Safer City Streets database

- 41 functional urban areas (FUAs)
- CARE database
## Size and population of cities

<table>
<thead>
<tr>
<th>City / FUA</th>
<th>Land Area (km²)</th>
<th>Population Density (km²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paris City</td>
<td>6400</td>
<td>25600</td>
</tr>
<tr>
<td>New York City</td>
<td>3200</td>
<td>12800</td>
</tr>
<tr>
<td>The Hague</td>
<td>200</td>
<td>800</td>
</tr>
<tr>
<td>Riga</td>
<td>100</td>
<td>400</td>
</tr>
<tr>
<td>Greater London</td>
<td>6400</td>
<td>25600</td>
</tr>
<tr>
<td>London FUA</td>
<td>3200</td>
<td>12800</td>
</tr>
<tr>
<td>Melbourne</td>
<td>200</td>
<td>800</td>
</tr>
<tr>
<td>Vienna FUA</td>
<td>100</td>
<td>400</td>
</tr>
<tr>
<td>Portsmouth FUA</td>
<td>50</td>
<td>200</td>
</tr>
<tr>
<td>Graz FUA</td>
<td>125</td>
<td>500</td>
</tr>
</tbody>
</table>

**Legend:**
- Orange circles represent administrative boundaries.
- Brown circles represent functional urban areas (FUAs).

**Note:** The bubble area is proportional to the population.
### Safer City Streets database

#### Risk – data sources

<table>
<thead>
<tr>
<th>Administrative areas</th>
<th>Casuities</th>
<th>Trips and distance travelled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local data (often police)</td>
<td>Local data (often travel survey)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Functional areas</th>
<th>Casuities</th>
<th>Trips and distance travelled</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>CARE</td>
<td>NTS (National Travel Survey)</td>
</tr>
<tr>
<td>Rest of Europe</td>
<td></td>
<td>Ad-hoc solutions</td>
</tr>
</tbody>
</table>
Elasticity of mortality with regard to population density, as observed in European urban areas, average 2011-2015

where population density is $x^2$, mortality is likely 20% lower ($e=-0.32$)
Risk of fatality per unit distance walked, 2011-2015

- Paris City
- The Hague
- Portsmouth FUA
- Paris area
- Berlin
- Copenhagen
- Nottingham FUA
- Leicester FUA
- Barcelona
- Inner London
- Greater London
- Liverpool FUA
- Newcastle FUA
- Manchester FUA
- London FUA
- Sheffield FUA
- Bristol FUA
- Leeds FUA
- Birmingham FUA
- Auckland
- Calgary
Number of pedal cycle fatalities per unit population in cities and FUAs, 2011-2015

\[ y = 0.0534x^{0.2359} \]

- EU-NO-CH
- USA-CAN-AUS-NZ
- UK
- ITA

Power (UK)
Number of fatalities per unit population in cities and FUAs, 2011-2015

\[ y = 5.3299x^{-0.218} \]

- EU-NO-CH
- USA-CAN-AUS-NZ
- UK
- ITA
- Power (UK)

fatality rate, all modes /100 000 population
kilometres cycled per person per year
Which factors are driving road safety performance in cities?

• Population density is associated with safety. It is likely to be a confounding factor which also drives high PT mode share, lower vehicle speeds and shorter trip distances.

• Where more people cycle, a better road safety performance is observed. Some causal links are likely to work both ways.
Thank you

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