

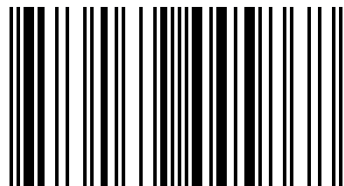
Rail transport of goods plays an important role in every national economy of each country, not only because of the internal transportation of goods in that country, but above all because of the high importance of rail transport in the international transport of goods. Thirty years ago, rail transport had a dominant monopoly role in relation to other types of land transport. But today more competition in rail traffic is road transport of goods. Rail transport has more advantages than other types of transport, such as a relatively cheaper transportation of goods, the possibility of transporting bulky goods, speed, etc. At the same time, electrification of rail transport increases environmental conservation. This book covers the following three chapters: Part 1: Characteristics of rail transport, Part 2: Rail transport in the European Union and Part 3: International organizations and conventions in the field of railway transport.



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Rail Transport



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RAIL TRANSPORT

Magdalena Miceva

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Abstract

Rail transport of goods plays an important role in every national economy of each country, not only because of the internal transportation of goods in that country, but above all because of the high importance of rail transport in the international transport of goods. Namely, the use of this type of transport of goods enables the business entities involved in the trade of international goods professional goods manipulation, ie delivery, access and transit of goods. Thirty years ago, rail transport had a dominant monopoly role in relation to other types of land transport. But today more competition in rail traffic is road transport of goods. The development of the national economy in each country is related to the simultaneous development of different types of transport. From practice and experience, it has been shown that rail transport still has much larger transport facilities than road and air transport. Therefore, the most frequent use of this type of transport is primarily for the transport of bulky - bulky goods. Rail transport has more advantages than other types of transport, such as a relatively cheaper transportation of goods, the possibility of transporting bulky goods, speed, etc. At the same time, electrification of rail transport increases environmental conservation. This book covers the following three chapters: Part 1: Characteristics of rail transport, Part 2: Rail transport in the European Union and Part 3: International organizations and conventions in the field of railway transport.

Part 1: Characteristics of rail transport

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Part 1: Characteristics of rail transport

The first part deals with the history and development of the railway transport, the concepts of transport and means, types of freight wagons and their marking, a contract for transport and its amendments, tariffs and types of tariffs. Similarly, this section also deals with the general conditions for transport, which include the types and deadlines for delivery, the requirements for the carriage and the deadlines for loading and unloading of wagons, consignment note, calculation and types of transport costs, as well as customs supervision and control of the railway traffic.¹ At the end of the last section are covered the responsibilities of the railway, complaints, lawsuits, special modes of transport as well as modern transport systems and technologies that are very important for the future of rail transport.



Figure 1. George Stephansson's first steam locomotive, Locomotion 1825.²

¹ Markovic I. "New Technologies of Transport" Zagreb, 1985.

² Source: https://upload.wikimedia.org/wikipedia/commons/7/73/Stockton_%26_Darlington_Railway_0-4-0_No._1_%27Locomotion%27_%281825%29_Head_of_Steam%2C_Darlington_30.06.2009_P6300119_%2810192855826%29.jpg

1. History and development of the railway

The earliest traces for the transport of people and goods with a primitive type of wagons date back 2500 years in ancient civilizations like Macedonia, Babylon, Egypt and Greece. During this period, the goods were loaded on carts drawn by animals, usually horses and oxen. Very quickly, the engineers of that time noticed that animals needed less force if they pulled the cart on a previously tracked road. For that purpose, they began to build roads of stones and limestone for the purpose of easier and faster transport. Such roads are known as Wagonways "wagonways"³ and today they can be found in the Strait of Corinth, Greece, which was used to transport boats by means of carts. This type of transport was used until the fall of the Roman Empire.

In the period from the sixteenth to the early nineteenth century, primitive railway networks appeared. Through all the mines in developed European countries such as the United Kingdom, France and Germany, wagons drawn from horses moving along pre-installed wooden planks and later on metal tracks are used to transport ore from the mine to the factories.

The history of the modern-trains industry has begun with the emergence of the first steam engines that have allowed people to transport goods and people for the first time through a fast, reliable and inexpensive way that provoked a new era in the industrial revolution, human expansion and global economy. From the beginnings of the great expansion of railways and the design of locomotives, countless innovators focused their careers on improving trains that would enable goods and people to be transported in a much safer and faster way.

The steam engine of 1775 by Scottish engineer James Watt is the first type of steam engine that used a separate condenser. It was a vacuum, an atmospheric engine that used steam at a pressure somewhat higher than the atmospheric in order to create a partial vacuum under the piston. The difference between the atmospheric pressure above the piston and the partial pressure below it moved

³ CARANA Corporation "The Role of Transportation and Logistics in International Trade" Washington, 2003

the piston through the cylinder. James Watt avoided using high-pressure steam for security reasons.

The next innovator who contributed to the development of the railroad or design of locomotives is Richard Trevik who first took the chance before the world to showcase his innovative design of a steam high-pressure engine that allowed him to produce more power than a locomotive of the same weight and size. Although before that nobody believed that steam could create force for industrial use, Richard managed to promote his design to a local mine owner, with his design succeeding in pulling a 10-ton load. For the first time in 1825, engineer George Stephansson, with his locomotive Locomotion "Locomotion" carried goods to a wider public. This feat was carried out on the Stotton railway line to Darlington where within 80 minutes coal was transported 80 tonnes of coal at a distance of 15 kilometers.⁴

To reach the level of what we now encounter, rail transport as well as the means used in it have evolved very much. Significant inventions that contributed to the faster development of the railways are:

- 1832 - Charles Fox patented railway crossovers;
- 1856 - the first railway bridge was built across the Mississippi River;
- 1863 - The first underground railway line in London started;
- 1872 - US inventor George Westinghouse patented the first air brake, which became the primary braking system for all subsequent trains;
- 1881 - The first electric tram started in Berlin;
- 1913 - Diesel locomotives began to be used in Sweden;
- 1937 - German engineer Herman Kamper patented a driving system that used magnetic levitation;
- 1964 - The first high-speed train traveling from Tokyo to Osaka at a speed of 160 km / h was presented in Japan;

⁴ Bello W. "The multiple crisis of globalization", Geneva, 2001.

- 1990 - A record of an electric train was achieved in France with a speed of 515 km / h;
- 2010 - Shanghai Metro became the world's largest metro with a 420 km long and 287 stations.

2. The concept and characteristics of the railway transport

The development of any modern national economy is unthinkable without parallel development of the different types of transport. In general, the entire economic development of individual nations takes place contrary to the progress of transport opportunities.

2.1 Advantages and disadvantages of rail transport

Rail transport, like any other type of transport, has its advantages and disadvantages.

As advantages arising from the use of rail transport are:⁵

- Suitable for all kinds of goods, and especially for heavy, bulky, massive and relatively cheap goods;
- It has wagons for various purposes;
- It is relatively cheaper than all types of transport, except maritime;
- It is characterized by its orderliness and accuracy in carrying out the transport;
- Safe with regard to the organization of transport.
- Also, additional advantages in this transport are the following:
- Small resistance between the rail and the wheel;
- Electric traction does not pollute the environment, and pollution in the diesel traction is insignificant (environmental factor);
- It occupies a small area during construction;

⁵ UNCTAD "Negotiations on Transport and Logistic Services: Issues to Consider, UNCTAD / SDTE / TLB / 2005/3 Geneva 2006.

- Opportunity to transport from door to door through industrial tracks;
- Possibility for cooperation with other types of traffic, primarily with road and water transport.
- In addition to the advantages, rail transport also has its drawbacks such as:
 - Rail transport is limited in transport possibilities, with railway network and railway line, whose construction is quite expensive;
 - Rail transport can not be accomplished from the consignor's warehouse to the consignee's warehouse;
 - The inequality of the width of the railway lines.

Other disadvantages of the use of this type of passenger transport in relation to other types of transport are:⁶

- Lower speed of transport in relation to road transport;
- Higher cost of transport, higher consumption of fuel (energy) and less utilization of the freight area in terms of maritime transport.

2.2 Transport routes and means of transport in railway transport

For each transport branch, two basic factors are needed:

- 1) road and
- 2) means of transport.

In the railway traffic, the transport route is the railway line or track. Moreover, when it comes to the track, it is necessary to pay particular attention to its width and allowed load on the rail in relation to the axial pressure.

With the constant prevalence of the tendency to create a single railway line in the territory primarily on one continent in order to successfully and smoothly perform international transport of goods by rail, certain technical problems arise

⁶ Nikolovski A. Krstanoski M. "Contracts in International Trade", NIP Studentski Zbor, Skopje, 1999.

as a result of the different width of the track and the permissible load in relation to the sole pressure.

The width of the track can be different from country to country, so for example in our country it is 143.5cm¹⁶, in Russia and Finland it is 152.4cm, in Japan 106cm, in Portugal 166.5cm, in Spain 167.4 etc.. Therefore, when transporting goods through lines with different widths of the track, a reloading of the load or placement of the luggage carriages on another track width must be carried out, if the traffic conditions allow it.

At the allowed load on the railway line, four basic categories were determined in relation to the axial pressure:

- A. Category 16 tonnes;
- B. Category 18 tonnes;
- C. Category 20 tonnes;
- D. Category 22.5 tonnes.

Also in these categories one more division can be made according to the permissible pressure of the obligatory meter, which is denoted as t / m.

Table 1. Categorization of railway lines

Tie line	Maximum permissible mass per axis	Maximum permissible mass per meter length
A	16t	5.0t/m
B ₁	18t	5.0t/m
B ₂	18t	6.4t/m
C ₂	20t	6.4t/m
C ₃	20t	7.2t/m
C ₄	22.5t	8.0t/m
D ₂	22.5t	6.4t/m
D ₃	22.5t	7.2t/m
D ₄	22.5t	8.0t/m

Source: Stojic, G., Dimanoski, K. "Technology of Railway Transport" Skopje, 2010. pg. 140.

According to the purpose and scope of the turnover, the ownership and the importance they have in the domestic and international rail traffic, the railway lines can be: main routes, auxiliary highways and other railroads from the first and second lines.

Railway transport vehicles are composed of various means: locomotives with steam, electric or diesel engines, various freight cars, passenger wagons including sleeping wagons as well as a number of different special vehicles such as hoists, track gauges , snow sweepers and so on.

2.3 Types of freight wagons and their marking

Given that goods in international trade may be in different sizes as well as other different characteristics, in order to get out in anticipation for easier, more efficient, faster and more reliable manipulation of the goods, more types of freight wagons are constructed.

Those freight wagons intended for international transport and at the same time complying with international regulations, are divided into lots and sub-series which are marked in large and small Latin letters. In practice, the following series of carriages can be found:

E - open wagon, plain type with high pages. The wagon can be ground or quadruped, and serves for the transport of goods in a broken state or in pieces, which does not require protection from atmospheric influences during the transport.

F - special open wagon with high pages. The wagon serves to transport coke, coal and other similar loads, which are also not subject to atmospheric influences during shipping. They are still known as self-helpers, while they are

unloading automatically by means of gravity by opening the doors from the sides. These carriages can also be square and quadruple.

G - plain closed wagon. The wagon serves for the transport of goods into pieces and other materials that need to be protected during transportation from atmospheric influences. It can appear as: ground, with one side door on each side, or four-way, with two doors on each side. If the wagon has openings, it can also serve for the transport of large goods.

N - a special closed wagon. This type of wagon is used for goods transportation, which requires special protection against atmospheric influences during transport, as it can also be found in several subcategories that are characterized by certain specifications, such as solidifying the load with compartments and so on.

I - closed car refrigerator. It is used for the transport of goods, which requires a certain temperature during transport, such as fruits, vegetables, star meat and so on. Cooling can be done using aqueous or dry ice. These carriages are in vain.

K - plate wagon, groundwork. The carriage has shallow sides, and serves to load goods in a state of repulsion, such as gravel and sand. If there is a pillar on the side, bales, containers, planks etc. can be loaded.

L-special wagon for car transport. The wagon can be three-axis or four-seater, with two platforms for the accommodation of ATVs and with a capacity to accommodate 12 middle-class passenger cars.

R - a plain four-sided plate wagon. This type of wagon serves to carry more weight of goods, such as construction machinery, crates, hay, etc. These

wagons may also have front or side posts or pillars, as well as attachment equipment for containers.

S - special plateau wagon with four or more bases. This car is with the largest load limit and serves for the transport of heavy vehicles and containers with the highest payload.

O - mixed plateau, open circuits, plain sight. It can be terraced ingot with a load of up to 20 tons, 9 to 12 meters long. There are 5 different types in these carriages.

T - special wagon with movable roof. The main feature of this car is that it has a roof, which can serve to load the goods from above. This roof can be opened either by folding half of it on the other side, or using a special mechanism to fully open the roof and sticking to one side of the car.

Z - wagon tanks, which serve for the transport of goods in liquid, gas and other materials, which at high temperature pass into a liquid state. These carriages can be equipped with heaters, for the purpose of easier unloading of a certain kind of goods. The wagons themselves are marked for what kind of goods they serve, in order to avoid constantly washing them and adjusting for the transport of another type of goods.

U - special closed wagon. In this series you can find two subcategories:

- Uc - for transport primarily for cement, and unloading is done by means of air pressure;
- Uh - which serves for the transport of liquids: water, gasoline, crude oil, milk, alcohol, acids, etc.

In addition to these wagons, there are other special wagons that are designed for the transportation of heavy and high-velocity goods, which can have up to 24 axes and which can transport up to 300 tons.⁷

In order to facilitate easier tracking of wagons around the world, the UIC has prescribed the labeling of freight wagons consisting of 12 numbers.

2.4 Contract of carriage

An agreement for the transport of goods by rail is such an agreement that the railway obliges, for compensation, to transport goods from the dispatched to the destination station.

The contract of carriage shall be deemed to have been concluded when the carrier receives the goods together with the consignment note, while the receipt of the goods is confirmed by placing the date and mark by the freight train station. With the receipt of the consignment note, it is considered that the transport contract is concluded. Depending on the use of transportation means, there are two types of transport: rail transport and mixed or combined transport. In the case of combined transport, it is understood when several types of transport branches participate in the carriage of goods, but with one transport document. Both types of transport are also performed in the internal and international operations.

The railway carries out the carriage if:⁸

- ✓ The party meets the conditions determined by the law, ie the conditions of the international conventions and the conditions stipulated in the tariffs;
- ✓ Transportation can be carried out with regular means of transport that meet normal transport needs;

⁷ Reckoska G. "Customs knowledge of goods" FTS, Ohrid, 2004.

⁸ Biljanokosa J. "International Trade" FTS, Ohrid, 2009.

- ✓ If the carriage is not prevented from circumstances that the railway can not avoid or remove;
- ✓ If the carriage is not prohibited or restricted by law or is not against the public order if the carriage is possible with regular means of transport.

Railway obligations are:

- ✓ Obligation to receive goods for transport;
- ✓ Obligation to store the goods;
- ✓ Obligation to respect the deadlines for transportation;
- ✓ Obligation to carry out customs and other formalities;
- ✓ Obligation to carry goods;
- ✓ Obligation to post additional orders to the sender;
- ✓ An obligation to hand over the goods to the recipient.

In the case when the goods to be carried, for their loading or unloading, special equipment is needed, then the railway is obliged to receive the goods only if the railway station has this type of equipment. The railway has the right to partially or completely close certain tracks for which transport takes place in cases where they are performing work activities as a result of an accident or natural disaster.

From transportation is excluded:

- ✓ Goods whose transport falls within the competence of the post office, so that it applies only to one part of the transport route;
- ✓ Goods which, by their scale, mass or nature, are not suitable for rail transport;
- ✓ Goods whose transport is prohibited;
- ✓ Goods that are excluded from transport by special regulations.

If during the international transport it is determined that any part of the goods previously received for transport is excluded from transport, then the sender who

is obliged to pay the freight and other costs arising until the moment when it is determined that such shipment is excluded from transport.

The obligations of the sender are:

- To hand over the goods for transport;
- Providing instructions and orders;
- Handing over of a bill of lading;
- Cooperation;
- Compensation for damages;
- Payment of transport costs.

The recipient of the goods has the following obligations:

- To unload the wagon if so provided by law, tariff or contract, and if it falls due late to pay a wagon;
- To pay for the storage of goods if they fail after the deadline for raising the goods according to the tariff;
- To pay transport and other expenses if so provided by the contract, ie with the bill of lading

In the event that a transport bill of lading is not issued during the carriage, the sender may amend the transport contract and request:

- Goods to return to the station;
- Goods should be stopped by the way;
- To delay the issue of goods;
- Goods to be issued to another consignee;
- Goods to be issued at another destination station;
- The costs for which the consignment note is indicated that they will pay the recipient of the goods shall be collected from him instead of the recipient.

Like the sender, the recipient of the goods has the right to request changes in the transport contract if the consignment note indicates that he has the goods, or if he has been handed over a duplicate consignment note. In doing so, the recipient may require:

- The shipment should be stopped by the way;
- Postpone the issue of the shipment;
- The shipment be issued to another consignee;
- The shipment be issued at another destination station;
- return the shipment to the pick-up station.

The change of the contract is done on a special form prepared by the railway. It is required to place a stationary stamp on the duplicate of the consignment note. In case of disturbance in the traffic, contradictions in the customs and other regulations or if during the change of the destination station, the goods can not cover the transport costs, then the railway may refuse the name requests in the transport contract.

2.5 Rail tariffs

Of all transport tariffs, railway tariffs are the most complicated and most complex in the practical application for finding the most economical way of transportation when transporting goods.

Rail tariffs, unlike tariffs in other transport branches, have the following basic characteristics:⁹

- State influence in the tariff policy;
- Publicity and equality in the application of the tariff;
- Complexity and complication of the tariff;
- Mandatory application of the tariff.

⁹ Smilkovski I. "Transport and insurance in international trade" FTS, Ohrid, 2012.

As a result of the great influence that the railways have on the economic policy of each country, CIM members have the freedom to adjust their tariffs in relation to their economic needs.

2.5.1 Basic elements of railway tariffs

The railway tariffs are composed of five basic elements:

General tariff provisions - refer to the determination of the manner of calculation of the transport and other taxes

Classification of goods - they are grouped by branches and determined by tariff classes. In doing so, it is necessary to place the goods on the bill of lading, to be written in the manner provided for by this classification. In fact, the classification of goods is the basis of the overall tariff system. It is important to note that the distribution of goods by tariff class is carried out depending on its characteristics, properties, value, shape, manner of packaging, etc. The railway in the preparation of tariffs, in the first place, takes into account its costs, and then determines the border of the lowest transported goods, which would ensure its cost-effective operation. Also, in the classification of goods, the economic significance of a particular product for a country and its interest is taken into account. Therefore, in the tariff class, some goods are allocated in the higher, and others in the lower class.

Tariff tables - give tariff transport fees, which are determined on the basis of tariff classes, distance and weight. For carriages, the transport items are divided according to wagon classes. Each of them has four different transport items:

- 5 tonnes, which are charged at least 5000 kg;
- 10 tonnes, which are charged at least 10000 kg;
- 15 tonnes, which are charged at least 15000 kg;
- 20 tonnes, which are charged at least 20 000.

In the case of cargo shipments, the freight rate is calculated separately for the group from 10 kg to 1000 kg, and over 1000 kg to 5000 kg. In this type of shipments, only the distance is taken into account.

Transmission distances tables - is applied in order to determine the tariff distance between the pick-up and the destination, or the destination station. In addition, it should be noted that the fare distance differs from the true distance of the transport route. When calculating costs for transportation costs, only the friction distance is taken into account, and not the real one.

The station name of the railway station - it contains all the official stations and stations, among which transport of goods is allowed. This is noted because there is a smaller number of stations in which goods are not allowed to be manipulated in terms of loading and unloading, which is why they are poorly or not at all equipped with the necessary devices and means for that purpose. The purpose of the directory of the train station is to determine if the name of the station is available and whether that station is open for goods traffic. Also, this directory defines the technical equipment of the station, for receiving all or separate types of goods and quantities.

2.5.2 Types of international rail tariffs

There are many international freight rates in both Europe and the rest of the world, as it is based on bilateral and multilateral agreements between interested countries, that is, railway undertakings. There are many types of these tariffs:

✚ **General international tariffs** - are brought by the International Rail Union (UIC) by other international organizations (Economic Commission for Europe, etc.) and aim to facilitate and promote the international rail traffic of goods. To date, it has not adopted a general tariff with which it would apply for

all shipments shipped by rail. However, it is still a great success that it brought international tariffs of general significance:¹⁰

- o *General European Tariff Day Delivery Tariff (TGED)* - this tariff is aimed at facilitating and promoting shipping to international cargo traffic;

- o *General international tariff for the carriage of express goods (TGEx)* - this tariff contains general provisions for transport and tariff items for the transport of express merchandise between European countries and members of the International Railway Union. It is very practical for its application and its adoption, in many cases it facilitated the supply of the express goods in the international rail traffic;

- o *The European Tariffs for Carriage of Transcontainers in Wagon Tracks (IUC)* - this tariff is made up of two parts. The first part contains particularly additional provisions for CIM; general and especially tariff regulations, while the second part contains the relations, transport routes and transportation expressed in gold francs. This group also includes the tariff that regulates the transport of large containers directed by the INTERCONTAINER company;

- o *General European tariff for wagon shipments (TEW)*.

✚ **Federal tariff** - aims to simplify the calculation of transport rates in transport between two countries, with other countries participating as transit countries. These tariffs are made by friendly countries, so in this case we are talking about a railway union. Federal tariffs do not cover all types of goods, but those that are the most common commodity exchange items between the respective countries. They also contain only those stations from which such items are regularly transported. Federal tariffs must in no way be higher than the internal tariffs of the participating country when signing the agreement.

Federal tariffs in foreign trade give special advantage, because in an easy way, it is possible to calculate and determine the transport costs from the sent to the referral station. Federal tariffs can occur in two types:

¹⁰ Cvetanovski I. "Modern transport systems" Technical Faculty Bitola, 2007.

- o Classified tariffs - are applied regularly between neighboring countries;

- o Tariffs per case - are applied on a regular basis in case when a greater number of railway administrations participate in the carriage.

Transport rates in federal tariffs are usually determined in a hard currency, usually in Swiss francs, regularly separately for each country participating in the carriage.

✚ **Transit tariffs** - are those applied by a country for shipments coming from abroad and applied through its railway line to another country. Depending on the economic needs and interests of such transit goods on the lines of a certain country, transit tariffs depend on whether they will be the same, lower or lower than the internal tariffs, if the competition on other railways and transport routes is higher, transit tariffs will be lower and back.

✚ **Port tariffs** - apply only for transit carriage of goods through certain seaports. The transport rates for these tariffs are cheaper than those in the regular tariffs. Port tariffs apply in their countries of Europe, especially of importance in countries that do not have direct sea access. Port tariffs are divided into two main groups:

- o Port rates with intrinsic importance - apply only to the internal commodity turnover and

- o Port tariffs with transit importance - apply in international commodity circulation.

✚ **The exceptional tariffs** - are applied mainly when it is desired to extract a transit cargo through a country for other overseas countries, and when it is desirable to facilitate the placement of some cheaper bulk products on the domestic and foreign market. These tariffs are special tariffs that stipulate lower transport rates, depending on the classes from the regular lines. The exceptional tariffs can be of a temporary character and of a lasting character. Exclusive

tariffs do not have to identify with the benefits that the railway gives in certain cases if the interests of the economy or its own interests so require.

2.6 Transport route

Under the CIM convention, the sender may prescribe the transport route in the consignment note. Only cross-border points can be stated, and if necessary, crossing stations between the railways.³⁴ In order to more economically organize its capacities, the railway aims to be as free as possible when choosing a transport route. At the same time, it is not allowed to load general terms as the "shortest route" or "cheapest tariff" on the bill of lading.

In accordance with the CIM Uniform Rules, the prescribing of the transport route exists at:

- ✚ Designation of the stations where the formalities will be carried out by the customs and other administrative authorities, as well as the stations in which it is necessary to take special measures for the livestock, such as simmering and feeding live livestock, etc .;

- ✚ Indication of the tariffs to be applied, if this is sufficient in order to determine the stations between which the requested tariff should apply;

- ✚ A statement of payment for all or part of the costs, on the name of marked tariff points between neighboring countries. That is, with this statement, the sender determines the special and the border point.

In cases where the sender did not provide sufficient markings in order to determine the transport route and the use of tariffs or are not in conformity then the railway has the right to choose the transport route which it considers most likely to be the sender. In case of damage occurring in such manner of determining a transport route, the railway shall be liable only if the damage occurred as a result of gross negligence.

3. General terms of transport

This section covers the concept, the type and deadlines for delivery, as well as the loading, loading and unloading of the wagons. In addition, the international railway bill, as well as the calculation and payment of transport costs, is the main condition for delivery.

3.1. Definition and types of delivery

Under the consignment means goods that are delivered for carriage with one bill of lading. 36 With the approval of the railway, one can also deliver goods for transport that have a large volume for which it is necessary to load in several wagons. Also, ships in multiple wagons loaded with the same kind of goods by one consignor for one consignee as well as from the same freight and the same landing station are sent with one consignment note

According to the quantity, shipments can be:¹¹

- Denim consignments not exceeding a weight exceeding 5000 kg and for which the railway does not make available a car only for this quantity of goods. For these consignments a volumes shall be compiled in two copies where one sample is sent by the goods and the other stays on the pick-up station and
- Wagon shipments whose weight is at least 5000 kg for which the railway makes available a special car according to the legal and other regulations, as well as under the tariff provisions.

Shipments, depending on the mode of transport and the calculation of the carriage, can be delivered to:

- ✓ Regular transport, which takes place within the railway timetable;
- ✓ Forward transport, carriage of carriages at the time specified by the contract;

¹¹ Arzek, Z. "Transport and insurance" Faculty of Economics, Zagreb, 1995.

✓ Contracted transport, where the railway and the logistics operator agree the dynamics of delivery and transport for a certain period of time;

✓ Fast or express transport with limited short delivery time.

It should be noted that in express shipments, the cost of the haulage is almost twice that of the regular transport, so this type of transport is used very little. Also, the amount of goods for this transport should not be heavier than 100 kg. At the same time, the recipient of the goods has a deadline to pick up the goods for 24 hours, otherwise he is obliged to pay a deposit for the goods. Regulations for international express carriage of goods are contained in the Rulebook on international rail transport of express consignments RIE, as a fourth annex to the Uniform Rules CIM.

3.2 Delivery deadlines

Delivery deadlines consist of two parts: a deadline that covers the time specified for the delivery of the goods at the pick-up station and a time-limit covering the time for transport.

If no separate delivery deadline for a particular service or a particular relation is established by a separate agreement between the railway, the deadlines for international transport are:

➤ **Wagon ships:**

• *High speed:*

✓ Deadline - 12 hours

✓ Transportation time for every initial 400 km - 24 hours

• *Spouse 40:*

✓ Shelf life - 24 hours

✓ Transportation time for every initial 300 km - 24 hours

➤ **Denk shipments:**

• High speed:

✓ Deadline - 12 hours

- ✓ Transportation time for every initial 300 km - 24 hours
- Traveling:
- ✓ Deadline - 24 hours
- ✓ Transport deadline, for every initial 200 km - 24 hours

Delivery deadlines do not take place while the shipment is retained for the following reasons:

- ❖ Due to the work of customs and other administrative bodies
- ❖ Due to changes in the transport contract.
- ❖ Due to verification of the content and weight of the goods, if by check the inaccuracy of the item of the bill of lading
 - ❖ Due to the reloading of the goods or repair of improperly loaded goods
 - ❖ Due to special matters related to shipment (feeding and watering livestock, etc.)
 - ❖ For other reasons, which prevented the start or continuation of the carriage, if it was not by the fault of the railway.

3.3 Requirement and expiration of loading of wagons

The shipper, for the purpose of transporting his goods by rail, needs to carry the carriages at the station. The request shall be made with special forms stating the date of loading, a series of circuits, the type and quantity of the goods, the transport route, the reference station, etc. As a result of such applications, the railway has the opportunity to provide the necessary transportation wagons timely and economically. The freight train station should take care of securing the necessary carriages primarily for goods that are easily perishable.

The sender is obliged, in a prescribed time by the railway, to load the goods in the pre-loaded wagons. In cases when he misses the deadlines, the sender is obliged to pay a car dagger. The deadlines for loading are usually 6 hours from the moment the car is loaded for loading. However, the deadlines may be longer

when the goods are to be delivered in special weather conditions or in stations where there are large quantities of goods. The deadline for such cases can be 10 hours.

The railway is entitled to a car in the following cases:

- If the sender has exceeded the deadlines for loading;
- If the goods are not loaded in the proper manner (for example, it endangers the safety of transport, damage to the vehicle or damage to other goods being transported) and due to the delay in the carriage;
- If the sender does not pay the railway the specified duties - the amount in the bill of lading;

If the required transport documents have been determined, the sender has failed to deliver them on time to the railways or have been completely filled or given.

The time limit for loading the wagons is not counted as long as the force majeure, the time for carrying out customs or other control, as well as the time caused by the railway by prolonging the load of the goods in the railway wagons. The amount of the Kolog denga and its calculation is determined with a special tariff. In cases where the deadline for loading goods is exceeded for 24 hours, the railway may unload the goods and temporarily place it or return it to the sender. The cost and the risk of such an operation are borne by the sender of the goods.

3.4 Loading and unloading of the runoff

The load of the goods in the wagons in cases when it comes to day ships, is done by the railway, while the wagon shipments are being shipped by the shipper himself.

When loading the goods into the carriages, it should be taken into account that it is correct, which implies safe transportation of the goods as well as the safety of the wagon itself. When it comes to wagon shipments, the sender must

take into account the weight of the goods, ie load goods as long as it is prescribed for that type of vehicle. At the same time, care must be taken not to overload the axle. If the railway notes that the means of transport is overloaded, it shall notify the sender thereof, and he is obligated to unload the excess goods. In cases where the railway registers that a car is overloaded at a stopping station, the same ex officio removes the surplus and informs the sender thereof and awaits further instructions from it.

When there are transshipment cases, then the railway has the right to charge five times the amount of goods for the quantity of goods that exceeds the border.⁴⁴

When unloading the goods, as with loading, there are certain deadlines when the recipient of the goods has to do it. If those deadlines are exceeded then the railway has the right to charge a car dagger.

3.5 International Railway Leaflet

The bill of lading represents a formal agreement for the carriage of goods between the sender and the railway, which is concluded on pre-printed forms. Namely, by concluding a contract for transportation with a railway, all other railways that participate in that transport are obliged to carry out the transport.

Both the CIM and the SMGS International Convention SMGS 45 provide the exact shape and content of the international rail waybill.

According to CIM, the consignment note consists of a set of five sheets, as follows:

- Number 1 - original of the consignment note;
- Number 2 - freight card (this card keeps the service station);
- Number 3 - arrival notification intended for the service rail;
- Number 4 - duplicate of the consignment note (to be handed over to the sender);
- Number 5 - copy (keeps the dispatch station) .

The numbers 1 and 4 of the consignment note are intended for the contracting machines, while the remaining numbers are intended for internal use of the railways. The bill of lading is filled in one of the official languages as Italian, German and French, and at the same time it is permitted to complete the language of the country where the freight train station is located. The data in the bill of lading must be in ink or electronic form and must be completely legible. At the same time, the sender is responsible for the accuracy of the data as well as for the statements he has provided in the consignment note.

The bill of lading must contain:

- Place and date of assembly;
- Designation of the destination station, which must correspond with the directory of railway stations;
- Name and surname or title of the recipient and his address;
- Designation and weight of the goods, quantity and description of the packaging in the den's shipments;
 - Name and surname or surname of the sender, as well as his / her address and signature which may be replaced with a stamp;
 - Zig of the pick-up station;
 - Transportation and other costs;
 - A list of documents that are enclosed with the consignment note;
 - Number of wagon, and for the user of the shipment and the number of the shipment sent by the sender.

With the delivery of goods for transport, the railways and the sender enter into a legal relationship. Such a relationship takes place as long as the consignee of the goods does not redeem the consignment note. The bill of lading is purchased when the goods arrive at the designated pick-up station by the recipient of the goods, ie when the receiver is legitimized and will pay the costs stated in the bill of lading. There are cases where the recipient of the goods appears as a buyer, requiring that a duplicate of the consignment note be

delivered in order to protect against unwanted actions by the seller. In this case the seller is excluded from the opportunity to dispose of the goods during the carriage.

The sender and the carrier can determine that the carrier issues a bill of lading on the order or the bearer. The consignment note handed to the consignor must be expressly indicated that it is a transportable consignment note, and the copy sent by the goods must be indicated that a removable consignment note has been issued.⁴⁸ This consignment note does not provide for the right disposal of the goods.

3.6 Behavior costs

The transport costs shall be calculated according to the tariff applicable on the date of conclusion of the contract of carriage. Costs must be paid by the recipient when he redeems the consignment note if the sender has not taken on himself the payment of the costs. Namely, the sender of the goods is the one who decides who will pay the costs before handing over the goods for transport. Those who bear the costs shall be entered in the consignment note under the heading "Payment statement". In this box, the sender is required to specify one in the following expressions:

- Franco all costs: in this case, the sender undertakes all transportation costs, including the delivery of the shipment;
- Franco transportation included: in this case, the sender takes over the transport and other costs. However, it is necessary to accurately indicate the costs according to the established tariff number, eg: measurement, counting, etc .;
- Franco transport: the sender takes over only the transport cost, but not the other costs;
- Franco Amount: applies in the case where the sender undertakes to him a fixed amount, which is required to be entered in numbers;

- Franco transport to: the sender has taken on himself, to pay a fee to a certain point of the tariff headquarters between two neighboring countries;
- Franco transport, including and, to X: in this case, the sender takes over the transport costs and other costs to X, not counting all costs relating to the next country or rail (X indicates the name of the tariff place between two border countries) .

In cases where a rectifier does not undertake to pay any costs, nothing in this box is entered.

Where the subject of the carriage is a volatile goods, live animals or goods of low value, the sender shall be obliged to pay the transport costs in advance. The railway has the right, in situations where there is an incorrect appointment of the goods in the bill of lading or inaccurate or incomplete data, to charge a higher fee.

3.7 Customs supervision and control in railway traffic

Rail and means of transport and goods transported to or from the domestic customs territory shall be presented to the customs authorities at the border railway station.⁵¹ The duty to notify the customs authority of the time of arrival and departure of the trains as well as the track which will stop the train, belongs to the border railway station. Only officials and railway workers have permission to access the train during customs control.

In the commodity turnover, from the moment the train arrives at the railway customs line, the railway carries a list of wagons and freight sheets to the customs authority. Depending on whether the goods will be unloaded at the entry train station or be subject to a transit procedure, such measures of customs supervision are also undertaken by the competent customs authority. In the cases when the train leaves the domestic customs area and in the composition there are only empty carriages, then the train is presented for inspection orally. If only in one of the wagons there are goods, then the composition is made available in

written form. If the customs authority detects from the undertaken measures that the train meets all the prescribed measures, it informs the railway about it and the train can leave the domestic customs area.

4. Railway liability

The railway is responsible for the goods it has received for transport with the bill of lading, for the entire transport route until the moment of its delivery to the consignee of the goods. Also, each railway that takes goods for transport from another railway corresponds with solidarity just like the railroad that received the goods. The railway is solely responsible for the damage done by persons who, by rail order, work on the transport.

4.1 Duration, limitation and exclusion of railway liability

In the cases when the railway finds that the damage occurred during the transport, it is obliged to compile a record and indicate the reasons for the damage and the date that occurred. If necessary this report is made up of witnesses or expert witnesses. If the owner of the goods does not agree with this Minute, he may request determination and charging of the damage through the court. If full loss of goods occurs, it is recorded in the consignment note.

The recipient of the goods can immediately advertise the goods if there are obvious damages, and if the damages can not be registered immediately upon receipt of the goods, they must be declared within 7 days.

If the goods are not issued to the consignee within 30 days, the goods may count the goods as lost. However, there is an opportunity for the recipient to submit a request to the railway with which he will request, if the goods are found within a year, it shall be returned to him, and on the account of that he shall return the undercover amount of the damage received.

The railway shall be obliged to pay damages upon every complete or partial loss of the goods. The damage is paid according to the value of the goods on the market or the price in the place at the time it was delivered for transportation. The amount is considered after the exchange rate.

However, the damage can not be greater than 17 units of account per kg of gross mass that is missing. In addition, the railway shall be obliged to return the transport, customs and other amounts paid for the transport of the goods that are lost.

In situations where damage to a part of the goods, the entire goods lost value, then the railway will pay damages in the amount equal to the total goods being completely lost.

If the delivery deadline is exceeded and the recipient of the goods prove that the damage was caused to that overdraft, the railway covers such damage up to a maximum of three carriages.

Under the uniform rules for carriage by CIM, the railway is exempted from liability for total or partial loss or damage to goods, as well as overdraft of delivery deadlines if it proves that:

- Such damage occurred as a result of the fault of the holder of the right of transportation;
- Due to the characteristics and characteristics of the goods, which is the subject of a transport contract;
- For reasons that the railway did not know, it could not have guessed that it would occur, but to avoid them, or reasons that do not depend on her will.
- The railway is ultimately not suited if the damage occurred:
- For the carriage performed in open carriages on the basis of the existing regulations or in agreement with the sender and stated in the consignment note;
- Due to improper or insufficient packaging.
- For improper loading, stacking or stowing of goods, when the goods are the purchaser or consignee on the basis of the applicable regulations and agreements;

- Due to properties that are in particular exposed to partial or complete loss or damage due to breakage, rupture, throwing, heat, bathing, drying, decaying and the like;
- Because the goods are excluded from transport or are accepted for transport with special conditions, delivered for transportation with incorrect, incorrect or incomplete designation, or no measures have been taken for the attention of goods accepted for transport under special conditions;
- Due to special hazards to which live animals are exposed during transport;
- For carriage of live animals or other goods based on tariffs or contracts with the consignor listed on the consignment note, they must be transported with shipments if the loss or damage occurs if the recipient fails to remove the hazards associated with the carriage;
- For the non-execution of customs and other formalities to be sent, the recipient or their assistant is obliged to perform in international transport.

When proving damage, the railway is obliged to prove that it has occurred as a result of any of the stated reasons, while the other party to the contract of carriage is obliged to prove the contrary.

4.2. Combined transport

If the carriage of goods is carried out in the presence of several carriers from other branches of the supply, then it is a combined or mixed transport.⁵⁶ When damage occurs in this type of transport, the carrier is obliged to compensate the damage according to the applicable regulations in force that part of the transport in which the damage occurred. If the carrier, other than the railway, without the sender's knowledge, hires carriers from other branches, then if damage occurs, it is calculated according to the applicable railway regulations if it is in the benefit of the sender.

The COTIFF "COTI" F Convention regulates the combined transport in which rail cars are transported by sea by ferry. Namely, the railway can be called for exemption, in case of damage that occurred during such transportation or exceeding the deadlines if the damage occurred in the maritime transport. In this case, the railway will not be answered:

For work, negligence and guilt of the reserve, the sailors, the helmsman or the animals will be subordinated to the seafaring carrier, and employed on sailing or in the management of the ship;

For the ship's inviolability, if the maritime carrier proves that the same incompetence did not arise due to insufficient care to enable the ship to sail or to equip it with the equipment, the crew and the necessary groceries, or the premises in the ship in which the goods are loaded, adjust and bring in a proper condition, so that they can be accommodated, transported and stored;

For fire, if the carrier proves that he did not cause it and did not result from his guilt, or by the fault of the commander, the sailors, the helmsman and their subordinates;

for hazards of accident or sea events or other navigable waters;

To rescue or attempt to save life at sea;

For the accommodation of goods on deck, if the carrier has given consent in the consignment note, and if the goods are not transported in wagons.

5. Complaints, lawsuits and expiration of claims from the transport contract

The right to file a complaint or claim for compensation for damage with a lawsuit against the railway has the sender, the consignee or other person if the rights giving him the right to lodge a complaint or a lawsuit against the railroad depending on the relations in the carriage are transferred to him.

The purpose of the complaint is to settle the disputes of the transport contract peacefully without a court procedure.

Complaints may relate to:

- Restoring more charged travel costs;
- Collection of less charged transport costs;

Collection of other claims based on the transport contract (loss, damage, overdraft) .

The Railway Revenue Service, ex officio, must reimburse the overpayment of travel costs. The holder of the rights within 6 months must submit to the railway a consignment note and other documents proving that he has paid higher transport costs.

In case of charging less paid expenses, the user of the transport should, within 15 days, settle them, upon prior written notice by the railway.

The complaint together with the bill of lading and other documents is submitted for the purpose of settlement of other requests referring to the transport contract.

If the contracting parties from the contract of carriage can not resolve the dispute by filing complaints or are dissatisfied with the outcome of the same, they may initiate a dispute by filing a complaint to the competent state body. The injured party, when filing a lawsuit, is required to submit both the consignment note and all other documents that would be required during the litigation procedure.

The expiration of the claims arising from the transport contract expires within one year in the inconvenience when they refer to more or more collected charges and other costs, while for wounding, other bodily injuries and mental injury the obsolescence is two years. In the case of claims due to intentional damages, a transport contract based on a re-dispatch, payment of claims relating to the balance of goods sold by the railway, they do not expire within one, but within two years. It is regulated internationally.

6. Special types of rail transport

Under special types of rail transport, transport of dead remains, transport of live animals and transportation of dangerous goods are understood.

The dead transport remains are delivered as carriages in regular and more often in express transport. The sender must deliver to the railroad a transporter for the transfer of a dead man. Such a conveyor is attached to the consignment note, and it is issued by a competent authority and contains data on the identity of the dead man and the conditions for transport. The shipping costs for such shipment are paid in advance. The dead man should be placed in a tin can, which will be hermetically sealed. Items belonging to the equipment of the dead are transported free of charge. The railway is obliged to carry this shipment in the fastest way and without interruption.

When it comes to carriage of live animals by rail, they are transported according to the applicable veterinary and sanitary regulations and in special wagons. In the event that an animal is transported, it should be placed in a suitable chest. The keeper is obliged to prepare the animals for transport, and the same is handed over for transport by a bill of lading, on which no other goods can be listed. Together with animals, a certain amount of food required during transport can be transported. In this type of transport, transportation costs are paid in advance. In the event that the railway notes that the animals are troubled in the course of transport, they have the right to take appropriate measures at the expense of the sender in order to stop the torture of the animals. When the transport lasts for more than 24 hours, it is obligatory, along with the goods, to have people who will take care of the same as feeding and watering. They are indicated on the consignment note. In situations where an animal gets sick and dies, the goods stop at a suitable train station where there is a veterinarian. After the completion of the transport, the railway must clean and disinfect the wagon, and for this it may charge the charges provided for in the tariffs.

The transport of dangerous goods is regulated by the COTIF Convention, ie the International Rulebook on Carriage of Dangerous Goods by Rail RID "RID". Manipulating this kind of goods is done in special places that do not endanger life and health of people as well as the environment. Such goods shall be packaged in packaging that is expressly marked for the type of goods. In order to provide transportation of this type of goods, approval from the ministries is needed, depending on the type of goods. A dispatch with which such goods are transported shall be issued in three copies, one for the sender, the carrier and the consignee.

This document contains the following data:

- Data on the content of the shipment (designation, type, chemical and technical composition, mass, number of pieces, identification number of RID);
- The sender's designation that the conditions specified for the carriage of such kind of goods have been met;
- Name, name and address of the sender and the consignee;
- A marking that, together with the sender's document, it has been forwarded and referred for special safety and approval measures for transport;
- Signature and seal of the recipient.

7. Modern transport technologies and systems

Under Modern Transport Technologies, it is understood the application of containerization and palletization in the process of transport of goods, which led to the appearance of new ways of transporting the goods. The new modes of transport of goods are composed of modern transport systems such as RO - RO "RO - RO", LO - LO "LO - LO", FO - FO "FO - FO" ships, HUCEPAK "HUCKEPAK and Bimodal system for the carriage of goods by rail.

7.1. Palletization and containerization

Containerization refers to modern transport technology that enables easy manipulation of goods in loading, transshipment, unloading, as well as rationalization of transport, which means the possibility of using more means of transport without changing the transport unit.⁶³ A transport unit in the process of containerization is the container which is closed, repeatedly usable, time-resistant, a transport unit with at least one door, built according to world-accepted norms and standards that are used in all types of transport.⁶⁴ According to ISO, there are 4 types of containers depending on the size: A - 40 feet, B - 30 feet, C - 20 feet and D - 10 feet.

The term palletization is a transport technology consisting of a set of organized and connected means of operation and technological procedures for automated manipulation and transport of consolidated units of goods from raw material to consumer.⁶⁵ A transport unit used in this technology is the range which is defined as a substrate specially processed from wood, metal or other material to which goods are goods, whereby one transport unit is shaped. Most common rail pallets are 800mm x 1200mm and 1000mm X 1200mm.

With the application of the new transport technologies, a completely new approach to the process of organization of the transport of goods has been caused. These technologies have led to a change in the infrastructure of the ports and railways, their mode of operation, led to the use of new types of high power machinery (cranes, forklifts, self-propelled gypsies), but also new modern means of transport such as RO-RO "RO- , LO - LO "LO - LO", FO - FO "FO - FO" ships, HUCKEPAK "HUCKEPAK system in the railways.

7.2. HUCKEPAK transport system

For this system different names are used in different countries, an example in Germany is called Huckepack tragen, in England Pigi bey "Piggy back", Kangaroo "Kangourou" in France, the most commonly used name for this

system is HUCEKEPACK "HUCKEPACK" which is the most commonly used name in the professional and traffic literature.

Under the Hookup system, a specific transport system is defined, characterized by a vertical or horizontal loading of full or empty trucks with trailers, trailers, semi-trailers or containers of railway wagons and their transport. This mode of transport of vehicles first appeared in Germany during the Second World War when combat vehicles (tanks) and vehicles from road transport were loaded on wagons for their transportation on distant fronts. For the first time in the national traffic of goods, this system was used in the Federal Republic of Germany in the early 1970s, in order to develop this transport system in other European countries such as Austria, Switzerland, France, Sweden, and later in former communist countries such as Ukraine, Belarus, Russia, Slovakia, Croatia and others. Also, this system is widely applied in the USA, Canada, Australia, developed countries in Asia, etc.

The most important goals of this transport system are the following:

- Connection of road and rail transport in a very fast, reliable and rational way without reloading the load from the vehicle from the road transport of railway wagons, and vice versa from railway cars to road transport vehicles;
- Optimizing the effects of road and rail infrastructure and substructure;
- Acceleration of the manipulation and transport of cargo in the combined road-rail traffic and thus minimizing or completely eliminating the operation of the live force in the process of production of traffic services;
- Quantitative and qualitative maximization of technical, technological, organizational and economic effects in the process of production of transport services;
- Maximizing the effect of the work of creative and operational managers and other workers engaged in the Hukepak transport system.

✚ *There are three types of technologies in the Hookupac system:*

Technology A (Rolling Highway Rolling Highway) is characterized by a horizontal loading - unloading of trucks with trailers, retractors with semi-trailers (loaded with goods or empty) on railroad carriages where the loading and unloading is carried out through a special load pad. Namely, the driver drives the vehicle driving forward through the ramp in the railway wagon and vice versa from the car through the unloading pad on the ground. During the process of transportation of vehicles by rail, drivers who manage them rest or sleep in the wagons intended for this. This technology emerged in the fifties of the twentieth century in France and Germany, at the end of the 1960s, it spread to the Benelux countries. Reasons for the emergence of this technology can be stated in the needs of the road network, the protection of the environment from the exhaust gases of road vehicles, as well as saving time and fuel consumption during transport.



Figure 2: Unloading a truck with a trailer from a plate wagon¹²

Technology B (semi-trailer "Semi-trailer") is characterized by a horizontal or vertical loading - unloading most often on truck semi-trailers or trailers (less commonly used in practice) on railroad cars with lowered floor. Horizontal loading is done by driving back on the truck with a semi-trailer along a special

¹² Source <http://advantage-environment.com/wp-content/uploads/2009/09/flexiwagon1.jpg>

loading ramp in the wagon, while the unloading is carried out by driving forward on the special ramp. Vertical loading and unloading is carried out with the help of special jacks.



Figure 3: Vertical loading of truck semi-trailer¹³

Technology C Swap - body "Swap - body" is characterized by a vertical loading of specially made containers (similar to containers) that are standardized on rail cars using special jacks in the Hookepac terminals.

¹³ Source http://www.railfreightportal.com/IMG/jpg/16052007wienw-isu_013.jpg



Figure 4: Terminal for manipulation with interchangeable transport boxes¹⁴

7.3. Bimodal transport system

Under a bimodal transport system, a specific transport system shall be understood, covering the transport of special road semi-trailers with freight on the roads and rail tracks. This system allows semi-trailers used in road transport to transport goods to "turn" into special rail cars that provide classic rail transport.

The father of this technology is Robert S. Pisces who was a designer at Bimodal Corporation Bimodal Corporation. Namely, in the mid-1960s, this company in the United States began constructing and manufacturing semi-trailers with a built-in assembly of rail wheels that are vertically extracted or retracted depending on the type of transport. But as a disadvantage of this type of semi-trailers, the massive mass of the semi-trailers appeared, which reduced

¹⁴ Source http://media.commercialappeal.com/media/img/photos/2012/09/05/65075_t607.JPG

the load as well as the speed of the turn of the loaded vehicles. This problem was solved in the mid-1980s when semi-trailers were built that do not have a built-in railroad, but the jets are equipped with springs to which rail assemblies can be connected. After the United States, this technology begins to apply in Europe, first in Britain, and later in other European developed countries.

The most important goals of this trans- port system can be distinguished:

- ✓ Safe, fast and rational connection of the road and railway transport without reloading of goods from the road vehicles of the railway wagons;
- ✓ Accelerate the manipulation and transport of freight in combined road and rail traffic and thus minimize or completely exclude live force in the process of production of traffic services;
- ✓ Optimization of the effects of road and rail infrastructure and sub-structure;
- ✓ Qualitative and quantitative maximization of the technical, technological, organizational and economic effects of the processes of production of traffic services;
- ✓ Maximizing the effects of the work of traffic technologists, operational and creative managers and other workers in the Bimodal transport system.

7.3.1 Bimodal technologies

In practice and theory, the Bimodal transport system distinguishes three types of bimodal technologies:

The first bimodal transport technology (Mark IV Road Marker, Mark IV Road Railer, Mark V Road Raider Mark V Road Railer, Mark V SST Road Raider Mark V SST Road Railer) is a technology developed in the United States, and is characterized by semi-trailers, which, besides the wheels intended for road transport, also include a rail wheel assembly that is vertically drawn or pulled depending on the purpose of the semi-trailer.

Second bimodal transport technology (Tiger Rail - Trailer Train) is a technology developed in Britain, which is characterized by further reinforcement of the front and rear side of the semi-trailer with appropriate mechanisms for joining the two-axle rail assemblies. Two types of rail assemblies are used, and the front and rear assemblies are fitted with bumpers, while the secondary assemblies are intended to connect two semi-trailers;

Third bimodal transport technology is a technology that is similar to the second bimodal technology, but instead of special semi-trailers, container cones are used. This technology is mostly applied in the United States, Australia and developed European countries.

7.3.2. Procedure for the formation of a bimodal train

The formation of a bimodal train takes place in several stages:

1. The rammer with a special road trailer driving backwards approaches the two-axle subway;
2. The rear part of the road semi-trailer is vertically lifted by means of its own hydraulic assembly, and the independent two-axle subcarrier located on the rails is suppressed under the semi-trailer;
3. By hydraulically lifting the wheels of the semi-trailer, the rear part of the semi-trailer descends automatically to the double-axle rail, with which it automatically fastens;
4. By lifting the support of the roadside semi-trailer, its front arm is vertically lifted so that the tractor can be separated from the semi-trailer;
5. The traction unit shall be separated from the road half-track remaining on the rails;
6. The twin-axle railway undercarriage is suppressed on the rails under the front day of the road semi-trailer;

7. The front part of the road semi-trailer descends on the twin-axle railroad carriage and with that the special road semi-trailer acquires all the characteristics of the rail freight wagon.



Figure 5: Bimodal transport system according to MarkVRoadRailer¹⁵

¹⁵ Source: Cvetanovski, I. (2007). Modern transport technologies, Technical faculty, Bitola.

Part 2: Rail transport in the European Union

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Part 2: Rail transport in the European Union

The second part concerns the rail transport of goods in the European Union (EU). Firstly, the transport policy within the EU and the strategies adopted by the European Commission are covered. Subsequently, the most important characteristics of the rail transport in the EU are considered as the most important corridors, the use of rail transport in relation to other transport modalities, the quantity of goods transported by rail and, ultimately, an analysis of the employment in the rail sector in the EU. Next is the liberalization of trade in logistics services related to rail transport as well as other types of transport, which is similar to the activities of the Director General of Transport.



Figure 6. Map of the ERTMS corridors¹⁶

¹⁶ <http://www.railwaygazette.com/news/policy/single-view/view/eu-transport-infrastructure-policy-to-focus-on-ten-t-corridors.html>

1. Transport policy of the European Union

As a result of the increasing exchange of goods across the EU, the pressure on the existing transport infrastructure is increasing. Signals for this are the overload and overcrowding of the European transport system. In order to restructure the transport policy, the European Commission issued the White Paper in 2001, entitled "European Transport Policy for 2010: Time of Decision". In this book, the commission proposed 60 measures aimed at creating a less cumbersome transport system through the revitalization of rail transport, the promotion of maritime transport and inland water transport as well as a controlled increase in air transport. One of the more important measures are the programs "Marco Polo" and "Galileo". The main goal of the Marco Polo program is to reduce road overcapacity by increasing intermodality as well as improving the environmental impact of the transport system. It is thought that 40% of CO₂ emissions generate road transport. The "Galileo" program is a global satellite navigation system designed to address gaps in the positioning of vehicles. Regarding the railway transport, measures have been taken for its integration with the internal markets, optimal utilization of the railway infrastructure as well as its modernization.

In October 2007, the European Commission issued the strategy "Logistics: Maintaining the Movement of Goods". A series of measures were proposed by the Commission aimed at promoting transport logistics, improving the competitiveness of rail freight transport, and creating a framework that would allow attracting more investments to modernize European ports and develop maritime transport of goods.

In March 2011, the White Paper 2011, entitled "Map of the Single European Transport Area - Towards Competitive and Efficient Transport Systems" was published, which contains the latest EU transport strategy. The European Commission has adopted a map of 40 specific initiatives for the next decade in order to build a competitive transport system that will increase mobility, remove

major barriers in key areas and increase fuel and increase employment. At the same time, the proposals will reduce the EU's dependence on oil imports and reduce carbon emissions in transport to 60% by 2050. By 2050, the main objectives will include: total removal of colts with conventional fuel in cities , 40% use of fuels with low emission of air in air transport and up to 40% reduction of emissions in seafreight and transfer of at least 50% of road transport of goods to rail transport. Part of the measures contained in this strategy relate to:

- Improving infrastructure;
- Eliminating the barriers in the logistics sector by adopting the so-called. "Airplane packages" to improve the efficiency of airports;
- Letters for the improvement of the transport by internal waters,
- E-Maritime Transport Initiatives that will enable the use of modern information systems and intelligent technologies in maritime transport;
- Reduction of obstacles in the carriage of goods in road transport;
- Improving competitiveness in different modalities of transport.

2. Characteristics of railway transport in the European Union

Railway corridors as well as the utilization of this type of transport in the transport of different types of goods are the main features of rail transport within the EU. In addition, the role that this sector has on employment should also be absorbed.

2.1 The most important railway corridors in the European Union

Before the rail corridors are discussed within the European Union, ERTMS "ERTMS" (EuropeanRailTrafficManagementSystem) system must also be mentioned. This system aims to make railway transport safer and more

competitive. When talking about this system, it is mainly thought of two subsystems:

✚ **ETTC "ETCS"** (European train Control System) system which is a standard for train control based on equipment installed in cabs capable of monitoring the movement of the train and control them in accordance with the permissible speed of each line of the sector, in parallel by calculating and supervising the maximum speed all the time;

✚ **GSM - R "GSM - R"** (Global System for Mobile Communications - Railways) is the second system that represents the European communication standards in railway operations. Based on GSM "GSM" radio technology, this system uses exclusive frequencies for the purpose of communicating the train with railway control centers, railroad devices, etc. This system, with a Commission decision, adopted on April 23, 2008, ensures that all trains in the European Union equipped with such a system can be addressed to any line equipped with such a system. The railway corridors equipped with this system are also called ERTMS "ERTMS" corridors. There are 9 ERTMS corridors in the EU:

✚ **Rhine - Alpine corridor** extending 2882 km and connecting the Netherlands, Belgium, Germany, Switzerland and Italy. This corridor starts from Rotterdam, through the course of the Rhine River in the industrial heart of the EU to Genoa. Characteristic of this corridor is that it is considered as a corridor with the largest volume of transported goods. In 2015, the volume of goods transported rose by 3.3% and climbed to 69% .76 The main infrastructure managers of this corridor are: Proreil and Keirail "Prorail and Keyrail" in the Netherlands, Infrabel "Infrabel" in Belgium, DB Netze "DB Netze" in Germany, BLS and SBB "BLS and SBB" in Switzerland and RFI "RFI" in Italy;

✚ **North Sea - Mediterranean corridor**, which extends 6553 km and connects Ireland, England, Belgium, the Netherlands, Luxembourg, Switzerland and France. The corridor starts from Edinburgh, which through London and the tunnel in Lamansh connects with France, and at the same time the Antwerp port is connected to it. It then goes through Belgium, the Netherlands and Luxembourg to the Mercean of the Mediterranean. One arm from France connects Basel to Šfajcariya. On average, over 30,000 trains pass through this corridor annually and over 20 million tonnes of goods are transported. Infrastructure managers on this corridor are Proreil "Prorail" in the Netherlands, Infrabel "Infrabel" in Belgium, Reseau Ferre de France "Reseau Ferre de France" in France, Societe Nacionales des Chemis de fer Luxembourgse "Societe Nacionales des Chemins de fer Luxembourgeois" in Luxembourg;

✚ **Baltic-Adriatic corridor**, which extends 4606 km, and connects Poland, the Czech Republic, Slovakia, Austria, Slovenia and Italy. This corridor starts from Gdansk through Warsaw, which is divided into two corners one in the Czech Republic and one in Slovakia, where they re-merged in Vienna. On the road to Italy, that is, to the port of Venice, one line links Trieste and from there, Slovenia. Characteristic of this corridor is that it connects the Yadan Sea with the Baltic. The management board of this corridor consists of the PKP PLC "PKP PLK" in Poland, SZDC "SZDC" in the Czech Republic, SZR "SZR" in Slovakia, UBB Infrastructure "OBB Infrastruktur" in Austria, RFI "RFI" in Italy and AZP " in Slovenia.

✚ **North Sea - Baltic corridor**, extending to 5931 km, connecting 8 countries: Belgium, the Netherlands, Germany, Poland, Latvia, Estonia and Finland⁸¹. The corridor starts from the maritime centers like Antwerp and Rotterdam, through central Germany to Warsaw in Poland and continues to the Baltic countries. This corridor has become fully operational in November 2015. The Management Board consists of: Infrabel Infrabel in Belgium, Proreil and

Keirel Prorail and Keyrail in the Netherlands, DB Netz "DB Netz" in Germany, PKP Polish Line Collections "PKP Polskie Linie Kolejowe "in Poland, Lithuanian gelezinkeliai" Lietuvos gelezinkeliai "in Lithuania.

✚ **Mediterranean corridor**, which extends over 7000 km. This corridor connects Spain, France, Italy, Slovenia, Croatia and Hungary. The corridor starts from Almeria in Spain, which through Madrid and Barcelona connects Spain with France to Marseille. Then he continues through Italy through Turin, Milan and Verona and crossing to Slovenia, through Ljubljana, he moves to Hungary or in Budapest. One branch of Ljubljana connects Croatia to this corridor. This corridor connects 9 ports and contains 90 terminals. Especially the main challenge for this corridor is the different measures in the width of the railway tracks. Infrastructure managers participating in this corridor are: ADIF "ADIF" in Spain, RFFF - SNCF ressave "RFF - SNCF reseau" in France, RFI "RFI" in Italy, Slovenian Railways "Slovenske Zeleznice" in Slovenia and MAV "MAV" and VPE "VPE" in Hungary;

✚ **Orient-Eastern Mediterranean corridor**, which extends 5717 km. The corridor connects Germany, the Czech Republic, Slovakia, Austria, Hungary, Romania, Bulgaria and Greece⁸⁵. This corridor starts from Rostock in Germany, which continues to Prague and Vienna, and Bratislava connects one leg. Then the corridor continues in Bucharest in Romania where one leg goes to Sofia and ends in Athens in Greece, while the other branch from Bucharest continues to the Black Sea. This corridor is very important because it connects central to southeast Europe, that is, with the countries of the Southeastern Balkans. In 2015, over 40000 kilometers were passing through this corridor. The management board consists of: UBB infrastructure "ÖBB Infrastructure" in Austria, SZDC "SZDC" in the Czech Republic, RA "ZSR" in Slovakia, MAB "MÁV" and Gjusev Raberbahnbo "Gysev Raaberbahnvo" Hungary, CFR, "CFR" in Romania, NRIC "NRIC "in Bulgaria and OSE" OSE "in Greece;

✚ **The Scandinavian-Mediterranean corridor** extends to 9121 km. This corridor connects Finland, Sweden, Norway, Denmark, Germany, Austria and Italy⁸⁷. It starts from the Finnish - Russian border, continues through Stockholm in Sweden and at the same time connects Oslo to Norway. The corridor continues in Denmark and passes through central Germany, through Austria it ends in Italy to its southernmost part, that is, Sicily. This corridor is the largest of all 9 corridors in the European Union. Larger organizations that provide logistical support in this corridor: Czech Logistic Association "Czech Logistics Association", Federal Association of Logistics Austria "Federal Association of Logistics Austria", Logistics Initiative Mecklenburg - Vorpommern "Logistics Initiative Mecklenburg - Vorpommern", Logistic NET Berlin - Brandenburg "Logistics NET Berlin - Brandenburg" and others;

✚ **The Atlantic corridor**, which stretches 7630 km and connects Germany, France, Spain and Portugal. This corridor connects major ports ranging from southern Spain and northern Portugal or Lisbon, Setubal and others. Through central Spain and northern France connecting ports that cross the Atlantic Ocean and a leg via Paris to Strasbourg continues while the other leg ends in Germany in Mannheim. The main challenge for this corridor is the different dimensions of the tracks used in the countries. There are over 80 terminals on this corridor. The board is composed of RAFER "RAFER" Portugal, ADIF "ADIF" in Spain and RFF "RFF" in France;

✚ **The Strait - Danube corridor**, which extends 5775 km, connects France, Germany, the Czech Republic, Slovakia, Austria, Hungary, Romania and Bulgaria. This corridor connects the central part of the European Union, along the rivers Rhine and the Danube. This corridor is governed by the original countries of the former corridor 9, the Czech Republic (SZDC "SZDC") and Slovakia ("ZSR").

2.2 The use of rail freight in relation to other modes of transport

In order to make a proper analysis of the utilization of rail transport for the transport of goods in relation to other modalities of transport used for the transport of goods in the EU, two aspects should be considered:¹⁷

- ✓ Use of railway transport in relation to road transport and transport by internal waters;
- ✓ The use of rail transport in relation to all other modalities of transport.

3. The policy of liberalizing trade in logistic services of the European Union

The significance of the EU logistics sector imposes the need to increase the level of liberalization of trade in logistic services to EU Member States. Barriers to trade in logistics services mostly arise from infrastructure problems, the different transport policies of Union members and differences in national legislation.⁹⁵

In order to overcome such problems, the European Commission has established the General Directorate of Transport. The activities of the Directorate-General should contribute to greater liberalization in the service sector and the formation of a common logistics market. In accordance with the strategies related to the development of the logistics sector, a number of Directives and Decrees have been adopted by the Commission on the proposal of the Directorate.

3.1 Overview of the activities of the Directorate-General for Transport of the European Commission

The Directorate-General for Mobility and Transport of the European Commission is the main creator of the EU transport policy. The main task of this

¹⁷ Commission of the European Communities "European Transport Policy 2010" Brussels, 2001.

Directorate is to provide a single market for transport services in which citizens' needs, environmental protection and competitiveness are integrated, through:

Completion of the European Integrated Market with integration of all transport modalities in a competitive transport system that will provide more quality services and more affordable price, while paying attention to the safety and rights of passengers;

Develop an agenda for innovation in transport, which promotes development and introduces a new generation of sustainable transport technologies, especially for managing integrated transport systems and vehicles with low emission of harmful substances;

Building the main European infrastructure network as a support for sustainable multimodal transport systems, which will enable fast, cheap and reliable transport solutions;

Projection of EU transport objectives and protection of EU political and business interests in relations with third parties such as international organizations or strategic partners.

The Directorate realizes the goals achieved through the development of transport sector strategies implementation of the EU's permanent regulations, new proposals, encouragement of volunteer work and exchange of experience, and co-financing of infra-structure for trans-European corridors. Providing financial support to certain programs and research projects as well as promoting transport policy at the international level are also part of the activities of the Directorate.

3.2 Obstacles in the provision of logistics services in different modes of transport

In providing logistics services both in the rail, as well as in road and maritime transport, there are a number of obstacles that negatively affect the provision of

logistics services in these sectors. To this end, the EU Transport Commission has undertaken a series of activities aimed at removing these barriers.

3.2.1 Rail transport

Although rail transport is a significant economic link across Europe, it is still a problem in most of the countries in the Union. Characteristic of the rail freight market within the EU is that it is not sufficiently liberalized and has not allowed the entry of foreign entities.

Most countries such as Denmark, France, Greece, Iceland, Portugal, Spain, Northern Ireland, Ireland, Luxembourg, Slovenia and Slovakia do not have foreign operators on national markets at all. The most liberalized is the rail market in England, where about 30% of the market belongs to foreign operators. Infrastructure issues are affected by obstacles to the rapid trade exchange of logistics services in rail transport. Such are the differences in certain technical standards between national rail networks as well as the disconnection of significant shopping centers.

The EU has taken several steps to liberalize and revive rail transport. One such step is the Directive 91/440 / EC, which aims to increase the independence of the management of railway undertakings and the introduction of transparency with regard to the structure and finances of the national railways of the Member States of the Union. There are several other directives that are in line with the EC initiative:

- Directive 96/48 / EC on the interoperability of the fast trans-European rail system, later modified by Directive 2001/16 / EC;
- Directive 95/18 / EC on licensing of railway undertakings and
- Directive 95/19 / EC on the allocation of railway infrastructure capacity and on infrastructure charge collection.

In the so-called The first and the second railway package from 2001 and 2004 are proposing reforms in organizing the railways. These packages include the

separation of infrastructure from services and the opening of free access networks. Such reforms have been implemented in different ways in different European countries.

Example: Britain completely separated railway infrastructure and rail services, but unlike other European countries, fully privatized open access infrastructure and services for cargo operations. France has separated the infrastructure from the services, but has largely retained them as monopolies in the public sector. Sweden also made a separation and progressively opened the rail market for competition.

Despite reforms in rail freight transport, there is still a significant lack of interoperability in the railway infrastructure.

3.2.2 Road and sea transport

In the road transport of goods in the EU, particular emphasis should be placed on cabotage, ie the transport of goods in the countries of the Union with vehicles registered in another country. Cabotage in road transport is the most popular in a relatively large number of countries, of which four accounted for 80% of the total cabotage per tonne for one kilometer in 2004. About 60% of the total cabotage in tonnes for one kilometer is in France and Germany, 20% in Britain and Italy. Cabotage in road transport is regulated by Decree 1072/2009 which establishes common rules for access to the international transport market goods on the road. This Regulation also gives rise to the conditions by which non-resident carriers in the countries of the Union may provide transport services in an EU Member State. Also, this type of transport is also regulated by Decree 1079/2009, which states that the national legislation is in charge of the conditions for carriage of the contract, the requirements for the transport of certain categories of goods, the technical characteristics of the dimensions of the vehicles, as well as the time of driving and rest . Road transport is regulated by several other regulations: Regulation 881/92 (which regulates the procedures

and conditions for issuing and revoking the permits of road transport operators), Decree 3820/85 (regulates the common rules for minimum driver liability, driving time, breaks and rest periods), Directive 93 / 104ES (working time regulation) and Directive 202 / 15ES (for working hours). The implementation of such rules is often hampered by problems related to the interpretation of the provisions of the decrees and directives.

The European Commission is pursuing a proactive policy by introducing regulations that allow the development of the maritime industry. In 1986, Council Regulation No. 4055 which introduces the principle of freedom to provide transport services between Member States of the Community and between Member States and third countries. Part of the major EU Regulations for maritime transport are:

Regulation (EEC) No. 4056/86, concerning the application of competition rules to maritime transport and which allows the community to exempt / protect the so-called. maritime line conferences from the competition. This Regulation has been amended by more recent Regulation, EC No. 1/2003, which now allows the EU and the national authorities and courts to enforce competition rules. In 2006, the EU withdrew exemptions for naval line conferences, and the effective implementation began in 2008.

Regulation (EEC) No. 4057/86 refers to the so-called. unfair prices in maritime transport, and allows the EC to impose offsetting fees on foreign shipowners in order to protect owners from the Member States of the Community. Regulation (EEC) No. No 405/86 shall apply in the event that free sea freight is to be provided, provided that a third country limits the carrying out of maritime transport by ships of a Member State of the Community.

□ Regulation No. 3577/92 / EEC means the application of the principle of freedom to provide maritime transport services between Member States or cabotage operations in maritime transport. Only restrictions are imposed on vessels of less than 650 gross registered tonnage and shipment that connect the

islands in Spain and Greece. In this way, competition from third countries is protected.

□ Regulation (EC) No. 3094/95 refers to assistance in shipbuilding. It was revised in 2003 and the EC adopted a new letter on the more specific oversight of the aid schemes in force.

With the constant development of ports, their competitiveness has increased, and regulations have been introduced that are in line with environmental and safety standards.

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Part 3: International
organizations and
conventions in the field
of railway transport

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Part 3: International organizations and conventions in the field of railway transport

This section covers the International Rail Union - UIC "UIC", the Railway Organization for mutual cooperation - OSJD "OSJD" and the Convention on International Carriage by Rail - COTIF "COTIF", which have a particular importance in the past years in regulating, organizing and unifying the railway traffic across Europe and the world. The main emphasis in this section is on the history, the development, the way of functioning, goals, activities, organizational setup and rules of operation.



Figure 7. Logo of the Convention on International Carriage by Rail - COTIF¹⁸

1. International Rail Union - "UIC"

¹⁸ Source https://www.uia.org/sites/uia.org/files/or_logotypes/c0248.jpg

The idea of creating an international organization that would unite railway companies evolved at an international conference in Italy in November 1921, followed by an international conference in Geneva in May 1922. The state representatives favored the idea of creating a permanent organization whose focus would be on standardizing and improving the conditions for rail operations and constructions. Thus, at the Paris conference in October 1922, the International Rail Union - UIC "Union Internationale des Chemins de fer" was formed. At the beginning in the UIC, 51 members from 29 different countries from Europe, Asia, the Middle East and North Africa were members. Today there are 195 members.

The main mission of the UIC consists of:

- ✓ Promote rail transport at world level with the task of meeting current and future challenges of mobility and sustainable development;
- ✓ Promote interoperability, create new world standards for railways (including common standards with other modes of transport);
- ✓ Developing and facilitating all forms of international cooperation between members of the Union, facilitating the exchange of best practices;
- ✓ Supporting union members in their efforts to develop new businesses and new areas of activity;
- ✓ Recommending new ways of improving the technical and environmental performance of rail transport, improving competitiveness, reducing costs.

In order to fulfill its mission, the UIC has defined 3 levels of objectives for international cooperation activities, such as:

- ✓ Strategic level: coordination between the six regions¹⁰⁵ of the UIC as part of the new Directorate;
- ✓ Technical / professional level: cooperation between railway activities such as passenger transport, transport of goods, infrastructure, rolling stock, between - sectoral activities such as sustainable development, research coordination, safety, security, development of expertise;

✓ Level for services and support including finance, human resources, laws, communications and institutional relations.

2. Railway organization for mutual cooperation - "OSJD"

Regarding the changes that occurred in the Eurasian region after the Second World War and as a result of the increased need for the exchange of goods and passengers in the countries of Europe and Asia, there was an urgent need in the late 40s and early 50s for the creation of uniform legal and economic standards that will enable transportation of passengers and goods with international railways

With the aim of such efforts, in November 1951, several agreements entered into force in Warsaw, regulating several areas such as the transportation of passengers, goods, luggage, use of wagons in international transport, etc. In the coming years, these agreements are also known as SMPS "SMPS" and SMGS "SMGS" (Agreement for the International Carriage of Goods by Rail). In order to meet the increasing exchange of goods and passengers in this region, a decision was made to establish a higher level structure that would meet these challenges. Thus, in June 1956 in Sofia, the 10 countries of the then Eastern bloc founded the Railway Organization for Mutual Cooperation OSJD (Organization for Cooperation of Railways). Today OSJD has 28 members mainly from Eastern Europe and Central Asia, as well as 7 other members with observer status in central and western Europe. Today the OSJD countries have over 281,000 kilometers of railway tracks, which transport about 6 billion goods and 4 billion passengers per year.

The main goals of the OSJD are to create conditions for development of cooperation in the field of railway transport, creating a single railway transport system in the Eurasian region, improving the competitiveness of the transcontinental railway routes and organizing international traffic.

Areas of activities of the OSJD are:

- ✚ Shaping areas of transport policy in the field of international transport by rail, elaboration of strategies for development of rail transport;
- ✚ Development and improvement of international law in the field of rail transport and in the field of facilitation of border crossings with railways;
- ✚ Administering the Convention and international agreements included in the framework of the OSJD in connection with international rail transport;
- ✚ Developing Euro-Asian transport links;
- ✚ Development and improvement of international rail transport, including the use of other modes of transport;
- ✚ Cooperation on issues related to economic, information, scientific and technical aspects of rail transport;
- ✚ Cooperation in the fields of operations related to vehicles and railway infrastructure, technique and operational issues related to the further development and organization of international rail transport; Cooperation with international organizations in the field of railway transport;
- ✚ Establish principles governing the organization of financial agreements between railway companies for international rail transport and related services.

The highest body that manages the OSJD is the ministerial conference, featuring representatives from all member states. This body meets when at least two-thirds of the members agree on it. Decisions shall be made by a minimum of three - fourths majority, except in cases where decisions concern amendments which are related to the Convention itself, they shall be adopted by a four - fifth majority. The main competences of the Ministerial Confederation are: approval of annual reports and work programs for the LLP, budget planning and approval, approval of the report of the audit committee, review and decision-making related to the permanent removal of a member of the OSJD or abolition of the

monitoring status, in order to create a uniform system of technical regulations as a set of specifications for the rolling stock, etc.

Another body governed by the OSJD is the Assembly of Railway Companies which represents the interests of the railway companies and performs its work on the basis of its powers and the provisions of the Convention. The number of members in this body is unlimited, and it is comprised of authorized representatives of all railway companies members in the OSJD. The Assembly meets with a two - thirds quorum, and at the same time the decisions are also adopted by a two - thirds majority on the principle of one country one vote. The Assembly adopts decisions related to: proposals by the working groups on amendments and regulations deriving from the Convention, decisions regarding suspending observer status in the Parliament, creation of ad hoc groups for areas within the scope of the powers of the Assembly, implementation of decisions from the governing bodies by the participants in the assembly, acceptance of rules and selection of working groups, etc.

The permanent seat of the Committee is the Permanent Executive Committee in Warsaw, Poland. The Committee implements the decisions taken by the administrative bodies; organizes, informs, analyzes and advises on the activities of the OSJD; gives a proposal for the establishment of working groups;

Cooperates with other international organizations in the field of railway transport, etc. The Committee meets with a two - thirds majority, and in cases when it is called for issues related to certain regions, then compulsory presence of representatives from the specified region is required. The head of the Committee is the President with a four-year mandate that can not have more than two successive terms. The President manages the Committee and organizes the work therein, is accountable to the Conference and the Assembly for its work, as well as signing contracts on behalf of the OSJD. It also organizes the reception of new employees, concludes working contracts, and also performs other activities that are in accordance with the competencies of the administrative bodies. The president has two permanent deputies from China

and the Russian Federation, who have a four-year mandate where the same person can not have more than two consecutive terms. In addition, there is also a secretary in the Committee who has the obligation to establish relations of cooperation with international non-governmental and governmental organizations, as well as to carry out other activities related to the Convention. The Registrar also has a four-year mandate where the same person can not have more than two successive terms.

Working bodies in OSJD are the commissions in which experts from the participants in the Assembly work. In order to facilitate the work of these Commissions, they have cooperation with the Chairman of the Committee. The tasks the Commission works on depends on the area for which it is intended. Within the OSJD there are the following commissions: Commission for Transport Policy and Development Strategy, Commission for Transport Law, Commission for freight traffic, Commission for passenger traffic, Commission for infrastructure and rolling stock, Commission for coding and informatics and Committee for Finance and Accounting. In order to address specific problems in their areas, the Commissions may request the formation of working groups.

In addition to the basic provisions, the Convention contains annexes that regulate the following areas: Agreement for the carriage of goods in international traffic - Annex 1, Agreement on passenger transport in international traffic - Annex 2, Transport of dangerous goods in international traffic - Annex 3 , Railway Infrastructure in International Traffic - Annex 4, Railway Rolling Stock - Annex 5, Use of freight wagons in International traffic – Annex 6 and Use of wagons for transport of passengers in International traffic - Annex 7.

3. Convention on International Carriage by Rail - "COTIF"

The Convention on International Carriage by Rail (COTIF) is a direct descendant of the Central Office for International Railway Transport, which was

established in the distant 1893. COTIF was created in May 1980, and in accordance with the same in May 1985, the International Organization for International Carriage by Rail OTIF "OTIF", based in Bern, Switzerland, was established. Today in OTIF there are 50 members from Europe, North Africa and North America, whose members have over 270,000 kilometers of tracks.116 The main objective of the Convention is to create a unified legal system that will apply to the carriage of passengers and goods by rail in international traffic . The Convention has been modified with the 1999 Protocol, also known as the Vilnius Protocol.

The main focus of the activities of COTIF is directed towards:

Further development of the law in the railway transport in the areas:

- ✓ International transport of goods and passengers (CIM and CIV)
- ✓ Transport of dangerous goods (RID)
- ✓ Use of vehicles (TSV)
- ✓ Use of the railway infrastructure (CUI)
- ✓ Importance of technical standards and the adoption of uniform technical regulations for railways (APTU)
- ✓ Procedure for technical acceptance of railway vehicles and other railway equipment used in international transport (ATMF).

- Expanding the scope of COTIF, which would allow rail transport from the Atlantic to the Pacific for a longer period of time with one legal regime;
- Preparing for the entry into force of the Luxembourg Protocol;
- Removing barriers at border crossings in international rail transport;
- Participation in the preparation of other international conventions on rail transport within the UN / ECE and other international organizations

Within the COTIF, several bodies governing the Convention have been defined. The General Assembly is the highest decision-making body within the framework of the Convention, and it consists of representatives of all members of the Convention. The General Assembly is convened by the Secretary-General

once every three years, and in some cases the same may be convened outside the regular deadlines when required by at least one third of the members. Voting shall be done by a two-thirds majority provided that a majority of the representatives are present at the session. The Assembly has the following competencies: election of the Secretary General, appointment of members and their deputies in the Steering Committee, decisions regarding the relocation of the OTIF headquarters elsewhere, deciding on the introduction of new languages to be used in the work, establishing committees for certain specific issues, decisions regarding proposals for changing the Convention, decisions in a queue with the accession of new economic organizations, etc.

The head of the Organization is the Secretary General elected by the General Assembly for a term of three years, with the same person having no more than two successive terms. The main activities of the Registrar are: the functioning of the depositor, the convening of the General Assembly, representing the Organization at the international level, following the decisions of the executive bodies of the organization to the member states,

The Steering Committee is a body under the authority of controlling the work of the Secretary-General as well as financial matters. It consists of representatives¹¹⁸ from one third of the members, as well as their deputies with a mandate of three years. A member state may not have its own representative for more than two terms. The members of this committee are elected by the General Assembly. The Steering Committee has the following responsibilities: to appoint members of senior management positions in the Organization, to establish a code of conduct for employees, approve the work plan, determine and approve the budget, approve the annual report, ensure the proper implementation of the decisions of the by the Secretary-General, etc. At the head of the Steering Committee is a president who has the task of calling the committee at least once a year, getting to know members about the agenda, solving problems that arise in the interval between the convening of the Steering Committee and so on.

Within the Covenant there are other committees of which the most important are:

An Audit Committee composed of representatives from all Member States and convened by the Secretary General. Its purpose is to amend and supplement the Convention. The Committee shall, on its own initiative, make decisions concerning amendments to the Convention, following a preliminary debate on proposed amendments by the General Assembly.

The RID Committee of Experts in which each member state is obliged to send its own representative. It meets at least once a year, and in order to hold a meeting it is necessary that one third of the members be present. At the same time, besides the permanent members, international organizations and associations that are competent in the field for which this committee is appointed may be invited upon request of the Secretariat. The main objective of this committee is to make decisions regarding proposals for amending or amending the Regulations concerning the international carriage of dangerous goods by rail - RID;

Committee of technical experts in which, in principle, it has a representative from each member state, and it serves to fulfill the objective of the Organization, which is a technical harmonization and a uniform procedure for the approval of the railway vehicles for their use in international traffic. Other representatives from international organizations like UIC, OSJD, EU, etc. can participate in this committee. This committee complements the uniform rules of ATMF and APTU.

Within the framework of the Convention, there are seven additions that constitute the Uniform Rules for International Carriage by Rail: Appendix A - CIV, Appendix B - CIM, Appendix C - RID, Appendix D - CUW, Appendix D - CUI, Appendix F - APTU and Appendix E – ATMF.

References

1. Ademi, M. "Corridor VIII Conference Address" Tirana, 2005.
2. Arzek, Z. "Transport and insurance" Faculty of Economics, Zagreb, 1995.
3. Andrijanic, I. "Foreign Trade" Zagreb, 1992.
4. Arzek Z., Badovinac, G. "Transport I osiguranje" Zagreb, 1981.
5. Bello W. "The multiple crisis of globalization", Geneva, 2001.
6. Davies, Hunter, "George Stephenson", 1975.
7. Dickinson, Henry Winram, "A Short History of the Steam Engine", Cambridge, 1939.
8. CARANA Corporation "The Role of Transportation and Logistics in International Trade" Washington, 2003.
9. Carsten H. "Efficient logistics holds the key to a low carbon transport future" Brussels, 2011.
10. Colin D. Ralf R. "From Rail to Road and Back Again?" New York, 2016.
11. Commission of the European Communities "European Transport Policy 2010" Brussels, 2001.
12. Graiger A. "Customs and International Supply Chains" Focus, 2000.
13. Hinkelman E. G. "Dictionary of international trade" Brno, 2008.
14. Kathuria S. "Western Balkans Integration and the EU - an agenda for trade and growth" Washington D. C., 2008.
15. Kilibarda M. "Spedition and agency business" Faculty of Civil Engineering, Belgrade, 2007.
16. Kommerskolletium "National Board of Trade, Trade Facilitation of the Developing Country Perspective" Sweden, 2003.
17. Lyons K. "Transport policies of the European Union", 2004.
18. Markovic I. "New Technologies of Transport" Zagreb, 1985.
19. Miltiadou M., TaxiltarisCh., Mintsis G., Basbas S. "BORDER CROSSINGS ALONG THE PAN-EUROPEAN CORRIDOR X:

INFRASTRUCTURAL AND PROCEDURAL IMPROVMENTS AND DERIVED BENEFITS" Lisboa, Portugal 2009.

20. Monsalve C. "Railway Reform in South East Europe and Turkey" Washington, 2011.

21. PAN - EUROSTAR "Developments and Activities between 1994 and 2003 / Forecast until 2010" 2005.

22. "Sector Operational Program for Transport" 2014.

23. "SEETO Comprehensive Network Development Plan 2014" 2013.

24. "STATUS OF THE PAN-EUROPEAN TRANSPORT CORRIDORS AND TRANSPORT AREAS" Viena, 2002.

25. "STATUS REPORT OF THE PAN-EUROPEAN CORRIDOR X" 2002.

26. UNCTAD "Negotiations on Transport and Logistic Services: Issues to Consider, UNCTAD / SDTE / TLB / 2005/3 Geneva 2006.

27. UNCTAD, Trade Logistic and Global Values Chains, TD / B / COM.3 / 84, 2008.

28. Wood D. Barone A. Murohy P. Wardlow D. "International logistics" AMACOM, 2002.

29. Zelenika R. Jakomin L. "Modern transport systems", Rijeka, 1995.

30. Atanasovski Zh. Biljanoska J. "Customs System and Policy" FTS, Ohrid, 2006.

31. Biljanokosa J. "International Trade" FTS, Ohrid, 2009.

32. Biljanoska J "Foreign Trade - Theory, Trade, Practice" FTS, Ohrid, 2005.

33. Velkoski S, "Economics of Traffic" FTS, Ohrid, 2005.

34. Government of the Republic of Macedonia, "National Program for Railway Infrastructure 2011 - 2013" Official Gazette of the Republic of Macedonia 48/2010, Skopje.

35. Esmerova E "Trade and Commerce" Skopje, 2013.

36. Report on the operations of the Customs Administration for the III quarter 2014.

37. Report on the work of the Customs Administration in the period July-September 2016.
38. Ministry of Transport and Communications of the Republic of Macedonia "National Transport Strategy 2007 - 2017" Skopje, 2009.
39. Ministry of Economy of the Republic of Macedonia "Overview of the outer lobby of the Republic of Macedonia 2009" Skopje, 2010.
40. "Capital 200 Tops and Most Successful" from 2013, 2014, 2015 and 2016.
41. Kostovski L. Project "Mala Stanica" Utrinski 2002.
42. Krstanoski M. "Right to Contracts in International Trade" FTS, Ohrid, 2005.
43. Krstanovski M. Rechkovski R. "Fundamentals of Law" FTS, Ohrid, 2007.
44. Krstanoski M. Smilevska D. "Customs Operations" FTS, Ohrid, 2008.
45. Nikolovski A. Krstanoski M. "Contracts in International Trade", NIP Studentski Zbor, Skopje, 1999.
46. Nikolovski A. "Traffic" Skopje, 1999.
47. Nikolovski A. "International Freight Forwarding" Faculty of Economics, Skopje, 2000.
48. Recockka G. "Technological characteristics of goods during transport" FTS, Ohrid, 2006.
49. Reckoska G. "Customs knowledge of goods" FTS, Ohrid, 2004.
50. Smilkovski I. "Transport and insurance in international trade" FTS, Ohrid, 2012.
51. Union of economists of Macedonia "The state and perspectives of the Macedonian economy", 2002.
52. Stojic G. Dimanoski K. "Technology of Railway Transport" Skopje, 2010.
53. Stojanovski J. Traikov A. "International Freight Forwarding" FTS, Ohrid, 2008.

54. Trajkov A. "Trade logistics" FTS, Ohrid, 2013.

55. Trajkov A. "World Trade Organization and Trade in Logistic Services" Skopje, 2012.

56. Trajkov A. Meshcheski S. "Specialized international organizations in the field of international freight forwarding and international transport", LOGOS Collection, Pejer Budi University, Prishtina, 2009.

57. Cvetanovski I. "Modern transport systems" Technical Faculty Bitola, 2007.

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