



Subject: Excel audit & clean — illustrative sample

ILLUSTRATIVE SAMPLE • REAL PUBLIC FINDINGS • NOT COMMISSIONED

Isolated computer per job • Uploads wiped 24h • Packs 90d • No source? Red flag. Wrong key claim? Full refund (hi@oxaide.com, 14d). Registry data: data.gov.sg (Singapore Open Data Licence). Research, not advice.

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Excel audit — Singapore motor vehicle population (LTA MVP 01-1)

ILLUSTRATIVE SAMPLE — REAL PUBLIC FINDINGS — NOT COMMISSIONED

Subject: LTA Annual Motor Vehicle Population by Vehicle Type, audit of the public workbook • REF SAMPLE-excel • 28 Sep 2026

BOTTOM LINE UP FRONT

The numbers are clean; the scaffolding is not. Every subtotal and grand total in LTA's public vehicle-by-type workbook reconciles in all 11 years (2015–2025), and all 210 detail cells that overlap the data.gov.sg copy match it exactly. No wrong arithmetic, no negative counts, no duplicated rows.

What the audit did find is 14 structural issues that make the file fragile to reuse: zero formulas in the entire workbook (every total is typed in by hand), a blank row captioned "TOTAL MOTOR VEHICLES", year headers stored as text, footnote digits baked into labels, stray spaces that defeat exact-match lookups, and a regroup section that turns any whole-column sum into a multiple of the truth (up to 3.84x). All 14 are fixed or documented in the attached workbook (sheet Audited table, pink cells; catalogue on sheet Findings; live re-checks on sheet Checks).

So what: use the attached workbook instead of the raw download for any further work — its totals now compute from their parts, and the flags show exactly what changed and why.

What was audited

The subject is the genuine agency workbook behind the data.gov.sg dataset: LTA DataMall file MVP01-1_MVP_by_type.xlsx ("Annual Motor Vehicle Population by Vehicle Type — all vehicles registered and used on the roads", January 2026 update, one sheet, rows 1–38, year columns 2015–2025). The data.gov.sg dataset page offers the same series as a CSV and carries the same table code (MVP 01-01 Veh by type), so the workbook was cross-checked cell by cell against the data.gov.sg values for the ten overlap years 2015–2024: 210 of 210 detail cells identical.

Headline figures in the file (recomputed and confirmed): all motor vehicles 1,007,094 at end 2024 and 1,012,023 at end 2025; cars and station-wagons 657,744 (2024) and 659,889 (2025); taxis 13,117 (2024), down from 28,259 in

2015. The 2025 column exists only in the LTA workbook; data.gov.sg currently ends at 2024.

Findings that matter most

ID	Where	Issue	Consequence
F1	All total cells (132)	No formulas anywhere; every total typed in	Next update can silently disagree with its parts
F2	Row 28	"TOTAL MOTOR VEHICLES" row is blank	Reader or linked formula finds no total there
F10	Rows 3:35, 29:35	Section 7 re-slices the same vehicles	Whole-column SUM returns 2x–3.84x the truth
F6–F7	Labels C9, B12, B23, C6	Note digits and stray spaces in labels	Exact-match lookups against data.gov.sg fail
F12	Coverage	Workbook 2015–2025 vs data.gov.sg 2005–2024	Each twin has years the other lacks

F1 — every total is hand-typed. The file contains zero formula cells. Rows 3, 12, 17, 23 (subtotals) and rows 29–35 (regroup plus grand total) are all static values that happen to be right today. The cleaned copy replaces them with own-column formulas (for example D3 is now =SUM(D4:D9) and D35 is =SUM(D29:D34)); each recomputed value matches the typed-in value it replaces, so nothing in the published record moved.

F2 — the empty total row. Row 28 carries the section number 7 and the caption TOTAL MOTOR VEHICLES, but D28:N28 are all blank; the actual grand total sits at row 35 under a second caption, ALL MOTOR VEHICLES (TOTAL). In the cleaned copy row 28 links to row 35, so both captions always agree.

F10 — the double-count trap, with concrete numbers. Because section 7 re-groups the same fleet by kind (including the tax-exempt slices), summing a full column counts vehicles two to four times over: for 2024, SUM of rows 3:35 gives 3,867,864 (3.84x the true 1,007,094) and SUM of rows 29:35 gives exactly double. The cleaned copy's total formulas sum their parts only, and the trap is flagged on the sheet.

Labelling and typing issues (F3–F9, F13–F14)

Year headers D2:N2 are stored as text ("2015" as text), which breaks year arithmetic and numeric-year lookups; they are numbers in the cleaned copy. The index column mixes text and numbers (A3 and A23 are text; the rest numeric) and the cars sub-list mixes (iv), (v) with i), ii), iii), vi) — both unified. Footnote digits sit inside three labels ("Off peak cars 1" and two section titles), and three cells carry stray spaces, including "Tuition cars ", which fails an exact match against the data.gov.sg label. All are corrected and flagged pink.

Three labelling points are documented rather than renamed, because the wording is LTA's: ampersand-vs-and and capitalisation drift between the workbook, its own regroup section, and data.gov.sg (mapping table on sheet Findings); the one-letter case gap between "Motorcycles and scooters" (tax-exempt row: 488 vehicles in 2024) and the "MOTORCYCLES & SCOOTERS" class (147,395 in 2024); and four type names that repeat their category names with a different meaning (the tax-exempt slices). Match by row and category, never by name fragment. Minor note-wording slips (a "which was" for a plural subject, "etc.,") and an overlapping weight-band boundary at exactly 3.5mt are fixed with the originals quoted for traceability.

What was checked and cleared

Arithmetic was verified six ways per year column (four detail sums, both grand-total routes) across all 11 years — all reconcile. The full 2015–2024 detail matches the data.gov.sg values exactly (210/210). No negatives, no hidden rows, columns or sheets, no merged cells, no conflicting validation rules. Large year-on-year moves were reviewed individually and are plausible real-world movements, not keying errors: chauffeur private-hire growth from 2015 (the ride-hail years), the taxi decline from 27,534 in 2016 to 12,161 in 2025, and the off-peak rundown from 50,040 in 2010 to 6,671 in 2025. Finally, the recomputed 2023 and 2024 grand totals match the Police (SPF) Traffic Annual 2024 casualty-rate table to the vehicle (996,732 and 1,007,094) — though SPF labels that column mid-year, which sits oddly against an exact match with year-end figures and is noted as SPF's wording, not an error in this file.

Next steps

1. Work from the attached workbook (sheet Audited table) — totals compute, flags show every change.
2. Never sum a full column of this sheet; total rows 29–34 only, or read row 35.
3. When joining to data.gov.sg history (2005–2014), use the label map on sheet Findings and allow for the 2013 hire-car relabelling (Rental cars ends 2012; two Private Hire rows begin 2013).
4. Re-check at next LTA update: confirm the new year column carries formulas forward and the 2025 LTA-only figures appear on data.gov.sg.

Honest gaps

The 2025 column exists only in the LTA workbook and could not be cross-checked against a second public source; it reconciles internally six ways but stands single-sourced. Earlier SPF mid-year vehicle counts (2015–2022) differ from these year-end figures by up to about 9,700 vehicles, consistent with mid-year versus year-end timing — except that 2023–2024 match exactly, which SPF's own footnote does not explain; flagged, not resolved. Ride-hail and scheme explanations for large movements are plausibility reads from the numbers, not LTA commentary.

Sources

- data.gov.sg — Annual Motor Vehicle Population by Vehicle Type (dataset page, table code MVP 01-01, data 2005–2024, read 28 Sep 2026) — https://data.gov.sg/datasets/d_2873f3b1b2a836103f51f696350b98fa/view
- LTA DataMall — Static Datasets page (lists Annual Motor Vehicle Population by Vehicle Type with PDF/Excel/CSV downloads, read 28 Sep 2026) — <https://datamall.lta.gov.sg/content/datamall/en/static-data.html>
- LTA DataMall — MVP01-1_MVP_by_type.xlsx (the audited workbook, Jan 2026 update, years 2015–2025, downloaded and read 28 Sep 2026) — https://datamall.lta.gov.sg/content/dam/datamall/TempXLS/MVP01-1_MVP_by_type.xlsx
- SPF — Traffic Annual 2024, Table 2 p.6 (motor vehicle population 996,732 for 2023 and 1,007,094 for 2024, LTA-sourced, read 28 Sep 2026) — <https://www.police.gov.sg/-/media/SPF/Files/Publications/PDF/Traffic-Annual-2024.pdf>

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