Annex S1. Google Street View validation protocol

Overview

Coders review each sampled location in Google Street View (GSV) to determine whether cycling infrastructure is present around the follow-up date (≈ 1 January 2024) and the baseline date (≈ 1 January 2016). Only the cells in coloured columns are editable; all other cells contain formulas or identifiers.

Cycling-infrastructure definition: a dedicated cycleway, an on-road cycle lane or track, a bicycle street, or a bike-only road.

Data entry structure

Blue columns → main years (presence: 1/0/blank; month: 1–12)

Follow-up
• **2024** (`pres24, mon24`): fill if interpretable; if the view is unclear, move the peg slightly along the same street to try to reveal 2024 imagery, but only to a point where the original location remains visible.
• **2023** (`pres23, mon23`): same rule.
If both years remain uninterpretable after this small adjustment → leave them blank and use the fallback year.

Baseline
• **2016** (`pres16, mon16`): fill if interpretable; if the view is unclear, move the peg slightly along the same street to try to reveal 2016 imagery, but only to a point where the original location remains visible.
• **2015** (`pres15, mon15`): same rule.
If both years remain uninterpretable → leave them blank and use the fallback year.

Yellow columns → fallback years

Used only when both main years for that period cannot be interpreted, even after a small peg adjustment.

• **Follow-up fallback (2022):** `pres22`, `mon22`
• **Baseline fallback (2014):** `pres14`, `mon14`

If at least one main year is usable, leave fallback cells empty.

Green column → notes

Optional brief notes when something affects interpretation (peg movement, blurred imagery, temporary works, ambiguous cases).