

# Surveys on safety performance indicators in Switzerland

Steffen Niemann

**4<sup>th</sup> IRTAD CONFERENCE**

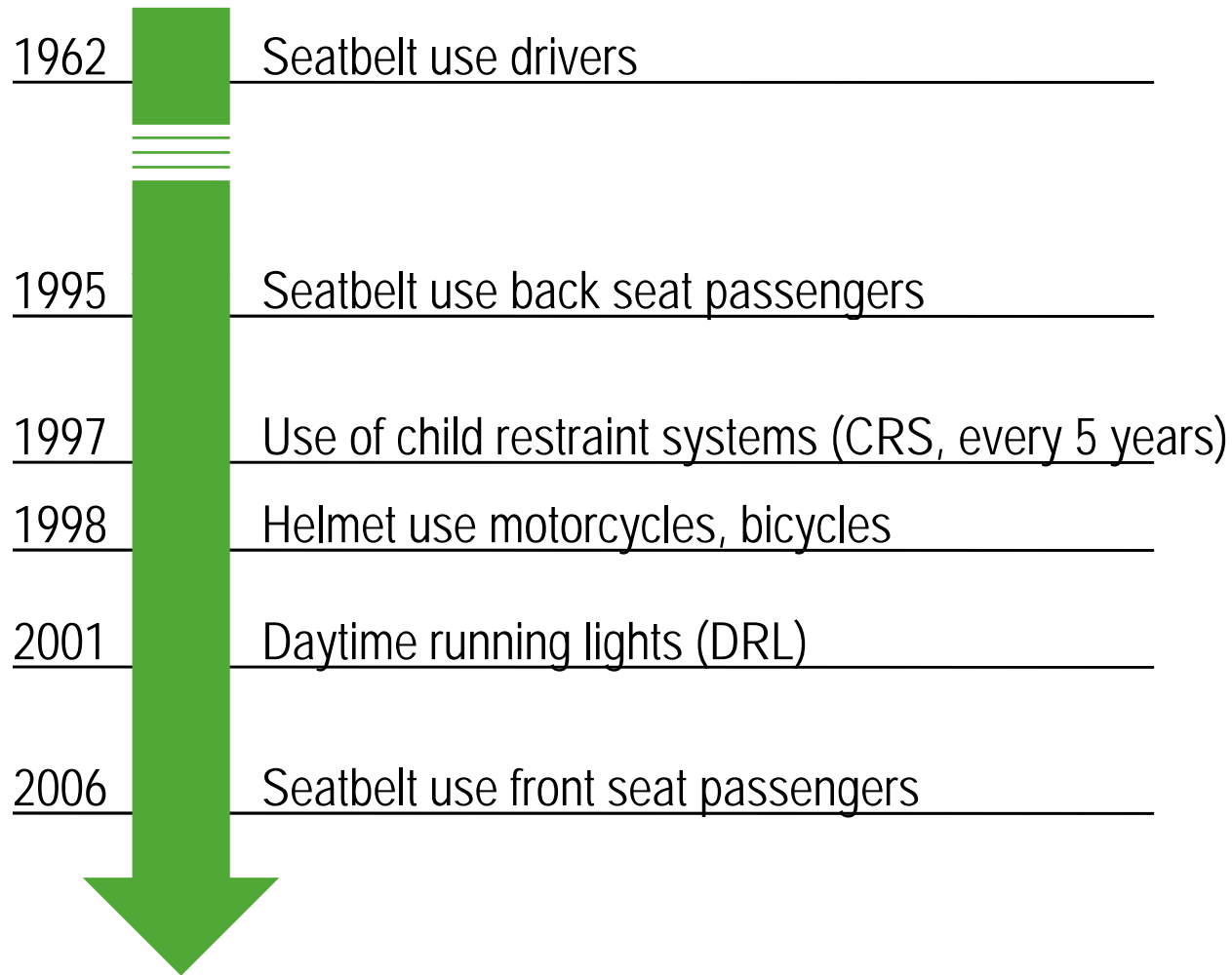
***Road safety data: collection and analysis  
for target setting and monitoring performances and progress***

**Seoul, 16-17 September 2009**



- bfu surveys
- Results
- Methods and practical fieldwork
- Discussion

# Timeline of annual bfu-surveys



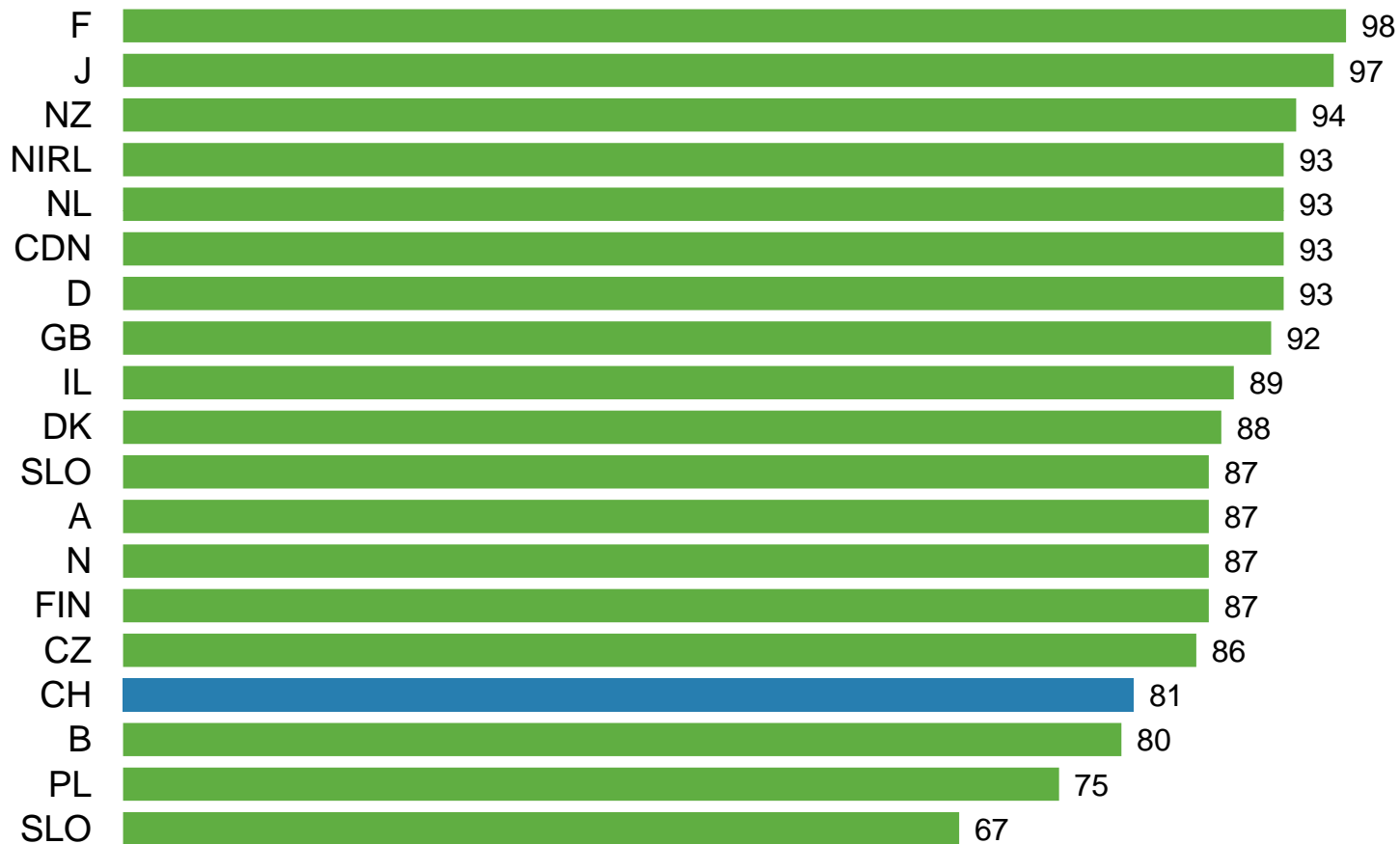
# Objectives of surveys

- International comparison
- Regional differences
- Times series

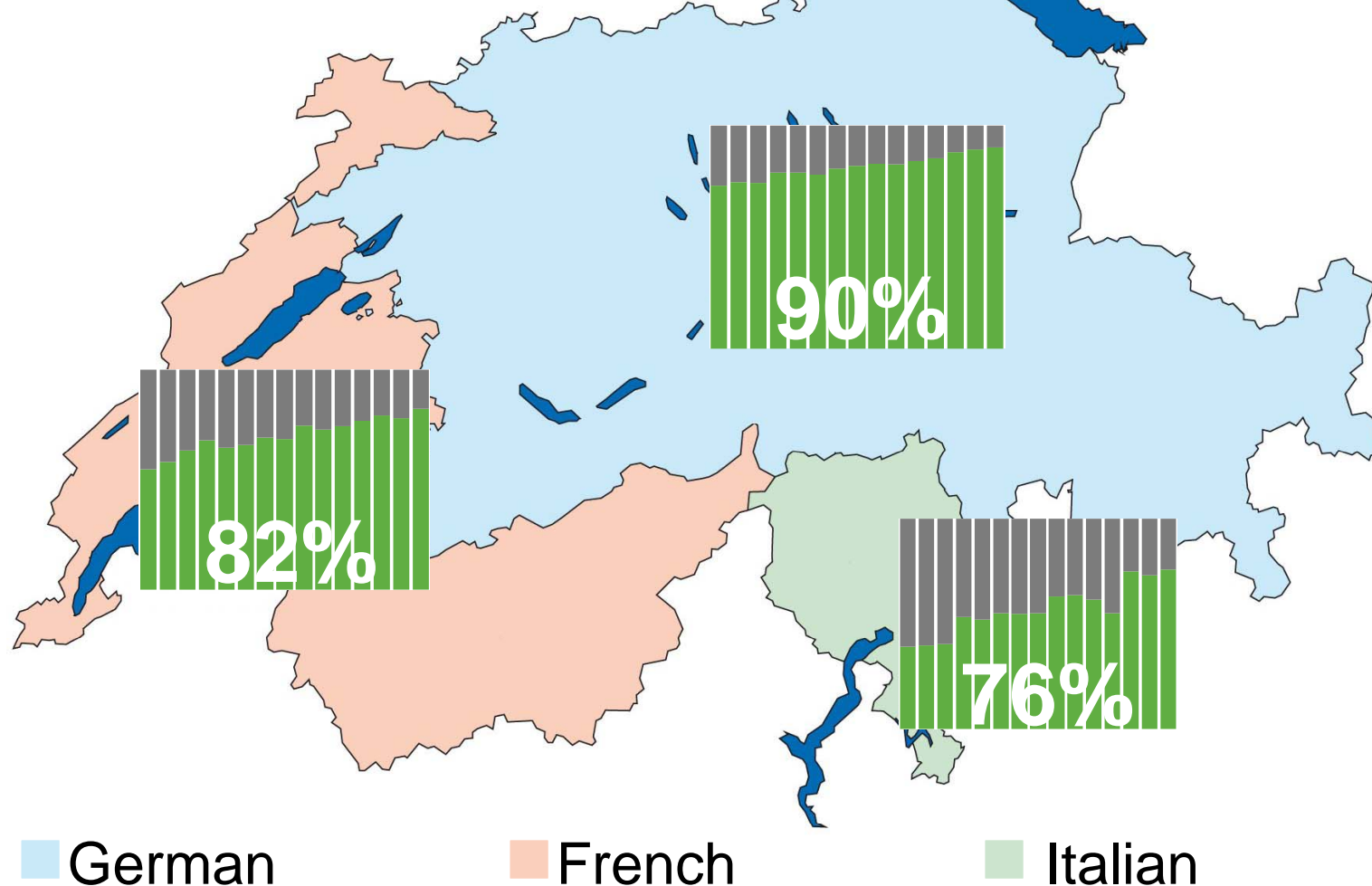
# SPIs Switzerland 2009

Indicator	2009	Percentage change 2008
Seatbelt driver	87 %	-1 %
Seatbelt front seat passenger	88 %	-1 %
Seatbelt back seat passenger	68 %	+5 %
CRS (2002/2007)	94 %	+ 11 %
Helmet moped	86 %	+5 %
Helmet motorbikes	100 %	+1 %
Helmet bicycle	38 %	0 %
DRL	61 %	+ 5 %

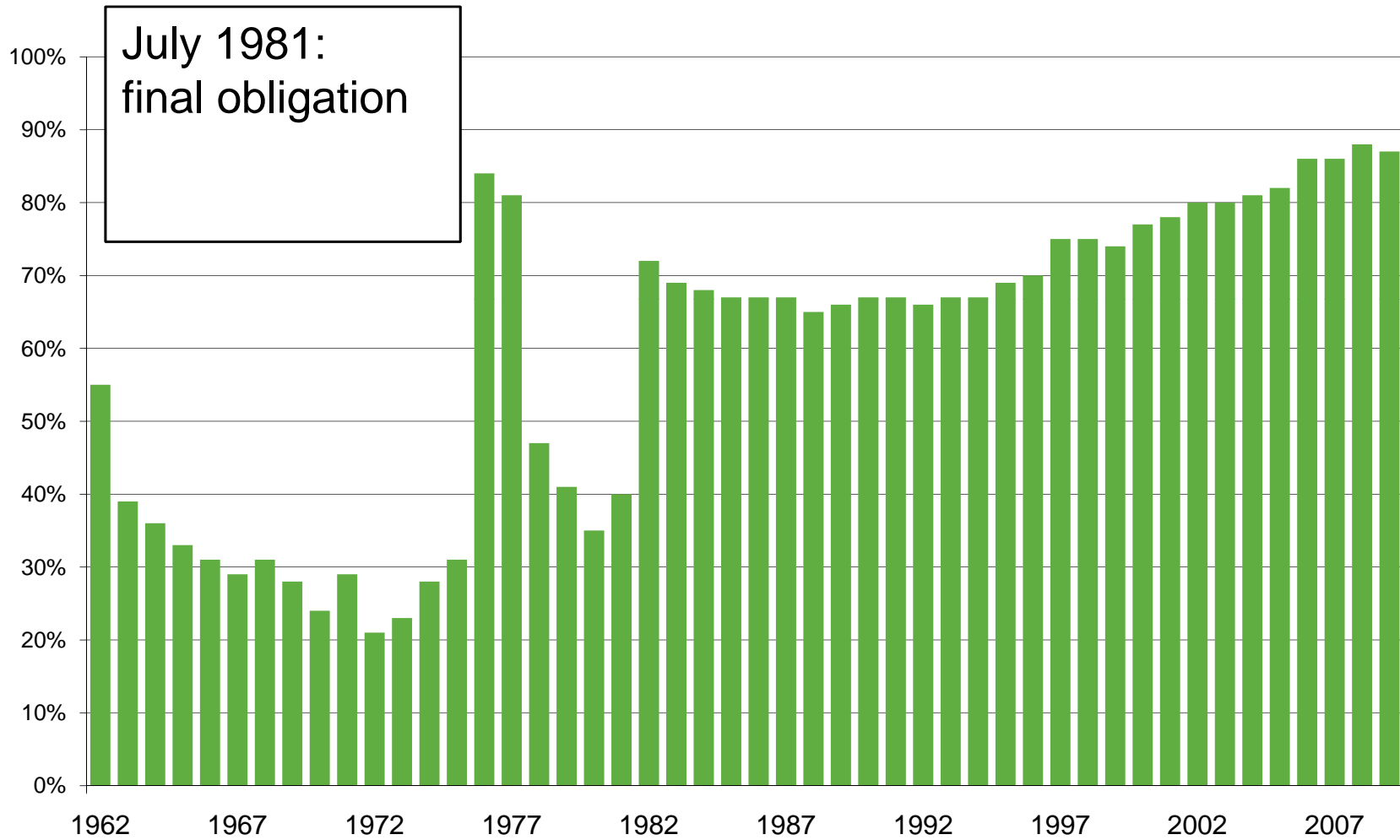
# Seat belt use on urban roads by OECD countries, 2008



# Seat belt use by Swiss language regions, 2008



# Evolution of seatbelt use

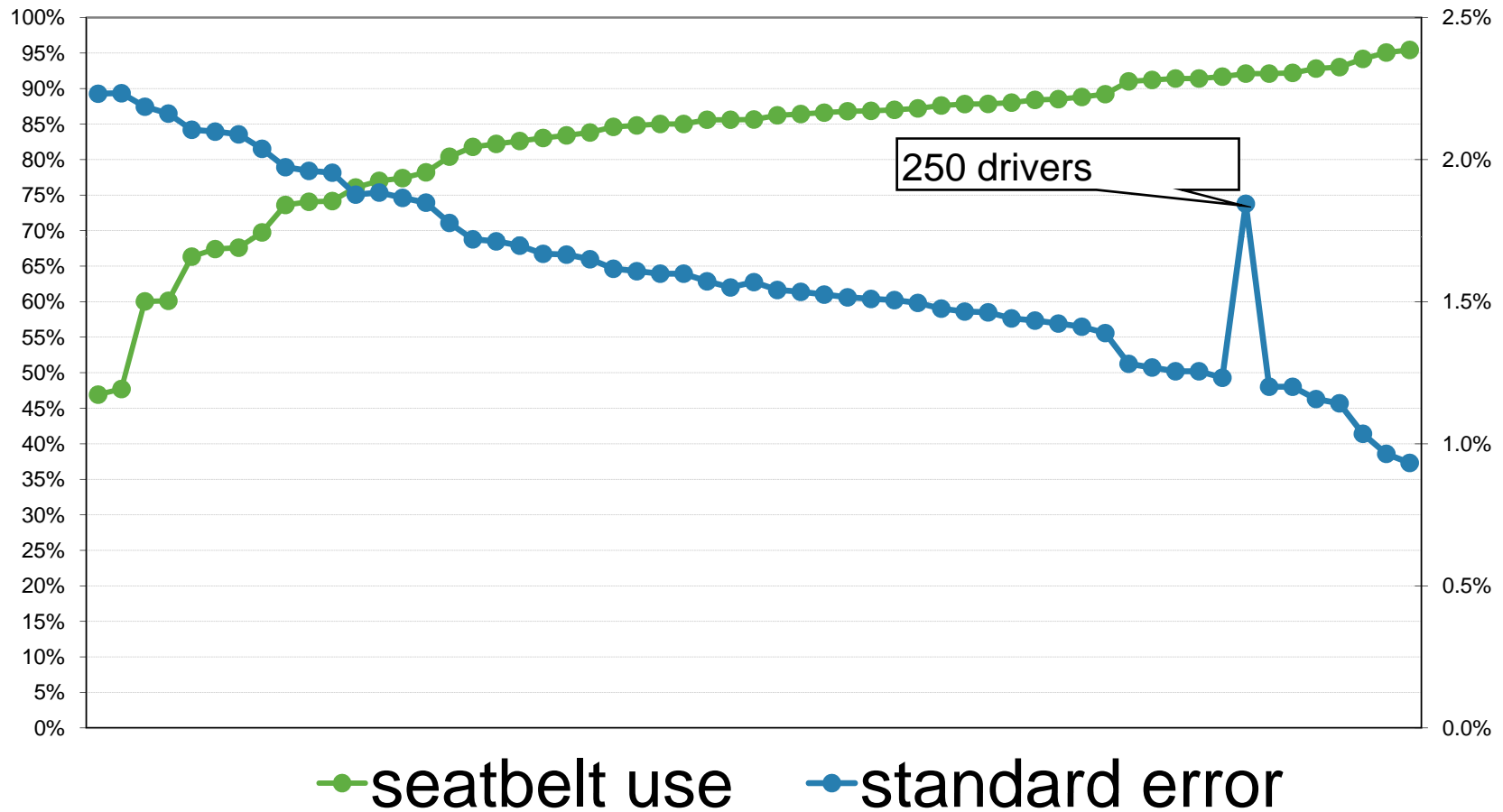




# Survey methods

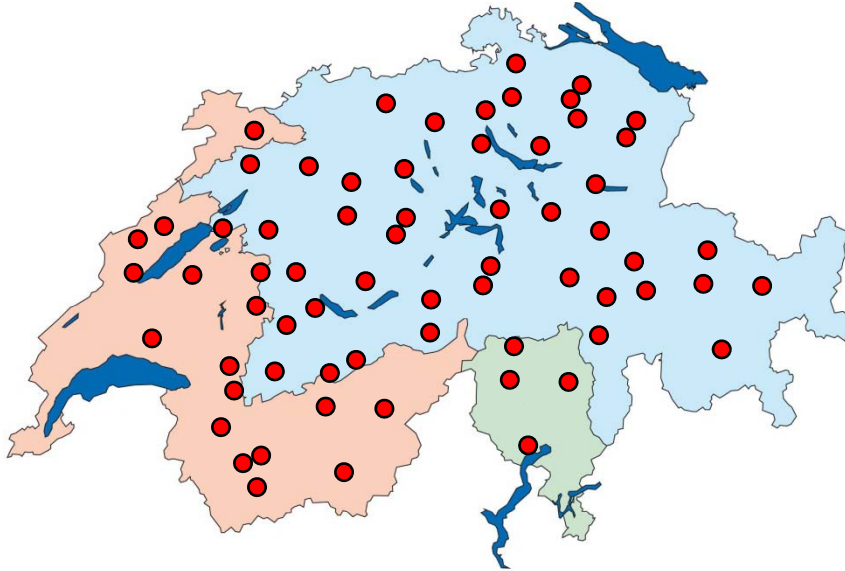
- Stratified, two stage cluster design
- Precision of estimates depends on:
  - Observed rate
  - Sample size
  - **Number of observation sites**
  - **Variance between observation sites**
- Problem of bfu surveys: standard errors

# Estimates and standard errors by observation sites

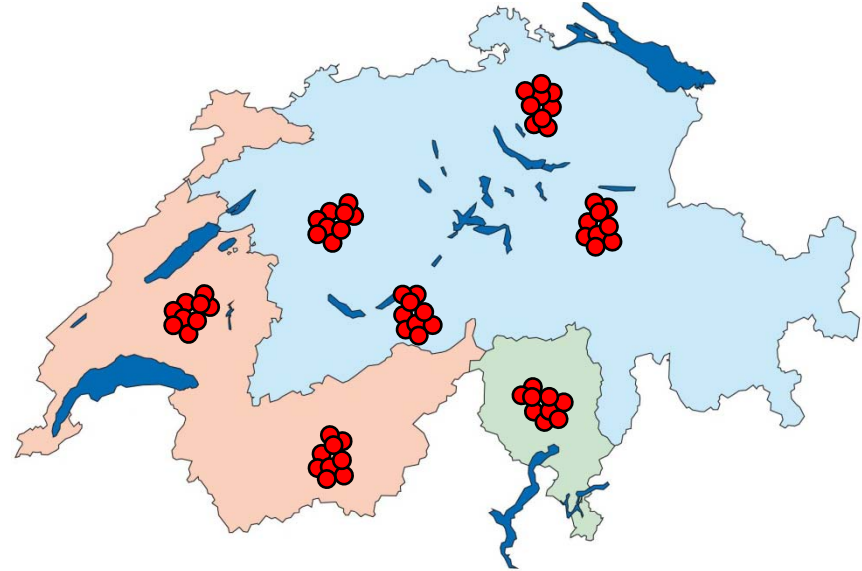


# Sampling frame

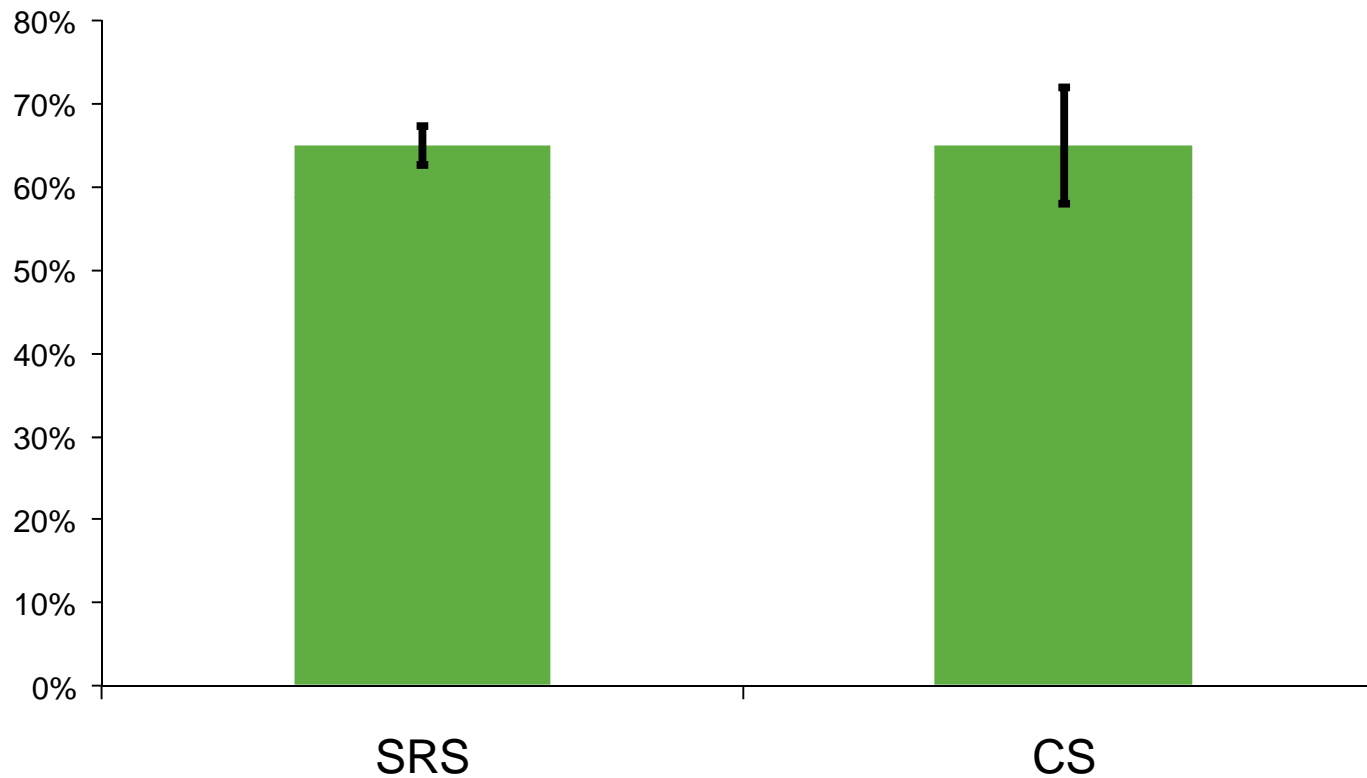
Simple Random Sample



Cluster Sample



# CIs, assuming SRS and CS



# bfu surveys compared to NOPUS\*

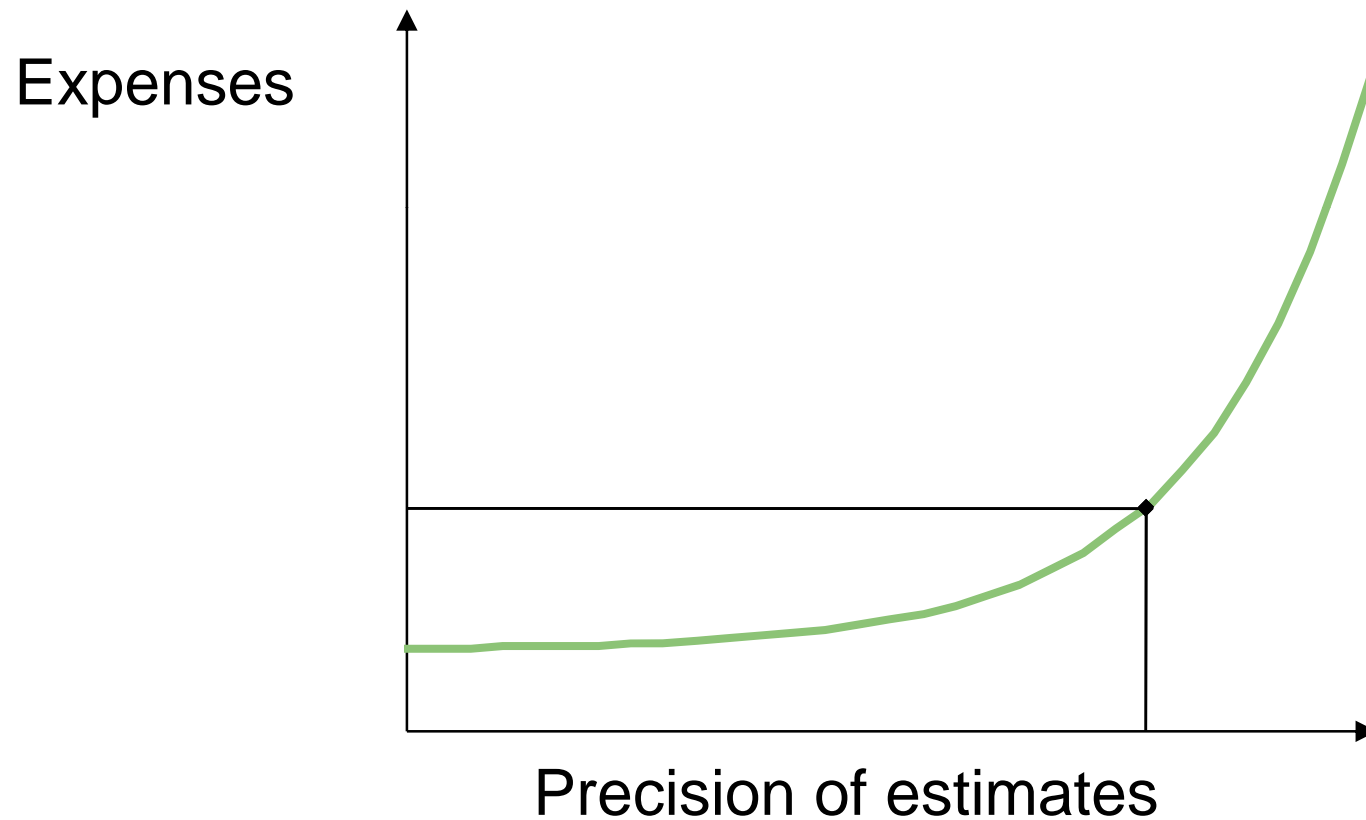
	bfu	NOPUS
Observation sites (OS)	59	1 865
Total sample size (SS)	30 000	116 000
Ratio SS/OS	500	62
Sampling of sites	Preassigned	Random sample
Observation on sites	Fixed number	Sampling plan

\* National Occupant Protection Use Survey, NHTSA

# Would you like to survey here?



# Expenses and revenues



# Practical improvements 2009





# Discussion

- Estimates can be improved by increase of observation sites
- Trade off between practical feasibility against methodological claims
- Practical improvements can increase the ease of fieldwork
- Objectives of surveys must be taken into account