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## TRACECA IDEA II

# Transport Dialogue and Networks Interoperability II

## Eastern Partnership regional transport study

*Final report*

*Annex II – Thematic maps*

*June 2015*



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## 1 ANNEX II – THEMATIC MAPS

In the context of this assignment, a GIS database to display the collected indicators of the EaP transport network has been completed.

The GIS database is based on the shapefiles (GIS files) of the EaP road and rail transport networks received by TEN-Tec. The TEN-Tec shapefiles have been optimised to better respond to the need of this work, i.e. marginal improvements on the alignment of some links, addition of missing links in some countries (Ukraine and Belarus) and segmentation of links according to data collected and deletion of useless geometric features.

Dedicated shapefiles for EaP inland waterways representation (both channels and ports) were developed by IDEA II project.

The GIS database provides with the possibility to produce thematic maps of collected indicators for the whole study area, allowing for a clear overview of infrastructure characteristics and traffic flows of the EaP countries.

As far as concerns information on traffic flows it should be noted that data has been provided by the national administrations according to its availability in different unit of measurements i.e. trains per day, trains per year, tons and passenger flows per year, with some few cases of poor data reliability.

Conversion in volumes/trains per day has been performed by the project team in order to achieve harmonised and comparable data among countries.

The harmonization of traffic flow data was based on the following assumptions based on UIC statistics and sector literature.

- When traffic data was provided in terms of **trains per year**, it was transformed in **trains per day** applying a factor of **310** operational days.
- When traffic data was provided in terms of **tons per year**, it was transformed in **trains per year** by applying a factor of **1000 tons per train**; than this yearly value was transformed in trains per day as described above. This approach was applied for all cases where no information on maximum train length was available and when no other generalizations could have been derived from collected data (i.e. for Ukraine). In the case of Moldovan data, it was considered reasonable to assume a train load of 1500 tons on two rail sections (Benderi(Tighina) – Causani; Causani – Basarabesca) and a train load of 1000 tons on the section Basarabesca – Cahul.
- As far as concerns passenger data, the harmonization was based on the assumption that on average a train carries **500 passengers**.

This annex contains a selection of maps representing key infrastructure and transport flow indicators. A brief description of each map is reported below. Maps are reported at the end of the annex.

## 1.1 RAIL MAPS

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### **Traction and number of tracks**

This map shows the traction (electrified/diesel) and the number of tracks on the EaP railway network.

### **Passenger trains per day**

This map shows the availability of data on passenger traffic volumes expressed in terms of trains per day.

Data harmonised by the project team starting from original data received from the National administration are shown in italic red characters.

### **Freight trains per day**

This map shows the availability of data on freight traffic volumes expressed in terms of trains per day.

Data harmonised by the project team starting from original data received from the National administration are shown in italic red characters.

### **Map of EaP Priority Rail and Maritime Projects**

The map illustrates the localization of EaP priority rail and maritime projects.

## 1.2 ROAD MAPS

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### **Road condition and number of lanes**

This map shows two of the main infrastructure characteristics of the road network, the road condition and the number of lanes.

### **Passenger cars per day**

This map shows the availability of data on passenger traffic volumes expressed in terms of cars per day.

Data harmonised by the project team starting from original data received from the National administration are shown in italic red characters.

### **Freight trucks per day**

This map shows the availability of data on freight traffic volumes expressed in terms of trucks per day.

Data harmonised by the project team starting from original data received from the National administration are shown in italic red characters.

### **Map of EaP Priority Road Projects**

The map illustrates the localization of EaP priority road projects.

## 1.1 MAPS FOR BELARUS, UKRAINE, MOLDOVA

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- 01 RAIL - Traction and number of tracks
- 02 RAIL - Passenger trains per day
- 03 RAIL - Freight trains per day
- 04 RAIL - Map of EaP Priority Rail Projects
- 05 ROAD - Road condition and number of lanes
- 06 ROAD - Passenger cars per day
- 07 ROAD - Freight trucks per day
- 08 ROAD - Map of EaP Priority Road Projects

# IDEA II Project June 2015 Final Report EaP Rail Network

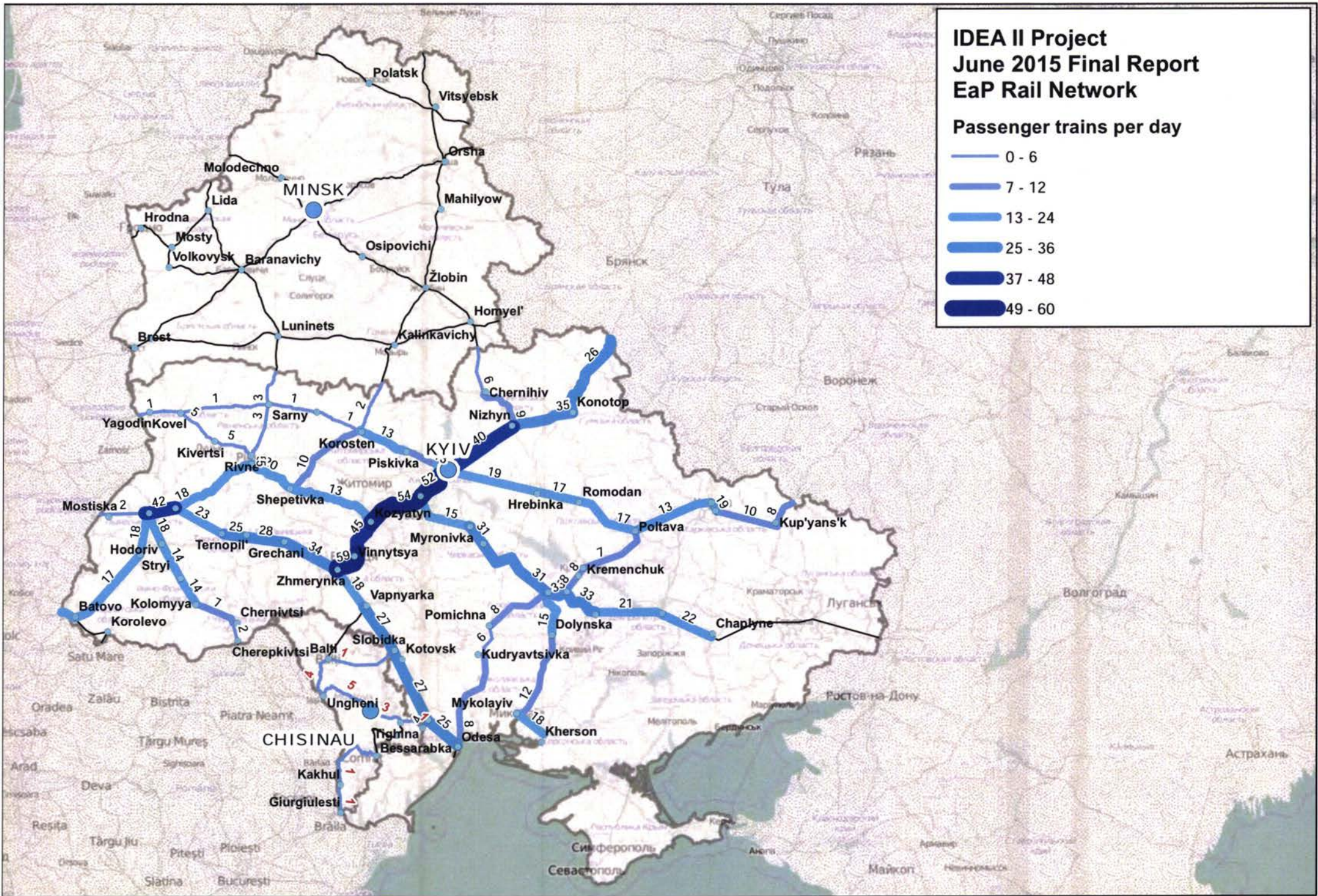
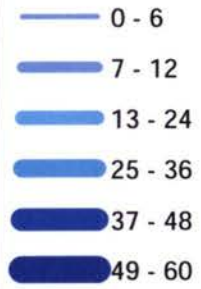
## Traction and Number of Tracks

- Diesel
- Electrified
- Electrified by 2015



# IDEA II Project June 2015 Final Report EaP Rail Network

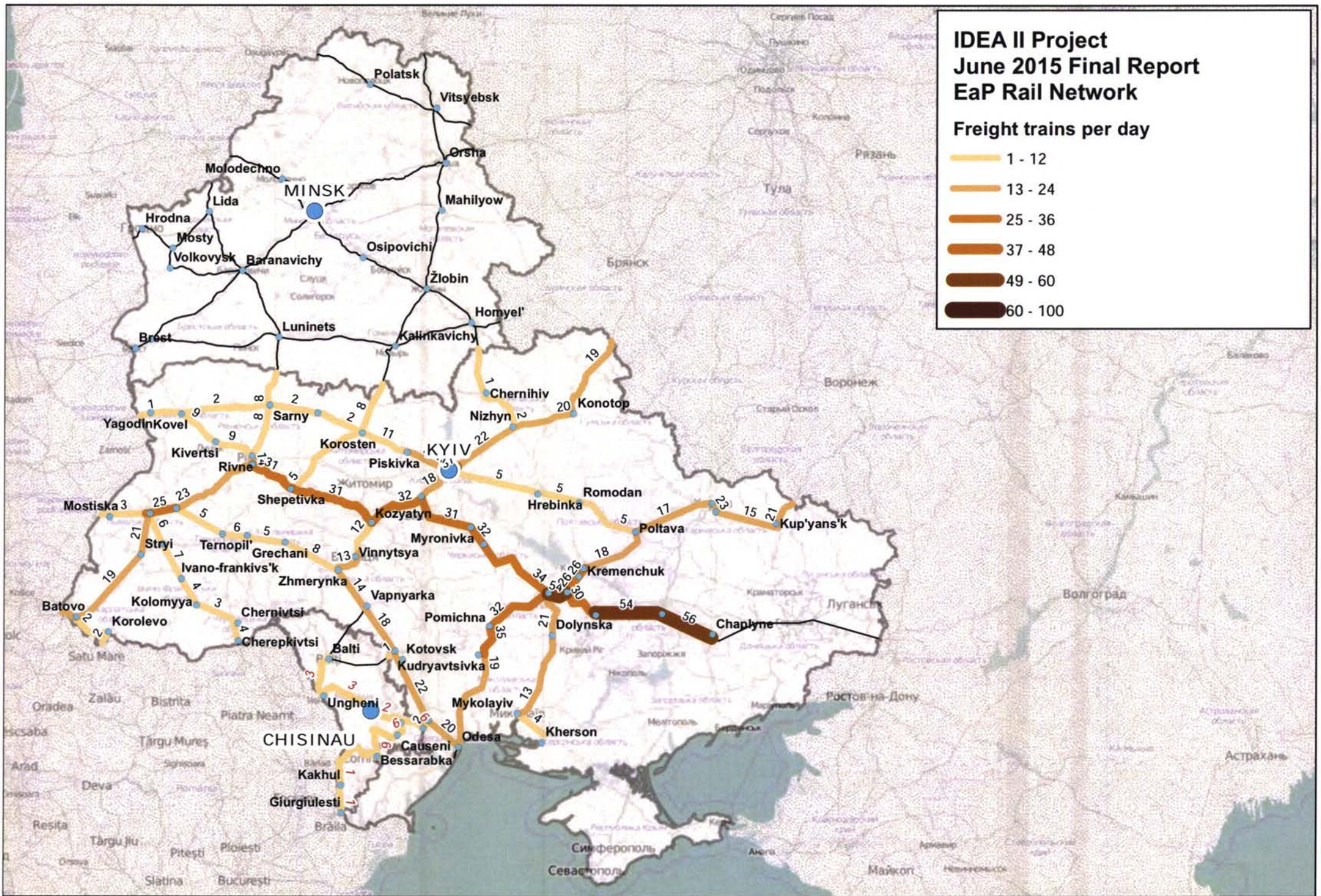
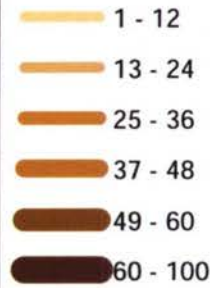
Passenger trains per day





# IDEA II Project June 2015 Final Report EaP Rail Network

Freight trains per day



**BEL\_01**  
High-speed railway passenger service between Minsk and Vilnius (electrification)



**UKR\_03**  
Beskyd Railway Tunnel (Beskyd-Skotarske section)

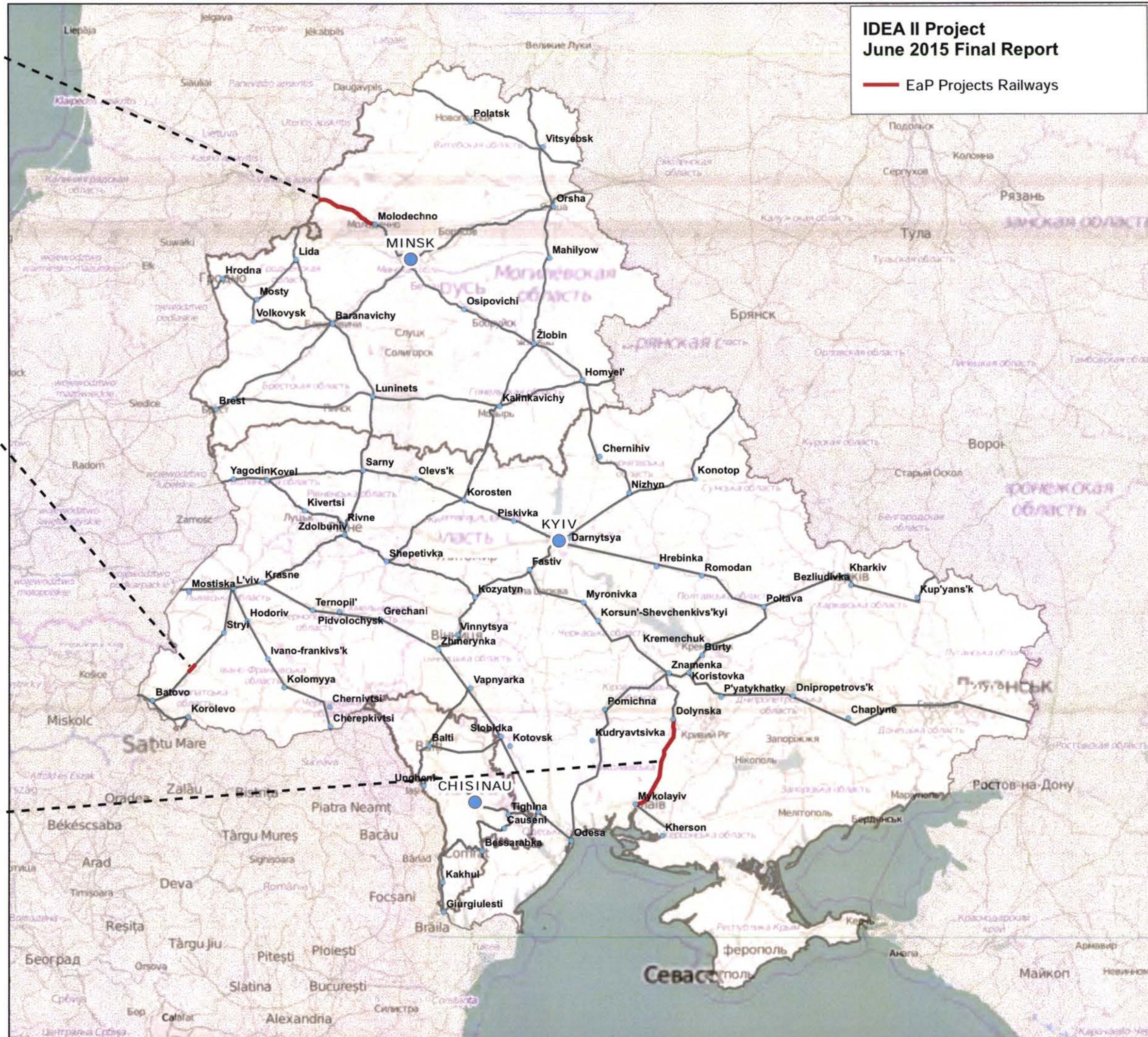


**UKR\_02**  
Electrification of railways: Dolynska–Mykolayiv section



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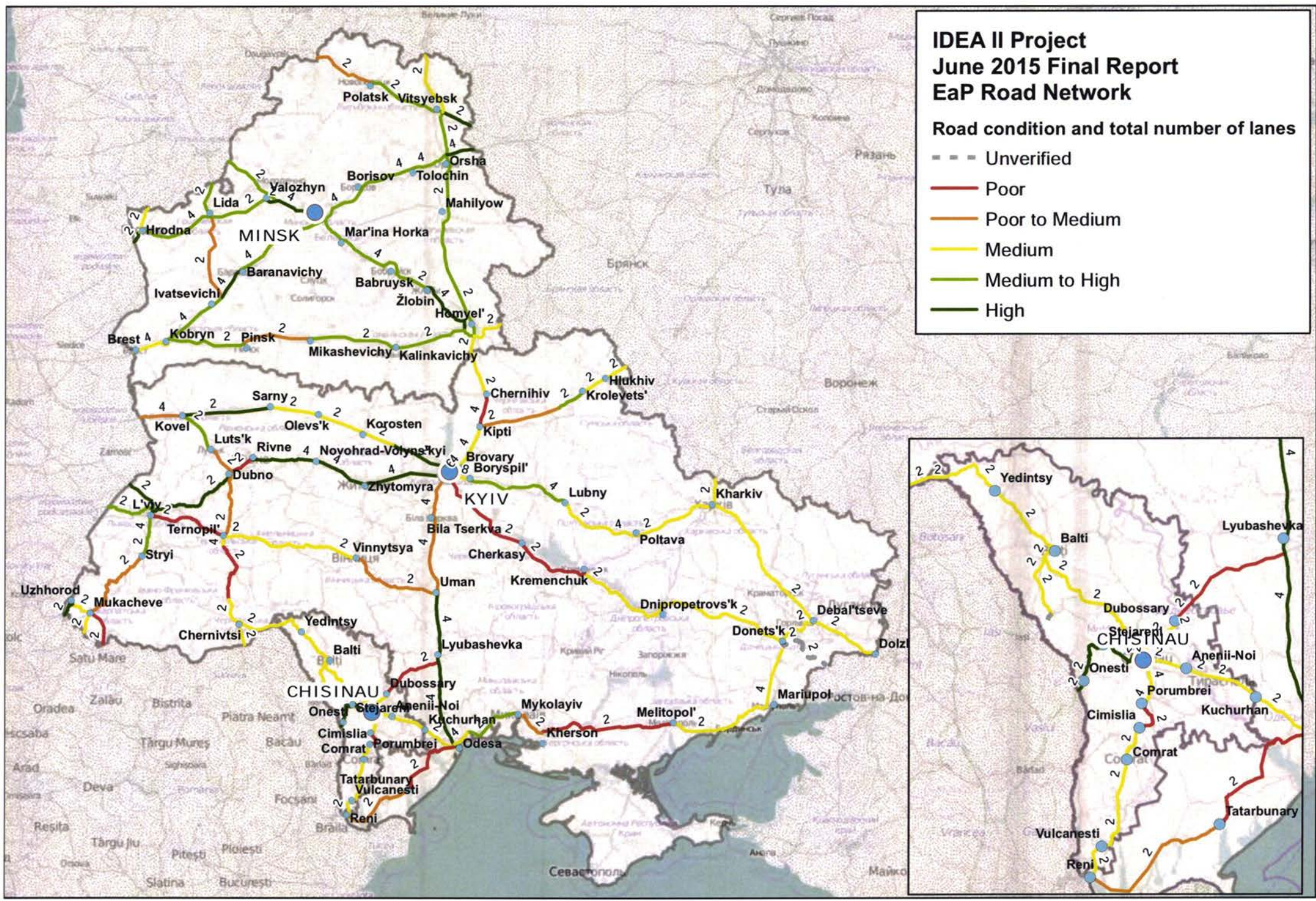
— EaP Projects Railways



# IDEA II Project June 2015 Final Report EaP Road Network

**Road condition and total number of lanes**

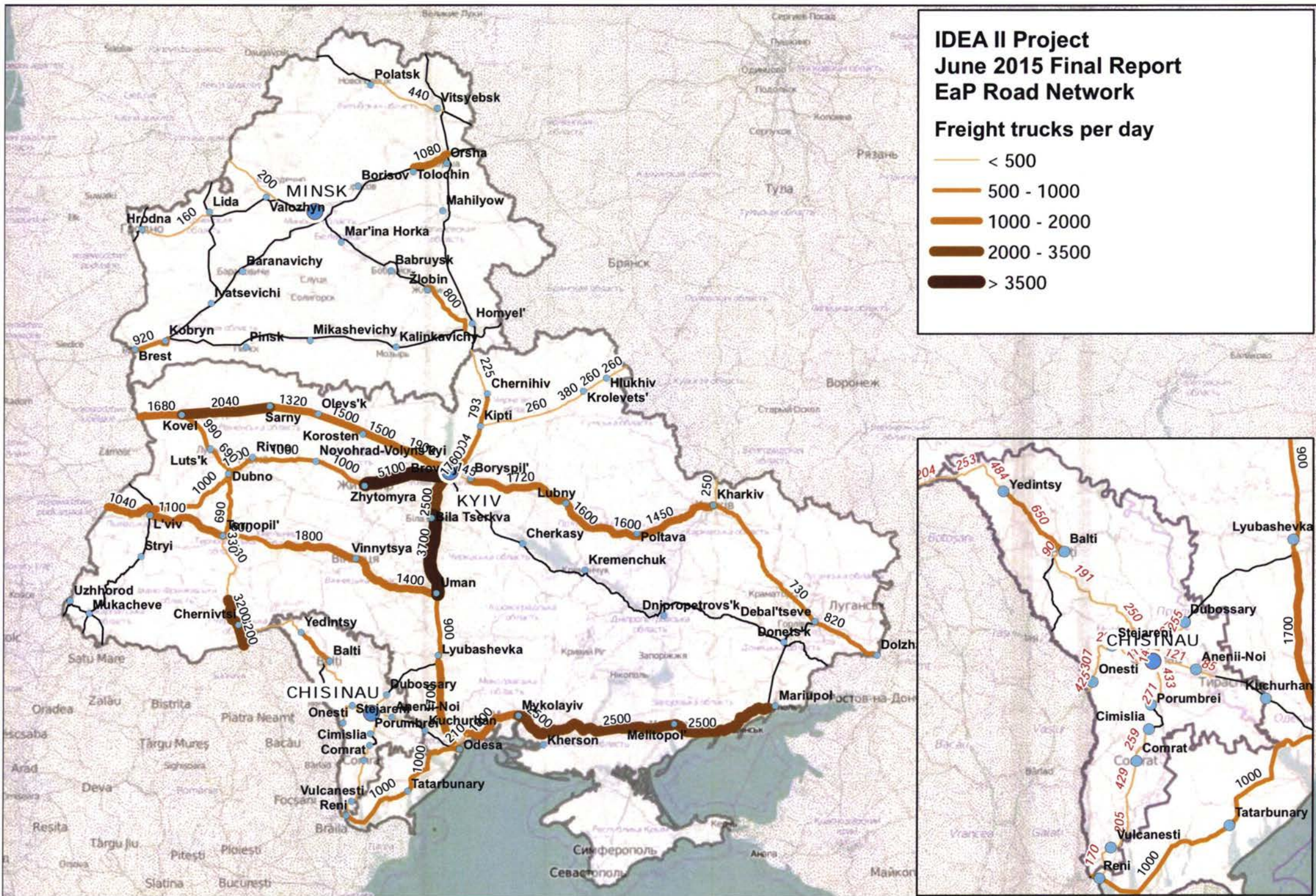
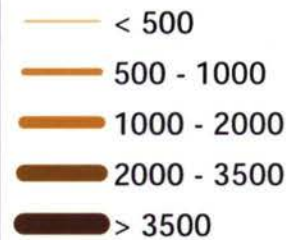
- - - Unverified
- Poor
- Poor to Medium
- Medium
- Medium to High
- High





# IDEA II Project June 2015 Final Report EaP Road Network

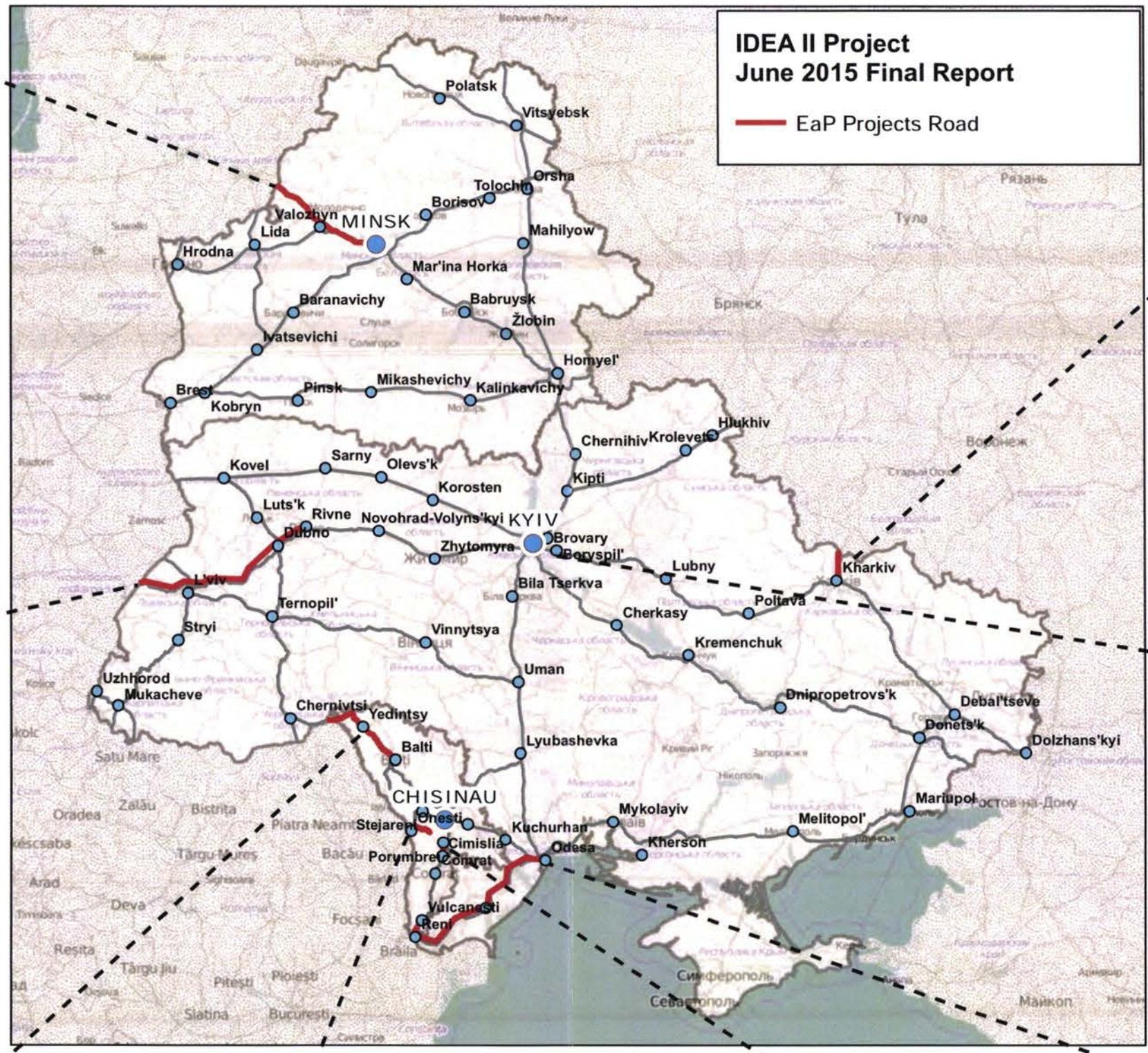
## Freight trucks per day



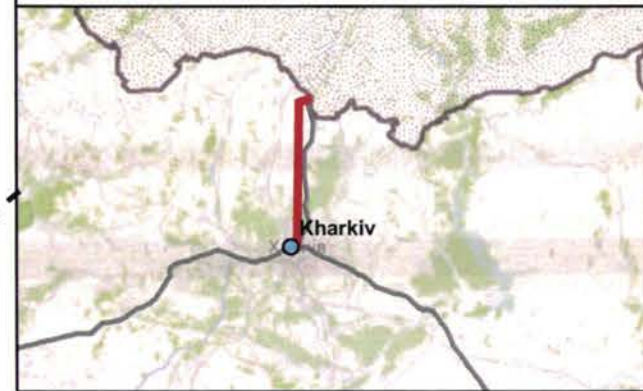
**BEL\_02**  
Upgrade of road between Minsk and Vilnius and reconstruction of border crossing point "Kamenny Log"



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— EaP Projects Road



**UKR\_05**  
Reconstruction of the Scherbakivka – Kharkiv road



**UKR\_01**  
Reconstruction of Krakovets-Lviv-Brody- Rivne road



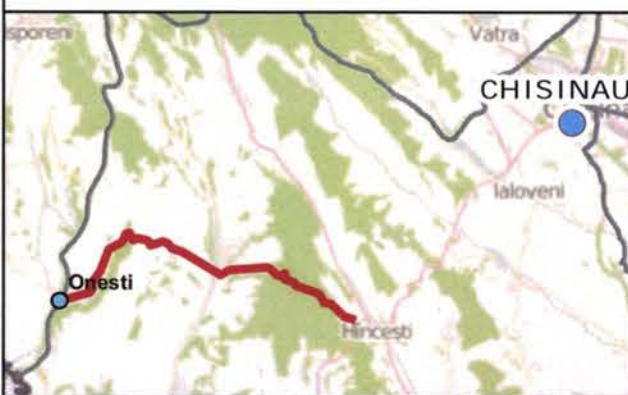
**UKR\_06**  
Construction of the bridge over the Dnieper river with approaches to the Kyiv – Znam'yanka (H-01) and Gora – Rogoziv (Kyiv Great Ring Road) roads



**MLD\_05**  
Rehabilitation of National road M14, section Balti-Criva



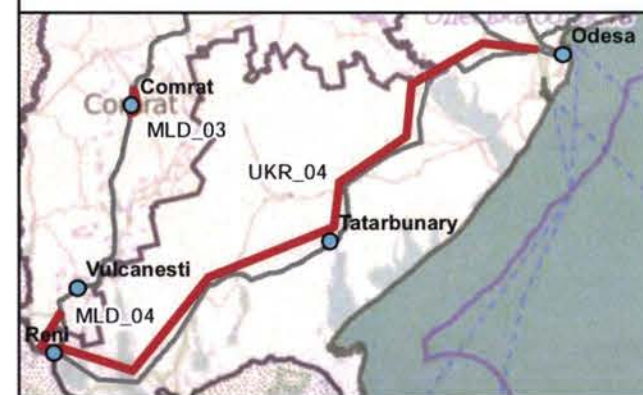
**MLD\_01**  
Rehabilitation of R33 Hincesti-Lapusna-M1



**MLD\_02**  
M3 Chisinau-Giurgiulesti motorway, Porumbrei-Cimislia Section (new construction)



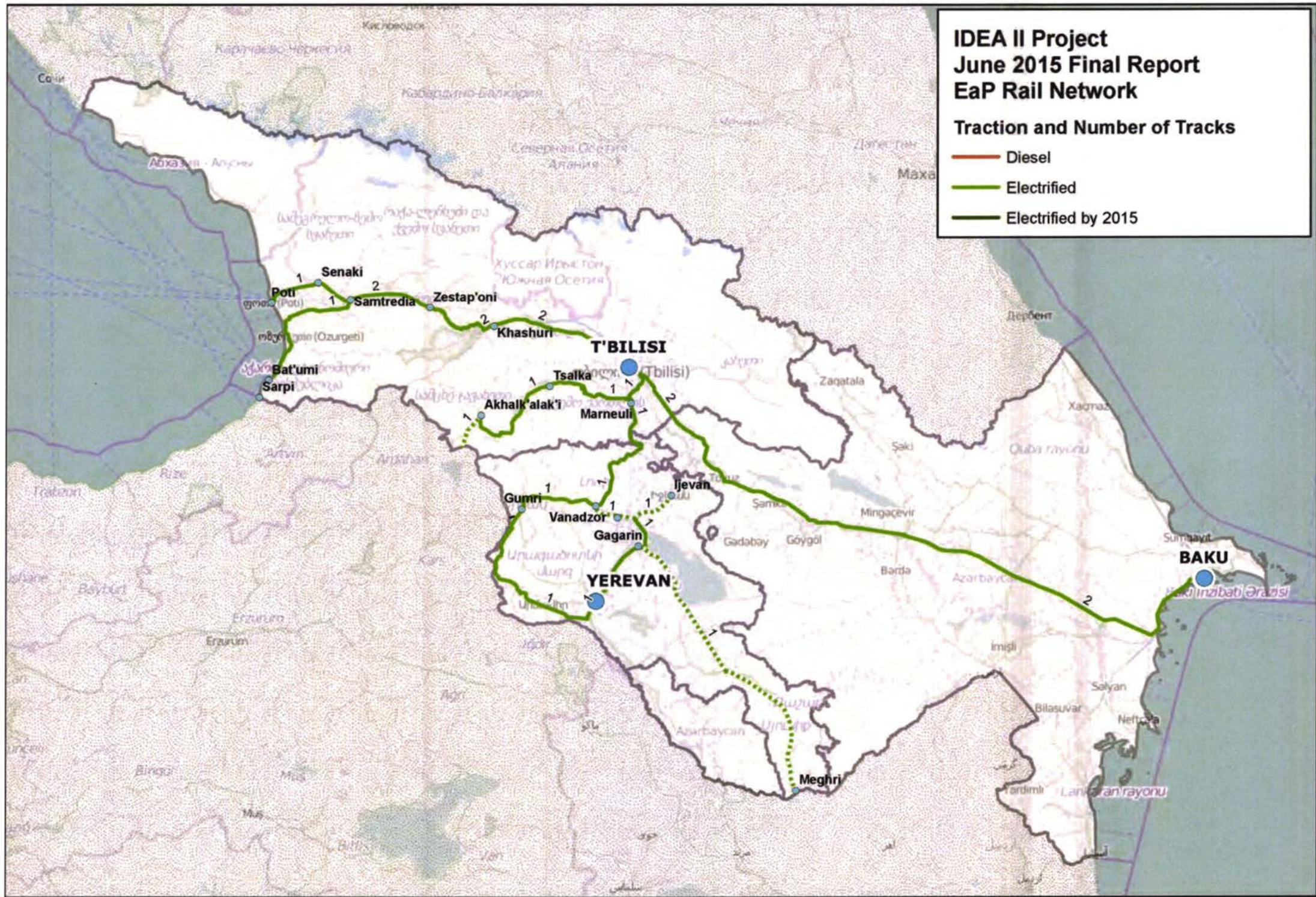
**UKR\_04** - Construction of a new Odessa-Reni road  
**MLD\_03** - M3 Chisinau-Giurgiulesti motorway: Comrat bypass (new construction)  
**MLD\_04** - M3 Chisinau- Giurgiulesti motorway: bypass of 3 villages (new construction)



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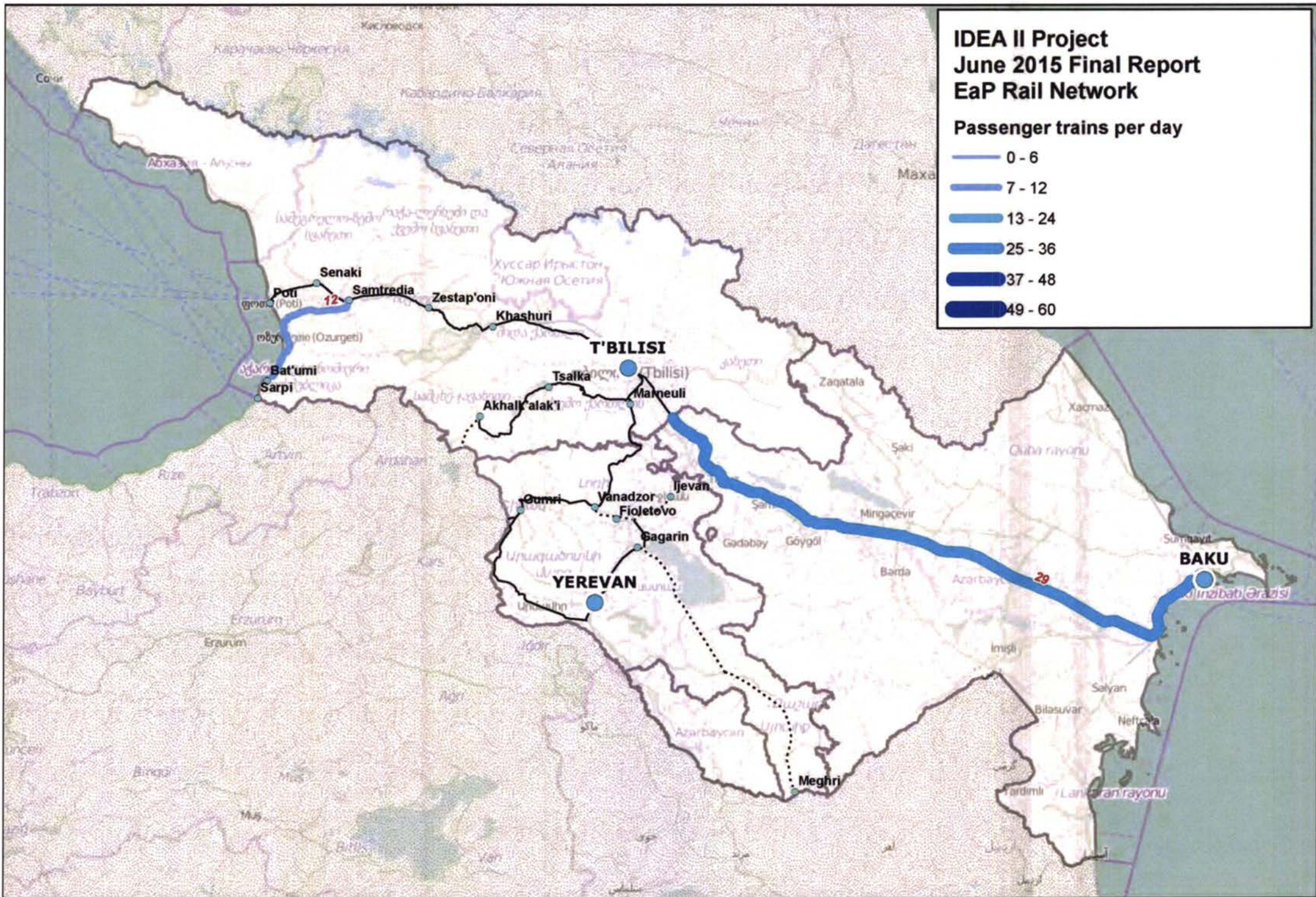
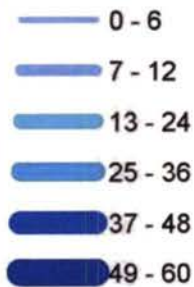
**Traction and Number of Tracks**

- Diesel
- Electrified
- Electrified by 2015



# IDEA II Project June 2015 Final Report EaP Rail Network

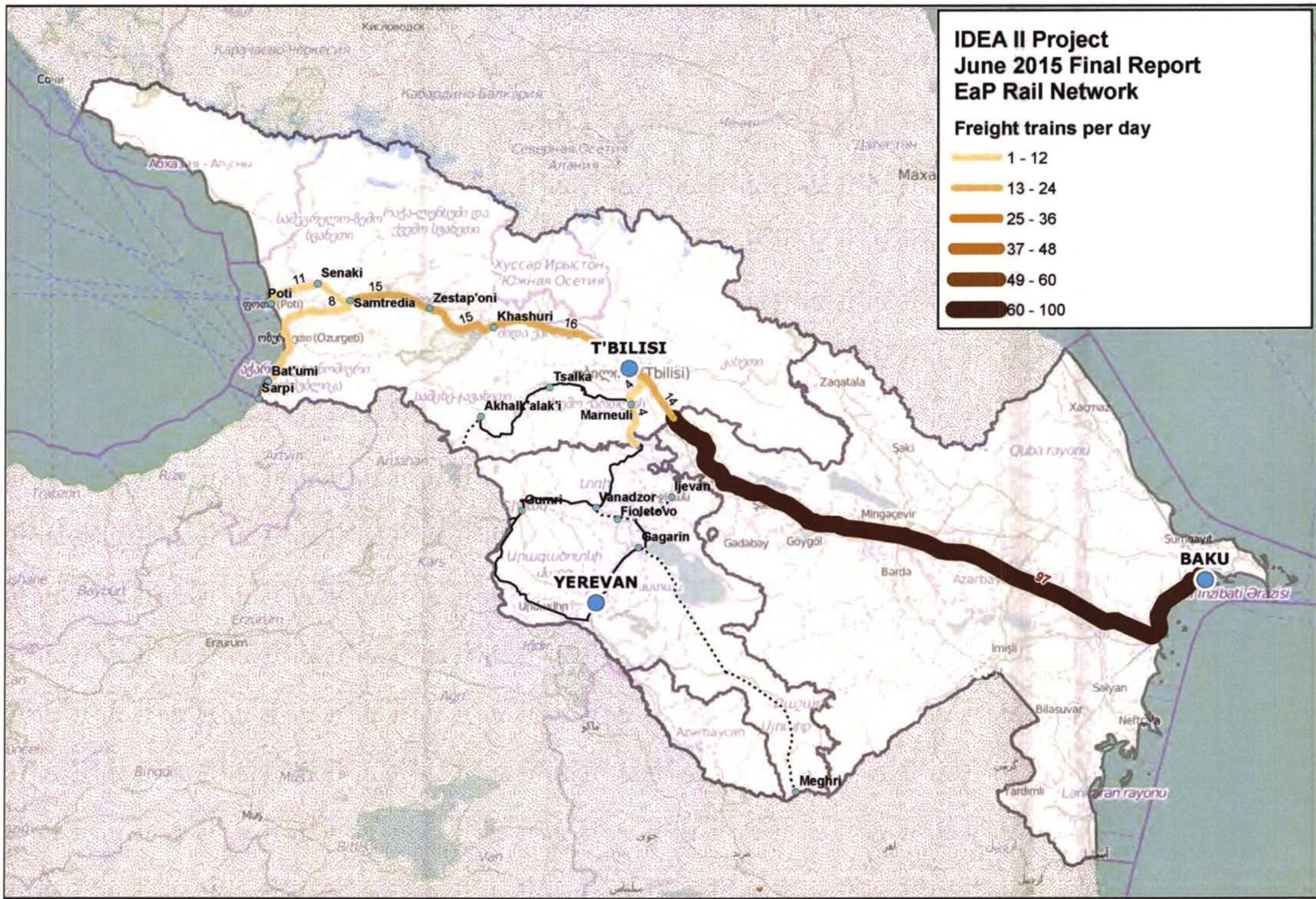
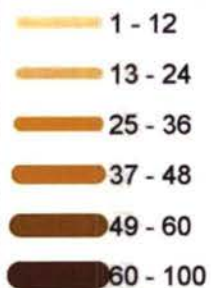
## Passenger trains per day





# IDEA II Project June 2015 Final Report EaP Rail Network

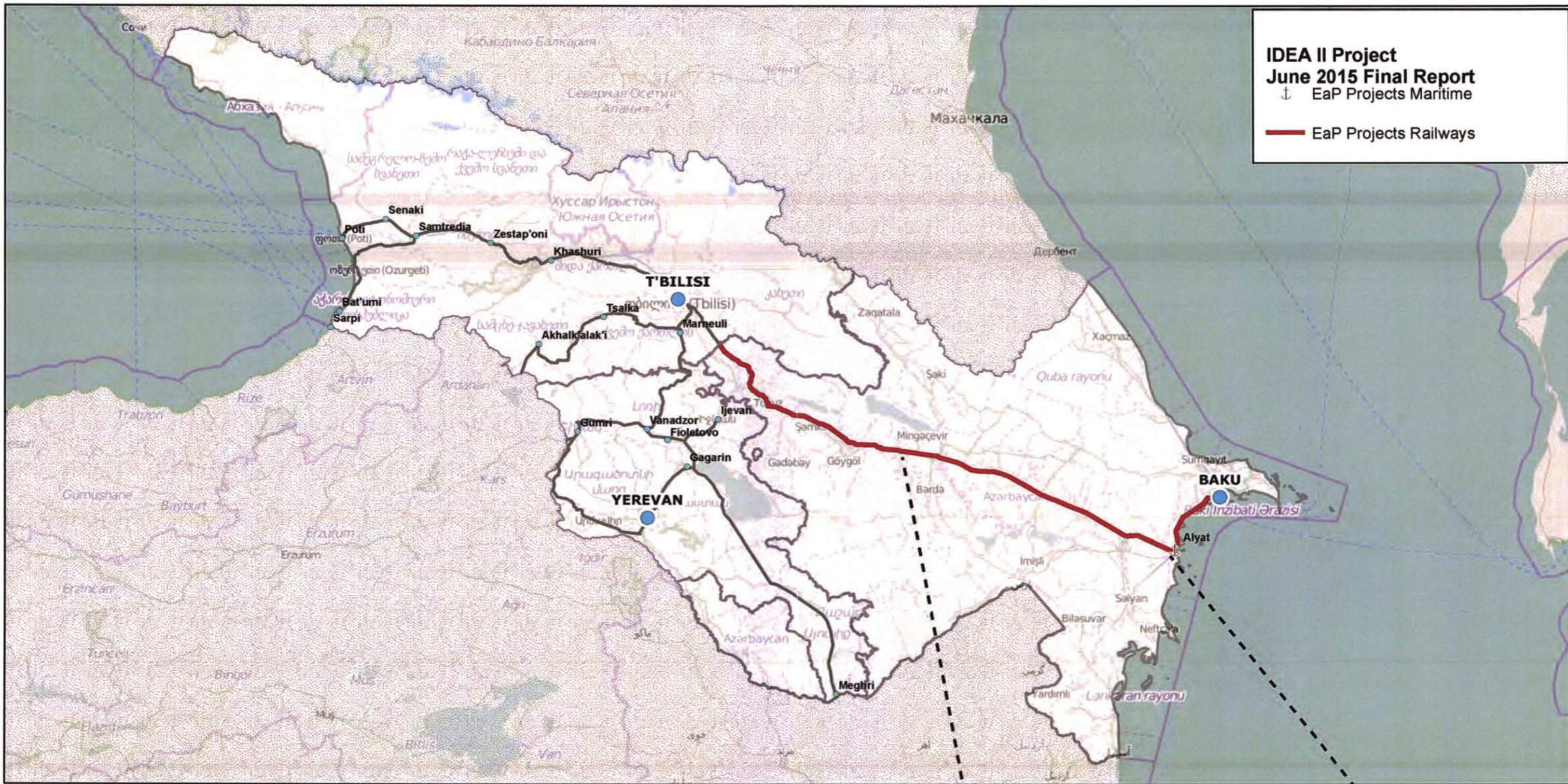
Freight trains per day



## 1.2 MAPS FOR ARMENIA, GEORGIA, AZERBAIJAN

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- 01 RAIL - Traction and number of tracks
- 02 RAIL - Passenger trains per day
- 03 RAIL - Freight trains per day
- 04 RAIL - Map of EaP Priority Rail and Maritime Projects
- 05 ROAD - Road condition and number of lanes
- 06 ROAD - Passenger cars per day
- 07 ROAD - Freight trucks per day
- 08 ROAD - Map of EaP Priority Road Projects



**AZR\_01**  
 Upgrade of railway on the East-West corridor



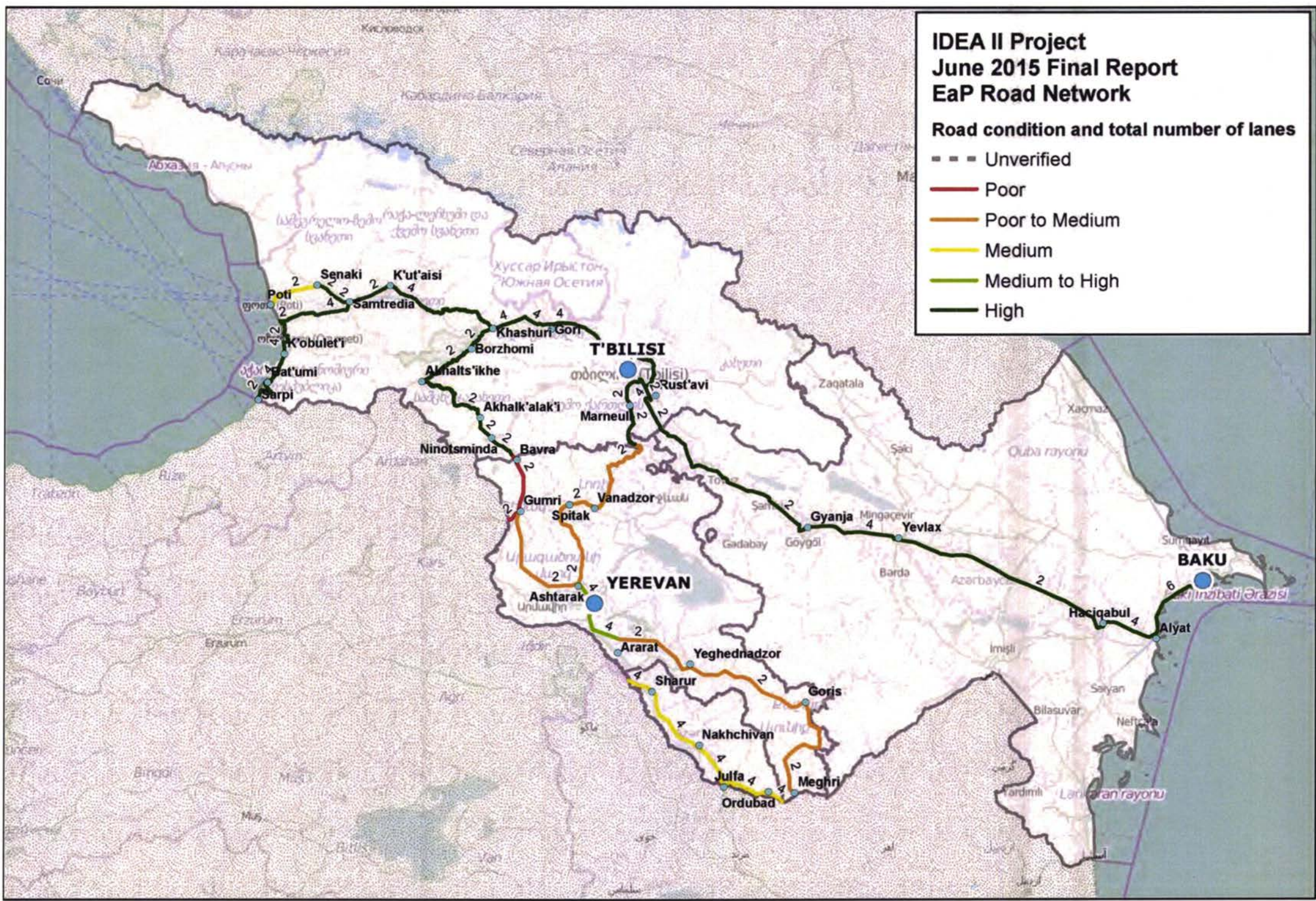
**AZR\_02**  
 Construction of the international transport logistics centre in the New Baku International Maritime Trade port complex



# IDEA II Project June 2015 Final Report EaP Road Network

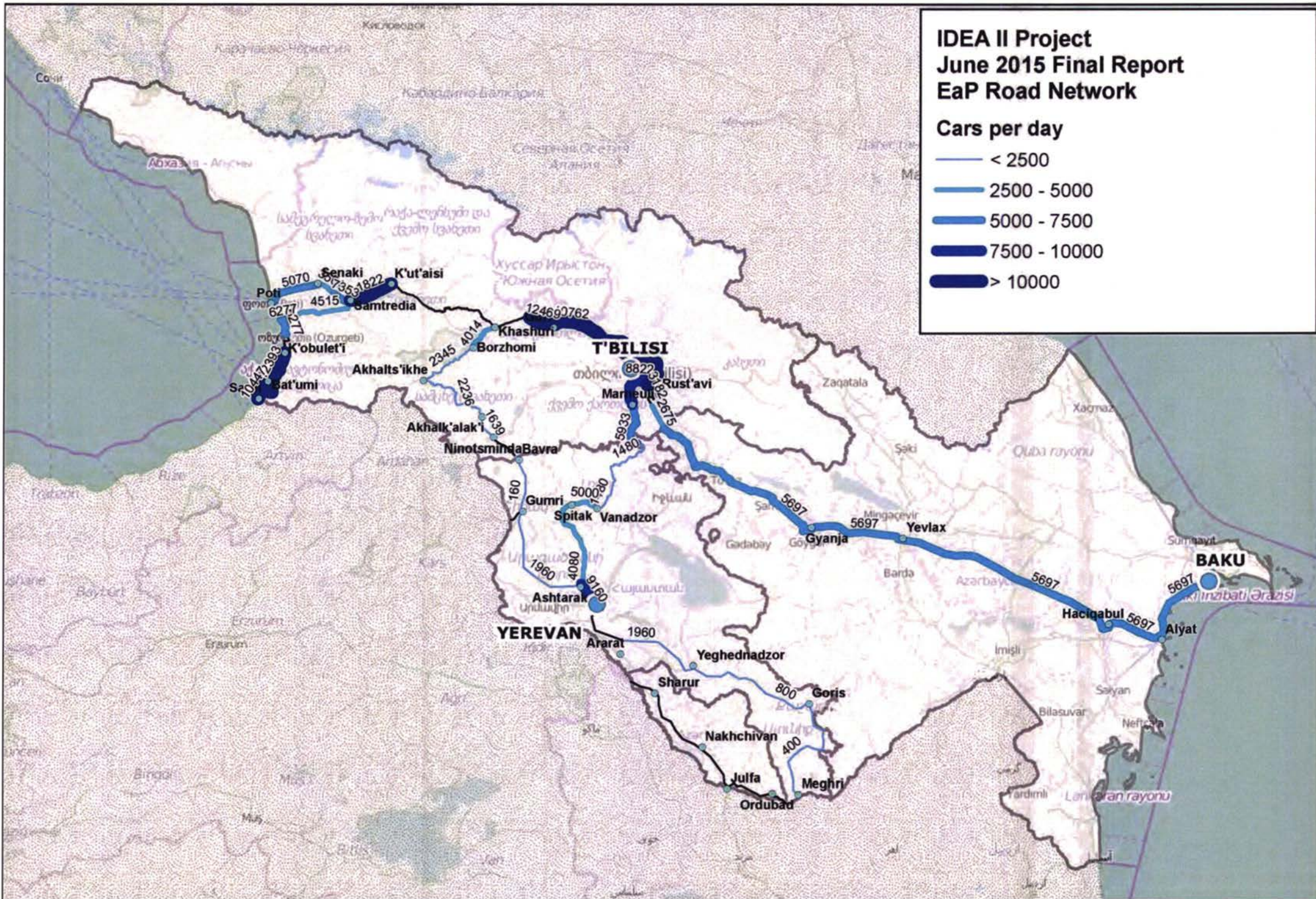
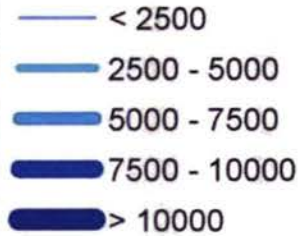
**Road condition and total number of lanes**

- Unverified
- Poor
- Poor to Medium
- Medium
- Medium to High
- High



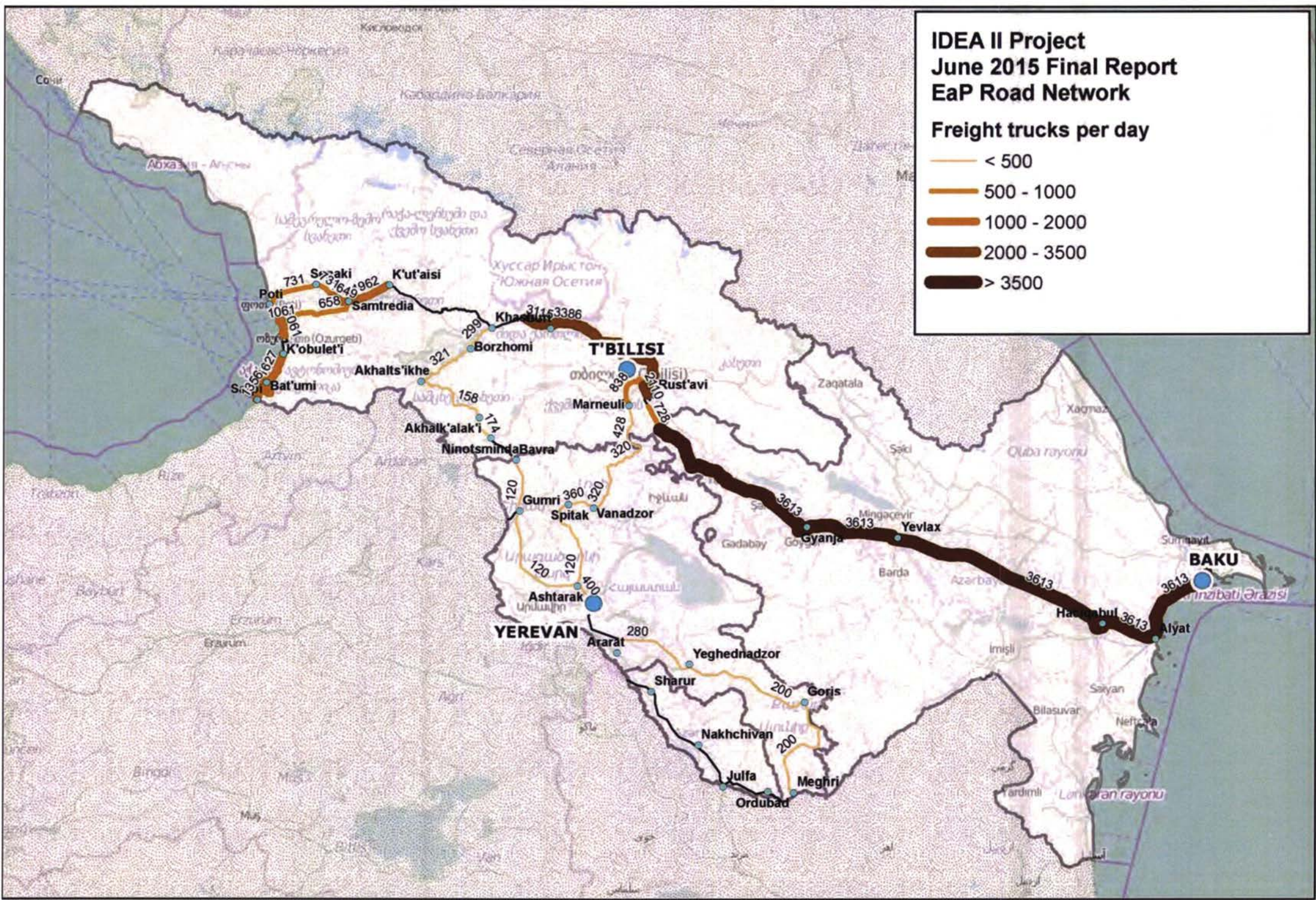
## IDEA II Project June 2015 Final Report EaP Road Network

### Cars per day



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EaP Road Network**

**Freight trucks per day**



**GEO\_01**  
Tbilisi-Senaki-Leselidze road section  
(Chumateleti – Argveta)  
(upgrade)



**GEO\_03**  
Modernization of Tbilisi-Marneuli road section



**ARM\_01**  
North-South road corridor:  
section Yerevan to Bavra  
(upgrade)



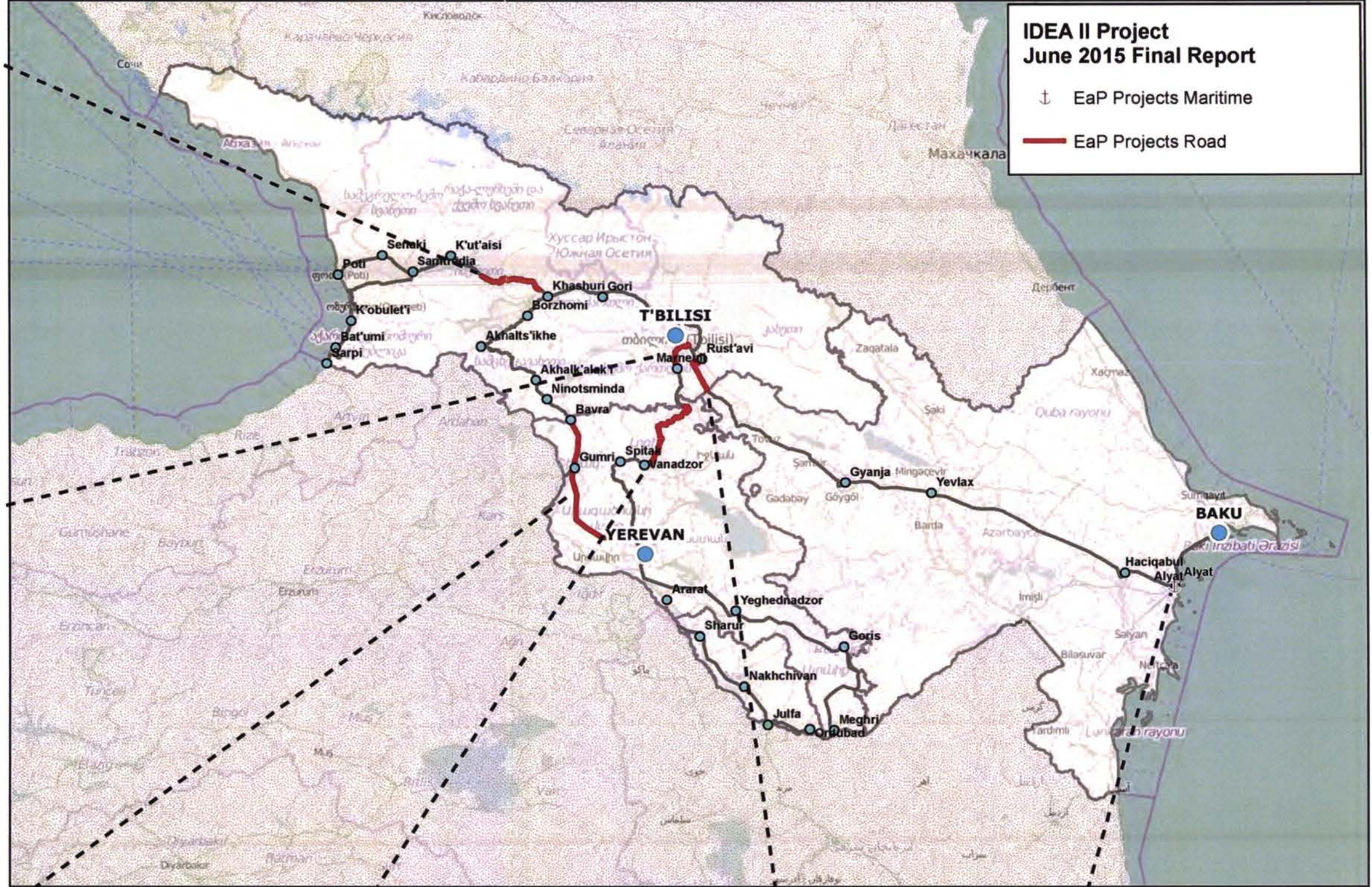
**ARM\_02**  
North-South road corridor:  
Lifeline Roads Improvement Project -  
Interstate Road M6



**GEO\_02**  
Rustavi-Red Bridge Highway  
(upgrade)



**AZR\_02**  
Construction of the international  
transport logistics centre in the  
New Baku International Maritime Trade  
port complex



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⚓ EaP Projects Maritime

— EaP Projects Road