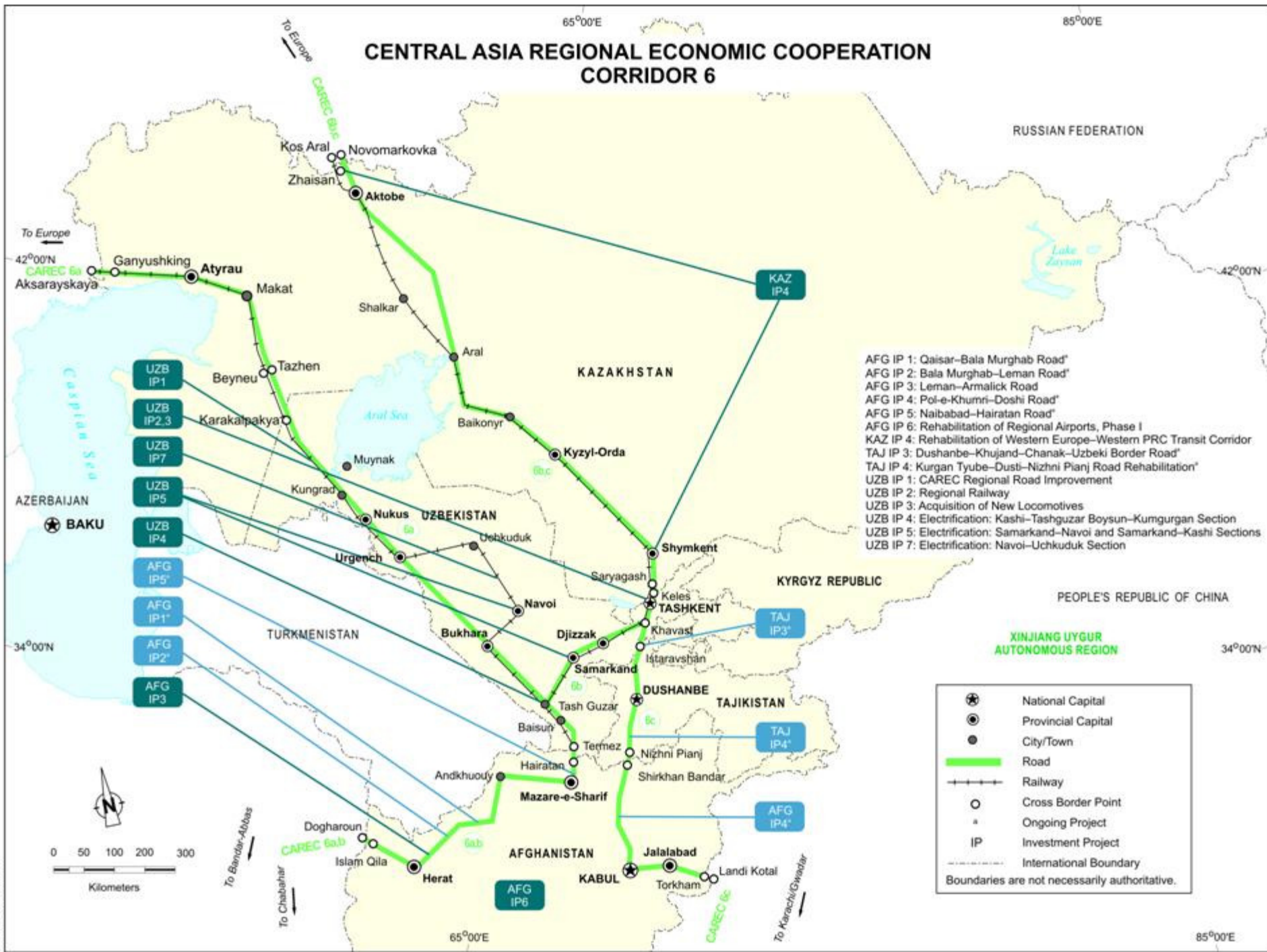
1 =Health inspection; 2=Phytosanitary inspection; 3=Veterinary inspection; 4=Border control; 5=Visa/immigration;
 6=Customs clearance; 7=Waiting time; 8=Loading/unloading; 9=Escort; 10=Weight inspection; 11=Police checkpoint; 12=Vehicle registration; 13= Vehicle repairs; 14=Documentation; 15=Transport control

Corridor 5 Road BCP Costs

BCP			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average
Hayratan	AFG	Road	21.5	20	.	.	22	23.6	.	79.9	.	24.8	13.2	.	.	.	.	205.07
Torkham	AFG	Road	20.1	22.1	.	.	21	25.2	.	75.3	.	24.6	13	.	.	.	.	201.21
Sharkhan Bandar	AFG	Road	.	.	.	.	.	.	.	45.5	.	.	11	.	.	.	.	56.5
Karamik	KGZ	Road	3.49	4.78	3.43	.	4.95	18.3	.	.	.	.	5.48	4.41	.	.	.	44.84
Nijhniy Paynj	TAJ	Road	3.43	4.36	4.21	.	4	16.9	.	.	.	.	.	2.93	.	.	.	35.86
Erkeshtam	PRC	Road	.	2.3	2.4	.	1.75	2.05	.	.	.	1.6	.	.	.	.	.	10.1
Kichi Karamyk	TAJ	Road	.	.	.	.	.	4.98	.	.	.	.	.	.	.	.	.	4.98

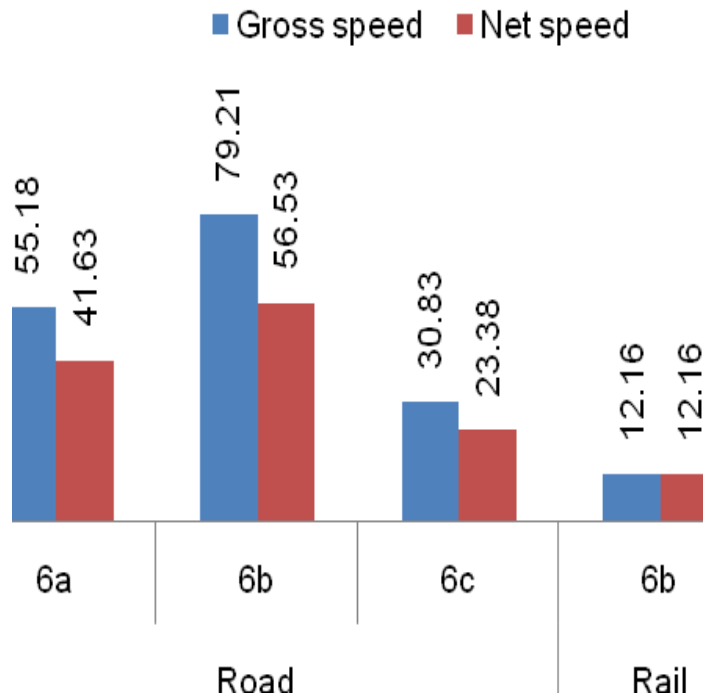
1 =Health inspection; 2=Phytosanitary inspection; 3=Veterinary inspection; 4=Border control; 5=Visa/immigration; 6=Customs clearance; 7=Waiting time; 8=Loading/unloading; 9=Escort; 10=Weight inspection; 11=Police checkpoint; 12=Vehicle registration; 13= Vehicle repairs; 14=Documentation; 15=Transport control

CENTRAL ASIA REGIONAL ECONOMIC COOPERATION CORRIDOR 6

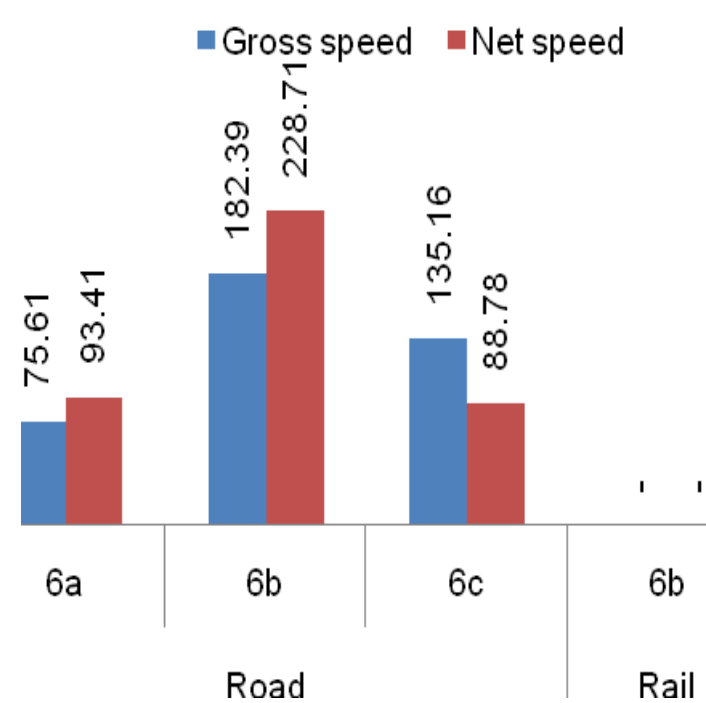


Speed and Reliability (Road / Rail Transport)

Average road and rail speed



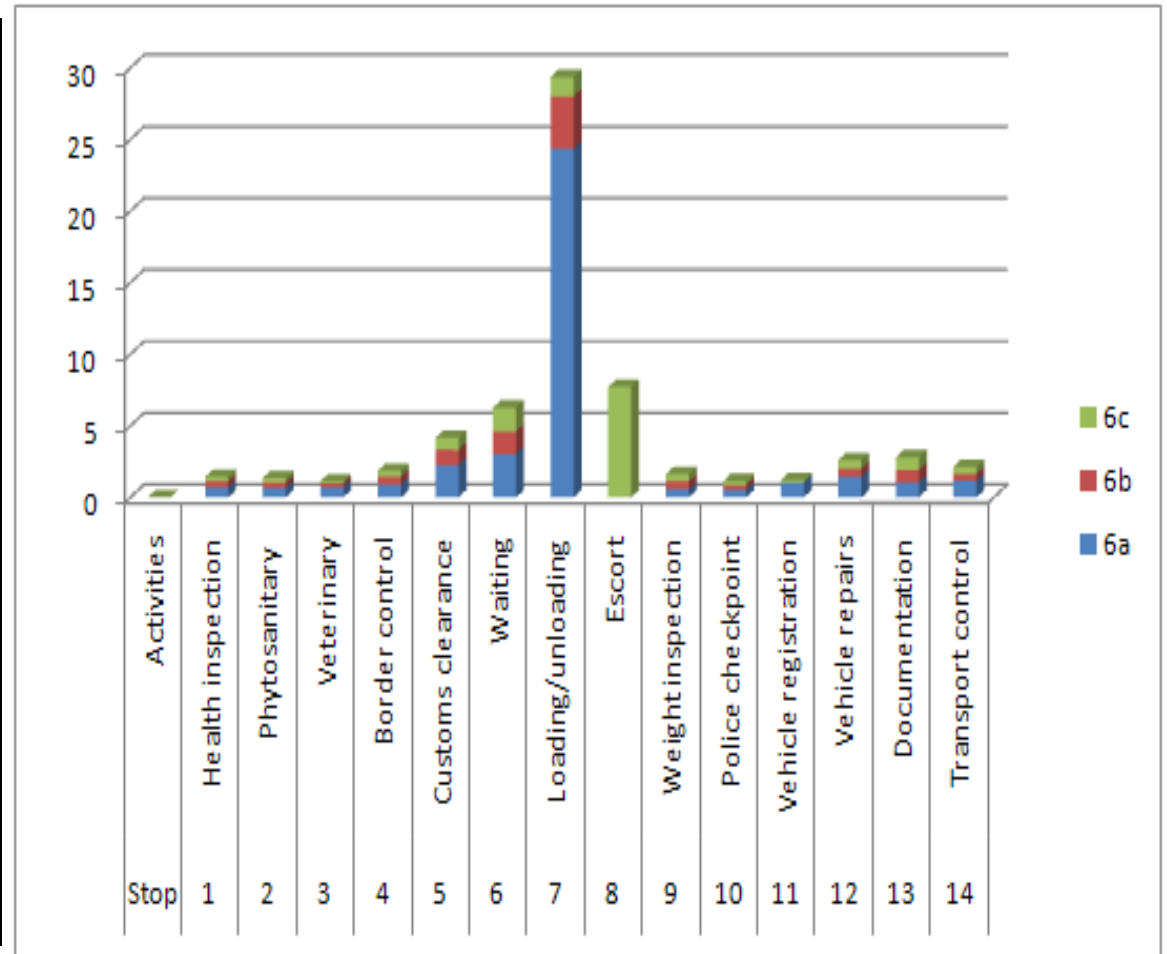
Coefficient variation of speed



Corridor 6 Activities Time (Road)

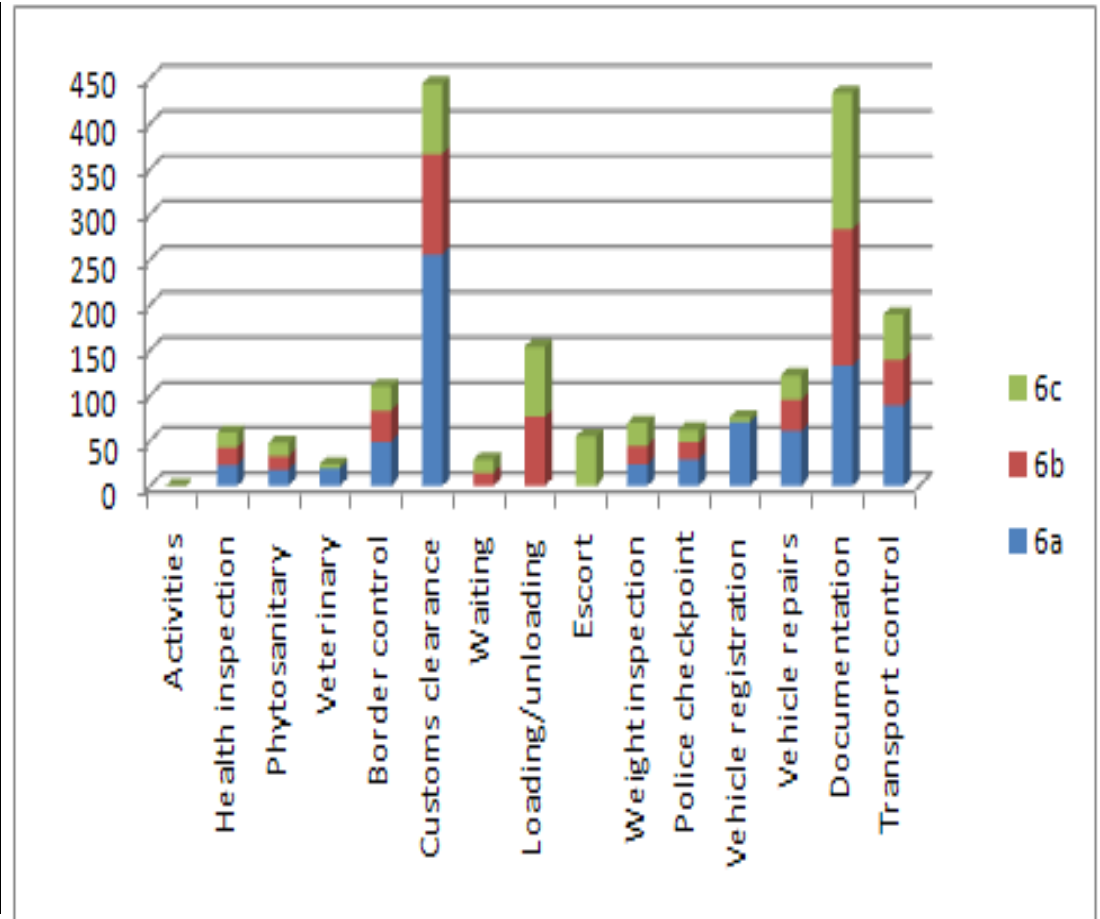
Activities	Duration (hours)		
	6a	6b	6c
Health inspection	0.69	0.43	0.33
Phytosanitary	0.66	0.37	0.33
Veterinary	0.7	0.28	0.15
Border control	0.9	0.55	0.42
Customs clearance	2.22	1.1	0.86
Waiting	3.02	1.59	1.66
Loading/unloading	24.33	3.68	1.35
Escort	.	.	7.72
Weight inspection	0.56	0.55	0.52
Police checkpoint	0.51	0.36	0.27
Vehicle registration	1.03	.	0.18
Vehicle repairs	1.44	0.57	0.6
Documentation	1.05	0.88	0.88
Transport control	1.15	0.5	0.5

Time in Hours



Corridor 6 Activities Cost (Road)

Activities	Cost (US\$)		
	6a	6b	6c
Health inspection	22.92	19.72	16.39
Phytosanitary	18.02	14.72	14.93
Veterinary	19.43	.	4.21
Border control	48.8	34.38	26.51
Customs clearance	255.52	110.97	77.45
Waiting	.	14.5	14.22
Loading/unloading	.	76.26	77.22
Escort	.	.	54.33
Weight inspection	23.97	20.25	25.22
Police checkpoint	29.19	18.89	13.9
Vehicle registration	70.18	.	5.6
Vehicle repairs	60.38	34.33	27.21
Documentation	132.88	150.55	150.55
Transport control	89.27	50	50



Units in US\$

Corridor 6 Road BCP Delays

BCP			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average
Tazhen	KAZ	Road	0.79	0.72	0.74	.	1.06	2.47	6	.	.	0.93	0.64	0.99	1	.	1.2	16.53
Krasnyi Yar	RUS	Road	0.79	0.68	0.72	.	1.03	2.86	1.67	.	.	0.39	0.67	1.4	.	.	1.03	11.23
Daud Ata	UZB	Road	0.4	0.43	0.41	.	0.54	2	1.83	.	.	0.58	0.36	0.33	1	.	.	7.89
Veseloyarskyi	RUS	Road	0.88	0.5	.	.	0.75	2.57	.	.	.	0.63	0.42	0.33	.	.	0.5	6.57
Kotyaevka	KAZ	Road	0.23	0.5	.	.	0.51	0.88	1.79	.	.	0.56	0.46	0.5	.	1.06	.	6.5
Zhaysan	KAZ	Road	0.23	0.26	.	.	0.57	0.99	0.58	.	.	0.5	0.59	0.75	.	0.88	.	5.34
Hayratan	AFG	Road	0.47	0.32	.	.	0.49	0.46	.	1.41	.	0.55	0.29	.	.	.	.	3.99
Torkham	AFG	Road	0.37	0.45	.	.	0.4	0.42	.	1.11	.	0.53	0.29	.	.	.	.	3.58
Sharkhan Bandar	AFG	Road	.	.	.	.	.	.	.	1.23	.	.	0.17	.	.	.	.	1.39
Nijhniy Paynj	TAJ	Road	0.13	0.15	0.13	.	0.15	0.31	.	.	.	.	.	0.14	.	.	.	1.01

1 =Health inspection; 2=Phytosanitary inspection; 3=Veterinary inspection; 4=Border control; 5=Visa/immigration; 6=Customs clearance; 7=Waiting time; 8=Loading/unloading; 9=Escort; 10=Weight inspection; 11=Police checkpoint; 12=Vehicle registration; 13= Vehicle repairs; 14=Documentation; 15=Transport control

Corridor 6 Road BCP Costs

BCP			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Average
Kotyaevka	KAZ	Road	33.3	15	.	.	73.8	466	.	.	.	6	94.1	5	.	120	.	813.09
Zhaysan	KAZ	Road	20	13.3	.	.	73.5	382	.	.	.	7	89.1	15	.	151	.	750.05
Tazhen	KAZ	Road	22.8	15.2	14.3	.	49.1	222	.	.	.	56	19.6	70.9	52	.	114	635.19
Krasnyi Yar	RUS	Road	29.3	25.6	21.4	.	39.5	203	.	.	.	9.33	19.4	137	.	.	63.8	548.43
Veselayarskiy	RUS	Road	30	18.8	.	.	35	213	.	.	.	31.3	12.5	5	.	.	50	395.36
Hayratan	AFG	Road	21.5	20	.	.	22	23.6	.	79.9	.	24.8	13.2	.	.	.	.	205.07
Torkham	AFG	Road	20.1	22.1	.	.	21	25.2	.	75.3	.	24.6	13	.	.	.	.	201.21
Daud Ata	UZB	Road	20	15	.	.	30	25	.	.	.	5.67	4.33	.	.	.	.	100
Sharkhan Bandar	AFG	Road	.	.	.	.	.	.	.	45.5	.	.	11	.	.	.	.	56.5
Nijhniy Paynj	TAJ	Road	3.43	4.36	4.21	.	4	16.9	.	.	.	.	.	2.93	.	.	.	35.86

1 =Health inspection; 2=Phytosanitary inspection; 3=Veterinary inspection; 4=Border control; 5=Visa/immigration; 6=Customs clearance; 7=Waiting time; 8=Loading/unloading; 9=Escort; 10=Weight inspection; 11=Police checkpoint; 12=Vehicle registration; 13= Vehicle repairs; 14=Documentation; 15=Transport control

Thank you



Max Ee

Supply Chain Consultant

SCM Analytics Pte Ltd

Contact : +65 8138 8700

Email: satica@pacific.net.sg