Optimisation of Central Asian and Eurasian Inter-Continental Land Transport Corridors

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Abstract

There is at present an overlapping but inadequately coordinated combination of strategic inter-continental transport corridors or axes stretching across the Eurasian landmass, centered on or around Central Asia. There are three such initiatives - from the EU, China and China and the Asian Development Bank, and the Eurasian Economic Community. This paper reviews these several strategic transport maps, and makes proposals for their coordination and rationalisation. The EU Central Asia strategy does not so far pay much attention to these questions. However the EU's own initiatives (the Pan-European Axes and the Traceca programme) are in need of updating and revision to take into account major investments now being made by the other parties. In particular the case is made for a "Central Eurasian Corridor" for rail and road that would reach from Central Europe across Ukraine and Southern Russia into West Kazakhstan, and thence to the East Kazakh border with China, and thus joining up with and completing the West China-West Europe corridor promoted by the Asian Development Bank. There should also be a North-South corridor that would cross over this Central Eurasian Corridor in West Kazakhstan and lead down to the Middle East and South Asia. These adaptations of existing plan could become an exemplary case of cooperation between Central Asia and all the major economic powers of the Eurasian landmass.

Contents

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Maps

1. CAREC Central Asian regional transport corridors
2. Pan-European transport axes of the European Union
3. Traceca programme of the European Union
4. Eurasian rail corridors of the EurAsEC
5. Euasian road corridors of the EurAsEC

1. From a Trans-European to a Trans-Eurasian vision of transport corridors

The EU has for over a decade been promoting a transport corridor system reaching from Southeast Europe across the Caucasus into Central Asia called TRACECA, which however does not seem to live up to early expectations. At the same time it has been working to develop a set of Pan-European corridors or axes through the new member states of Central and Eastern Europe into Ukraine, Russia and the wider European neighbourhood, but which do not extend to Central Asia.

These eastern moves by the EU now meet virtually symmetrical western moves coming from Asia, with China and the Asian Development Bank strongly supporting a set of corridors running through Central Asia under a programme called CAREC. This now sees large scale investment in a complex of corridors which are effectively changing the strategic transport map of Central Asia, and opening it to external neighbours at all points of the compass.

Most of the existing road and rail infrastructures of the region were of course constructed in Soviet times, and a core group of former Soviet states led by Russia and Kazakhstan, organised as the Eurasian Economic Community (EurAsEC), seek to renew the potential of this network in order to support economic growth of the region.

These three sets of transport are not explicitly coordinated. For example Russia is not a member of the Asian Development Bank; and the EU and CAREC programmes seem to be hardly coordinated at all, although the EBRD participates in some CAREC projects. However the Kazakhstan, whose territory stretches one third of the way between Berlin and Beijing, could be a facilitator of coordination given the central place of its national transport policy choices.

The EU seems to remain focused on its wider European neighbourhood, with Central Asia perceived by some as its outer periphery. This paper explores the case for opening this view towards a coherent Trans-Eurasian transport strategy with particular reference to the case of Central Asia. This would imply an updating and revision of the present EU policies.

It is already clear that all the four major economic powers of the Eurasian landmass – the EU, Russia, China and India – have serious interests here. Each of these four major economies are concerned for the logistics for trade flows between each other, first of all in diagonal routes that can go around Central Asia:

- west-north (EU-Russia, by land), north-east (Russia-China by land), west-south (EU-India by land and sea), south-east (India-China by sea), west-south-east (EU-China by sea)

However there are vertical and horizontal connections running through Central Asia, for example:

- west-east (EU-Central Asia-China)
- north-south (Russia-Central Asia-India)

.. and also some diagonal routes passing through Central Asia

- north-east to south-west (West China to the Middle East)
- north-west to south-east (Northern Europe to India)

These axes are presented in a deliberately stylized map in Figure 1, which may serve to prompt reflection on the case for a concerted Trans-Eurasian transport corridor strategy. Alternatively one can look at the detailed transport planning maps of the EU (Maps 1 and 2), CAREC (Map 3) and EurAsEC (Maps 4 and 5), which taken together become a spaghetti bowl of complex and overlapping connections that the mind cannot easily grasp.

[Figure 1 – being drawn]

2. The transit and transport potential of the Trans-Eurasian land routes

At present practically all (99%) of the goods traded between the EU and the Asian Pacific region are being shipped by sea.[2] In 2007, 17.7 million containers (TEUs) were transported from Asia to Europe, and 10 million TEU from Europe to Asia. The difference of 7.7 million TEU represents empty containers returning to their point of origin. According to UN ESCAP, by 2015 containerised transportation from Asia to Europe and from Europe to Asia may reach 26.1 million TEU and 17.7 million TEU respectively. But the Suez Canal is expected soon to reach its maximum capacity for container vessels, so the opportunities for land routes to gain traffic may grow.

Overland containerised shipments from China enter Kazakhstan via the Dostyk-Alashankou border crossing point. In 2008, the daily throughput at Dostyk-Alashankou was 520-550 rail cars. Most trains consist of 48-50 rail cars, including container wagons. It is estimated that Dostyk could transship about 306,000 TEU annually. However in

[2] Vinokurov E., Jadraliyev M., Shcherbanin Y. (2009) *The EurAsEC Transport Corridors*. In: Vinokurov E. (ed.) (2009*) EDB Eurasian Integration Yearbook 2009*. EDB: Almaty, pp. 186-240. Available at http://www.eabr.org/eng/publications/IntegrationYearbook/, as of November 2009.

2007, according to Kaztransservice, the official container operator, Dostyk transshipped 109.7 thousand TEU, albeit an increase on 2006 of 37%.[3]

Kaztransservice forecasts that by 2015 the transshipment of containers at Dostyk's railway terminal could increase to 730 thousand TEU (see Figure 1), although this is more optimistic that the forecast of UN ESCAP. Nevertheless, there is a consensus that transshipment volumes will grow considerably in the medium term, which justifies the development of overland transport systems.

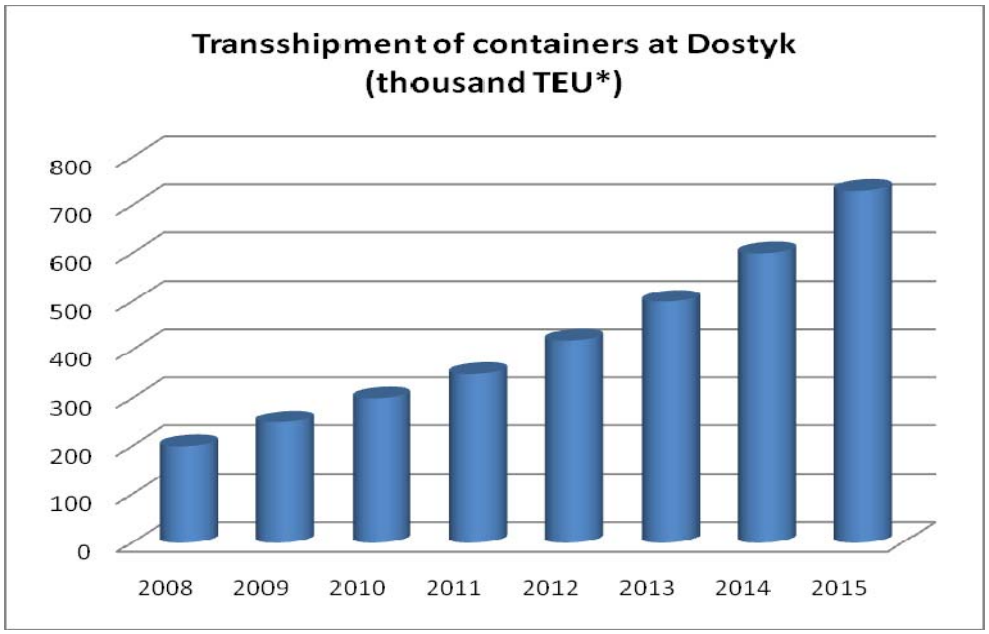
While Southern and Eastern China will always prefer sea and air transportation routes in its trade with the EU and even to some degree the CIS countries, the most pertinent source for expanding shipments through land corridors is Western China, a home to 150 million people and rapidly expanding industry. Commodities which can be transported by road and rail from China to Kazakhstan and Russia include: chemicals (hazardous), foodstuffs (perishable), electric instruments; stereo, video and audio systems; mobile communications equipment; TV sets; electric cables; furniture; clothes and shoes; cosmetics.

The following commodities can be considered as possible backhaul road transport cargoes moving from Europe to China: industrial and agricultural equipment; metals (high-value non-ferrous metal goods, higher-purity metals and other high-value goods which are usually purchased in small quantities); integrated circuits; various fine chemical products and polymers; consumer goods; foodstuffs (e.g., meat).

Certain cargoes, such as bearings, are not suitable for sea transportation without expensive specialised and costly packaging to protect them from the sea air.

Figure 1. Transshipment of containers at Dostyk (thousand TEU*)

[3] SPECA (2008) SPECA 13th Project Working Group Session. *Presentation of Kaztransservice.* Available at:: http://www.unece.org/trans/main/speca/docs/13th_presentation08_r.pdf, as of November 2009. – In Russian.



Source: *forecast by Kaztransservice.

Thus, there are several niche markets for the China-EU traffic through Northern Eurasian land-corridors, with railway transportation being able to offer competitive tariffs and times of delivery for an intermediate category of high value and low weight goods (the highest value/lowest weight goods will be sent by air freight).

The vast transit potential of land routes through Northern Eurasia is, at present, very much underused. The current transit cargo flows from and to non-CIS countries are negligible compared with transit from and through EurAsEC countries to third countries.

3. Key issues affecting Eurasian inter-continental cargo transit

The huge preponderance of sea transit routes between China and Europe reflect basic competitive conditions.

Cheaper tariffs: international shipping companies with extensive and cost-efficient fleets at their disposal can keep their port charges and freight rates low. In many cases, shipping cost is the main consideration for consignors as they strive to minimise the transportation component of the price of commodities and keep them competitive in the destination country. Following the recent huge crisis-related drop in the Baltic Dry Index, which is used in pricing raw material ocean freight rates (oil, metals, grains, etc.), the tariffs charged by shipping companies, at least in the near future, will be even more competitive than other modes of transport.

However, the above appears to be true only for east–west transit. For north-south traffic, which is the other main direction for transit through EurAsEC countries, analysts believe that overland transportation costs can compete with sea freight. According to estimates, it costs $3500 to deliver one tonne of cargo from Germany to India through the Suez Canal, and takes 40 days. Container freight along the alternative North-South transport corridor will cost $2500 and take 15-20 days.

Box 2. Sea and rail container freight tariffs in Eurasia (ATC AIR Service data)

Destination port (loading port: Shanghai)	**USD/container**			**Delivery time**
	20'DC	40'DC	40'HC	
Hamburg	1475	2500	2650	26
Kotka	1620	2700	2800	32
Tallinn	1925	3240	3415	32
Riga	1925	3300	3475	32
Klaipeda	1925	3300	3475	32
Novorossiysk	2025	3750	3875	32
St. Petersburg	1980	3170	3270	32
Vladivostok	1350	1950	1950	10

These ocean freight rates can be compared with the rail freight rates offered to the same company. Transportation is by TSR; destination Moscow:

Destination	**USD/container**			**CNY/ container**			**Delivery time**
	20'DC	40'DC	40'HC	20'DC	40'DC	40'HC	
Moscow	3585	6510	6510	28680	52080	52080	15

The insurance surcharge is $300-550 per container (depending on the customs code of the commodity). These tables show that sea shipping costs are around 50% lower than rail freight. For 20-feet and 40-feet containers, respectively.

Customer service and compliance with international quality standards: in addition to their competitive rates, sea shipping companies offer a high standard of service, including cargo tracking, sophisticated logistics networks and guarantees of on-time and secure delivery. They use state-of-the-art technology, offer discounts to regular customers, etc.

By comparison the land routes suffer from both physical and non-physical disadvantages. Physical barriers include the obsolescence and shortages of rail cars, containers and locomotives; non-compliance of existing infrastructure and technology with international quality standards (route handling capacities, etc.); inadequate processing capacity at border crossing points; poorly developed logistic and communications networks and motorway service facilities; different rail gauges – throughout the CIS, the 1,520-mm gauge is used, whereas in Europe and Asia (China, Iran, Southeast Asia, etc.) the gauge is 1,435 mm. This poses additional problems which compound the shortage of transshipment centres and insufficient handling capacity at border crossing points (see Table 2); insufficient capacity for cargo handling, consolidation and deconsolidation.[4] Non-physical barriers are largely man-made non-technical barriers to trade, such as

[4] More on non-physical barriers in Vinokurov et al. (ibidem), pp. 33-38.

protracted customs procedures at border crossing points, which significantly increase waiting times for vehicles and rolling stock; random inspections, often requiring sealed transit containers to be opened; non-harmonised transit tariffs across the CIS; and migration rules determining the time drivers are allowed to stay in EurAsEC differs from country to country.

But time advantage. However, overland transit has an important competitive advantage – it reduces delivery times. The shortest cargo delivery time from Eastern China and other Southeast Asian countries to Western Europe by rail or road is 2-2.5 times shorter than sea shipment via the Suez Canal. This advantage is less apparent, however, where delivery time is calculated for large shipments. For example, the average container capacity of vessels working on Asia-Europe routes increased to 7,100 TEU by 2007. According to Kazakhstan Temir Zholy (the national railway company), in 2007, an average container train was able to carry up to 270 TEU.

Shorter delivery time is also a critical factor for certain cargoes (perishable goods or urgent door-to-door shipments). In addition, faster delivery means quicker receipt of cash from the bank and shortening transaction times. Therefore, the time factor is a valuable competitive advantage that overland routes can offer for certain commodities, customers, and of course for land-locked regions such as China's rapidly developing Xinjiang Uigur Autonomous Region (XUAR), which has no viable alternative to rail and road transit.

Table 2. Physical and non-physical barriers to trade

Shipping point	Route	Distance, km	Number of border crossing points	Number of bogie crossing points
Lianyungang (China)	Via Kazakhstan and Russia	9,200	4	2
Shenzhen (China)	Via Mongolia and Russia	11,040	4	2
	Via Kazakhstan and Russia	10,300	4	2
The Tumannaya river	Via China, Mongolia and Russia	8,900	4	2
	Via China, Kazakhstan and Russia	9,900	4	2
	Via China (Manchuria) and Russia	9,000	3	2
	Via Russia	10,300	2	1
Nakhodka (Russia)	Via Russia	10,300	2	1
Rajin (North Korea)	Via China (Manchuria) and Russia	8,900	4	2
	Via Russia	10,300	3	1
Pusan (South	Via North Korea and Russia	11,600	4	2

Korea)	Via North Korea, China, Mongolia and Russia	10,780	6	2

Source: UN ESCAP (1996) Trans-Asian Railway Route Requirements: Feasibility Study on Connecting the Rail Networks of China, Kazakhstan, Mongolia, the Russian Federation and the Korean Peninsula. N.-Y.: UN ESCAP.

4. Existing and emerging international transport corridors in the region

EurAsEC initiatives. Until recently all the region's rail and road transport infrastructures dated back to the fully integrated networks of the Soviet Union. In the post-Soviet period there have been three overlapping political institutions and cooperation arrangements that are relevant to transport policy: the CIS (all former Soviet republics except the Baltic states), the EurAsian Economic Community (EurAsEC – with Russia and Kazakhstan as the main drivers, plus Belarus, Kyrgyzstan and Tajikistan), and the customs union of Belarus, Kazakhstan and Russia. However the main policy forum for transport policy is the EurAsEC.

Founded in 2000, EurAsEC perceives integration and coordination of its members' transport systems as one of its top priorities, as anchored in the Charter. This task is reflected in the agenda of such bodies as the Council of Transport Policy and regular meetings at the levels of Heads of State and respective ministers. In particular, the organisation strives to (a) harmonise national transport legislation (the respective set of documents was adopted in 2003); (b) develop EurAsEC transport corridors; (c) remove non-physical barriers; and, lately, (d) weave the transport policy into the development of Belarus-Kazakhstan-Russia Customs Union, to be created in 2010 and be fully operational by 2011.

For the EurAsEC members, whose mutual trade turnover and, accordingly, cargo transportation have been rapidly increasing recently (by 2020, their cargo transportation may total 490 million tonnes, a four-fold increase compared with 2000), the development of transport infrastructure is vital in sustaining the expansion of mutual trade and economic integration. The transit potential of EurAsEC is estimated at around 220 million tonnes. In order to be able to handle these volumes of cargo, the region's existing transport infrastructure needs to be modernised and, most importantly, efficiently linked to both the Chinese and European transport networks.

EU initiatives. The EU has promoted two initiatives to extend its transport networks into neighbouring state to its north and east: the Pan-European corridors and/or axes extending north and north-east into Belarus, Ukraine and Russia, and the Traceca network extending to the south-east through the Caucasus into Central Asia.

Pan-European corridors. The origins of these international transport corridors can be traced back to the 1980–1990s, when Western European countries identified an urgent need to improve the EU's internal and external links in response to a rapid growth in traffic. In 1994, following the First and Second Pan-European Conferences on Transport, ten major transport routes, the 'Crete corridors', were identified. These corridors were to

provide optimal transport links between Western European countries, the Baltics, the European part of the CIS (Moscow, St. Petersburg, Minsk, Lviv, Kiev), the Black Sea ports (Odessa, Constanta, Varna) and Turkey (Istanbul). Of the ten corridors the most relevant in the present context are

II. Berlin – Warsaw – Minsk – Moscow – Nizhny Novgorod;

III. Berlin – Dresden – Wrocław – Lviv – Kiev;

IV. Berlin / Nuremberg – Prague – Budapest – Constanta / Thessaloniki / Istanbul;

IX. Helsinki – St. Petersburg – Moscow – Pskov – Kiev – Chişinău – Bucharest – Dimitrovgrad – Alexandroupolis;

Of special interest in the present context is the Pan-European Transport Corridor II which extends 1,830 km from Berlin to Nizhny Novgorod via Warsaw, Minsk and Moscow. It will be fully operational by 2010. Presently, the *East Wind* container rail service links Berlin with Moscow. The Pan-European Corridor II is important not only to Russia and Belarus, but also to other EurAsEC countries involved in cargo transit between the Asia Pacific region and Western Europe. Using this corridor, Kazakhstan and Russia can offer transport services in the China–West Europe direction for Japan, South Korea, Malaysia, Indonesia, Singapore, Thailand and others as well as China. For many years, shipments in this direction have been made along the Moscow – Yekaterinburg – Omsk – Novosibirsk – Irkutsk transport corridor which provides access to the ports of Nakhodka and Vanino and to China via Zabaikalsk, Grodekovo and Naushki. With the opening of the Druzhba-Alashankou Sino-Kazakh railway border crossing point in 1992, journeys in this direction were shortened: for example, the journey from Moscow to the port of Lianyungang (China) is now 670 km shorter, and from Moscow to Hong Kong 860 km shorter than the previous route via Naushki. In addition, this route can be used for shipments from Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan to Moscow and beyond through the Pan-European Corridor II to Europe. Cargoes include cotton, the staple export commodity of these countries, and oil from Kazakhstan, Uzbekistan and Turkmenistan.

The EU has further developed its transport planning in the context of its recent enlargement in 2005 and 2007 and its European Neighbourhood Policy. The enlargement process in particular prompted the EU to commission a High Level Group, chaired by Loyala de Palacio, to consider how the Trans-European Transport Axes internal to the EU should be extended also into neighbouring countries. This group adopted a reshaped map of corridors or axes, identifying two of relevance in the present context:

- Central Axis, going from the EU through Ukraine and across southern Russia, with one branch reaching up to Chelyabinsk at the south of the Ural region, and another one to Astrakhan at the north of the Caspian Sea, but without mention of Central Asia
- South Eastern Axis through to Turkey, with one branch extending to the Caucasus as part of the Traceca programme, and another one down south to the Middle East and Egypt.

The whole set of Trans-European corridors and axes is estimated to have cost €126 billion up to 2007, and to cost a further €150 billion until 2013, and a further €120 billion

up until 2020, with substantial funding coming from the European Investment Bank[5]. Most of this funding goes to investments within the EU, but the EIB now has a new mandate to invest in Central Asia together with its longer-standing mandates to operate in Russia and Ukraine.

The 2005 report of the Palacio Group report has more recently been updated by the Commission in 2007 and 2008[6]. From these documents it seems that the Commission continues to view the relevant map as that which covers the EU's neighbouring states (as in the European Neighbourhood Policy plus Russia), with no references to trans-continental trade routes to China and the Asia Pacific region.

Traceca. This "Transport Corridor Europe-Caucasus-Asia" (Traceca) programme was initiated by a multilateral agreement signed in 1998 between the EU and 14 other states as a comprehensive road, rail and sea transport corridors to link the EU through Southeast Europe to the South Caucasus and on into Central Asia. The Traceca programme consists of a large number of technical assistance projects with some investment financing spread across a map of priority routes. There is a permanent secretariat of Traceca in Baku since 2001, which has a coordinating role. The political premises of Traceca were that the states of the Caucasus and Central Asia would be open to cooperative transport strategies, and that it would be good to diversify away from the Moscow-centric routes of the Soviet Union (Traceca routes do not pass through Russia). However the European Commission seems aware of weaknesses in the Traceca programme, and a recent policy document declares that "the institutional and policy dimensions of Traceca need to be strengthened and modernised, in particular to address in an effective manner both corridor development and overall policy discussion"[7]. In addition the transport map of Central Asia is now being substantially changed by the major investments of the CAREC programme, with heavy investments in routes across Kazakhstan which exit towards Europe above the Caspian Sea.

CAREC. Since 1997 the Asian Development Bank has with strong Chinese support been promoting the Central Asia Regional Economic programme (CAREC), which brings together four Central Asian states[8] together with Afghanistan, Azerbaijan, China and Mongolia. In November 2008 they announced a $6.7 billion programme of investments of major transport projects in the region, including a West China–West Europe corridor, which crosses Kazakhstan with key road and rail routes, to which the World Bank is contributing its biggest ever loan of $2 billion. The complete set of corridors is as follows[9]:

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[5] European Commission, "TEN-T – Trans-European Transport Projects – Implementation of the Priority Projects Progress report", May 2008.

[6] European Commission, "Extension of the Major trans-European Transport Axes to the Neighbouring Countires – Guidelines for transport in Europe and neighbouring regions" COM(2007) 32 final; and "Progress of exploratory talks regarding cooperation in the field of transport with neighbouring countries", COM(2008)125 final.

[7] European Commission op.cit. 2008.

[8] All except Turkmenistan

[9] CAREC, "Implementation of the Transport and trade Facilitation Strategy – Transport Sector Progress report (January 2008-October 2009), 8th Ministerial Conference on Central Asia regional Economic Cooperation, October 2009, Ulaanbaator, Mongolia.

1. Europe-East Asia, from China across to west Kazakhstan, with over $3 billion of funding from ADB, IBRD, EBRD, IsDB for 2,715 km of roads in Kazakhstan
2. Mediterranean-East Asia, road and rail networks from China into Kyrgyzstan, Uzbekistan and Turkmenistan, and then across the Caspian Sea into the South Caucasus and Black Sea, with support form the same IFIs
3. Russia-Middle East and South Asia, with a noth-south route running from Siberia across all Central Asian states into Afghanistan and Iran
4. Russia-East Asia (without passage through Central Asia)
5. East Asia-Middle East and South Asia, with road connection from China into Kyrgyzstan and Tajikistan, and then on into Afghanistan and Pakistan
6. Europe-Middle East and South Asia, with road and rail networks from west Kazakhstan and Uzbekistan to be extended into Afghanistan

From this it is evident that the Asian Development Bank through its CAREC programme is orchestrating investment by itself and other IFIs in transport corridors crossing Central Asia across all points of the compass, north, south, east and west.

5. Discussion of priorities

***Railway corridors*.** Since rail is the most economic mode for inter-continental land cargo traffic, the main rail cargo traffic routes are now discussed in more detail. These rely heavily on the extensive railway network of the former Soviet Union.

The Trans-Siberian Railway has for decades been the principal railway link between European Russia and its industrial regions to the east (Siberia, the Urals, etc.). The TSR is 9,288 km long; it was completed in 1903 and fully electrified by 2002. It has a number of branch lines in its far eastern section which link to Chinese, North Korean and Mongolian railways, Central Asian railways, and Europe (to Western European railways via Belarus). Currently, the TSR is technically capable of carrying 250-300 thousand TEU of international transit cargoes per annum. Once the modernisation of the TSR is complete, and if the Baikal-Amur Mainline (BAM) railway is used, this figure may increase to 1 million TEU per annum. Russian Railways has pledged to invest about 50 billion roubles ($1.5 billion[10]) in the modernisation of the TSR up to 2015, primarily to allow it to handle special container traffic.

The Northern Trans-Asian corridor is viewed as the second most developed corridor after the TSR, and is sometimes referred to as "the second Eurasian overland bridge". It runs from Lianyungang through central and northwest China, Kazakhstan and Russia to Western Europe. The distance from Lianyungang to Rotterdam is 10,900 km. The corridor is being developed on an ongoing basis. The economics of this corridor might be more favourable than the TSR's, since it is 2,500 km shorter. After 1992 the Chinese section of this railway (some 4,150 km) was partially modernised. To date, 89% of its total length is double tracked, and 29% of the line is electrified. It is expected that, with the industrial development of Western China this route will be made double track along its entire length, and electrification will be extended.

[10] At the exchange rate of 01.01.2009.

However, China and Kazakhstan use different gauges – 1,435 mm and 1,520 mm, respectively. This poses a major problem for the development of freight transportation, since containerised cargoes have to be reloaded by crane. At present, the Dostyk rail freight terminal in Kazakhstan, at the Sino-Kazakh border, is capable of handling a maximum of 620 rail cars per day. Until recently, maximum capacity barely exceeded 500-550 rail cars per day. The depot's current throughput is 12 train pairs per day on the Chinese narrow-gauge line. According to preliminary estimates, the depot handled a total 14 million tonnes scheduled cargo in 2008. New handling terminals are now being constructed and eight of them are already complete, and as already indicated this border crossing point should become capable of handling over 300,000 TEU annually.

The Central Trans-Asian corridor runs from the Sino-Kazakh border via Dostyk to Almaty to Volgograd in Russia and on to Ukraine (Donetsk-Kiev).[11] This is the shortest route from Asia to Central Europe. It is double-track and electrified within the former Soviet Union and it provides access to Poland, Slovakia and Hungary. This corridor is relatively underdeveloped now. However we would stress a number of important advantages of developing this connection and firmly placing it on the trans-Eurasian transport map.

- First, as already mentioned, this is the shortest route from Asia to Central Europe. Thus, it could offer competitive terms to shippers whose primary concern is speed of delivery.
- Second, it crosses developed regions of Russia and Ukraine, which would benefit from this connection. In particular, these regions, together with Northern Kazakhstan, are major agricultural producers (one of the largest grain-producing regions in the world), and this may become a major specialisation for the corridor.
- Third, this corridor connects to the prospective North-South route along the eastern Caspian shore (at Atyrau-Makat), which would run through Kazakhstan-Turkmenistan-Iran aiming to connect to the Middle East and also targeting agricultural cargo and metals.

For these reasons the EU should consider including a link to this route in a revision of the Pan-European corridor and Traceca maps. In fact this corridor would run roughly half way between the northern Pan-European corridor that extends from Moscow to the Urals and the southern Traceca corridor that runs through the South Caucasus and across the Caspian Sea. To make this corridor fully operational and efficient in Kazakhstan there would have to be an upgrade of the relatively short connection between Shalkar and Makat in West Kazakhstan (i.e. between corridors 1b/6b,c and 6a in CAREC's terminology). The development of the corridor requires further technical and economic study. With these modifications we could call this the *"Central Eurasian Corridor"*.

A North-South Eurasian corridor (or corridors) is also justified by the economic interests of Central Asian states and Russia to get better access to the Middle East and South Asia and the Indian Ocean, and for example for India to get better access to Central Asian and

[11] This corridor was proposed as early as 1996 in the UN ESCAP Report "Trans-Asian Railway Route Requirements: Feasibility Study on Connecting Rail Networks of China, Kazakhstan, Mongolia, The Russian Federation and The Korean Peninsula".

Russian markets. For this purpose there could be a cross-over junction with the Central Eurasian Corridor in West Kazakhstan. In fact there are already investments being made by Kazakhstan, Turkmenistan and Iran to develop this North-South railroad route, which is officially called Uzen (Kaz.) – Kyzylkaya-Bereket-Etrek (Turkm.) – Gorgan (Iran) project. Turkmenistan has already built 150 km of the planned 477 km of rail track, with the rest to be completed by December 2011. There could be a roughly parallel road route along the route Atyrau-Aktau (Kaz.) – Turkmenbashi – Tehran.

The Southern Trans-Asian corridor is also a potentially useful route. It also starts from Lianyungang, and passes through Dostyk, Almaty, Tashkent, Iran and Turkey before reaching the Mediterranean and Black Sea ports. But this railway also has several problems. First, the different gauges require trans-shipment at two points. The Iranian part (2,010 km) is single track and not electrified. In Turkey, trains have to cross Lake Van by ferry. Along the branch lines to Istanbul (i.e., the Mediterranean) and Samsun (Black Sea), only 46% of the railway is electrified, and only 10% is double track.

Traceca Trans-Caspian corridor. This project includes the Dostyk – Tashkent – Ashgabad – Turkmenbashi – Baku – Tbilisi – Poti route with sea ferry connections to Odessa, Varna, Constanta and Istanbul. Despite the EU's enthusiasm for this project at an early stage, it has failed to achieve its design capacity during the fourteen years after relevant documents were signed.

Parties to Traceca signed a number of documents relating to certain benefits and reduced tariffs, e.g. a 50% discount on rail freight and ferry transportation of empty wagons. In addition, taxes and fees on transit cargoes were abolished, and measures were taken at national level to enhance the safety of passengers, cargoes, carriers and vehicles. However, despite all these measures, the economic efficiency of this route is in questionable. The tariffs charged by Russian railways for transporting grain, cotton and containers are 1.7 times lower than those of this Traceca route. In addition, transportation via Russia gives 1.8-fold journey time advantage. Cargo is shipped mainly from west to east, with mostly empty wagons travelling in the opposite direction. This has a negative effect on the efficiency of Caspian and Black Sea ferry lines.

At the moment, some sections of the Traceca route are used to transport oil and oil products from Turkmenistan, cotton and grain from Uzbekistan, etc. At the port of Poti, a grain terminal with an annual capacity of 1.5 million tonnes, a container terminal with an annual capacity of 200 thousand TEU, and large storage facilities are all under construction. The potential capacity of the Batumi–Poti–Ilyichevsk ferry line is estimated to be 15-20 million tonnes per annum. However, its annual throughput at the moment is no higher than 0.9 million tonnes (using two ferries). The Baku– Turkmenbashi ferry line handles up to 2 million tonnes annually (five ferries). [12]

Automobile corridors. There are two main projects currently under development.

The West Europe–West China project (involving EBRD, ADB, World Bank, IDB, and others) is 8,455 km long, and largely parallels the *Central Eurasian Corridor* for rail discussed above. About one quarter of the highway will be laid in Kazakhstan, and will

[12] UN ESCAP (2007) *Regional Shipping and Port Development. Container Traffic Forecast 2007 Update*. N.-Y.: UN ESCAP.

allow transit not only to Russia and China, but also to South Asian countries via Uzbekistan and Kyrgyzstan. A consortium of multilateral development banks approved massive loans to build the Kazakhstan part of this corridor. This consortium includes the World Bank ($2125 million), ADB ($340 million), EBRD ($180 million), and IDB ($170 million[13]). The total cost of the Kazakhstani part of Western Europe-Western China road and rail routes amounts to $5.32 billion ($2.8 billion of banks' loans and $2.5 billion of state financing).

Since this road route would largely parallel the rail route mentioned, with links into southern Russia along the Astrakhan-Volgograd-Rostov line, there would be synergies to be obtained by giving this road route also Pan-European corridor status.

NELTI (New Eurasian Land Transport Initiative) will facilitate the movement of cargo to the CIS, the EU and the United States along the Beijing–Urumqi–Bakhty–Astana–Moscow–Riga–Vilnius–Warsaw–Berlin–Brussels route. This project is expected to increase cargo transit along the international motorways of Kazakhstan and Russia to 5.2 million tonnes per annum. The NELTI is receiving wide media coverage. We believe, however, that its significance may be overestimated for the following reasons.

There are significant obstacles to the development of road transit through Russia and Kazakhstan. Firstly, it is very expensive for vehicle owners to operate in these countries. This is because of the poor state of road surfaces and the road network in general. For a journey to be profitable, a truck must be able to cover up to 1,000 km during daylight hours. If a European carrier is contracted to undertake a transit shipment, special tracking systems will not allow it to travel at night for safety reasons. In addition road transport is extremely inefficient in these countries; the fleet consists mainly of old and obsolete vehicles, which do not meet specific requirements for cargo or other operations; logistics systems are not sophisticated enough to co-ordinate multi-modal shipments efficiently; and cargo handling centres on long-distance routes lack the technology to handle large vehicles. In addition, there is no spot freight system in place which could help fill empty vehicles. For these reasons, while automobile corridors are important for inter-state traffic, railway corridors will remain more competitive for trans-continental cargo transit.

Multi-model corridors. The multi-modal North-South transport corridor which links northwest Europe and Scandinavia with Central Asia and the Persian Gulf has also become much more important as a result of the rapidly expanding trade between Europe and India. This route relies on the extensive transport networks of Russia, Iran, Kazakhstan and other countries. The corridor running from the port of Bombay to St. Petersburg is 7,200 km long. In the Caspian region, several routes use waterways: the trans-Caspian sea route, the inland Caspian-Volga-Baltic waterways which extend to the Volga-Don Canal and the Black Sea, connecting with a number of railways and motorways.

[13] All figures as of August 2009.

6. Conclusions

1. Trans-continental EurAsian land corridors will never be in the same league as sea transportation for trade between the EU and China and the rest of the Asia Pacific region. There are however several niche markets for this trans-continental traffic through Eurasian land corridors, with railway transportation able to offer competitive tariffs and times of delivery for the high value and low weight categories of goods. The transit volume could, for example, potentially be raised from the current 1% of total EU-China trade flows to maybe 5-10%. In addition these corridors will serve the expanding trade of Russia, Kazakhstan and other Central Asia states with the EU, China, and South Asia.

2. The actual and potential transport corridors passing through Central Asia are currently subject to three sets of initiatives, those of the Eurasian Economic Community (EurAsEC) led by Russia and Kazakhstan, China and the Asian Development Bank through its CAREC programme, and the EU through its promotion of Pan-European Axes and the Traceca programme. These are far from fully coordinated. The biggest new investments in Central Asian transport corridors are now being led by the ADB with the support of other major IFIs, which are effectively changing the transport map of Central Asia, which prompts the need to review the coherence of these multiple programmes.

3. The most substantial transit routes for cargo between Europe and Asia are the Russian Trans-Siberian Railway and the Northern Trans-Asian corridor through China, Kazakhstan and European Russia. This second route has been subject to important modernization investments in China, and is significantly shorter than the Trans-Siberian route, for example 2,500 km shorter for trade moving from Rotterdam to the Chinese coastal port of Lianyungang. However while shorter this route is not yet optimal, since it still takes a route that goes too far north for optimal logistics between the EU and Central Asia and the Asia Pacific region, and the route via Moscow is also congested.

4. We therefore see advantages in a route which we might call the “Central Eurasian Corridor”, running from the Chinese-Kazakh border across Kazakhstan along the CAREC route called “West China-West Europe”, but with a branch then across the northern coast of the Caspian sea through Southern Russia (Astrakhan-Volgograd) and Ukraine (Donetsk-Kiev) and into Central Europe as the shortest land route from Asia to the EU. This links to the need for updating and optimising the EU’s transport strategies. The Pan-European Central Axis goes across Ukraine, Southern Russia and on to the Urals, but without at present a link into West Kazakhstan. This Pan-European Central Axis should therefore amended or complemented with the proposed “Central Eurasian Corridor”. The route crosses developed regions of Russia and Ukraine, which would benefit from this connection. In particular, these regions, together with Northern Kazakhstan, are major agricultural producers. This rail route is paralleled by roads, and an upgrading of both together would offer synergies.

5. Also, this East-West corridor could cross over and be coordinated with a prospective North-South route along the Eastern Caspian shore (at Atyrau-Makat), which would run through Kazakhstan-Turkmenistan-Iran aiming to connect to the Middle East and also targeting agricultural cargo and metals. To make these axes fully operational and most efficient, there is needed some relatively short rail and road links to be upgraded in West Kazakhstan (specified above). There are other North-South routes in the CAREC plans the transit Afghanistan and Pakistan. These routes are also of importance both in

times of war as now, and peace as and when this region can return to normal economic development.

6. These developments would mean revision of the EU's present transport maps. The Traceca map was originally traced to avoid Russia by crossing the Caspian Sea, a political position that is now obsolete[14]. Moreover the Traceca corridor has failed to achieve initial expectations, and the EU's Pan-European axes are now extending in any case across Russia to the north. The anomaly in the present situation is that the optimal Trans-Eurasian connection is not being made. The new CAREC corridors crossing Central Asia lead into West Europe in the middle between the Southern Traceca route and the Northern Pan-European axis, and missing both of them.

7. With the European Investment Bank now mandated to operate in Central Asia as well as Russia and Ukraine, the opportunity is ripe for the EU to engage in consultations with the major IFIs involved in Central Asia, first of all the ADB, World Bank, ERBD, and IsDB, with a view to optimising the coordination of these transport strategies. Their financial means can be supplemented by local regional and national development banks, including the Eurasian Development Bank (EDB), Vnesheconombank (VED), and the Development Bank of Kazakhstan (DBK).

8. Non-physical barriers to the efficient development and utilisation of trans-Eurasian corridors are at least as important as the insufficiency of physical. They include 'man-made' impediments such as protracted customs procedures at border crossing points; random inspections, often requiring sealed transit containers to be opened; non-harmonised transit tariffs, migration rules and the like. The EU technical assistance can be of value in overcoming the existing non-physical bottlenecks.

9. Finally, the pursuit of technical improvements in the coordination of transport strategies here discussed, involving the EU, Central Asia, Russia and China, would be an example of cooperation within the emerging paradigm of inter-continental multi-polarity. The EU and Russia try to improve their strategic partnership, and the EU and China seek to do so as well, as also is the case of the EU and India. The transport nexus of the Eurasian landmass is one of the most propitious field in which these major actors might work together in harmony in concrete terms.

[14] For a more detailed presentation see Emerson M. et al. , "Synergies vs. Spheres of Influence in the Pan-European Space", CEPS, 2009, Brussels.