



# Evaluation Report

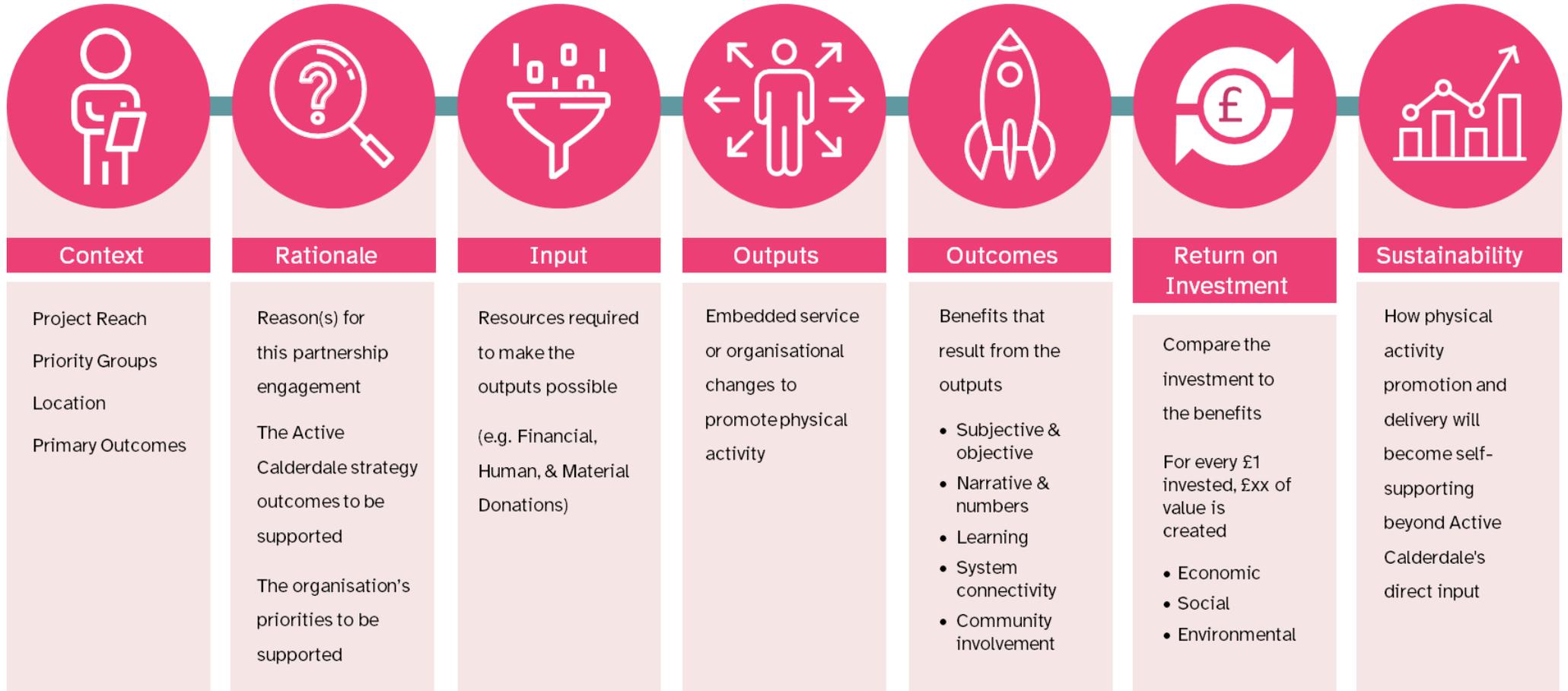
## School Streets



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# Evaluation Framework





## Context

School Streets (SS) projects introduce temporary restrictions for motorised traffic to roads outside of schools during drop-off and pick-up times.

Most schemes involve installing permanent road signage displaying restriction information, alongside additional parking restrictions via double yellow lines. Some have also included installing permanent concrete blocks at street level to disrupt traffic flow.

Currently, twelve schools in Calderdale are successfully running a SS project, involving around 3,231 pupils and 1,367 adults.



## Rationale

SS projects were intended to support pupils returning to school safely post Covid-19 by following social distancing measures.

The logic being tested included whether actively traveling to school becomes a more attractive and likely prospect when the school streets have less traffic, are safer, and air quality is improved. This approach is being trialled in a growing number of towns and cities across the UK.



## Input

Implementing SS projects involved **collaborative** input from Active Calderdale, Public Highways, Transportation, Traffic Engineering, Parking Services, The Police, Strategic Infrastructure, Local Community, Council Communications, Council Legal, and Public Health.

The **Influencer Matrix** was used to reveal motivational factors amongst teaching staff, parents, pupils, and the wider community.

Implementing a SS encompassed **three main phases**, with associated investments of labour and spending shown below.



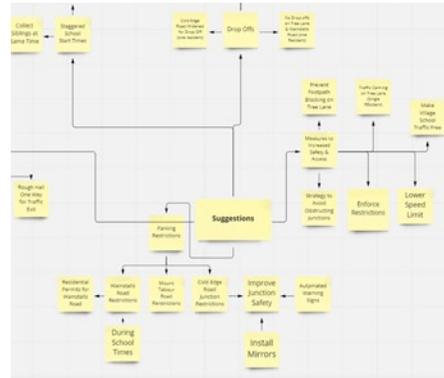
Average Project → Took 103 hours of labour  
Cost **£8,526.10** (inc. 10% contingency)  
Ranged from £5-15k

Implementing 12 x SS Projects → Cost **£102,313.20**  
(not inc. physical infrastructure spending)

# Implementation Process



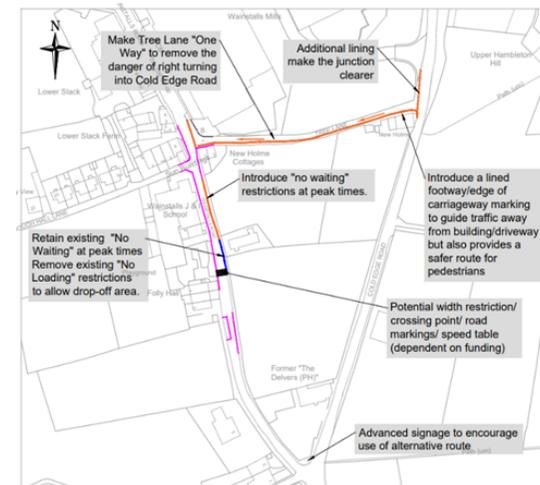
SS was considered in response to concerns regarding school return post-Covid. Calderdale Schools (n=108) were assessed on their potential for implementing a SS by considering (1) walking and cycling routes, (2) bus routes, (3) volume and speed of traffic, (4) business disruption, (5) traffic displacement, (6) pupil travel patterns, and (7) catchment data. This process illuminated 50 possible project sites, 34 requiring further evaluation, and 24 that were unfeasible. The hasty implementation timeframe imposed by school return made a thorough consultation with residents/businesses challenging across the first phase of SS.



The subsequent phase (Sept 2022 onwards) afforded additional time to develop a new approach. This progressed from sending schools/residents a letter about proposed schemes to implementing surveys to explore (1) levels of support, (2) potential effect on social distancing, (3) impact on the local area, and (4) potential to increase physical activity. Proposal details were displayed on the Calderdale Transportation website, with public comments and suggested changes allowed for up to 12 weeks. Parents/residents largely supported the intended SS projects.



This phase involved finalising drawings, completing traffic orders, notifying effected residents, issuing parking permits, installing signage, training school staff, and designing promotional material.



## Implementation Process



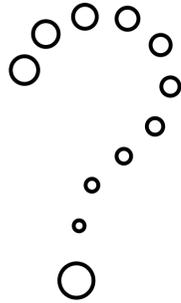
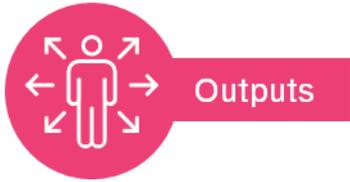
Using various channels to promote the project and managing emergent enquires and complaints.



Monitoring the scheme to ensure compliance with proposals and conducting a school survey 3-months post implementation. This explored satisfaction with the current scheme, desires for future changes, and commuting behaviours. An Experimental Traffic Regulation Order (ETRO) enabled the Council to promptly modify aspects of the scheme during the first six-months in response to local resident and business feedback and/or objection. After eighteen-months, decisions were made about making SS projects permanent.



- Projects informed by **community insight** from residents/business
- Insight about effectively implementing SS projects conveyed to schools via online session (n=1) and **physical booklet** (n=11)
- Physical street changes generated new **working practices** for those school staff involved
- Schools provided with SS **equipment** including barriers, mobile signage, cones, and sandbags (from Transport Department)
- Installed bike/scooter **storage facilities** across 60 schools with over 650 additional storage places (using WYCA funding £250k)
- Encouraged school engagement with a complimentary project Living Streets to access **incentives** for active travel
- To encourage partial active travel, **'park and stride'** zones are being developed by Living Streets with safe connecting routes to schools, and walking maps to illustrate these. This phase is currently being tested (Oct 2022-)
- Physical activity promotion** occurs for 6.25hrs per school, per week, or 75 hrs per week across all twelve schools



## Learning

### Project Framing

The terminology and narrative associated with SS projects was important. Enhanced road safety was welcomed by schools/parents, and Active Calderdale illuminated health/wellbeing benefits of active travel.

### Stakeholder Communication

Communication about the scheme with residents, school staff, and local organisations was vital. This allowed top-down updates and bottom-up perspective sharing. In response to community opposition, one Headteacher encouraged residents to phone and discuss areas of tension, with no uptake.

### Advocacy Agents

Encouraging influential (local Councillors) and relatable (Headteachers) people to become ambassadors for SS projects proved effective for interacting with communities, mitigating concerns, and stimulating school engagement. This ongoing promotion results in schools approaching Active Calderdale to become a SS project.

## Community Support

Despite initial community opposition, resident/parent support increased after experiencing the SS scheme, resulting in decisions to maintain these changes.

### Collaboration

Involving various stakeholders (pupils/parents/residents/school staff/governors) in SS schemes can enhance community support, agency, staffing, problem solving, advocacy, and active travel.

### Family Capability

Some parents mentioned not knowing the area around schools well enough to walk with their children. This may illuminate differences between local walking and driving networks.

### School Capability

Involving school staff could prove challenging, particularly in relation to staff capacity, remuneration uncertainty, and elevated sickness/workload around the Covid-19 period. Engagement was more likely amongst schools with an existing presence at street level to influence road safety and manage pupil crossing points. In some instances, this overcame Head Teacher hesitancy and/or resistance.

### Holistic Interventions

SS projects are likely to be more effective when changes to physical infrastructure are supplemented with other behaviour change strategies.

### Environmental Friction

Implementing SS projects illuminated structural/environmental friction in the form of (1) difficulties accessing pupil bus passes, particularly amongst non-English speakers, and (2) and limitations of existing bus routes for some communities.



Pre/post survey data revealed community perceptions about the SS scheme and changes to active travel behaviour. Respondents included parents/guardians (n=438), residents living on the street (n=42), local residents from other streets (n=7), school staff (n=38), pupils (n=4), and ‘other’ respondents (n=4).

### Behaviour Change



4% more children walked, cycled, scooted, or skated to school



3% more children used ‘park and stride’ to get to school

\* data collected during summer months



All first-phase SS projects (n=10) made permanent

This has been a brilliant idea, being able to get your children to and from school SAFELY is amazing without the worries of dodging cars (Parent)

The road closure is absolutely wonderful, and for the first time ever, I feel like the children are safe coming to school (Head Teacher)

### Broader Impact



Was a safer place 65%



Was a more enjoyable space 55%



Had cleaner air 37%



Should be made permanent 71%



Changed their mode of transport to/from school 17%



Made them more active 20%



Return on Investment

Behaviour change data from twelve SS projects has been used to forecast the impact on several environmental and economic factors, at a regional and national level. These estimates are likely if changes revealed in cross-sectional data collection endure.

Total Return	+	Total Input
£154,957.42		£102,313.20
(fuel reduction + labour gains from 12 x SS Projects)		
<b>Ratio of £1 : £1.51</b>		
<b>+ CO2 reduction of 22.36 tonnes</b>		

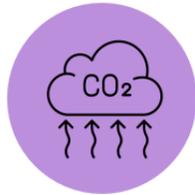


Fuel Reduction

£15,004.08

\*per family  
£127.92

£18.14 million



CO2 Reduction

22.36 Tonnes

38,699.16 Tonnes



Double Decker Buses

1.86

3,225



Regained Time

£139,953.34

£242.65 million

\* All figures per annum | Fuel figures correct at time of calculation | CO2 reductions likely to generate significant long term health savings



I now allow my child to walk to school by themselves rather than me needing to walk with them (Parent)

Despite community concerns about **traffic displacement** from SS projects, national evidence has shown this does not cause significant road safety issues that cannot be mitigated <sup>1</sup>.

Nonetheless, traffic movement and displacement are being monitored by **Vivacity cameras** and speed tubes.

Since implementation, some schools have struggled to reliably staff SS projects due to **organisational capacity** pressures.

Consequently, plans are being developed to install permanent **camera enforcement zones** around SS projects. These have proved effective across similar active travel schemes in London.

Future plans also include:

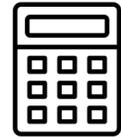
- (1) Identifying new sites for installing school **cycle/scooter storage**
- (2) Considering additional active travel **training** for engaged schools
- (3) Streamlining pupil engagement with **school buses**
- (4) Identifying new **bus routes**
- (5) Using secured funding to implement additional SS projects
- (6) Developing active travel plans for **non-SS projects**



<sup>1</sup> Davis, A. (2020) *School Street Closures and Traffic Displacement: A Literature Review and semi-structured interviews*. Transport Research Institute, Edinburgh Napier.



## Fuel Reduction



4% of pupils (across 12 schools) now **actively travel** (presumably full journey) n=**129**

Average commute distance 1.6 miles (DfT, 2014)

59% people use diesel cars (n=70) (DfT)

average 51.1mpg, average fuel cost 172.41 p/litre = 0.25p per journey, per car

36% use petrol cars (n=46) (DfT)

average 43.6mpg, average fuel cost 161.73p/litre = 0.27p per journey, per car

Average Total = £0.26p per journey, per car

x 390 trips per year = £101.40 saving per car/family, per year

- (10%) since some cars may not drive if good weather

- (10%) as some families may take two pupils per car

Realistic Figure = £81.12 saved per car/family per year

Fuel saved across 12 schools (n=129) = £10,464.48

Per school, per year = £872.04 saved in family fuel

Nationally (n=20,806 primary schools) (Statistica)

3% of pupils (across 12 schools) now **park + stride** (presume half journey reduction) n=97

Average commute distance = 0.8 miles

Average vehicle 47.4mpg, average fuel cost 167.07p/litre = 0.15p per car, per journey

x 390 trips per year = £58.50 saving per car/family, per year

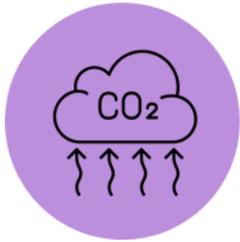
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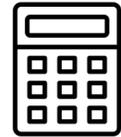
Realistic Figure = £46.80 saved per car/family per year

Fuel saved across 12 schools (n=97) = £4,539.60 per year

**TOTAL = £15,004.08** saved per year in **fuel reduction costs** across whole project



## CO2 Reduction



4% of pupils (across 12 schools) now **actively travel** (full CO2 reduction) n=129

Average commute = 1.6 miles = 398.848g per journey, per car (average)

x 129 pupils = 51,451.39 CO2 / 51.45kg (saved per day, across 12 schools)

- 10% as (some cars may contain two pupils) = 46.31 kg CO2 (saved per day, across 12 schools)

x 390 trips per year (inc both journeys per day) = 18,057 kg CO2 reduction per year, across 12 schools

- (10%) since some cars may not drive if good weather = **16,251.30kg CO2 per year**, across 12 schools

3% of pupils (across 12 schools) now **park + walk** (half CO2 reduction) n=97

Average commute = 0.8 miles = 199.424g per journey, per car

x 97 pupils = 19,344.128g / 19.34kg CO2 (per day, across 12 schools)

- 10% as (some cars may contain two pupils) = 17.41 kg CO2 (per day, across 12 schools)

x 390 trips per year = 6,789.79 kg CO2 reduction per year (across 12 schools)

- (10%) since some cars may not drive if good weather = **6,110.81 kg CO2 per year** (across 12 schools)

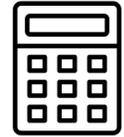
TOTAL = 22,362 kg CO2 Reduction (per year, across 12 schools, from AC project)

**22.36 Tons** CO2 Reduction (per year) across 12 primary schools = 1.86 Tons per school

Nationally (n=20,806 primary schools) = 38,699.16 Tonnes of CO2 reduction per year



## Regained Time



3,231 pupils effected by the SS projects (across 12 schools)  
 4% of families now don't have to drive because of active travel (n=129)  
 3% of families have a shorter drive through park & stride (n=97)

All journeys involve an adult = 390 trips per family/year  
 Mostly working aged women that accompany children (DfT, 2014)  
 Average salary FTE for females in Calderdale = £26.6k year / £500 wk / £100 day / £13.33 hr (Plumplot)  
 Average labour cost per hr = £13.33

Average school commute 1.6 miles  
 Average full school journey in time = 13 mins per trip (DfT, 2014)  
 = 26 mins per day / 130 mins per week / 5,070mins or 84.5hrs per family, per year travelling in the car (39 wks)  
 Commuting time across all 12 schools = 10,900.50 hrs

Average half school journey in time 6.5 mins per trip (DfT, 2014)  
 = 13 mins per day / 65 mins per week / 2,535 mins or 42.25 hrs per family, per year travelling in the car (39 wks)

Commuting time across all 12 schools = 4,098.25 hrs

**Total Commuting Time** (full journey + park & stride) = 126.75 hrs per family, per academic year  
 = 14,998.75 hrs across 12 schools  
 = £199,933.34 of **wasted labour (12 schools)** due to chaperoning school children each day  
 -10% as some pupils share lifts  
 -10% for weather fluctuations  
 -10% for inflexible work commitments  
 Realistic Figure = £139,953.34 (12 x schools)  
 = £11,662.78 per school  
**Nationally** (n= 20,806 primary schools)  
 = £242,655,762.54