

Appendix G

Propensity to Cycle Tool

Introduction

The Propensity to Cycle Tool (PCT) is a strategic planning tool released under the AGP Licence <http://pct.bike/south-yorkshire/licence.html> and it is free to use. The work was initially funded by the Department for Transport (DfT) to create the National Propensity to Cycle Tool for England (PCT-England) and supported by EPSRC and ESRC for Impact Acceleration funding.

The PCT was designed to assist transport planners and policy makers to prioritise investments and interventions to promote cycling. PCT gives information about the levels of cycling to work (commuter trips) based on Census 2011 data at a Middle Layer Super Output Area (MSOA) zoning system. It also provides the government target for cycling for the same zones based on DfT's Cycling Delivery Planⁱ. It provides an estimation of the cycling potential in an area based on desire line, route network levels and hilliness.

The following analysis has been carried out making best use of available data to understand the potential for growth in commuting cycle trips. The main aim of this analysis is to understand the mode share for short trips, gap analysis, and potential areas for promoting cycling and places that offer the opportunity for growth. This analysis does not present a complete picture of all aspects of potential and benefits since this is based on commuting trips only and there is more potential for growth in terms of education, leisure, shopping trips, cycling as part of a longer trip, etc.

Gap Analysis – By Mode Share

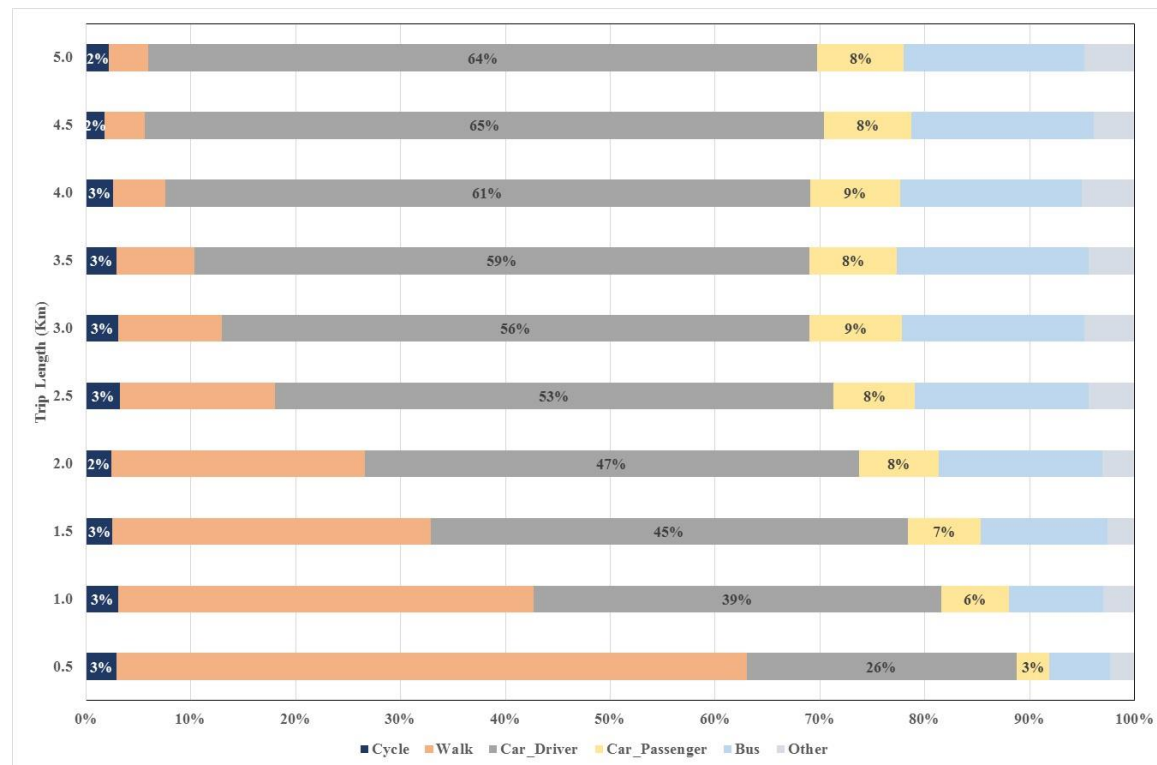
The potential for growth in cycling trips is identified by understanding the mode share of current travel for trip length below 5 km, which is the average trip length of cycle trips in England in 2015ⁱⁱ. This analysis is based on home based work trips from census 2011 data. This data has been extracted for South Yorkshire from PCT.

The present travel pattern and mode choice for trip length less than 5km across South Yorkshire is illustrated in Figure 1 .

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Figure 1 Mode Share – Census 2011



It can be seen from Figure 1 that about 60% of trips are made by car and 15% by bus and only 3% of journeys are made by cycle. This shows that a significant portion of the short trips are currently made by mechanised modes which results in congestion and associated environmental impacts. Whilst it is not possible for all these trips to be made by cycle for various factors including but not limited to traveller age, disability, availability of safe cycling route, time of travel, etc, this analysis shows that there is still unmet potential for growth in cycling in the region.

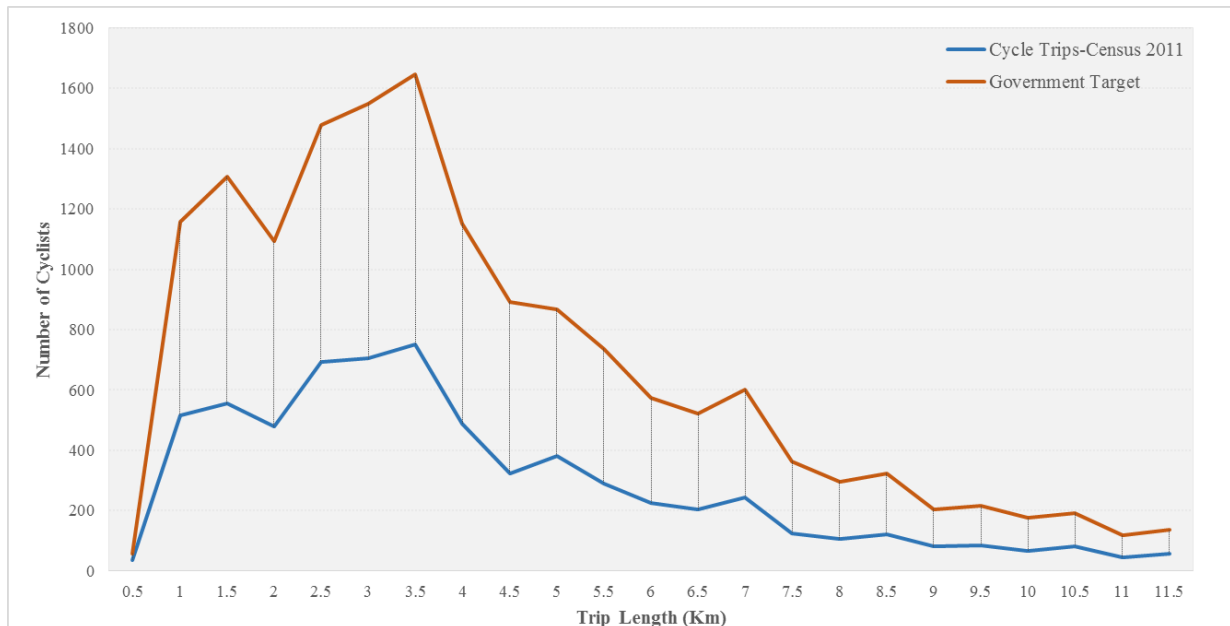
Gap Analysis – By Trip Length

Figure 2 presents the commuter cycling levels from 2011 census and the government targets to be achieved by 2025 across South Yorkshire by trip length. It can be seen that there is significant gap in commuting cycling levels to meet the government targets. This demonstrates that interventions are necessary for encouraging commuter cycling and thereby achieving the targets and the secondary benefits associated with it.

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Figure 2 Current Cycling vs Government Target – by Trip Length



Gap Analysis – By Region

In order to better understand the potential by region and the gaps to achieve government targets for cycling, each four region in South Yorkshire has been analysed separately. The results are shown in **Figure 3** in terms of number of cycling trips and the % difference between 2011 census commuter trips and government targets. It can be seen from **Figure 4** that a high density of these cycling trips are made within city and town centres with pockets of cycling activity elsewhere.

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Figure 3 Current Cycling vs Government Target – by Authority

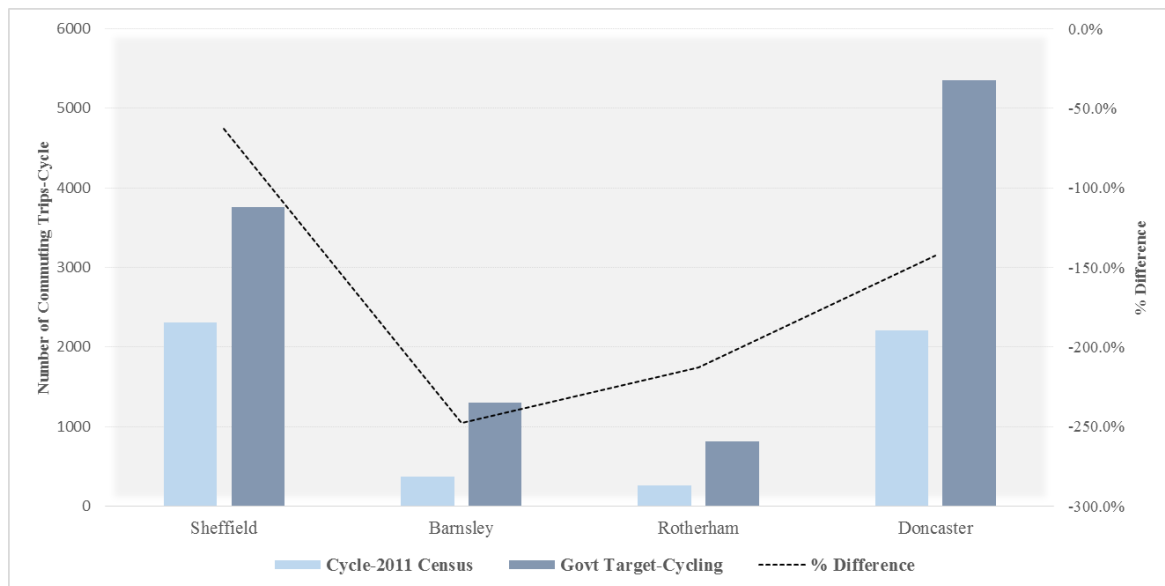


Figure 3 presents the current cycling level in city and town centres within the South Yorkshire region (Sheffield, Barnsley, Doncaster and Rotherham) and the government target for 2025. It is evident that the cycling levels are significantly lower than the government target and policies are vital to help promote cycling and meet the government target. The percentage difference between actual and expected cycling levels are over 100% for Barnsley, Rotherham and Doncaster.

Cycling – by Region

Figure 4 shows the desire lines of cycling commuter trips from PCT at the MSOA zonal level. The origin and destination are represented as population centroids of each MSOA zone.

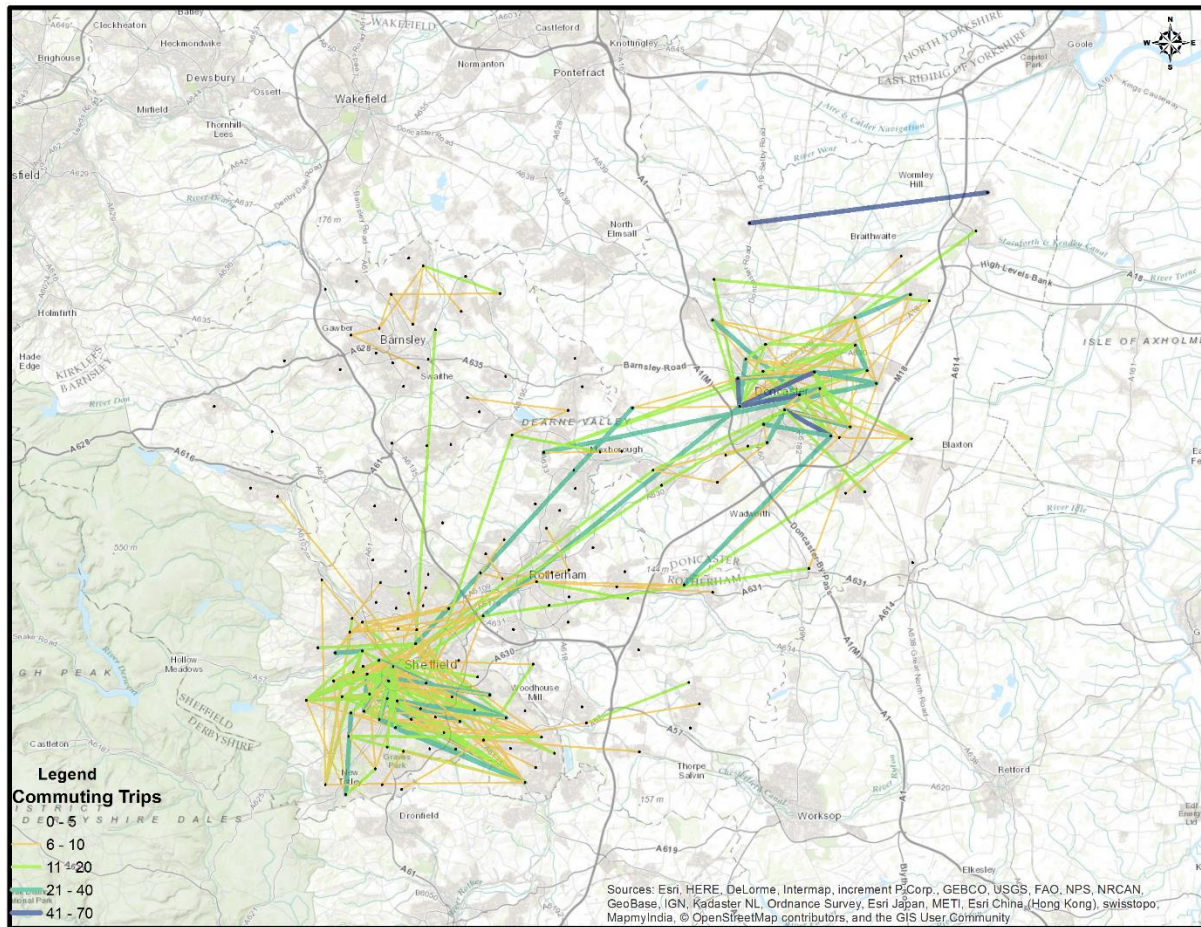
A high density of the existing cycle trips are made within the city and town centres and this constitute 56 % compared to the cycling across South Yorkshire. For the purpose of this analysis, city and town centres are identified as all zones within a radius of 5km from the centroid of the region.

Analysis by region has shown that the 40 to 60% of cycling in each region is in the city or town centre. This shows that there remains significant potential for promoting cycling amongst this community. Beyond the centres, cycling remains concentrated in pockets. Further analysis is needed to establish the barriers of cycling and potential for increase in cycling in these areas.

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Figure 4 Cycling Commuter Trips – Desire Line



Conclusion

From Census 2011, commuting cycling levels across South Yorkshire is 1.7% and there is significant gap to achieve the mode share set by DfT's Cycling Delivery Plan. This analysis shows that policies and measures are needed to achieve the Government targets and promote sustainable transportation which will lead to less congested cities, less pollution, healthier people and the associated wider benefits.

ⁱ Cycling Delivery Plan is a ten year plan for England with a vision to double cycling and walking up until 2025. (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/364791/141015_Cycling_Delivery_Plan.pdf)
ⁱⁱ Table NTS0306, Average trip length by main mode: England, 1995/97 to 2015, DfT.