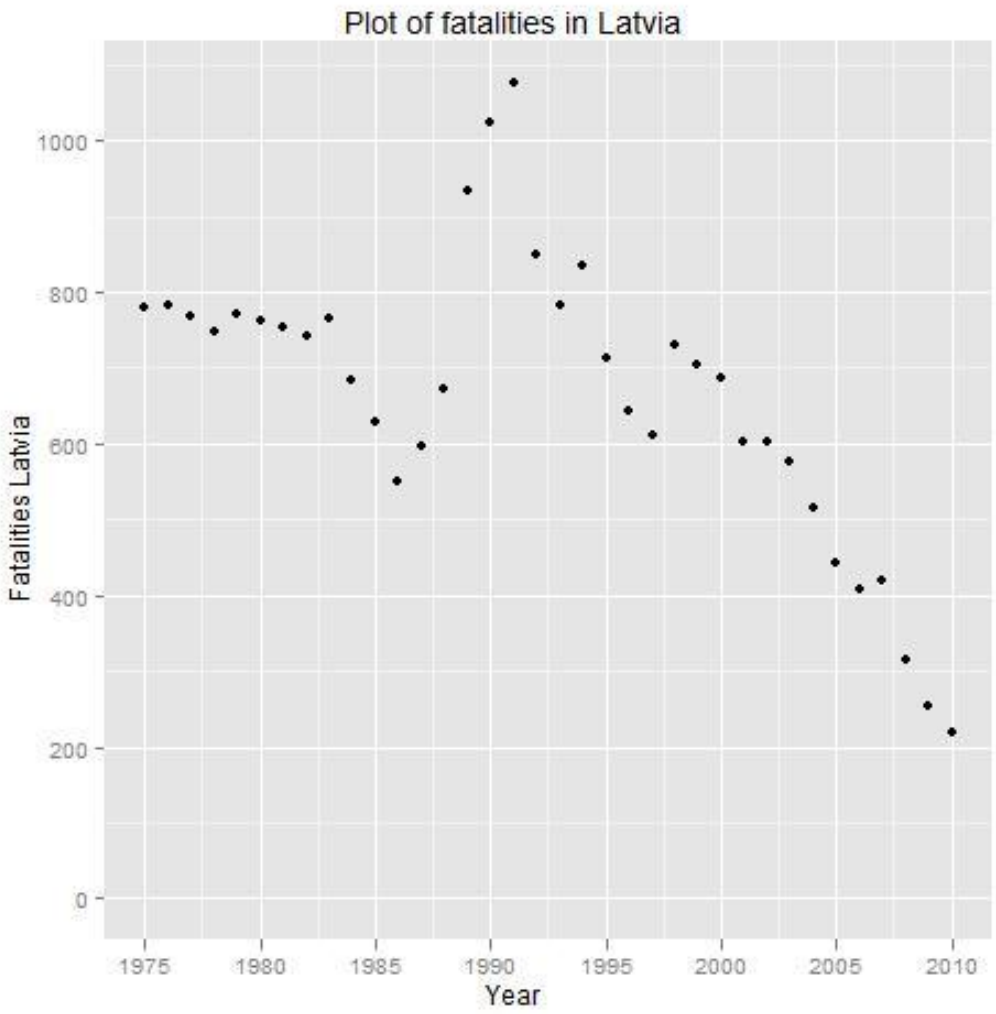
Latvia

Fatalities



Since the early 1990s, the number of fatalities generally decreased over time.

- The plot shows the number of fatalities in Latvia from 1975 to 2010.
- In the period 1975-1983 the number of fatalities in Latvia remained more or less constant, followed by a decrease until 1986 and an increase up to 1991. In the next years, the number of fatalities generally decreased; however, there was a peak in 1998.

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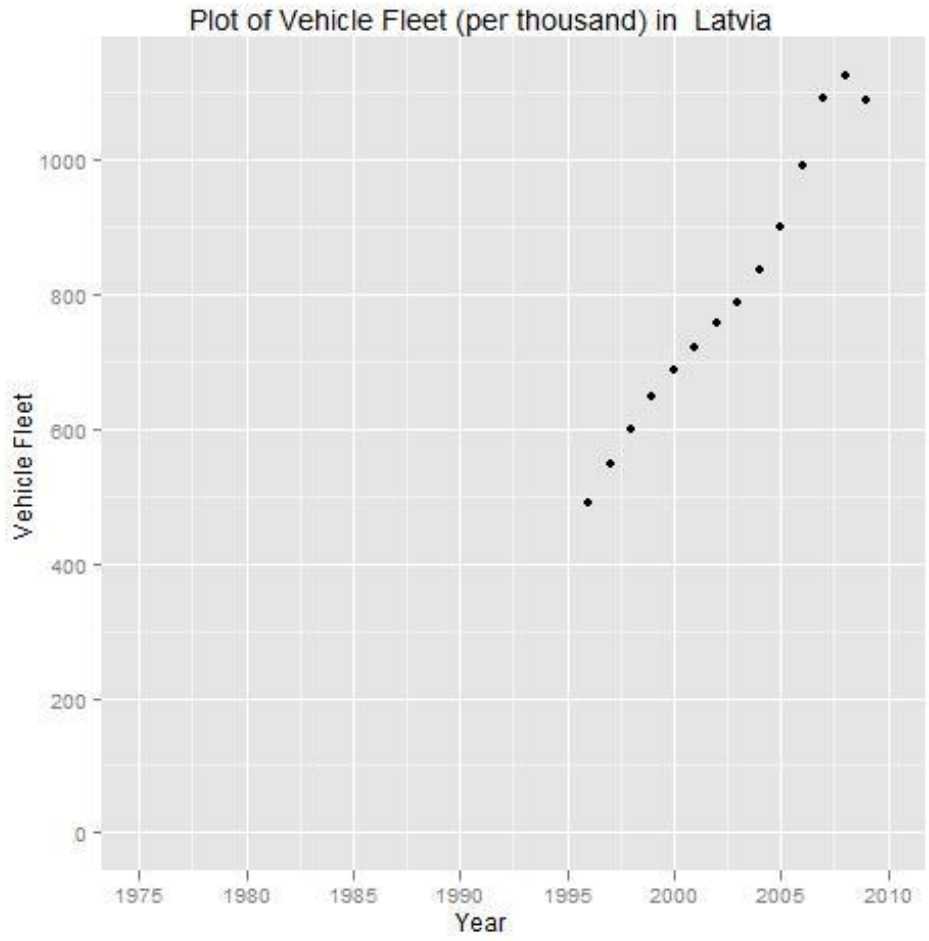
Vehicle fleet



- The number of fatalities normally depends strongly on a measure reflecting the amount of traffic. For Latvia, vehicle fleet data are considered.
- Yearly data concerning the vehicle fleet (in thousand vehicles; without trailers and semi-trailers) are obtained from national sources and available for the period 1996 to 2010. However, the very low value of 2010 is not considered in the analysis given some changes in law, affecting the vehicle's register [1].
- The plot shows a gradual increase over the years, ending in 2008.
- It is unclear whether this fleet data is an adequate reflection of mobility in Latvia because the number of vehicles which passed technical inspection was approximately 60% [1].
- Relation between vehicle fleet and fatalities:
  - No clear relation between fatalities and vehicle fleet can be established.
  - No mobility scenario can be calculated.

Forecasting model:

- Technical definition
  - Local Linear Trend model [2].
  - Variable: yearly number of fatalities.
    - Intervention in 1989.

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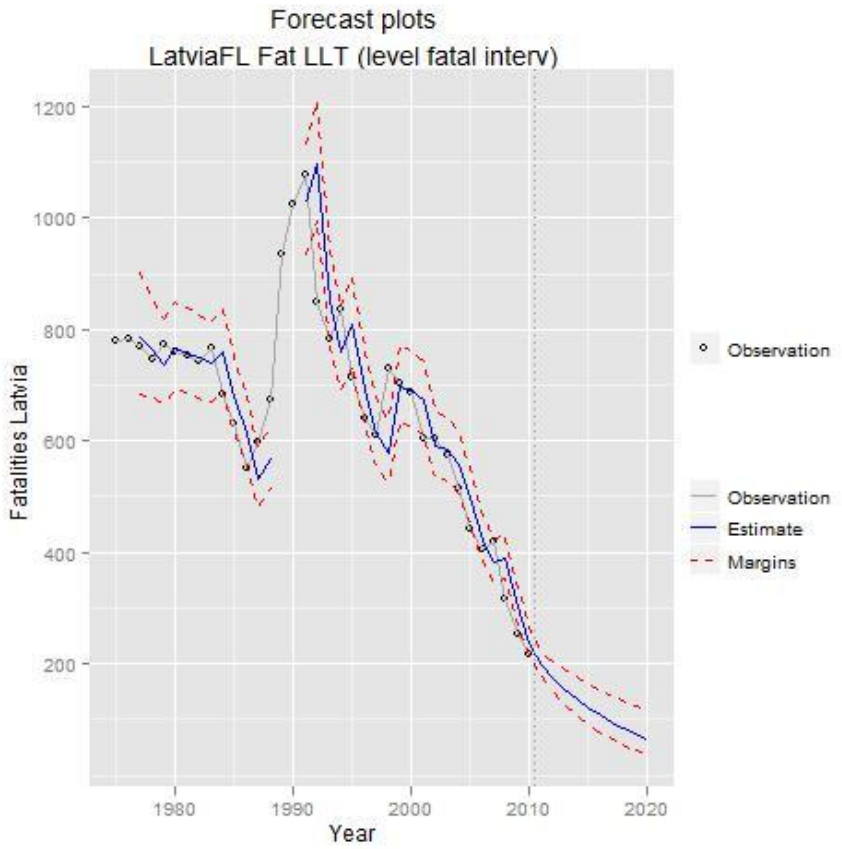
Road Safety Development – Latvia

Forecasts to 2020

– If road safety is improved at the same rate as previously and the past development of mobility continues, the following forecasts can be made for the number of fatalities in 2020:

If RS efforts continue at the same level, the expected number of fatalities in 2020 is 66.



Forecast of road traffic fatalities in Latvia

Year	**Prediction**	Lower CI	Upper CI
2011	**198**	159	246
2012	**175**	128	239
2013	**155**	103	232
2014	**137**	84	226
2015	**122**	67	220
2016	**108**	54	215
2017	**95**	43	211
2018	**84**	34	207
2019	**75**	27	205
2020	**66**	22	203

Disclaimer

– Statistical forecasting does not offer a definite prediction of what is *actually* going to happen in the future.
– The estimates are based on the "business as usual" assumption: no *principal* changes between past and future development.
– Even in these conditions future outcomes are uncertain. This uncertainty is represented in the confidence intervals (plotted in the red margins: 68%; printed in table: 95%).

References

[1] EC National Expert for road accident statistics and road safety performance indicators.

|2] Dupont & Martensen (Eds.) 2012. Forecasting road traffic fatalities in European countries. Deliverable 4.4 of the EC FP7 project DaCoTA.

[3] Bijleveld F., Commandeur J., Gould P., Koopman S. J. (2008),. Model-based measurement of latent risk in time series with applications. Journal of the Royal Statistical Society, Series A, 2008.

[4] Martensen & Dupont (Eds.) 2010. Forecasting road traffic fatalities in European countries: model and first results. Deliverable 4.2 of the EC FP7 project DaCoTA.

[5] Commandeur, J. & Koopman, S.J. (2007) An Introduction to State Space Time Series Analysis. Oxford University Press.