

Developing community transport solutions

Overview:

This transport solution development project will walk students and teachers through a process to design a solution to an issue within their transport community.

Students and teachers can work through this planning document in groups or individually. It takes students through from problem detection to initial design ideas. As all students' issues and designs will be contextually different, this model cannot predict the process students will need to take after they have completed this initial model.

New Zealand Curriculum:

This is a cross-curricular piece of work but has its roots in social sciences. Here's how the curriculum areas fit into this piece of work:

Key Competencies in use:

- thinking
- using language, symbols, and texts
- managing self
- relating to others
- participating and contributing.

Social Sciences:

Through the social sciences, students develop the knowledge and skills to enable them to: better understand, participate in, and contribute to the local, national, and global communities in which they live and work; engage critically with societal issues; and evaluate the sustainability of alternative social, economic, political, and environmental practices.

English:

Understanding, using, and creating oral, written, and visual texts of increasing complexity is at the heart of English teaching and learning. By engaging with text-based activities, students become increasingly skilled and sophisticated speakers and listeners, writers and readers, presenters and viewers.

Health:

Through learning and by accepting challenges in health-related and movement contexts, students reflect on the nature of well-being and how to promote it. As they develop resilience and a sense of personal and social responsibility, they are increasingly able to take responsibility for themselves and contribute to the wellbeing of those around them, of their communities, of their environments (including natural environments), and of the wider society.

Transport Solution Development Project

Step 1:

Have a think about some of the issues that face you within your community. Consider the people who live here, where they need to go, how they stay safe and the choices they have around sustainable lifestyles.

Think about:

- walkers
- roads and their design
- trains and buses
- scooters
- bicycles
- skateboards
- elderly and mobility scooters
- car safety
- trucks
- speeding
- sustainability in transport

Write your thoughts below - What are some of the issues **you** think need to be solved in your community?

Talk to some key people in your community (teachers, other students, parents, other community members, community groups) and write down some of the issues **they** think are needed to be solved in your community

Here you could also complete some observations on areas of your community where there may be transport issues. Document your observations in a way that best suits the place you observe. (Discuss with teacher if unclear).

List the 15 issues that are most prominent within your community based on your consultation.

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Step 2:

Out of your 15 problems, choose 5 that you would like to take through a process of further definition. Write a title and a sentence for each problem. In your sentence, include What the problem is, who it is a problem for and why it is a problem.

Problem	Title	Sentence	Does it include?
Problem #1			- What the problem is - Who it is a problem for - Why it is a problem
Problem #2			- What the problem is - Who it is a problem for - Why it is a problem
Problem #3			- What the problem is - Who it is a problem for - Why it is a problem
Problem #4			- What the problem is - Who it is a problem for - Why it is a problem
Problem #5			- What the problem is - Who it is a problem for - Why it is a problem

Step 3:

Underlying Problem

Select one of your problems or a set of problems that are related. Think about some of the possible causes of this problem.

Problem:

Possible causes of problem:

Focusing on the causes of the problem, write a **big question** using this formula:

In what ways might we [put the problem you want to solve here], so that [put what you want to achieve here].

For example: In what ways might we help mobility scooters get access to our gym, so that grandparents of students and visitors to the school can come and watch their children play basketball games.

Big question:

Step 4:

Now that you have your **big question**, we can brainstorm possible solutions to it. Be as creative as you can, and brainstorm at least 10 **different** solutions to your question.

Some categories to help you ideate solutions:

- Educating people
- Creating opportunities
- Sustainable transport
- Communicating with others
- Pieces of artwork
- Media - digital, visual
- Technology
- Construction
- Musical production
- Dramatisation
- Videography

Possible solution #1:
Possible solution #2:
Possible solution #3:
Possible solution #4:
Possible solution #5:
Possible solution #6:
Possible solution #7:
Possible solution #8:
Possible solution #9:
Possible solution #10:

Step 5:

Develop a set of 4 criteria for judging your solutions e.g. easy to do, costs the least. The criteria in the table below are just examples – write your own ones relevant to your big question.

Run each possible solution through your criteria and decide which would be the best for you to do. An example is below.

	Solution	Can be done without professional help	Will cost less than \$100	Will help people access the gym	Do not need to seek permission	Ranking
Possible solution #1:	Building a concrete ramp	X	X	✓	X	1
Possible solution #2:						

Possible solution #3:						
Possible solution #4:						
Possible solution #5:						
Possible solution #6:						
Possible solution #7:						
Possible solution #8:						
Possible solution #9:						
Possible solution #10:						

Step 6

Choose the solution that you are going to attempt.

Write down or draw any ideas you have around how to carry out that particular solution. You may then work with your teacher to implement your changes.