Documentation of Road Safety Deficits –

Urban Roads in Germany

- *Prof. Dr. Juergen Gerlach*
- *University of Wuppertal*
- *Road Traffic Planning And Engineering*

Paris, September 20th, 2007







WUPPERTAL

Schwebebahn – Suspended Monorail

Foto: www.polar.sunynassau.edu

Foto: www.answers.com

WUPPERTAL

University of Wuppertal

Foto: presse.uni-wuppertal.de

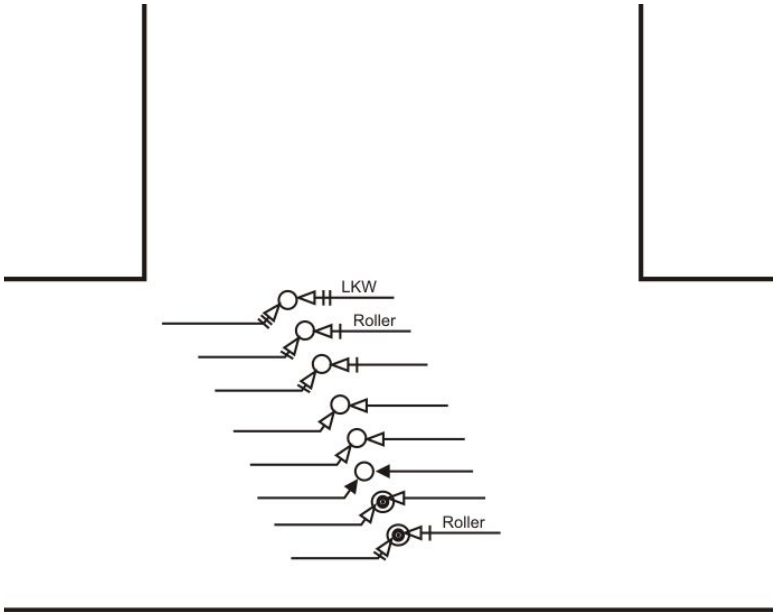
Main Campus

Haspel Campus

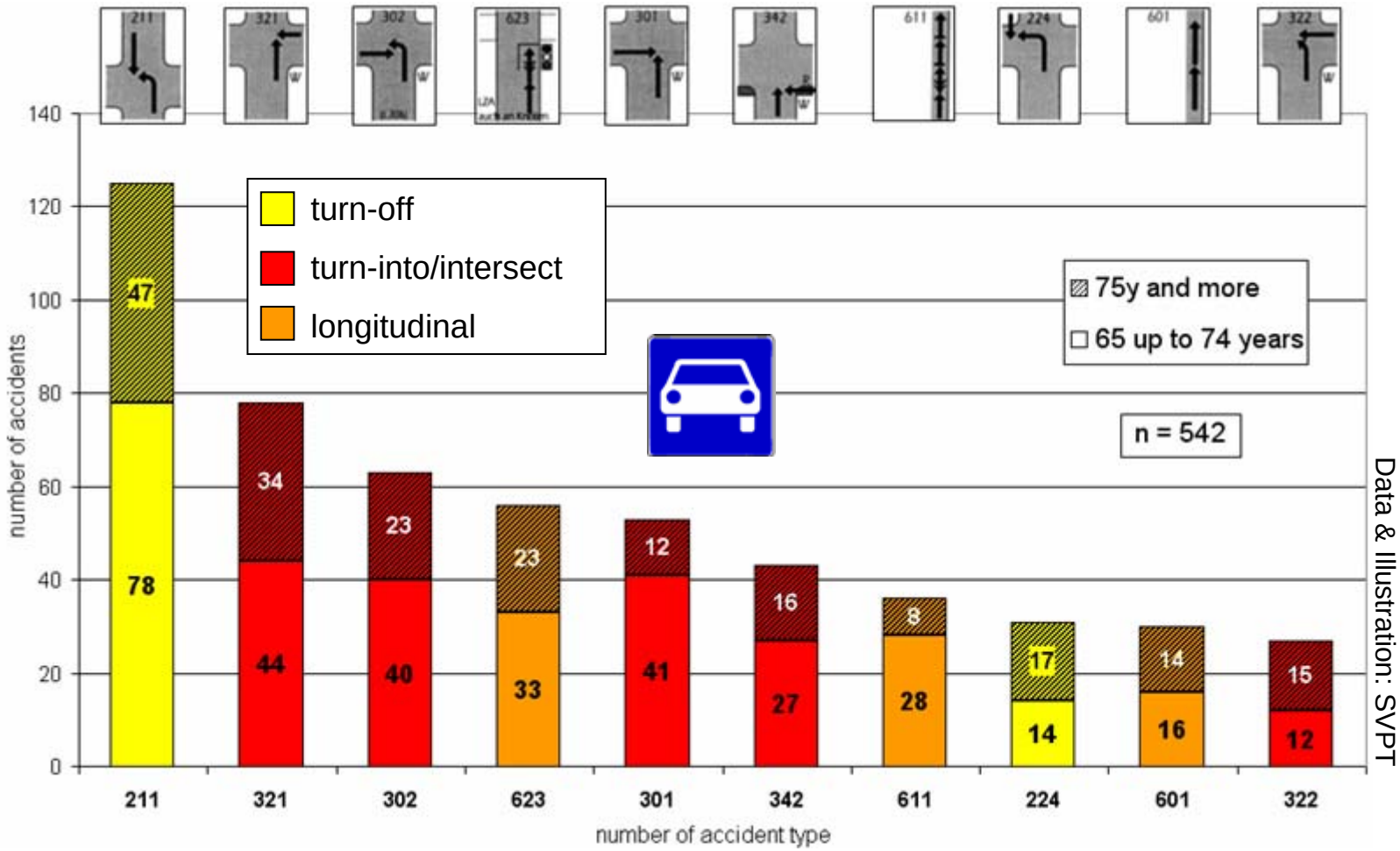
ROAD TRAFFIC PLANNING AND ENGINEERING (SVPT)

- Research (Abstract)
  - Qualification of safety auditors for urban roads
  - Quality of traffic measures
  - Traffic safety
  - Infrastructure and elderly people
  - Strategic Environmental Assessment

- Example: Road Accidents at a junction in 1 year -

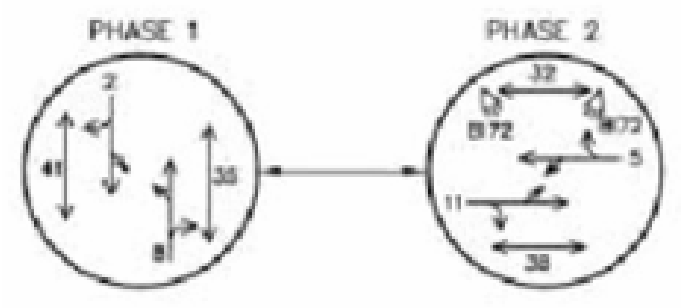


Most frequent types of accidents caused by *drivers* aged 65 years and more (2000 – 2004, 1.906 evaluated accidents)

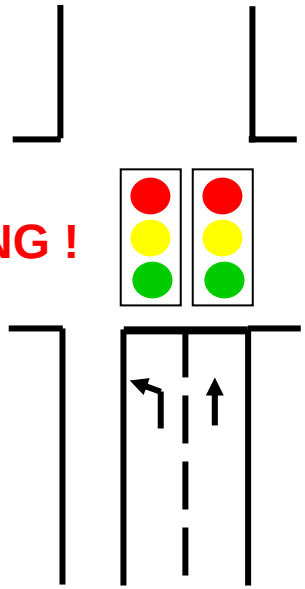


Data & Illustration: SVPT

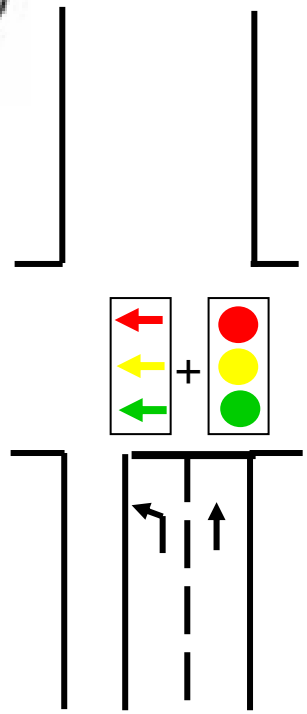
Measures for drivers, e.g.



WRONG !



OK!



Road Safety Audits in Germany

- ESAS – recommendations for the road safety audit 2002

- implemented for federal (interurban) roads

- about 200 auditors for interurban roads working in the ministries

- application of the ESAS for urban roads is voluntary

- audits for urban roads not established over the municipal level

- qualification courses for urban road auditors only in Wuppertal

Overview of the Curriculum
Qualification of Urban Road Safety Auditors

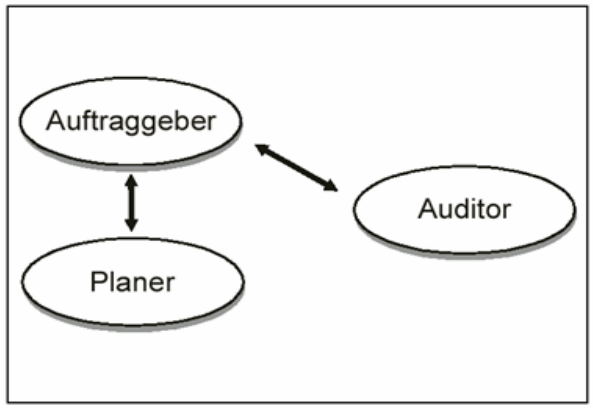
Module	Road safety (general)	Road safety audit (general)	Cross-town links	Main roads	Side roads
Topic	Meaning of the road safety for planning and design or in sets of rules	Bases of road safety audits	Introduction	Introduction	Introduction
	Bases of the road safety work	Execution of road safety audits	Safety design of cross-town links	Road safety aspects of main roads and influence factors	Road safety aspects of side roads and influence factors
	Blackspots and road safety deficits		Road safety aspects of cross-town links and influence factors	walk-through and audit of stock main road	Safety design of side roads
	Accident analysis		walk-through and audit of stock cross-town links	Safety design of main road sections	
			Homework audit report of a cross-town link	Safety design of main road junctions	
				Safety aspects in execution designs	
				considerations of people restricted in mobility	

73 Trained Urban Road Safety auditors in Germany, 2007


FORSCHUNGSGESELLSCHAFT FÜR STRASSEN- UND VERKEHRSWESEN
ARBEITSGRUPPE STRASSENENTWURF

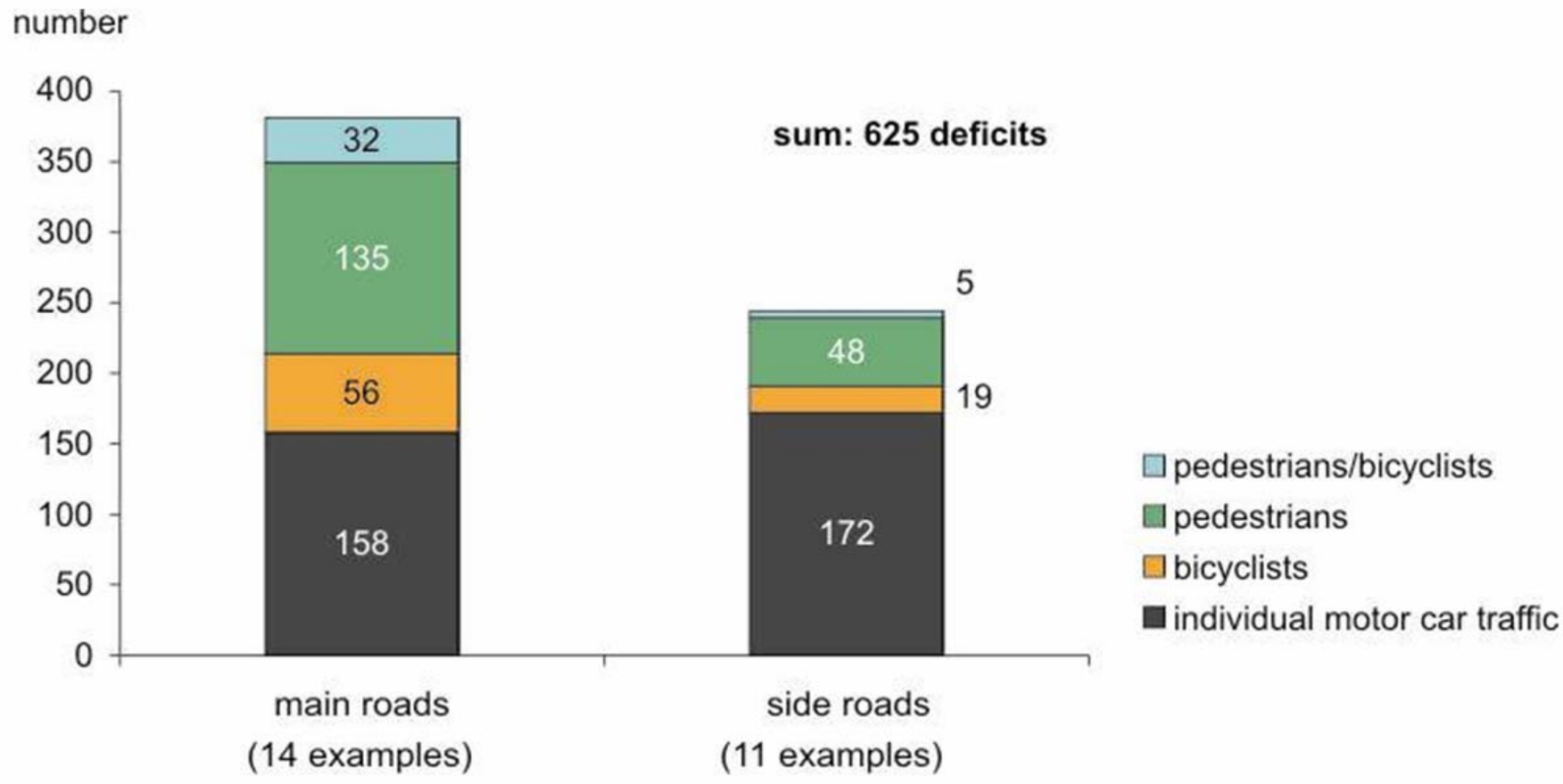
**Empfehlungen
für das
Sicherheitsaudit von Straßen
(ESAS)**

Mai 2002

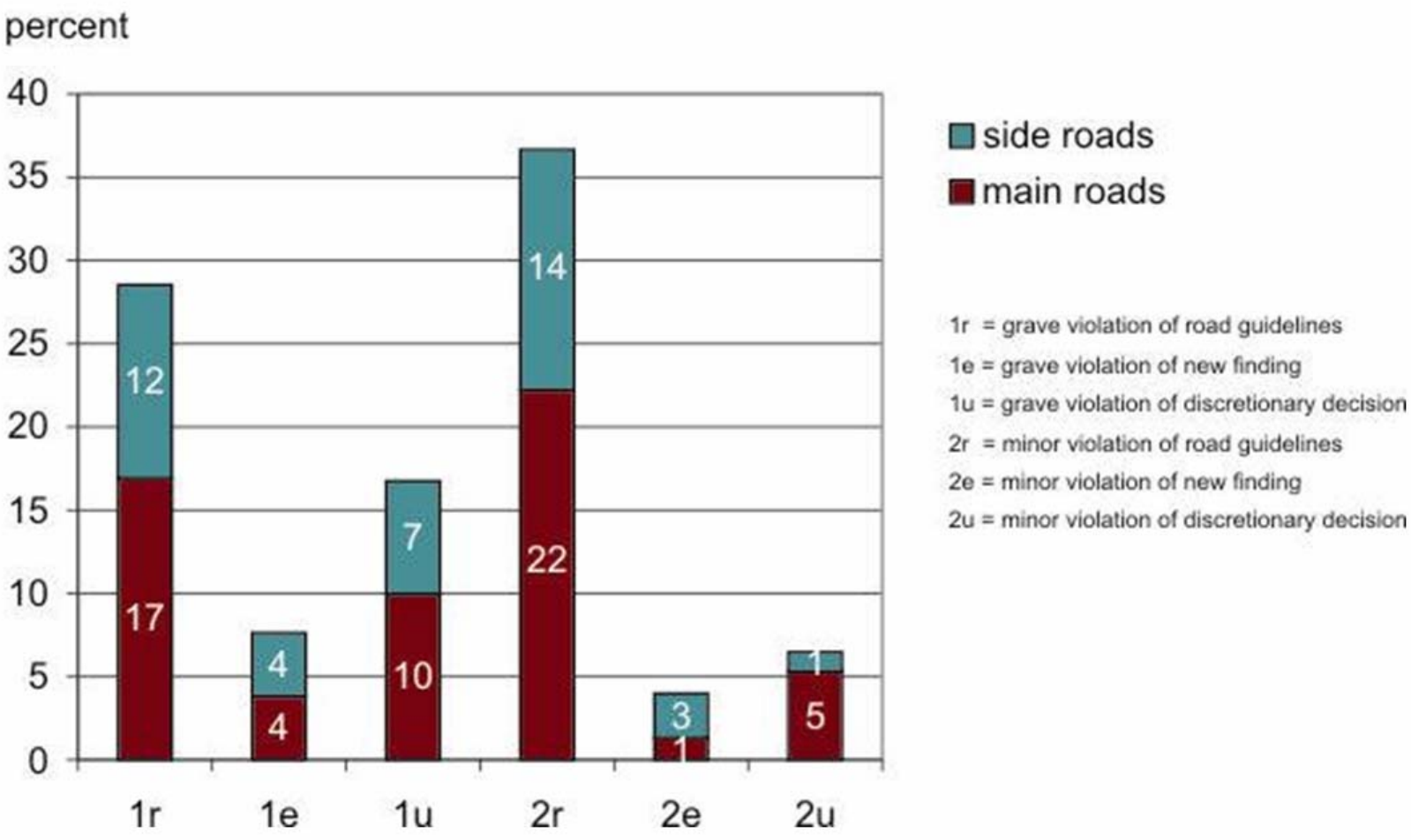


Quelle: ESAS 2002

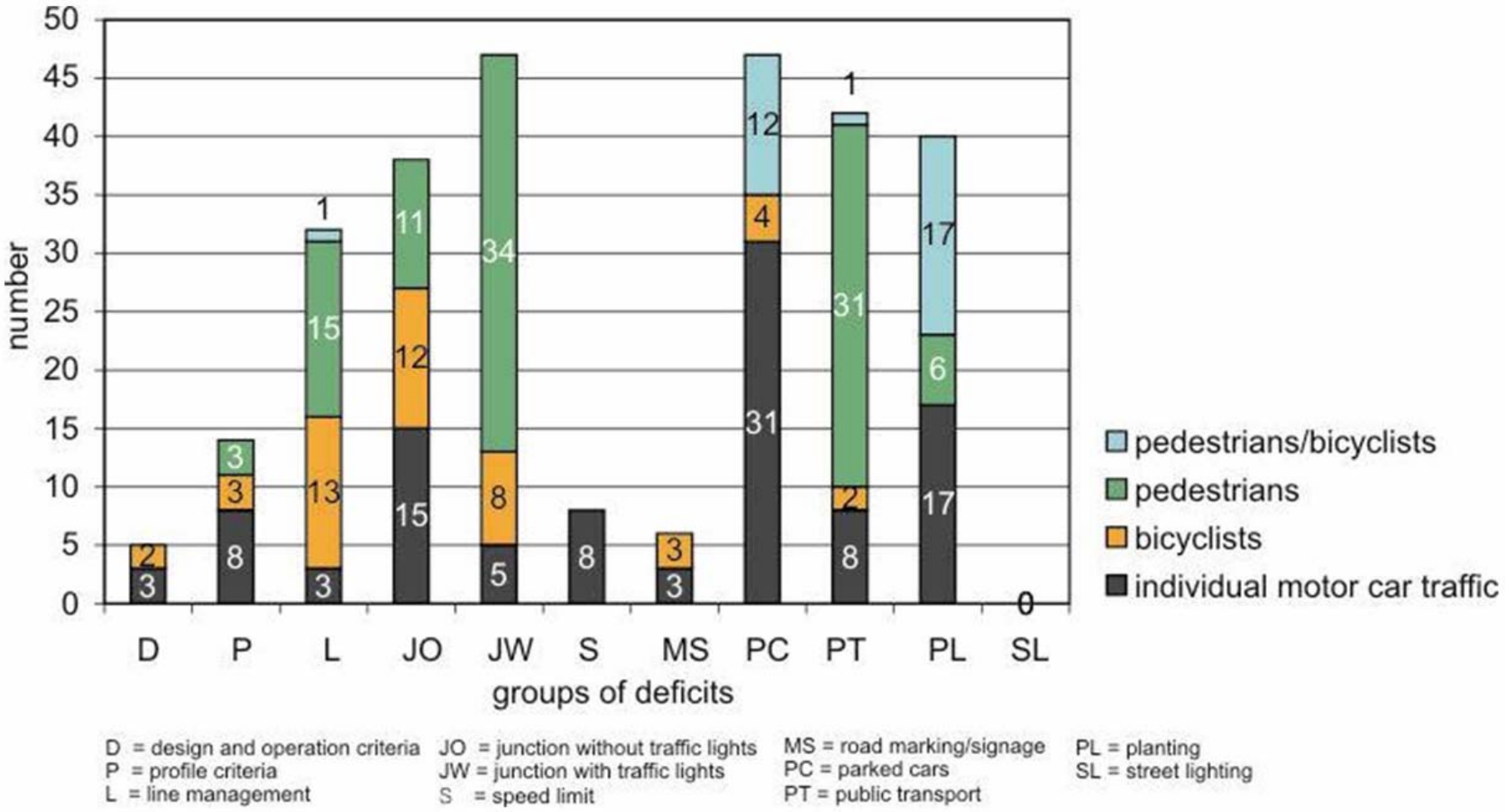
Deficits for all audit phases according to subgroups of deficits



Number of deficits for all audit phases concerning the character of violation



Categorised deficits of main roads in audit phase 2



Accumulation of deficits in audit phase 2, main roads

group of deficit	subgroup of deficit	number	deficit
L	bicyclist/ pedestrians	12 x	lack of or insufficient pedestrians crossing
JW	pedestrians	22 x	lack of or insufficient waiting areas
PC	bicyclist/ pedestrians	12 x	line-of-sight obstruction at bicyclist/pedestrians caused by parking cars
PC	motorized traffic	22 x	line-of-sight obstruction caused by parking cars
PT	pedestrians	10 x	lack of or insufficient waiting areas
		13 x	Lacking consideration of people reduced in mobility
PL	bicyclist/ pedestrians	15 x	line-of-sight obstruction at bicyclist/pedestrians
PL	motorized traffic	17 x	line-of-sight obstruction

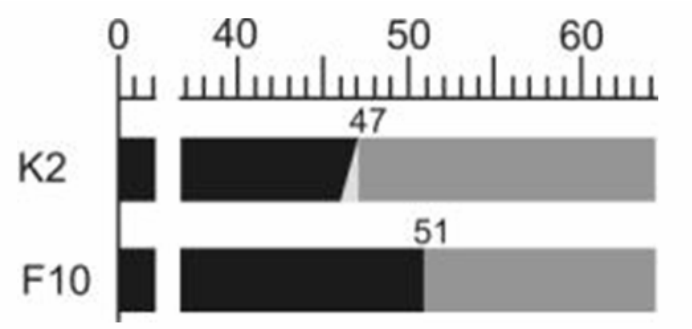
Deficit „Sight obstructions at pedestrians caused by parking vehicles“

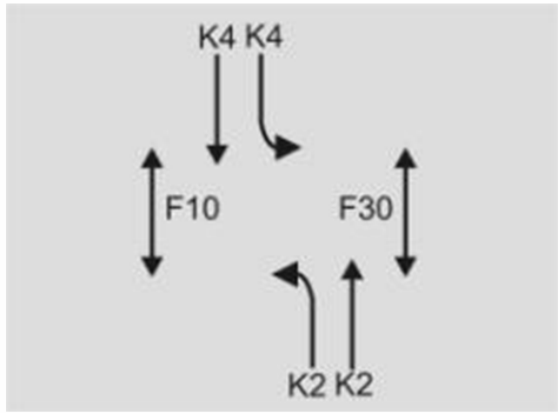
Deficit „Lacking consideration of handicapped people“

Accumulation of deficits in audit phase 3, main roads

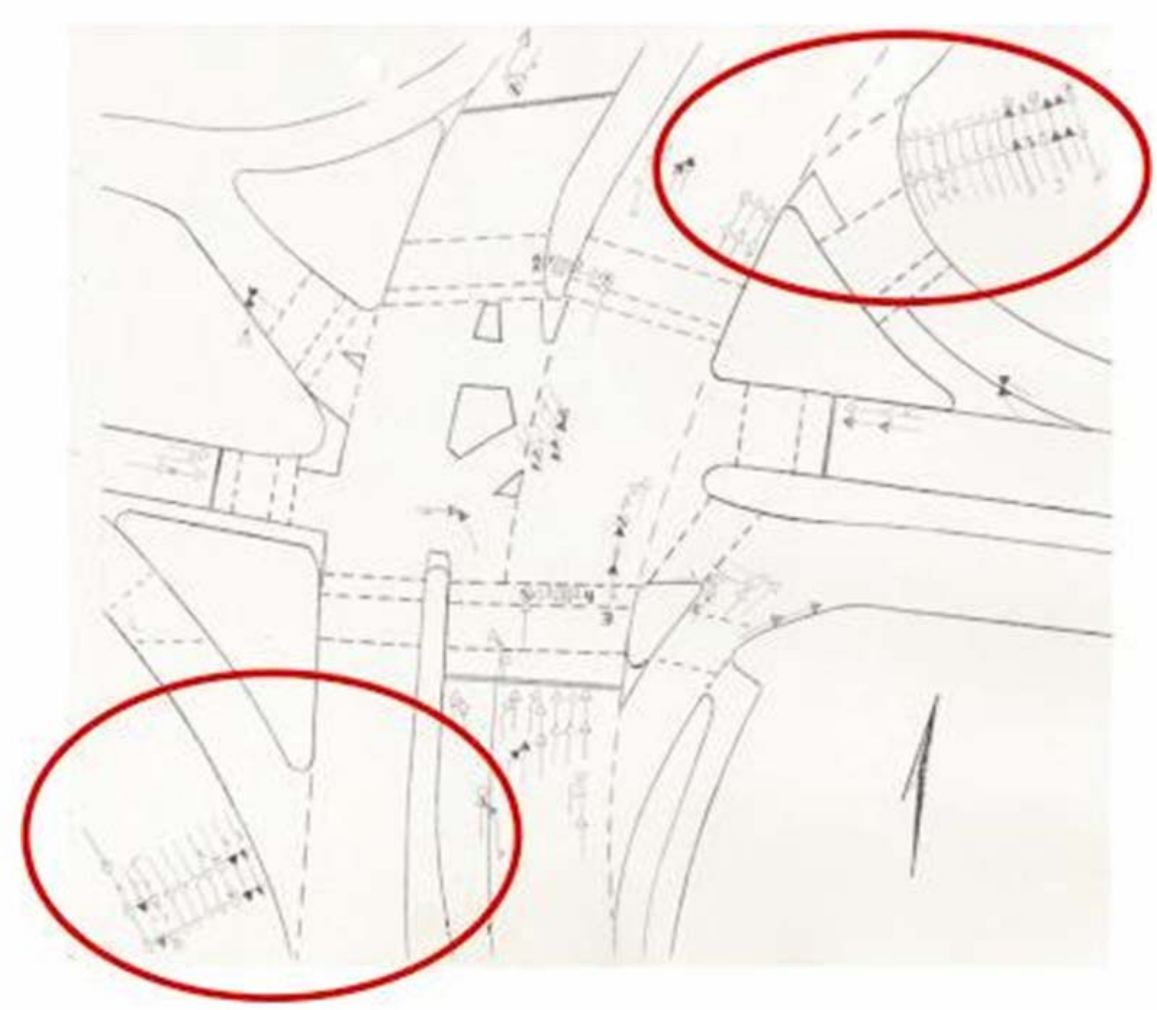
group of deficit	subgroup of deficit	number	deficit
JW	pedestrians	9 x	unfavorable traffic signaling for pedestrians
		6 x	not (sufficiently) regarded advanced time
	motorized traffic	5 x	danger of confusion the signal transmitter
MS	motorized traffic	4 x	lack of signage
		4 x	lack of road marking

Deficit „Insufficient advanced time“

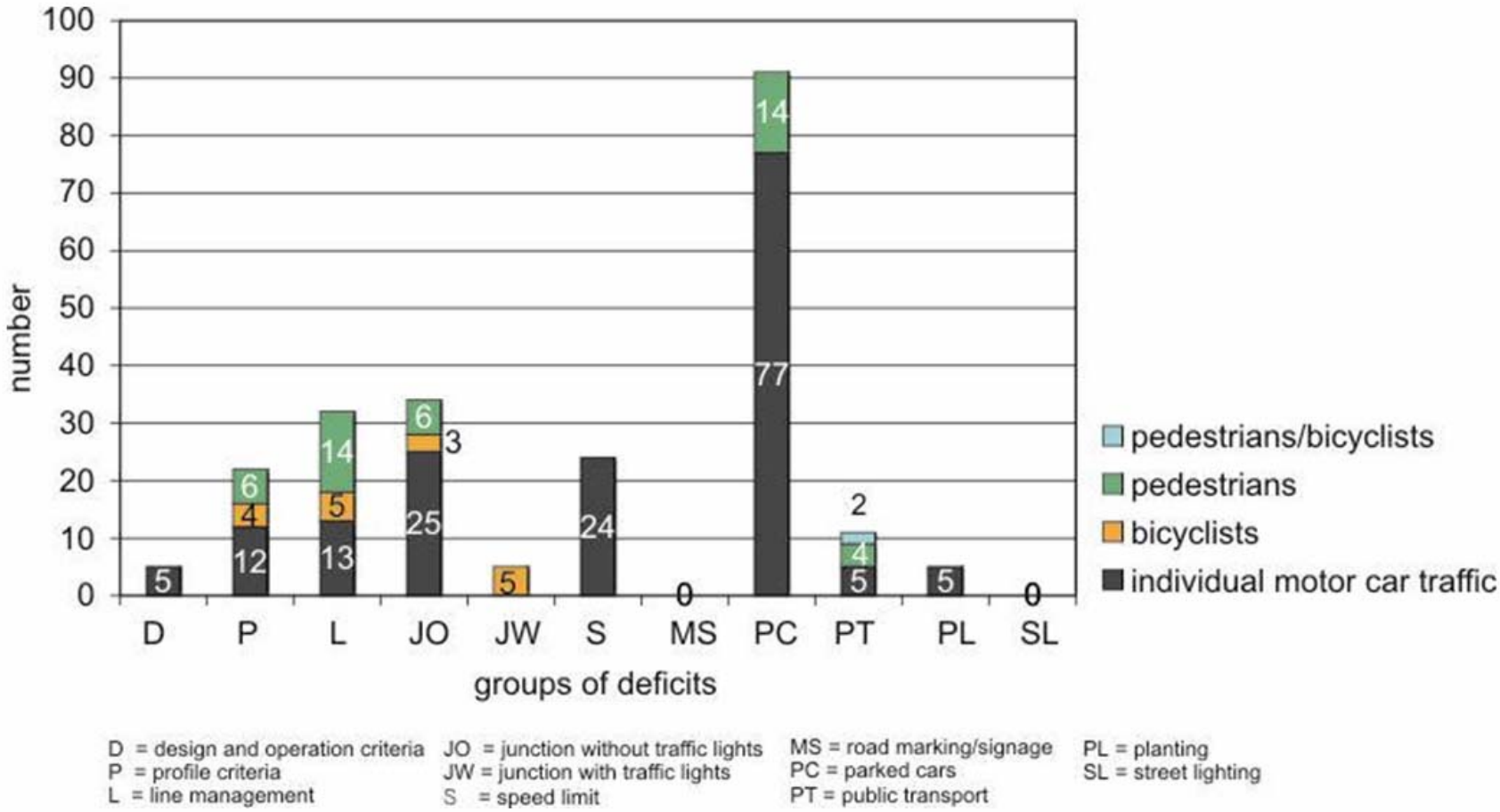




Deficit „Segregated right turning lanes “



Categorised deficits of side roads in audit phase 2



D = design and operation criteria
P = profile criteria
L = line management

JO = junction without traffic lights
JW = junction with traffic lights
S = speed limit

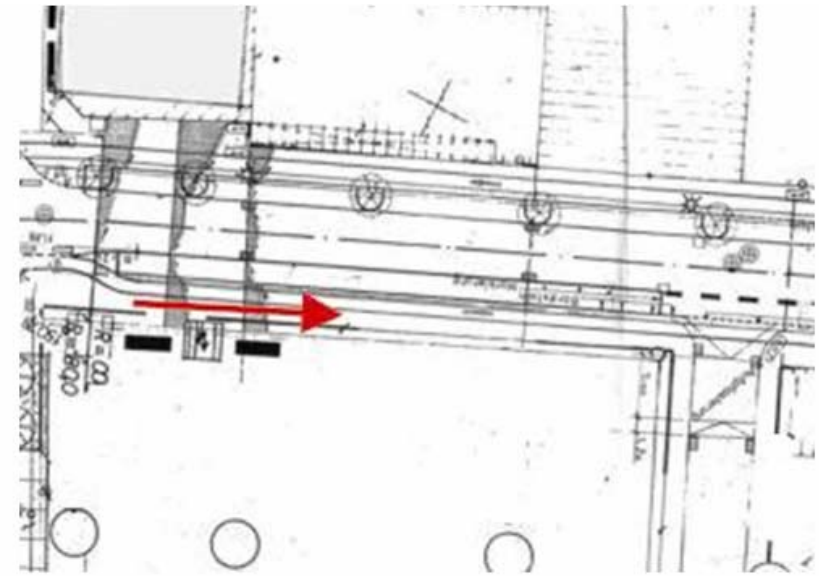
MS = road marking/signage
PC = parked cars
PT = public transport

PL = planting
SL = street lighting

Accumulation of deficits in audit phase 2, side roads

group of deficit	subgroup of deficit	number	deficit
P	motorized traffic	8 x	combination of minimum sizes
L	pedestrians	11 x	lack of or insufficient pedestrians crossing
	motorized traffic	7 x	adversarial line management (excessive speed)
JO	motorized traffic	7 x	line-of-sight obstruction
S	motorized traffic	17 x	lack of or insufficient speed reduce
		7 x	unsuitable elements
PC	pedestrians	12 x	line-of-sight obstruction at bicyclist/pedestrians caused by parking cars
	motorized traffic	55 x	line-of-sight obstruction caused by parking cars
		12 x	lacking/inadequate measures to prevent illegal parked cars

Deficit „Combination of minimum sizes“



Deficit „Adversarial line management (excessive speed)“

Deficit „Lacking/inadequate measures to prevent illegal parked cars”

Prospect


Zertifikat

- reduction of accidents in urban roads

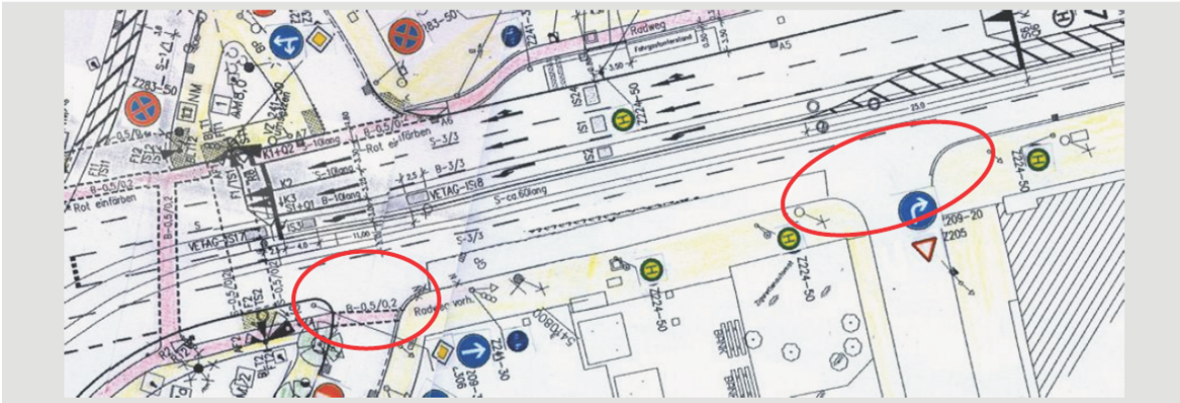
- improvement of planning

- high economic profit

- positive operating experiencies in some municipalities

- much to do yet

Lageplan: Foto:



Thanks for your attention!

Juergen Gerlach

svpt@uni-wuppertal.de

www.svpt.de