

# EUROSTAT 2019.21.06

## Freight transport statistics

Data extracted in June 2019.  
Planned article update: June 2020.

### Highlights

More than three quarters of total inland freight transport in the EU was by road.

27 % of EU air freight was carried through German airports in 2017.

Dutch maritime ports handled 15 % of EU seaborne goods in 2017.

### *Gross weight of seaborne goods handled in ports, 2017 (million tonnes)*

NLUKITESDEFRBEELSEFIDKPTPLLVIEROLTEEBGSIHRCYMTNOISTRMEmillion

tonnes050100150200250300350400450500550600650

- *Czechia, Luxembourg, Hungary, Austria, Slovakia and the EFTA countries Liechtenstein and Switzerland have no maritime ports.*

This article presents information on freight transport in the [European Union \(EU\)](#), covering the [transport modes road, rail](#), air, maritime and [inland waterways](#). The ability to move goods safely, quickly and cost-efficiently to markets is important for international trade, national distributive trades and economic development. The rapid increase in global trade and the deepening integration of an [enlarged EU](#), alongside a range of economic practices (including the concentration of production in fewer sites to reap economies of scale, delocalisation, and just-in-time deliveries), may (at least to some degree) explain the relatively fast growth of freight transport across the EU.

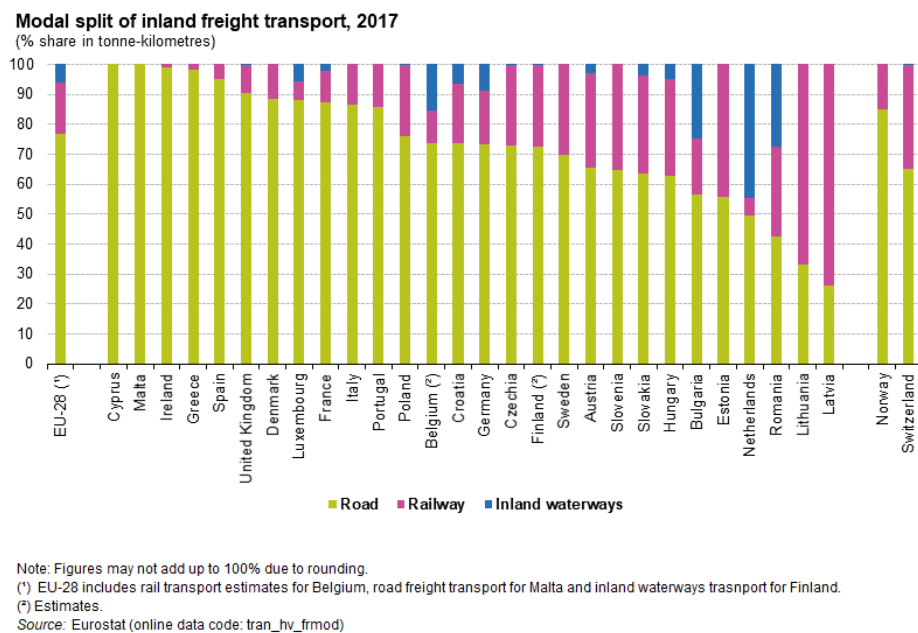
By contrast, strains on the transport infrastructure (congestion and delays), coupled with constraints regarding technical standards, interoperability and governance issues may slow down developments within the EU's freight transport sector.

### Full article

Modal split

## Modal split

In 2017, around three quarters of inland freight was transported by road (Figure 1). The road freight data used for this analysis have been adjusted to allow comparison with rail and inland waterways transport in terms of transport actually performed on the territory of each Member State. By contrast, the road freight data shown in Table 1 are based on where vehicles are registered, rather than where the transport takes place. More detailed information on the adjustments made to road freight data used for Figure 1 are available in a separate article, focused exclusively on the [modal split of freight transport](#).



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Figure 1: Modal split of inland freight transport, 2017

(% share in tonne-kilometres)

Source: Eurostat ([tran\\_hv\\_frmod](#))

The share of EU inland freight transported by road (76.7 %) was more than four times as high as the share transported by rail (17.3 %) in 2017. The remainder (6.0 %) of the freight transported in the EU was carried on inland waterways.

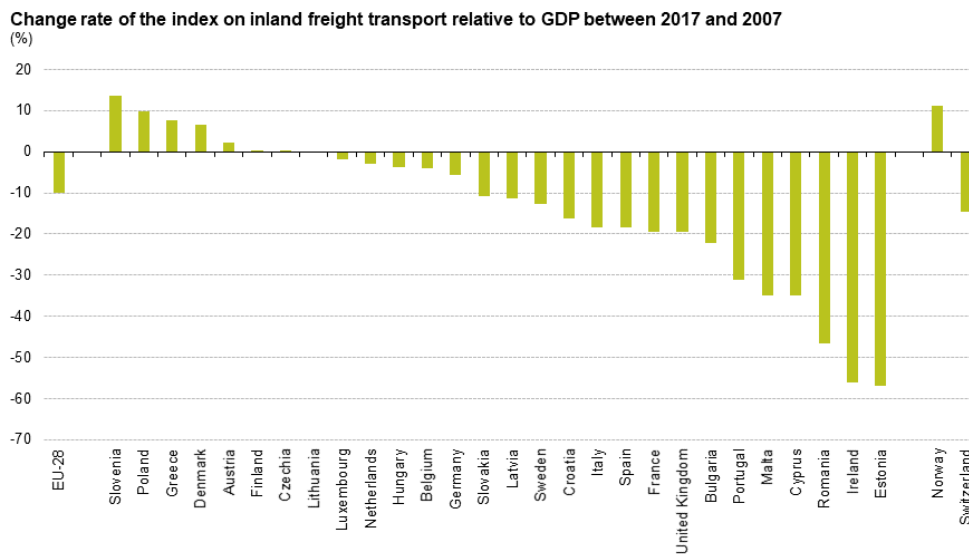
All inland freight transport in Cyprus and Malta was carried out by road, as they have no railways or inland waterways infrastructure. Elsewhere, road transport accounted for more than 90 % of inland freight transport in Ireland, Greece, Spain and the United Kingdom in 2017. By contrast, road transport accounted for less than 30 % of the inland freight transported in Latvia (26.0 %), with the remainder

transported by rail. Rail played an important role for the inland freight transported also in the other two [Baltic Member States](#) in 2017, with shares of 66.7 % in Lithuania and 44.4 % in Estonia. The share of inland waterways was substantially the highest in the Netherlands (44.7 %). High shares were recorded also in Romania (27.4 %), Bulgaria (24.9 %) and Belgium (15.6 %).

It should be noted that this analysis refers only to inland freight transport; considerable amounts of freight may be transported by maritime freight services and, for some product groups, by air transport or by pipelines.

## Relative growth of freight transport and the economy

Over the period 2007-2017, inland freight transport in the EU grew at a slower pace than the [gross domestic product \(GDP\)](#) at constant prices. Figure 2 shows that the ratio of these two values was 9.9 % lower in 2017 than in 2007.



Source: Eurostat (online data code: tran\_hv\_frtra)

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Figure 2: Figure 2: Change rate of the index on inland freight transport relative to GDP between 2017 and 2007

(%)

Source: Eurostat ([tran\\_hv\\_frtra](#))

Compared with the situation in 2007, Slovenia and Poland recorded the greatest increases in inland freight transport relative to GDP, with their indices 13.6 % and 9.8 % higher in 2017 than 10 years earlier, respectively. By contrast, the ratio of inland freight transport to GDP fell the most in Estonia (-57.0 %), Ireland (-56.2 %) and Romania (-46.6 %).

## Road freight

It should be noted that these road freight statistics are based on worldwide movements of vehicles registered in the reporting country ('nationality principle'). Among the EU Member States, road freight transport relative to population size was the highest in Luxembourg, where, on average, 15 786 [tonne-kilometres](#) of freight were transported by road for each inhabitant in 2017. This was 57 % higher than the next highest level of road freight transport per inhabitant, recorded in Lithuania (10 073 tonne-kilometres) (Table 1).

## Inland freight transport, 2017

	Road (*)	Rail	Inland waterways	Road (*)	Rail	Inland waterways
	(million tonne-kilometres)			(tonne-kilometres per inhabitant)		
<b>EU-28</b>	<b>1 920 613</b>	<b>:</b>	<b>147 203</b>	<b>3 752</b>	<b>:</b>	<b>288</b>
Belgium	34 220	:c	11 098	3 008	:c	976
Bulgaria	35 150	3 931	5 279	4 968	556	746
Czechia	:c	15 843	25	:c	1 495	2
Denmark	15 502	2 653	-	2 689	460	-
Germany	313 149	112 232	55 518	3 789	1 358	672
Estonia	:c	2 325	-	:c	1 765	-
Ireland	:c	100	-	:c	21	-
Greece	28 377	358	-	2 639	33	-
Spain	:c	10 677	-	:c	229	-
France	167 691	33 442	7 513	2 508	500	112
Croatia	11 834	2 592	813	2 865	628	197
Italy	:c	22 335	61	:c	369	1
Cyprus	826	-	-	961	-	-
Latvia	14 972	15 014	-	7 709	7 730	-
Lithuania	:c	15 414	0	:c	5 450	-
Luxembourg	9 414	:	195	15 786	:	327
Hungary	39 684	13 356	1 992	4 054	1 365	204
Malta	:	-	-	:	-	-
Netherlands	67 533	6 467	49 015	3 942	377	2 861
Austria	25 978	22 256	2 022	2 953	2 530	230
Poland	335 220	54 797	115	8 827	1 443	3
Portugal	34 186	2 751	-	3 319	267	-
Romania	54 704	13 782	12 517	2 793	704	639
Slovenia	20 814	5 128	-	10 073	2 482	-
Slovakia	35 411	8 477	933	6 510	1 558	172
Finland	27 966	10 362	:	5 077	1 881	:
Sweden	:c	21 838	5	:c	2 171	-
United Kingdom	:c	17 167	99	:c	260	1
Norway	:c	4 040	-	:c	766	-
Switzerland	11 947	11 665	:	1 414	1 380	-
Montenegro	:	169	-	:	272	-
North Macedonia	:	277	-	:	134	-
Turkey	:	12 676	-	:	158	-

Note: (-) not applicable (:) not available. (c) confidential.

(\*) Road transport is based on movements all over the world of vehicles registered in the reporting country.

Source: Eurostat (online data codes: road\_go\_ta\_totl, rail\_go\_total, iww\_go\_atygo and demo\_gind)

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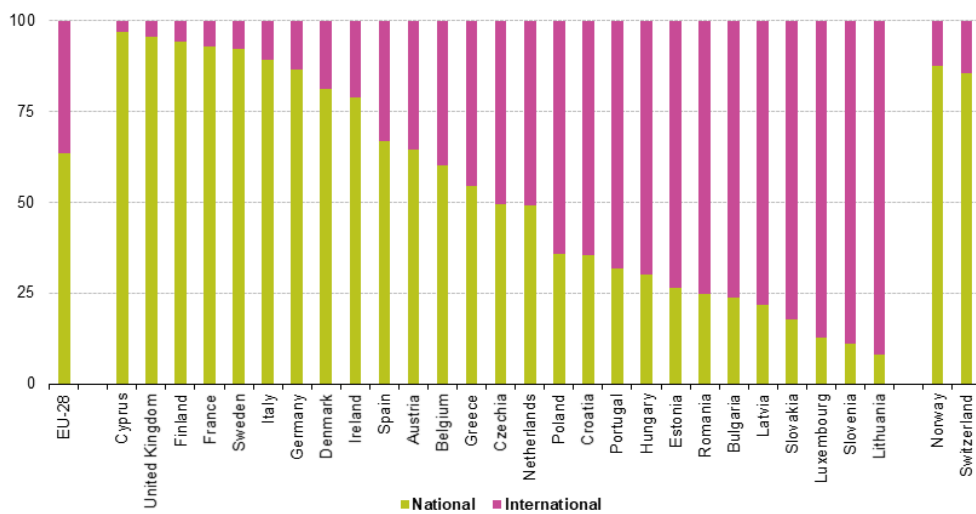


Table 1: Inland freight transport, 2017

Source: Eurostat ([road\\_go\\_ta\\_totl](#)), ([rail\\_go\\_typeall](#)), ([iww\\_go\\_atygo](#)) and ([demo\\_gind](#))

The split between national and international road freight varied considerably across the Member States (Figure 3). In 2017, the highest proportions of national road freight transport were recorded in Cyprus (97.1 %) and the United Kingdom (95.7 %), while shares in Finland, France and Sweden were also above 90 %. By contrast, fourteen Member States reported that the majority of the goods transported by vehicles registered in their Member State had taken place on foreign road networks. The share of international road freight transport in total road freight was particularly high in Lithuania (91.9 %), Slovenia (88.9 %), Luxembourg (87.1 %) and Slovakia (82.1 %).

**National and international laden road freight transport, 2017**  
(% share in tonne-kilometres)



Note: Data for Malta are not available.  
Source: Eurostat (online data code: road\_go\_ta\_tott)



Figure 3: National and international laden road freight transport, 2017

(% share in tonne-kilometres)

Source: Eurostat ([road\\_go\\_ta\\_tott](#))

## Air freight

About 16.3 million tonnes of air freight was carried through airports within the EU in 2017. Airports in Germany dealt with 4.7 million tonnes of air freight, considerably more than in any other EU Member State (Figure 4). The United Kingdom and France had the second and third highest amounts of air freight, with 2.7 and 2.5 million tonnes, respectively. Some of the smaller EU Member States are relatively specialised in air freight, notably all of the [Benelux](#) countries, in particular Luxembourg, which ranked as the seventh largest air freight transporter among the EU Member States.

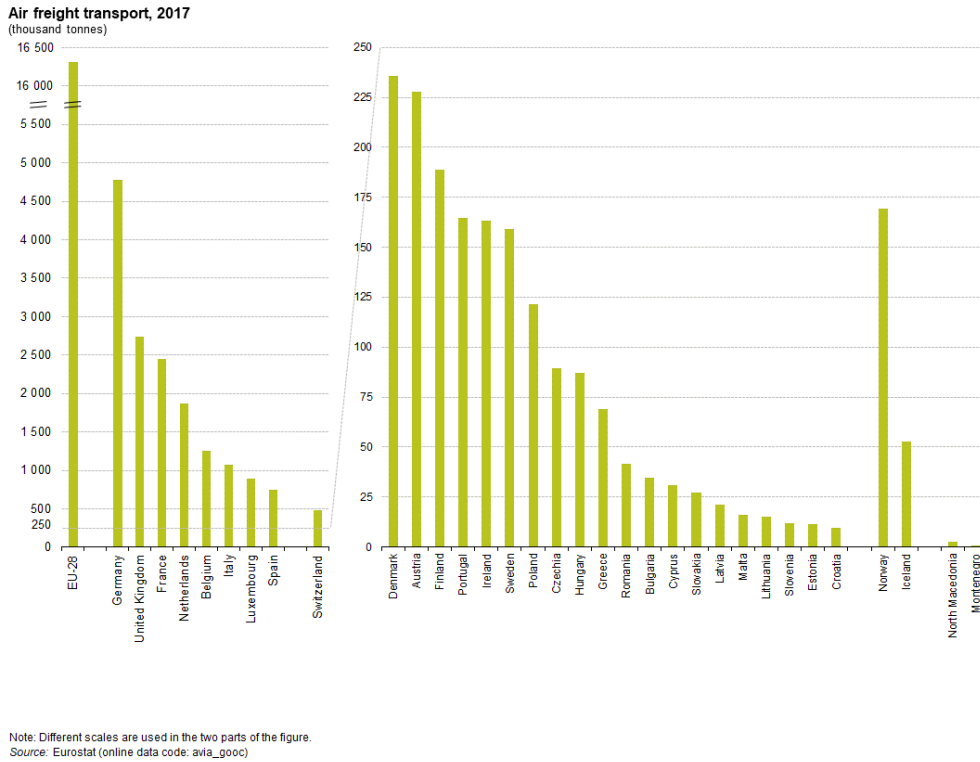


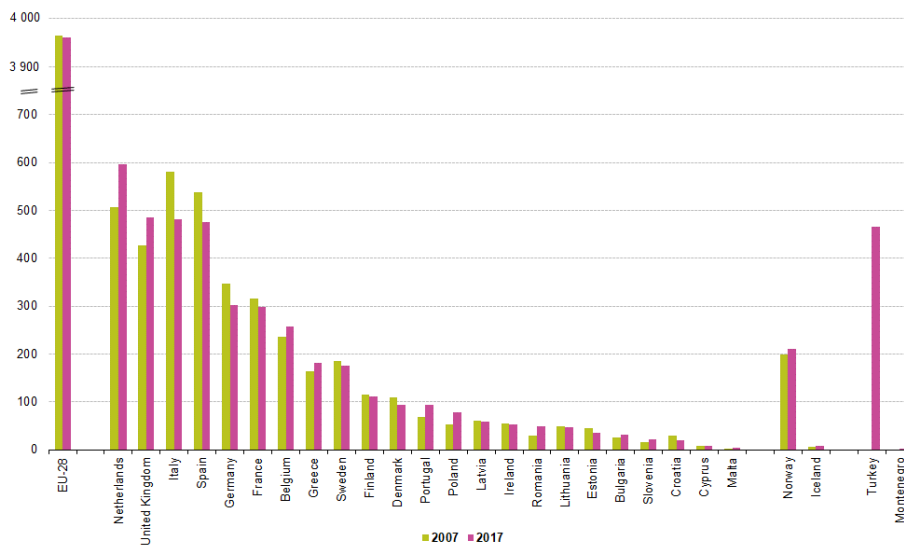
Figure 4: Air freight transport, 2017  
(thousand tonnes)

Source: Eurostat ([avia\\_gooe](https://ec.europa.eu/eurostat/tgm/table.do?tab=table))

## Maritime freight

Maritime ports in the EU handled almost 4.0 billion tonnes of seaborne goods in 2017. This was almost exactly the same volume as ten years before, with only a marginal decrease of 0.1 % when compared directly with 2007. Sea ports in the Netherlands handled close to 600 million tonnes of goods in 2017, while in the United Kingdom and Italy the level was close to 490 million tonnes; in Spain, the volume of freight handled in Spanish ports exceeded 470 million tonnes (Figure 5). These four EU Member States collectively handled more than half (51 %) of the EU’s seaborne freight.

Gross weight of seaborne goods handled in ports, 2007 and 2017  
(million tonnes)



Note: Czechia, Luxembourg, Hungary, Austria, Slovakia and the EFTA countries Liechtenstein and Switzerland have no maritime ports. 2007 data are not available for Montenegro and Turkey.  
Source: Eurostat (online data code: mar\_go\_aa)

eurostat



Figure 5: Gross weight of seaborne goods handled in ports, 2007 and 2017

(million tonnes)

Source: Eurostat ([mar\\_go\\_aa](#))

## Source data for tables and graphs

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[Freight transport statistics: tables and figures](#)

## Data sources

The development of freight transport statistics is based upon a raft of framework legislation and implementing legislation, generally organised according to the mode of transport under consideration. Statistics on inland freight transport are available with an annual frequency and [time series](#) generally begin in the early 1990s.

The majority of inland freight transport statistics are based on movements in each reporting country, regardless of the nationality of the vehicle or vessel involved (the ‘territoriality principle’). For this reason, the measure of tonne-kilometres (tkm), i.e. one tonne of goods travelling a distance of one kilometre, is generally considered a more reliable measure, as the use of tonnes entails a higher risk of double-counting, particularly for international transport. The methodology used across the EU Member

States is not completely harmonised: for example, road freight statistics are generally based on all movements (in the registration country or abroad) of vehicles registered in the reporting country (the 'nationality principle').

The [modal split](#) of inland freight transport is based on transportation by road, rail and inland waterways, and therefore excludes air, maritime and pipeline transport. It measures the share of each transport mode in total inland freight transport and is expressed in tonne-kilometres. Note that the data on the modal split presented in this article uses road freight data that have been adjusted to be based on the territoriality principle rather than the nationality principle.

The level of inland freight transport (measured in tonne-kilometres) may also be expressed in relation to GDP; within this article the indicator is presented based on GDP in constant prices for the reference year 2010. This indicator provides information on the relationship between the demand for freight transport and the size of the economy and allows the development of freight transport demand to be monitored relative to economic developments.

[Goods loaded](#) are those goods placed on a road vehicle, a railway vehicle or a merchant ship for dispatch by road, rail or sea. The weight of goods transported by rail and inland waterways is the [gross-gross weight](#). This includes the total weight of the goods, packaging, and the [tare weight](#) of the container, swap-body and pallets containing goods; in the case of rail freight transport, it also includes road goods vehicles that are carried by rail. By contrast, the weight measured for maritime and road freight transport is the [gross weight](#) (in other words, excluding the tare weight of the container).

## Road freight

Road freight transport statistics are collected under the framework provided by [Regulation \(EC\) No 1172/98](#) on statistical returns in respect of the carriage of goods by road, substantially amended several times, and recast as [Regulation \(EU\) No 70/2012](#). The data are based on sample surveys carried out in the reporting countries and record the transport of goods by road, as undertaken by vehicles registered in each of the EU Member States. It is important to note that almost all of the Member States apply a cut-off point for carrying capacity under which vehicles are not surveyed; this should not be greater than 3.5 tonnes carrying capacity, or 6 tonnes in terms of gross vehicle weight; some of the Member States also apply a limit on the age of the vehicles surveyed.

## Rail freight

Rail freight data are collected under the framework provided by [Regulation \(EU\) No 2032/2016](#) on rail transport statistics. The data are collected for a quarterly frequency (usually limited to larger enterprises) and for an annual frequency (covering enterprises of all sizes). Statistics for rail freight are not available for Malta and Cyprus (or Iceland) as they do not have a railway infrastructure. Rail statistics are also collected every five years in relation to a regional analysis ([NUTS](#) level 2).

Aside from the mandatory collection of data based on legal acts, [Eurostat](#) also collects rail transport statistics through a voluntary data collection exercise. The questionnaire used for this exercise provides information in relation to railway transport infrastructure, equipment, enterprises, traffic and train movements.

## Maritime freight

The legal framework for the collection of statistics on maritime freight transport is [Directive 2009/42/EC](#) on statistical returns in respect of the carriage of goods and passengers by sea (Recast). Maritime transport data are available for most EU Member States from 2001 onwards, although some countries have provided data back to 1997. Statistics on maritime freight are not transmitted to Eurostat by Czechia, Luxembourg, Hungary, Austria and Slovakia as they have no maritime ports; for the same reason maritime data are not available for Liechtenstein or Switzerland.

## Inland waterways freight

The legal framework for the collection of statistics on inland waterways freight transport is [Regulation \(EU\) 2018/974](#) of the European Parliament and of the Council of 4 July 2018. This Regulation is a codification of [Regulation \(EC\) No 1365/2006](#) on statistics of goods transport by inland waterways and includes all its amendments since 2006. Data on inland waterways are only required for those EU Member States with an annual quantity of goods transported that exceeds one million tonnes. On a voluntary basis, countries can provide only a reduced dataset. Currently, eighteen Member States provide data on mandatory or voluntary basis: Belgium (BE), Bulgaria (BG), Czechia (CZ), Germany (DE), France (FR), Croatia (HR), Italy (IT), Lithuania (LT), Luxembourg (LU), Hungary (HU), the Netherlands (NL), Austria (AT), Poland (PL), Romania (RO), Slovakia (SK), Finland (FI), Sweden (SE) and the United Kingdom (UK). Data collection is based on an exhaustive survey of all inland waterway

enterprises for all goods that are loaded or unloaded. In the case of transit, some countries make use of sampling methods in order to estimate the volume of goods transported.

## Air freight

The legal framework for air transport statistics is provided by [Regulation 437/2003](#) on statistical returns in respect of the carriage of passengers, freight and mail by air. Statistics on air freight are collected for freight and mail loaded and unloaded in relation to commercial air flights. The information covers national and international freight transport.

Air transport statistics are collected at the airport level by the EU Member States, Norway, Iceland, Switzerland and the [candidate countries](#). Annual data are available for most of the Member States for the period from 2003 onwards, while some countries have provided data back to 1993. Air freight statistics are also collected for a monthly and a quarterly frequency and with a regional analysis (NUTS level 2).

Treatment of double counting in air freight statistics: the national aggregates and total intra-EU-28 aggregates exclude any double counting. They include all the reported departures plus a part of the reported arrivals; the reported arrivals that are included are those for which the corresponding departures of the partner airport are missing.

## Context

As part of its review of transport policy through to 2010, the [European Commission](#) made a number of suggestions for new policy developments, which were subsequently expanded upon in the form of a series of Communications, including:

- [the EU's freight transport agenda: boosting the efficiency, integration and sustainability of freight transport in Europe](#) (COM(2007) 606 final);
- [a freight transport logistics action plan](#) (COM(2007) 607 final);
- [a move towards a rail network giving priority to freight](#) (COM(2007) 608 final);
- [a European ports policy](#) (COM(2007) 616 final);
- [a 'greening transport' package](#) (COM(2008) 433 final);
- [a set of strategic goals and recommendations for the EU's maritime transport policy until 2018](#) (COM(2009) 8 final);

- [a European maritime transport space without barriers](#) (COM(2009) 10 final).

This was followed in mid-2009 by a Communication titled '[A sustainable future for transport: towards an integrated, technology-led and user friendly system](#)' (COM(2009) 279 final) and in March 2011 by a White paper titled '[Roadmap to a single European transport area — towards a competitive and resource efficient transport system](#)' (COM(2011) 144 final). This comprehensive strategy contains a roadmap of 40 specific initiatives to build a competitive transport system over a 10 year period that aims to increase mobility, remove major barriers in key areas and fuel growth and employment.

More details concerning the European Commission's proposals for transport policy initiatives are provided in an [introductory article on transport in the EU](#).