



Improvement of Human Powered Mobility Conditions for Elderly People

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STRUCTURE

1



Introduction

2



Research Project

„Safeguarding mobility of elderly people in traffic“

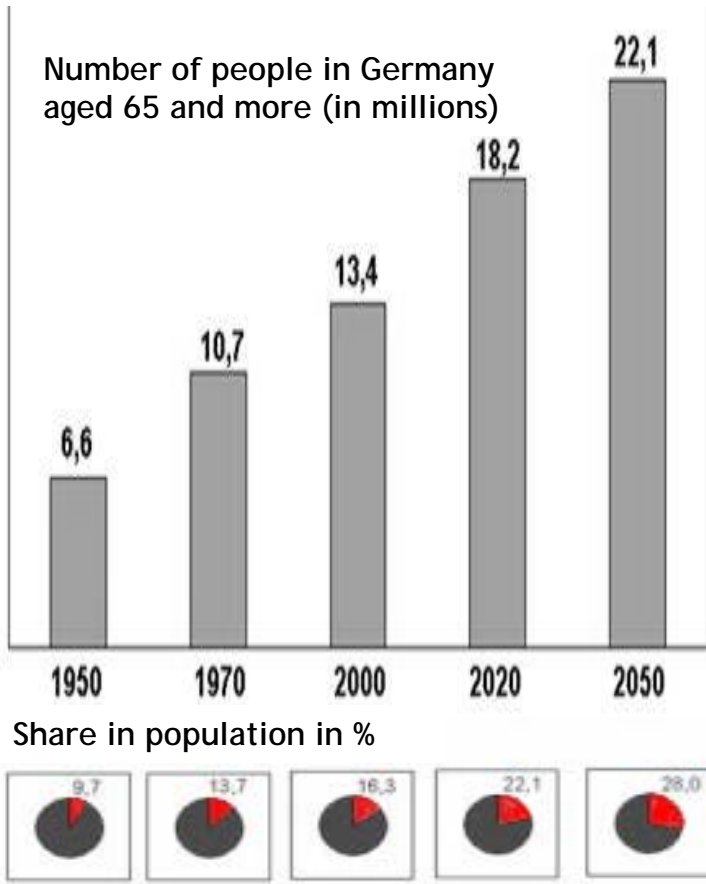
3



Recommendations for local authorities

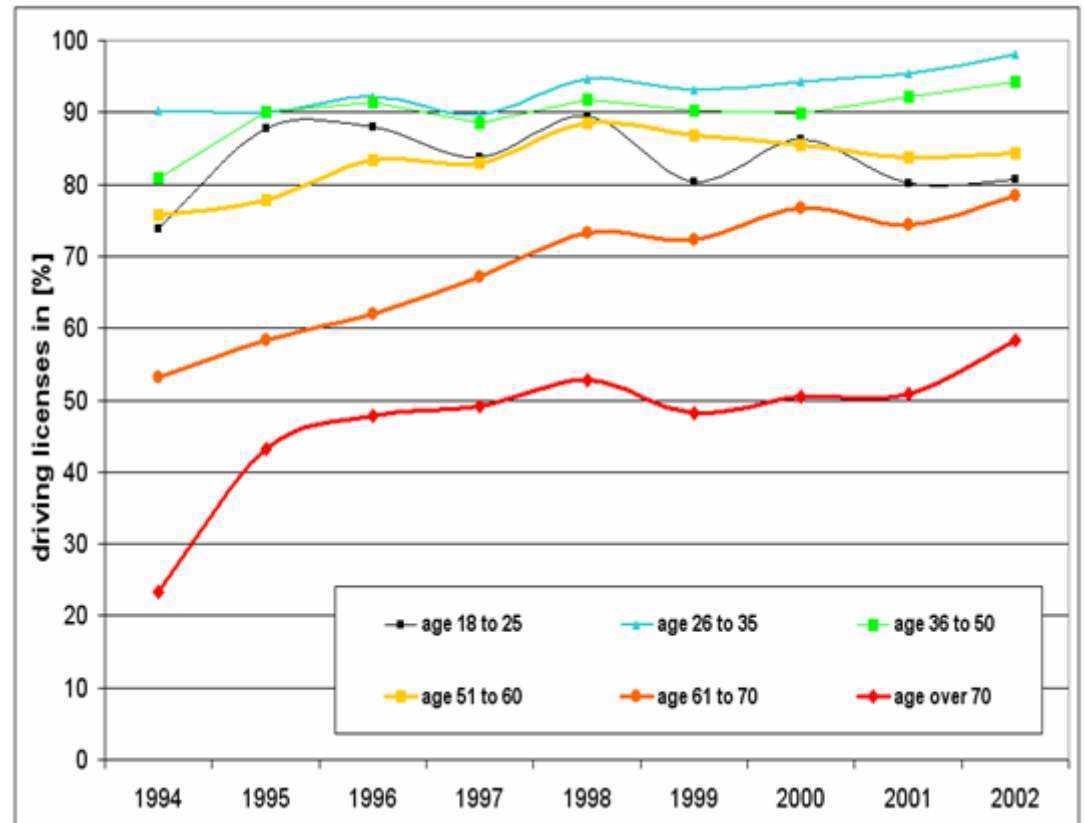
INTRODUCTION

Initial Situation



Data: DESTATIS 2003 und 2004

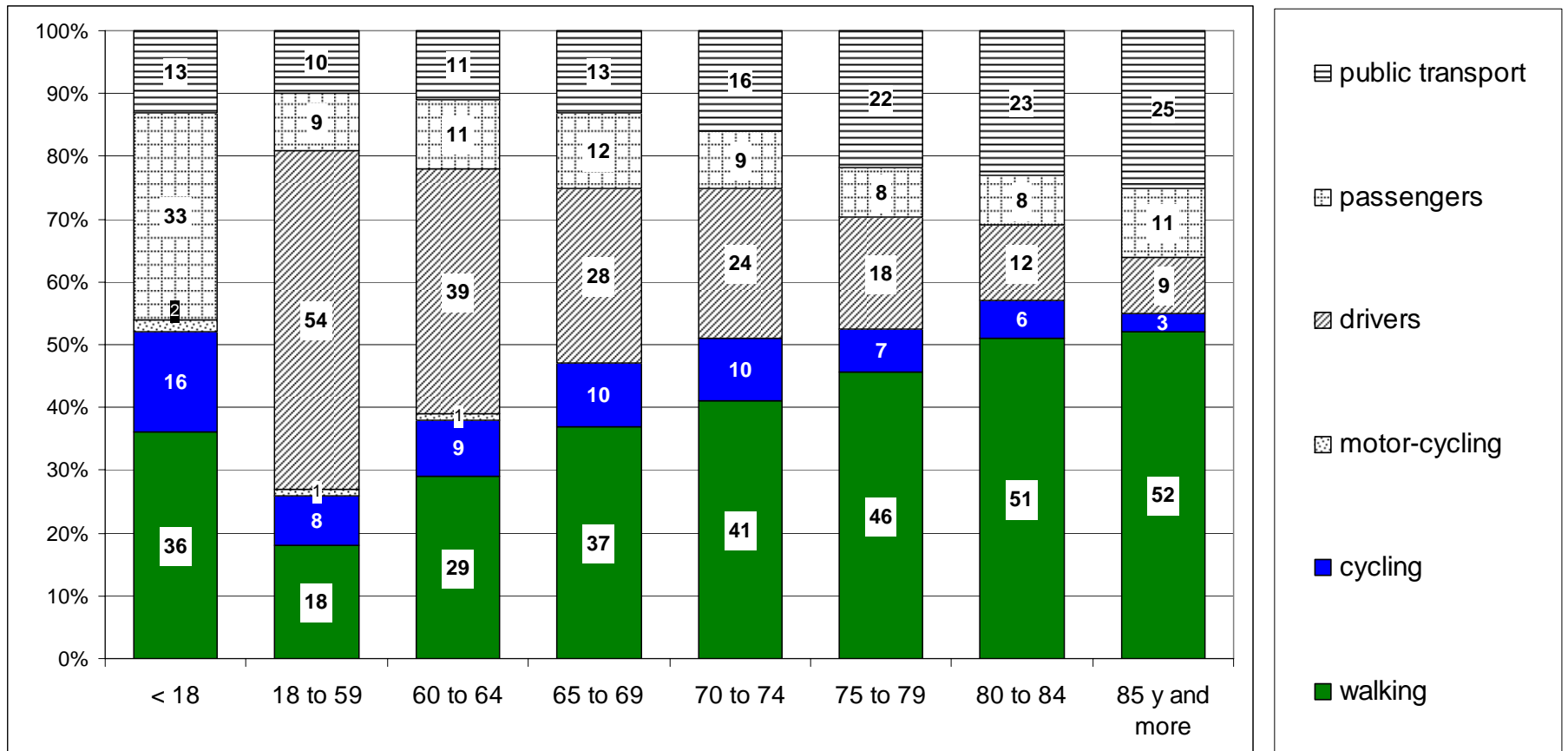
Share in driving licences per age-group



Data: Zumkeller 2002

INTRODUCTION

Modal split of different age-groups in Germany

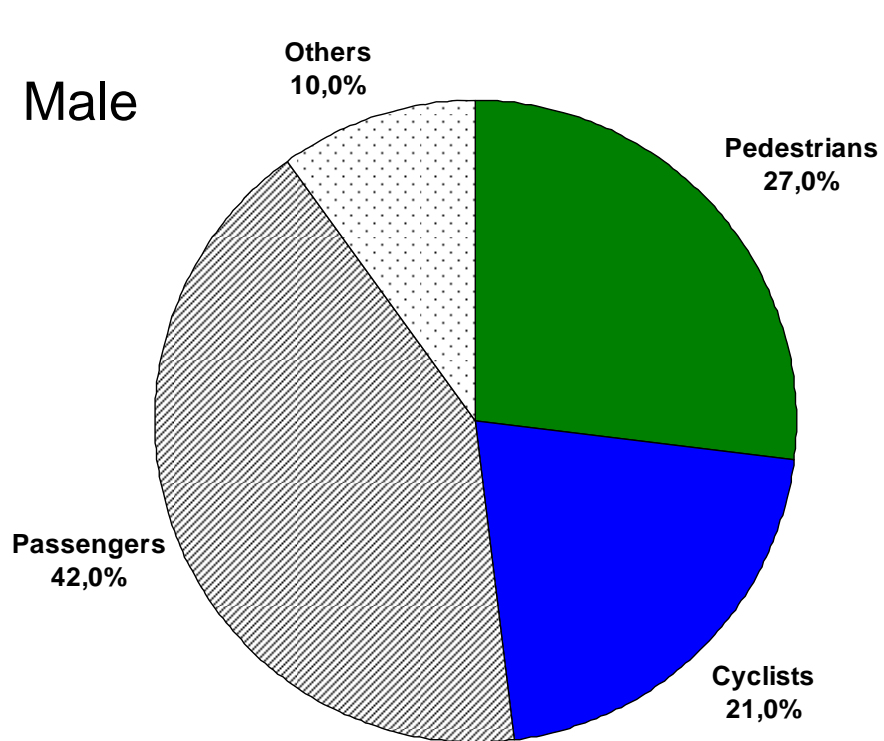


Source: Brög, Erl, Glorius 1998

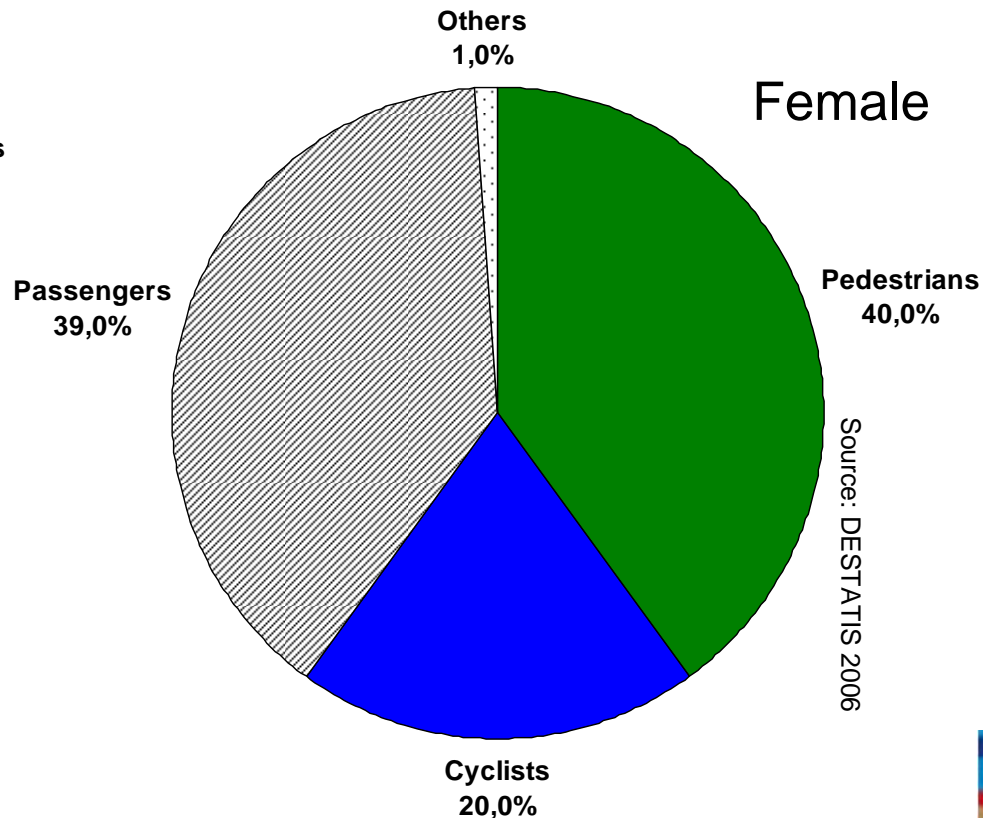
INTRODUCTION

Fatalities of elderly people by category of vehicle (Germany 2005)

Male



Female



Source: DESTATIS 2006

⇒ *Every 2nd killed pedestrian or cyclist was at least 65 years old!*

RESEARCH PROJECT

Task and objective

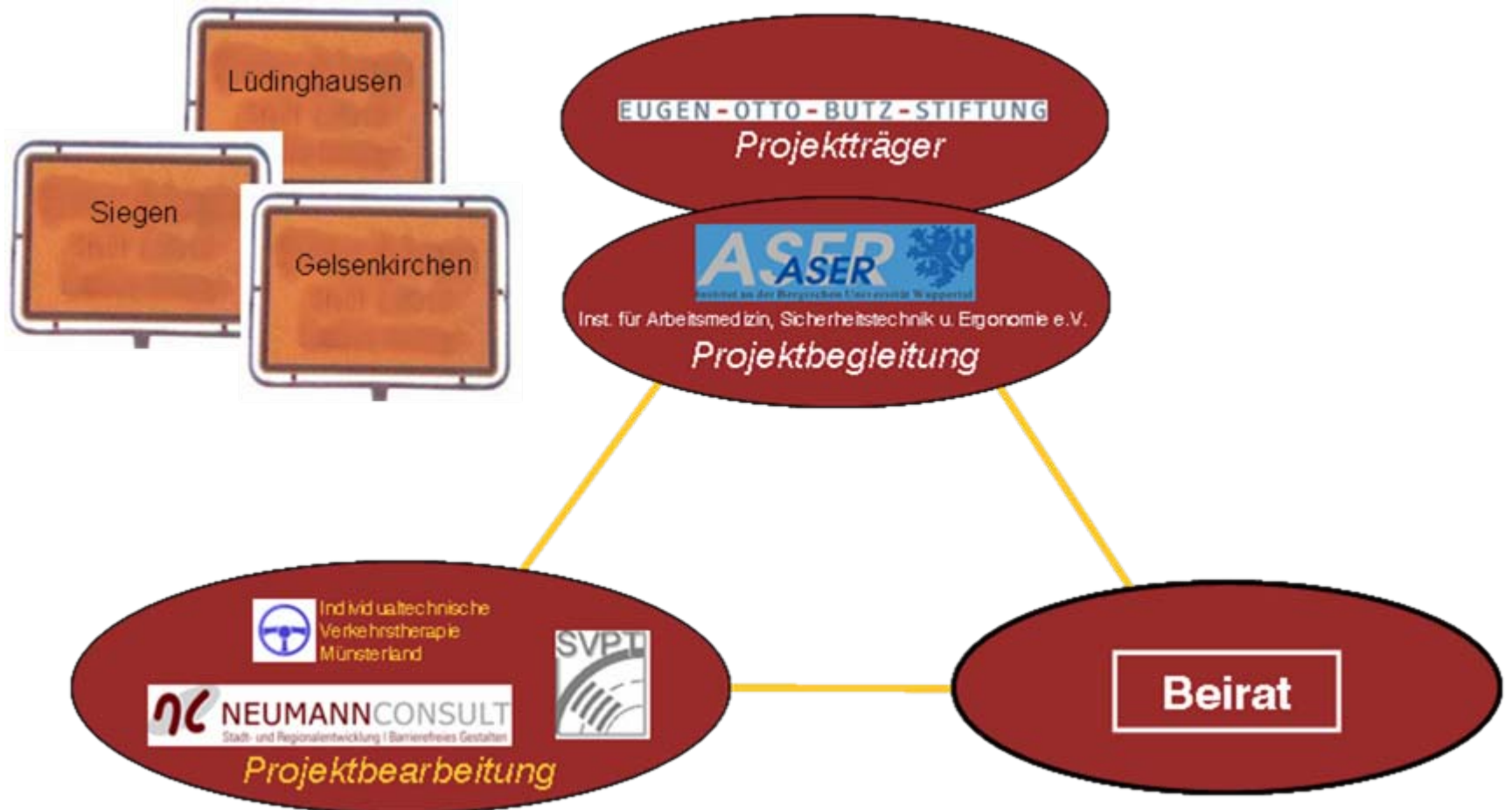
- ✘ Requirements of elderly people for road traffic design?
- ✘ Adequate satisfaction of needs?
- ✘ Difficulties of the target group?
- ✘ Which improvements necessary?



Source: www.reiseland-niedersachsen.de

RESEARCH PROJECT

Partners



RESEARCH PROJECT

Survey design

- ✘ Face-to-face interviews
- ✘ Supervised discussions
- ✘ Journals of trips
- ✘ Analysis of accidents of elderly people
- ✘ Analysis of guidelines and planning practice



Photo: SVPT

PROCEDURE & RESULTS

Face-to-face interviews

If I was a mayor, I would like to...

- ✘ ...advance traffic signals and refuges/pedestrian crossings.
- ✘ ...appoint city-service and police more often.
- ✘ ...sensitize fellow citizens.
- ✘ ...care for road maintenance.
- ✘ ...barrier-free sidewalks.
- ✘ ...establish more traffic calming.



Photo: Wood

PROCEDURE & RESULTS

Problems for elderly cyclists

Frequent mentioned deficits from viewpoint of cyclists

- ✘ Afraid of driving on street-level (sidestepping to pavement).
- ✘ Inadequate separation of means of transport.
- ✘ Undersizing of facilities.



Source: www.argus.or.at



PROCEDURE & RESULTS

Problems for elderly cyclists

Frequent mentioned deficits from viewpoint of cyclists

- ✘ Bad condition of facilities.
- ✘ Frequent change of routing (“sometimes pavement, sometimes street-level”).
- ✘ Lack of safe areas for crossing the road.
- ✘ Sometimes unclear situation (“pseudo one-way”).
- ✘ No integrative design and colour of cycle facilities.



Photo: Boenke



PROCEDURE & RESULTS

Examination of Guidelines / Planning code of practice

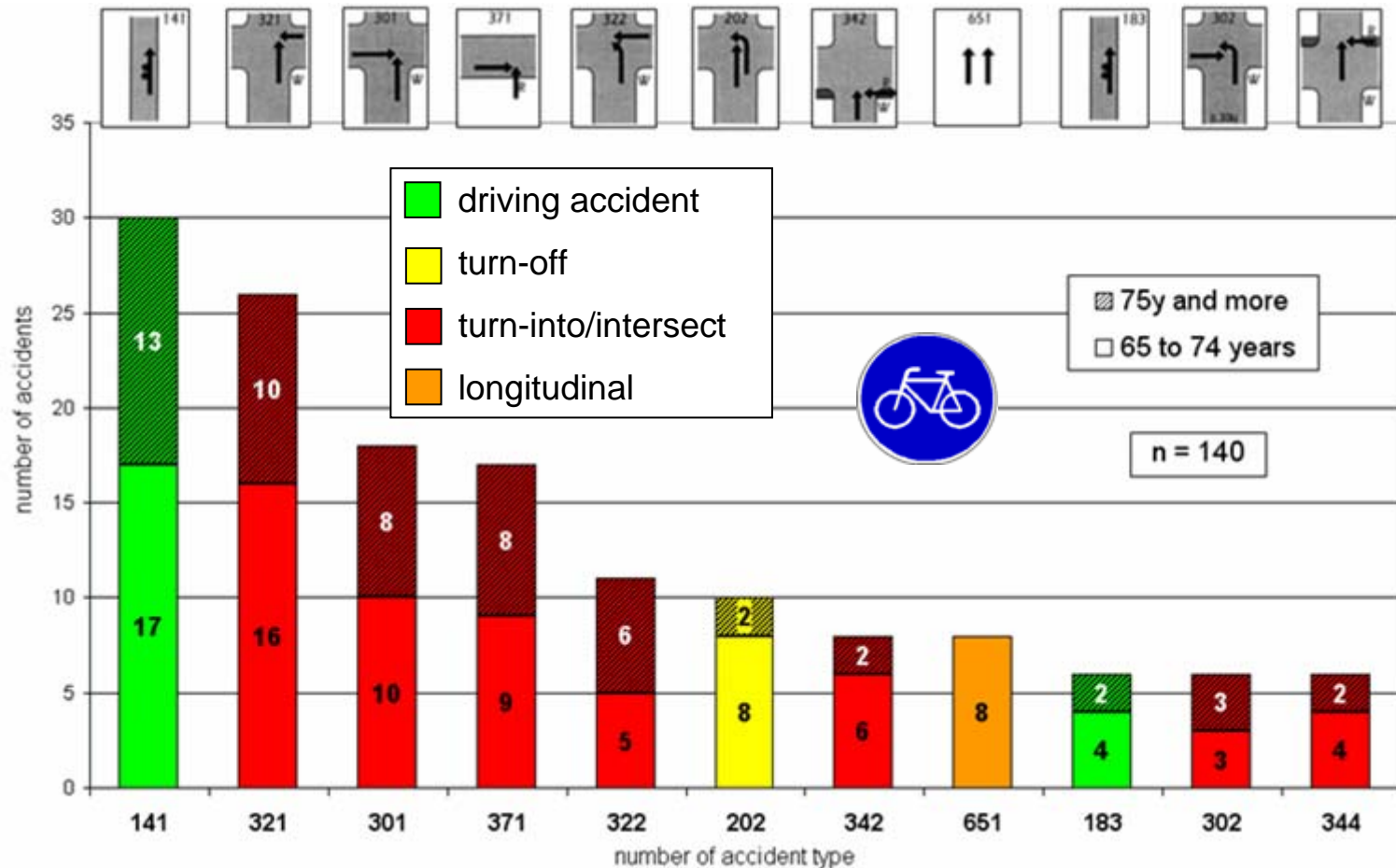
Example: ERA95 (guideline for cycle facilities)

- ✘ Special regard has to be dedicated to unexercised cyclists, children and elderly people, who „often could not perceive and cope risks“.
 - ✘ The condition and skill of cyclists to move in a safe way has to be regarded.
 - ✘ Routes outside public control should be avoided.
- ⇒ Lack of hints, how to design facilities regarding the needs of elderly cyclists (e.g. left turning traffic at signalled junctions).

PROCEDURE & RESULTS

Accident analysis – Accidents of elderly cyclists

Most frequent accident types caused by *cyclists* aged 65 years and more (2000 - 2004, 394 evaluated accidents)



Data & Illustration: SVPT

PROCEDURE & RESULTS

Measures for cyclists, e.g.

- ✘ Better road maintenance (prevent falling down)
- ✘ High-contrast design (e.g. kerbs, obstacles)
- ✘ Separation of means of transport,
esp. no mixed areas with pedestrians
- ✘ Offer “protected areas“
 - ✘ Separation, if necessary
 - ✘ More comfortable dimensions, less minimum dimensions
- ✘ Raise compatibility of different traffic modes (routing)
- ✘ Road safety education for better courtesy on the road

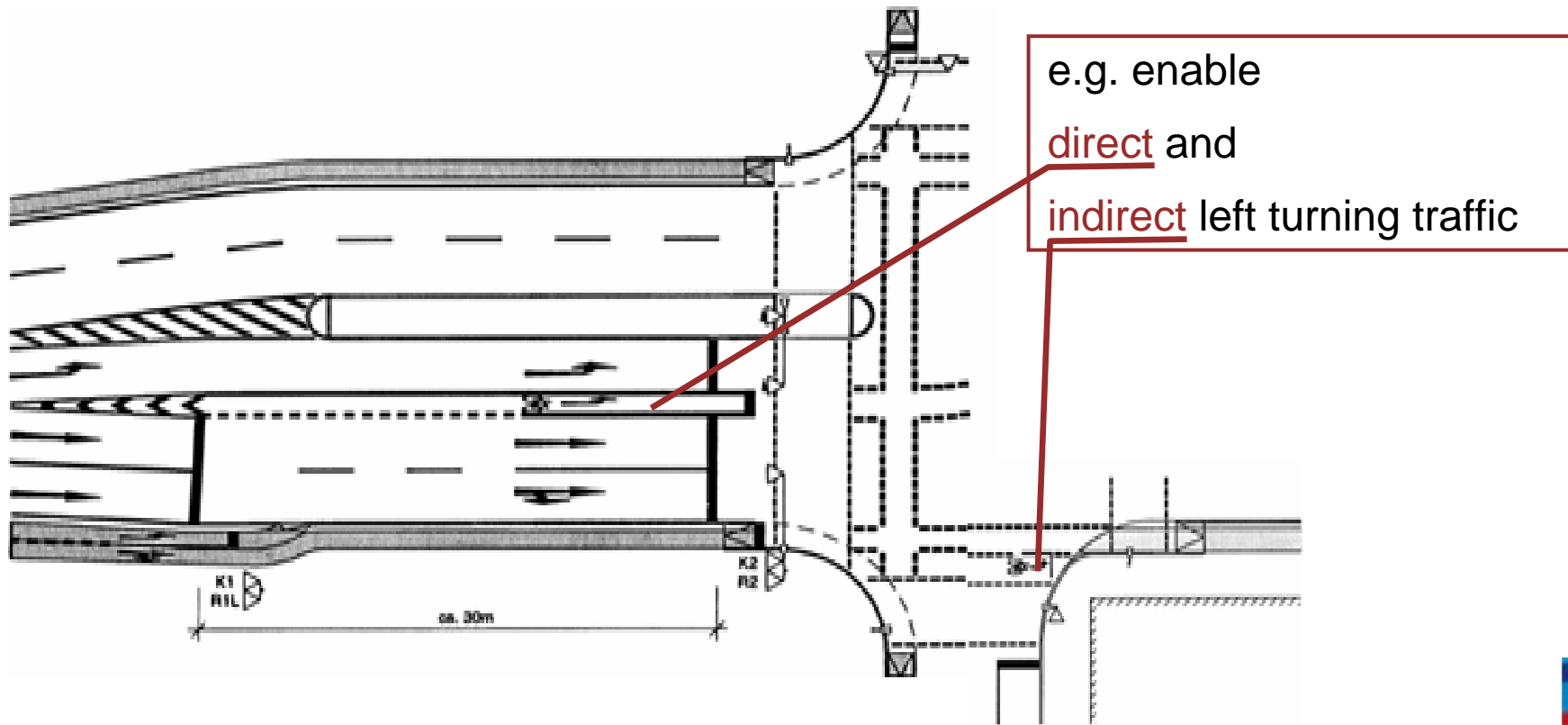


Photo: Boenke

PROCEDURE & RESULTS

Measures for cyclists, e.g.

Free choice for left-turning traffic at signalled junctions



Source: FGSV, EAR 1995

PROCEDURE & RESULTS

Share of people with mobility problems (Norway)

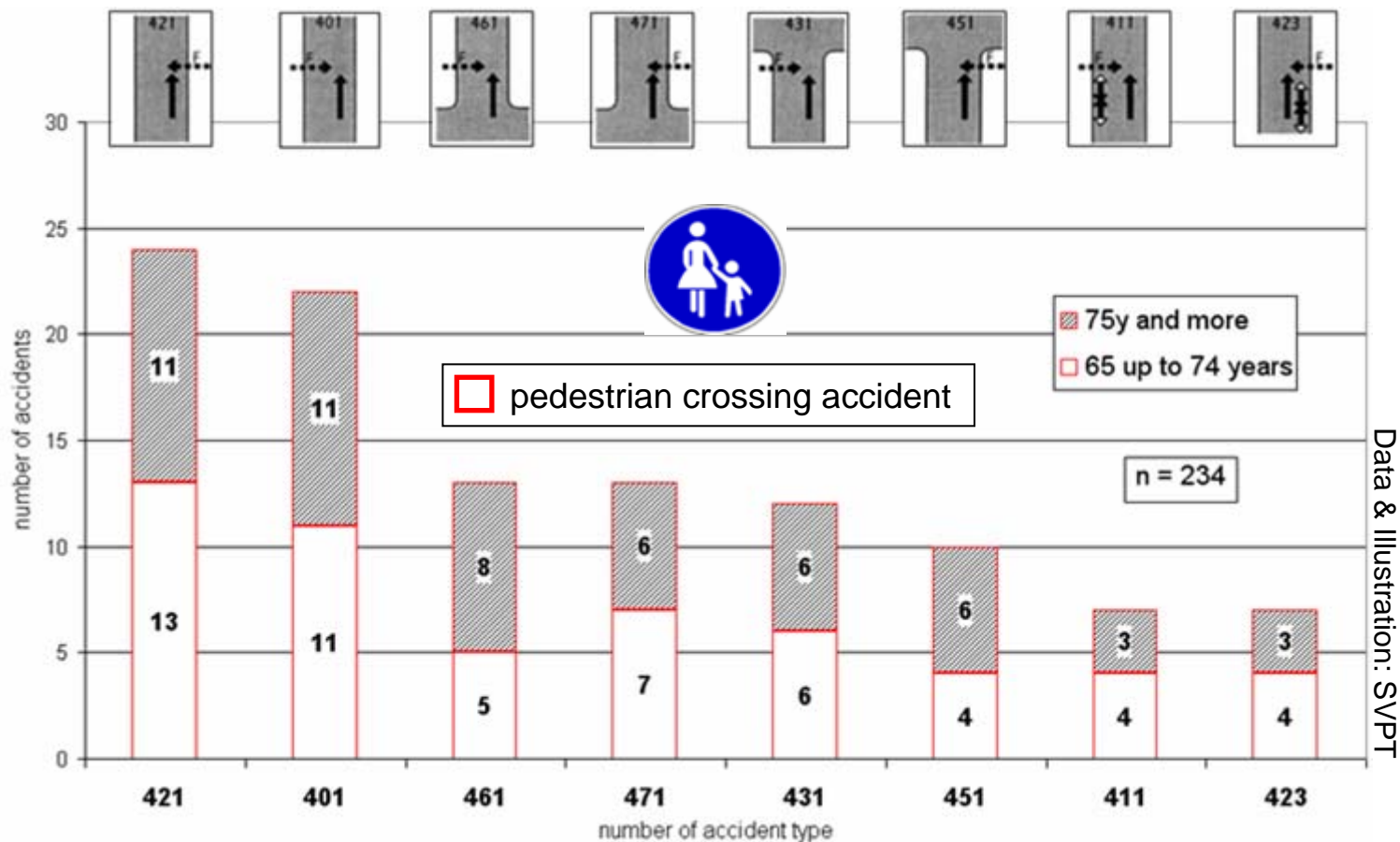
Age	Facing mobility problems as...				
	driver	passenger	public transport	cyclist	pedestrian
13-17	-	1	1	2	1
18-24	2	2	2	2	2
25-34	2	2	2	3	2
35-44	3	2	4	3	3
45-54	4	4	6	7	7
55-66	8	6	8	13	13
67-74	3	6	10	17	20
75+	10	11	16	29	33
every	4	3	5	6	6

Quelle: Hjorthol, 1999

PROCEDURE & RESULTS

Accident analysis – Accidents of elderly pedestrians

Most frequent accident types caused by *pedestrians* aged 65 years and more (2000 - 2004, 234 evaluated accidents)



PROCEDURE & RESULTS

Measures for pedestrians, e.g.

- ✘ More refuges / pedestrian crossings.
- ✘ Safer crossings (e.g. zebra crossing or traffic lights).
- ✘ Better road maintenance.



Photos (2): Boenke

PROCEDURE & RESULTS

Measures for pedestrians, e.g.

- ✘ High-contrast design.
- ✘ Separation of means of transport, esp. no mixed areas with cyclists.



Photos (3) : Boenke

PROCEDURE & RESULTS

Measures for pedestrians, e.g.

- ✘ Road safety education for better courtesy on the road.
- ✘ Better social control (police, security services etc.).
- ✘ Better routing.



Photo: Boenke

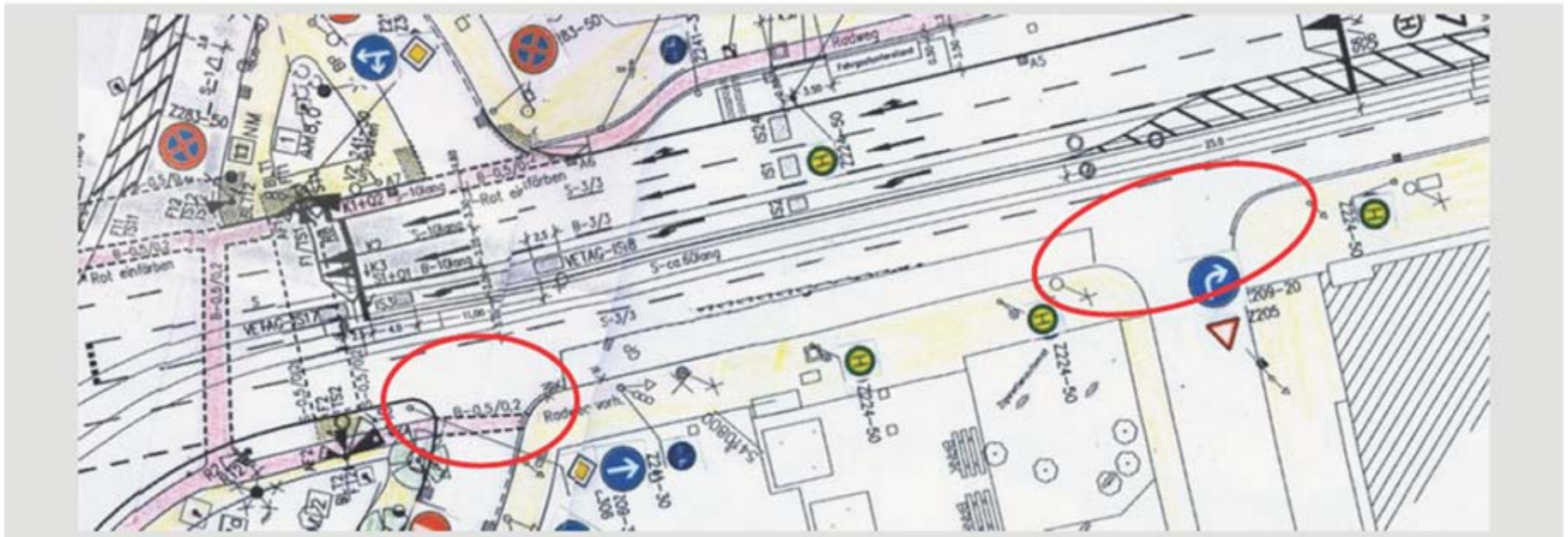


Source: www.fast-alles.net

RECOMMENDATIONS

Road Safety Audit as groundwork

Example: Missing/unsteady marking of cycle lane

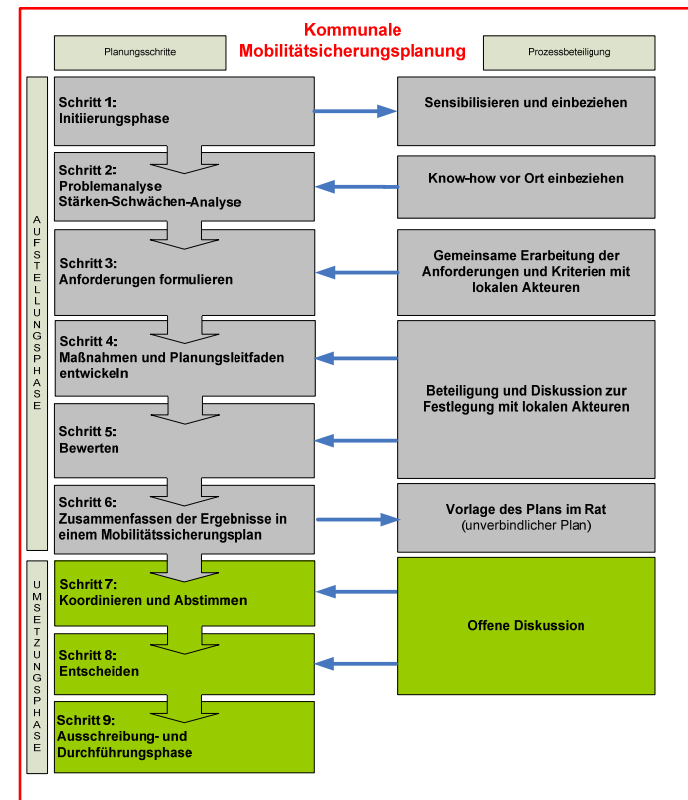


Source: SVPT, training of road safety auditors

RECOMMENDATIONS

Local Mobility Protection Plan

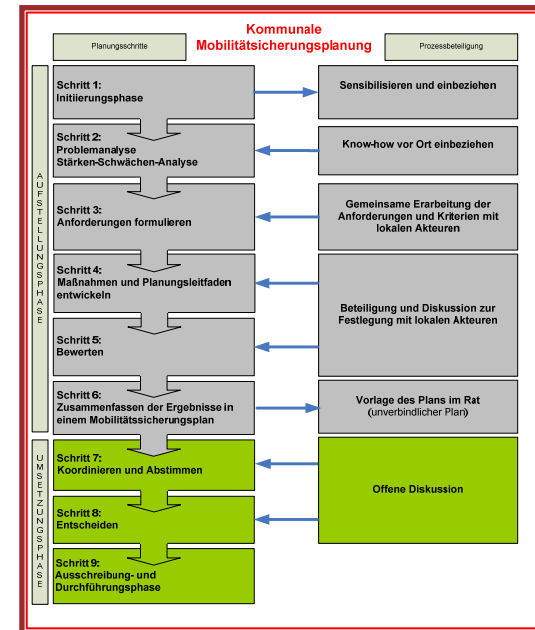
- ✘ Local “Mobility Protection Plan” containing mix of methods.
- ✘ Definition of barrier-free routes.
- ✘ Integrated planning considering chain of trips of elderly people.
- ✘ Extended analysis of accidents.



RECOMMENDATIONS

Conclusion

- ✘ Sensitization and information of planners, decision makers (the “one who cares”) and public.
- ✘ Less capability, better evaluation.
- ✘ Following the principle of “Design for all”.
- ✘ Reduction of complex traffic situations.



Questions or suggestions?

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www.svpt.de

www.traffic-transport.org

