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## **Active school travel and deprivation in Scotland: An investigation into school travel patterns, and the role of active travel to school in reducing health inequalities in Scotland**

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### **1 Introduction**

Health inequality is an important part of the political agenda in Scotland and there is a strong interest in the role that active travel can play in tackling the link between social deprivation and poorer health. This analysis focusses specifically on the role of active travel to school in tackling health inequalities amongst children and young people, investigating current levels of active travel and the rate and direction of change within communities across the deprivation spectrum.

### **2 Findings**

#### **2.1 Introducing the analysis**

Data from the Hands Up Scotland school travel survey (Sustrans, 2016) has been plotted against the Scottish Index of Multiple Deprivation (SIMD) to investigate the relationship between school travel patterns and level of deprivation.

Using population numbers (from the Small Area Population Estimates 2010, National Record of Scotland) and SIMD scores an overall weighted SIMD score has been calculated for each Local Authority. These are shown in each chart below in descending order of deprivation (ie Glasgow City having the highest average levels of deprivation, Edinburgh City the least).

#### **2.2 Travel to school**

Figure 1 shows the percentage of school travel undertaken by each active mode in 2015. The line of best fit shows that there is no relationship between level of deprivation and the proportion of children travelling actively overall, but there is evidence that island travel is different. Children on the Orkney and Shetland Isles and Eilean Siar are much less likely to travel actively to school than those on the Scottish mainland.

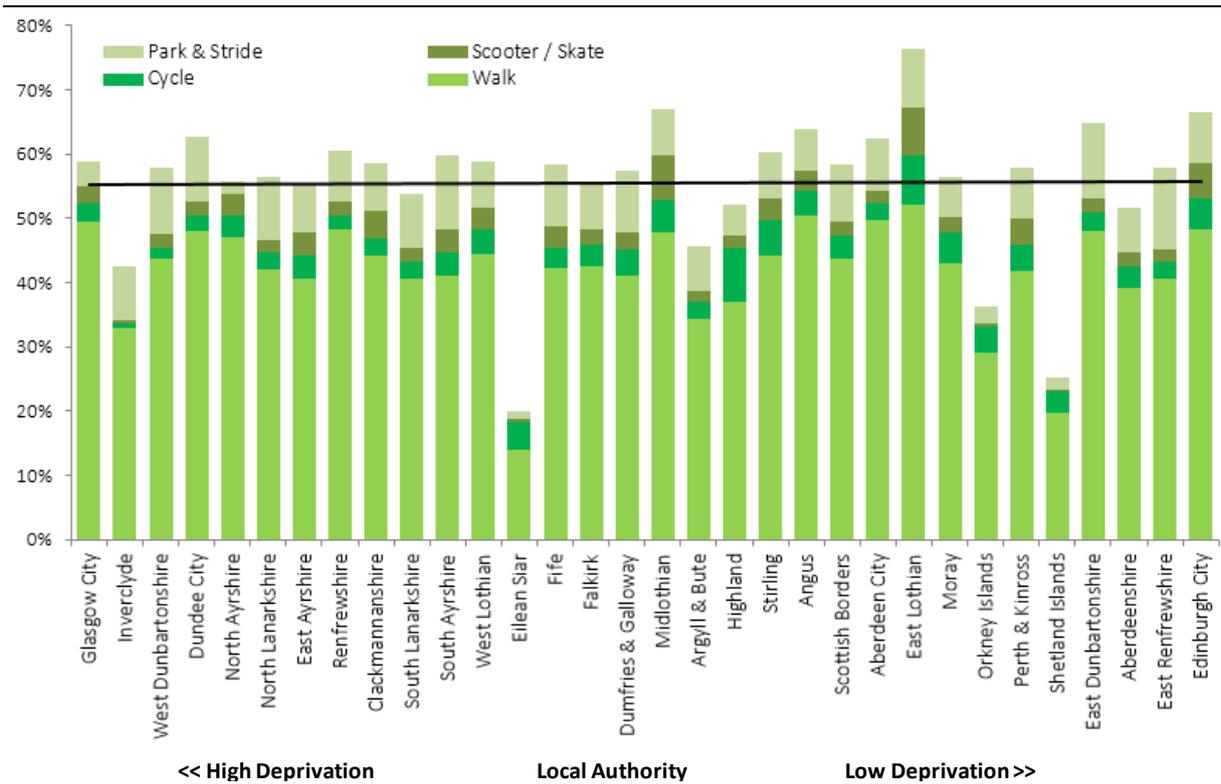


Figure 1: Percentage of travel to school by each active travel mode, 2015

### 2.3 Changes in overall active travel to school

Figure 2 below shows the change in total active travel since 2008. Using Glasgow City for example, we see a 2.6% point reduction in active travel from 62% in 2008 to 59% in 2015. This chart demonstrates that the 6 most deprived Local Authority areas all had a reduction in total active travel between 2008 and 2015 and that, apart from Shetland, the 6 areas with lowest deprivation all showed increases in active travel.

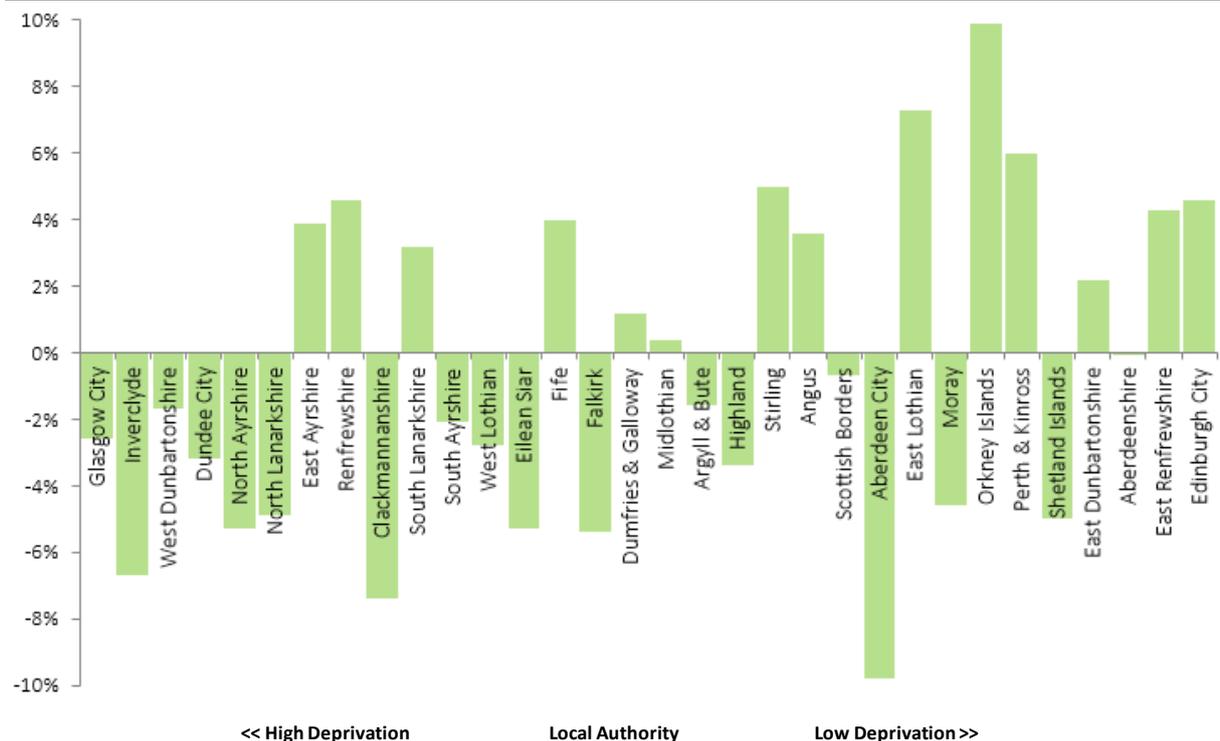


Figure 2: Percentage point change in active travel to school from 2008 to 2015

## 2.4 The changing modes of active travel to school

While there appears to be some relationship between levels of decline in active travel and deprivation, there is also a changing landscape of active travel for all areas. Figure 3 shows that there is an almost universal decline in walking for all Local Authorities and an increase in all other active modes, especially scooting and park & stride. For example, although Glasgow active travel has declined overall, this is driven by a 6.2% point reduction in walking to school, while cycling (+1.5% points) and scooting (+2.2% points) both increased since 2008.

Decreases in walking appear to be more heavily concentrated towards the higher deprivation end of the local authority list.

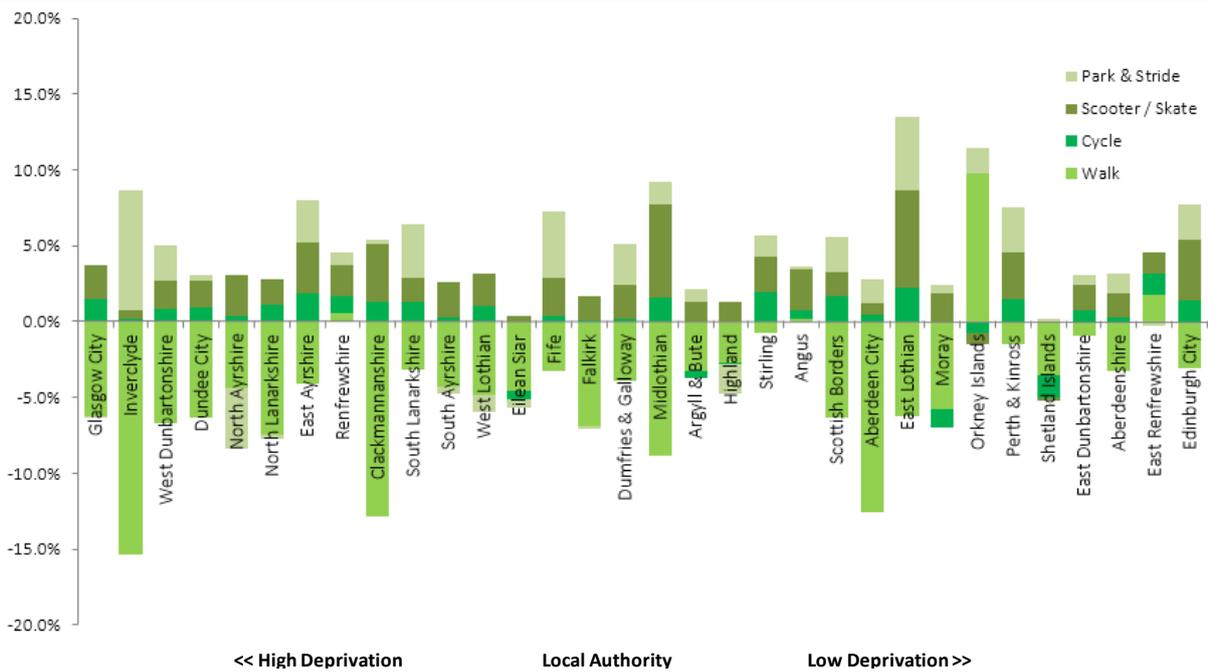


Figure 3: Percentage point change in active travel to school from 2008 to 2015 by mode

### 2.5 The changing pattern of cycling to school

We have seen that while overall the proportion of children using active travel to get to school seems not to be related to deprivation, there is evidence of a decline in active travel amongst the most deprived children. However, the picture for cycling is somewhat different. Figure 4 below shows the proportion of children cycling to school in 2015 by local authority. The chart shows that higher levels of cycling school tend to be observed in less deprived areas, although it is not clear cut.

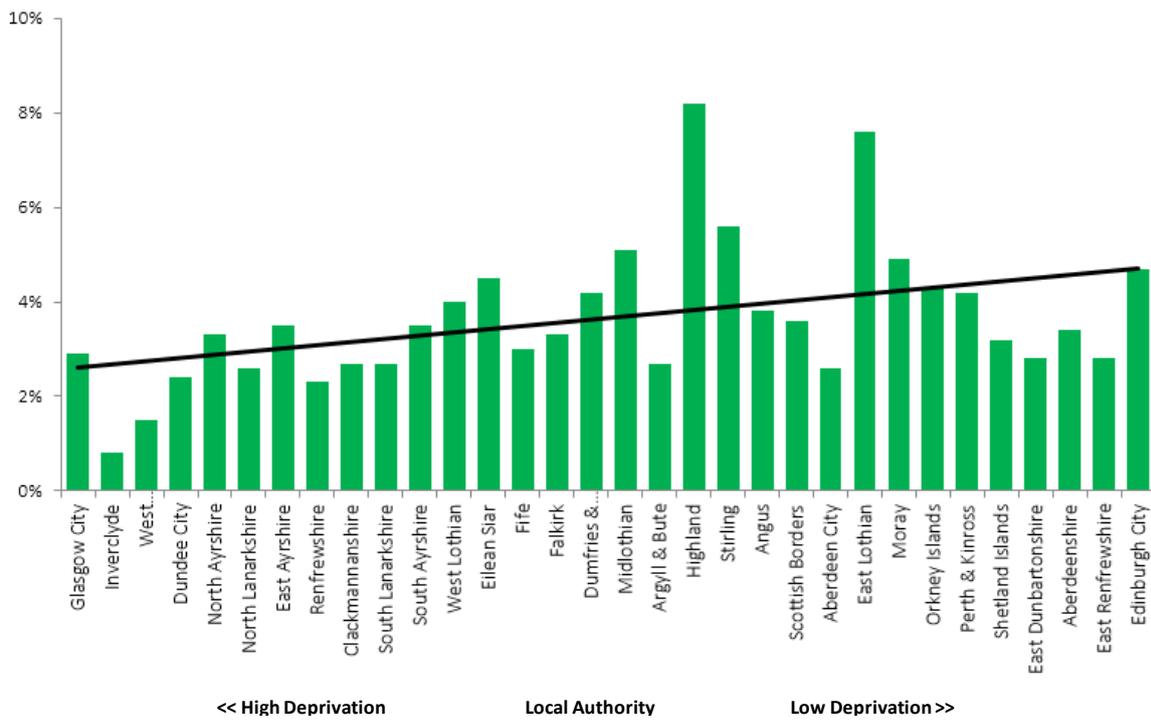


Figure 4: Percentage of children cycling to school, 2015

Although more children appear to travel to school by bike in areas of lower deprivation, the chart below (Figure 5) shows that generally growth in cycling since 2008 is greatest in areas of high deprivation. In this chart growth is shown as a percentage relative to the number of children cycling in 2008. For example, in Glasgow City whilst only 2.9% of children cycled to school in 2015, this is more than double (107% growth) the number that did so in 2008.

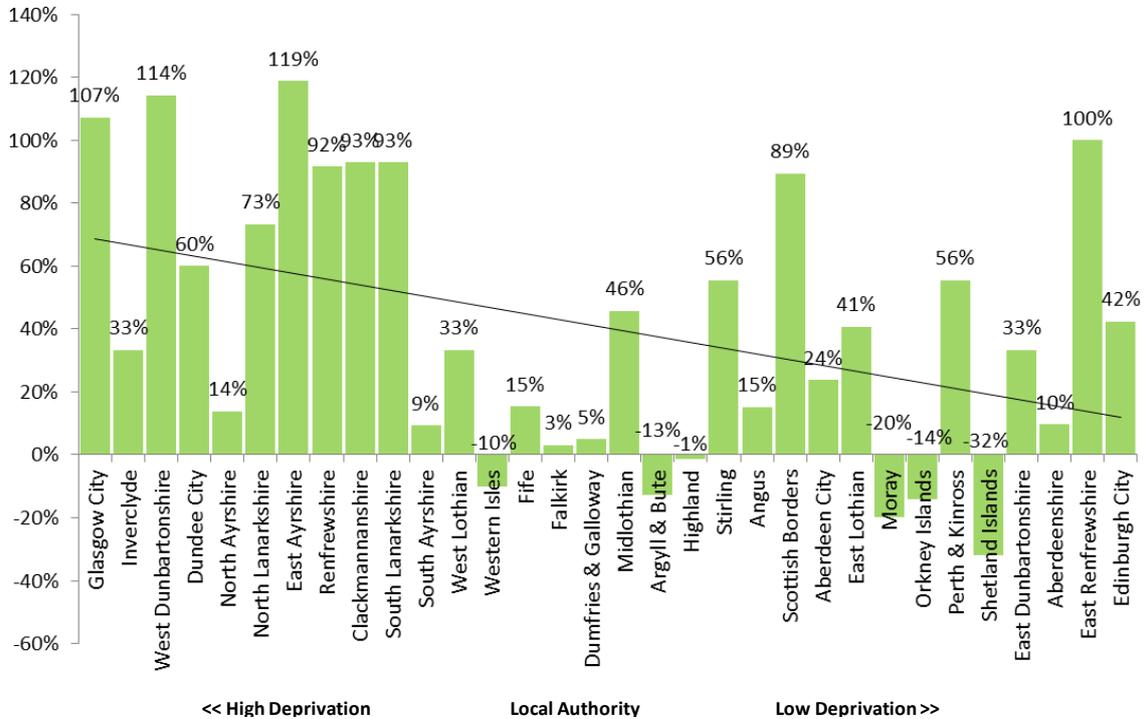


Figure 5: Growth in cycling mode from 2008 to 2015, and trend line

When viewed together these charts show that whilst cycling is still more common amongst areas of least deprivation, the growth in cycling in deprived areas means the gap in cycling to school between Scotland's most and least deprived children seems to be reducing.

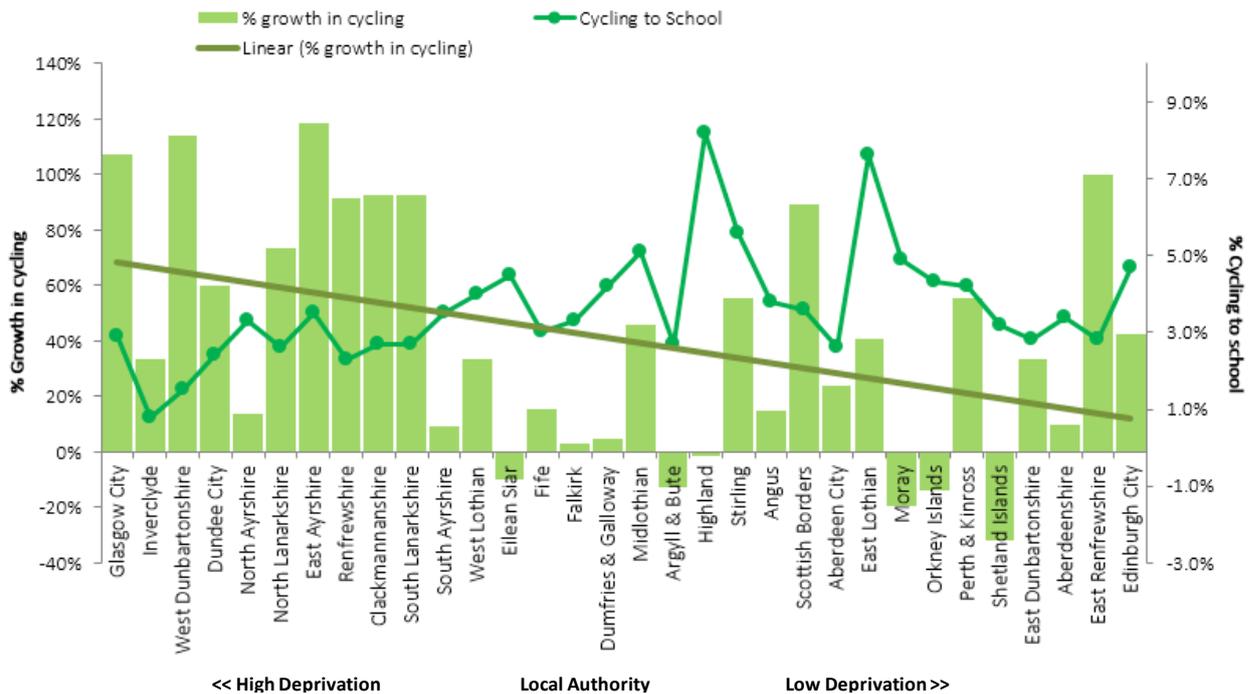


Figure 6: Cycle use and change in cycle use by area

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### 3 Discussion

This review of active travel to school in local authority areas by relative levels of deprivation has shown that whilst there is no relationship currently between overall active travel and deprivation levels, the picture is changing and those in the most deprived areas have seen active travel decline since 2008.

We must immediately caveat the analysis by saying that the exercise compares only two points in time, and we know that the change year-on-year is not linear. Nevertheless, the sample sizes are large, and some important observations emerge from the work.

Walking to school is in decline across almost all local authority areas in Scotland regardless of levels of deprivation. However, this is in part being offset by a rise in cycling, scooting and park & stride to school. While cycling to school seems to be more prevalent in areas of low deprivation, there is an upward trend in cycling for almost all local authorities (apart from the Scottish islands) and this growth is generally greatest in areas of high deprivation such as Glasgow (107%), West Dunbartonshire (114%) and East Ayrshire (119%). In these areas cycling has more than doubled since 2008 levels. This trend in cycling growth indicates that cycling could be a tool that helps to reduce health inequalities for children in these areas.

### 4 Conclusion

The greater degrees of decrease in overall levels of active travel to school in more deprived areas is a major concern. In respect of health inequalities, this points to a clear widening of the gap between affluent areas and deprived areas in terms of the extent of participation in active travel to school, and maybe in overall physical activity of children.

In addition, the widespread trend of a decrease in walking to school is problematic. This runs contrary to observations on participation in walking among the wider population.

The decrease in both walking to school and in active travel to school overall needs to be addressed as a matter of some urgency. We can postulate that patterns set in childhood are amplified in adulthood, so the differentials between rates of participation in active travel to school that appear to be determined in part by relative deprivation may have an unwanted dividend with respect to health inequalities in years to come.

However, the finding about the greater rate of uptake of cycling to school in more deprived communities does show promise. At one level, this may reflect a simple 'restoration of balance' in levels of school travel by bicycle among the local authorities with different levels of deprivation. On the other hand, this finding may represent increasing demand among more deprived communities for the means to more easily participate in cycling.

There are plenty of examples where schools that Sustrans and other organisations have supported have increased rates of active travel to school. These examples demonstrate the potential for positively impacting on physical activity levels. There is also a strong possibility that without these interventions, the rate of decrease in active travel to school could be much more dramatic. Without the investment to date, levels of physical activity through active travel to school could be lower, and health inequalities could be more pronounced.

An appropriate palette of interventions that builds on and scales up earlier work to increase levels of active travel to school can help to address health inequalities.

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## 5 References

National Record of Scotland (2016) *Mid-2010 Small Area Population Estimates*

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