



DSSAD: Time Series Data Trigger for Heavy Vehicles

Within the UN-R169 (HV EDR) following is given and valid:

0.3. It is understood that, in the current state of technology, the aforementioned objective can be reached only by recording the data in a specified time period based on defined triggers and trigger thresholds. These triggers may, but do not always immediately precede or follow or coincide with the crash.

The excluding of the Last Stopp trigger for DSSAD is obvious, since a vehicle stop is not a reliable indication of a crash. However also the remaining HV Triggers (Safety Systems and Sudden Deceleration) are not a reliable indication of a crash, since they appear thousands of times within a year.

One possibility is using the optional SRS (for HV), which would be a good indication – next to Detected Collision of the ADS. See attached two example vehicles and an exemplary trigger counts.

Agreed Trigger:

11. Paragraph 5.3.1., remove brackets and amend to read:

5.3.1. {The data elements shall be recorded in compliance with paragraph 5.3.x if the following thresholds are reached or conditions occur:

(a) Detected collision

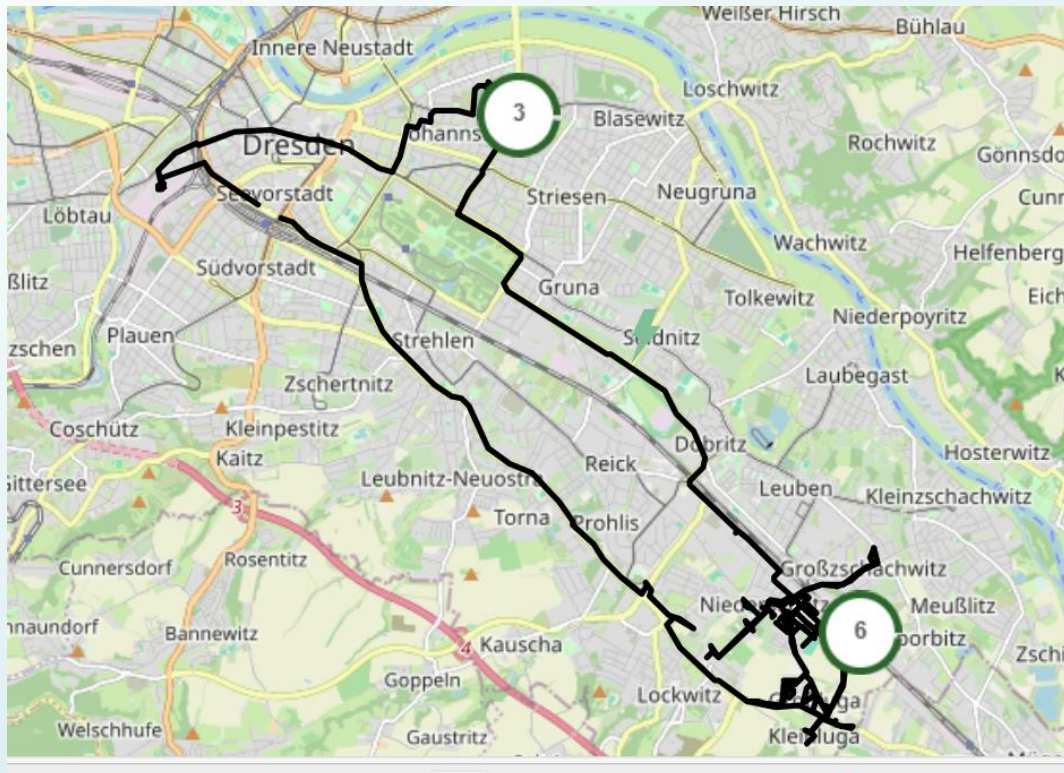
(b) EDR trigger input (excluding last stop trigger)}



Garbage Collector in Dresden

Assessment Period Oct 2024 – Oct 2025 (12 month)

Last Stop Triggers: **75067**
 ABES: **3**
 Sudden Deceleration: **102**
 ESC, ABS: **>0** – not assessed



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Last Stop Trigger Events

Ign off and Park Brk diseng

Vehicle ID	Timestamp Start	Timestamp End	Timespan [s]	scenario	Event
956V036	11/11/2024 8:13:36 AM	11/11/2024 8:27:51 AM	855.40	A	Column<'&and(= (IgnSw_Stat_SCA, 2), Column<'&and(= (IgnSw_Stat_SCA, 2),
956V036	11/11/2024 10:08:04 AM	11/11/2024 10:18:12 AM	608.40	A	Column<'&and(= (IgnSw_Stat_SCA, 2),

Vehicle ID: 956V036
Date: 11/1/2024 - 11/1/2025
Scenario: Multiple selections
Total Events: **23323**

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Last Stop Trigger Events

Standstill for 20sec

Vehicle ID	Timestamp Start	Timestamp End	Timespan [s]	Timespan [s] (Standstill Dct_Stat)	Event
956V036	12/4/2024 7:23:19 AM	12/4/2024 7:23:39 AM	20.00	20.00	2C
956V036	12/4/2024 12:51:02 PM	12/4/2024 12:51:22 PM	20.00	20.00	2C

Vehicle ID: 956V036
Date: 11/16/2024 - 11/16/2025
Timespan: 20.00 - 50,000.00
Total Events: **51744**

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Advanced Emergency Brake Events

Vehicle ID	Timestamp Start	Timestamp End	Timespan [s]	Event Name	Event
956V036	12/23/2024 8:11:19 AM	12/23/2024 8:11:20 AM	1.0	warn_with_brake	Column<'&and(= (ABA_Actv_Stat, 1),
956V036	1/8/2025 2:15:59 PM	1/8/2025 2:16:01 PM	1.7	warn_with_brake	Column<'&and(= (ABA_Actv_Stat, 1),

Vehicle ID: Multiple selections
Date: /20/2024 - 10/26/2025
Signal:
Total Events: **3**

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Sudden Declaration Trigger Events

Vehicle ID	Timestamp Start	Timestamp End	Timespan [s]	Signal	Event
956V036	11/3/2025 1:43:34 PM	11/3/2025 1:43:34 PM	0.1	accel_x_cval	
956V036	11/3/2025 1:43:34 PM	11/3/2025 1:43:34 PM	0.1	accel_x_cval	

Vehicle ID: Multiple selections
Date: 11/16/2024 - 11/16/2025
Signal: All
Total Events: **102**



Milk Collector Truck

Assessment Period Jan 2025 – Nov 2025 (11 month)

Last Stop Triggers: **17784**

ABES: **>0** – not assessed

Sudden Deceleration: **6628**

ESC, ABS: **>0** – not assessed

The EDR's Sudden Deceleration Threshold is too sensitive to using it for DSSAD Time Series Data, which must be stored for several month: No reliable indication of a crash.

In EDR case acceptable, since 5 slots can be overwritten in Fifo logic.

Since the 'Sudden Deceleration' and 'Last Stop' Trigger are an ADS initiated consequence based on a critical situation, these triggers are also ineffective, in case of an unnoticed collision.

Therefore, the only possibility is using the optional SRS (for HV) or designing a new independent trigger – next to the established '(a) Detected collision'.

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Last Stop Trigger Events
Ign off and Park Brk disengg

Vehicle ID	Timestamp Start	Timestamp End	Timespan [s]	scenario	Event C
963V1898	1/14/2025 10:36:25 AM	1/14/2025 10:36:26 AM	0.30		
963V1898	3/3/2025 11:56:11 AM	3/3/2025 11:56:31 AM	20.00		
963V1898	6/1/2025 6:00:50 PM	6/1/2025 6:01:10 PM	20.00		
963V1898	6/25/2025 11:54:23 PM	6/25/2025 11:54:43 PM	20.00		
963V1898	7/8/2025 12:05:32 AM	7/8/2025 12:05:52 AM	20.00		
963V1898	7/25/2025 12:01:09 AM	7/25/2025 12:01:29 AM	20.00		
963V1898	7/31/2025 5:10:46 AM	7/31/2025 5:11:06 AM	20.00		
963V1898	8/2/2025 11:56:38 PM	8/2/2025 11:56:58 PM	20.00		
963V1898	8/7/2025 10:46:54 AM	8/7/2025 10:47:14 AM	20.00		
963V1898	8/21/2025 12:48:09 PM	8/21/2025 12:48:29 PM	20.00		
963V1898	9/17/2025 5:57:34 PM	9/17/2025 5:57:54 PM	20.00		
963V1898	9/25/2025 12:30:13 PM	9/25/2025 12:30:33 PM	20.00		
963V1898	10/15/2025 12:21:00 AM	10/15/2025 12:21:20 AM	20.00		
963V1898	10/29/2025 1:13:30 AM	10/29/2025 1:13:50 AM	20.00		
963V1898	1/16/2025 6:56:13 AM	1/16/2025 6:56:33 AM	20.10		
963V1898	1/23/2025 12:40:12 PM	1/23/2025 12:40:32 PM	20.10		
963V1898	1/23/2025 12:45:50 PM	1/23/2025 12:46:10 PM	20.10		
963V1898	1/23/2025 12:49:23 PM	1/23/2025 12:49:43 PM	20.10		
963V1898	1/23/2025 12:57:19 PM	1/23/2025 12:57:39 PM	20.10		
963V1898	1/24/2025 2:53:57 PM	1/24/2025 2:54:17 PM	20.10		
963V1898	1/27/2025 10:36:19 AM	1/27/2025 10:36:39 AM	20.10		
963V1898	1/27/2025 12:20:45 PM	1/27/2025 12:21:05 PM	20.10		
963V1898	1/27/2025 3:35:17 PM	1/27/2025 3:35:37 PM	20.10		
963V1898	1/28/2025 6:55:27 AM	1/28/2025 6:55:47 AM	20.10		
963V1898	1/29/2025 9:00:41 AM	1/29/2025 9:01:01 AM	20.10		
963V1898	1/29/2025 11:53:04 AM	1/29/2025 11:53:24 AM	20.10		
963V1898	1/29/2025 11:58:06 AM	1/29/2025 11:58:26 AM	20.10		
963V1898	1/29/2025 11:59:15 AM	1/29/2025 11:59:35 AM	20.10		

Vehicle ID: 963V1898

Date: 1/1/2025 - 11/1/2025

Timespan: 20.00 - 50,000.00

Total Events: **4092**

Vehicle ID: 963V1898

Date: 1/1/2025 - 11/1/2025

Scenario: Multiple selections

Total Events: **13688**

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Sudden Declaration Trigger Events

Vehicle ID	Timestamp Start	Timestamp End	Timespan [s]	Signal
963V1898	5/23/2025 3:14:28 PM	5/23/2025 3:14:28 PM	0.1	accel_x_cval
963V1898	5/23/2025 4:57:39 PM	5/23/2025 4:57:39 PM	0.1	accel_y_cval
963V1898	5/23/2025 11:29:44 PM	5/23/2025 11:29:44 PM	0.1	accel_y_cval
963V1898	5/23/2025 11:29:45 PM	5/23/2025 11:29:45 PM	0.1	accel_y_cval
963V1898	5/23/2025 11:36:49 PM	5/23/2025 11:36:49 PM	0.1	accel_y_cval
963V1898	5/23/2025 11:36:50 PM	5/23/2025 11:36:50 PM	0.1	accel_y_cval
963V1898	5/23/2025 11:36:50 PM	5/23/2025 11:36:50 PM	0.1	accel_y_cval
963V1898	5/24/2025 12:02:37 AM	5/24/2025 12:02:37 AM	0.1	accel_y_cval
963V1898	5/24/2025 12:14:29 AM	5/24/2025 12:14:29 AM	0.1	accel_y_cval
963V1898	5/24/2025 11:04:30 AM	5/24/2025 11:04:30 AM	0.1	accel_y_cval
963V1898	5/24/2025 11:05:49 AM	5/24/2025 11:05:49 AM	0.1	accel_y_cval
963V1898	5/24/2025 11:32:24 AM	5/24/2025 11:32:25 AM	0.4	accel_y_cval
963V1898	5/24/2025 11:32:25 AM	5/24/2025 11:32:25 AM	0.7	accel_y_cval
963V1898	5/24/2025 11:32:26 AM	5/24/2025 11:32:26 AM	0.2	accel_y_cval
963V1898	5/24/2025 11:32:26 AM	5/24/2025 11:32:26 AM	0.3	accel_y_cval
963V1898	5/24/2025 11:32:28 AM	5/24/2025 11:32:28 AM	0.9	accel_y_cval
963V1898	5/24/2025 11:32:29 AM	5/24/2025 11:32:29 AM	0.1	accel_y_cval

Vehicle ID: Multiple selections

Date: 1/1/2025 - 11/1/2025

Signal: All

Total Events: **6628**