Harmonising Transport Statistics: UNECE Standards, Methodologies and Classifications

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Overview

- UNECE Sustainable Transport Division
- Transport Statistics Collection Programme
- Standards and Harmonisation with Statistical Examples

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59 conventions, 1764 Contracting Parties

Transport and UNECE

Visible signs of UNECE Transport activities

UNECE

International Driving Permit

Green Card — Motor Vehicle Insurance System

CMR — Contract for the International Carriage of Goods by Road

CH — Convention on Road Traffic

Convention on Road Signs and Signals

Border Crossing — Harmonization of Frontier Controls of Goods

E40 — Infrastructure Agreements for roads (AGR), Rail (AGC), Inland Water Transport (AGN), Intermodal Transport (AGTC)

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE

Number of agreements
0   >40
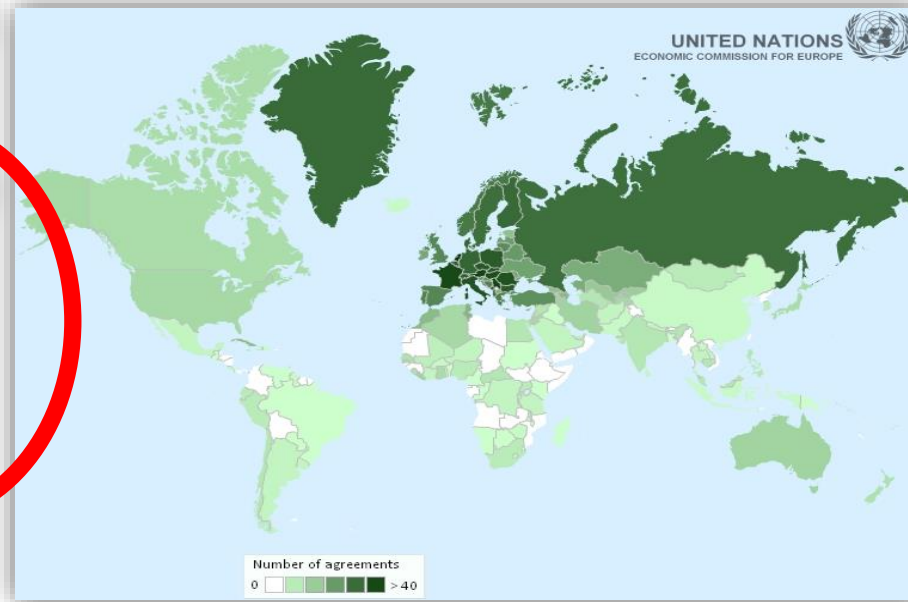
E₁ — World Forum for Harmonization of Vehicle Regulations (WP 29)

ADR — International Carriage of Dangerous Goods by Road

ADN — International Carriage of Dangerous Goods by Inland Waterways

ATP — Carriage of Perishable Foodstuffs

Work of Crews of Vehicles engaged in International Road Transport / Digital Tachograph
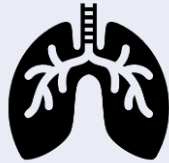
European Code for Inland Waterways

TIR — Global Customs facilitation tool

Many signatories in the ESCWA region, e.g. Lebanon (7), Tunisia (17).

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Transport policy Issues	Questions that transport statistics can answer
Global heating emissions (Transport is 25% of CO_2 from fuel combustion and rising)	• What are the fuel sources of all/new vehicles? • Vehicle-km levels per ton of CO_2? Are cars getting greener?
Local air quality (transport is 50% of particulate matter emissions in OECD)	• How many passenger cars are powered by diesel? • How many cars are >5 years old?
Transport Logistics	• How are goods transported in my country? **Where?** • Is it in containers or bulk? How many transhipments at ports?

Transport policy Issues	Questions that transport statistics can answer
Road safety	• 1.35 million die on the roads each year. How does my country compare? • Who are the victims? Car drivers or pedestrians? Age/gender breakdown? • Can we compare safety across modes (per vehicle-km)
Public transport access	• How many people live within 500m of a bus stop? • How many passenger numbers are there on the bus/train/tram network? • How does it split by gender? Do women feel safe? How many jobs can be reached within 45 minutes?
Rural transport options	• How many people within 2km of an all-season road? • What is the modal split of rural regions? • How do vehicle-km split between urban and rural areas?

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Transport Statistics Collected by UNECE

- Statistics cover all inland modes (road, rail, IWW, pipeline).

- Infrastructure, vehicles, traffic (Vkm), transport measurement (Pkm and Tkm), and safety.

- Majority of data comes through **Common Questionnaire** with Eurostat and ITF. This reduces the reporting burden, improves harmonization and comparability.

All freely available to download, use and disseminate https://w3.unece.org/PXWeb/en.

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Transport Common Questionnaire

- Data are submitted by countries through an online questionnaire. Data can be entered manually (time consuming) or uploaded as a bulk file.

- Very detailed, +900 indicators for some countries.

- Purely a **voluntary** collection (other data are mandated legislation at the E.U. level)

- 2019 data requested in September 2020, checked and published by January/February 2021.

- Some countries have one focal point (NSO or MoT). Some have multiple contacts for each transport mode, in highway agencies, rail companies, NSO, MoT, Infrastructure agencies etc.
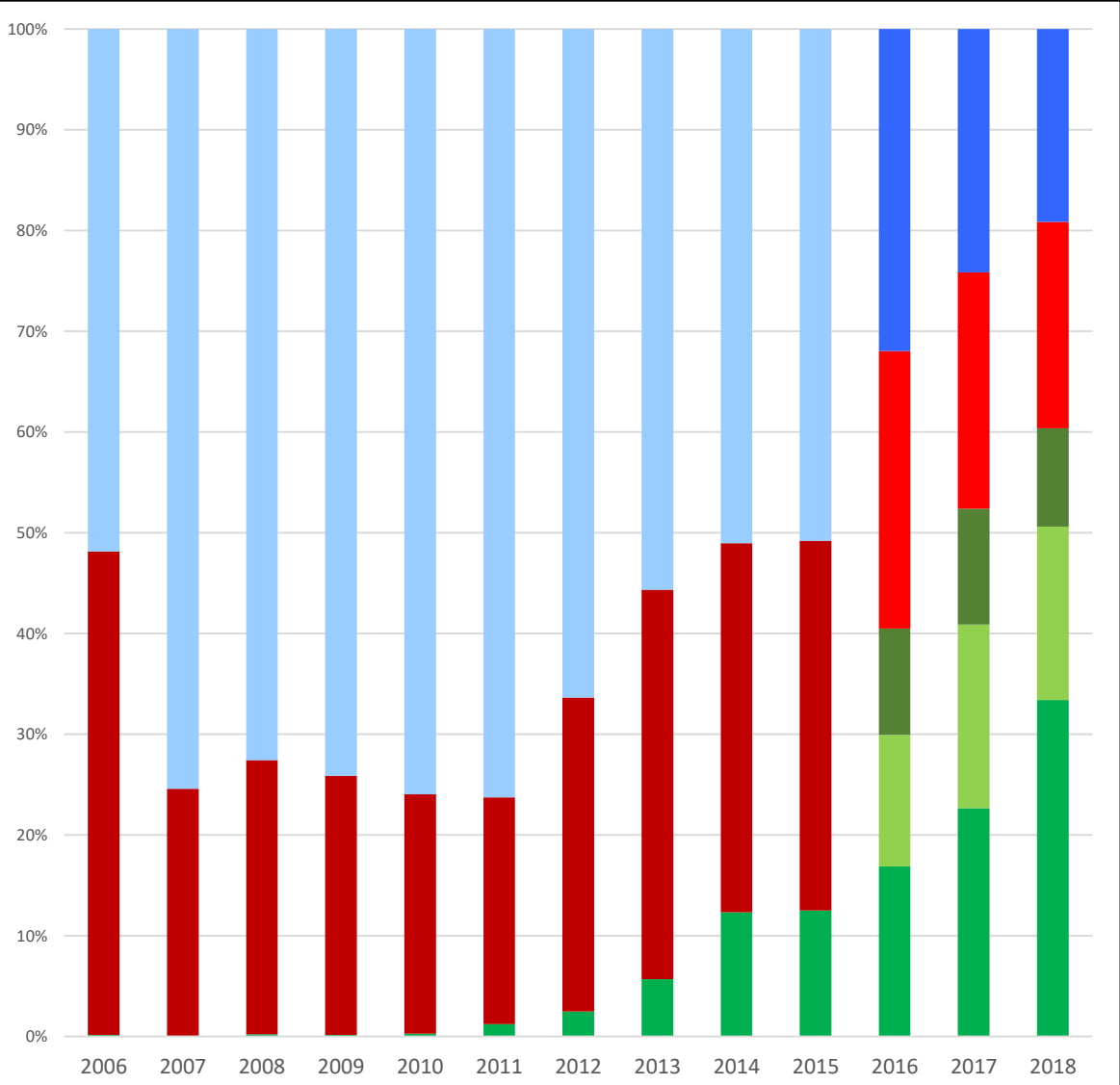
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Examples from UNECE data: Passenger cars in Norway

Total Fleet   Vs.   New registrations
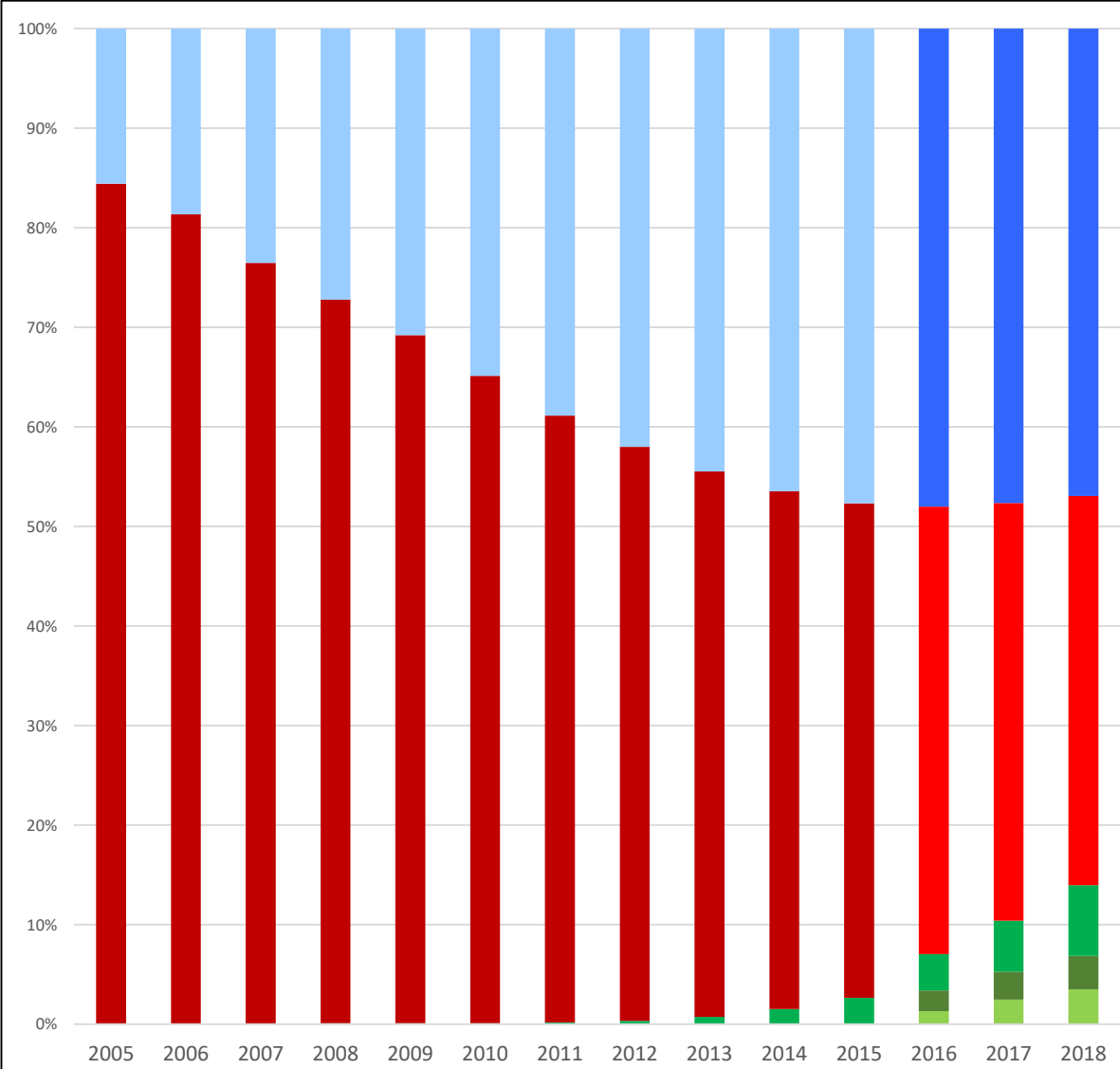
In the European Union Context

- Most E.U. transport data are collected based on several pieces of legislation, placing a legal obligation on countries to submit data. Thus coverage is typically high/complete.

- Example: (EU) 2018/643 concerns all data for rail statistics.

- There is some overlap with common questionnaire and the legally required data.

- Legal acts are not exhaustive: do not cover road passenger-km, passenger car numbers, which are crucial to understanding passenger transport.

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Transport Statistics Glossary

- Existed as joint UNECE/Eurostat/ITF statistical framework since early 1990s. Covers ALL transport modes. Infrastructure, vehicles, traffic, transport measurement, safety.

- 5th edition released 2019. Additions on passenger mobility, environmental matters, maritime accidents, intermodal transport.

- Allows transport statistics to be produced consistently across countries and modes. Countries should consider it a reference: it is possible to go into more (or less) detail as relevant.

Glossary for transport statistics
5TH EDITION | 2019

International Transport Forum   United Nations   MANUALS AND GUIDELINES | eurostat

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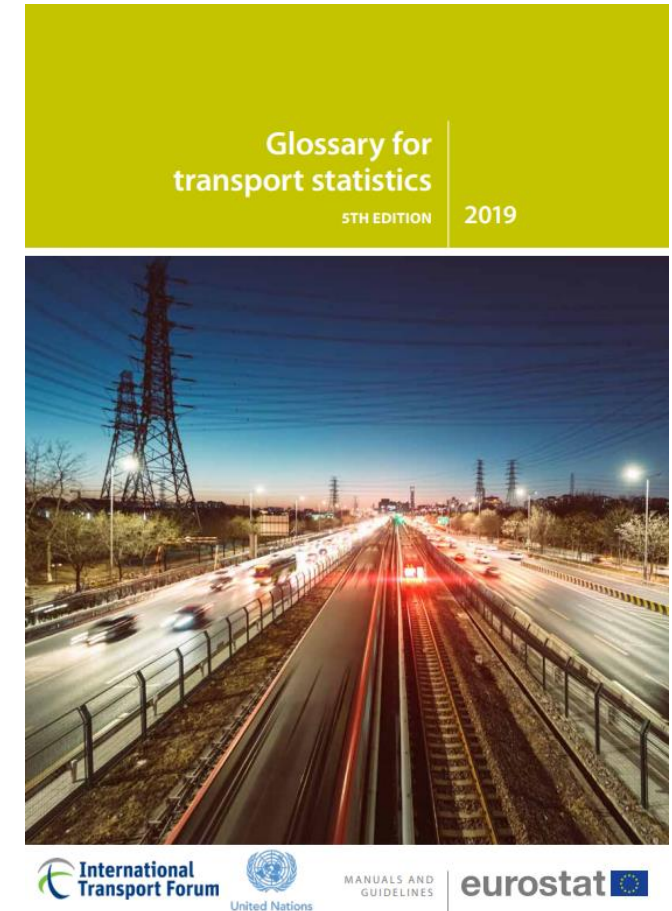
Vehicle Fleet – Passenger Car

B.II-11 **PASSENGER CAR**

Road motor vehicle, other than a moped or a motor cycle intended for the carriage of passengers and designed to seat no more than nine persons (including the driver). Refers to category M_1 of the UN Consolidated Resolution on the Construction of Vehicles (R.E.3).

Included are:

a) *Passenger cars;*

b) *Vans designed and used primarily for transport of passengers;*

c) *Taxis;*

d) *Hire cars;*

e) *Ambulances;*

f) *Motor homes;*

g) *Special passenger cars (police cars, firefighter's cars).*

Excluded are light goods road vehicles, cf. definition B.II-21, as well as motor-coaches and buses, cf. definitions B.II-14 and B.II-15, and mini-buses/mini-coaches, cf. definitions B.II-16.

"Passenger car" includes microcars (needing no permit or having the same requirements as mopeds to be driven), taxis and passenger hire cars, provided that they have fewer than ten seats.
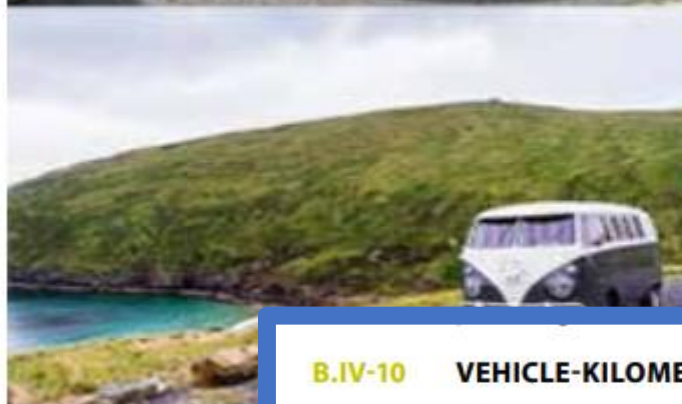
B.IV-10 **VEHICLE-KILOMETRE**

Unit of measurement representing the movement of a road vehicle over one kilometre.

The distance to be considered is the distance actually run. It includes movements of empty road motor vehicles. Units made up of a tractor and a semi-trailer or a lorry and a trailer are counted as one vehicle.

Harmonisation is always an ongoing process

From the WP.29 1998 agreement on vehicle categories
ECE/TRANS/WP.29/1045

| Categories	Japan	Europe	United States of America
Passenger Car	Passengers of 10 or less	Passengers of 9 or less (M1)	Passengers of 10 or less (Passenger Car) (MPV: truck chassis or off-road use)
Bus	Passengers of 11 or more	Passengers of 10 or more M2:GVM≤5t M3:GVM>5t	Passengers of 11 or more
Truck	Quantitative Definition Floor area (Passenger < Cargo) Weight (Passenger < Payload) Loading/Unloading openings (dimension / area)	Qualitative Definition ("designed and constructed for the carriage of goods") N1:GVM≤3.5t N2:GVM≤3.5t–12t N3:GVM>12t *Each country has different criteria.	Qualitative Definition ("carrying load or commercial goods")

?

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Harmonisation is always an ongoing process

- UNECE goods data across modes are not collected on the same basis (Road is residency of lorries, inland water and rail based on territory principle.)
- Some countries measure vehicle-km through odometers, others through cameras.

Motor Vehicle Movements on National Territory by Country, Year, Topic and Vehicle-kilometres (millions)

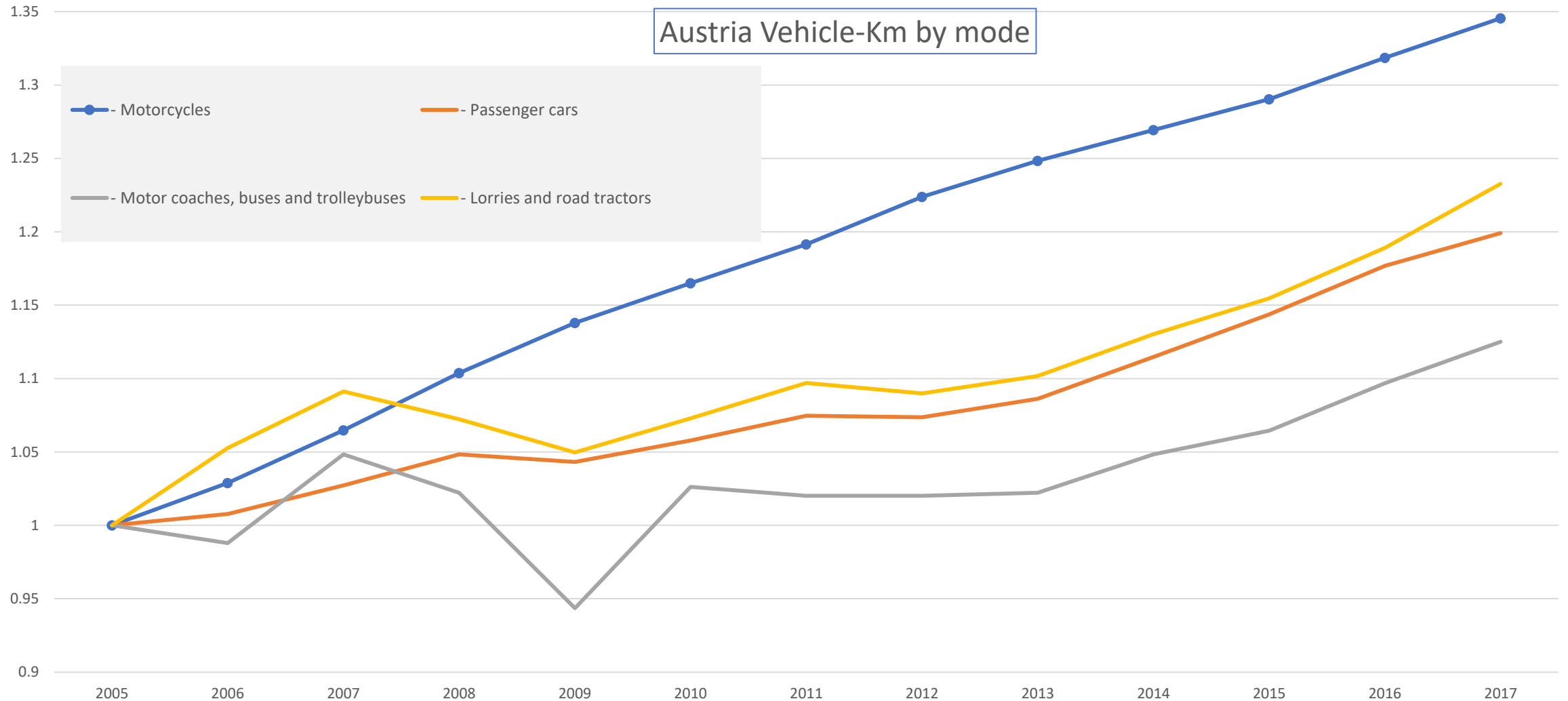|	2018	
	Irrespective of the country of registration	Registration in the reporting country
	- Passenger cars	- Passenger cars
Croatia	20 310	..
Denmark	..	40 827
Estonia	8 924	..
Finland	40 718	..
France	560 286	530 551
Germany	..	642 200
Hungary	31 578	..
Ireland	36 817	36 817
Israel	..	49 581
Latvia	..	10 898
Lithuania	9 696	17 487
Malta	..	2 354
Netherlands	110 185	104 736
North Macedonia	3 725	3 725
Norway	35 989	35 629
Romania	43 354	..
Spain	219 011	..
Sweden	68 483	..
Switzerland	59 344	50 553
Ukraine	..	3 805
Uzbekistan	3 024	..
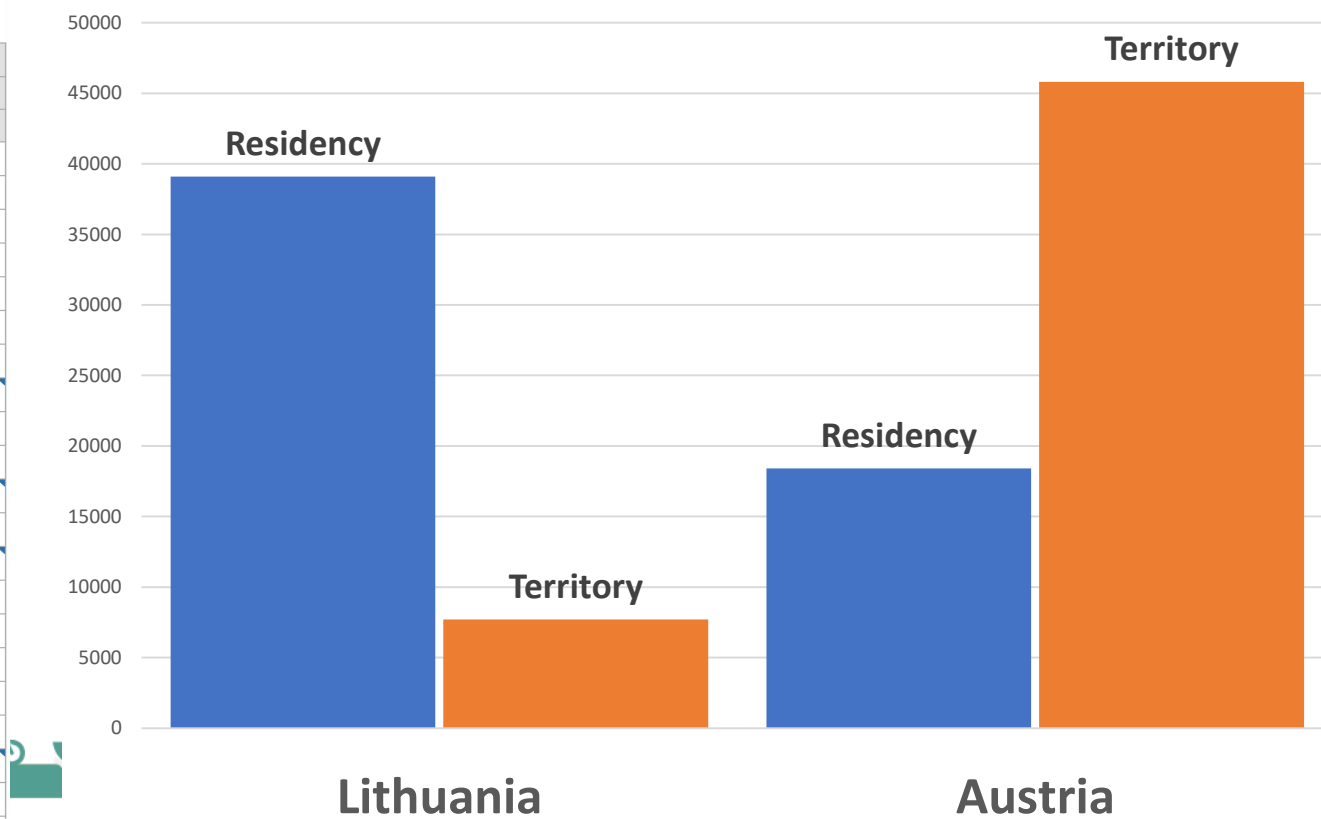
Vehicle-km details

- Odometer readings
  - Taken at road worthiness tests (available through admin data?) or random stops
  - Time lagged by 2-3 years
  - Covers vehicles registered (unregistered and foreign vehicles excluded)
  - Can allow detailed breakdown of vehicle-km by e.g. plug-in hybrids, electric buses etc
- Cameras/Sensors
  - Can be automatic and collect data 24/7
  - Will cover all vehicles, including illegal, non-motorized, foreign vehicles
  - Shows where the traffic takes place (rural/urban? major/minor roads?)
- Modelling/Estimation
  - GDP/ Fuel consumption plus vehicle fleet (weight, age) data
- New sources
  - Mobile phone or routeplanning data?

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Different trends for different vehicles

Austria Vehicle-Km by mode

- Motorcycles
- Passenger cars
- Motor coaches, buses and trolleybuses
- Lorries and road tractors

Summary

- Transport Statistics are necessary to analyse road safety, infrastructure planning and maintenance, environmental performance, employment, accessibility, gender etc.

- Producing them following **international standards** allows meaningful comparisons and analysis across countries.

- The Transport Statistics Glossary provides harmonized definitions, but regional variations or clarifications are inevitable, and to be welcomed.

- Legal acts can achieve high response rates. Voluntary collections can work well too. Important to consider international standards and response burden when designing questionnaires.

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Suggestions? Comments?
We are here to help!

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Annex: Data Collection Examples

- UK Vehicle count methodology
  https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/611304/annual-road-traffic-estimates-2016.pdf

- Finland traffic volumes mapped
  http://www.liikennevirasto.fi/web/en/maps-charts/traffic-volumes#.WddBz6iCyUk

- Ireland traffic count map

https://www.nratrafficdata.ie/c2/gmapbasic.asp?sgid=ZvyVmXU8jBt9PJE$c7UXt6

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New Data Sources

Pages / UNECE Transport Statistics Home

ITF/UNECE Informal Mobility Group

Created by Alexander BLACKBURN, last modified just a moment ago

This page collates resources for the ITF and UNECE group on new mobility indicators.

The aim of the series of meetings is to:

1. **Provide a platform** for interested countries to exchange on critical issues they are facing during this covid crisis;
2. **Discuss methodologies** and joint approaches to the use of "fast indicators" to ensure their comparability across countries;
3. **Develop strategies** for new methods of data production, considering obtaining data from private sources, ensuring sustainability of production, and considering ways to measure t
4. **Collate available information** in a single place for countries to use as they wish.

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