Transport

Eco Schools objectives

The Eco Schools objectives in this area are to:

- encourage and enable children and parents to walk, cycle and use public transport
- set up a working group (with the school, parents, local council, community representatives, the police and transport groups) to run a School Travel or Safer Routes to Schools project
- write and implement a School Travel Plan
- implement an effective road safety awareness programme for pupils
- raise awareness about the impact of transport on the environment and people's health
- provide adequate support and information about travelling to school for pupils and staff who wish to walk, cycle or use public transport

Learning outcomes

Through work on transport, pupils should be enabled to:

- assess the impact of traffic on the local environment and the quality of people's lives
- make proposals to improve the local environment and take part in local community initiatives to implement the proposals
- use, interpret and draw maps, defining and using keys
- collect, interpret and present information, using ICT, where appropriate
- communicate to a variety of audiences using suitable language
- work cooperatively with others.

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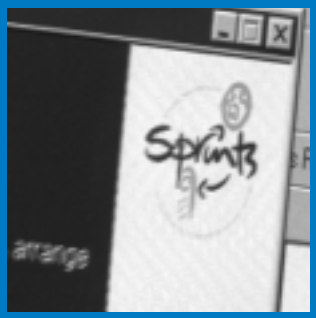
Transport pictures

1. Sprints recycling
2. Monitoring progress
3. Exhaust fumes pollute the air
4. School playground
5. The school run causes traffic congestion
6. Taking exercise
7. School transport
8. It's better to walk or to cycle!
9. Portobello High School's cycle way
10. Biking to school is good for you!
11. Traffic
12. Loading the van at Dunino Primary School
13. Discussing green transport
14. Parking problems outside a school
15. Bin men hard at work




Approximately 20% of children are driven to school in Scotland.

On average, one in seven children suffers from asthma. In inner city areas, this rises to one in three.

The morning school run is estimated to account for 20% of rush hour traffic just before 9am each school day.

Cycling or walking briskly for half an hour a day can halve the risk of heart disease.

In slow-moving traffic, pollution levels inside a car are two to three times more than those experienced by pedestrians.

Children are 50 times more likely to be killed in a car accident than to be abducted.

The big picture

As we travel more often and our journeys become longer, transport has become an increasingly dominant part of our lives. People travel by a range of means – walking, cycling, car, train, bus, motorbike and aeroplane are just a few examples. The way people travel is changing significantly, with many more car journeys and less walking and cycling per year. This is due to fear of traffic and 'stranger danger' combined with the overall increase in general car use and ownership. This is also true of travel to school, with more and more children being taken to school by car.

This trend brings many problems with it:

- poorer health and fitness due to lack of exercise
- increased pollution causing increased levels of respiratory problems and global warming
- increased congestion around schools
- poorer road safety
- increased car dependency
- more accidents in some areas.

However, there are other good alternatives to using car travel. Evidence shows that the least safe way of travelling is by car.

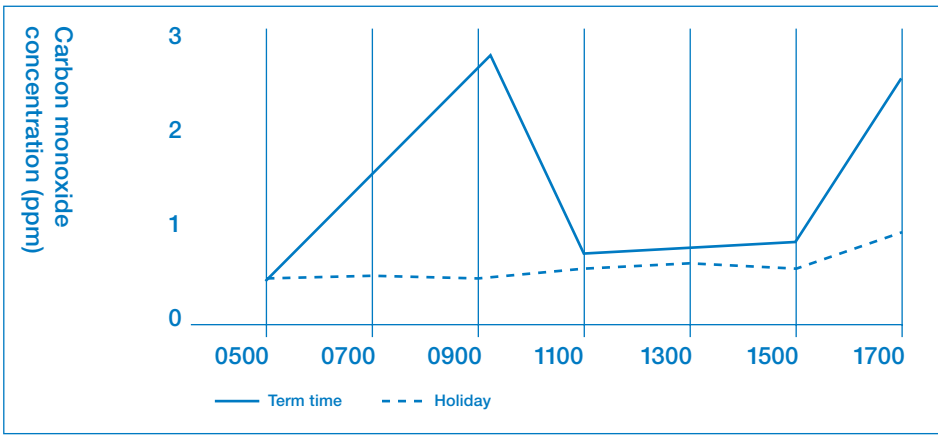
What it means for schools

Young children today have far less freedom than their parents had at the same age. Fear of traffic and 'stranger danger', combined with the overall increase in general car use and ownership, are leading to an increasing number of parents taking their children to and from school in the car. This has a number of consequences in terms of pupil health and well-being.

Air pollution

Whether you look at the local situation, and the levels of pollution around your school, or look at the international situation, with more and more reports of extreme weather patterns, the evidence of increasing levels of pollution is clear.

Burning petrol in car engines produces many chemicals that are harmful to health. Exhaust fumes contain carbon monoxide, oxides of nitrogen, volatile organic compounds (VOCs – unburnt hydrocarbons) and particulates, all of which are harmful to health when released into the atmosphere.



The catalytic converter, which can destroy many polluting chemicals in a car's exhaust gases, only works well when it is hot. The school run is usually too short to allow the catalytic converter to reach the necessary temperature. As more children are driven to school, the air near the school becomes more polluted.

Atmospheric pollution is damaging the environment around our planet. This has many negative impacts for the environment. The most noticeable for us is the reduction in ozone (which protects us from the sun's potentially harmful UV rays) and increasingly erratic weather patterns caused by global warming.

Although transport is only one of the causes of increasing atmospheric pollution, it is significant. Motor vehicles are the single biggest source of atmospheric pollution, contributing an estimated 14% of the world's carbon dioxide emissions from fossil fuel burning, a proportion that is steadily rising. Add the emissions from exploration, transportation, refining and distribution of fuel, and this figure is 15% to 20% of world emissions.

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Car dependency and health

Our health is seriously affected by increasing car dependency because:

- less active travel means less active people, which means health problems such as heart disease, high blood pressure
- less active travel means more obesity
- more pollution means more respiratory problems
- behaviour patterns are set in early childhood, so car dependent children will become car dependent adults, and therefore more unhealthy adults
- car dependent children are missing out on opportunities to learn to become independent, responsible and sociable adults
- car dependent children are missing out also on opportunities to learn road safety skills through practical kerbside experience.

Accidents

Any accident is one too many but accidents involving children are still far too common, particularly in some areas. Death rates for child pedestrians in the UK are the second highest among Western European countries. But one-third of all child casualties (fatal and serious) in Scotland are in car accidents. You are 21 times more likely to be in a fatal or serious accident in a car than in a bus, and twice as likely to be in an accident in a car than walking.

Social exclusion

Family income and socio-economic grouping makes a huge difference to transport choices as well as health, causing increased social exclusion. 36% of Scottish households do not have access to a car, although far more money is spent on road infrastructure than on walking, cycling and public transport. Indeed, children in the lowest socio-economic group are five times more likely to be killed in accidents than children from higher socio-economic groups.

Congestion

It is estimated that one-fifth of all vehicles on the road at 8.50am are involved in school travel. This means more congestion, particularly around schools. This in turn causes greater levels of pollution due to more emissions from stationary vehicles and increased levels of stress due to delays in journeys.




Perceptions of 'stranger danger'

Parents are more concerned now about their children's safety in relation to other people. Huge media coverage of some incidents has meant this has gained disproportionate status as a risk. In fact, in the UK, we have the lowest injury/death record of any country apart from Sweden.

Decreasing independence

The above concerns mean that many children are accompanied all the time, not allowing them to develop a sense of independence and responsibility.

The proportion of children aged seven and eight years old who travelled to school without adult supervision dropped from 80% to 10% between 1970 and 1990.

Setting up a School Travel or Safer Routes to Schools (SRS) Project

1. Working group

In order for a School Travel or SRS project to be really successful, it is important to have involvement from many different people and groups. Setting up a working group brings all these people and groups together so that they can all participate. The group can then coordinate and develop the project. The group might consist of:

- school staff
- school pupils
- parents
- school board and/or PTA
- local authority
- police
- councillor
- community council
- other transport organisations.

2. Community participation

Because a school is always an integral part of a community, it is vital that a School Travel or SRS project involves the community. Children, parents and sometimes staff are all members of the community, so this is not as difficult as it may sound. However, it is useful to invite or involve other members of the community, too.



3. Doing research

In order to identify existing travel patterns and issues, as well as asking for ideas on solutions to those problems, we have to undertake some research. The most effective way to do this is for the children to do it themselves as part of their curriculum work. This means that the children, and often parents, have much more understanding of the issues and their local problems, and we also get solutions and projects that people really want. Children also learn skills of research and analysis, which are all part of the curriculum. See the box below for more information.

4. Identifying solutions

	Examples
> **Curriculum projects**	The health curriculum has a theme of safety
> **Walking and cycling projects**	Setting up a cycle club Running a Walk to School Week Park and walk scheme Cycle parking
> **Walking bus or cycling bus**	A guided group who walk or cycle to school along a specific route
> **Road safety education**	Basic road skills for 5-7 year olds Cycle training for 10-11 year olds Pre-driver training for 16-17 year olds
> **Engineering measures**	New crossings, 'no parking' zones, improved footways
> **Events and campaigns**	A Family Cycle Day out, a poster competition

5. Writing a School Travel Plan (STP)

Writing an STP is useful as it brings together all the above information and forms an action plan for all involved.

What is an STP?

An STP outlines travel for the school, both present and future. Therefore, in order to write an STP, research needs to be done on the present situation, then a list of suggested ways to improve that situation needs to be established. The changes and projects will be implemented by the school, parents, local residents, the police and the local authority.



STPs are not just about transport. They are also about improving health, broadening education, improving the environment, contributing to the community and combating social exclusion. Improvements may, therefore, cover a range of areas including physical changes to the area around the school, curriculum work, promotional events, training and so on.

6. Implementing projects and initiatives

Going through the above process will raise the issue of school travel throughout the school and the local community, and may also have a positive impact on the modes of transport people use. However, it is important not to forget to implement the projects. There is no hurry – often projects that are set up slowly are more successful. Whether your projects involve setting up a bike club, Walking Bus or running a safety theme in the curriculum, or the local authority putting in a traffic crossing or the police running a cycle training initiative, they will make a real difference to the way people travel, and ultimately to the health and well-being of the community and environment around your school.

Further information can be obtained from your Local Authority Road Safety Team, Transport Team, SRS Officer or Education Department and the local Police Road Safety Team. From Summer 2003 most local authorities will have a School Travel Plan Officer.

Resources

A free leaflet on resources is available from Sustrans
Cycle training – contact your local Road Safety Unit
Young TransNet – 0207 843 6325 www.youngtransnet.org.uk
Green2School – 01438 748212 green2school@intrinsica.co.uk
MapIT – 01487 813745 info@mapit-uk.co.uk
Department for Transport free literature 0870 1226 236




Curriculum links

School travel or Safer Routes to School can fit into the curriculum in many different ways.

At the research stage, children can undertake transport research as part of an ICT, maths, environmental studies or geography project. Children could make up and do questionnaires themselves and analyse the results. There are many tools that could help with this.

- ICT packages such as Black Cat can lend themselves very well to doing surveys and analysing them. Mapping can be done in geography and maths. Green2school or MapIT can help with this.
- The Local Authority or Police may be able to help children do traffic counts or speed checks.

The health curriculum covers road safety in both physical and social health at all levels, so projects or themes could be developed within this. Also environmental studies covers transport and environment.

Citizenship also covers the issues of social and environmental responsibility.

See page 135 for more information about how to get in touch with helpful organisations, or visit the website.

Activity: improving school transport

In this activity, pupils survey how they and others travel to and from school, assess the impact of the ways they choose to travel and propose improvements. This work could contribute to the development of a school travel plan and could be the basis of a whole-school project.

1. How do we travel?

Map pupils' routes to and from school. Give each pupil a map of the catchment area and ask them to mark their route and mode to and from school. You will need to agree with pupils a key, such as colour or line coding, that will clearly show the mode.

Collate each pupil's journey on to one large map of the catchment area. Start by plotting each pupil's house and then plot the journey. Ask the pupils to identify the most popular mode of transport, the most heavily used routes and dangerous points on the routes.

Discuss the impact of the different modes of transport, including congestion, air pollution and hazards.

Produce ideas for reducing hazards and congestion. Ask the pupils to work in groups to produce a list of suggestions. As a class, discuss these suggestions and list the most practical and achievable ideas.

2. How do others in the school get here?

Survey how pupils in other classes and teachers get to and from school. Pupils will need to consider the aims of the questionnaire. What information do they want to find out? How will they carry out a fair survey? Will they question the whole school or a sample? What about the influence of parents? How will they get parents' views – by sending a questionnaire home, or at the school gates? What about the views of local residents? What factors affect the mode of travel, such as age, gender, distance, parents' concerns about safety, weather, cost? Would people consider using another method of travel?

The environmental review checklist in this handbook contains some questions to help you carry out your transport survey. You could adapt this for your questionnaire, or use your own.

3. Bringing it all together

Collate the results. A spreadsheet would be the most effective way of doing this. Pupils will need to agree the categories to be analysed. They could work in pairs to collate a number of responses.

4. What have we found?

Interpret the results. Pupils can use a number of statistical techniques to do this. One way to get a baseline figure for your school's transport performance would be to calculate a 'green transport score' using the chart below

Green transport survey

Factor	Performance	Score
Pupils regularly travelling to school on foot, bike or public transport.	more than 75%	5
	50 to 74%	3
	25 to 49%	1
	under 25%	0
Staff regularly travelling to school on foot, bike or public transport	more than 75%	5
	50 to 74%	3
	25 to 49%	1
	under 25%	0
Staff regularly share cars for journeys to school	more than 75%	5
(in such a way that total car distance is reduced)	50 to 74%	3
	25 to 49%	1
	under 25%	0
Staff cars run on unleaded, diesel or LPG* fuel	more than 75%	4
	50 to 74%	2
	25 to 49%	1
	under 25%	0
Staff cars fitted with catalytic converters	more than 75%	4
	50 to 74%	2
	25 to 49%	1
	under 25%	0
School operates a cycling proficiency scheme	Yes	3
	No	0
School vehicles run on unleaded petrol/diesel/LPG*	Yes	2
	Some	1
	No	0
School provides secure cycle storage	Yes	4
	No	0
School provides secure lockers for cyclists	Yes	4
	No	0
The school has embarked on investigating travel to	Yes	5
school modes, as part of a plan to move towards more	No	0
sustainable travel		

** LPG is liquefied petroleum gas, a much cleaner fuel than petrol, though still rare in the UK.*

The maximum score is 41. The score can be represented as a percentage of that number and this score can be used as a monitoring tool and reviewed over time. What action points can be developed from the results of your survey?

5. How can we improve the local environment?

Propose actions that could improve the local environment by reducing hazards and congestion. Ask the pupils to base their proposals on the results of their mapping of their routes to and from school and the data collected in the survey.

What action could be taken by the school – car sharing, a walking bus where designated adults walk with pupils along a route, picking up children at agreed points, walk to school events? What action will need the cooperation of the local authority and local community – a safety zone around the school, traffic calming measures, cycle lanes?

Pupils could consider the potential costs of their suggestions and make a decision about their practicality. They could explore their ideas through a model of the local area, or by using mapping software to explore alternative road designs.

6. Taking action

Devise ways of encouraging pupils and teachers in the school to take the actions proposed. This could be through assembly, an exhibition, posters, and/or an incentive scheme.

Pupils will need to consider the different ways the information can be presented and use those they feel are most effective. This work can link to ICT, art and design and expressive arts.

Contact the local authority. Ask the pupils to write to the local authority with their proposals. (The most suitable contact will depend on the nature of the proposals and should include the planning department, the local traffic department, the School Travel Plan Officer and the Local Agenda 21 officer.) Alternatively, representatives from the local authority could be invited into the school and pupils could present their results.

If pupils send their proposals to the local authority, they will need to understand the process of local government, including consultation and the time taken to make decisions, so they are not disappointed when they do not get an immediate response.

7. Monitoring progress

Over time, monitor progress against the action points. A simple way to do this is to survey a sample of pupils every few months, and recalculate the green transport score.

Differentiation

This activity can be adapted to be suitable for children of all age groups and abilities. Older pupils could use mapping software to produce their maps. Younger pupils could draw pictures of the dangers they may experience on their journeys.

Hint about using maps

Maps of 1:25000 could be used for schools with large catchment areas and 1:10000 for those with smaller catchment areas. You will need a large-scale map, such as 1:2500 or 1:1000, of the area directly around your school as this is the area where numbers are greatest. Copyright agreements will need to be checked.

Additional activities

As part of the main activity, pupils could carry out a number of surveys. A selection are outlined below, and are described in full on the website. Carrying out any one of these surveys will help pupils understand more about the impact of cars on the local area.

Local traffic flow survey

Pupils carry out a simple survey of the different kinds of traffic passing a number of points around the school at different times.

Measuring carbon monoxide

Pupils investigate pollution by measuring carbon monoxide concentrations in the air.

Air quality survey

The level of particle pollution can be an indicator of air pollution. This activity encourages pupils to take samples and discuss the implications.

Noise survey

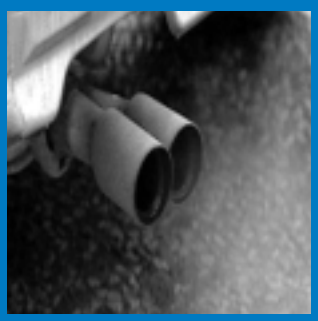
You don't need specialist sound recording equipment to carry out a survey of how noisy traffic is around the school. In this activity, pupils use a cassette recorder to measure noise pollution around the school.

Transport: case studies

There's no avoiding the impact of traffic and the more aware pupils are investigating how they can encourage less car use by adults. Our two case studies overleaf have involved numerous local stakeholders and come up with some innovative ideas to help to reduce the school run chaos, while helping the environment and pupils' individual health.

"Falkirk Council, the local MP and MSPs, and the police have supported campaigns to introduce traffic calming measures around the school. 'Twenty's plenty' is our motto."

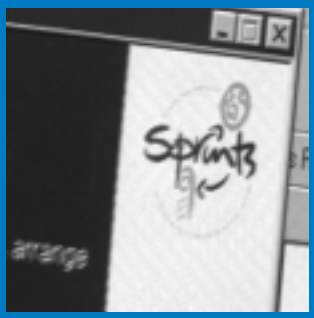
Ladeside Primary School, Falkirk



"The school has produced a full Green Transport plan, and also won £10,000 for new bike sheds from the government."

Portobello High School, Edinburgh



Community Action on Road Safety

Ladeside Primary School, Larbert, Falkirk

At Ladeside School, the pupils and teachers worked in partnership with parents to establish 'Action for Road Safety', because of concerns about road safety around the school. They liaised with the local police and communicated with others in the local community to help raise awareness of the problem and try to work out solutions. Meetings were held and invitations extended to members of Falkirk Council, the local MP and MSPs, and the police. Campaigns were launched to introduce traffic calming measures around the school and to create a safe turning area for cars within the school grounds and to secure a 'Twenty's Plenty' speed zone around the school.

On Your Bike!

Portobello High School, Edinburgh

This school has been very proactive in its aim to reduce car dependency for journeys to and from school and promote healthier and more environmentally friendly forms of transport, especially cycling and walking. The school has a *'Cool Routes to School'* booklet that introduces feeder primary school's P7 pupils to the idea of finding:

- the best route to school – the safest and quickest way
- the best method of getting to school – safest, healthiest and most environmentally friendly.

Map reading skills are brought into play by looking at the place of the school in relation to Scotland, Edinburgh and the streets around the school. The booklet includes a Green Transport crossword and a Grey Transport 'word search' and also guides pupils to useful websites. The school has produced a full Green Transport plan, participated in the National Safe Routes to School Conference and also won £10,000 for new bike sheds from the government as part of the Safe Routes initiative.