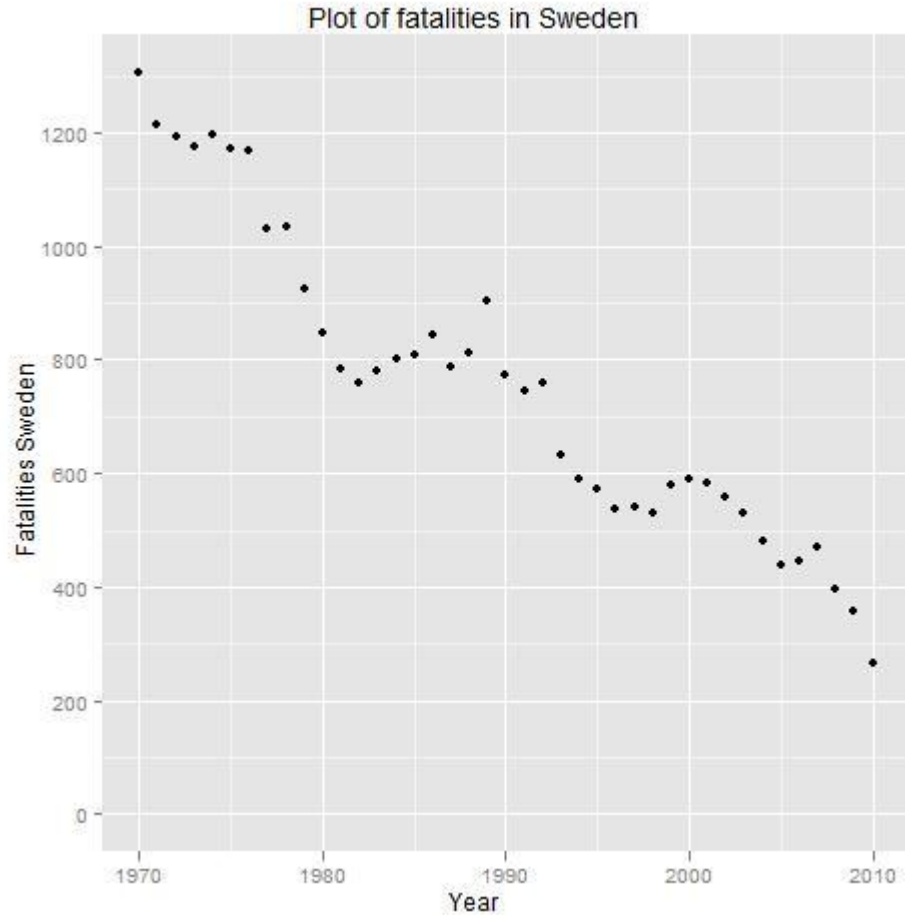# Sweden

Fatalities

- The plot shows the number of fatalities in Sweden from 1970 to 2010.
- In general, there is a decrease in the number of fatalities between 1970 and 1982, followed by a stagnation in the period 1983-1992. Afterwards, the general trend has been decreasing, yet there was a peak in the number of fatalities in 2000 and 2007.
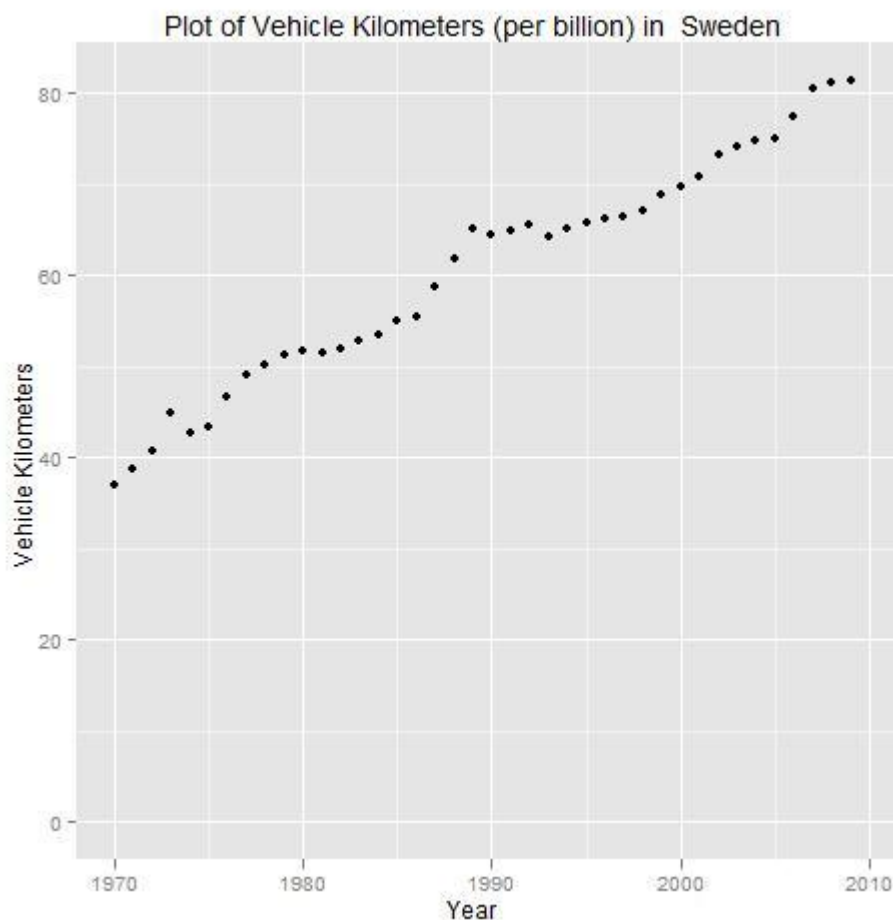
In general, there is a positive development in the number of fatalities over time.

Traffic Volume

- The number of fatalities normally depends strongly on the amount of traffic.

Plot of Vehicle Kilometers (per billion) in Sweden

- The best estimate for traffic volume available is the number of motor vehicle kilometres, presented above for the period 1970 to 2009.
- The plot shows a gradual increase over the years. In the years 1973, 1976 and 1987-1989 there was a larger increase in vehicle kilometres.
- Relation between traffic volume and fatalities:
  - No relation between fatalities and vehicle kms can be established.
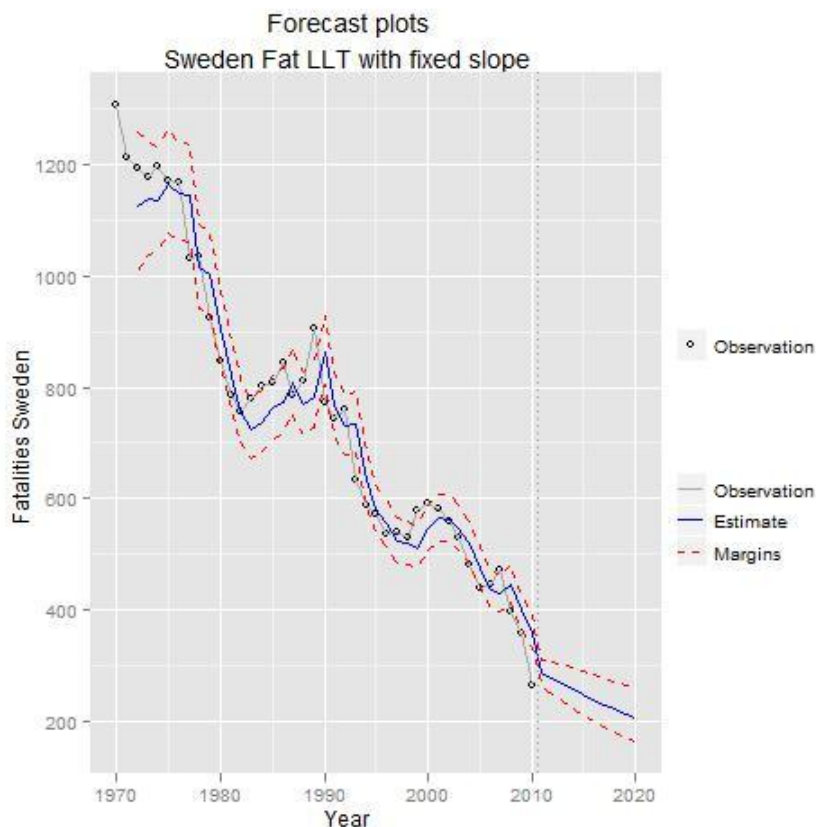 - No mobility scenario can be calculated.

Forecasting model:
- Technical definition
  - Local Linear Trend model [1].
  - Variable: yearly number of fatalities.
  - Fixed slope.

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 206.

Forecast plots
Sweden Fat LLT with fixed slope

Forecast of road traffic fatalities in Sweden

Year	Prediction	Lower CI	Upper CI
2011	**287**	245	337
2012	**277**	225	340
2013	**267**	208	341
2014	**257**	194	341
2015	**248**	181	339
2016	**239**	169	337
2017	**230**	158	335
2018	**222**	148	332
2019	**214**	139	329
2020	**206**	130	326

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

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

[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.