



Vehicle-km Statistics

(Based on Odometer Readings)



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statistics



What is Official Statistic?

- Official statistic consists data collected and processed by institutions and organizations within the Official Statistics Programme.

These Data obtained from;

- Administrative registers (data gathered by organizations in order to carry on their own business),
- Register Systems (systematic form of administrative registers adjusted for statistical purposes),
- Census,
- Surveys based on sampling

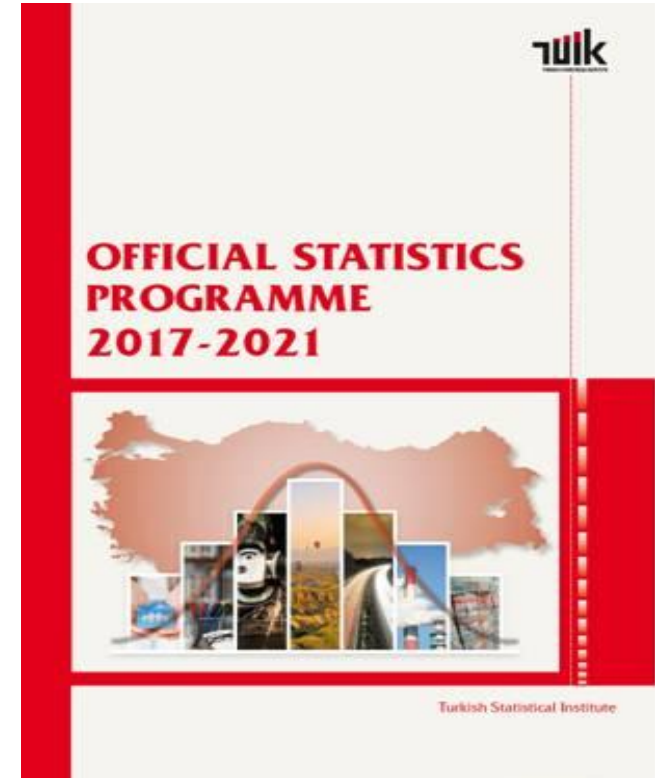
What is Official Statistics Programme?

A platform identifying official statistics with the involvement of all governmental bodies;

- Provide data production principals in order to meet international standards,
- Prevent duplicate efforts,
- Reduce labor force, time and cost,

TurkStat is responsible for Road Motor Vehicle Statistics and Road Traffic Accident Statistics.

- <http://www.officialstatistics.gov.tr/?q=en>



Data Source of vehicle-km

The main data sources used for calculating vehicle-km statistics;

- Administrative records of vehicles visiting vehicle inspection stations,
- Administrative records of road motor vehicles statistics(both monthly and yearly data) .

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 is send to TurkStat by Diroctorate General of Road Transport Regulation that is responsible for vehicle inspection stations in a digital form every year.

Calculation method

- In this study, of all vehicles registered to the traffic, passenger cars, minibuses, buses, small trucks, trucks and motorcycles are considered.
- Routine vehicle inspection periods by type of vehicles are;

Vehicle category	Inspection period
Private/Official passenger cars and their own trailers	Once in each two years after first 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 first three years

Calculation method (cont.)

- In order to estimate vehicle-km for the year 2016, 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. 2015-2017 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. 2016-2017) is chosen.

Calculation method (cont.)

VEHICLE NO	KM 2015	KM 2017	DATE 2015	DATE 2017
1	20 000	80 000	Jan 10,2015	Jan 8,2017
2	350 000	500 000	Mar 5,2015	Mar 10,2017
3	175 000	450 000	July 21,2015	July 24,2017
4	230 000	550 000	Dec 30,2015	Dec 25,2017
5	12 000	200 000	Nov 11,2015	Oct 20,2017
6	30 000	75 000	Apr 21,2015	May 5,2017
...
...
...
...
...
...

VEHICLE NO	KM 2016	KM 2017	DATE 2016	DATE 2017
...
...
...
45	30 000	50 000	Feb 25,2016	Feb 20,2017
46	100 000	250 000	Sep 11,2016	Sep 15,2017
47	130 000	200 000	Mar 6,2016	Mar 10,2017
48	600 000	850 000	July 10,2016	July 28,2017
49	530 000	950 000	Dec 23,2016	Dec 22,2017
50	260 000	520 000	Mar 10,2016	Feb 25,2017
...
...

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: 2015
DATE: June 20, 2015
KM: 100 000

YEAR: 2017
DATE: June 19, 2017
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 by the end of **2015** in line with the same breakdowns.
- For new registered vehicles **in 2016** (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 **2016**.
- In conclusion, results cover whole vehicles registered to traffic in Turkey and will be published in a breakdown of type of vehicle and fuel type.

Calculation method (cont.)

The main data used for comparison vehicle-km statistics;

- Vehicle-km data of DG Highways
- Fuel prices,
- Road Transport in Energy Balance Sheets (thousand TEP),
- Turnover (for the sectors 49.xxx in NACE 4)
- GHG Emissions from Road Transport,

Dissemination of vehicle-km statistics

- Vehicle-km statistics is calculated for the years 2013, 2014, 2015, 2016 and planned to disseminate for the first time in the first half of 2018.
- It is going to be published every year as 'statistical table' on the TurkStat website.

http://www.turkstat.gov.tr/PreTablo.do?alt_id=1051

Thank you for listening

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