Traffic Jams

You need ★ a calculator

When people compete to use a common resource, like roads, resources often get wasted. Cars slowed by traffic jams still burn fuel and emit pollution.

My father carpools to work with three other people. He finds traffic jams a hassle, and he hates the pollution.

Activity One

Alisi found this 2006 data from Statistics New Zealand (www.stats.govt.nz) showing how New Zealanders got to work on census day:

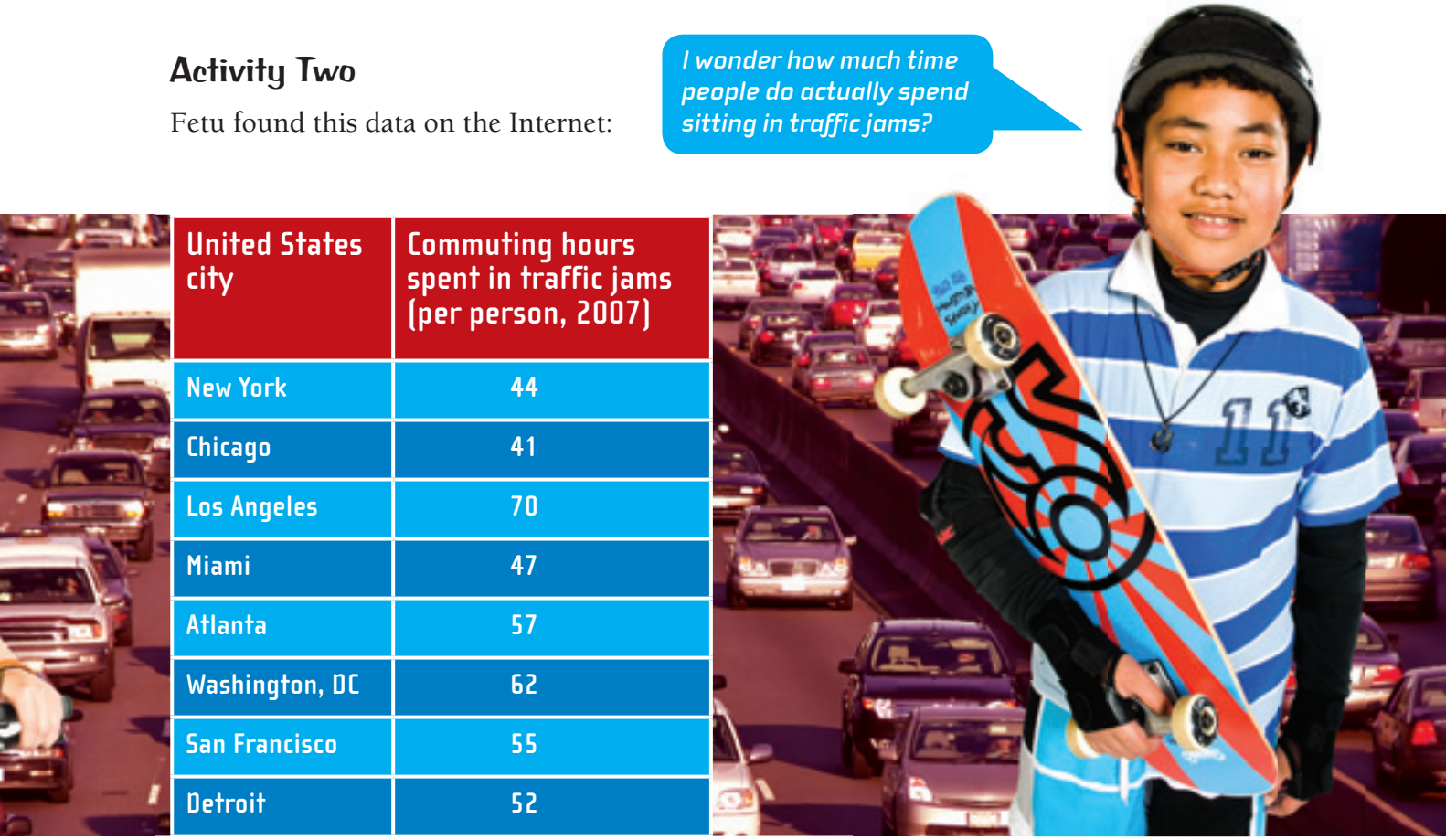
Main means of travel to work	Percentage of people
Drove car, truck, or van	62
Passenger in a car, truck, or van	4
Worked at home	8
Biked	3
Walked or jogged	6
Public transport	6
Did not work (that day)	11

In 2006, approximately 278 500 people in the Wellington region were included in the labour force data. Based on the information in the table:

1. a. How many people walked or jogged to work?
   b. How many drove?
   c. If every worker who drove were to carpool with at least one other driver, how many cars might this take off the road?
2. a. If 35 000 workers in the Wellington region travelled by public transport, what percentage is this?
   b. How does this compare with the national statistic, and what does it suggest?

Activity Two

Fetu found this data on the Internet:



United States city	Commuting hours spent in traffic jams (per person, 2007)
New York	44
Chicago	41
Los Angeles	70
Miami	47
Atlanta	57
Washington, DC	62
San Francisco	55
Detroit	52

1. a. In which city did people spend the most time stuck in traffic?
   b. If traffic jam time in Los Angeles increases by 20 percent per year, what would have been the average time spent stuck in traffic jams in Los Angeles in 2008?
   c. What would be the average time spent in Los Angeles traffic jams this year?
2. Pick a city from the table:
   a. If people work on average 8 hours per day, how many "workdays" did each commuter waste stuck in traffic jams in that city?
   b. On average, a petrol engine burns 3.5 litres of fuel per hour when idling.
   If petrol costs $2.00 per litre, how much money did each commuter burn while stuck in traffic?