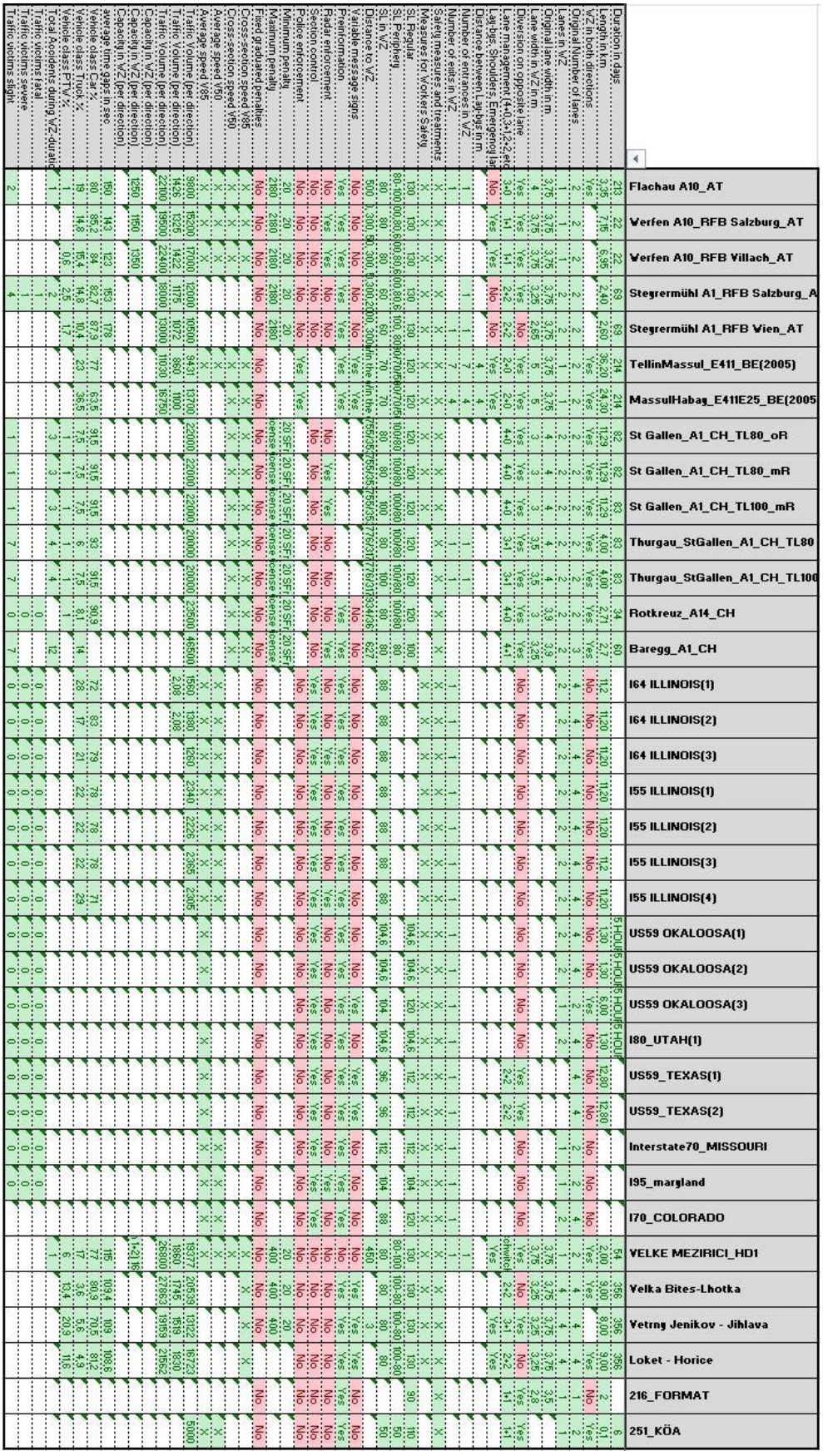
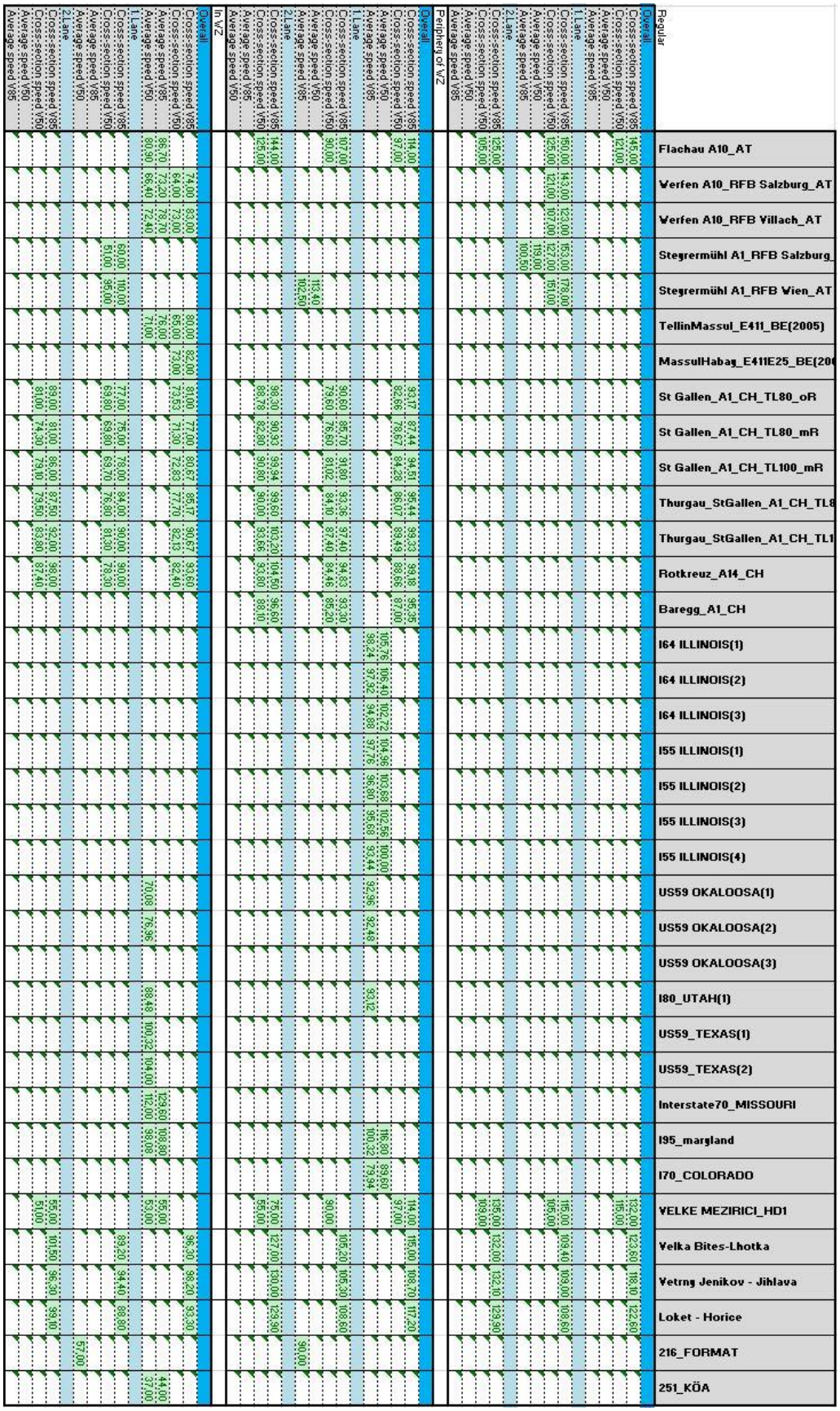
Annex A: Data Collection

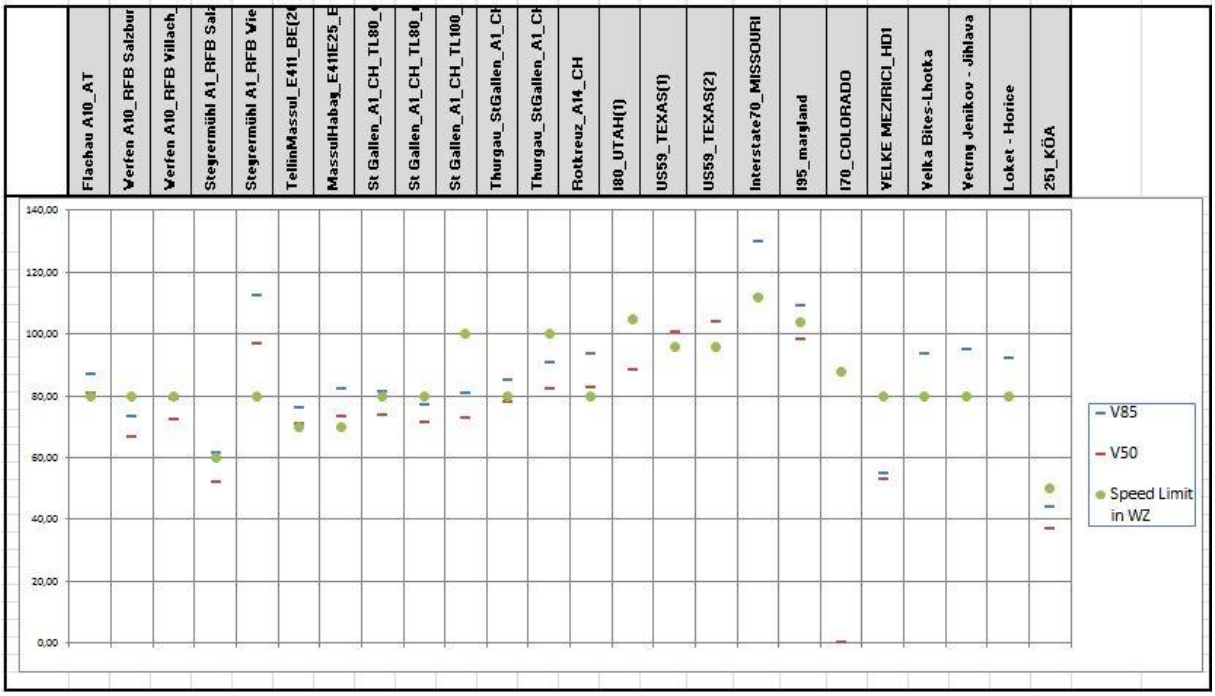


Speeds



Speeds and speed limits

In WZ	Flachau A10_AT	Werfen A10_RFB Salzburg_AT	Werfen A10_RFB Villach_AT	Stegrermühl A1_RFB Salzburg_A	Stegrermühl A1_RFB Wien_AT	TellinMassul_E411_BE(2005)	MassulHabag_E411E25_BE(2005	St Gallen_A1_CH_TL80_oR	St Gallen_A1_CH_TL80_mR	St Gallen_A1_CH_TL100_mR	Thurgau_StGallen_A1_CH_TL80	Thurgau_StGallen_A1_CH_TL100	Rotkreuz_A14_CH	I80_UTAH(1)	US59_TEXAS(1)	US59_TEXAS(2)	Interstate70_MISSOURI	I95_margland	I70_COLORADO	YELKE MEZIRICI_HD1	Velka Bites-Lhotka	Vetrny Jenikov - Jihlava	Loket - Horice	251_KÖA
Overall																								
Cross-se		74,00	83,00			80,00	82,00	81,00	77,00	80,67	85,17	90,67	93,60								96,30	98,20	93,30	
Cross-se		64,00	73,00			65,00	73,00	73,53	71,30	72,83	77,70	82,13	82,40											
Average	86,70	73,20	78,70	57,75	###	76,00	82,00	81,00	77,00	80,67	85,17	90,67	93,60				129,60	108,80		55,00	93,30	95,03	92,23	44,00
Average	80,90	66,40	72,40	47,90	89,23	71,00	73,00	73,53	71,30	72,83	77,70	82,13	82,40	88,48	100,32	104,00	112,00	98,08		53,00				37,00
1.Lane																								
Cross-se				60,00	110,00			77,00	75,00	78,00	84,00	90,00	90,00								89,20	94,40	88,80	
Cross-se				51,00	95,00			69,80	69,80	69,70	76,80	81,30	78,30											
Average																								
Average																								
2.Lane																								
Cross-se				53,26	97,65			83,00	81,00	86,00	87,50	92,00	98,00							55,00	101,50	96,30	99,10	
Cross-se				41,70	77,69			81,00	74,30	79,10	79,50	83,80	87,40							51,00				
Average																								
Average																								
SL in WZ	80	80	80	60	80	70	70	80	80	100	80	100	80	105	96	96	112	104	88	80	80	80	80	50



Categorization

	Flachau A10_AT	Werfen A10_RFB Salzburg_AT	Werfen A10_RFB Villach_AT	Steyermühl A1_RFB Salzburg_AT	Steyermühl A1_RFB Wien_AT	FellinMassul_E411_BE(2005)	MassulHabay_E411E25_BE(2005)	St Gallen_A1_CH_TL80_oR	St Gallen_A1_CH_TL80_mR	St Gallen_A1_CH_TL100_mR	Thurgau_StGallen_A1_CH_TL80	Thurgau_StGallen_A1_CH_TL100	Rotkreuz_A14_CH	Baregg_A1_CH	I64 ILLINOIS(1)	I64 ILLINOIS(2)	I64 ILLINOIS(3)	I55 ILLINOIS(1)	I55 ILLINOIS(2)	I55 ILLINOIS(3)	I55 ILLINOIS(4)	I55 ILLINOIS(5)	I35 OKALOOSA(1)	I35 OKALOOSA(2)	I35 OKALOOSA(3)	I80_UTAH(1)	I35_TEXAS(1)	I35_TEXAS(2)	Interstate70_MISSOURI	I95_maryland	I70_COLORADO	FELIX MEZIRICI_HD1	Kella Bites-Lhotka	Vetrny Jeníkov - Jihlava	Loket - Horice	Z16_FORMAT	Z151_KOA
Duration	long	long	long	long	long	short	long	long	long	long	long	long	long	long	short	short	short	short	short	short	short	long	long	long	long	short	short				long	long	long	long	short	short
Length	middle	long	long	middle	middle	short	long	long	long	long	middle	middle	middle	middle	long	long	long	long	long	long	long	middle	middle	long	long	long	long	short	short	short	middle	long	long	long	middle	short
Lanereduction	yes	yes	yes	no	no	yes	yes	no	no	no	no	no	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no	no	no	no	yes
Lane width	wider	wider	wider	smaller	smaller	wider	wider	smaller	smaller	smaller	smaller	smaller	smaller	smaller																	equal	smaller	smaller	smaller	smaller	wider
Diversion on opposite lane	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	Yes	Yes
Effects for workers	+	+	+	+	-	-	+	+	+	+	+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	+	+	-	-	-	+	-	+	-	+	+
Effects for drivers	-	-	-	-	+	+	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	-	-	+	+	+	-	+	-	+	-	-
Lane Management Effects for workers	+	-	-	-	-	+	+	+	+	+	-	-	+	-													-	-				+	-	-	-	-	-
Lane management Effects for drivers	-	-	-	+	+	-	-	-	-	-	-	-	-	-													+	+				-	+	-	+	-	-
Lay-bys, Shoulders, Emergency lane	No	Yes	Yes	No	No	Yes	Yes																									Yes		Yes	Yes		
Number of entrances and exits	2	0	0	1	2	7	8				2	2	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	0	0	0		
Entrances & Exits/ Length	0,60	0,00	0,00	0,42	0,77	0,39	0,33				0,50	0,50	0,00	0,00	0,09	0,09	0,09	0,09	0,09	0,09	0,09	0,77	0,77	0,17	0,77	0,08	0,08	0,00	0,00	0,00	1,00	0,00	0,00	0,00		
Safety measures and treatments	2	2	2	2	1	1	1	2	2	2	1	1	2	2	3	3	3	4	5	4	4	3	3	5	4	5	5	5	5	5	4	2	3	3	3	3	3
Measures for Workers Safety	+	+	+	+	+	+	+	+	+	+	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-	-
SL in WZ	80	80	80	60	60	70	70	80	80	100	80	100	80	80	88	88	88	88	88	88	88	104,6	104,6	104	104,6	96	96	112	104	88	80	80	80	80	-	-	50
Variable message signs							+																			+	+					+	+	+	-	-	-
Preinformation	+	+	+	+	+		+						+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+
Actual speed information		+	+																																-	-	-
Radar enforcement		+	+					-	+	+	-	-	-	+																					-	-	-
Section control								-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+					-	-	-
Police enforcement							+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					-	-	-
ADT	middle	high	high	middle	middle	low	middle	high	high	high	high	high	high	high	low	low	low	low	low	low	low	low	low	low	low	low	low	low	low	low	high	high	middle	high	low	middle
Speed	high	middle	high	middle	middle	low	high	middle	middle	middle	middle	middle	middle	middle	high	high	high	high	high	high	high	low	low	low	low	low	low	low	low	low	high	low	middle	low	low	low

Legend

short	<= 7d	long	>7d		
short	<1 km	middle	1-5 km	long	>5km
yes	no				
lane width 1. lane		smaller	equal	wider	
yes	no				
+	positive effects	-	negative effects		
+	positive effects	-	negative effects		
+	positive effects	-	negative effects		
+	positive effects	-	negative effects		
yes	no				

Number of entrances and exits / km				
1	very good	up to	5	very bad
+	positive effects	-	negative effects	

+	available	-	not available		
+	available	-	not available		
+	available	-	not available		
+	available	-	not available		
+	available	-	not available		
+	available	-	not available		
low	<5000	middle	5000-15000	high	>15000
low	<5%	middle	5-10%	high	>10%

White fields denote that there is no data available.

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Austria	Date (DD.MM.YYYY): Start of Work	01.05.2009	Street name/number:	A10	From highway kilometre	69,25
		Date (DD.MM.YYYY): End of Work	30.11.2009			to highway kilometre	65,90

Categorization

Duration	long
Length	middle
Lane reduction	yes
Lane width	wider

	Workers	Drivers
Diversion	+	-
Lane Management	+	-
Entrances/Exits	2	
Measures for WS	+	
Variable message signs Pre-information	-	
Actual speed information	+	
	-	
Radar enforcement	-	
Section control	-	
Police enforcement	-	
ADT	middle	
Percentage of trucks	high	

Work Zone Layout

Type of Road	Highway			
Duration in days	213			
Length in km	3,35			
WZ in both directions	Yes			
	1.Direction	2.Direction		
Original Number of lanes	2	2		
Lanes in WZ	1	2		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,75	3,75		
Lane width in WZ in m	4			
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.)	3+0			
Lay-bys, Shoulders, Emergency lane	No	Distance between Lay-bys in m		
Number of entrances in WZ	1	Number of exits in WZ	1	
Safety measures and treatments	concrete barrier between directions	orange road markings	light signals ahead of wz	
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits				
	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	130	80-100	80	130
Distance to WZ		500	300	190
Variable message signs Pre-information	No			
Actual speed information	Yes			
	No			

Enforcement Devices

Radar enforcement	No	
Section control	No	
Police enforcement	No	
	Minimum penalty	Maximum penalty
Range of penalties	20	2180
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-	145,00	114,00	
Speed	121,00	97,00	

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			86,70
Speed			80,90

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-	150,00	107,00	
Speed	125,00	90,00	

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

2.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-	125,00	144,00	
Speed	105,00	125,00	

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

3.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	9800	1426	22100
Capacity in WZ (per direction)		1250	
Headway in sec			
Vehicle class in %	Car	80,00	
	Truck	19,00	
	PTW	1,00	

	Type	Number	Location
Total Accidents during WZ-duration	rear end collision	1	Entrance/exit areas in WZ

	Fatal	Severe injured	Slight injured
Traffic victims	0	0	2

Remarks & Comments (All relevant information which does not fit into the tables above)
data only from one direction, 2->1 lanes
date (start/end) of workzone is the time of data collection and not the period of the wz!

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Austria	Date (DD.MM.YYYY): Start of Work	16.06.2010	Street name/number:	A10	From highway kilometre	43,00
		Date (DD.MM.YYYY): End of Work	08.07.2010			to highway kilometre	35,85

Categorization

Duration	long	
Lenght	long	
Lane reduction	yes	
Lane width	wider	
	Workers	Drivers
Diversion	+	-
Lane Management	-	-
Entrances/Exits	0	
Measures for WS	+	
Variable message signs	-	
Pre-information	+	
Actual speed information	+	
Radar enforcement	+	
Section control	-	
Police enforcement	-	
ADT	high	
Percentage of trucks	middle	

Work Zone Layout

Type of Road	Highway			
Duration in days	22			
Length in km	7,15			
WZ in both directions				
	1.Direction			
Original Number of lanes	2			
Lanes in WZ	1			
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,75	3,75		
Lane width in WZ in m	3,75			
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.)	1+1			
Lay-bys, Shoulders, Emergency lane	Yes	Distance between Lay-bys in m		
Number of entrances in WZ	0	Number of exits in WZ	0	
Safety measures and treatments	concrete barrier between directions	orange road markings	light signals ahead of wz	
Measures for Workers Safety	work in one single carriageway	work in tunnels		

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	130	100,80,60	80	130
Distance to WZ		700, 300, 50m		0

Variable message signs	No
Pre-Information	Yes
actual speed information	Yes

Enforcement Devices

Radar enforcement	Yes
Section control	No
Police enforcement	No

	Minimum penalty	Maximum penalty
Range of penalties	20	2180
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			74,00
Speed			64,00

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			73,20
Speed			66,40

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-	143,00		
Speed	121,00		

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	15200	1325	19500
Capacity in WZ (per direction)		1150	

Headway in sec	

Vehicle class in %		
	Car	85,20
	Truck	14,80
	PTW	0,00

	Type	Number	Location
Total Accidents during WZ-duration		0	

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks

date (start/end) of workzone is the time of data collection and not the period of the wz!

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Austria	Date (DD.MM.YYYY): Start of Work	16.06.2010	Street name/number:	A10	From highway kilometre	35,30
		Date (DD.MM.YYYY): End of Work	08.07.2010			to highway kilometre	42,25

Categorization

Duration	long	
Lenght	long	
Lane reduction	yes	
Lane width	wider	
	Workers	Drivers
Diversion	+	-
Lane Management	-	-
Entrances/Exits	0	
Measures for WS	+	
Variable message signs	-	
Pre-information	+	
Actual speed information	+	
Radar enforcement	+	
Section control	-	
Police enforcement	-	
AST	high	
Percentage of trucks	high	

Work Zone Layout

Type of Road	Highway			
Duration in days	22			
Length in km	6,95			
WZ in both directions				
	1.Direction			
Original Number of lanes	2			
Lanes in WZ	1			
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,75	3,75		
Lane width in WZ in m	3,75			
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.)	1+1			
Lay-bys, Shoulders, Emergency lane	Yes	Distance between Lay-bys in m		
Number of entrances in WZ	0	Number of exits in WZ	0	
Safety measures and treatments	concrete barrier between directions	orange road markings	light signals ahead of wz	
Measures for Workers Safety	work in one single carriageway	work in tunnels		

Information Devices

Speed Limits				
	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	130	100,80,60	80	130
Distance to WZ		1400, 300, 50m		0m
Variable message signs	No			
Pre-Information	Yes			
actual speed information	Yes			

Enforcement Devices

Radar enforcement	Yes	
Section control	No	
Police enforcement	No	
	Minimum penalty	Maximum penalty
Range of penalties	20	2180
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			83,00
Speed			73,00

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			78,70
Speed			72,40

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-	123,00		
Speed	107,00		

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	17000	1422	22400
Capacity in WZ (per direction)		1350	

Headway in sec	

Vehicle class in %		
	Car	84,00
	Truck	15,40
	PTW	0,60

	Type	Number	Location
Total Accidents during WZ-duration		0	

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks

date (start/end) of workzone is the time of data collection and not the period of the wz!

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Austria	Date (DD.MM.YYYY): Start of Work	07.10.2010	Street name/number:	A1	From highway kilometre	215,08
		Date (DD.MM.YYYY): End of Work	15.12.2010			to highway kilometre	217,48

Categorization

Duration	long	
Lenght	middle	
Lane reduction	no	
Lane width	smaller	
	Workers	Drivers
Diversion	+	-
Lane Management	-	+
Entrances/Exits	1	
Measures for WS	+	
Variable message signs	-	
Pre-information	+	
Actual speed information	-	
Radar enforcement	-	
Section control	-	
Police enforcement	-	
AST	middle	
Percentage of trucks	middle	

Work Zone Layout

Type of Road	Highway			
Duration in days	69			
Length in km	2,4			
WZ in both directions				
	1.Direction			
Original Number of lanes	2			
Lanes in WZ	2			

	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,75	3,75		
Lane width in WZ in m	3,25	2,5		

Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.)	2+2			
Lay-bys, Shoulders, Emergency lane	No	Distance between Lay-bys in m		
Number of entrances in WZ	1	Number of exits in WZ	0	
Safety measures and treatments	concrete barrier between directions	orange road markings	running light at the entrance of wz	
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits

	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	130	100,80,60	60	130
Distance to WZ		500,300,200m		50m

Variable message signs	No
Pre-Information	Yes
actual speed information	No

Enforcement Devices

Radar enforcement	No
Section control	No
Police enforcement	No

	Minimum penalty	Maximum penalty
Range of penalties	20	2180
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	153,00 127,00		60,00 51,00

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	119,00 100,50		

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	12000	1175	18000
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %	Car	82,70
	Truck	14,80
	PTW	2,50

	Type	Number	Location
Total Accidents during WZ-duration	lane change and rear end collision	2	In WZ

	Fatal	Severe injured	Slight injured
Traffic victims	1	1	4

Remarks
date (start/end) of workzone is the time of data collection and not the period of the wz!
average speed measured only 7km in front of the wz
traffic volume and speed measured only on the right lane, that means no full cross section!
cross section speed is directly at the entrance of wz, speed limit 60km/h

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Austria	Date (DD.MM.YYYY): Start of Work	07.10.2010	Street name/number:	A1	From highway kilometre	217,68
		Date (DD.MM.YYYY): End of Work	15.12.2010			to highway kilometre	215,08

Categorization

Duration	long
Lenght	middle
Lane reduction	no
Lane width	smaller

	Workers	Drivers
Diversion	-	+
Lane Management	-	+

Entrances/Exits	2
Measures for WS	+
Variable message signs	-
Pre-information	+
Actual speed information	-
Radar enforcement	-
Section control	-
Police enforcement	-
AST	middle
Percentage of trucks	middle

Work Zone Layout

Type of Road	Highway			
Duration in days	69			
Length in km	2,6			
WZ in both directions				
	1.Direction			
Original Number of lanes	2			
Lanes in WZ	2			

	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,75	3,75		
Lane width in WZ in m	2,65	2,5		

Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.)	2+2			
Lay-bys, Shoulders, Emergency lane	No	Distance between Lay-bys in m		
Number of entrances in WZ	1	Number of exits in WZ	1	
Safety measures and treatments	concrete barrier between directions	orange road markings	lorry override is not allowed	running light at the entrance of wz
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits

	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	130	100, 80	60	130
Distance to WZ		500, 300m		0m

Variable message signs	No
Pre-Information	Yes
actual speed information	No

Enforcement Devices

Radar enforcement	No
Section control	No
Police enforcement	No

	Minimum penalty	Maximum penalty
Range of penalties	20	2180
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	178,00 151,00		110,00 95,00

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		113,40 102,50	

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	10500	1072	13000
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %	Car	87,90
	Truck	10,40
	PTW	1,70

	Type	Number	Location
Total Accidents during WZ-duration		0	

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks
date (start/end) of workzone is the time of data collection and not the period of the wz!
average speed measured in periphery (11km) and in whole wz (2,6km)
traffic volume and speed measured only on the right lane, that means no full cross section!
cross section speed in wz is directly at the end of wz, 80->130 km/h

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Belgium	Date (DD.MM.YYYY): Start of Work	15.03.2004	Street name/number:	E411	From highway kilometre	109,50
		Date (DD.MM.YYYY): End of Work	15.10.2004			to highway kilometre	145,70

Categorization

Duration	short	
Lenght	short	
Lane reduction	yes	
Lane width	wider	
	Workers	Drivers
Diversion	-	+
Lane Management	+	-
Entrances/Exits	7	
Measures for WS	+	
Variable message signs	-	
Pre-information	-	
Actual speed information	-	
Radar enforcement		
Section control		
Police enforcement	-	
AST	low	
Percentage of trucks	low	

Work Zone Layout

Type of Road	Highway			
Duration in days	214			
Length in km	36,2			
WZ in both directions	Yes			
	1.Direction	2.Direction		
Original Number of lanes	2	2		
Lanes in WZ	1	1		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,75	3,75		
Lane width in WZ in m	5	5		
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.)	2+0			
Lay-bys, Shoulders, Emergency lane	Yes	Distance between Lay-bys in m		4
Number of entrances in WZ	7	Number of exits in WZ	7	
Safety measures and treatments	Yellow markings to mark the right edge along the works	Continuous metal guardrails as physical separation between the traffic flows in opposing directions; equipped with reflectors and mini-delineators	Large orange guide signs announcing lane reduction	Real time traffic surveillance, round the clock
Measures for Workers Safety	Work in one single carriageway	Permanent concrete New Jersey barriers remain in place on the central reservation		

Information Devices

Speed Limits				
	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	120	90/70/50	70	120
Distance to WZ		1100m/500m/in the chicane only		
Variable message signs	Yes			
Pre-Information	Yes			
actual speed information	No			

Enforcement Devices

Radar enforcement			
Section control			
Police enforcement	Yes		
	Minimum penalty	Maximum penalty	
Range of penalties			
Fixed graduated penalties	No		

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			80,00 65,00

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			76,00 71,00

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	9431	860	11030
Capacity in WZ (per direction)			
Headway in sec			
Vehicle class in % Car		77,00	
Truck		23,00	
PTW			

	Type	Number	Location
Total Accidents during WZ-duration			

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks
Lane management & lane width: from 2+2 to 2+0 (1 lane open per direction; 1 side of the motorway completely
Lay-bys: expressly made-up emergency refuges every 4 km, but on the outer lane only
Number of entrance& exits: 7 + 10 accesses to the road work area
Speed limits: 50 km/h in the chicane when crossing of the central reserve
VMS: 3 km before the start of the works, with up-to-date information on the traffic conditions
Cross-section speeds in the work zone: following Police reporting ; Average speed: through runs with a test vehicle
Traffic (weekday): 8982 veh. (Northbound) & 9881 veh. (Southbound) (temporary continuous counting)
Traffic (weekday): 893 veh/h (Northbound) & 826 veh/h (Southbound) (max values)
Traffic (weekday): 10658 veh/d (Northbound) & 11402 veh/d. (Southbound) (max values)
Vehicle class: 72/28 Northbound & 81,5/18,5 Southbound (through short visual countings)
Accidents: 7 injury accidents in the first 2 weeks (before layout changed); see appendix for details

The entering of parameters is required
The entering of parameters is optional (enter parameters if any data is available)

Country:	Belgium	Date (DD.MM.YYYY): Start of Work	15.03.2005	Street name/number:	E411-E25	From highway kilometre	145,70
		Date (DD.MM.YYYY): End of Work	15.10.2005			to highway kilometre	170,00

Categorization

Duration	long	
Lenght	long	
Lane reduction	yes	
Lane width	wider	
	Workers	Drivers
Diversion	+	-
Lane Management	+	-
Entrances/Exits	8	
Measures for WS	+	
Variable message signs	+	
Pre-information	+	
Actual speed information		
Radar enforcement		
Section control		
Police enforcement	+	
AST	middle	
Percentage of trucks	high	

Work Zone Layout

Type of Road	Highway			
Duration in days	214			
Length in km	24,3			
WZ in both directions	Yes			
	1.Direction	2.Direction		
Original Number of lanes	2	2		
Lanes in WZ	1	1		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,75	3,75		
Lane width in WZ in m	5	5		
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.)	2+0			
Lay-bys, Shoulders, Emergency lane	Yes	Distance between Lay-bys in m		4
Number of entrances in WZ	4	Number of exits in WZ	4	
Safety measures and treatments	Yellow markings to mark the right edge along the works	Continuous metal guardrails as physical separation between the traffic flows in opposing directions; equipped with reflectors and mini-delineators	Large orange guide signs announcing lane reduction	Real time traffic surveillance, round the clock
Measures for Workers Safety	Work in one single carriageway	Permanent concrete New Jersey barriers remain in place on the central reservation		

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	120	90/70/50	70	120
Distance to WZ		1100m/500m/in the chicane only		

Variable message signs	Yes
Pre-Information	Yes
actual speed information	

Enforcement Devices

Radar enforcement	
Section control	
Police enforcement	Yes

	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			82,00 73,00

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	13700	1100	16750
Capacity in WZ (per direction)			

Headway in sec	6

Vehicle class in %	Car	63,50
	Truck	36,50
	PTW	

Total Accidents during WZ-duration	Type	Number	Location

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks
Lane managment, lay-bys, Speed limits, VMS: same comments as for the RW zone TellinMassul
Cross section speed, traffic: only Northbound data (1 lane) (temporary continuous counting)
Traffic: average daily traffic & max/h refer to weekdays; max/day obtained on a Saturday
Headway: average
Vehicle class in %: PTW included in Car data

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Switzerland	Date (DD.MM.YYYY): Start of Work	25.06.2001	Street name/number:	A1	From highway kilometre	
		Date (DD.MM.YYYY): End of Work	15.09.2001			to highway kilometre	

Categorization

Duration	long	
Lenght	long	
Lane reduction	no	
Lane width	smaller	
	Workers	Drivers
Diversion	+	-
Lane Management	+	-
Entrances/Exits		
Measures for WS	+	
Variable message signs Pre-information		
Actual speed information		
Radar enforcement	-	
Section control	-	
Police enforcement		
AST	high	
Percentage of trucks	middle	

Work Zone Layout

Type of Road	Highway			
Duration in days	82			
Length in km	11,29			
WZ in both directions	Yes			
	1.Direction	2.Direction		
Original Number of lanes	2	2		
Lanes in WZ	2	2		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	4	4		
Lane width in WZ in m	3	2,5		
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.) Lay-bys, Shoulders, Emergency lane Number of entrances in WZ	4+0			
		Distance between Lay-bys in m		
		Number of exits in WZ		
Safety measures and treatments	light up at night	light signals announcing lane reduction	high safety beacons	
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	120	100/80	80	120
Distance to WZ		755/353		

Variable message signs	
Pre-Information	
actual speed information	

Enforcement Devices

Radar enforcement	No
Section control	No
Police enforcement	

	Minimum penalty	Maximum penalty
Range of penalties	20 SFr	260 SFr/ license withdrawal
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		93,17 82,66	81,00 73,53

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		90,60 79,60	77,00 69,80

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		98,30 88,78	89,00 81,00

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	22000		
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %		
	Car	91,50
	Truck	7,50
	PTW	1,00

	Type	Number	Location
Total Accidents during WZ-duration	Single-vehicle accident	2	In WZ
	Single-vehicle accident	1	Entrance/exit areas in WZ

	Fatal	Severe injured	Slight injured
Traffic victims			1

Remarks
lane management 4+0, with 2 lanes per direction
WZ management was tested optional with Speed Limit 80/100 and with/without radar enforcement; this led to
all accidents happened at night; on the same route without construction happened 6 accidents in equal time
severity of injury was not specified
"V50" was taken for Vmiddle

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Switzerland	Date (DD.MM.YYYY): Start of Work	25.06.2001	Street name/number:	A1	From highway kilometre	
		Date (DD.MM.YYYY): End of Work	15.09.2001			to highway kilometre	

Categorization

Duration	long	
Lenght	long	
Lane reduction	no	
Lane width	smaller	
	Workers	Drivers
Diversion	+	-
Lane Management	+	-
Entrances/Exits		
Measures for WS	+	
Variable message signs Pre-information		
Actual speed information		
Radar enforcement	+	
Section control	-	
Police enforcement		
AST	high	
Percentage of trucks	middle	

Work Zone Layout

Type of Road	Highway			
Duration in days	82			
Length in km	11,29			
WZ in both directions	Yes			
	1.Direction	2.Direction		
Original Number of lanes	2	2		
Lanes in WZ	2	2		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	4	4		
Lane width in WZ in m	3	2,5		
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.) Lay-bys, Shoulders, Emergency lane Number of entrances in WZ	4+0			
		Distance between Lay-bys in m		
		Number of exits in WZ		
Safety measures and treatments	light up at night	light signals announcing lane reduction	high safety beacons	
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	120	100/80	80	120
Distance to WZ		755/353		

Variable message signs	
Pre-Information	
actual speed information	

Enforcement Devices

Radar enforcement	Yes
Section control	No
Police enforcement	

	Minimum penalty	Maximum penalty
Range of penalties	20 SFr	260 SFr/ license withdrawal
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		87,44 78,67	77,00 71,30

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		85,70 76,60	75,00 69,80

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		90,93 82,80	81,00 74,30

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	22000		
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %		
	Car	91,50
	Truck	7,50
	PTW	1,00

	Type	Number	Location
Total Accidents during WZ-duration	Single-vehicle accident	2	In WZ
	Single-vehicle accident	1	Entrance/exit areas in WZ

	Fatal	Severe injured	Slight injured
Traffic victims			1

Remarks
lane management 4+0, with 2 lanes per direction
WZ management was tested optional with Speed Limit 80/100 and with/without radar enforcement; this led to
all accidents happened at night; on the same route without construction happened 6 accidents in equal time
severity of injury was not specified
"V50" was taken for Vmiddle

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Switzerland	Date (DD.MM.YYYY): Start of Work	25.06.2001	Street name/number:	A1	From highway kilometre	
		Date (DD.MM.YYYY): End of Work	16.09.2001			to highway kilometre	

Categorization

Duration	long	
Lenght	long	
Lane reduction	no	
Lane width	smaller	
	Workers	Drivers
Diversion	+	-
Lane Management	+	-
Entrances/Exits		
Measures for WS	+	
Variable message signs Pre-information		
Actual speed information		
Radar enforcement	+	
Section control	-	
Police enforcement		
AST	high	
Percentage of trucks	middle	

Work Zone Layout

Type of Road	Highway			
Duration in days	83			
Length in km	11,29			
WZ in both directions	Yes			
	1.Direction	2.Direction		
Original Number of lanes	2	2		
Lanes in WZ	2	2		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	4	4		
Lane width in WZ in m	3	2,5		
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.) Lay-bys, Shoulders, Emergency lane Number of entrances in WZ	4+0			
		Distance between Lay-bys in m		
		Number of exits in WZ		
Safety measures and treatments	light up at night	light signals announcing lane reduction	high safety beacons	
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	120	100/80	100	120
Distance to WZ		755/353		

Variable message signs	
Pre-Information	
actual speed information	

Enforcement Devices

Radar enforcement	Yes
Section control	No
Police enforcement	

	Minimum penalty	Maximum penalty
Range of penalties	20 SFr	260 SFr/ license withdrawal
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		94,51 / 84,28	80,67 / 72,83

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		91,80 / 81,02	78,00 / 69,70

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		99,94 / 90,80	86,00 / 79,10

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	22000		
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %		
	Car	91,50
	Truck	7,50
	PTW	1,00

	Type	Number	Location
Total Accidents during WZ-duration	Single-vehicle accident	2	In WZ
	Single-vehicle accident	1	Entrance/exit areas in WZ

	Fatal	Severe injured	Slight injured
Traffic victims			1

Remarks
lane management 4+0, with 2 lanes per direction
WZ management was tested optional with Speed Limit 80/100 and with/without radar enforcement; this led to
all accidents happened at night; on the same route without construction happened 6 accidents in equal time
severity of injury was not specified
"V50" was taken for Vmiddle

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Switzerland	Date (DD.MM.YYYY): Start of Work	25.06.2001	Street name/number:	A1	From highway kilometre	
		Date (DD.MM.YYYY): End of Work	16.09.2001			to highway kilometre	

Categorization

Duration	long	
Lenght	middle	
Lane reduction	no	
Lane width	smaller	
	Workers	Drivers
Diversion	+	-
Lane Management	-	-
Entrances/Exits	2	
Measures for WS	-	
Variable message signs Pre-information		
Actual speed information		
Radar enforcement	-	
Section control	-	
Police enforcement		
AST	high	
Percentage of trucks	middle	

Work Zone Layout

Type of Road	Highway			
Duration in days	83			
Length in km	4			
WZ in both directions	Yes			
	1.Direction	2.Direction		
Original Number of lanes	2	2		
Lanes in WZ	2	2		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	4	4		
Lane width in WZ in m	3,5	3,3		
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.) Lay-bys, Shoulders, Emergency lane Number	3+1	Distance between Lay-bys in m		
of entrances in WZ	1	Number of exits in WZ	1	
Safety measures and treatments	light signals ahead of wz	high safety beacons	guard rail	
Measures for Workers Safety				

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	120	100/80	80	120
Distance to WZ		776/317		
Variable message signs				
Pre-Information				
actual speed information				

Enforcement Devices

Radar enforcement	No	
Section control	No	
Police enforcement		
	Minimum penalty	Maximum penalty
Range of penalties	20 SFr	260 SFr/ license withdrawal
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		95,44 86,07	85,17 77,70

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		93,36 84,10	84,00 76,80

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		99,60 90,00	87,50 79,50

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	20000		
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %		
	Car	93,00
	Truck	6,00
	PTW	1,00

	Type	Number	Location
Total Accidents during WZ-duration	collison with animal	1	In WZ
	rear end collision	2	Entrance/exit areas in WZ
	singel-vehicle accdient	1	Entrance/exit areas in WZ

	Fatal	Severe injured	Slight injured
Traffic victims			7

Remarks
speed measurement at night
severtity of injury was not specified
"V50" was taken for Vmiddle

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Switzerland	Date (DD.MM.YYYY): Start of Work	25.06.2001	Street name/number:	A1	From highway kilometre	
		Date (DD.MM.YYYY): End of Work	16.09.2001			to highway kilometre	

Categorization

Duration	long	
Lenght	middle	
Lane reduction	no	
Lane width	smaller	
	Workers	Drivers
Diversion	+	-
Lane Management	-	-
Entrances/Exits	2	
Measures for WS	-	
Variable message signs Pre-information		
Actual speed information		
Radar enforcement	-	
Section control	-	
Police enforcement		
AST	high	
Percentage of trucks	middle	

Work Zone Layout

Type of Road	Highway			
Duration in days	83			
Length in km	4			
WZ in both directions	Yes			
	1.Direction	2.Direction		
Original Number of lanes	2	2		
Lanes in WZ	2	2		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	4	4		
Lane width in WZ in m	3,5	3,3		
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.) Lay-bys, Shoulders, Emergency lane Number of entrances in WZ	3+1			
		Distance between Lay-bys in m		
	1	Number of exits in WZ	1	
Safety measures and treatments	light signals ahead of wz	high safety beacons	guard rail	Large orange guide signs announcing diversion on opposite lane
Measures for Workers Safety				

Information Devices

Speed Limits				
	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	120	100/80	100	120
Distance to WZ		776/317		
Variable message signs				
Pre-Information				
actual speed information				

Enforcement Devices

Radar enforcement	No	
Section control	No	
Police enforcement		
	Minimum penalty	Maximum penalty
Range of penalties	20 SFr	260 SFr/ license withdrawal
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		99,33 / 89,49	90,67 / 82,13

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		97,40 / 87,40	90,00 / 81,30

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		103,20 / 93,66	92,00 / 83,80

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	20000		
Capacity in WZ (per direction)			

Headway in sec		
Vehicle class in %	Car	91,50
	Truck	7,50
	PTW	1,00

	Type	Number	Location
Total Accidents during WZ-duration	collison with animal	1	In WZ
	rear end collision	2	Entrance/exit areas in WZ
	singel-vehicle accdient	1	Entrance/exit areas in WZ

	Fatal	Severe injured	Slight injured
Traffic victims			7

Remarks
speed measurement at night
severtity of injury was not specified
V50 was taken for Vmiddle

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Switzerland	Date (DD.MM.YYYY): Start of Work	07.05.2001	Street name/number:	A 14	From highway kilometre	
		Date (DD.MM.YYYY): End of Work	10.06.2001			to highway kilometre	

Categorization

Duration	long	
Lenght	middle	
Lane reduction	no	
Lane width	smaller	
	Workers	Drivers
Diversion	+	-
Lane Management	+	-
Entrances/Exits	0	
Measures for WS	-	
Variable message signs Pre-information	-	
	+	
Actual speed information	-	
Radar enforcement	-	
Section control	-	
Police enforcement		
AST	high	
Percentage of trucks	middle	

Work Zone Layout

Type of Road	Highway			
Duration in days	34			
Length in km	2,709			
WZ in both directions	Yes			
	1.Direction	2.Direction		
Original Number of lanes	2	2		
Lanes in WZ	2	2		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,9	3,9		
Lane width in WZ in m	3	2,95		
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.) Lay-bys, Shoulders, Emergency lane Number	4+0	Distance between Lay-bys in m		
of entrances in WZ	0	Number of exits in WZ	0	
Safety measures and treatments	light signals ahead of wz	high safety beacons	Large orange guide signs announcing diversion on opposite lane	
Measures for Workers Safety				

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	120	100/80	80	
Distance to WZ		934/361		

Variable message signs	No
Pre-Information	Yes
actual speed information	No

Enforcement Devices

Radar enforcement	No
Section control	No
Police enforcement	

	Minimum penalty	Maximum penalty
Range of penalties	20 SFr	260 SFr/ license withdrawal
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		99,18 / 88,66	93,60 / 82,40

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		94,83 / 84,46	90,00 / 78,30

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		104,50 / 93,80	98,00 / 87,40

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	23500		
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %		
	Car	90,90
	Truck	8,10
	PTW	1,00

	Type	Number	Location
Total Accidents during WZ-duration			

	Fatal	Severe injured	Slight injured
Traffic victims	0	0	0

Remarks
Tests with differnt typs of traffic guidance
V50 was taken for Vmiddle
there happened no accidents

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Switzerland	Date (DD.MM.YYYY): Start of Work	02.07.2003	Street name/number:	A 1	From highway kilometre	
		Date (DD.MM.YYYY): End of Work	31.08.2003			to highway kilometre	

Categorization

Duration	long	
Lenght	middle	
Lane reduction	yes	
Lane width	smaller	
	Workers	Drivers
Diversion	+	-
Lane Management	-	-
Entrances/Exits	0	
Measures for WS	-	
Variable message signs Pre-information	-	
Actual speed information	+	
Radar enforcement	+	
Section control	-	
Police enforcement		
AST	high	
Percentage of trucks	middle	

Work Zone Layout

Type of Road	Highway			
Duration in days	60			
Length in km	2,7			
WZ in both directions	Yes			
	1.Direction	2.Direction		
Original Number of lanes	3	3		
Lanes in WZ	2	3		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,9	3,9		
Lane width in WZ in m	3,25	3,25		
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.)	4+1			
Lay-bys, Shoulders, Emergency lane Number		Distance between Lay-bys in m		
of entrances in WZ	0	Number of exits in WZ	0	
	high safety beacons	Large orange guide signs announcing diversion on opposite lane	light signals ahead of wz	guard rail
Safety measures and treatments				
Measures for Workers Safety				

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	100	80	80	
Distance to WZ		627		

Variable message signs	No
Pre-Information	Yes
actual speed information	

Enforcement Devices

Radar enforcement	Yes	
Section control	No	
Police enforcement		
	Minimum penalty	Maximum penalty
Range of penalties	20 SFr	260 SFr/ license withdrawal
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		95,35 / 87,00	

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		93,30 / 85,20	

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		96,60 / 88,10	

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	46500		
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %		
	Car	
	Truck	14,00
	PTW	

	Type	Number	Location
Total Accidents during WZ-duration	rear end collision	2	Periphery of WZ
	rear end collision	3	In WZ
	single car accident	1	Periphery of WZ
	single car accident	1	In WZ
	lane change	1	Periphery of WZ
	lane change	4	In WZ

	Fatal	Severe injured	Slight injured
Traffic victims			7

Remarks
Tests with differnt typs of traffic guidance
V50 was taken for Vmiddle
severtity of injury was not specified

	The entering of parameters is required
	The entering of parameters is optional (enter parameters if any data is available)

Country:	ILLINOIS (USA)	Date (DD.MM.YYYY): Start of Work		Street name/number:	I64	From highway kilometre	
		Date (DD.MM.YYYY): End of Work				to highway kilometre	

Categorization

Duration	short	
Lenght	long	
Lane reduction	yes	
Lane width		
	Workers	Drivers
Diversion Lane Management	-	+
Entrances/Exits	1	
Measures for WS	+	
Variable message signs Pre-information	-	
	+	
Actual speed information	-	
Radar enforcement	-	
Section control	+	
Police enforcement	-	
AST	low	
Percentage of trucks	high	

Work Zone Layout

Type of Road	Highway			
Duration in days	0			
Length in km	11,2			
WZ in both directions	No			
	1.Direction			
Original Number of lanes	4	2		
Lanes in WZ	2	2		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.) Lay-				
bys, Shoulders, Emergency lane Number		Distance between Lay-bys in m		
of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	Trailer + police lights on			
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits				
	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits			88	
Distance to WZ				
Variable message signs	No			
Pre-information	Yes			
Actual speed information	No			

Enforcement Devices

Radar enforcement	No	
Section control	Yes	
Police enforcement	No	
	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-		105,76	
Speed		98,24	
1. Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			
2.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			
3.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			
	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	1560	2,08	
Capacity in WZ (per direction)			
Headway in sec			
Vehicle class in %	Car	72,00	
	Truck	28,00	
	PTW		
	Type	Number	Location
Total Accidents during WZ-duration			
	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)
two lanes were open to through traffic, and concrete barriers separated the work area from the traveled lanes
At the time of data collection, a third lane was being added in the median
Data presented in this paper were collected at a downstream location, about 1.5 mi away from where the
where the treatments were implemented.
Data ǁere ĐolleĐted oŶ JuŶe ϭϬ, ϮϬϬϲ ;ϲϬ:ϰϬ–ϲϲ:ϰϬ a.ŵ.
The solution with trailer + ploice lights shows a mean speed reduction of 2,8 km/h in comparision with the

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(yellow)	The entering of parameters is optional (enter parameters if any data is available)

Country:	ILLINOIS (USA)	Date (DD.MM.YYYY): Start of Work		Street name/number:	I64	From highway kilometre	
		Date (DD.MM.YYYY): End of Work				to highway kilometre	

Categorization

Duration	short	
Lenght	long	
Lane reduction	yes	
Lane width		
	Workers	Drivers
Diversion Lane Management	-	+
Entrances/Exits	1	
Measures for WS	+	
Variable message signs	-	
Pre-information	+	
Actual speed information	-	
Radar enforcement	-	
Section control	+	
Police enforcement	-	
AST	low	
Percentage of trucks	high	

Work Zone Layout

Type of Road	Highway			
Duration in days	0			
Length in km	11,2			
WZ in both directions	No			
	1.Direction			
Original Number of lanes	4	2		
Lanes in WZ	2	2		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.)				
Lay-bys, Shoulders, Emergency lane		Distance between Lay-bys in m		
Number of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	Trailer + police lights off			
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits			88	
Distance to WZ				
Variable message signs	No			
Pre-information	Yes			
Actual speed information	No			

Enforcement Devices

Radar enforcement	No	
Section control	Yes	
Police enforcement	No	
	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed		106,40	
V50-Speed		97,92	
1. Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
2.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
3.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	1380	2,08	
Capacity in WZ (per direction)			
Headway in sec			
Vehicle class in %	Car	83,00	
	Truck	17,00	
	PTW		
	Type	Number	Location
Total Accidents during WZ-duration			
	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)
two lanes were open to through traffic, and concrete barriers separated the work area from the traveled lanes
At the time of data collection, a third lane was being added in the median
Data presented in this paper were collected at a downstream location, about 1.5 mi away from where the
where the treatments were implemented.
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The solution with trailer + ploice lights shows a mean speed reduction of 1,8 km/h in comparision with the

	The entering of parameters is required
	The entering of parameters is optional (enter parameters if any data is available)

Country:	ILLINOIS (USA)	Date (DD.MM.YYYY): Start of Work		Street name/number:	I64	From highway kilometre	
		Date (DD.MM.YYYY): End of Work				to highway kilometre	

Categorization

Duration	short	
Lenght	long	
Lane reduction	yes	
Lane width		
	Workers	Drivers
Diversion Lane Management	-	+
Entrances/Exits	1	
Measures for WS	+	
Variable message signs Pre-information	-	
	+	
Actual speed information	-	
Radar enforcement	+	
Section control	+	
Police enforcement	-	
AST	low	
Percentage of trucks	high	

Work Zone Layout

Type of Road	Highway			
Duration in days	0			
Length in km	11,2			
WZ in both directions	No			
	1.Direction			
Original Number of lanes	4	2		
Lanes in WZ	2	2		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.)				
Lay-bys, Shoulders, Emergency lane		Distance between Lay-bys in m		
Number of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	Speed photo enforcement			
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits				
	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits			88	
Distance to WZ				
Variable message signs	No			
Pre-information	Yes			
Actual speed information	No			

Enforcement Devices

Radar enforcement	Yes	
Section control	Yes	
Police enforcement	No	
	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed		102,72	
V50-Speed		94,88	
1. Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
2.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
3.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	1260		
Capacity in WZ (per direction)			
Headway in sec			
Vehicle class in %	Car	79,00	
	Truck	21,00	
	PTW		
	Type	Number	Location
Total Accidents during WZ-duration			
	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)

two lanes were open to through traffic, and concrete barriers separated the work area from the traveled lanes
At the time of data collection, a third lane was being added in the median

Data presented in this paper were collected at a downstream location, about 1.5 mi away from where the
where the treatments were implemented.
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The solution with trailer + ploice lights shows a mean speed reduction of 4,64 km/h in comparision with the

	The entering of parameters is required
	The entering of parameters is optional (enter parameters if any data is available)

Country:	ILLINOIS (USA)	Date (DD.MM.YYYY): Start of Work		Street name/number:	I64	From highway kilometre	
		Date (DD.MM.YYYY): End of Work				to highway kilometre	

Categorization

Duration	short	
Lenght	long	
Lane reduction	yes	
Lane width		
	Workers	Drivers
Diversion	-	+
Lane Management		
Entrances/Exits	1	
Measures for WS	+	
Variable message signs Pre-information	-	
	+	
Actual speed information	-	
Radar enforcement	-	
Section control	+	
Police enforcement	-	
AST	low	
Percentage of trucks	high	

Work Zone Layout

Type of Road	Highway			
Duration in days	0			
Length in km	11,2			
WZ in both directions	No			
	1.Direction			
Original Number of lanes	4	2		
Lanes in WZ	2	2		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.) Lay-				
bys, Shoulders, Emergency lane Number		Distance between Lay-bys in m		
of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	trailer			
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits				
	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits			88	
Distance to WZ				
Variable message signs	No			
Pre-information	Yes			
Actual speed information	No			

Enforcement Devices

Radar enforcement	No	
Section control	Yes	
Police enforcement	No	
	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-		104,96	
Speed		97,76	
1. Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			
2.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			
3.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			
	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	2340		
Capacity in WZ (per direction)			
Headway in sec			
Vehicle class in %	Car	78,00	
	Truck	22,00	
	PTW		
	Type	Number	Location
Total Accidents during WZ-duration			
	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)
two lanes were open to through traffic, and concrete barriers separated the work area from the traveled lanes
At the time of data collection, a third lane was being added in the median
Data presented in this paper were collected at a downstream location, about 1.5 mi away from where the
where the treatments were implemented.
Data ‖ere ĐolleĐted oŶ JuŶe ϯϬ, ϯϲϲj ;ϯ:ϲϲ–ϳ:ϲϲ p.ŵ.Ϳ
The solution with trailer shows a mean speed increasing of 1,92 km/h in comparision with the scenario without

(required)	The entering of parameters is required
(optional)	The entering of parameters is optional (enter parameters if any data is available)

Country:	ILLINOIS (USA)	Date (DD.MM.YYYY): Start of Work		Street name/number:	I64	From highway kilometre	
		Date (DD.MM.YYYY): End of Work				to highway kilometre	

Categorization

Duration	short	
Lenght	long	
Lane reduction	yes	
Lane width		
	Workers	Drivers
Diversion	-	+
Lane Management		
Entrances/Exits	1	
Measures for WS	+	
Variable message signs	-	
Pre-information	+	
Actual speed information	-	
Radar enforcement	-	
Section control	+	
Police enforcement	-	
AST	low	
Percentage of trucks	high	

Work Zone Layout

Type of Road	Highway			
Duration in days	0			
Length in km	11,2			
WZ in both directions	No			
	1.Direction			
Original Number of lanes	4	2		
Lanes in WZ	2	2		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.)				
Lay-bys, Shoulders, Emergency lane		Distance between Lay-bys in m		
Number of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	Police lights off			
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits			88	
Distance to WZ				
Variable message signs	No			
Pre-information	Yes			
Actual speed information	No			

Enforcement Devices

Radar enforcement	No	
Section control	Yes	
Police enforcement	No	
	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed		103,68	
V50-Speed		96,80	
1. Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
2.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
3.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	2226		
Capacity in WZ (per direction)			
Headway in sec			
Vehicle class in %	Car	78,00	
	Truck	22,00	
	PTW		
	Type	Number	Location
Total Accidents during WZ-duration			
	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)
two lanes were open to through traffic, and concrete barriers separated the work area from the traveled lanes
At the time of data collection, a third lane was being added in the median
Data presented in this paper were collected at a downstream location, about 1.5 mi away from where the
where the treatments were implemented.
Data ǁere ĐolleĐted oŶ JuŶe ϭϱ, ϭϲϲϳ;ϭ:ϲϲ–ϯ:ϲϲ p.ŵ.
The solution with trailer shows a mean speed increasing of 1 km/h in comparision with the scenario without any

(required field)	The entering of parameters is required
(optional field)	The entering of parameters is optional (enter parameters if any data is available)

Country:	ILLINOIS (USA)	Date (DD.MM.YYYY): Start of Work		Street name/number:	I64	From highway kilometre	
		Date (DD.MM.YYYY): End of Work				to highway kilometre	

Categorization

Duration	short	
Lenght	long	
Lane reduction	yes	
Lane width		
	Workers	Drivers
Diversion	-	+
Lane Management		
Entrances/Exits	1	
Measures for WS	+	
Variable message signs	-	
Pre-information	+	
Actual speed information	-	
Radar enforcement	-	
Section control	+	
Police enforcement	-	
AST	low	
Percentage of trucks	high	

Work Zone Layout

Type of Road	Highway			
Duration in days	0			
Length in km	11,2			
WZ in both directions	No			
	1.Direction			
Original Number of lanes	4	2		
Lanes in WZ	2	2		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.)				
Lay-bys, Shoulders, Emergency lane		Distance between Lay-bys in m		
Number of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	trailer + police lights off			
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits				
	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits			88	
Distance to WZ				
Variable message signs	No			
Pre-information	Yes			
Actual speed information	No			

Enforcement Devices

Radar enforcement	No	
Section control	Yes	
Police enforcement	No	
	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed		102,56	
V50-Speed		95,68	
1. Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
2.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
3.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	2365		
Capacity in WZ (per direction)			
Headway in sec			
Vehicle class in %	Car	78,00	
	Truck	22,00	
	PTW		
	Type	Number	Location
Total Accidents during WZ-duration			
	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)
two lanes were open to through traffic, and concrete barriers separated the work area from the traveled lanes
At the time of data collection, a third lane was being added in the median
Data presented in this paper were collected at a downstream location, about 1.5 mi away from where the
where the treatments were implemented.
Data ǁere ĐolleĐted oŶ July 6ƚ, ϮϬϬϳ;ϯ:ϬϬ–ϰ:ϬϬ p.ŵ.Ϳ
The solution with trailer shows a mean speed reduced of 0,1 6 km/h in comparision with the scenario without

The entering of parameters is required
The entering of parameters is optional (enter parameters if any data is available)

Country:	ILLINOIS (USA)	Date (DD.MM.YYYY): Start of Work		Street name/number:	I64	From highway kilometre	
		Date (DD.MM.YYYY): End of Work				to highway kilometre	

Categorization

Duration	short
Lenght	long
Lane reduction	yes
Lane width	

	Workers	Drivers
Diversion	-	+
Lane Management		

Entrances/Exits	1
Measures for WS	+
Variable message signs Pre-information	-
	+
Actual speed information	-
Radar enforcement	+
Section control	+
Police enforcement	-
AST	low
Percentage of trucks	high

Work Zone Layout

Type of Road	Highway			
Duration in days	0			
Length in km	11,2			
WZ in both directions	No			
	1.Direction			
Original Number of lanes	4	2		
Lanes in WZ	2	2		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.) Lay-bys, Shoulders, Emergency lane Number		Distance between Lay-bys in m		
of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	Speed Photo enforcement			
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits				
	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits			88	
Distance to WZ				
Variable message signs	No			
Pre-information	Yes			
Actual speed information	No			

Enforcement Devices

Radar enforcement	Yes	
Section control	Yes	
Police enforcement	No	
	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed		100,00	
Speed		93,44	

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	2305		
Capacity in WZ (per direction)			

Headway in sec		
Vehicle class in %	Car	71,00
	Truck	29,00
	PTW	

	Type	Number	Location
Total Accidents during WZ-duration			

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)
two lanes were open to through traffic, and concrete barriers separated the work area from the traveled lanes
At the time of data collection, a third lane was being added in the median
Data presented in this paper were collected at a downstream location, about 1.5 mi away from where the
where the treatments were implemented.
Data]ere DolleDted oŸ July 66, 1665 ¡1:66–1:66 p.ẁ.⍰
The solution with trailer shows a mean speed reduced of 2,46 km/h in comparision with the scenario without any

The entering of parameters is required
The entering of parameters is optional (enter parameters if any data is available)

Country:	OKALOOSA (KANSAS)	Date (DD.MM.YYYY): Start of Work	20.07.2010	Street name/number:	US59	From highway kilometre	
		Date (DD.MM.YYYY): End of Work	20.07.2010			to highway kilometre	

Categorization

Duration	long
Lenght	middle
Lane reduction	yes
Lane width	
	Workers / Drivers
Diversion	- / +
Lane Management	
Entrances/Exits	1
Measures for WS	+
Variable message signs Pre-information	-
	+
Actual speed information	-
Radar enforcement	-
Section control	+
Police enforcement	-
AST	low
Percentage of trucks	low

Work Zone Layout

Type of Road	Highway			
Duration in days	6,15 HOURS			
Length in km	1,3			
WZ in both directions	No			
	1.Direction			
Original Number of lanes	4			
Lanes in WZ	2			
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.) Lay-bys, Shoulders, Emergency lane Number		Distance between Lay-bys in m		
of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	Three Sets of portable plastic rumble strips	+ flagger		
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	104,6		104,6	
Distance to WZ				

Variable message signs	No
Pre-information	Yes
Actual speed information	No

Enforcement Devices

Radar enforcement	No
Section control	Yes
Police enforcement	No

	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		92,96	70,08

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)			
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %	
	Car
	Truck
	PTW

	Type	Number	Location
Total Accidents during WZ-duration			

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)

DOC 56
short-term, flagger-controlled maintenance work zone
four sets of speed counters were installed in advance of the work zones to collect the speed and traffic volume

Each set of PPRSs was placed perpendicular to the direction of travel, and each of the four strips in the set was spaced 36 in. (91.4 cm) on-center
Mean Speed Reduction (compared to normal traffic situation-> without wz)19.1mph

Three Sets of PPRSs + flagger (Scenario D): from 9:50 a.m. to 12:00 p.m. (with 45 minutes crew and flagger break, 85 minutes of data were collected)

The entering of parameters is required
The entering of parameters is optional (enter parameters if any data is available)

Country:	OKALOOSA (KANSAS)	Date (DD.MM.YYYY): Start of Work	20.07.2010	Street name/number:	US59	From highway kilometre	
		Date (DD.MM.YYYY): End of Work	20.07.2010			to highway kilometre	

Categorization

Duration	long
Lenght	middle
Lane reduction	yes
Lane width	
	Workers / Drivers
Diversion	- / +
Lane Management	
Entrances/Exits	1
Measures for WS	+
Variable message signs Pre-information	-
	+
Actual speed information	-
Radar enforcement	-
Section control	+
Police enforcement	-
AST	low
Percentage of trucks	low

Work Zone Layout

Type of Road	Highway			
Duration in days	6,15 HOURS			
Length in km	1,3			
WZ in both directions	No			
	1.Direction			
Original Number of lanes	4			
Lanes in WZ	2			
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.) Lay-bys, Shoulders, Emergency lane Number		Distance between Lay-bys in m		
of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	2 Sets of portable plastic rumble strips	+ flagger		
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	104,6		104,6	
Distance to WZ				

Variable message signs	No
Pre-information	Yes
Actual speed information	No

Enforcement Devices

Radar enforcement	No
Section control	Yes
Police enforcement	No

	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		92,48	76,96

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)			
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %	
	Car
	Truck
	PTW

	Type	Number	Location
Total Accidents during WZ-duration			

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)

DOC 56
short-term, flagger-controlled maintenance work zone
four sets of speed counters were installed in advance of the work zones to collect the speed and traffic volume

Each set of PPRSs was placed perpendicular to the direction of travel, and each of the four strips in the set was spaced 36 in. (91.4 cm) on-center
Mean Speed Reduction (compared to normal traffic situation-> without wz) 14,9 mph
Two Sets of PPRSs + flagger (Scenario C): from 12:10 p.m. to 1:15 p.m. (55 minutes)

	The entering of parameters is required
	The entering of parameters is optional (enter parameters if any data is available)

Country:	OKALOOSA (KANSAS)	Date (DD.MM.YYYY): Start of Work	20.07.2010	Street name/number:	US59	From highway kilometre	185,00
		Date (DD.MM.YYYY): End of Work	09.07.1900			to highway kilometre	191,00

Categorization

	Workers	Drivers
Duration	long	
Lenght	long	
Lane reduction	yes	
Lane width		
Diversion	-	+
Lane Management		
Entrances/Exits	1	
Measures for WS	+	
Variable message signs Pre-information	+	
Actual speed information	-	
Radar enforcement	-	
Section control	+	
Police enforcement	-	
AST	low	
Percentage of trucks	low	

Work Zone Layout

Type of Road	Highway			
Duration in days	6,15 HOURS			
Length in km	6,00			
WZ in both directions	Yes			
	1.Direction	2.Direction		
Original Number of lanes	2	2		
Lanes in WZ	1	1		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.) Lay-bys, Shoulders, Emergency lane				
		Distance between Lay-bys in m		
Number of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	VSL sign posted at 65 MPH 24 hours per day, 7 days per week			
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits				
	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	120		104	
Distance to WZ				
Variable message signs	Yes			
Pre-information	Yes			
Actual speed information	No			

Enforcement Devices

Radar enforcement	No	
Section control	Yes	
Police enforcement	No	
	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties		

Traffic Data

Overall			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
1. Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
2.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
3.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed			
V50-Speed			
	Average daily traffic	max/h	max/day
Traffic Volume (per direction)			
Capacity in WZ (per direction)			
Headway in sec			
Vehicle class in %	Car		
	Truck		
	PTW		
	Type	Number	Location
Total Accidents during WZ-duration			
	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)
DOC 84
There ǁas a paǀeŵeŶt ŵaƌk aŶd seal pƌojeĐt oŶ I-ϲϬ, fƌoŵ ŵile post ϲϬϱ to ϲϲϲ
two VSL sign conditions were tested against the existing sign
1-VSL sign posted at 65 MPH 24 hours per day, 7 days per week
The data was collected from July 10, 2007 through September 29, 2007
Mean Speed Reduction (compared to normal traffic situation-> without wz) 7,7 mph

The entering of parameters is required
The entering of parameters is optional (enter parameters if any data is available)

Country:	OKALOOSA (KANSAS)	Date (DD.MM.YYYY): Start of Work	20.07.2010	Street name/number:	US59	From highway kilometre	
		Date (DD.MM.YYYY): End of Work	20.07.2010			to highway kilometre	

Categorization

Duration	long
Lenght	middle
Lane reduction	yes
Lane width	

	Workers	Drivers
Diversion	-	+
Lane Management		

Entrances/Exits	1
Measures for WS	+
Variable message signs Pre-information	-
	+
Actual speed information	-
Radar enforcement	-
Section control	+
Police enforcement	-
AST	low
Percentage of trucks	low

Work Zone Layout

Type of Road	Highway			
Duration in days	6,15 HOURS			
Length in km	1,3			
WZ in both directions	No			
	1.Direction			
Original Number of lanes	4			
Lanes in WZ	2			
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.) Lay-bys, Shoulders, Emergency lane Number		Distance between Lay-bys in m		
of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	Flagger control			
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits				
	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	104,6		104,6	
Distance to WZ				
Variable message signs	No			
Pre-information	Yes			
Actual speed information	No			

Enforcement Devices

Radar enforcement	No	
Section control	Yes	
Police enforcement	No	
	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		93,12	88,48
1. Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
2.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
3.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)			
Capacity in WZ (per direction)			
Headway in sec			
Vehicle class in %	Car		
	Truck		
	PTW		

Total Accidents during WZ-duration	Type	Number	Location

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)

DOC 56
short-term, flagger-controlled maintenance work zone
four sets of speed counters were installed in advance of the work zones to collect the speed and traffic volume

Flagger control only (Scenario B): 1:20 p.m. to 2:15 p.m. (55 minutes)

Mean Speed Reduction (compared to normal traffic situation-> without wz) 7,7 mph

The entering of parameters is required
The entering of parameters is optional (enter parameters if any data is available)

Country:	TEXAS	Date (DD.MM.YYYY): Start of Work		Street name/number:	US59	From highway kilometre	
		Date (DD.MM.YYYY): End of Work				to highway kilometre	

Categorization

Duration	short	
Lenght	long	
Lane reduction	yes	
Lane width		
	Workers	Drivers
Diversion	+	-
Lane Management	-	+
Entrances/Exits	1	
Measures for WS	+	
Variable message signs Pre-information	+	
Actual speed information	+	
	-	
Radar enforcement	-	
Section control	+	
Police enforcement	-	
AST	low	
Percentage of trucks	low	

Work Zone Layout

Type of Road				
Duration in days				
Length in km	12,8			
WZ in both directions	No			
	1.Direction			
Original Number of lanes	4			
Lanes in WZ				
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.)	2+2			
Lay-bys, Shoulders, Emergency lane		Distance between Lay-bys in m		
Number of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	VSL			
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits				
	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	112		96	
Distance to WZ				
Variable message signs	Yes			
Pre-information	Yes			
Actual speed information	No			

Enforcement Devices

Radar enforcement	No		
Section control	Yes		
Police enforcement	No		
	Minimum penalty	Maximum penalty	
Range of penalties			
Fixed graduated penalties	No		

Traffic Data

Overall			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			100,32
1. Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
2.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
3.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)			
Capacity in WZ (per direction)			
Headway in sec			
Vehicle class in %	Car		
	Truck		
	PTW		

Total Accidents during WZ-duration	Type	Number	Location

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)

DOC 138
Researchers conducted the long-term
All the existingtravel lanes remained open, but during the day, workers and equipment
were located near an open travel lane without positive protec
Researchers collected data before the installation of the VSL signs and twice after the
installation of the ESL signs
data collection period occurred in August 2007,about 30 days after the semipermanent in order to reduce
impacts of any novelty effects from the signs
There was a 1.8 mph reduction compared to the situation before the implementation of VSL

	The entering of parameters is required
	The entering of parameters is optional (enter parameters if any data is available)

Country:	TEXAS	Date (DD.MM.YYYY): Start of Work		Street name/number:	US59	From highway kilometre	
		Date (DD.MM.YYYY): End of Work				to highway kilometre	

Categorization

	Workers	Drivers
Duration	short	
Lenght	long	
Lane reduction	yes	
Lane width		
Diversion	+	-
Lane Management	-	+
Entrances/Exits	1	
Measures for WS	+	
Variable message signs Pre-information	+	
	+	
Actual speed information	-	
Radar enforcement	-	
Section control	+	
Police enforcement	-	
AST	low	
Percentage of trucks	low	

Work Zone Layout

Type of Road				
Duration in days				
Length in km	12,8			
WZ in both directions	No			
	1.Direction			
Original Number of lanes	4			
Lanes in WZ				
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.)	2+2			
Lay-bys, Shoulders, Emergency lane		Distance between Lay-bys in m		
Number of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	VSL			
Measures for Workers Safety	work in one single carriageway			

Information Devices

	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	112		96	
Distance to WZ				
Variable message signs	Yes			
Pre-information	Yes			
Actual speed information	No			

Enforcement Devices

Radar enforcement	No	
Section control	Yes	
Police enforcement	No	
	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall	Regular	Periphery of WZ	In WZ
Cross-section speed			
V85-speed			
V50-Speed			
average speed			
V85-speed			
V50-Speed			104,00

1. Lane	Regular	Periphery of WZ	In WZ
Cross-section speed			
V85-speed			
V50-Speed			
average speed			
V85-speed			
V50-Speed			

2.Lane	Regular	Periphery of WZ	In WZ
Cross-section speed			
V85-speed			
V50-Speed			
average speed			
V85-speed			
V50-Speed			

3.Lane	Regular	Periphery of WZ	In WZ
Cross-section speed			
V85-speed			
V50-Speed			
average speed			
V85-speed			
V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)			
Capacity in WZ (per direction)			

Headway in sec		
Vehicle class in %	Car	
	Truck	
	PTW	

	Type	Number	Location
Total Accidents during WZ-duration			

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)
DOC 138
Researchers conducted the long-term
All the existingtravel lanes remained open, but during the day, workers and equipment
were located near an open travel lane without positive protec
Researchers collected data before the installation of the VSL signs and twice after the
installation of the ESL signs
data ĐolleĐtioŶ: DeĐeŵďer ϮϬϬϳ, researĐhers ĐoŶduĐted the seĐoŶd after data
the speed increased of 0.5 mph reduction compared to the situation before the implementation of VSL

The entering of parameters is required
The entering of parameters is optional (enter parameters if any data is available)

Country:	MISSOURI	Date (DD.MM.YYYY): Start of Work		Street name/number:	I70	From highway kilometre	
		Date (DD.MM.YYYY): End of Work				to highway kilometre	

Categorization

Duration	short
Lenght	short
Lane reduction	yes
Lane width	

	Workers	Drivers
Diversion	-	+
Lane Management		

Entrances/Exits	1
Measures for WS	+
Variable message signs Pre-information	-
	+
Actual speed information	-
Radar enforcement	-
Section control	+
Police enforcement	-
AST	low
Percentage of trucks	low

Work Zone Layout

Type of Road				
Duration in days				
Length in km				
WZ in both directions	No			
	1.Direction			
Original Number of lanes	2			
Lanes in WZ	1			
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.) Lay-bys, Shoulders, Emergency lane Number		Distance between Lay-bys in m		
of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	NO speed limit reduction			
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits				
	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	112		112	
Distance to WZ				
Variable message signs	No			
Pre-information	Yes			
Actual speed information	No			

Enforcement Devices

Radar enforcement	No	
Section control	Yes	
Police enforcement	No	
	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			129,60 / 112,00
1. Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
2.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
3.Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)			
Capacity in WZ (per direction)			
Headway in sec			
Vehicle class in %	Car		
	Truck		
	PTW		

Total Accidents during WZ-duration	Type	Number	Location

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)

DOC 156
Data was collected east of Kingdom City, Missouri at mile marker 148.4 on Interstate 70 on June 2, 2009. Approximate times of collection were from 9:00 a.m. to 4:30 p.m.

Short term moving work zone

The entering of parameters is required
The entering of parameters is optional (enter parameters if any data is available)

Country:	MARYLAND	Date (DD.MM.YYYY): Start of Work		Street name/number:	I95	From highway kilometre	
		Date (DD.MM.YYYY): End of Work				to highway kilometre	

Categorization

Duration	short
Lenght	short
Lane reduction	yes
Lane width	
	Workers / Drivers
Diversion	- / +
Lane Management	
Entrances/Exits	1
Measures for WS	+
Variable message signs Pre-information	-
	+
Actual speed information	-
Radar enforcement	+
Section control	+
Police enforcement	-
AST	low
Percentage of trucks	low

Work Zone Layout

Type of Road				
Duration in days				
Length in km				
WZ in both directions	No			
	1.Direction			
Original Number of lanes	2			
Lanes in WZ	1			
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.) Lay-bys, Shoulders, Emergency lane Number		Distance between Lay-bys in m		
of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	Automated speed enforcement			
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	104		104	
Distance to WZ				

Variable message signs	No
Pre-information	Yes
Actual speed information	No

Enforcement Devices

Radar enforcement	Yes
Section control	Yes
Police enforcement	No

	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		116,80 100,32	108,80 98,08

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)			
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %	
Car	
Truck	
PTW	

	Type	Number	Location
Total Accidents during WZ-duration			

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)

DOC 255
data set would also cover the before, during, and after ASE deployment data
data of this sheet were collected during ASE deployment

The deployment of ASE resulted in a mean speed reduction of 1,9mph compared
to the situation "before" at workzone. Dowstream the mean speed reduction is about 5,5mph

The entering of parameters is required
The entering of parameters is optional (enter parameters if any data is available)

Country:	COLORADO	Date (DD.MM.YYYY): Start of Work		Street name/number:	I70	From highway kilometre	
		Date (DD.MM.YYYY): End of Work				to highway kilometre	

Categorization

Duration	short
Lenght	short
Lane reduction	yes
Lane width	
	Workers / Drivers
Diversion	- / +
Lane Management	
Entrances/Exits	1
Measures for WS	+
Variable message signs Pre-information	-
	+
Actual speed information	-
Radar enforcement	-
Section control	+
Police enforcement	-
AST	low
Percentage of trucks	low

Work Zone Layout

Type of Road				
Duration in days				
Length in km				
WZ in both directions	No			
	1.Direction			
Original Number of lanes	4			
Lanes in WZ	2			
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				
Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.) Lay-bys, Shoulders, Emergency lane Number of entrances in WZ		Distance between Lay-bys in m		
	0	Number of exits in WZ	1	
Safety measures and treatments	posted speed limit of 55 mph using signs and an arrow board at the beginning of the cones.			
Measures for Workers Safety	work in one single carriageway			

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	120		88	
Distance to WZ				

Variable message signs	No
Pre-information	Yes
Actual speed information	No

Enforcement Devices

Radar enforcement	No
Section control	Yes
Police enforcement	No

	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed		89,60 79,94	

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)			
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %		
	Car	
	Truck	
	PTW	

	Type	Number	Location
Total Accidents during WZ-duration			

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks & Comments (All relevant information which does not fit into the tables above)

DOC 204
data set would also cover the before, during, and after ASE deployment data
data of this sheet were collected during ASE deployment

The deployment of ASE resulted in a mean speed reduction of 1,9mph compared
to the situation "before" at workzone. Dowstream the mean speed reduction is about 5,5mph

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Czech Republic	Date (DD.MM.YYYY): Start of Work	05.05.2011	Street name/number:	Highway D1	From highway kilometre	145
		Date (DD.MM.YYYY): End of Work	28.06.2011			to highway kilometre	143

Categorization

Duration	long
Lenght	middle
Lane reduction	yes
Lane width	equal

	Workers	Drivers
Diversion	+	-
Lane Management	+	-
Entrances/Exits	2	
Measures for WS	+	
Variable message signs Pre-information	-	
Actual speed information	-	
Radar enforcement	-	
Section control	-	
Police enforcement	-	
AST	high	
Percentage of trucks	high	

Work Zone Layout

Type of Road	Highway	
Duration in days	54	
Length in km	2	
WZ in both directions	Yes	
	1.Direction	2.Direction
Original Number of lanes	2	2
Lanes in WZ	1	2

	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,75	3,75		
Lane width in WZ in m	3,75	2,75	3,75	

Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.)	2+1 and 1+2 - (schwitch 3 and 4 days)			
Lay-bys, Shoulders, Emergency lane	Yes	Distance between Lay-bys in m		
Number of entrances in WZ	1	Number of exits in WZ	1	
Safety measures and treatments	concrete barrier between directions	orange road markings	Viz. schemes	
Measures for Workers Safety	bridge reconstruction - half of bridge was close for workers - fence divided			

Information Devices

Speed Limits

	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	130	80-100	80	130
Distance to WZ		450	800	250

Variable message signs Pre-information	No
Actual speed information	No

Enforcement Devices

Radar enforcement	No
Section control	No
Police enforcement	No

	Minimum penalty	Maximum penalty
Range of penalties	20	400
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-	132,00	114,00	
Speed	115,00	97,00	

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			55,00
Speed			53,00

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-	115,00		
Speed	105,00	90,00	

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

2.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-	135,00	75,00	55,00
Speed	109,00	55,00	51,00

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

3.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-			
Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	19.377	1860	26800
Capacity in WZ (per direction)		1450 (in 1+2) 1650 (2+1)	

Headway in sec	01. Sep

Vehicle class in %		
	Car	77,00
	Truck	17,00
	PTW	6,00

	Type	Number	Location
Total Accidents during WZ-duration	Rear end collision	1	Entrance/exit areas in WZ

	Fatal	Severe injured	Slight injured
Traffic victims	0	0	0

Remarks & Comments (All relevant information which does not fit into the tables above)
data only from one direction, 2->1 lanes (3 days in week) after switch 1+2 (4 days in week). Data are from the
Data was collected for 20 days May 20 and June 10, 2012
Closer data analysis are sent in document
Headway - means GAP - this number is in congestion - needed for simulation
Periphery of work zone is 450 m

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Czech Republic	Date (DD.MM.YYYY): Start of Work	09.05.2013	Street name/number:	Highway D1	From highway kilometre	154,00
		Date (DD.MM.YYYY): End of Work	30.04.2014			to highway kilometre	163,00

Categorization

Duration	long
Lenght	long
Lane reduction	no
Lane width	smaller

	Workers	Drivers
Diversion	-	+
Lane Management	-	+

Entrances/Exits	0
Measures for WS	+
Variable message signs	+
Pre-information	+
Actual speed information	-
Radar enforcement	-
Section control	-
Police enforcement	-
AST	high
Percentage of trucks	low

Work Zone Layout

Type of Road	Highway
Duration in days	356
Length in km	9
WZ in both directions	Yes

	1.Direction	2.Direction
Original Number of lanes	4	
Lanes in WZ	4	

	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,75	3,75	3,75	3,75
Lane width in WZ in m	3,25	3	3,25	3

Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.)	2+2			
Lay-bys, Shoulders, Emergency lane		Distance between Lay-bys in m		
Number of entrances in WZ	0	Number of exits in WZ	0	
Safety measures and treatments	orange road markings			
Measures for Workers Safety	Road widening - workers are out of the road- right side			

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	130	100-80	80	100-80
Distance to WZ				

Variable message signs	Yes
Pre-Information	Yes
actual speed information	No

Enforcement Devices

Radar enforcement	No
Section control	No
Police enforcement	No

	Minimum penalty	Maximum penalty
Range of penalties	20	400
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	123,60	115,00	96,30

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	109,40	105,20	89,20

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	132,00	127,00	101,50

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	20539	1745	27863
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %	
Car	80,90
Truck	3,60
PTW	13,40

	Type	Number	Location
Total Accidents during WZ-duration			

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks
Data are provided from 1.8.2013 - 31.8.2013
The type of Variable message sign is Information LED table - please see attachements. Trailer is 5km in front of
Periphery of Work zone - Data are 2,3 km in front of WZ
The scheme is enclosed
Data are from the direction Prague to Brno
End of workzone is unknown yet. The date written is expected.
Enforcement is only the incar radar. Volkswagen PASSAT - police car equipped

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Czech Republic	Date (DD.MM.YYYY): Start of Work	09.05.2013	Street name/number:	Highway D1	From highway kilometre	104,00
		Date (DD.MM.YYYY): End of Work	30.04.2014			to highway kilometre	112,00

Categorization

Duration	long	
Lenght	long	
Lane reduction	no	
Lane width	smaller	
	Workers	Drivers
Diversion	+	-
Lane Management	-	-
Entrances/Exits	0	
Measures for WS	+	
Variable message signs	+	
Pre-information	+	
Actual speed information	-	
Radar enforcement	-	
Section control	-	
Police enforcement	-	
AST	middle	
Percentage of trucks	middle	

Work Zone Layout

Type of Road	
Duration in days	356
Length in km	8
WZ in both directions	

	1.Direction
Original Number of lanes	4
Lanes in WZ	4

	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,75	3,75	3,75	3,75
Lane width in WZ in m	3,25	3	3,25	3

Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.)	Lay-bys, Shoulders, Emergency lane	3+1		
Yes	Distance between Lay-bys in m			
Number of entrances in WZ	0	Number of exits in WZ	0	
Safety measures and treatments	orange road markings			
Measures for Workers Safety	Works in the middle of the road			

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	130	100-80	80	100-80
Distance to WZ		3		

Variable message signs	Yes
Pre-Information	Yes
actual speed information	No

Enforcement Devices

Radar enforcement	No
Section control	No
Police enforcement	No

	Minimum penalty	Maximum penalty
Range of penalties	20	400
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	118,10	108,70	98,20

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	109,00	105,30	94,40

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	132,10	130,00	96,30

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	13122	1519	19159
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %		
	Car	70,50
	Truck	5,60
	PTW	20,90

	Type	Number	Location
Total Accidents during WZ-duration			

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks
Data are provided from 1.8.2013 - 31.8.2013
The type of Variable message sign is Information LED table - please see attachements. Trailer is 5km in front of
Periphery of Work zone - Data are 2,3 km in front of WZ
The scheme is enclosed
Data are from direction - Brno - Prague (Detectors are missing - because of the using shoulder via Prague to Brno)
End of workzone is unknown yet. The date written is expected.
Enforcement is only the incar radar. Volkswagen PASSAT - police car equipped

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Czech republic	Date (DD.MM.YYYY): Start of Work	09.05.2013	Street name/number:	Highway D1	From highway kilometre	66,00
		Date (DD.MM.YYYY): End of Work	30.04.2014			to highway kilometre	75,00

Categorization

Duration	long
Lenght	long
Lane reduction	no
Lane width	smaller

	Workers	Drivers
Diversion	-	+
Lane Management	-	+

Entrances/Exits	0
Measures for WS	+
Variable message signs	+
Pre-information	+
Actual speed information	-
Radar enforcement	-
Section control	-
Police enforcement	-
AST	high
Percentage of trucks	low

Work Zone Layout

Type of Road	Highway			
Duration in days	356			
Length in km	9			
WZ in both directions	Yes			
	1.Direction	2.Direction		
Original Number of lanes	4			
Lanes in WZ	4			

	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,75	3,75	3,75	3,75
Lane width in WZ in m	3,25	3	3,25	3

Diversion on opposite lane	No			
Lane management (4+0,3+1,2+2,etc.)	2+2			
Lay-bys, Shoulders, Emergency lane	Yes	Distance between Lay-bys in m		
Number of entrances in WZ	0	Number of exits in WZ	0	
Safety measures and treatments	orange road markings			
Measures for Workers Safety	Works in the middle of the road			

Information Devices

Speed Limits

	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	130	100-80	80	100-80
Distance to WZ				

Variable message signs	Yes
Pre-Information	Yes
actual speed information	No

Enforcement Devices

Radar enforcement	No
Section control	No
Police enforcement	No

	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties		

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	122,60	117,20	93,30

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	108,60	108,60	88,80

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	129,90	129,90	99,10

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	16723	1830	21562
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %	Car	81,20
	Truck	4,90
	PTW	11,60

	Type	Number	Location
Total Accidents during WZ-duration			

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks
Data are provided from 1.8.2013 - 31.8.2013
The type of Variable message sign is Information LED table - please see attachements. Trailer is 5km in front of
Periphery of Work zone - Data are 2,3 km in front of WZ
The scheme is enclosed
Data are from direction - Brno - Prague (Detectors are missing - because of the using shoulder via Prague to Brno)
End of workzone is unknown yet. The date written is expected.
Enforcement is only the incar radar. Volkswagen PASSAT - police car equipped

The entering of parameters is required
The entering of parameters is optional (enter parameters if any data is available)

Country:	Czech Republic	Date (DD.MM.YYYY): Start of Work	21.09.2013	Street name/number:	Highway D1	From highway kilometre	226,00
		Date (DD.MM.YYYY): End of Work	03.12.2013			to highway kilometre	213,00

Categorization

Duration	long
Lenght	long
Lane reduction	yes
Lane width	wider

	Workers	Drivers
Diversion	+	-
Lane Management	-	+

Entrances/Exits	1
Measures for WS	+
Variable message signs Pre-information	-
	+
Actual speed information	-
Radar enforcement	-
Section control	-
Police enforcement	+
AST	high
Percentage of trucks	middle

Work Zone Layout

Type of Road	Highway	
Duration in days	73	
Length in km	13	
WZ in both directions	Yes	
	1.Direction	2.Direction
Original Number of lanes	2	2
Lanes in WZ	1	2

	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,75	3,75		
Lane width in WZ in m	3,75			

Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.)	1+2			
Lay-bys, Shoulders, Emergency lane	Yes	Distance between Lay-bys in m		
Number of entrances in WZ	0	Number of exits in WZ	1	
Safety measures and treatments	Lane closure markers	orange road markings	Viz. schemes	Portable active traffic management systém
Measures for Workers Safety	Workers were working on the closed direction of the Highway			

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	130	100-80-60	80	80
Distance to WZ				

Variable message signs Pre-Information	No
Information	Yes
actual speed information	No

Enforcement Devices

Radar enforcement	No
Section control	No
Police enforcement	Yes

	Minimum penalty	Maximum penalty
Range of penalties	20	400
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	118,00 / 120,00	108,00 / 111,00	80,50 /

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	105,00 /	98,00 /	/

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	129,00 /	105,00 /	/

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	16265	1550	19236
Capacity in WZ (per direction)	1400		

Headway in sec	01. Sep

Vehicle class in %		
	Car	73,00
	Truck	12,00
	PTW	5,00

	Type	Number	Location
Total Accidents during WZ-duration	Rear end collision, Speed, disregarding the vehicle control	20	In WZ
	Rear end collision	3	Periphery of WZ
	Disregarding the vehicle control	2	Entrance/exit areas in WZ

	Fatal	Severe injured	Slight injured
Traffic victims			5

Remarks

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Czech Republic	Date (DD.MM.YYYY): Start of Work	21.09.2013	Street name/number:	Highway D1	From highway kilometre	213,00
		Date (DD.MM.YYYY): End of Work	03.12.2013			to highway kilometre	226,00

Categorization

Duration	long
Lenght	long
Lane reduction	yes
Lane width	wider

	Workers	Drivers
Diversion	+	-
Lane Management	-	+

Entrances/Exits	0
Measures for WS	+
Variable message signs	+
Pre-information	+
Actual speed information	-
Radar enforcement	-
Section control	-
Police enforcement	+
AST	high
Percentage of trucks	high

Work Zone Layout

Type of Road	Highway			
Duration in days	73			
Length in km	13			
WZ in both directions	Yes			
	1.Direction	2.Direction		
Original Number of lanes	2	2		
Lanes in WZ	2	1		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,75	3,75		
Lane width in WZ in m	3,75	2,75	3,75	
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.)	2+1			
Lay-bys, Shoulders, Emergency lane	Yes	Distance between Lay-bys in m		
Number of entrances in WZ	0	Number of exits in WZ	0	
Safety measures and treatments	Lane closure markers	orange road markings	Viz. schemes	Portable active traffic management systém
Measures for Workers Safety	Workers were working on the closed direction of the Highway			

Information Devices

Speed Limits	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	130	80-100	80	130
Distance to WZ		450	800	250

Variable message signs	Yes
Pre-information	Yes
Actual speed information	No

Enforcement Devices

Radar enforcement	No
Section control	No
Police enforcement	Yes

	Minimum penalty	Maximum penalty
Range of penalties	20	400
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	120,00 / 123,00	116,00 / 118,00	96,00

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	110,00	108,00	

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed	131,00	124,00	

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3.Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	27.072	4188	34253
Capacity in WZ (per direction)		2900	
Headway in sec	01. Aug		

Vehicle class in %		
	Car	72,00
	Truck	16,00
	PTW	7,00

	Type	Number	Location
Total Accidents during WZ-duration	Rear end collision, Speed, disregarding the vehicle control	20	In WZ
	Rear end collision	3	Periphery of WZ
	Disregarding the vehicle control	2	Entrance/exit areas in WZ

	Fatal	Severe injured	Slight injured
Traffic victims	0	0	5

Remarks & Comments (All relevant information which does not fit into the tables above)

data only from one direction, 2->1 lanes

Periphery of work zone is 600 m

The entering of parameters is required

The entering of parameters is optional (enter parameters if any data is available)

Country:	Sweden	Date (DD.MM.YYYY): Start of Work		Street name/number:	Simulator study	From highway kilometre	1,00
		Date (DD.MM.YYYY): End of Work				to highway kilometre	3,00

Categorization

Duration	short	
Lenght	middle	
Lane reduction	no	
Lane width	smaller	
	Workers	Drivers
Diversion	+	-
Lane Management	-	-
Entrances/Exits		
Measures for WS	-	
Variable message signs Pre-information	-	
	+	
Actual speed information	-	
Radar enforcement	-	
Section control	-	
Police enforcement	-	
AST	low	
Percentage of trucks	low	

Work Zone Layout

Type of Road	Other Type			
Duration in days	0			
Length in km	2			
WZ in both directions	No			
	1.Direction			
Original Number of lanes	1	1		
Lanes in WZ	1	1		
	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m	3,5	3,5		
Lane width in WZ in m	2,8	2,8		
Diversion on opposite lane	Yes			
Lane management (4+0,3+1,2+2,etc.)	1+1			
Lay-bys, Shoulders, Emergency lane		Distance between Lay-bys in m		
Number of entrances in WZ		Number of exits in WZ		
Safety measures and treatments	4 different separation between narrow lanes			
Measures for Workers Safety				

Information Devices

Speed Limits				
	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	90			
Distance to WZ				
Variable message signs	No			
Pre-Information	Yes			
actual speed information	No			

Enforcement Devices

Radar enforcement	No		
Section control	No		
Police enforcement	No		
	Minimum penalty	Maximum penalty	
Range of penalties			
Fixed graduated penalties	No		

Traffic Data

Overall			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
1. Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
2. Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
3. Lane			
Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			
average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)			
Capacity in WZ (per direction)			
Headway in sec			
Vehicle class in %	Car		
	Truck		
	PTW		

	Type	Number	Location
Total Accidents during WZ-duration			

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks
Simulator study with some uncoming traffic. 4 different types of delineation between narrow lanes.
1. Beacons 2. Line 3. Studs 4. No marking. Mean speed and std:
1. 52 km/h std 4,44
2. 59 km/h std 5,29
3. 59km/h std 5,28
4. 57 km/h std 6,25

entering of parameters is required

entering of parameters is optional (enter parameters if any data is available)

Country:	Sweden	Date (DD.MM.YYYY): Start of Work	04.07.2001	Street name/number:	Road 80 Forsbacka	From highway kilometre	
		Date (DD.MM.YYYY): End of Work	10.07.2001			to highway kilometre	

Categorization

Duration	short
Lenght	short
Lane reduction	yes
Lane width	wider

	Workers	Drivers
Diversion	+	-
Lane Management	-	-

Entrances/Exits	
Measures for WS	-
Variable message signs Pre-information	-
	+
Actual speed information	-
Radar enforcement	-
Section control	-
Police enforcement	-
AST	middle
Percentage of trucks	low

Work Zone Layout

Type of Road	Highway
Duration in days	6
Length in km	0,1
WZ in both directions	Yes

	1.Direction	2.Direction
Original Number of lanes	2	2
Lanes in WZ	1	1

	1. Lane	2. Lane	3. Lane	4. Lane
Original lane width in m				
Lane width in WZ in m				

Diversion on opposite lane	Yes		
Lane management (4+0,3+1,2+2,etc.)	1+1		
Lay-bys, Shoulders, Emergency lane	Number of entrances in WZ	Distance between Lay-bys in m	
		Number of exits in WZ	
Safety measures and treatments	monitoring camera		
Measures for Workers Safety			

Information Devices

Speed Limits

	Regular	Periphery of WZ (upstream)	WZ	Periphery of WZ (downstream)
Speed Limits	110	50	50	
Distance to WZ				

Variable message signs Pre-Information	No
	Yes
actual speed information	No

Enforcement Devices

Radar enforcement	No
Section control	No
Police enforcement	No

	Minimum penalty	Maximum penalty
Range of penalties		
Fixed graduated penalties	No	

Traffic Data

Overall

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			44,00 / 37,00

1. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

2. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

3. Lane

Cross-section speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

average speed	Regular	Periphery of WZ	In WZ
V85-speed V50-Speed			

	Average daily traffic	max/h	max/day
Traffic Volume (per direction)	5000		
Capacity in WZ (per direction)			

Headway in sec	

Vehicle class in %	
	Car
	Truck
	PTW

	Type	Number	Location
Total Accidents during WZ-duration			

	Fatal	Severe injured	Slight injured
Traffic victims			

Remarks

Before camera and sign concerning the camera the average speed in WZ was 42 km/h with V85-speed 49 km/h. With the camera equipment the average speed was 37 km/h with V85-speed 44 km/h