**New Table layouts:**

**Table 4:** Transport data and sources for (**a**) modes and (**b**) route. Variations used from actual data, include: Buses: 85% diesel of fleet (in 2015) and rest mostly hybrid; Electric (EV) and low-emission vehicles: EV cars 0.2% of GL registered vehicles (2015) (DfT and DVLA, 2019). Data sources:*§8* - ONS (2014b); *§9* - ONS (2018); *§10* - DfT (2017); *§11* - DfT (2014a, 2014b); *§12* - London Datastore (2014); *§13* - OS (2016); *§14* - Smith et al. (2009); *§15* - Highways Agency (2017); *§16* - TfL (2018); *§17* - TfL (2019); *§18* - OS (2015); §*19* - TfL Train and Underground Rolling Stock Information Sheets from *§10*; *§20* - TfL working timetables from *§10*; *§21* - Iamarino et al. (2012). ΔNot applied in evaluation

|  |  |  |  |
| --- | --- | --- | --- |
| *(a) Mode* *m* | People vehicle-1§10, §15 | *QF,M* person-1(W m-2) §21 | Fuel Use Ratio §10, §17 |
| Petrol | Diesel |
| Car | 1.4 | 70 | 0.84 | 0.16 |
| Van | 1.4 | 70 | 0.1 | 0.9 |
| Taxi | 2.5 | 70 | 0 | 1 |
| Motorcycle | 1 | 70 | 1 | 0 |
| Bus | 17.3 | 55 | 0 | 1 |
| UG rail | -- | 62Δ | -- | -- |
| Surface rail | -- | 55 Δ | -- | -- |
| Bicycle | 1 | 230 | -- | -- |
| Walking | 1 | 140 | -- | -- |

|  |  |
| --- | --- |
| *(b) Route (data vary)* | *Source* |
| AADT (road vehicles) | *§12* |
| $v\_{r,lim}$ (road vehicles) | *§18* |
| *Fm,f* by speed & fuel for road vehicles (electric not considered in this evaluation) | *§9*, *§14* |
| Commute mode choice ($a\_{D}^{i}\rightarrow a\_{W}^{j}$) | *§8* |
| Journey Time | *§10* |
| *Cm,r*, *Rlim* | *§11,* *§19* Δ, *§20* Δ |
| Route (*r*) dimensions (e.g. length, no. of lanes, no. of tracks) | *§12*,*§13*, *§16*, *§19* Δ |

**Table C2:** Properties used in STEBBS vary by property age (<1965, > 1965), type (HB - house & bungalow; flat), component (roof etc) for (**a**) building fabric and external ground, and (**b**) DHW. *L*: thickness (m); *ε*: emissivity; *τ*: effective transmissivity; Θ: surface albedo; *ke*: effective thermal conductivity (W m-1 K-1); *⍴*: density (kg m-3); *cp*: specific heat of air at constant pressure (J kg-1 K-1) (Internal Air 1005 ); *h*: convection coefficient (Int: internal, Ext: external) (W m-2 K-1); *VFR*: volumetric flow rate of DHW per water user (dom: domestic, n-dom: non-domestic) (10-3 m3 s-1); *VR*: ventilation rate (10-3 m3 s-1); *VT*: DHW tank volume (m3); WWR: window-to-wall ratio (0.4). Vessels: all other storage of DHW. For data sources refer to Table 3. a varies with wind speed.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 1. *Building fabric*
 | *Roof & wall* | *Window* | *Ground Floor* | *Internal Mass* | *External Ground* |
| *HB* | *Flat* |
| *L* | < 1965 | 0.241 | 0.327 | 0.005 | 0.5 | - | 2 |
| > 1965 | 0.373 | 0.373 | 0.02 | 0.5 | - |
| *ke* | < 1965 | 0.837 | 0.835 | 1.05 | 0.752 | 0.121 | 1.28 |
| > 1965 | 0.104 | 0.104 | 0.041 | 0.690 | 0.121 |
| *r* | < 1965 | 1692 | 1690 | 2500  | 1540 | 873.7 |
| > 1965 | 1076 | 1076 | 1000.7 | 1470 | 873.7 |
| *cp* | < 1965 | 803.1 | 804.1 | 840 | 1012.8  | 967.9 |
| > 1965 | 865.9 | 865.9 | 902.4 | 1016 | 967.9 |
| *h*  | Int. | 3 | 3 | 3 | 2.8 | 3 |
| Ext. | vara | vara | vara | - | - |
| *Θ* | 0.6 | 0.6 | 0.05 | - | 0 |
| *e* | 0.9 | 0.9 | 0.88 | - | 0.91 |
|  *τ* | 0 | 0 | 0.9 | - | 0 |
| *VR*  | 600 |

|  |  |  |
| --- | --- | --- |
| *(b) DHW* | *Tank* | *Vessel* |
| *L* (m) | 0.055 | 0.0047 |
| *e* | 0.9 | 0.91 |
| *ke*  | 0.0275 | 0.16 |
| *r*  | 745.55 | 1380 |
| *cp*  | 1380 | 1380 |
| *h* | Int. | 243 | 243 |
| Ext. | 3 | 3 |
| *VFR* | dom | 0.183 | 0.1372  |
| n-dom |  0.15 |  0.1125 |
| *People§ residence-1* | *1* | *2* | *3* | *4* | *5* | *6* |
| *VT* (m3) | 0.115 | 0.115 | 0.125 | 0.148 | 0.17 | 0.18 |