

Assisting countries to Monitor the Sustainable Development Goals: Gathering Bus Statistics



Key messages

- **Bus transport is a low-cost, safe, green and effective means of moving people into and around cities, and is the majority of public passenger-km in 14 out of 19 member States with available data. It is thus a useful tool for countries to implement to achieve the Sustainable Development Goals, in particular Goal 11 on sustainable cities.**
- **There exists a real need for comparable data for buses that is not currently met.** UNECE's Working Party on Transport Statistics has in the past prioritised this, by setting up a task force on data collection and subsequently developed a pilot questionnaire with Eurostat. The disseminated dataset covers 26 countries.
- While data completeness is an area for improvement, **comparability of definitions across countries remains the biggest challenge to meaningful analyses**, such as defining the difference between urban and interurban journeys.
- Despite methodological challenges, these data are a useful activity backdrop to **measure access to urban public transport and SDG 11**. The number of journeys and passenger-km indicators are the most relevant indicators.

Summary



Given the complexity of the task of monitoring over 240 indicators across many Sustainable Development Goals, UNECE has decided to publish a series of short articles on how our existing transport statistics can be used to directly monitor transport-related SDG progress. This paper focuses on UNECE's **bus and coach statistics**. Through the Web Common Questionnaire (WebCoQ) in collaboration with the International Transport Forum and Eurostat, UNECE has for decades collected data on road traffic and people transport measurement, in vehicle kilometres and passenger kilometres. Both of these are broken down by type of vehicle, including for coaches and buses. Around ten years ago, WP.6 recognised that these top-level data were insufficient for meaningful analysis of travel by bus, where much interest lay and yet little data existed. Member States expressed their desire to see better analyses of the bus situation across countries to develop evidence-based policies. Bus travel is a low-cost, safe, green and effective means of transporting large numbers of people into and around cities, and thus an important transportation tool that countries can apply to achieve many Sustainable Development Goals.

A [task force](#) was established under WP.6 to assess data user needs against what data were likely to be available for a reasonable number of countries, also considering the reporting burden on countries. This

task force produced a pilot questionnaire for data to be collected through WebCoQ, together with a handbook on the various domains of bus and coach statistics that collection could be considered for. In addition to breaking down the already-available vehicle-km and passenger-km data into different types of bus journey (urban versus interurban, national versus international etc), further indicators were asked for such as the number of journeys offered, the number of passengers, and seat-km offered.

Data Availability

The following summary statistics and analyses are based on data received as of January 2018.

In total, 26 countries provide data on one or more of the indicators mentioned above: these countries are Austria, Belgium, Bulgaria, Croatia, Czechia, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia (FYROM), and United States.

Only four countries (Belgium, Latvia, Portugal and Slovenia) provided data on journeys offered, and a further nine (Belgium, Estonia, Germany, Malta, Norway, Poland, Portugal, Sweden and FYROM) provided seat-km offered.

23 countries provided data for passenger-km, 24 for passenger numbers, and 22 for vehicle-km.

Analyses

The value in this dataset is not just in the top-level figures, but seeing the breakdown of different categories of bus journey, and also comparing the bus figures against other modes of public transport. These comparisons are set out in the following few sections.

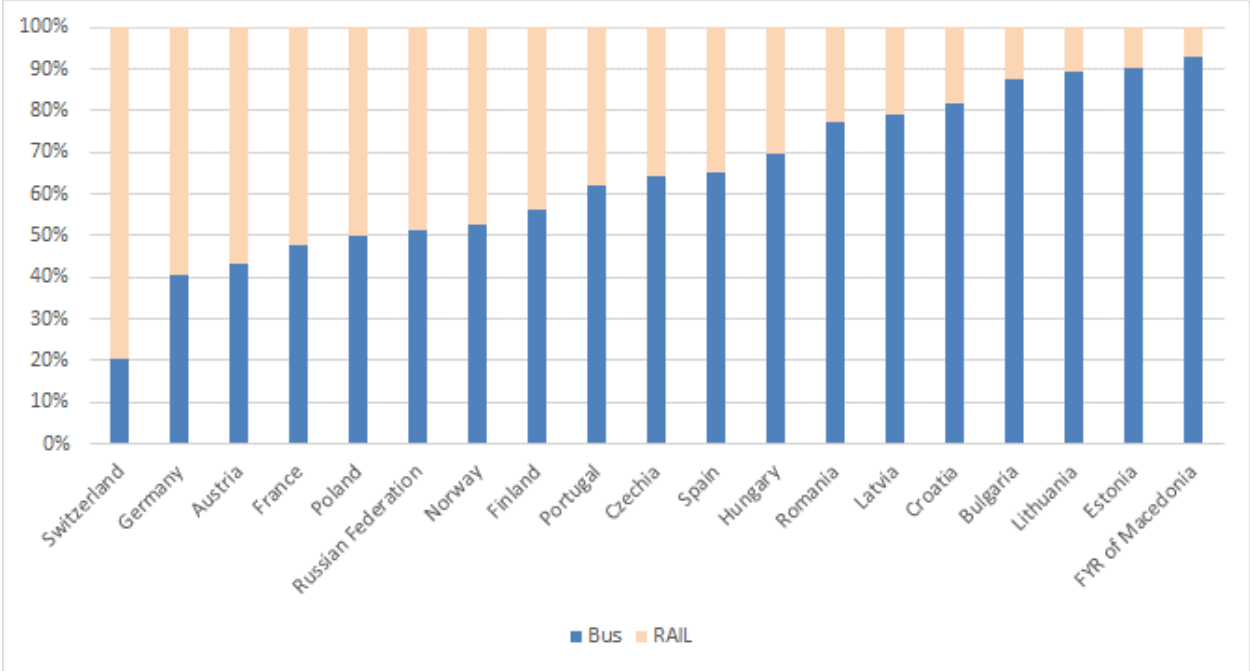


Figure 1: Comparison of bus and rail passenger-km, 2016 or latest year

Comparison with Rail Passenger-Km

Of the nineteen countries with data available, fourteen reported higher passenger usage of buses (as measured by passenger-km) than trains. The former Yugoslav Republic of Macedonia (FYROM), Estonia and Latvia had the largest share of public transport use by buses, while Switzerland and Germany had the lowest. For overall passenger transport (including passenger cars), the percentage of passenger-kms by bus ranged from 5% in Switzerland to 24% in FYROM. These numbers highlight that **bus transport is the largest part** of public transport in many countries (see Figure 1).

Regular versus Occasional Transport

For those countries that provided a breakdown between the two, the share of occasional journeys extends from 5 percent in Romania to 35 percent in Czechia. That regular bus transport typically is the larger part of bus transport is unsurprising, particularly when journeys in and around urban areas are correctly included.

Methodology: regular transport refers to those journeys that are normally thought of as public transport, such as scheduled services from designated pick-up points with no prior arrangement. Occasional services refer to the private hire of a bus (for example for a school trip or group excursion.) Data for regular transport are typically better, as they may come from timetable information or be a mandatory collection as part of a public service contract, whereas occasional services must come from surveys of coach companies.

Urban versus interurban transport

Of the eleven countries that provided any breakdown between urban and interurban passenger-km, four (Italy, Hungary, Norway and Estonia) had a larger interurban share, whereas the remaining seven (Finland, Bulgaria, Latvia, Czechia, Portugal, Lithuania and FYROM) had a larger urban share (see Figure 1).

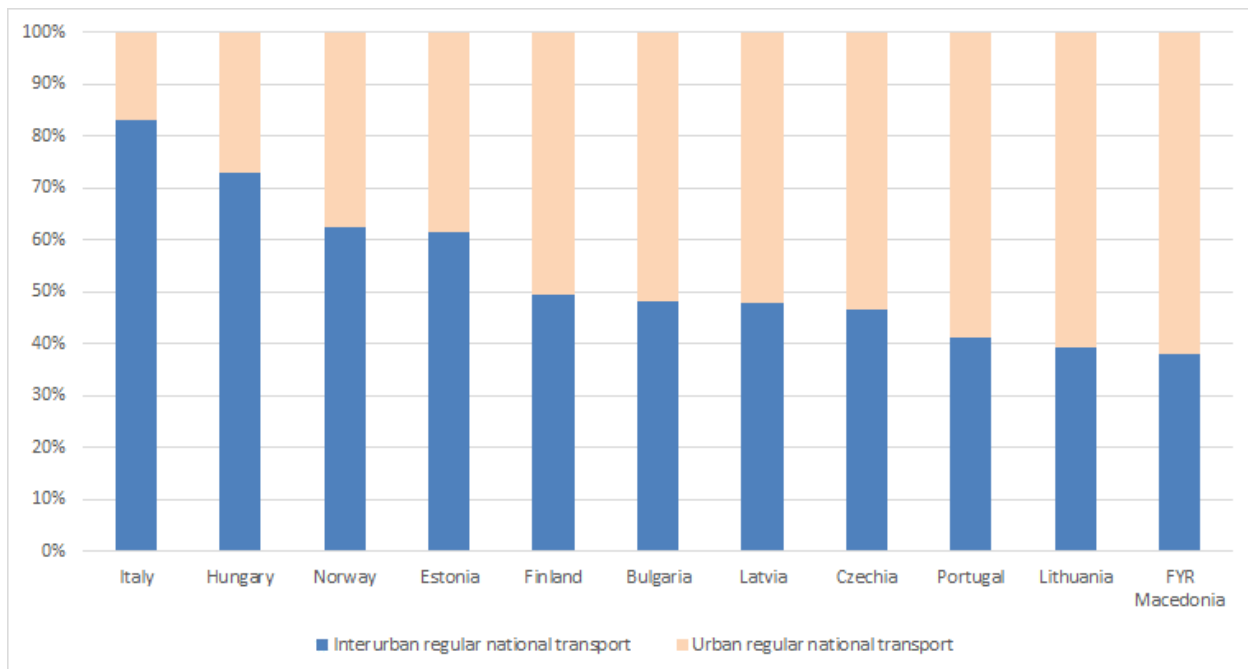


Figure 2: Breakdown of regular national bus transport passenger-km by urban versus interurban, 2016 or latest year.

Methodology: splitting urban versus interurban journeys is somewhat arbitrary and inconsistent across countries. Some of the distinctions used include: the distance of the journey, whether the bus journey crosses certain internal borders, the definition of city or urban area, whether the journey is publicly subsidised.

Transport-related SDG Measurement

By publishing these data, UNECE hopes to provide policy-makers in member States with the necessary information on the relative share of all transport modes, to make informed decisions about how to make future transport systems safe, efficient, accessible and sustainable.

Relevance to SDG3

Bus travel is one of the safest means of transportation in terms of fatalities per passenger-km (which these activity data help calculate), and thus increased transport by bus is likely to directly reduce overall road fatality rates (3.6.1), particularly when these journeys displace private car use. Further, the nature of bus travel, with short walks to and from origin and destination stops, can promote active mobility and improve health outcomes. Bus travel in rural areas also allows access to health services for those without access to a private vehicle.



Relevance to SDG9

Well-developed bus transport is a key part of any efficient transportation network, allowing economic development. The measurement of passenger volumes (9.1.2) is typically given for the whole of the road sector when measuring this indicator, but splitting this between passenger cars and buses increases the granularity and ultimately the usefulness of the dataset. The benefits of bus travel over passenger cars in terms of resource efficiency (energy, highway space) are also worth considering with respect to Goal 9.



Relevance to SDG 11

Given the unprecedented urban growth of recent decades and this trend expected to continue in the future, promoting sustainable urban transportation is vital for a prosperous and green future, with air that is clean and a population with access to basic services. While these bus data do not measure urban public transport access directly, they do provide insights, in particular when urban journeys are split out.



Interlinkages with other SDGs

These bus statistics can also provide insights into monitoring some other Goals, such as

1. Goals 4 and 5 (quality education and gender equality): bus transport can provide access to education, work and opportunities to both sexes, and to those who may not otherwise have access to transport.

2. Goal 7 (affordable and clean energy): due to bus transport's low emissions per passenger, increased use can improve energy efficiency (7.3.1), and modern buses are increasingly powered by cleaner energy sources such as biofuels, electricity or compressed natural gas (7.2.1).
3. Goal 13 (climate action): The energy per passenger-km of bus transport is less than a third that of a passenger car, and this can be expected to decline further with the uptake of cleaner vehicles mentioned above, thus bus transport contributes to reduced greenhouse-gas emissions.

Other data sources to consider

Detailed energy efficiency information combined with this bus activity data could provide further insights into the energy efficiency of bus transport, allowing a better measurement of Goal 7. Combining the urban bus journey numbers with urban population figures could allow the calculation of an urban citizen's typical number of bus journeys a year.

Collecting further bus statistics on a regional or geospatial basis could identify the existing key bus routes, and potential demand for new routes, particularly if it was combined with population density information, providing further insights for Goal 11. And finally, the positions of urban bus stops combined with urban population density would measure indicator 11.2.1 directly.

The UNECE bus statistics can be viewed at <http://w3.unece.org/PXWeb/en>.

Information on UNECE's transport-related SDG capacity-building activities can be viewed at unece.org/trans/transport-and-the-sustainable-development-goals.html, and general details on measurement of the Sustainable Development Goals can be found at unstats.un.org/sdgs/iaeg-sdgs/.

For further information on how to collect transport statistics or to discuss statistical collaboration, please contact Stat.Trans@un.org.