



Vehicle-km Statistics

(Based on Odometer Readings)



Content of Presentation

- ✓ Data source
- ✓ Data compiled
- ✓ Calculation method
- ✓ Dissemination of vehicle-km statistics

Data Source

- Vehicle-km statistics has just been launched to publish by 2017.
- Calculating vehicle-km statistics, several data sources are used:
 1. Administrative records of vehicles visiting vehicle inspection stations,
 2. Administrative records of road motor vehicles statistics.

Data Compiled

- According to vehicle inspection directive, all road motor vehicles registered to traffic have to visit vehicle inspection stations in line with their routine periods.
- In the process of compiling data at the stations, for each vehicle registered to traffic not only key variables such as odometer readings (km) and date (when the inspection is done) to calculate vehicle-km but also auxiliary variables about vehicle characteristics such as kind of fuel used, aim of use, model year etc. are compiled.
- Data bases are send to TurkSTAT through Diroctorate General of Road Transport Regulation that is responsible for vehicle inspection stations in a digital form every year.
- This data is compiled in line with the agreements for Common Questionnaire (UNECE/ITF/Eurostat) and Regional Questionnaire (Eurostat)

Calculation method

- In this study, of all vehicles registered to the traffic passanger cars, minibüses, buses, small trucks, trucks and motorcycles are considered.
- Routine vehicle inspection periods by type of vehicles are below:

Vehicle category	Inspection period
Private/Official passanger cars and their own trailers	Once in each two years after three years
Commercial vehicles such as taxis, trucks, buses, small trucks etc.	Every year after one year
Two or three wheeled vehicles and their own trailers	Once in each two years after three years

Calculation method (cont.)

- In order to estimate vehicle-km for the year 2015, two yearly data sets are used by merging.
- Through primary key of vehicles' ID number that is unique variable for all vehicles recorded in vehicle inspection system, two data sets are merged.
- For private/official passenger cars and motorcycles, two year range (e.g. 2014-2016 data sets) is chosen, for the other commercial vehicles such as commercial passenger cars, minibuses, buses, small trucks and trucks one year range (e.g. 2015-2016) is chosen.

Calculation method (cont.)

VEHICLE NO	KM 2014	KM 2016	DATE 2014	DATE 2016
1	20 000	80 000	Jan 10,2014	Jan 8,2016
2	350 000	500 000	Mar 5,2014	Mar 10,2016
3	175 000	450 000	July 21,2014	July 24,2016
4	230 000	550 000	Dec 30,2014	Dec 25,2016
5	12 000	200 000	Nov 11,2014	Oct 20,2016
6	30 000	75 000	Apr 21,2014	May 5,2016
...
...
...
...
...
...

VEHICLE NO	KM 2015	KM 2016	DATE 2015	DATE 2016
...
...
...
45	30 000	50 000	Feb 25,2015	Feb 20,2016
46	100 000	250 000	Sep 11,2015	Sep 15,2016
47	130 000	200 000	Mar 6,2015	Mar 10,2016
48	600 000	850 000	July 10,2015	July 28,2016
49	530 000	950 000	Dec 23,2015	Dec 22,2016
50	260 000	520 000	Mar 10,2015	Feb 25,2016
...
...

Calculation method (cont.)

- Finally for each vehicle merged, distance taken as km and days passed between two dates is calculated. Moreover, distance taken per day and per year is calculated.
- Outliers are detected based on international methodology documents and statistical theories. Data set is cleaned up from outliers.

Calculation method (cont.)



YEAR: 2014
DATE: June 20, 2014
KM: 100 000

YEAR: 2016
DATE: June 19, 2016
KM: 180 000

DISTANCE TAKEN= 80 000
DAYS PAST= 730
DISTANCE TAKEN PER DAY= $80\,000/730= 109,59$
DISTANCE TAKEN PER YEAR = $109,59*365 = 40\,000$

Calculation method (cont.)

- After outliers are cleaned up from the data set, average distance taken per year for each vehicle category, kind of fuel used and model year are calculated.
- Those statistics are weighted by considering total numbers of all road motor vehicles registered to traffic **in 2014** in comply with the same breakdowns.
- For new registered vehicles **in 2015** (e.g. new private passenger cars are not expected to have an inspection during the first three years) correction is made and they are also covered in the final vehicle-km estimation for the target year **2015**.
- In conclusion, results cover whole vehicles registered to traffic in Turkey and are published in a breakdown of type of vehicle and fuel type.

Dissemination of vehicle-km statistics

- Vehicle-km statistics planned to publish for the first time in 2017 and calculated for the years 2013, 2014, 2015 is going to be published every year as 'statistical table' on the TurkSTAT website.
http://www.turkstat.gov.tr/PreTablo.do?alt_id=1051
- In addition, It is planned to release this statistics to the public as 'press room'.

