

KTI RAIL CORRIDOR: FREIGHT FLOWS ENHANCEMENT AND MARKETING PLAN

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STUDY ON COMMERCIALIZATION AND MARKETING PLAN OF KTI CORRIDOR

STUDY ON COMMERCIALIZATION AND MARKETING PLAN IS STRUCTURED AS FOLLOWS.

1. ANALYSIS OF ECONOMIC BACKGROUND (INTERNATIONAL TRADE ANALYSIS AND FORECAST).
2. ANALYSIS OF FREIGHT FLOWS.
 - 2.1. CURRENT FREIGHT FLOWS ANALYSIS BY TYPES OF COMMODITIES AND OTHER FEATURES.
 - 2.2. FREIGHT FLOWS PROJECTION TILL 2030.
 - 2.3. DEFINITION OF KEY FACTORS IMPACTING THE FREIGHT FLOWS AND TEST OF DIFFERENT OPTIONS.
3. RECOMMENDATIONS ON FURTHER COMMERCIALIZATION AND FREIGHT FLOWS ENHANCEMENT.
4. MARKETING PLAN LINKED TO RECOMMENDATIONS FROM P.5 AND SUITABLE FOR DIFFERENT CORRIDOR MANAGEMENT MECHANISMS.

01

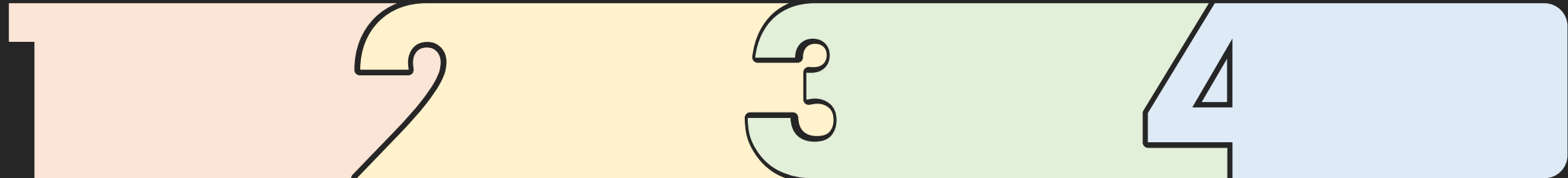
Macroeconomic background of KTI development

1.1. METHODOLOGY OF MACROECONOMIC ANALYSIS

A DEDICATED FORECAST OF TRADE BETWEEN KTI COUNTRIES AND OTHER COUNTRIES WAS MADE FOR THE STUDY.

TRADE FORECAST WAS THEN USED AS A BASIS FOR FREIGHT FLOWS FORECAST.

TRADE FORECAST WAS MADE UNDER THREE SCENARIOS: PESSIMISTIC, **BASELINE** (USED FOR FLOWS PROJECTION) AND OPTIMISTIC.



Input

Data to get long statistical series since 1995 till 2017:

- United Nations Inter-Country Trade Statistics Database – for trade statistic;
- World Economic Outlook Database by International Monetary Fund – for GDP;
- The World Bank statistics – for prices on main traded groups of goods.

Model

Gravity model of external trade is used for trade forecast from 2018 till 2030.

Regions

Eastern Europe
Northern Europe
Southern Europe
Western Europe

Eastern Asia
Central Asia
Southern and Southeastern Asia
Western Asia

Kazakhstan
Islamic Republic of Iran
Turkmenistan

China
Japan
India
Republic of Korea
Russia

Other countries

Commodities

21 groups of goods according to Harmonized Commodity Description and Coding System (HS).

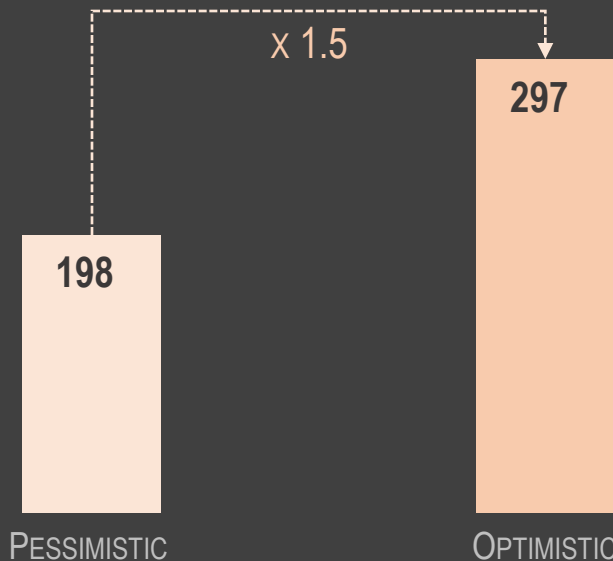
1.2. RESULTS AND FURTHER USABILITY

EXTERNAL TRADE OF COUNTRIES DEVELOPING KTI CORRIDOR IS HIGHLY VOLATILE AND DIFFICULT TO PREDICT FOR A LONG-TERM PERIOD.

STRUCTURE OF FOREIGN TRADE EXPLAINS FLOWS SPLIT BY EXISTING CORRIDORS.

TRADE VOLUMES UNDER DIFFERENT SCENARIOS ARE USED TO ADJUST THE CAPACITY OF RAIL CORRIDOR.

KAZAKHSTAN



TRADE TURNOVER IN 2030, MILLION TONS

- no significant changes in structure
- focus on bulk-type goods
- shares of chemicals and base metals, will slightly grow
- key partner - Russian Federation
- growth of European countries in exports and China in imports

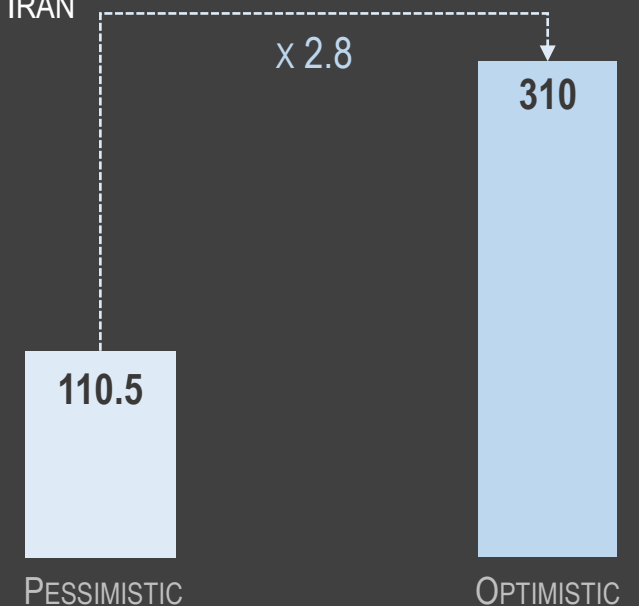
TURKMENISTAN



TRADE TURNOVER IN 2030, MILLION TONS

- almost all export flows are attributed to mineral products and imports are more diversified.
- growth of share of Western Asian countries and particularly Turkey may be expected

I.R. IRAN



TRADE TURNOVER IN 2030, MILLION TONS

- exports will maintain the high share of mineral products
- imports will see the growth of containerized goods and of vegetables (products requiring faster transportation and sometimes special conditions).
- trade partners may diversify

2

Freight flows analysis and projection

2.1. METHODOLOGY OF FREIGHT FLOWS ANALYSIS AND PROJECTION. SOURCES

1

ACTUAL DATA: ADB REPORT 2018.

2

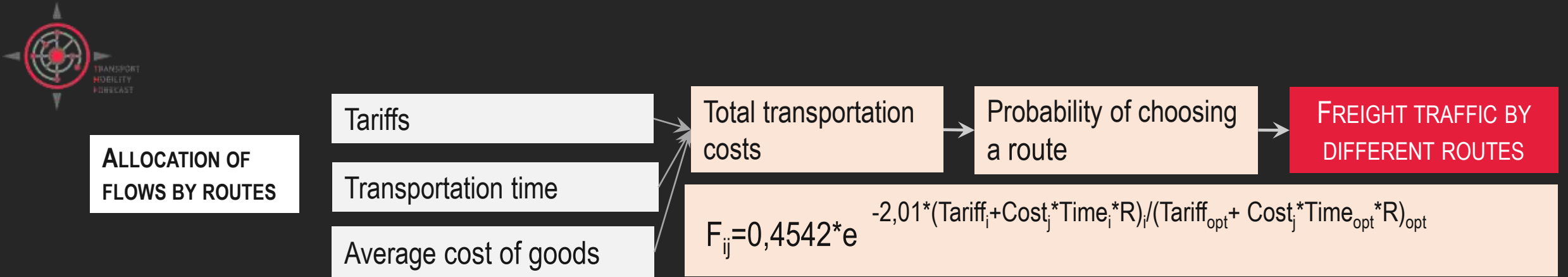
ACTUAL DATA: FILLED OUT
QUESTIONNAIRES

3

TRADE FORECAST TILL 2030

BY NOW THERE WAS NO UNIFORM DATA (STATISTICS) ON TRANSIT AND EXPORT-IMPORT FREIGHT FLOWS ALONG KTI CORRIDOR.

2.2. METHODOLOGY OF FREIGHT FLOWS ANALYSIS AND PROJECTION. MODELLING (2)



F_{ij} -share of i route from cargo flow on j connection

Cost_j - average cost of cargo on j connection

Tariff_{opt} -transportation price on optimal route for j connection

Tariff_i -transportation price on i route

Time_i -transportation time on i route

Time_{opt} -transportation time on optimal route for j connection

R – interest rate

KEY FACTOR DEFINING THE CHOICE OF ROUTE ARE TOTAL TRANSPORTATION COSTS (TTC):

TRANSPORTATION PRICE + FROZEN CAPITAL ASSETS FOR THE PERIOD OF TRANSPORTATION.

- TTC DIFFER FOR VARIOUS TYPES OF COMMODITIES.
- THIS MODEL CONSIDERS TTC FOR THE EXACT TYPES OF COMMODITIES CARRIED ALONG KTI CORRIDOR.
- TRANSPORTATION TIME INCLUDES DURATION OF RAIL TRANSPORTATION, DURATION OF BORDER-CROSSING (AND GAUGE CHANGE, IF APPLICABLE) PROCEDURES, DURATION OF CUSTOMS PROCEDURES, ETC.

INFORMATION ON BORDER-CROSSING TIME IS RECEIVED FROM QUESTIONNAIRES.

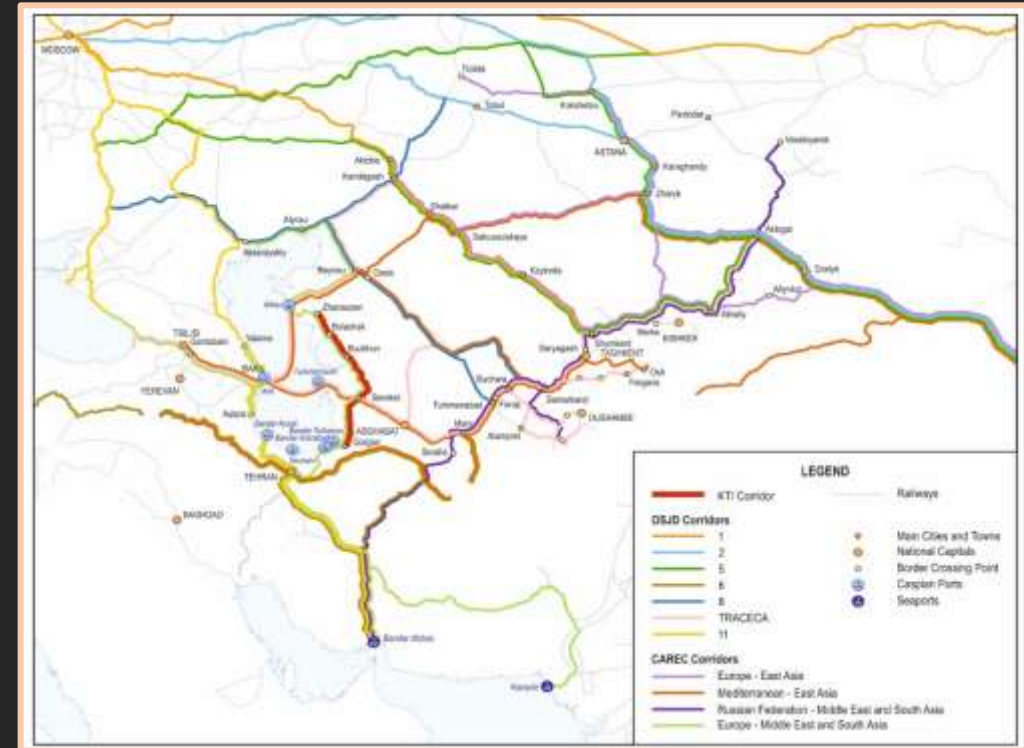
INFORMATION ON TRANSPORTATION PRICE IS RECEIVED FROM LOGISTICS SERVICE PROVIDERS' SITES.

INFORMATION ON TARIFFS IS RECEIVED FROM QUESTIONNAIRES AND / OR OFFICIAL INTERNET SITES.

2.3. RESULTS. EXISTING FLOWS AND COMPETITIVE POSITION.

KEY OPPORTUNITIES:

1. KTI forms a rail bypass of Caspian Sea route with minimal number of border-crossings and is a new alternative route in Central Asian region.
2. Bypass helps avoiding use of feeder sea lines which are expensive and can only be economically efficient in case of high and permanent load.
3. KTI has an intersection with Trans-Caspian International Transport Route which has a high development potential thanks to launch of new feeder lines via Black Sea and establishment of regular connection with the newly opened Baku – Tbilisi – Kars corridor.

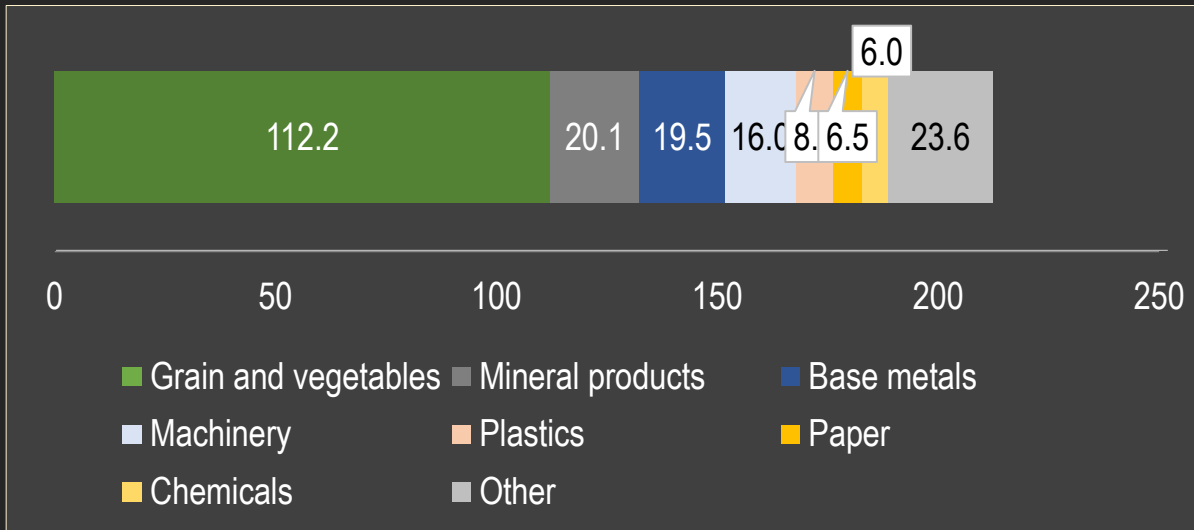


KEY CHALLENGES:

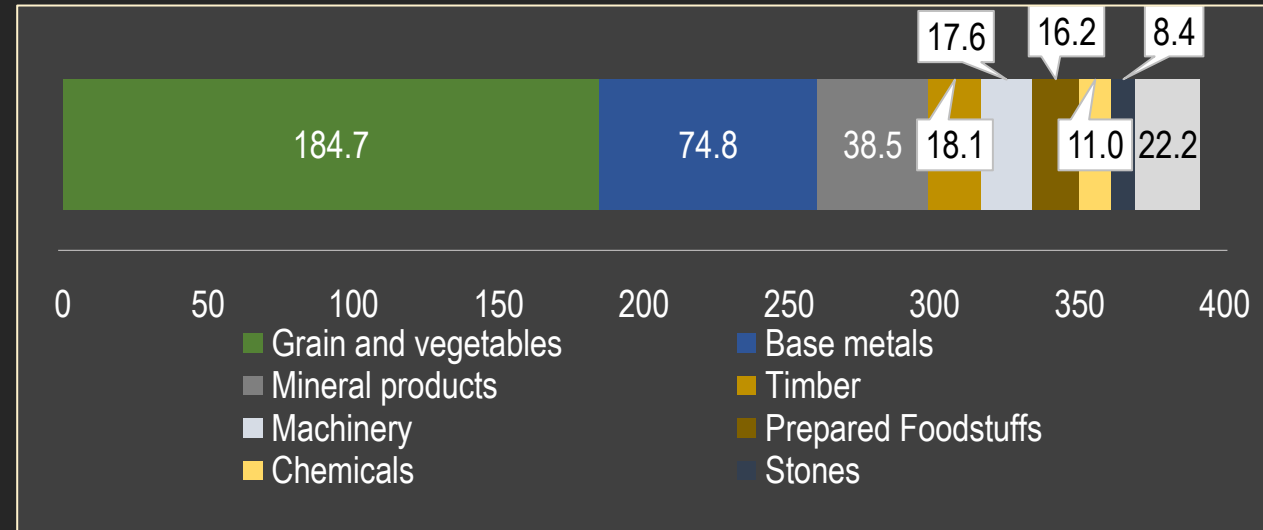
1. No direct connections to any large or significant railway hub (dry ports or Caspian Sea ports), if the route Uzen – Gorgan only is considered.
2. No link to any large-scale production point to assure 'project logistics' for one major type of commodities.
3. KTI is not an ocean-to-ocean (O2O) corridor, the parameter that would be crucial for container traffic, as linkage to large container sea routes allows balanced, regular and high load with cheaper transshipments;
4. Speed, alignment and other technical features are currently below the capacity of existing neighboring routes, so it **requires enhancements to compete with neighbouring routes.**

2.3. RESULTS. PROJECTED FLOWS IN 2030 UNDER (NO CHANGE OPTION)

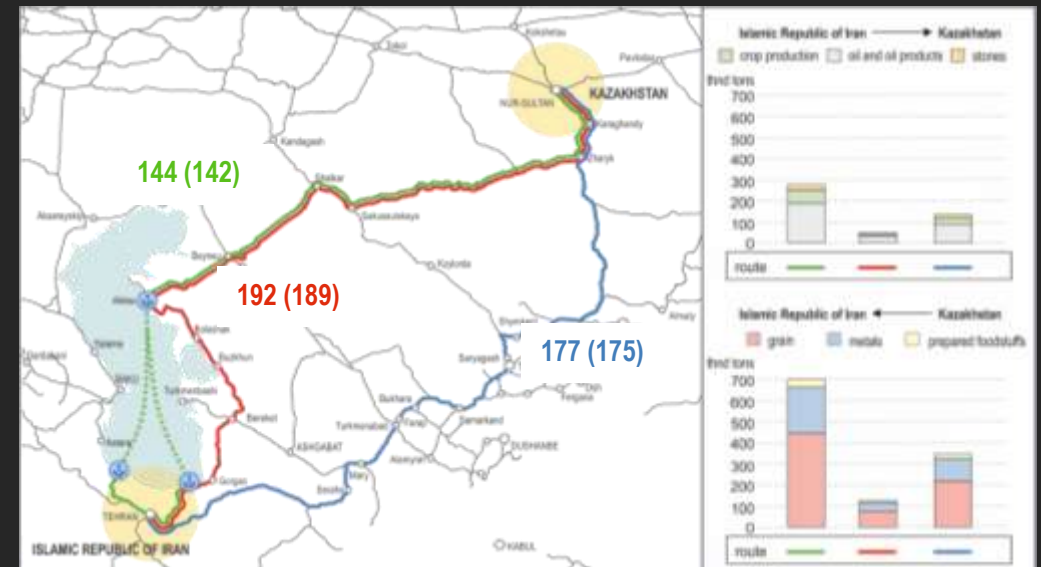
2018 FREIGHT FLOWS STRUCTURE BY COMMODITIES, THOUSAND TONS



2030 FREIGHT FLOWS STRUCTURE BY COMMODITIES (NO ENHANCEMENTS), THOUSAND TONS



2030 KTI COMPETITIVE POSITION AND TOTAL TRANSPORTATION COSTS (KAZAKHSTAN – I.R. IRAN CASE)



POSITIVE TRADE DYNAMICS WILL NOT LEAD TO AUTOMATIC CHANGES IN KTI CORRIDOR COMPETITIVE POSITION, THOUGH IT WILL ALMOST DOUBLE THE FLOWS BY 2030. ADDITIONAL OPPORTUNITIES FOR FREIGHT FLOWS ENHANCEMENT SHOULD BE EXPLORED.

144 (142) – average total transportation costs by the route, US dollars per ton (of which transportation price, US dollars per ton)

03

Freight flows enhancement

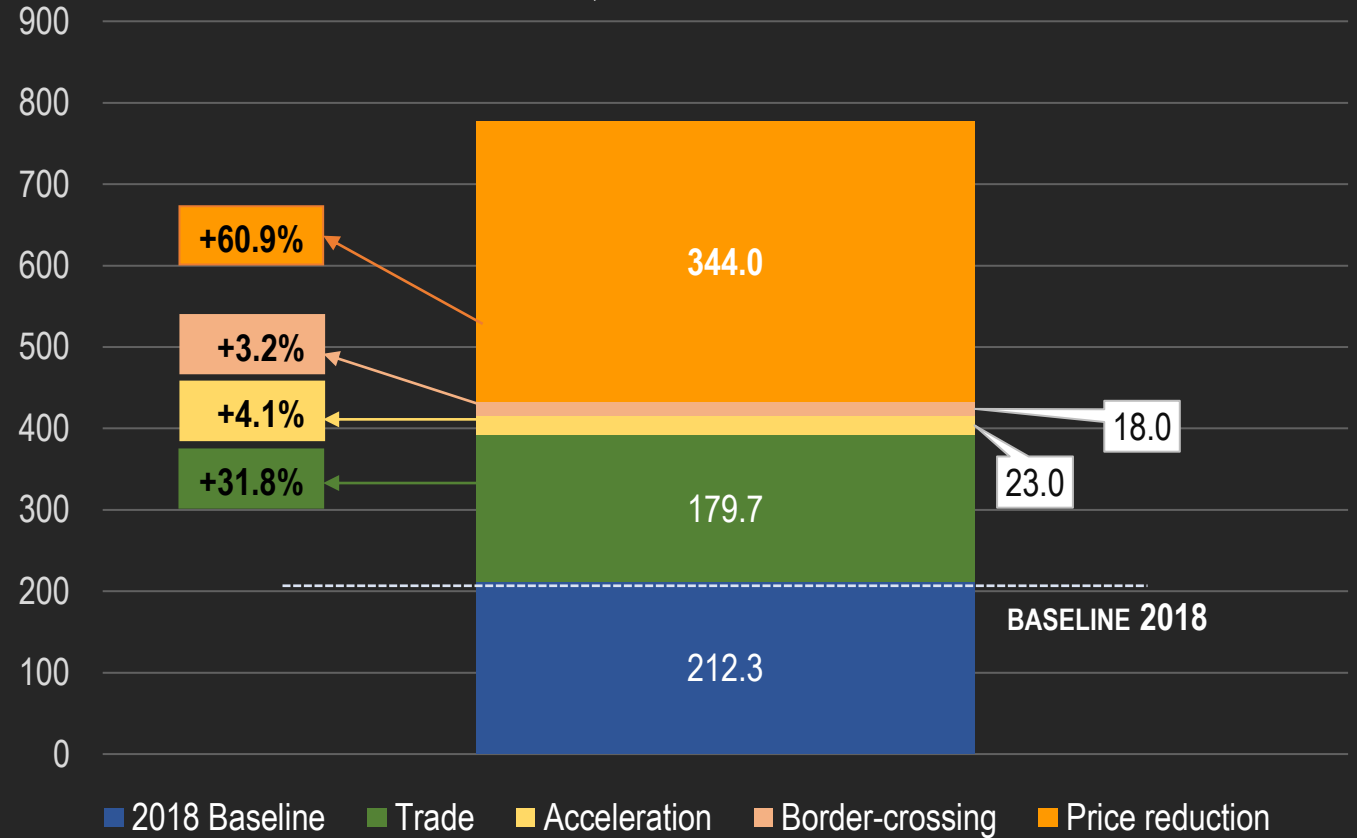
3.1. KEY FACTORS

FOLLOWING FACTORS ARE TESTED:

- TRADE GROWTH (NO OTHER CHANGES).
- SPEED ACCELERATION ALONG KTI RAIL CORRIDOR.
- ACCELERATION OF BORDER-CROSSING PROCEDURES.
- REDUCTION OF TRANSPORTATION PRICE (MARKET PRICE NOT LIMITED TO RAIL TARIFFS).

COMMODITIES TRANSPORTED ALONG KTI CORRIDOR CURRENTLY AND IN 2030 ARE MORE SENSITIVE TO TRANSPORTATION PRICE (99% OF TOTAL COSTS) THAN TO TRANSPORT TIME. THAT EXPLAINS THE HIGHEST IMPACT OF PRICE FACTOR.

MODELLED CONTRIBUTION OF DIFFERENT FACTORS TO PERFORMANCE OF KTI CORRIDOR IN 2030, THOUSAND TONS*

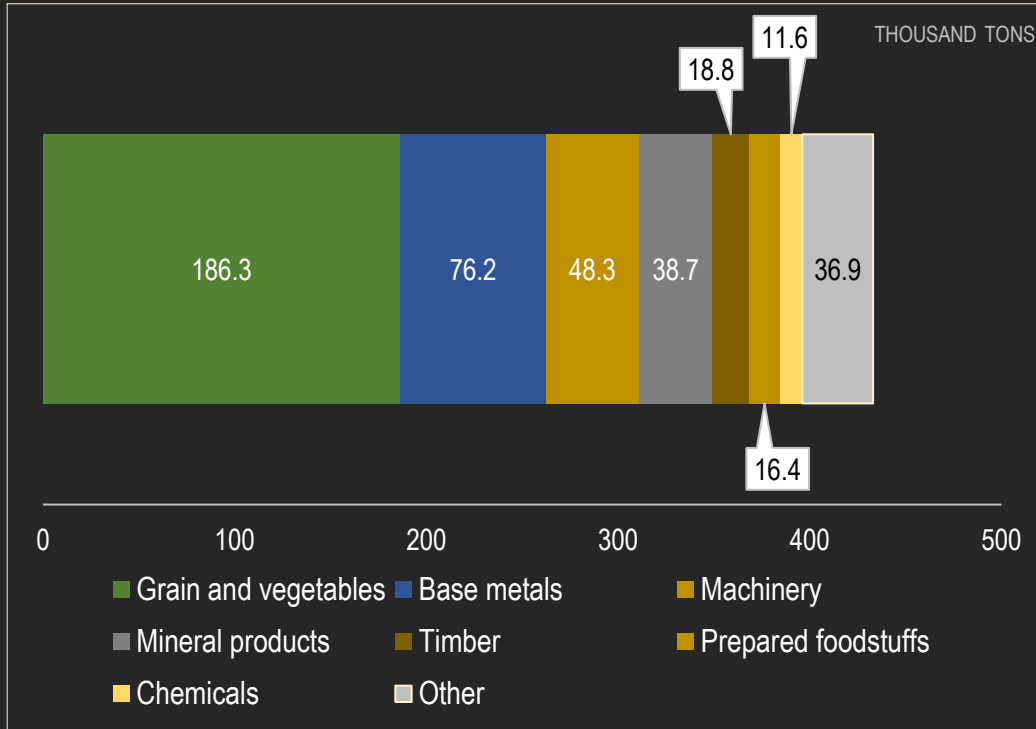


*Considered as follows:

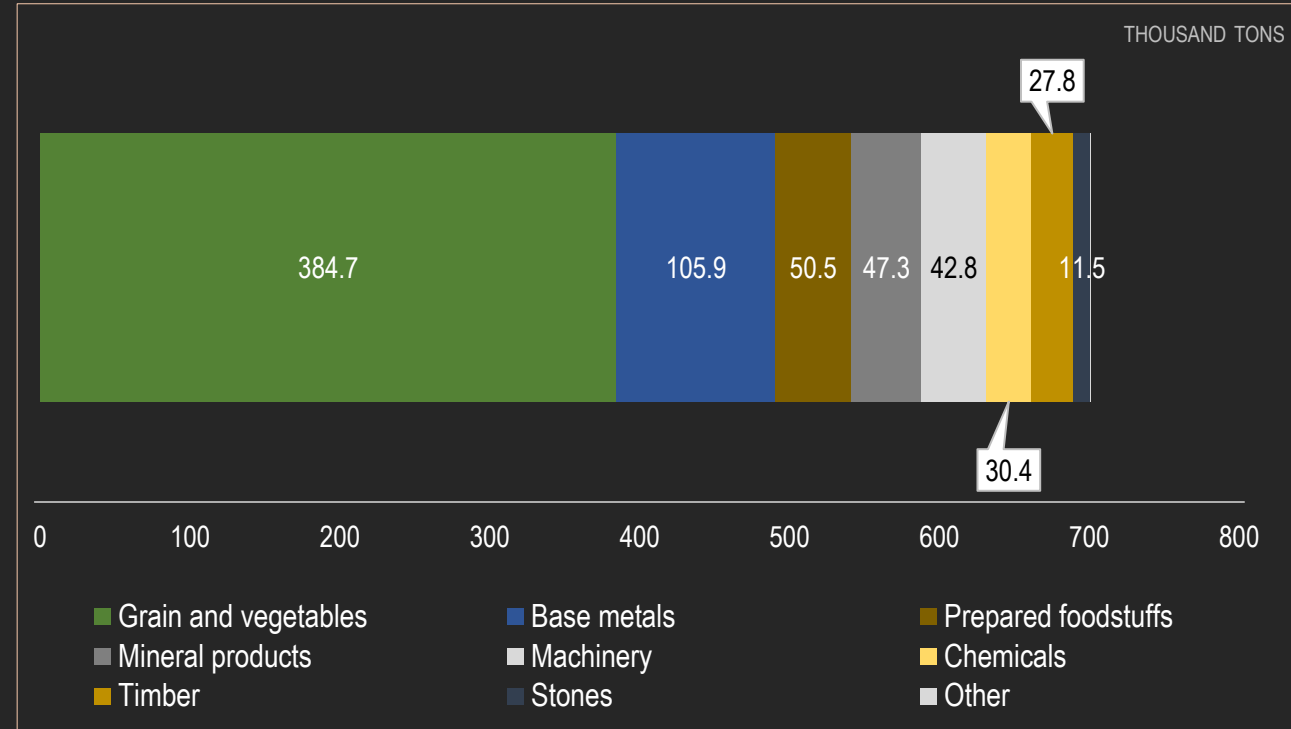
- baseline trade growth,
- acceleration of railing speed to 35 km/h,
- acceleration of border-crossing to 3 hrs,
- price reduction by 30%.

3.2. MODEL-BASED TESTS

2030 FREIGHT FLOWS STRUCTURE BY COMMODITIES, SPEED INCREASE TO 35 KM/H



2030 FREIGHT FLOWS STRUCTURE BY COMMODITIES, PRICE REDUCTION BY 30%



FOCUS ON COMMODITIES WHICH ARE MORE SENSITIVE TO TRANSPORTATION PRICE (99% OF TOTAL COSTS) THAN TO TRANSPORT TIME.

HIGHER TRANSPORTATION PRICES ALONG KTI THAN PROPOSED BY COMPETITIVE ROUTES (1.1-TIMES HIGHER THAN ROUTE VIA UZBEKISTAN FOR LOADED WAGONS; 1.3-TIMES HIGHER THAN ROUTE VIA CASPIAN SEA).

3.2. MODEL-BASED TESTS (2)

2030 FREIGHT FLOWS STRUCTURE BY DIRECTIONS, PRICE REDUCTION BY 30%

THOUSAND TONS

250

200

150

100

50

0

■ RUSSIA - ISLAMIC REPUBLIC OF IRAN

■ NORTHERN EUROPE - ISLAMIC REPUBLIC OF IRAN

■ KAZAKHSTAN - ISLAMIC REPUBLIC OF IRAN

■ ISLAMIC REPUBLIC OF IRAN - KAZAKHSTAN

■ ISLAMIC REPUBLIC OF IRAN - RUSSIA

■ WESTERN ASIA - ISLAMIC REPUBLIC OF IRAN

■ WESTERN EUROPE - IRAN

■ ISLAMIC REPUBLIC OF IRAN - CENTRAL ASIA

■ CENTRAL ASIA - ISLAMIC REPUBLIC OF IRAN

■ EASTERN EUROPE - ISLAMIC REPUBLIC OF IRAN

■ ISLAMIC REPUBLIC OF IRAN - NORTHERN EUROPE

■ ISLAMIC REPUBLIC OF IRAN - EASTERN EUROPE

■ OTHER

28.0%

24.7%

20.2%

9.2%

5.6%

2.9%

2.7%

1.9%

1.9%

1.7%

0.6%

0.5%

0.2%

2030 FREIGHT FLOWS STRUCTURE BY DIRECTIONS, SPEED INCREASE TO 35 KM/H

THOUSAND TONS

160

140

120

100

80

60

40

20

0

31.7%

30.2%

13.7%

6.4%

5.4%

4.8%

2.4%

2.2%

1.6%

0.5%

1.0%

KNOWLEDGE OF ORIGINS AND DESTINATIONS OF CARGO ARE CRUCIAL TO EMPOWER PARTNERSHIPS FOR THE FUTURE.

PRICE REDUCTION SIGNIFICANTLY DIVERSIFIES DIRECTIONS OF CARGO.

3.3. TRANSPORTATION PRICE AND RAIL TARIFFS



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What matters

What matters for customers is the overall price proposed by logistics companies and not the oftentimes complicated rail tariffs.

Price and tariffs

The share of tariffs in the cost of transportation of a 60 ton multipurpose wagon is approximately 70%. As for containers, it reaches 50-60%.

Doing business

An important component of the market transportation price are the costs of doing business. They may get higher in such cases as (1) lack of information, (2) difficulties in communication, (3) inaccessibility for English-speaking clients, (4) reliability and delays, etc.

Uniformity

Non-uniform systems of tariffs along the corridor leads to increase of market price.

Price and load

Tariffs and prices are possible tools to cope with unbalanced load, which is the case for KTi rail corridor.

KTI case

All three countries along KTI corridor impose different freight tariff schemes, that impedes the increase of transit train traffic. Current charging system currently does not fit the necessity for special price conditions for empty wagons return to assure internal logistics along the corridor.

3.4. KTI AS A PART OF LARGER ECONOMIC CORRIDOR

ANALYSIS SHOWS THAT KTI SHOULD BE CONSIDERED AS A PART OF LARGER ECONOMIC CORRIDOR, BECAUSE:

- it has **no direct connections to any large or significant railway hub** (dry ports or Caspian Sea ports), if the route Uzen – Gorgan only is considered;
- it is **not linked to any large-scale production point** to assure ‘project logistics’ for one major type of commodity;
- KTI is **not an ocean-to-ocean (O2O) corridor**, the parameter that would be crucial for container traffic, as linkage to large container sea routes allows balanced, regular and high load with cheaper transshipments;

IMBALANCED LOAD ALONG ECONOMIC CORRIDOR WILL REQUIRE:

- **separate tariffs for different directions;**
- **creation of logistics centres** to assure sustainable internal logistics and easier **combinations of cargo** transported by different trains at different time

POSSIBLE NODES FOR CREATION OF SUCH CENTRES ARE LOCATED IN (1) GORGAN – INCHEH-BORUN AREA; (2) BEREKET AREA; (3) BOLASHAK AREA (TERRITORIES TO THE SOUTH FROM GORGAN ARE NOT CONSIDERED WITHIN THIS STUDY).

OPPORTUNITY STUDY ECONOMIC CORRIDOR INDIA – RUSSIA – EUROPE

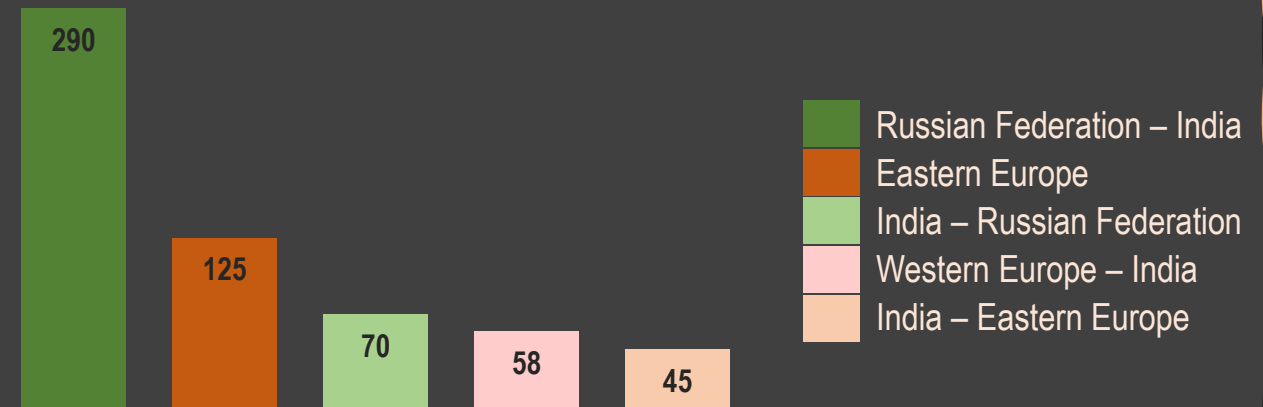
NECESSARY CONDITIONS:

- ❖ acceleration of speed from Bandar-e Abbas to border with Russia to 35 km/h;
- ❖ decrease of transportation price to 0,037 US dollars per ton-km (similar to market price for export and import transportation in Russia).

IN THIS CASE TOTAL AMOUNT OF INDUCED TRAFFIC COULD REACH

588 THOUSAND TONS IN 2030.

INDUCED FREIGHT FLOWS BY ORIGIN AND DESTINATION, 2030, THOUSAND TONS



IMBALANCED LOAD WITH 5:1 RATIO IN FAVOR OF SOUTHBOUND DIRECTION.

3.5. RECOMMENDATIONS

1. To keep the **main specialization of KTI corridor on bulk with further growth of containerized goods from the same types of commodities.**
2. **At least at the first stage it is recommended to focus on mixed freight trains** rather than on block-trains.
3. Introduction of **scheduled mixed freight trains** to assure (a) **higher reliability** of the corridor, this feature being one of the most important for container shippers, and (b) better **cost cycles** for the corridor managers.
4. **Reduction of transportation price is a key factor for the enhancement of KTI corridor. A 30% reduction of market priced via tariffs or other costs will lead to drastic shifts** in transported volumes and key connections
5. **Tariffs** along KTI corridor should be uniform and easily accessible to market players,.
6. **Charging system** should consider (a) focus on **transit bulk and mixed freight trains**; (b) **unbalanced load.**
7. **A uniform corridor management mechanism with relevant permanently updated marketing strategy**, including public information of the corridor and rates for the market players, annual agreements on volumes and schedule, evaluation of economic performance, is a must.



Marketing plan

4.1. GENERAL APPROACH

- ❖ KTI marketing plan is prepared based on experience of similar railway routes and corridors and is aimed at **assuring uniformity in management and in perception of market players**, which, in its turn, may result in growth of volumes.
- ❖ Same as for other corridor management organizations, the first focus of the marketing plan is infrastructure and then tariffs, rather than operations.
- ❖ Unless there is no dedicated commercial entity for corridor management, **preference for soft marketing system with lower share of hard tools (direct sales) is recommended**.
- ❖ A non-exhaustive **list of tools with indication of their parameters**, resource requirements, application to specific segments and priorities is provided as a part of marketing plan.
- ❖ In addition to direct marketing tools some **additional arrangements in the area of operations** (schedule) or general management (pricing) are also considered as a part of marketing system, though **marketing arrangements should follow well established operations and cannot be substitutive**.
- ❖ Marketing plan should be **adjusted to the exact corridor management mechanism**.

4.2. GENERAL MARKETING SETUP

	Goal	Objectives	Focus
Information	Full and reliable information	<ul style="list-style-type: none"> ○ Uniform statistics; ○ regular updates; ○ reliable customer information; ○ dedicated Website. 	Uniform, complete and up-to-date information for the whole corridor
PR, GR and Communications	Actively promoted recognizable brand	<ul style="list-style-type: none"> ○ Regular contacts with market players; ○ one-window for news and releases (spokesman); ○ investor relations platform. 	Brand establishment and promotion, investment opportunities
Product range	Diversified product range	<ul style="list-style-type: none"> ○ Focus on bulk and general cargo; ○ opportunities for growth of container traffic; ○ opportunities to add containers to mixed freight trains. 	Mixed freight regular trains with growth of containerized share
Charging and pricing policy	Attractive charging system assuring balanced logistics along the corridor	<ul style="list-style-type: none"> ○ Uniform and simplifies tariff system; ○ discounts for most actively carried cargo; ○ discounts for containers in transit; ○ discount for transit and other transportation in northbound direction. 	Harmonized pricing system suitable for mixed types of cargo and wagons and disbalanced load
Reliability policy	Reliable transportation	<ul style="list-style-type: none"> ○ Regular schedule; ○ cargo tracking; ○ time-fixed processes. 	Harmonized procedures and fixed timing
Quality assessment and management	Regular adjustment of performance and management based on feedback from customers	<ul style="list-style-type: none"> ○ Regularly adjusted KPIs; ○ regular feedback from clients; ○ regular feedback from internal staff on the management process. 	Feedback from customers and up-to-date KPIs
Environmental sustainability	Promotion of more sustainable way of transportation	<ul style="list-style-type: none"> ○ Information for customers; ○ eco-programmes. 	Caspian Sea

4.3. IMPLEMENTATION PLAN

1

- general unification of information

2

- dynamic informing
- share of responsibilities
- interaction platform
- KPI
- charging principles
- harmonization

3

- direct interaction with clients
- investor communications
- hard marketing tools.

4

- common asset management
- automation
- interaction with international organizations

5

- B2C interactions
- further automation and digitalization
- special promotion programmes

4.4. RECOMMENDATIONS

- I. THE PROPOSED GENERAL MARKETING PLAN IS SUPPOSED TO LEAVE A FLEXIBILITY OF CHOICE TO CORRIDOR MANAGERS.
- II. AFTER THE CORRIDOR MANAGEMENT MECHANISM IS ESTABLISHED THE MARKETING PLAN SHOULD BE ADJUSTED TO BOTH INTERNAL AND EXTERNAL PARAMETERS, SUCH AS ECONOMIC INDICATORS, STRATEGIES OF PARTICIPATING COUNTRIES AND RAILWAY ADMINISTRATIONS, POSITION OF MARKET PLAYERS AND THEIR WILLINGNESS TO USE THE CORRIDOR AT THE STARTING POINT OF EXPLOITATION.
- III. BEFORE SETTING UP THE EXACT PLAN OF ACTIONS, A KICK-OFF MEETING WITH MARKET PLAYERS (PRODUCERS, SHIPPERS AND FORWARDERS) FROM ALL PARTICIPATING COUNTRIES, AS WELL AS FROM NEIGHBOURING COUNTRIES LIKE RUSSIA, TURKEY, CHINA, INDIA, ETC. IS RECOMMENDED TO BE ORGANIZED.
- IV. THIS MEETING SHOULD BE USED TO ADJUST THE PLANNED VOLUMES AND TYPES OF CARGO AND TO PRESENT THE GENERAL IDEA OF KTI RAIL CORRIDOR DEVELOPMENT PLAN, AS WELL AS TO ANNOUNCE UNIFORM INFORMATION ON THE CORRIDOR AND FURTHER ANNUAL MEETINGS.

FULL LIST OF TOOLS WITH THEIR DESCRIPTION, BUDGETARY OPTIONS AND POSSIBLE PRIORITIES IS PROPOSED.

THANK YOU FOR YOUR KIND ATTENTION!

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