

AIPCR / IFSTTAR / URF
Colloque PL & VUL
Marne la Vallée, 31 mars 2016

Understanding the role of LCVs in the European transport system

Michel Savy
Distinguished Professor
Paris East University, Paris, France
SPLOTT, IFSTAR
savy@enpc.fr

Presentation

- 1. The blurred part of the transport system
- 2. A European and global overview
- 3. Ownership and use of LCVs in Europe
 - 3.1. Sources
 - 3.2. Fleet
 - 3.3. Owners and users
 - 3.4. Uses and usages
 - 3.5. LCVs and freight: an appraisal
- 4. Conclusion and perspectives
- References

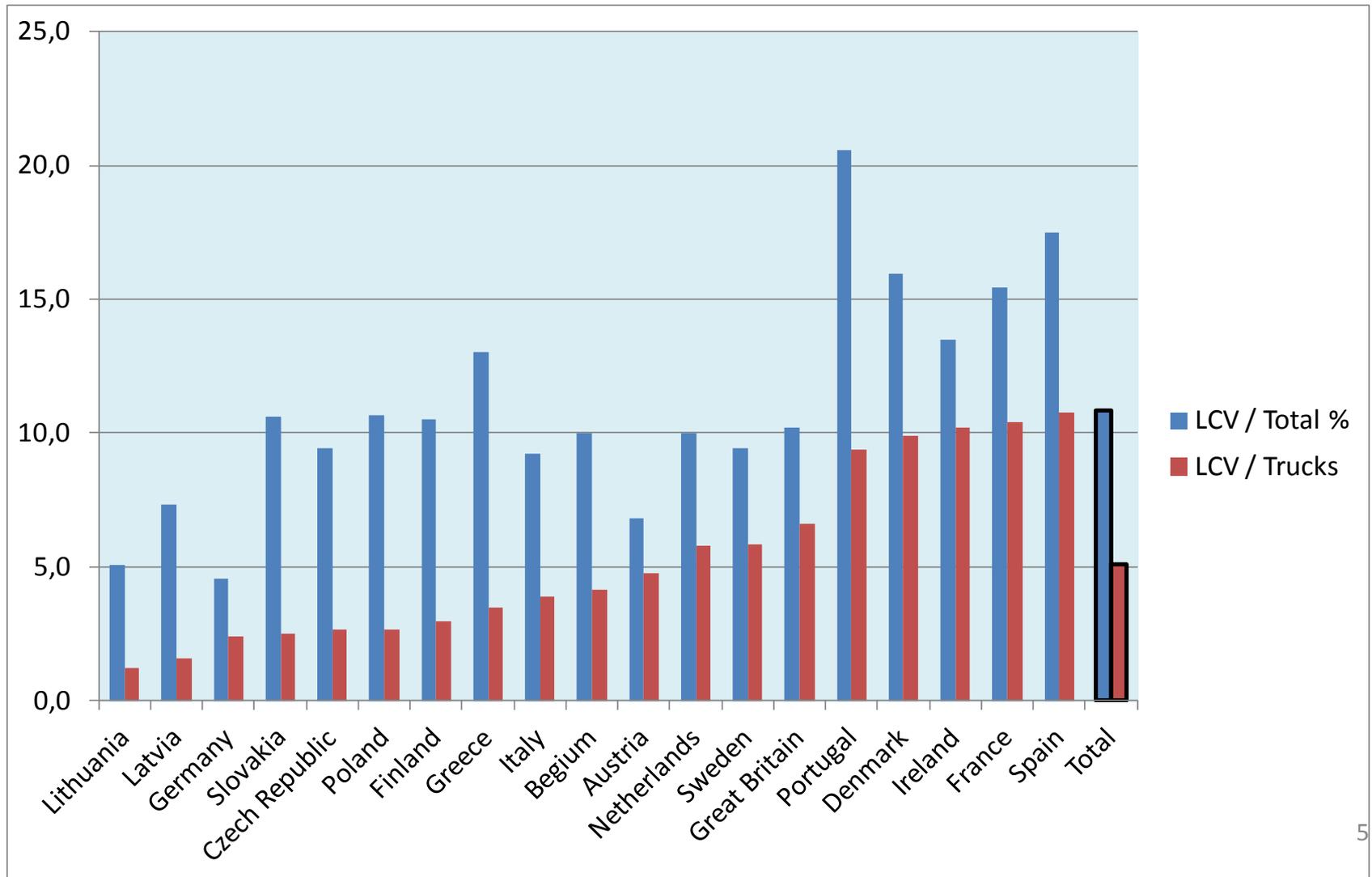
1. The blurred part of the road transport system

- Definitions
 - different according to institutions (industrial or functional viewpoint): a modified private car or a small lorry?
 - the most frequent definition (also on ACEA's site): up to 3.5t (maximum authorized loaded weight), can be driven with a simple private car licence
- Light commercial vehicles (LCVs):
 - versatile, different owners and users (persons, goods...)
 - an important part of the total motorised vehicles fleet
 - an important part of manufacturers' production and sales
 - insufficient international statistics
 - a matter for further thinking (economic, social, etc.)

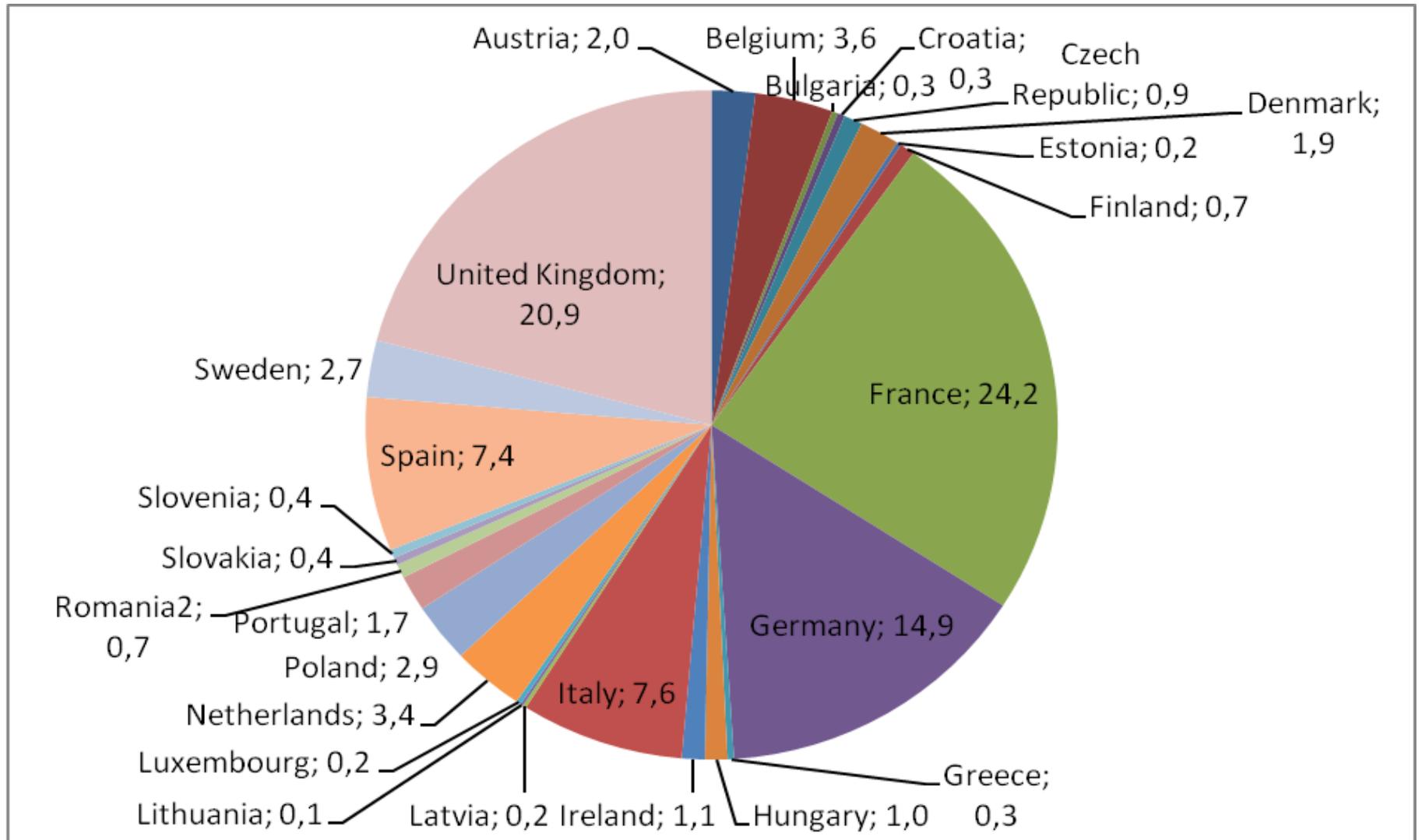
2. A European overview

- Some structural differences between European countries (e.g. Germany vs. France), as well as for LGVs
- 5 times more light commercial vehicles than large ones (in some countries, 10 times more)
- 11 % of the total stock of road motor vehicles in service (in some countries, 15 %)
- 2014 production of LCVS in Europe: 2.1 million (1.6 million in the EU)
 - to compare with 18.0 million cars, 268,000 trucks and 39,000 buses
- 2014 production of LCVs in the world: 18.1 million
 - to compare with 67.5 million private cars, 3.8 million trucks and 315,000 buses
- Share of LCVs in the total automotive industry noticeably higher in the rest of the world (23.1 %) than in Europe (10.2 %) Source: OICA
- Other continents have different fleets and usages, and would require specific studies (e.g. pickups and SUVs in the US, LCVs in developing countries, etc.)

Stock of road motor vehicles in Europe (2011): number of LCV / number of lorries part of LCV in total stock (%)

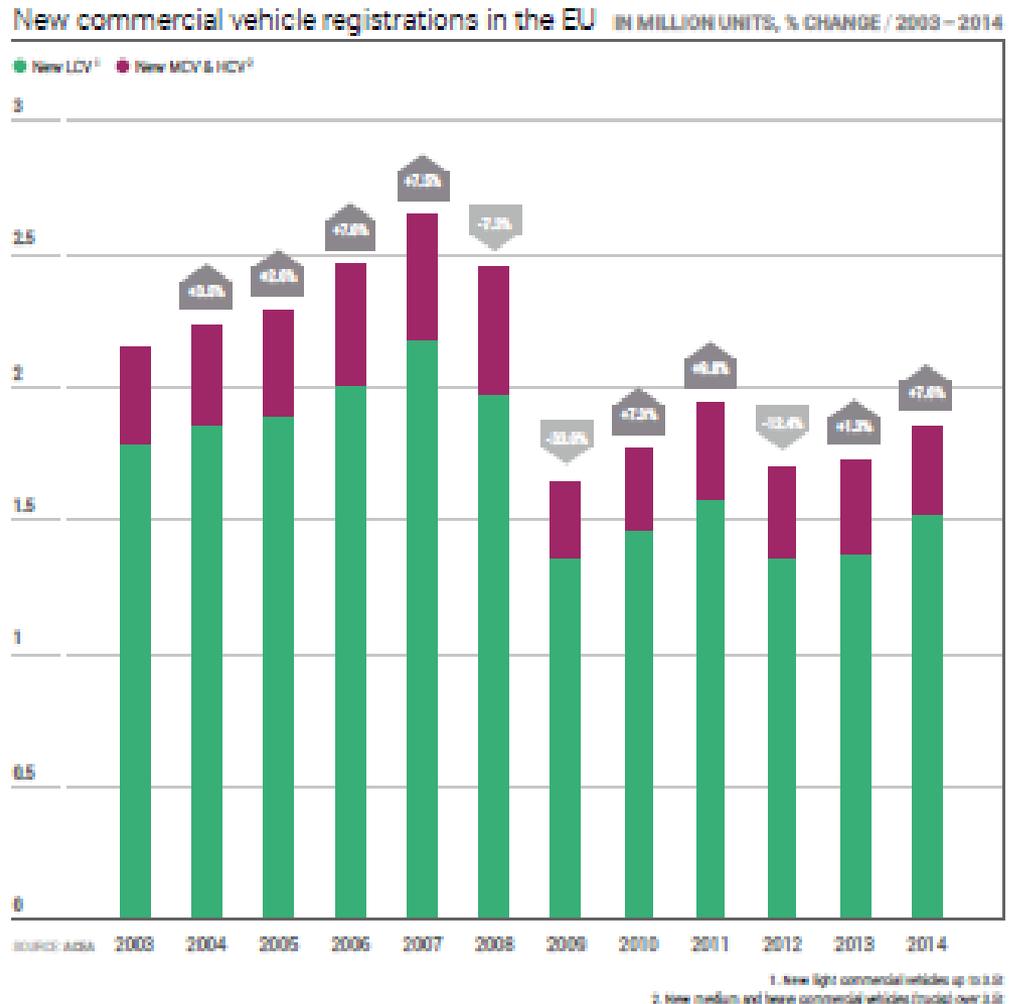


LCVs new registrations in EU, by country, 2012



New commercial vehicle registrations in the EU 2003-2014

A production asset (accelerator effect). Since 2014, a recovery (ACEA)



3. Ownership and use of LCVs in Europe

- 3.1. Sources:
 - ACEA and ANFAC
 - British *Van activity baseline survey* (DfT 2008)
 - French *Enquête sur l'utilisation des véhicules utilitaires légers (VUL)*: Survey about the use of LCVs (2012)
 - others:
 - German *Mobilitätsstudie « Kraftfahrzeugverkehr in Deutschland 2010 »* (KiD 2010)
 - Australian *Light Freight Vehicles and Urban Logistics*, Research Report AP-R457-14, Sydney, Austroads (2014)

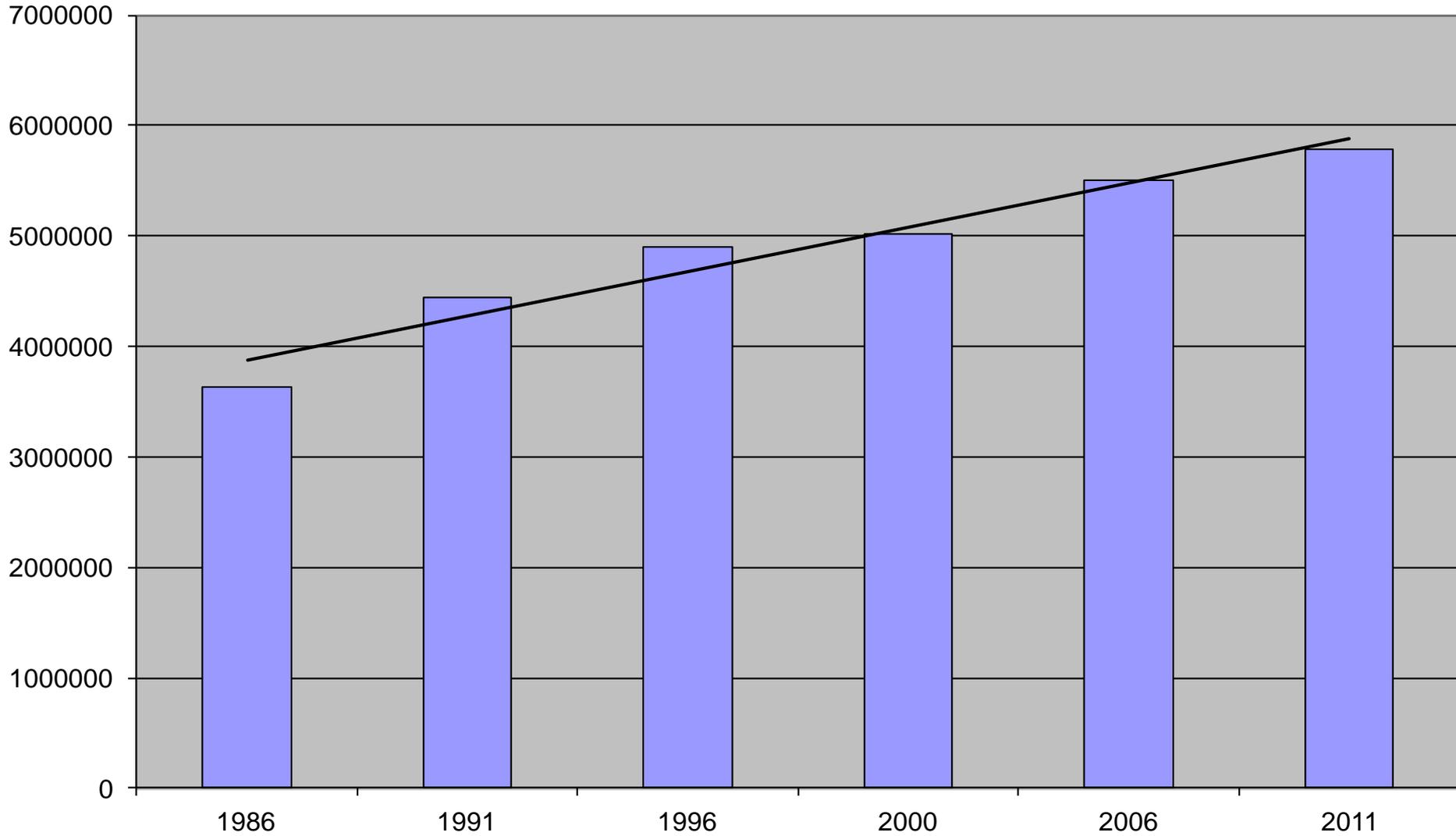
3.2. Fleet

Total road vehicle fleet, France, 2011

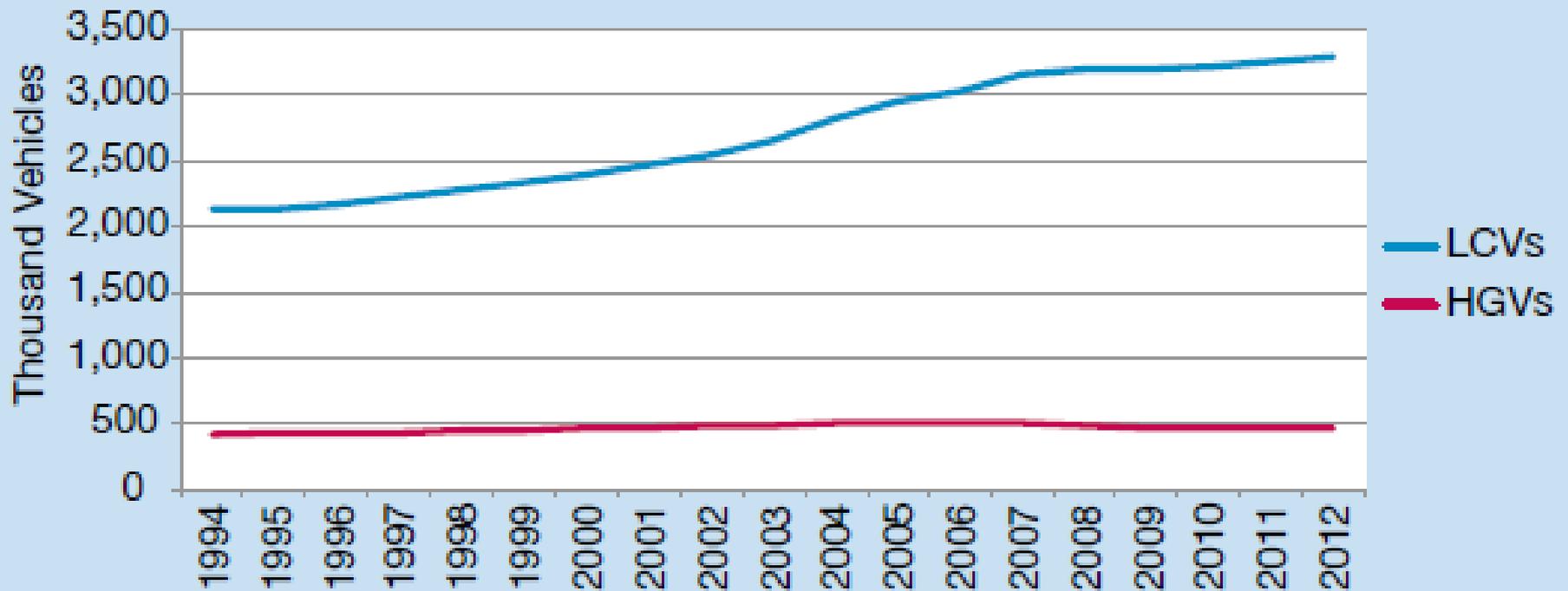
Type of vehicle	(unit)	(%)
Private cars	31 656 747	83,8
Bus and coaches	89 973	0,3
LCVs	5 831 538	12,7
Lorries	329 923	0,7
Special automotive vehicles	395 428	1,0
Road tractors	203 848	0,6
Trailers and semi-trailers	360 872	1,0
Total	37 471 837	100,0

Basic van: 69% of the fleet. Vehicles derived from private cars: 20%

Fleet of operational LCVs (France 1986-2011)

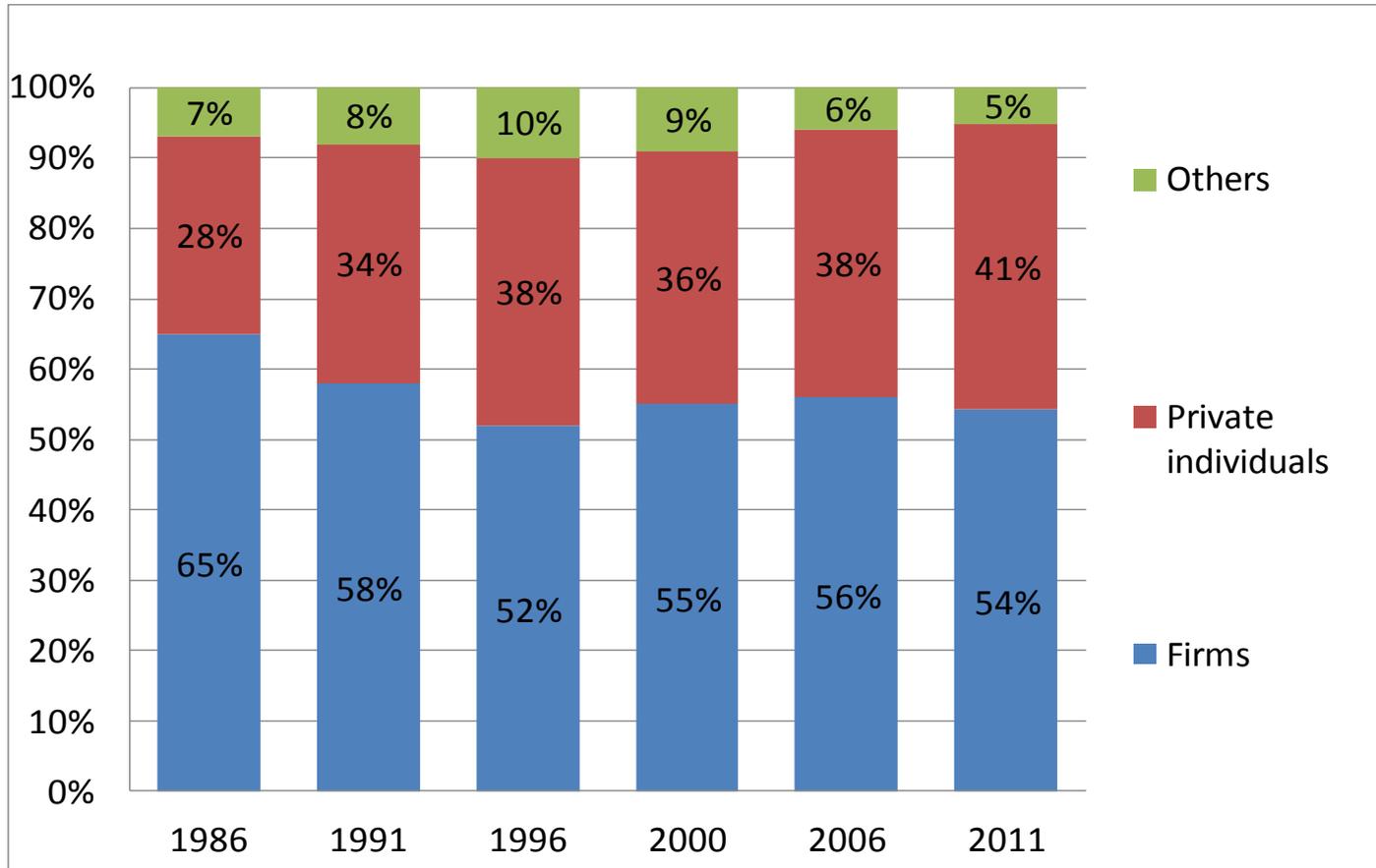


Number of LCVs and of HGVs registered in the United Kingdom (1994-2012)



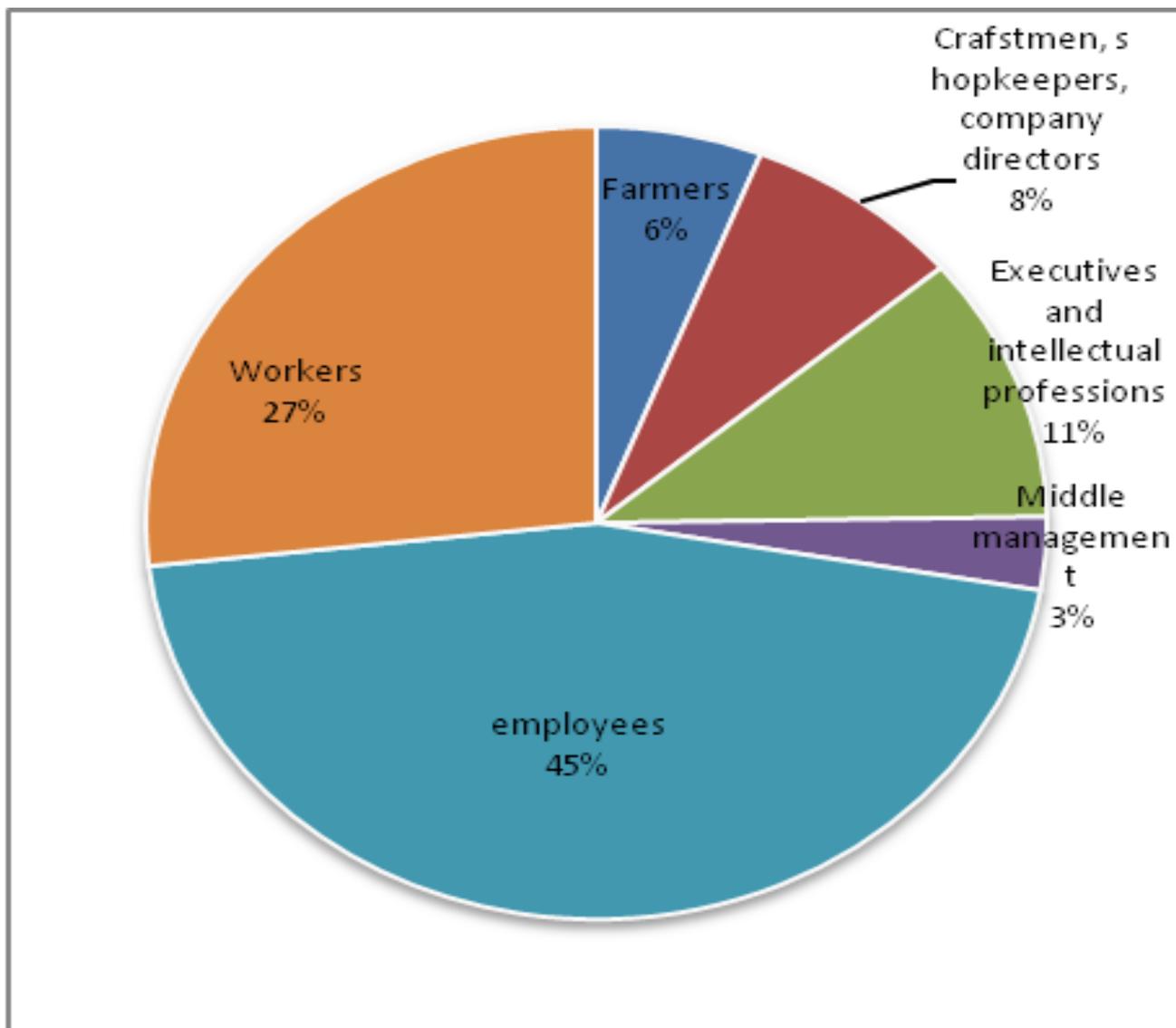
3.3. Owners and users

Users of the LCV operational fleet (France 1986-2011)

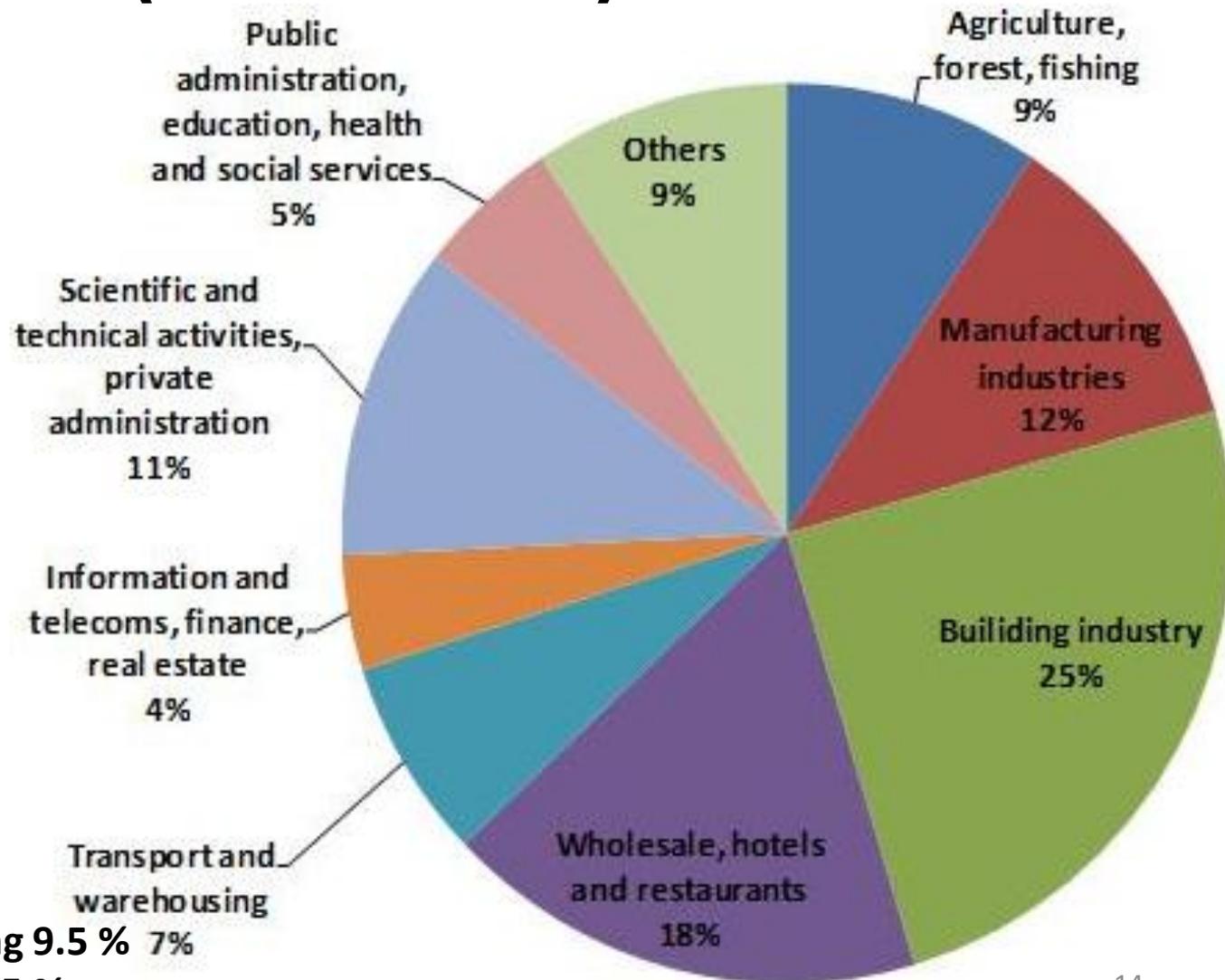


**UK: 53% of LCVs privately owned but many used for business purposes
47% of LCVs are commercially owned**

Socio-professional group of non-professional LCV users (France 2011)



Activity of LCV professional users (France 2011)



Transport: only 7%

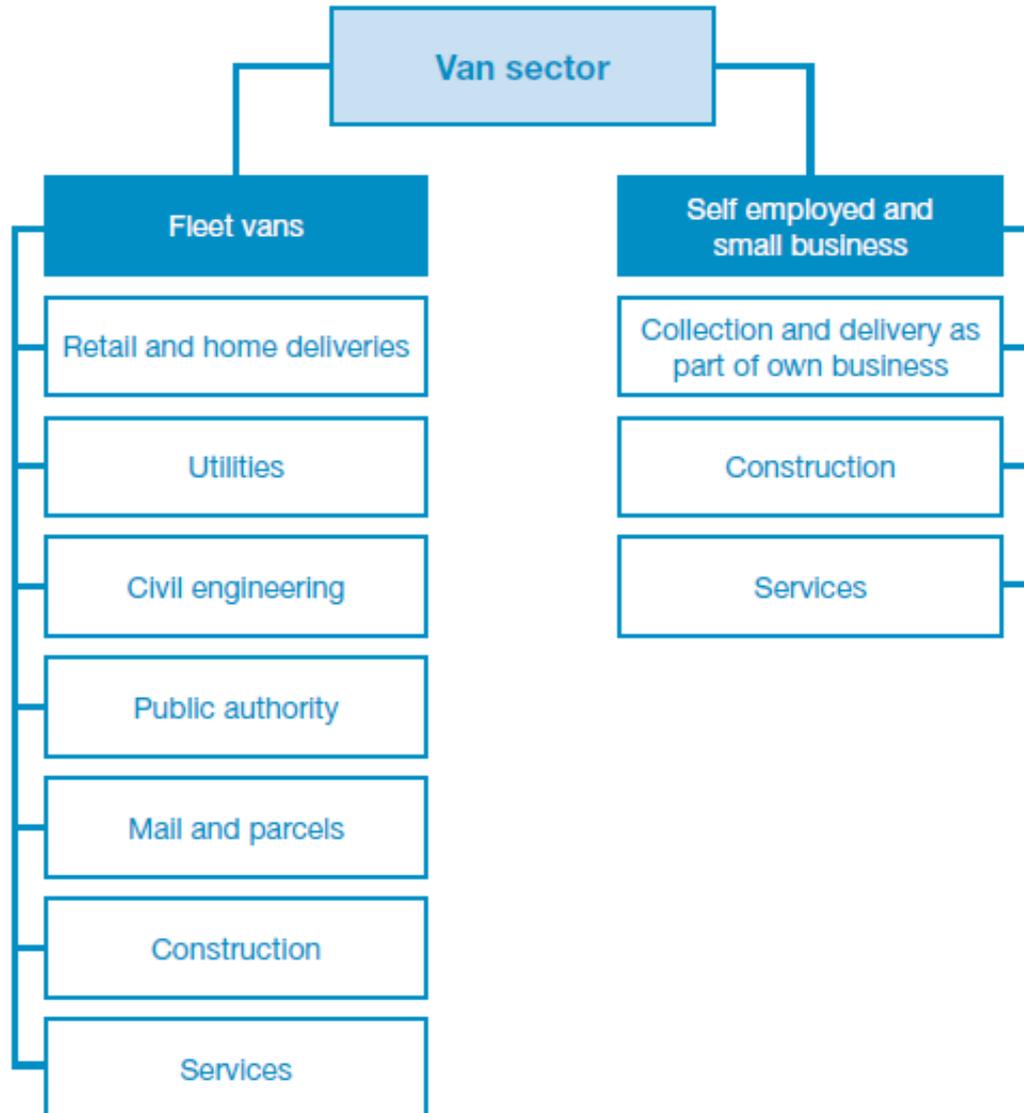
Main activities:

- building
- technical services
- commerce
- human services
- agriculture

Germany:

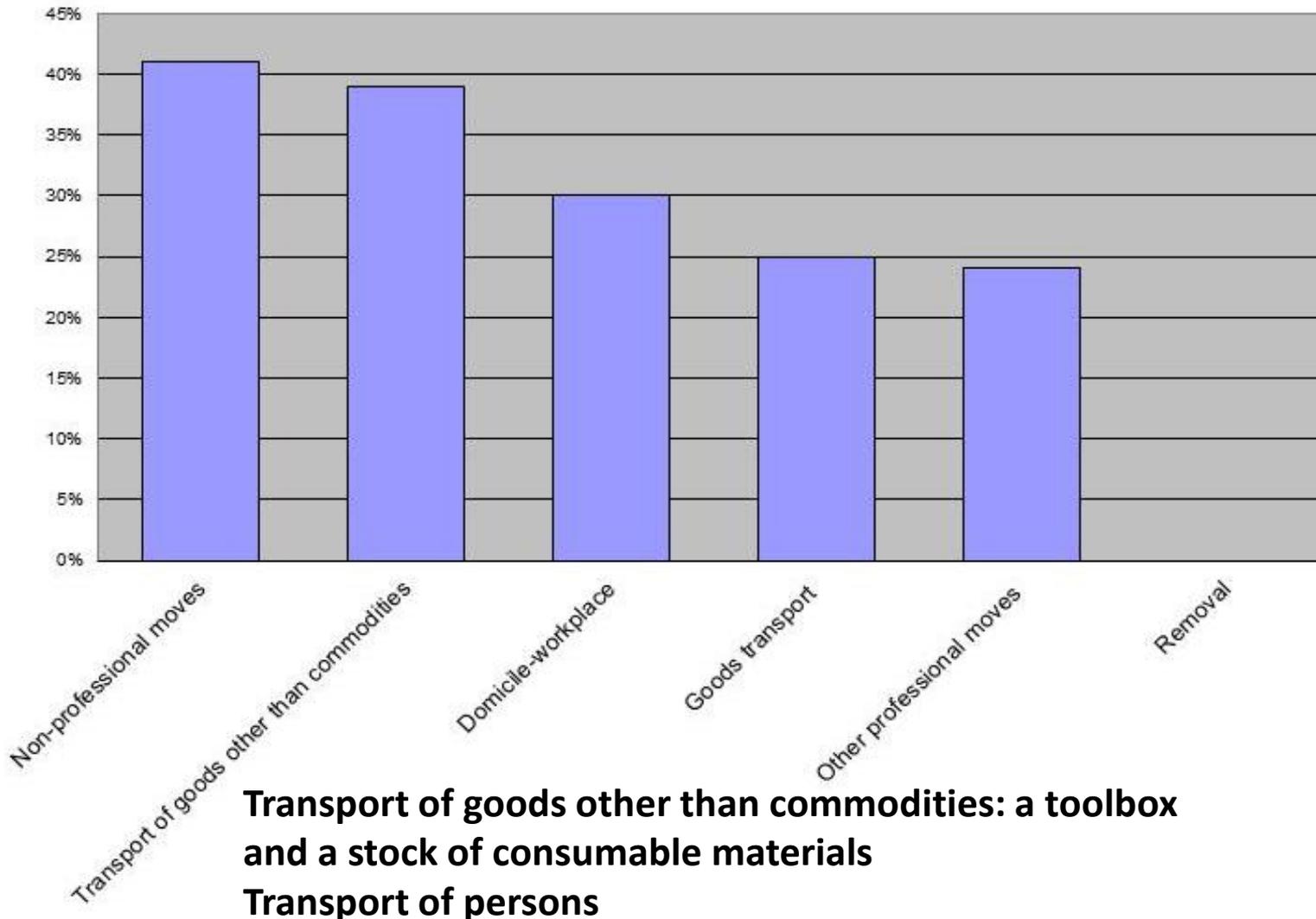
- building industry 31.4 %
- commerce 10.8 %
- transport and warehousing 9.5 %
- manufacturing industry 9.5 %

Professional users: companies (fleet vans) and self-employed or small business (UK 2014)

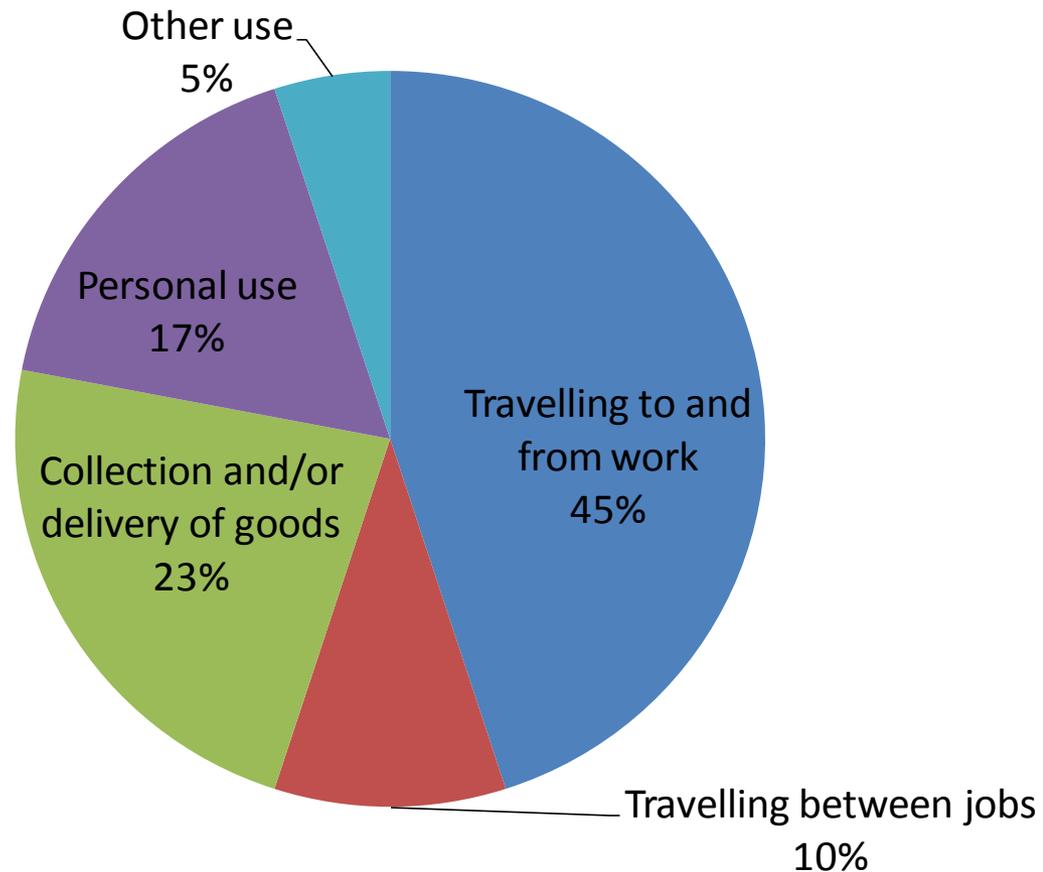


3.4. Uses and usages

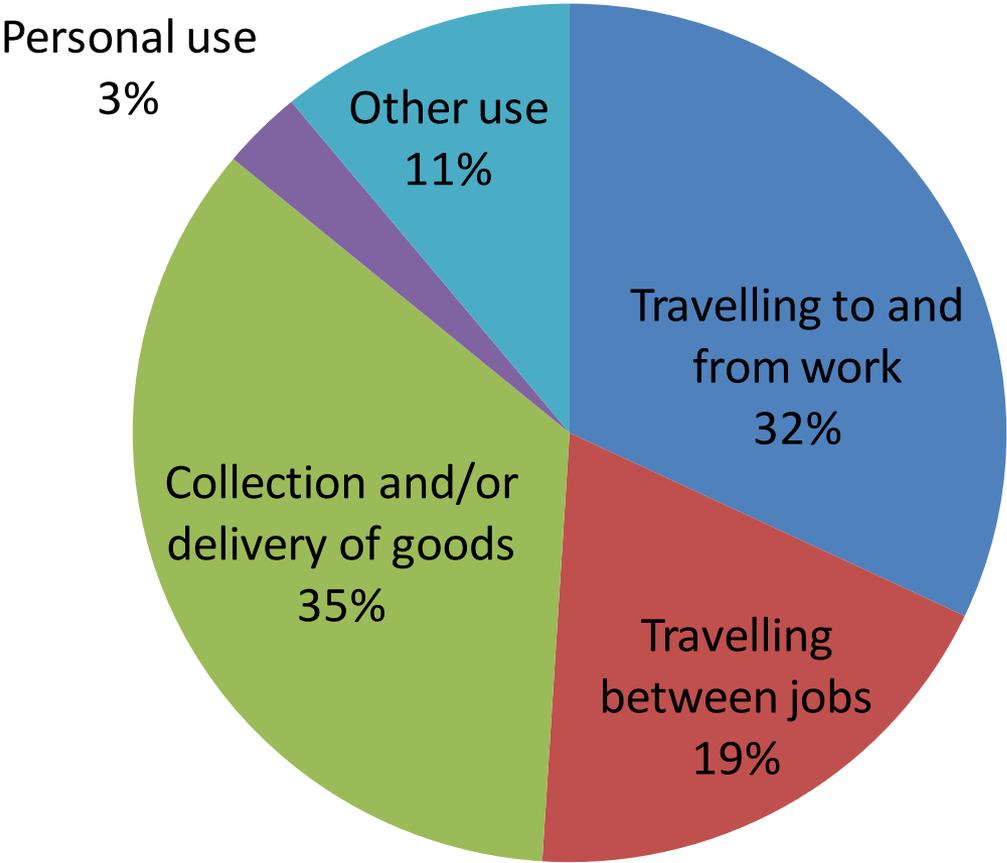
Use of the fleet according to purposes (multiple answers, France 2011)



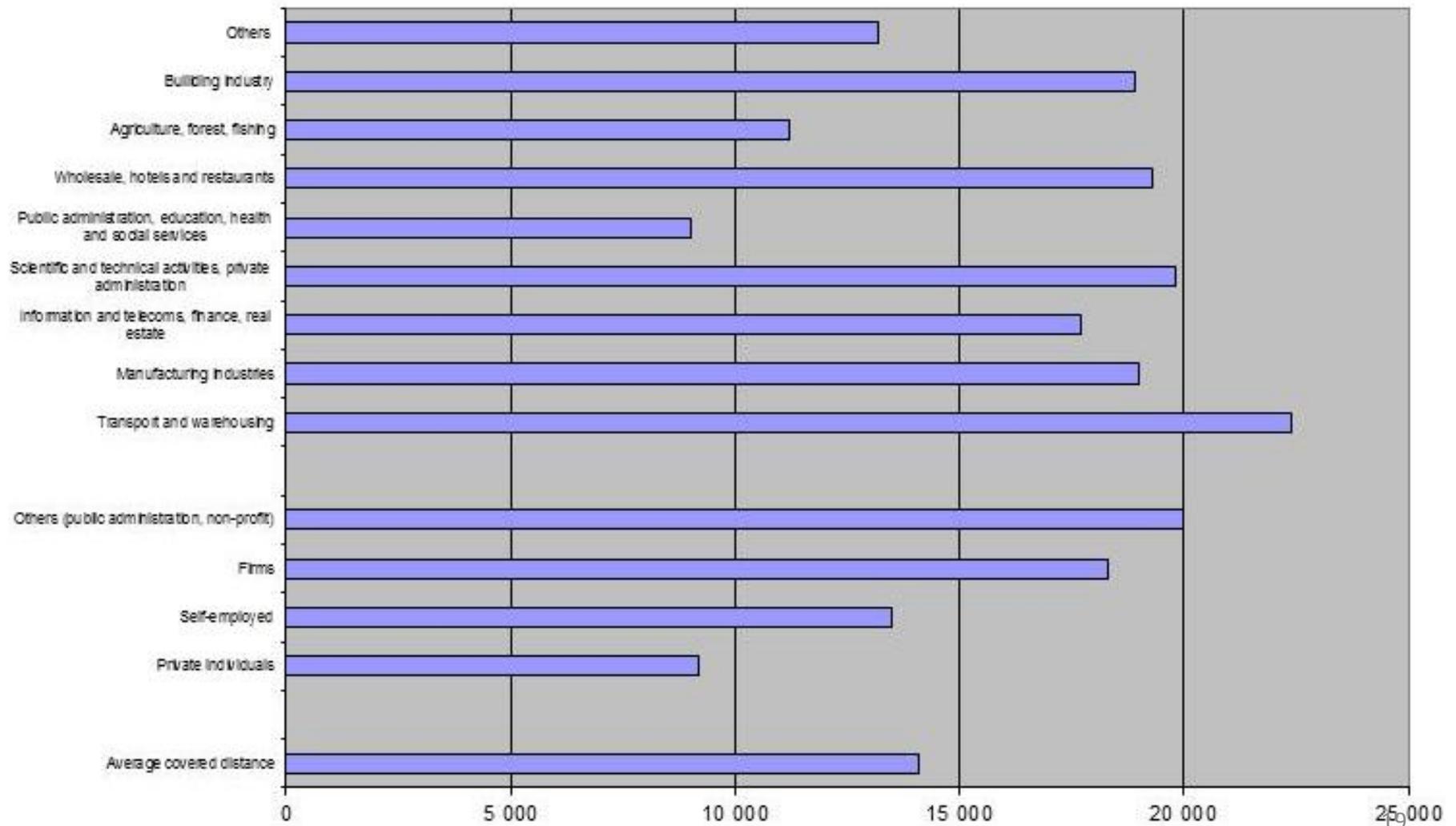
Breakdown of LCV vehicle-km by purpose of travel (UK) Privately owned



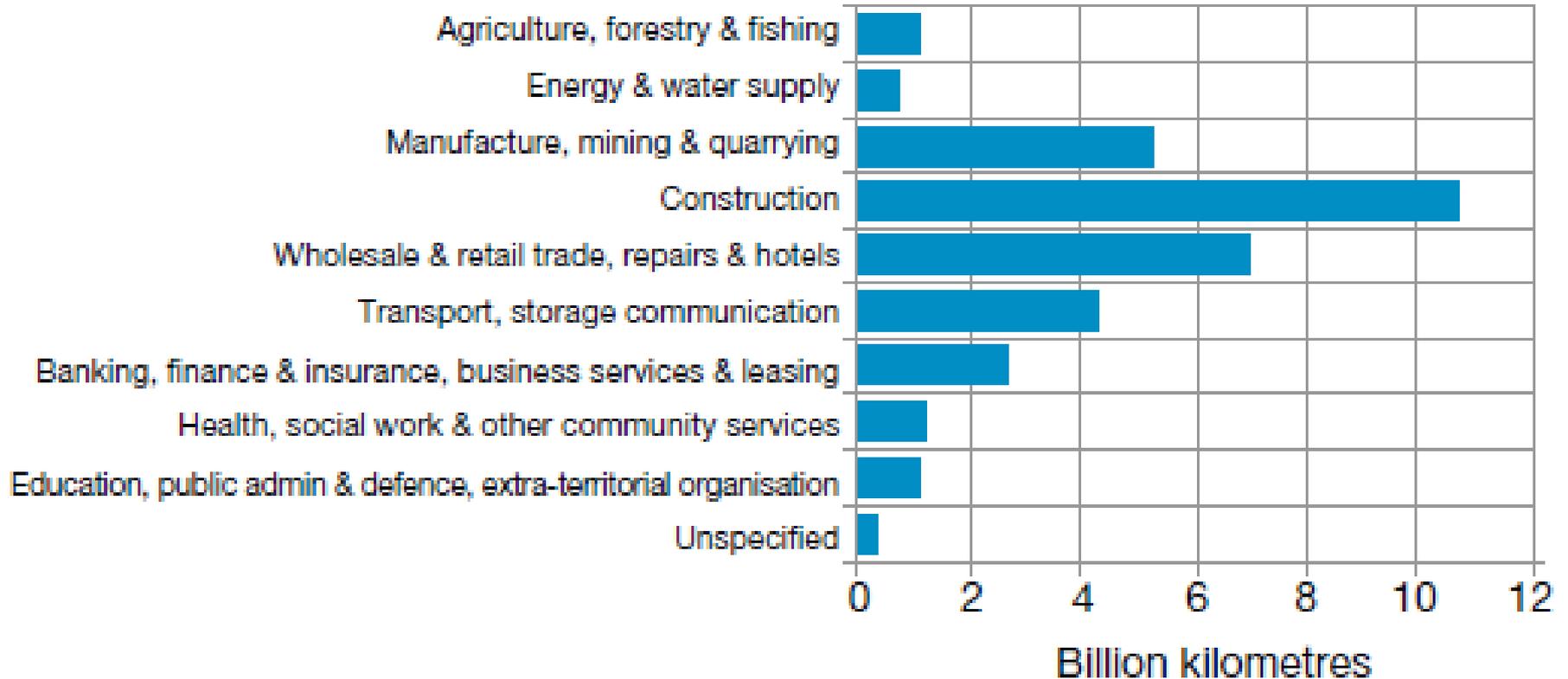
Breakdown of LCV vehicle-km by purpose of travel (UK) Company owned



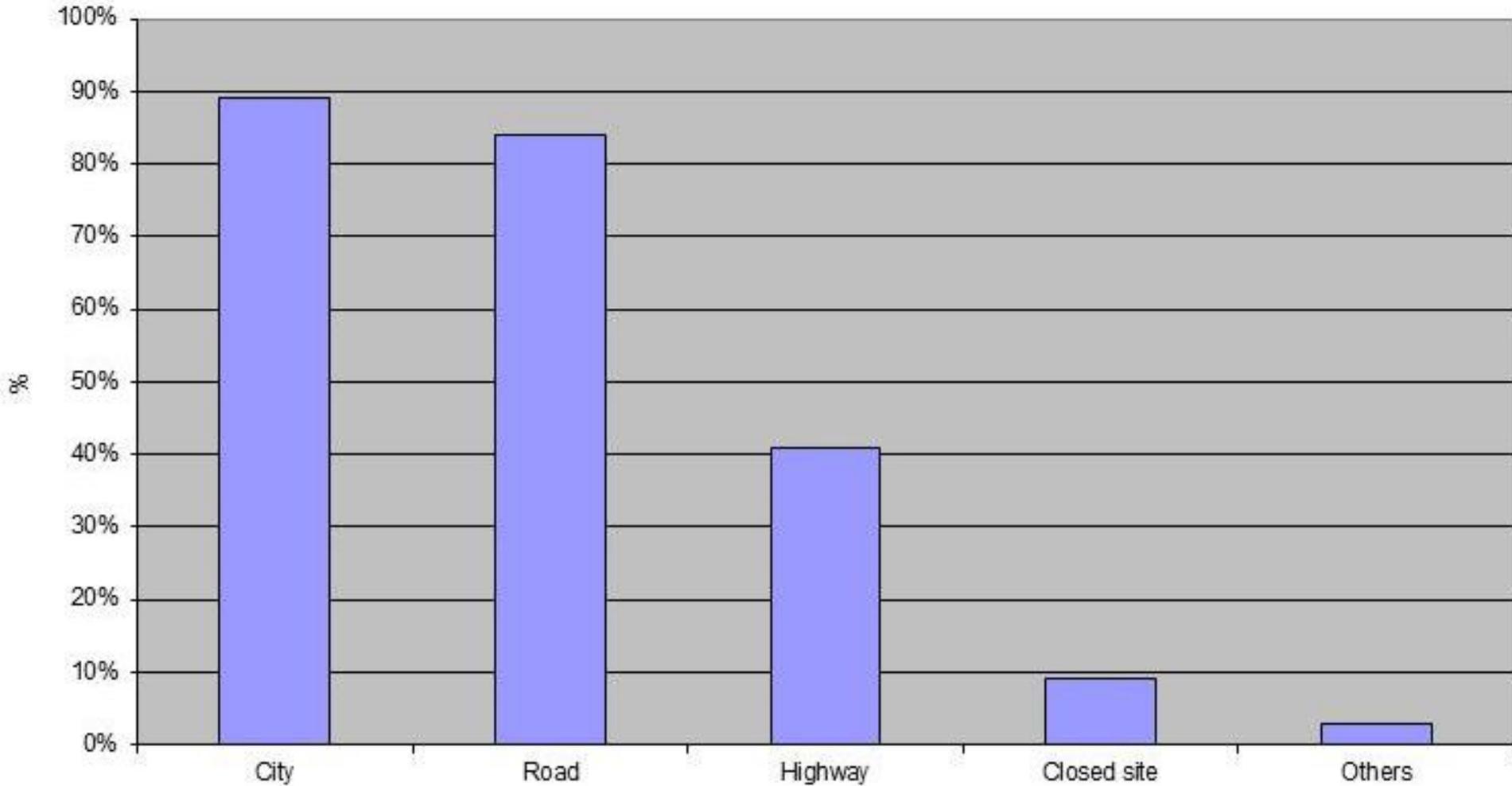
Yearly covered distance per vehicle by type of user and, for professionals, by type of activity, thousands kilometres, France 2011



Estimated vehicle kilometres by type of business LCVs undertake (UK 2003)



Types of geographic spaces (multiple answers, 2006)



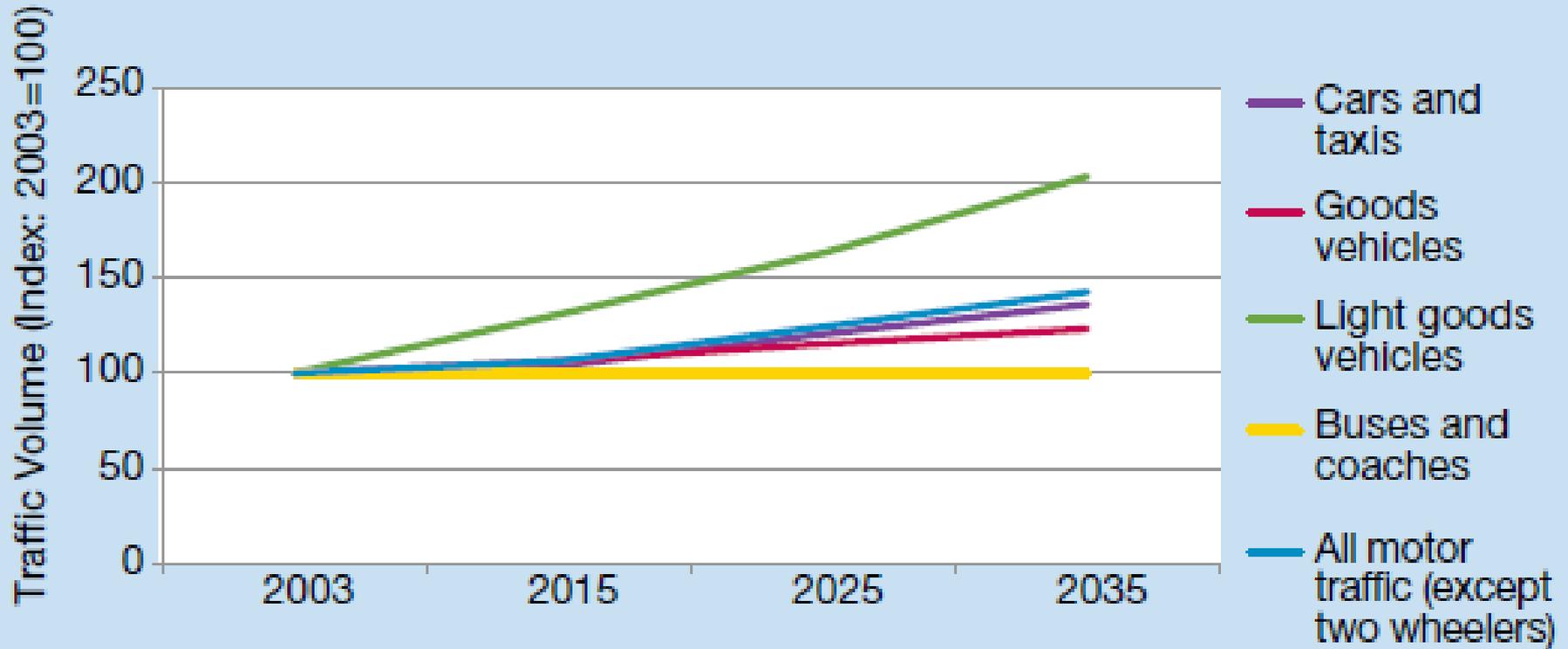
3.5. LCVs and freight: an appraisal

- No actual statistics of volume of freight carried by LCVs
- An appraisal in the French case :
 - 10.3 % of total road freight
 - 45 % of local freight transport
- A main issue: city logistics
 - 20 % of traffic
 - 30 % of street occupation
 - 50 % of GHS emissions
 - a crucial component of city life and activity
 - LCVs are main tools for city logistics (with LGVs)

4. Conclusion and perspectives

- Mass of the fleet of LCVs, frequency and **diversity** of their use, private and professional, in all economic and social activities;
- Mere **freight transport is in minority** among the various uses of LCVs, even if the ability to carry « other goods than commodities » is an essential component of more complex activities;
- Specific contribution to the life of **urban areas** (and also, very differently, of **rural areas**)
- Many **occupations**, for which **mobility** is a vital condition so that a **dedicated vehicle** is required, used as a **toolbox**, a **cloakroom**, a **canteen**, an **office**, a **workshop**, a **warehouse**, etc., together with carrying people.
- The importance of the role of LCVs should still augment in coming years: **fragmentation of freight shipments**, rapid growth of **e-commerce**.

Road traffic forecast by type of vehicle (UK, 2003-2035)



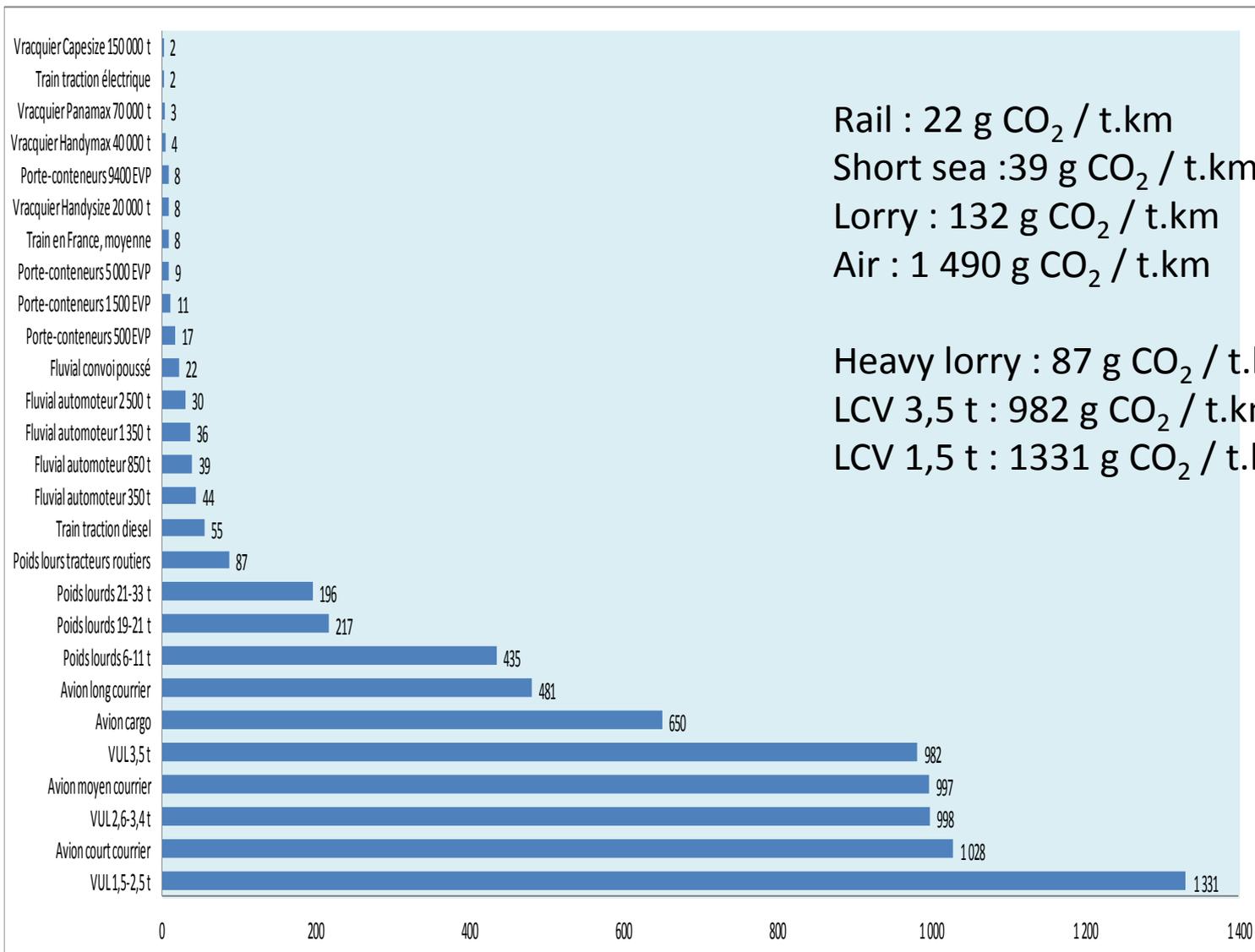
LCV: a marker for a wide range of private and professional activities including mobility as a vital condition

A comprehensive approach of the city economy and policy

Environmental issues

- **Electricity** as an alternative to fuel. Several reasons explain this special interest:
 - LDVs often operate in **urban areas**, **public policy** aims to reduce
 - Manufacturers offer electric and hybrid LCVs, not yet available for LGVs;
 - LDVs are **intensely used**, and can therefore bear additional equipment
 - LCVs usually go back to the same **parking** lot every night
 - LDVs often belong to a **captive fleet**
- Still, **research on LCVs** should not be solely focused on their environmental impacts but should also attempt to:
 - enhance the **knowledge** on this crucial aspect of the transport system at the **European and the international scale**,
 - find a way to **better organize their access to the city**, where they are essential, in **harmony** with all other uses of the urban space.

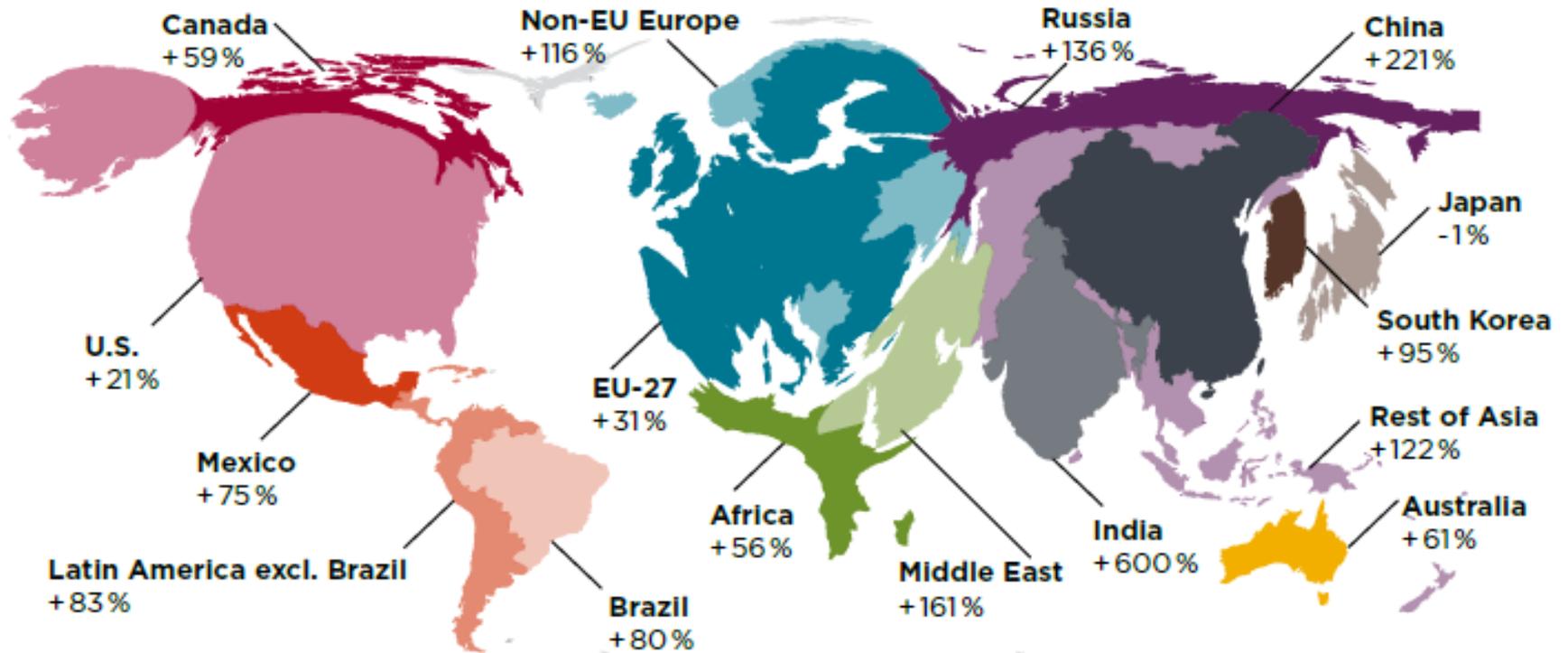
Green House Gas Emissions, g / t.km CO²



Rail : 22 g CO₂ / t.km
 Short sea : 39 g CO₂ / t.km
 Lorry : 132 g CO₂ / t.km
 Air : 1 490 g CO₂ / t.km

Heavy lorry : 87 g CO₂ / t.km
 LCV 3,5 t : 982 g CO₂ / t.km
 LCV 1,5 t : 1331 g CO₂ / t.km

Light duty vehicle stock: global forecast 2010-2030



2030

Light-duty vehicle stock (+/- variation 2010 and 2030)

LCVs therefore are a major stake for car and lorry manufacturers

References

- SOeS, (2012a). *Enquête sur l'utilisation en 2010-2011 des véhicules utilitaires légers (VUL)* [Survey about the use of LCVs]. First survey: 1986.
- <http://www.statistiques.developpement-durable.gouv.fr/repondre-enquetes/enquete-lutilisation-2010-2011-vehicules-utilitaires-legers.html>
- SOeS, (2012b). *Parc des véhicules au 1er janvier 2010* [Fleet of road vehicles].
- http://www.statistiques.developpement-durable.gouv.fr/transports/r/parcs.html?tx_ttnews%5Btt_news%5D=20478&cHash=9b5b4f64891a0304e32aa4b43620512f
- SOeS, *Enquête transport routier de marchandises (TRM)* [Survey about road freight transport], yearly.
- <http://www.statistiques.developpement-durable.gouv.fr/sources-methodes/enquete-nomenclature/1543/139/enquete-transport-routier-marchandises-trm.html>
- ANFAC (2012), Asociación Española de Fabricantes de Automóviles y Camiones. *European Motor Vehicle Park 2011*.
- http://www.acea.be/uploads/statistic_documents/2013_ANFAC_Report.pdf
- DfT (2008), *Van activity baseline survey*.
- <http://tna.europarchive.org/20110503185748/http://www.dft.gov.uk/pgr/statistics/datatablespublications/freight/vanactivitybaseline08/vabs08.pdf>
- WVI, IVT, DLR, KBA (2012), *Mobilitätsstudie « Kraftfahrzeugverkehr in Deutschland 2010 » (KiD 2010)*
- Austroads (2014), *Light Freight Vehicles and Urban Logistics*, Research Report AP-R457-14, Sydney, Austroads.
- <https://www.onlinepublications.austroads.com.au/items/AP-R457-14>
- ICCT (2014), *European Vehicle Market Statistics*.
- http://www.theicct.org/sites/default/files/publications/EU_pocketbook_2014.pdf

References (2)

Dablanc, L. (1998). *Transport de marchandises en ville, une gestion publique entre police et services* [Road freight transport in the city: between police and service], Paris, Éditions Liaisons.

Savy, M. (2013a). *Freight Transport and the Modern Economy*, with June Burnham, London, Routledge.

<http://www.routledge.com/books/details/9780415577502/>

Savy, M. (2013b). "Urban Freight, a Comprehensive Approach", in *Urban Freight for Livable Cities*, Göteborg, VREF.

http://www.vref.se/download/18.11165b2c13cf48416de7e59/FUT-Urban-Freight-Webb_low.pdf

AECOM (2014), Clarke G., Johnson A., Nankivell J. and Turpin M., *Van Travel Trends in Great Britain*, RAC Foundation.

http://www.racfoundation.org/assets/rac_foundation/content/downloadables/van_report_aecom_100414.pdf

Savy, M. (dir.) (2015), *Nouveaux lieux, nouveaux flux*. Editions Odile Jacob.