

Private vehicles are stealing public cities: land-use analysis across Glasgow and Dundee

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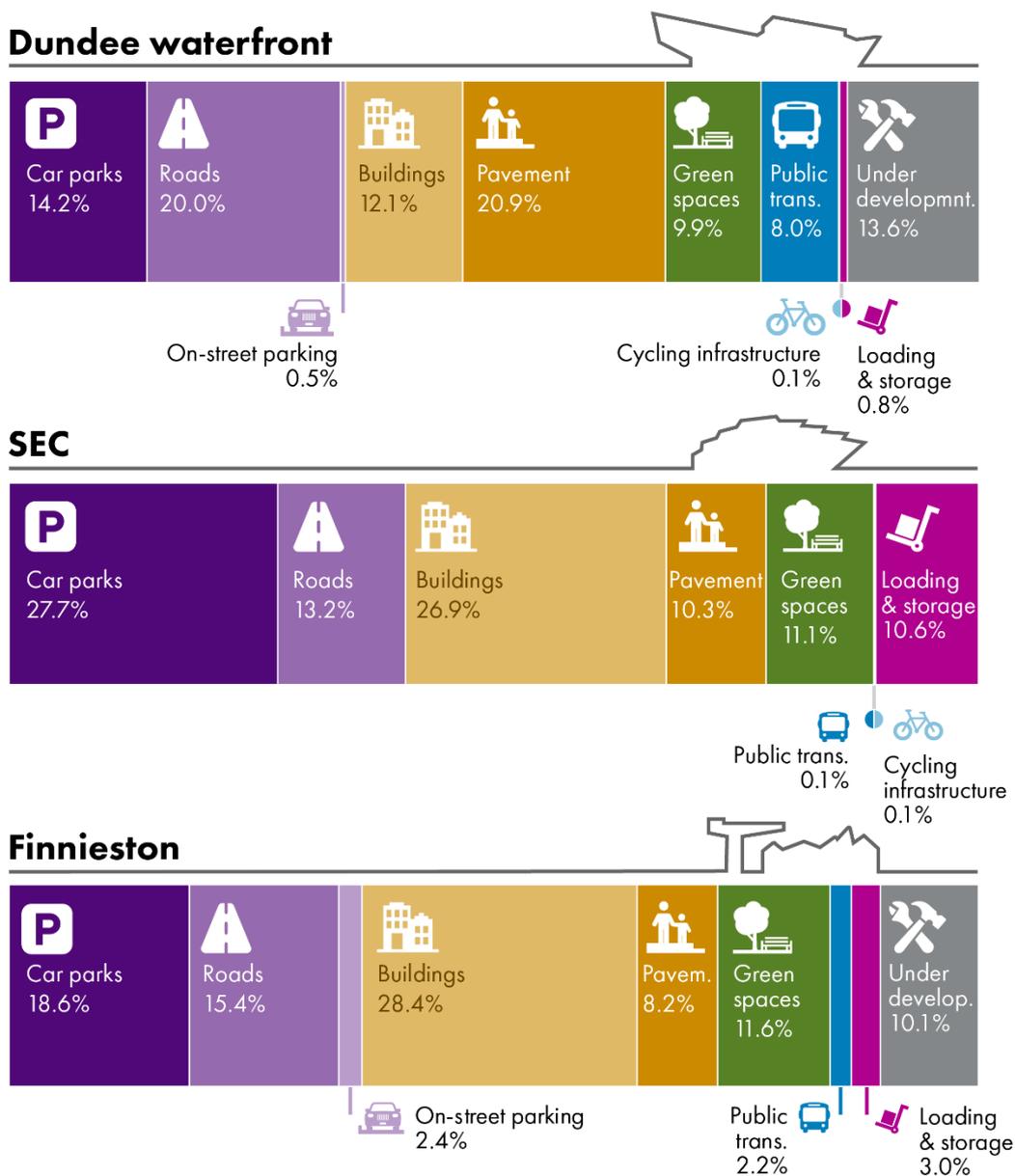
Summary

The aim of this project was to assess how space is allocated in city environments, with a focus on how much space is dedicated to private vehicles in comparison to other modes of transport.

Using three case studies in Glasgow and Dundee, the study shows that space is overwhelmingly dedicated to the car: roads, car parks and on-street parking cumulatively account for the highest proportion of space at each site. Across each case study, space dedicated to cars ranged between 34.5% and 41% (Fig. 1).

Furthermore, green spaces, public transport and cycling infrastructure are extremely lacking and appear to be of relatively low priority. This is particularly apparent at the Scottish Events Campus (SEC), Glasgow – host venue to COP26 – where more space is dedicated to outdoor smoking than bike parking.

Figure 1: Allocation of space compared across each case study site



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Recommendations

Overall, the case study sites could benefit from the following recommendations aimed at reducing private vehicle dependency:

- revisions of bus timetables providing regular and reliable services for event campuses;
- subsidising or offering free transport with tickets for event campuses;
- restricting the construction of single-level car parks with low-usage (e.g. SEC);
- redeveloping such single-level car parks into green spaces and small business spaces;
- reducing waiting times at pedestrian crossings where possible and modifying crossings into toucan crossings to create increased cycling accessibility; and
- restricting on-street parking in favour of wider pavements and segregated cycle lanes to encourage economic growth and safe cycling.

The above recommendations are in line with the objectives of the National Transport Strategy by prioritising active and public transport, which will reduce car dependency and in turn help to reduce greenhouse gas (GHG) emissions in cities.

Background

In Scotland, transport accounts for around 37% of total emissions and remains the only sector with increasing GHG emissions (Scottish GHG emissions report., 2019). Continued increase of GHG emissions within the transport sector reflects an increase of road transport emissions, primarily associated with increases in car ownership and dependence. In 2018 the number of licensed motor vehicles reached 3 million; its highest ever level. This is a 12% increase since 2008; where 71% of households had access to one or more cars for personal use (Scottish Transport Statistics, 2019).

Increased car dependency in cities can be a particularly problem leading to congestion and dangerous levels of air pollution. A common governmental response to congestion is to create more space for motor vehicles by building more roads and space for parking (Hymel., 2019). As more space is dedicated to road transport infrastructure, more people are encouraged to drive for convenience through induced demand (Chapman 2007; Hymel., 2019).

In this study, digital and field mapping were conducted to record how space was allocated in city environments using Ordnance Survey maps as base maps. Space was quantified using Edina Digimap and maps were later edited using Inkscape. Three case study sites with varying land use and developmental period were selected for the study: the SEC events campus, Glasgow; Dundee City Waterfront; and Finnieston, Glasgow. The size of the study area varied from 0.12 km² to 0.27 km². The results are discussed in a full length report in context of the National Transport Strategy's priorities and objectives.

References

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