

SaferActive Progress Report 1

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2020-07-06

1 INTRODUCTION

The report summarises progress on the SaferActive project, funded by the Department for Transport in support of aims outlined in the Cycling and Walking Investment Strategy (CWIS): to double the number of stages cycled compared with the baseline year of 2013, and “reverse the decline in walking” (Department for Transport 2017) **whilst reducing the casualty rate per km walked and cycled year-on-year**.

A follow-on report reviewed the safety elements of the CWIS, emphasising the importance of safety for enabling active travel and advocating measuring safety in terms of “the number of fatalities and serious injuries per billion miles” (Nathan 2019). In this report we outline methods of estimating safety in the more commonly used units of killed and seriously injured per billion km (KSI/bkm), and outline progress in collecting, analysing and modelling datasets that will be used in subsequent steps of the project.

2 RESEARCH LANDSCAPE

A range of traffic calming measures can reduce casualty rates, a topic that has received much interest in the academic literature (e.g. Akbari and Haghighi 2020; Bunn et al. 2003; Zalewski and Kempa 2019; Zein et al. 1997; Bornioli et al. 2018). Recent papers have found strong evidence for ‘safety in numbers’ (increasing the argument for research into cycling uptake alongside road safety interventions) and the effectiveness of 20 mph speed limits for reducing risk to pedestrians (Aldred et al. 2018; Cook, Davidson, and Martin 2020). Less attention has been paid to the question of how road safety measures can simultaneously reduce casualty rates *and increase levels of cycling and walking* (Brown, Moodie, and Carter 2017):

Limited evidence exists on secondary effects of investment in traffic calming and safety, including effects on rates of transport-related physical activity (active transport)

3 POLICY DRIVERS

Objective 3 of the CWIS is to “reduce the rate of cyclists killed or seriously injured on England’s roads, measured as the number of fatalities and serious injuries per billion miles cycled.” Metrics to support this objective include: KSI/bkm and slightly casualties, urban/rural/regional split of crashes, and proportion of cyclists/drivers stating that it’s too dangerous to cycle. There is no parallel target for pedestrian safety.

A rapid evidence assessment was commissioned by the Department for Transport in 2018 to identify promising intervention types in support of walking and cycling safety (NatCen 2018). Section 6.1, focussed on infrastructure and road signs interventions, found that there is evidence for the effectiveness of a range of interventions can be effective in reducing casualty rates, including ‘pedestrian refuge islands’, speed humps and speed cameras. Evidence was also reviewed of the effectiveness of cycleways, junction/roundabout design, signal controls, street lighting and ‘safe routes to school’. Section 6.2 found evidence of legislative changes, particularly speed limit reductions and expenditure on road safety policing. Again, no UK-specific studies were identified.

A 2 year road safety action plan was set out in 2019, although the emphasis of this report was on education of drivers rather than traffic calming measures in the context of the CWIS (which is mentioned only once in the report), although the report does emphasise the importance of 20 mph zones (Department for Transport 2019).

The CWIS Safety Review provides the most detailed government document to date on road safety measures specifically designed to support walking and cycling and contained much evidence and a number of case studies of effective interventions (Department for Transport 2018). Chapter 5 of this review focusses on infrastructure, with comments on cycling design guidance which have since been incorporated into the widely used Design Manual for Roads and Bridges in May 2020 (Highways England 2020). There are still no legally binding national standards local authorities meaning that many cycleways do not meet guidance such as a 1.5 m minimum cycleway width.

An issue with the policy and research landscapes is that available evidence on road safety interventions is not easily actionable. An aim of this project is to make available evidence more actionable, while simultaneously generating more evidence of the effectiveness of different interventions.

4 TYPES OF ROAD SAFETY INTERVENTIONS FOR WALKING AND CYCLING

A wide range of interventions can be undertaken to support road safety objectives. Interventions that have been mentioned in the research and policy contexts above are outlined below, with reference to data availability.

- Speed limit reductions include ‘20 mph limits’ (implemented only via signalling) and ‘20 mph zones’ (which can include optional measures including speed cameras) (Maher 2018; ROSPA 2019)

- Data on the prevalence of 20 mph zones can be obtained from OpenStreetMap, although it is not always clear when interventions took place.
- The Ordnance Survey has data on legal speed limits and real world traffic speeds and we are in conversation with them to obtain these datasets for use in our work.
- A related intervention is the installation of speed cameras.
 - We are not aware of any national dataset on speed cameras that could be used for this study.
- Traffic Regulation Orders reporting interventions such as one-way cycleway and other changes
 - Data on TROs should be available open access from <https://www.thegazette.co.uk>
- The location and nature of physical infrastructure, including ‘filtered permeability’ interventions including and rising and fixed bollards, and a range of speed humps, plus a range of additional traffic calming measures (Department for Transport 2007). These can be obtained from multiple sources, including:
 - Traffic calming infrastructure in OSM
 - The Cycling Infrastructure Database in London
 - Ordnance Survey Topo layer

Todo: any more?

The context is shown in graphs showing historic walking and cycling rates and casualty numbers visualised in the initial bid document which can now be seen at github.com/saferactive/, where we will host open data and code developed for the project.

5 TIMELINES

The project runs from April 2020 until the end of June 2021. Milestones are shown in the table below.

Month	Date	Deliverable
3	2020-07-24	Report 1: on input data and methodology (delayed)
6	2020-09-25	Report 2: scenarios, workshop 1 and prototype web application to test
9	2020-12-04	Report 3: results and publication of open risk map data
12	2020-03-05	Final project report and end-of-project workshop
15	2020-06-11	Refined project web app pending feedback from workshop and stakeholders

6 PROGRESS

During the first three months of the project we have focussed on data collection, development of methods and descriptive data analysis/visualisation.

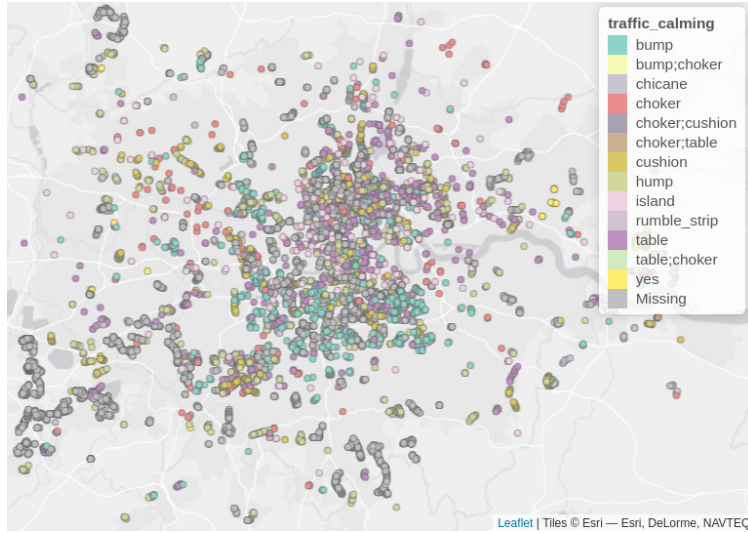


FIGURE 6.1 Map of traffic calming interventions in London from OSM.

6.1 Obtaining intervention data

Data on traffic interventions were obtained from OSM, as shown in Figure @ref(fig:tcmap).

TABLE 6.1 Summary of traffic calming interventions by type and Borough in which most are found.

intervention	n	borough_with_most
bump	1020	Hammersmith and Fulham
chicane	59	NA
choker	217	Islington
cushion	989	Islington
hump	1201	Islington
island	241	Ealing
other	56	Richmond upon Thames
table	1362	Camden
NA	7209	Westminster

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