Consistent Condition Data Collection – smooth travel exposure update

September 2025

INTRODUCTION

The Consistent Condition Data Collection (CCDC) project has established a standardised approach to the use of Validity and Event Codes for data collection across Road Controlling Authorities (RCAs). This change supports consistent and reliable reporting of Smooth Travel Exposure (STE), a key performance measure used to assess the proportion of travel occurring on roads with acceptable smoothness.

HISTORICAL USE OF EVENT CODES

RCAs and data collection suppliers have used different Event Codes to describe the same road features or operating conditions. For example, one RCA might use a specific code to flag a speed hump or a detour route, while another might use a different code or not flag it at all. Invalid data has often been overwritten with estimated data added post-survey (Event Code 'A'), which has typically been included in Treatment Length (TL) and Carriageway (Cway) summarisation and STE calculations. RCAs also had the flexibility to decide which Event Codes to include in STE calculations and TL and Cway summarisation.

STANDARDISATION THROUGH CCDC

The CCDC project has introduced a nationally consistent set of Event Codes and Validity Codes, now applied uniformly across all networks. This enables consistent interpretation of survey data and supports more reliable performance reporting. Event Codes now reflect permanent road features (e.g. bridges, speed humps), while Validity Codes indicate temporary conditions or data quality issues. Any data with a Validity Code other than 'O' (Data OK) is considered invalid and should be excluded from analysis and reporting, unless its inclusion is explicitly required for a specific purpose. Unlike past practices - where invalid data was sometimes overwritten with estimated values - CCDC does not generate or insert estimated data. The only post-processing applied is the assignment of Validity Code 'Z' to sites where roughness readings exceed a defined threshold (18 IRI).

VALIDITY CODES: INCLUSIONS AND EXCLUSIONS

CCDC Validity Code	*CCDC Validity Code Description*	*CCDC Event Code Mapping for 100m Roughness*	*30 June STE Calculation*	*Agreed New STE Calculation*
O	Data OK	NULL	Included	Included
J	Surface Contamination (from start to end)	A	** Varies	Excluded
N	Wet Road (from start to end)	A	** Varies	Excluded
D	Detour Route/ Temporary alignment/Change from nominated lane (from start to end)	A	Excluded	Excluded
C	Sensor 'dropouts' exceed 5% of the number of samples for each reporting interval	A	** Varies	Excluded
U	Unsealed Road (from start to end)	A	Included	Excluded
W	Road Works (from start to end)	A	Excluded	Excluded

S	Speed outside the limits identified in the quality plan	A	** Varies	Excluded
L	Discrepancy in length/locational referencing	A	** Varies	Excluded
Z	Data invalid for other reasons	A	** Varies	Excluded

EVENT CODES

CCDC Event Code	CCDC Event Code Description	CCDC Event Code Mapping for 100m Roughness	30 June STE Calculation	Agreed new STE Calculation
X	Railway Crossing (from start to end)	X	Exclude	Include
H	Speed Hump (from start to end)	H	Exclude	Include
G	Cattle Grid (from start to end)	G	Exclude	Include
B	Bridge (from start to end)	B	Exclude	Include
K	Pavers (from start to end)	P	**Varies	Include

** Application of these codes historically varied across RCAs, some included, others excluded.

CHANGES TO STE CALCULATION

STE is calculated using 100m roughness data. This data is sourced from CCDC surveys where available, with historical data used to fill any gaps - automatically selected using AWM's 'latest' flag logic. The following logic is used to summarise the 10m CCDC data into 100m roughness lengths:

- All 10m bins with a Validity Code other than 'O' (Data OK) are excluded from the 100m summarisation.
- If more than 30% of a 100m length is invalid (more than 3 bins out of 10), the segment is assigned Event Code 'A'.
- Event Codes representing permanent road features are included in STE. These are: X – Railway Crossing; H – Speed Hump; G – Cattle Grid; B – Bridge; P – Pavers (mapped from original code K).
- All other Event Codes are excluded from STE calculations.

TREATMENT LENGTH SUMMARISATION

The Treatment Length (TL) table in RAMM has been refreshed to incorporate condition data from the new CCDC 10m dataset. Where CCDC data is available, it supersedes previously summarised data from historical tables - ensuring that all TLs reflect the most current condition information.

To maintain consistency across asset management processes, the same Event Code logic used in STE calculations is now applied to TL summarisation. The exception is for bridge and paver events, where records are included only if the Event Code covers more than 30% of the TL.

CARRIAGEWAY TABLE SUMMARISATION

Roughness data in the RAMM Carriageway table is summarised from the 100m Roughness table, which ensures the latest available condition data is consistently reflected. However, the Event Code logic used in this summarisation isn't yet updated to align with CCDC standardisation.