

Identify Factors Affecting Number Of Students Walking Or Biking To School

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Purpose of the survey

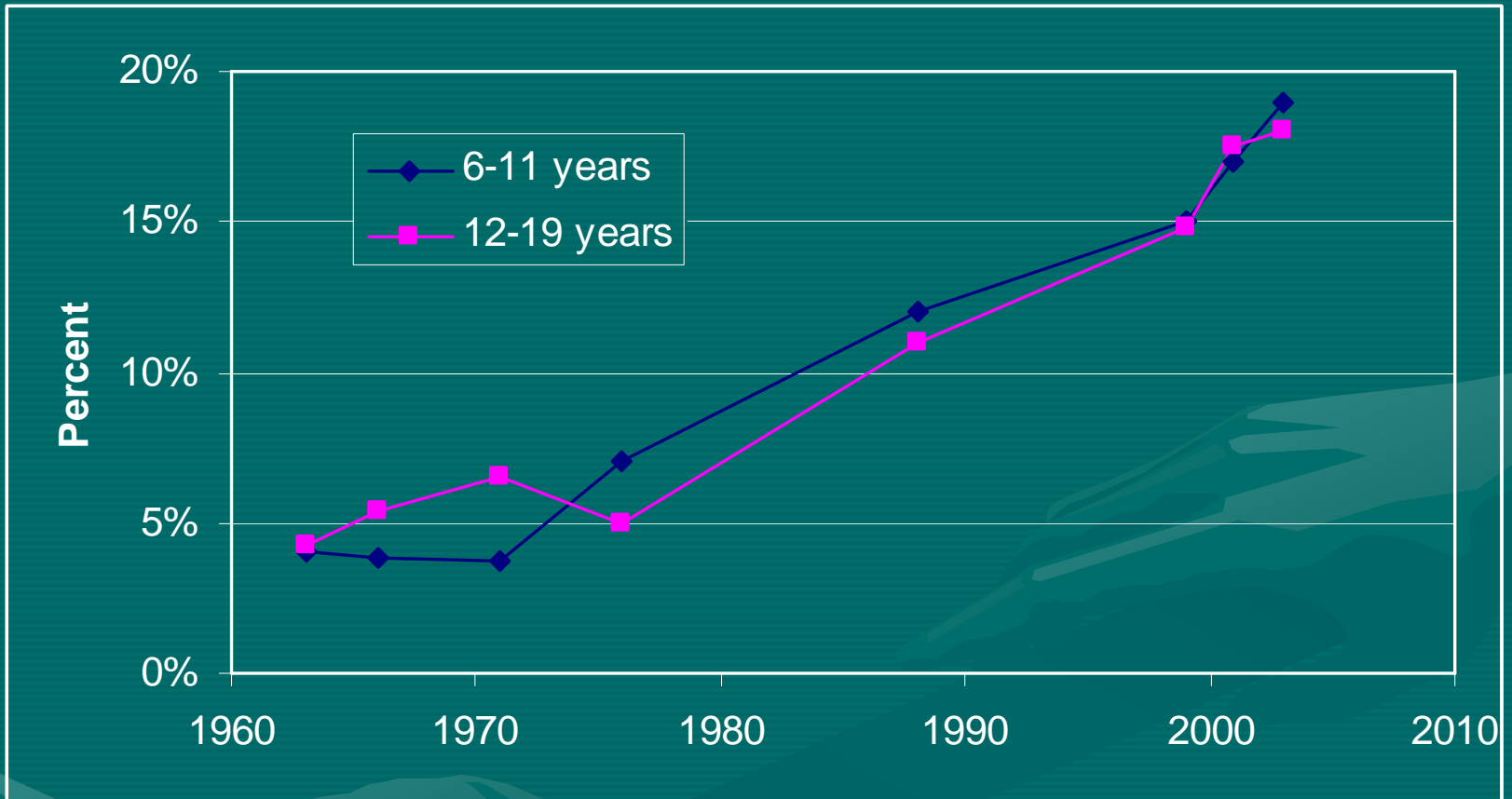
- ✓ To evaluate the SRTS program before and after a series of infrastructure improvements and educational programs were enacted



Why SRTS?

- To Reduce Children Obesity
- To Reduce Traffic Congestion During Peak Hour





Trends in Children Obesity



Travel to school can contribute up to 25% of morning traffic.
(Parisi Associates, 2003)

Background

- With the 2005 passage of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), the U.S. Congress designated a total of \$612 million toward developing the National Safe Routes to School Program.

Students' Travel Modes to School



The Survey Process

- 27 schools applying for SRTS infrastructure improvements in Hillsborough county were originally selected for the survey.
- 17 schools agreed to participate in the survey after initial contact.
- 14 schools completed the survey.
- 8,763 students from kindergarten to grade 8 were included.

Two Types of Survey

➤ Survey on students

Conducted in the classroom by teachers to record their travel modes to/from school over five consecutive days.

➤ Survey on parents

Distributed by teachers to each student as a homework assignment.

Survey Response Rate

- **Survey on students**

416 tally sheets returned for all 489 classrooms surveyed with a response rate of **85%**.

- **Survey on parents**

3,213 survey forms returned for all 12,318 survey forms distributed with a response rate of **26.1%**.

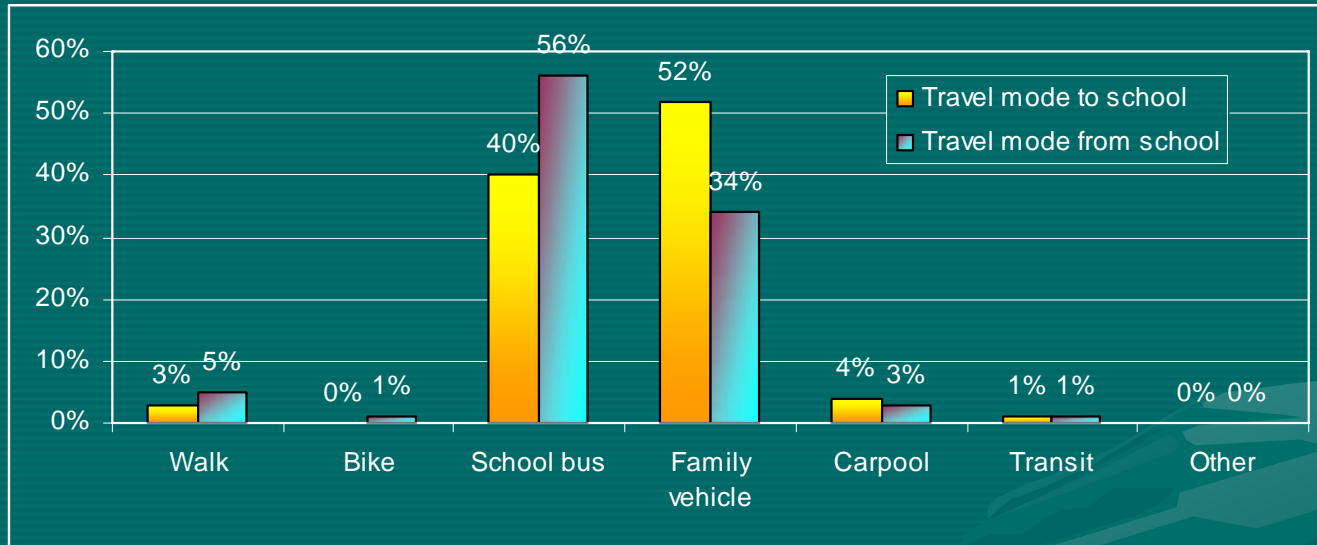
- **A relative low response rate from parents**

For similar survey in future, need more cooperation for high response rate.

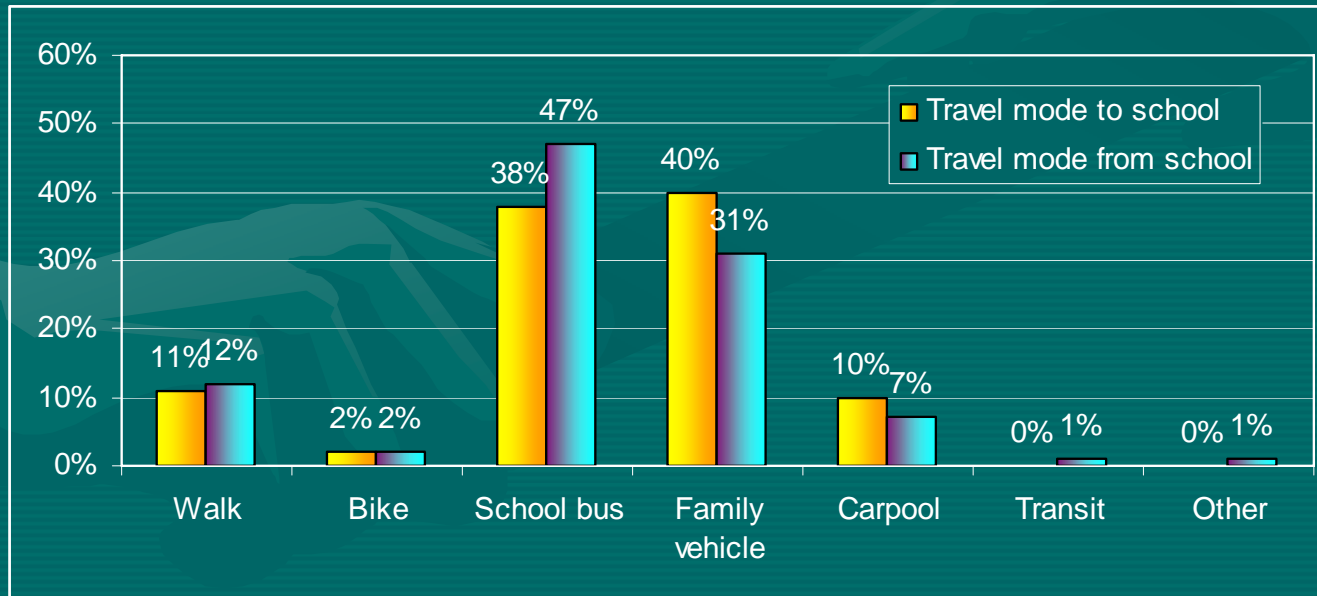
Part I: Student Survey Results

- Students' travel modes to/from school over five consecutive days were recorded on the tally sheet.
- Reflect students' actual travel modes to/from school.

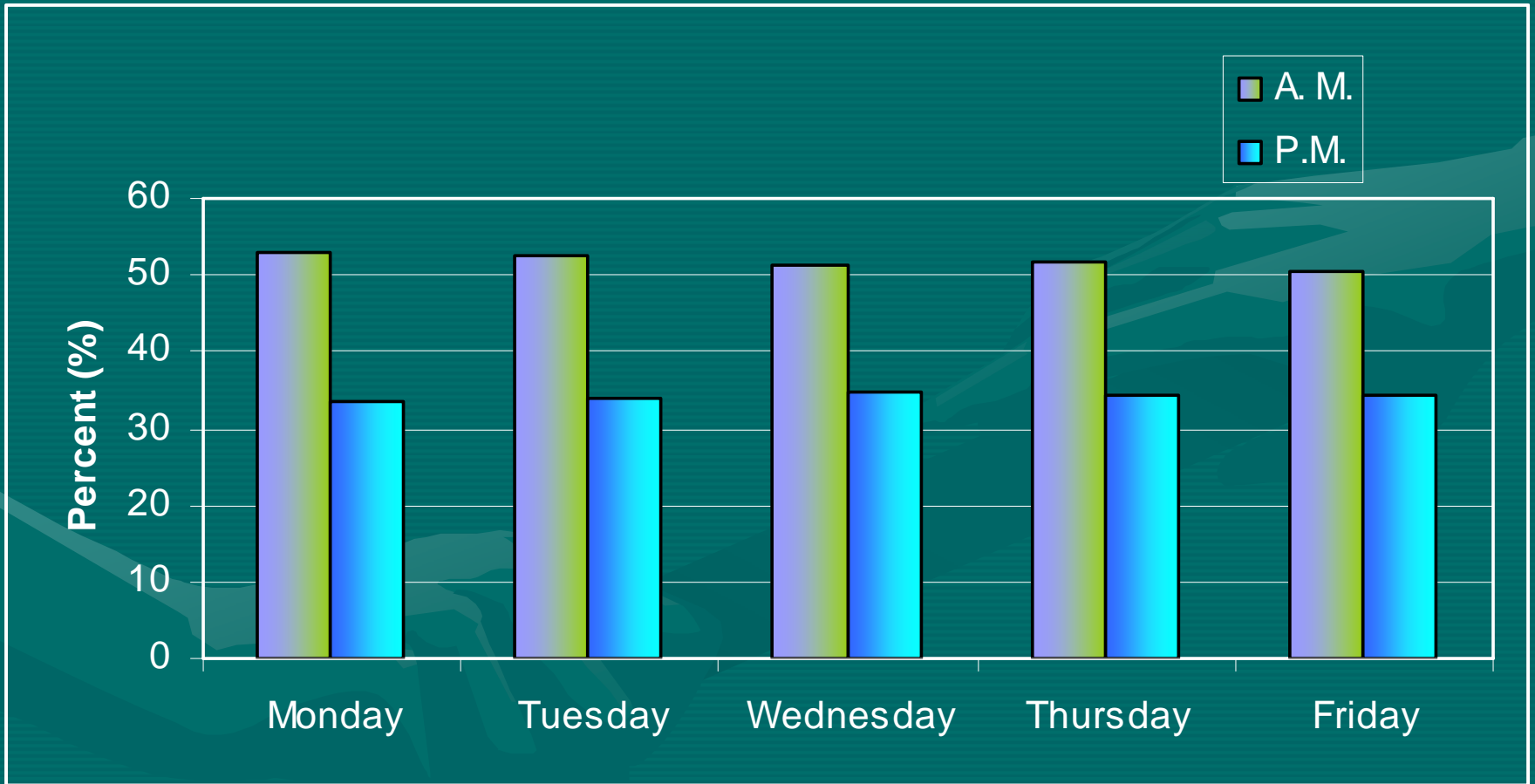
Students' travel modes to/from school



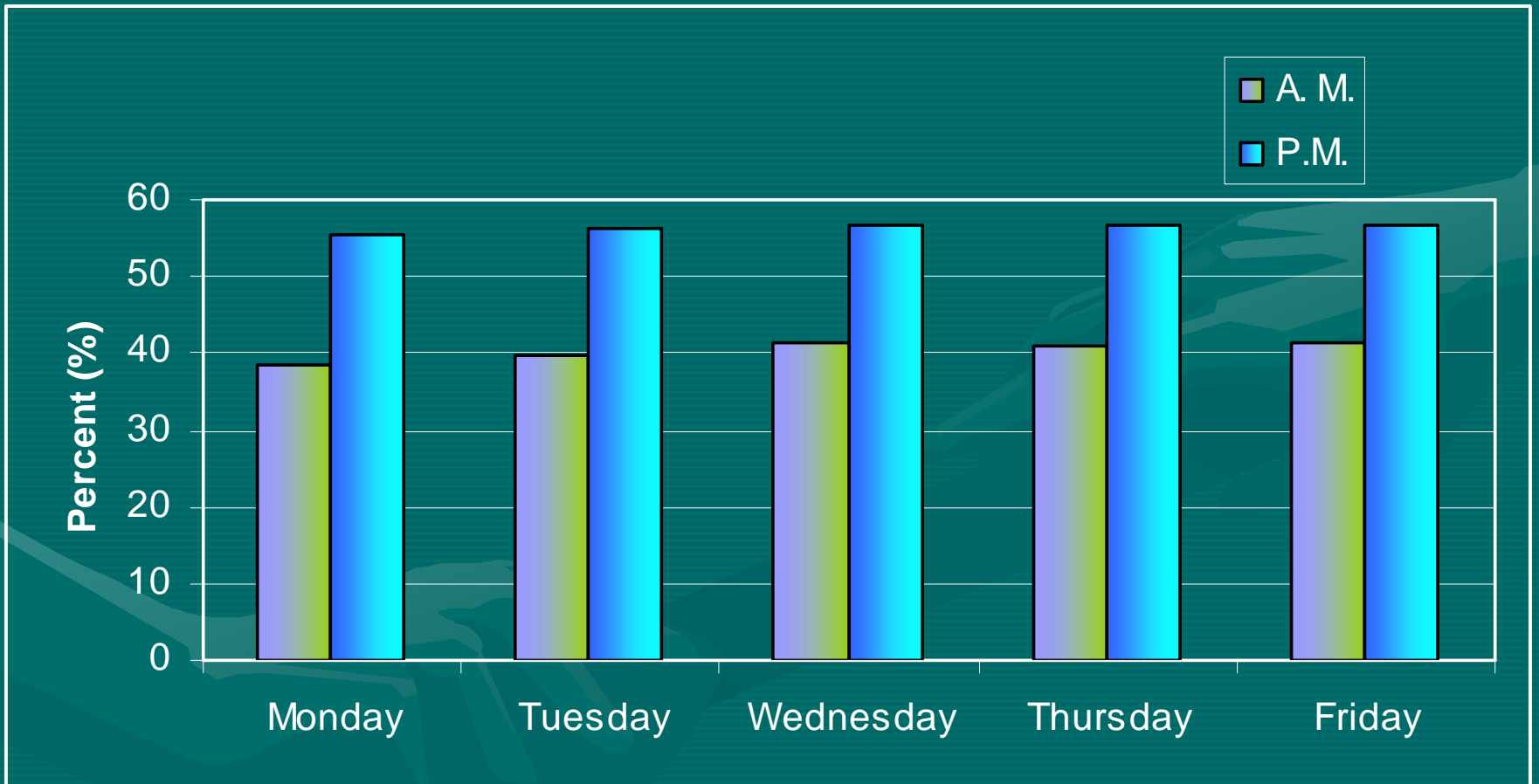
Survey on parents



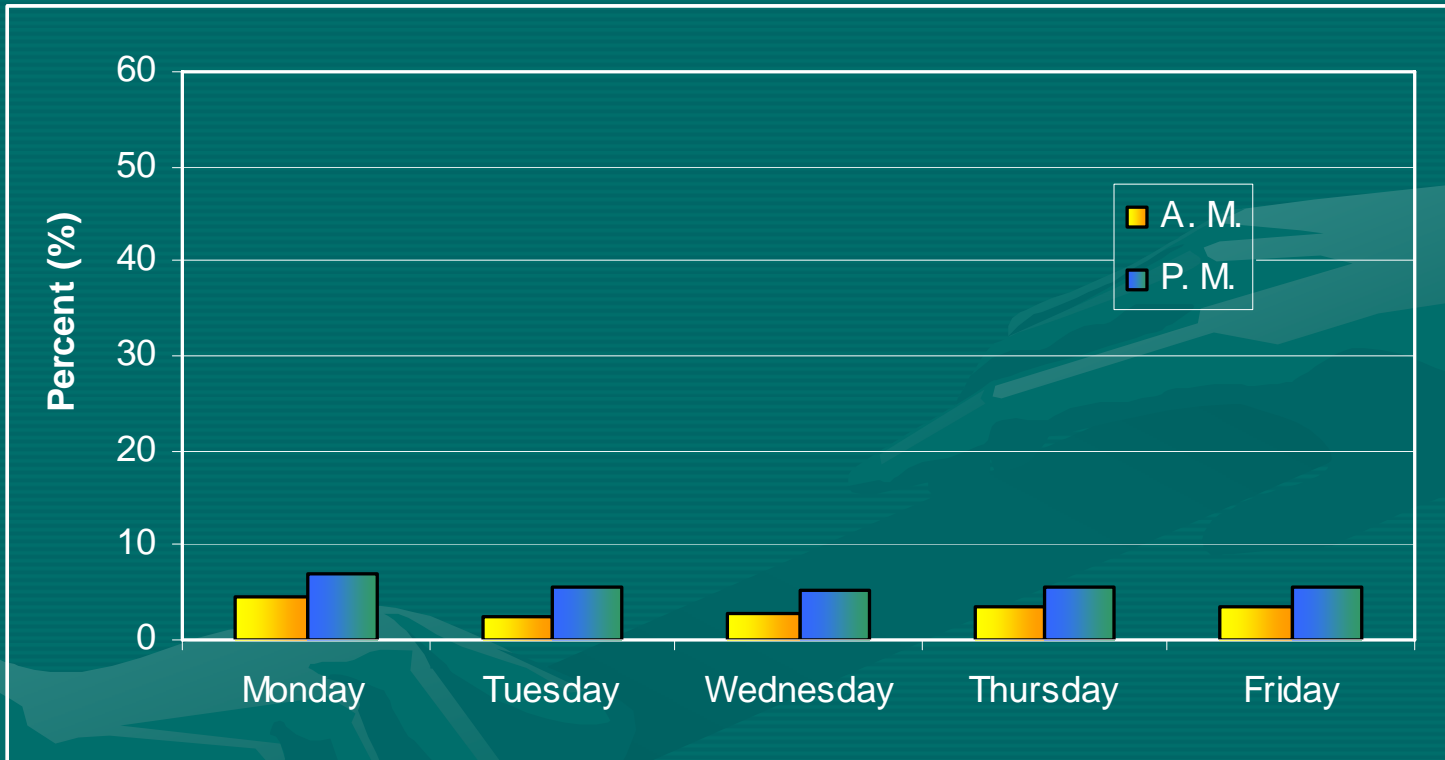
Family Vehicle



School Bus



Walking & Biking



Results

- No significant difference among different week days in a week.
- In the newly designed tally sheet, the survey on students has been reduced to 2 days in a week.

Part II: Parents Survey Results

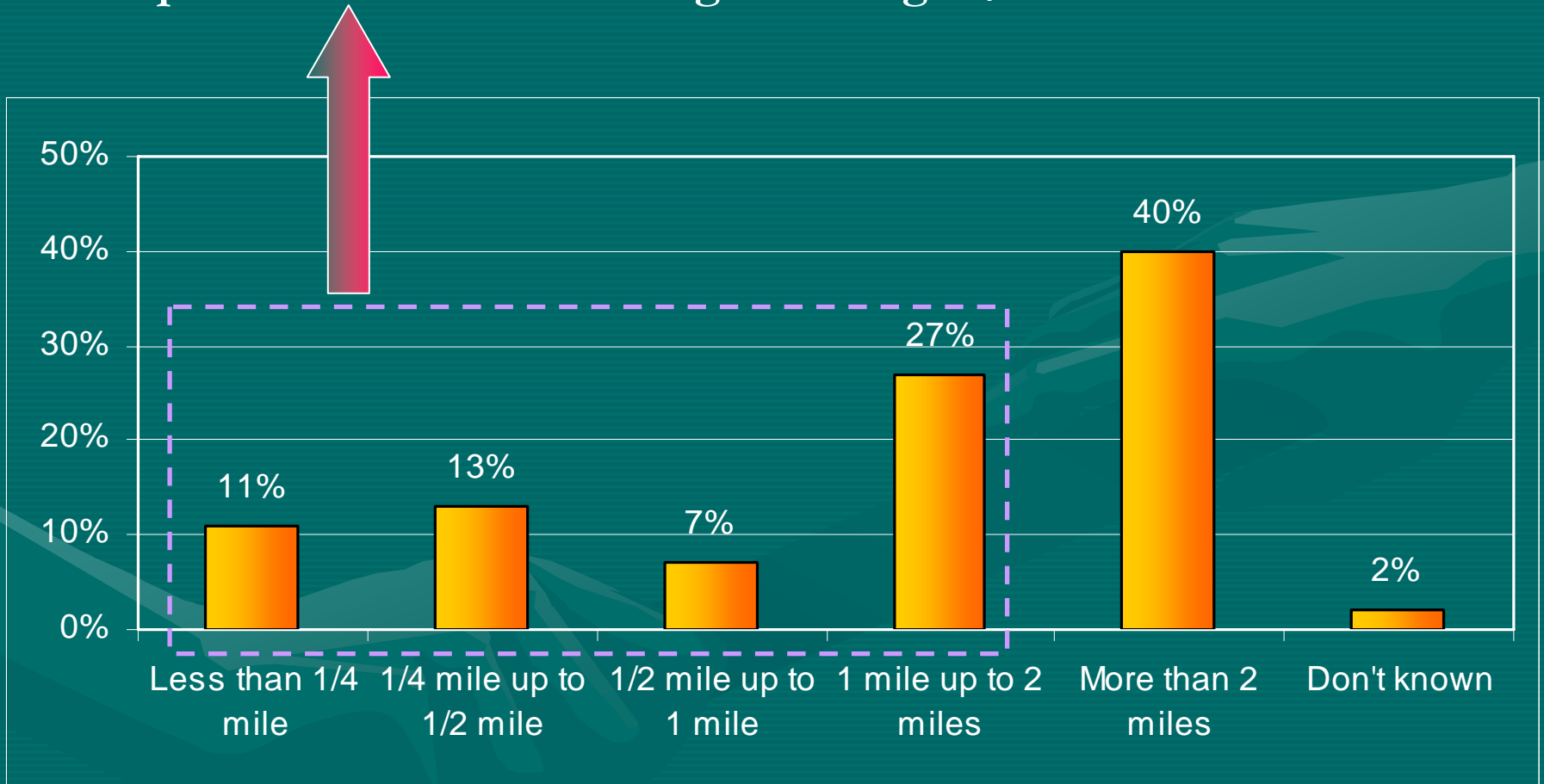
- A questionnaire designed by the National Center for Safe Routes to School was used.
- The questionnaire was used in Florida for the first time.

What's the Question?

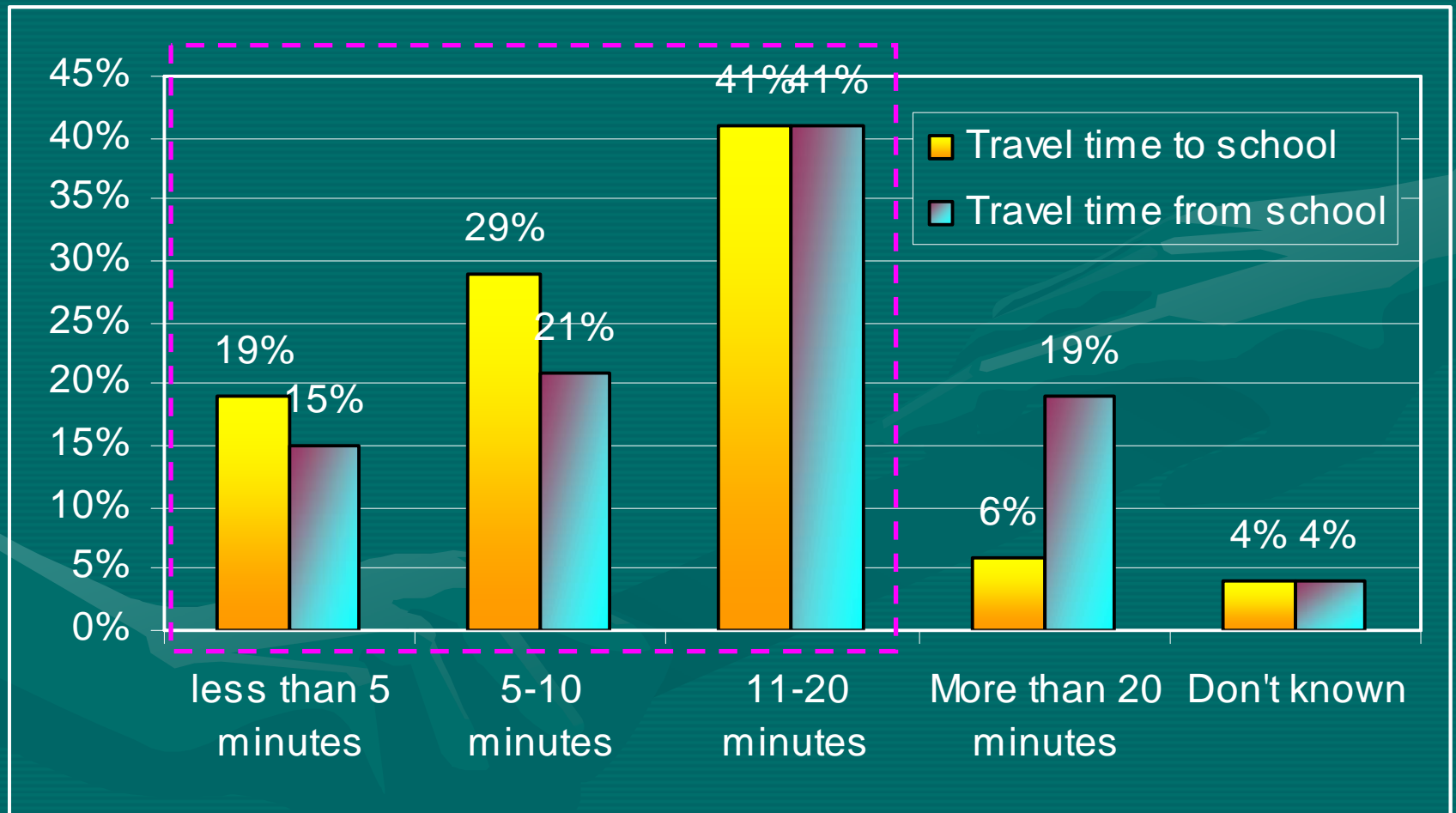
- **Student demographic information**
Grade level, gender, number of students in the family, distance from home to school, zip code, etc...
- **Parents' subjective opinions**
What they think about the fun, healthy of walking or biking to/from school, etc...
- **Children's travel to/from school**
Their normal travel modes & travel time to/from school
- **Possible barriers for students' walking or biking to/from school**
- **Some of the questions were revised in newly designed survey form**

Distance from Home to School

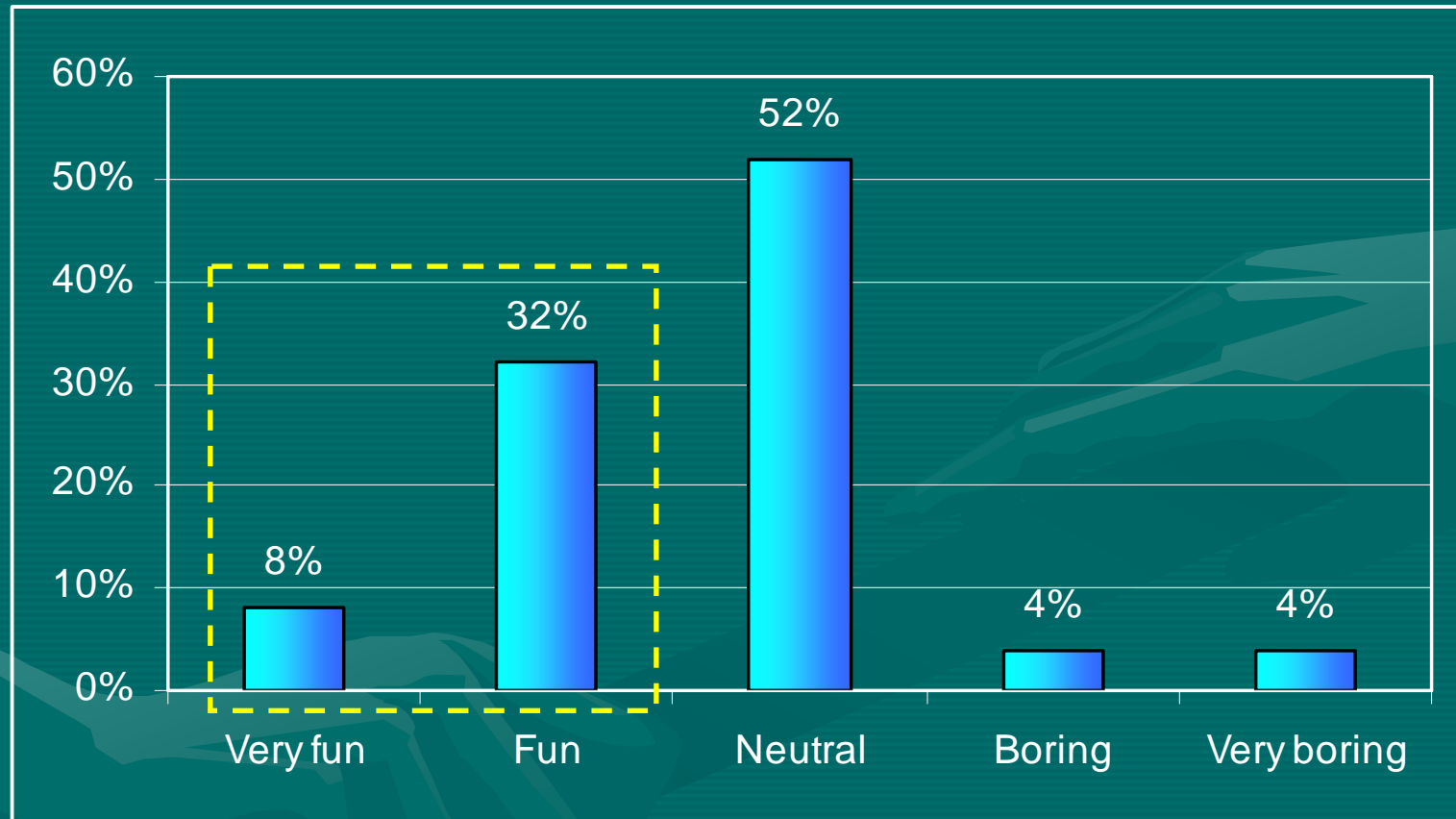
Main potential students walking or biking to/from school - 58% in all



Normal Travel Time to/from School

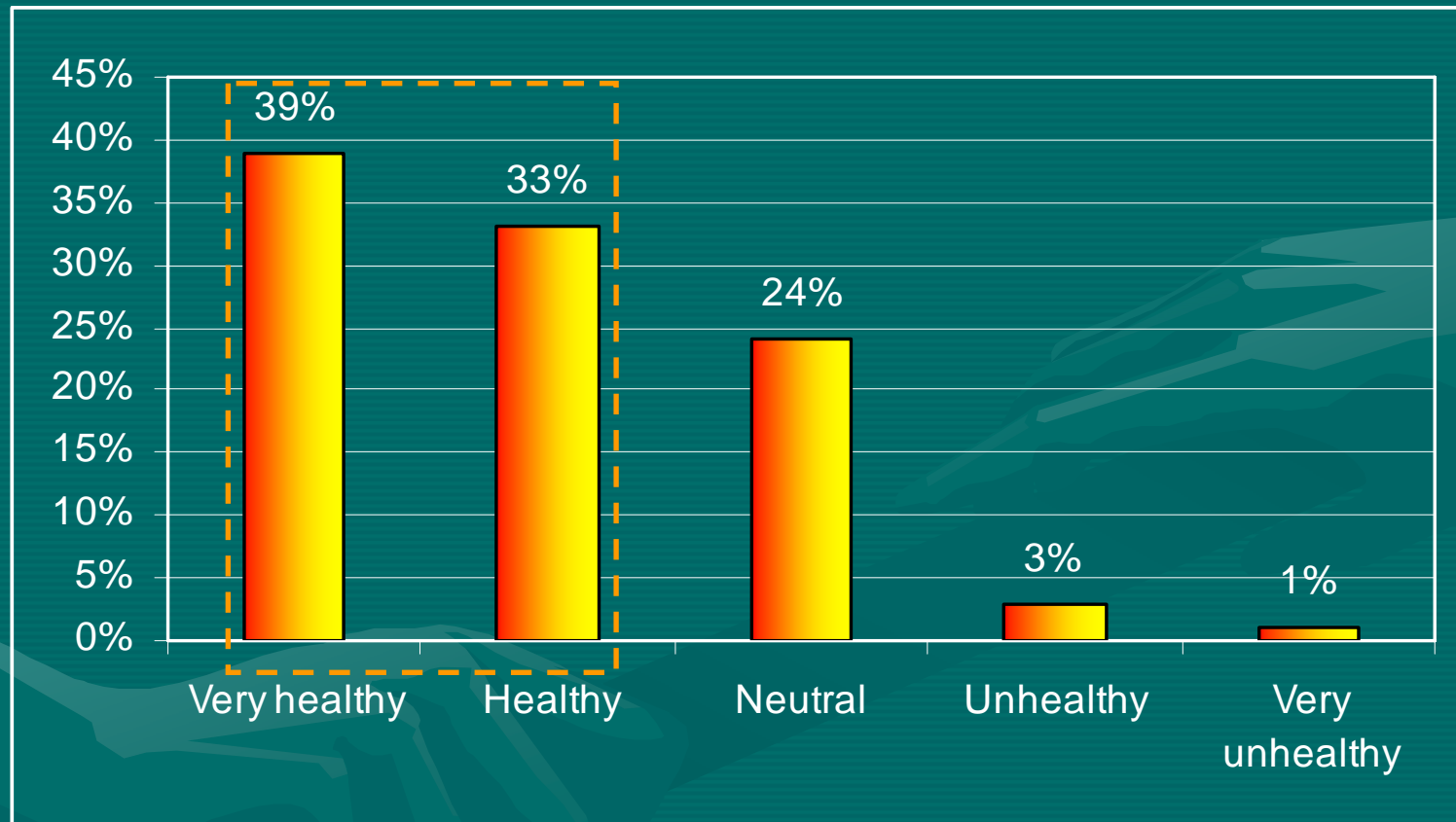


How Much Fun is Walking and Biking to/from School?



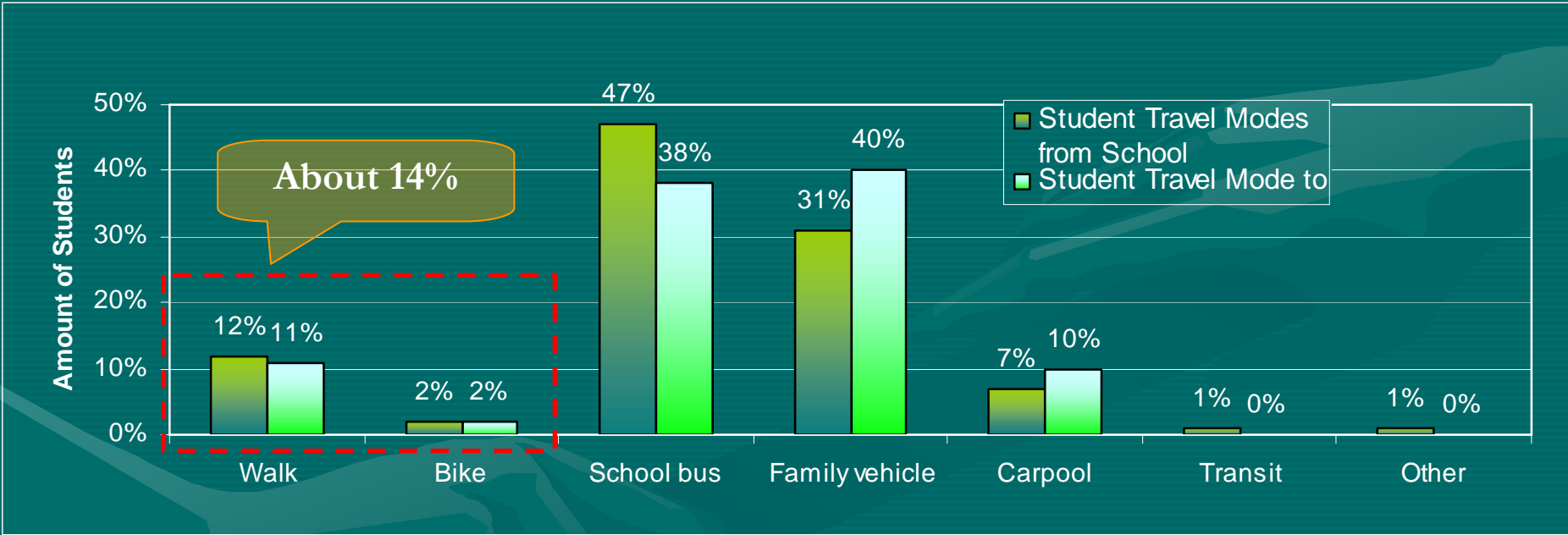
Altogether 40% of parents thought that it's fun or very fun for their children to walk or bike to/from school.

How Healthy is Walking or Biking to/from School?

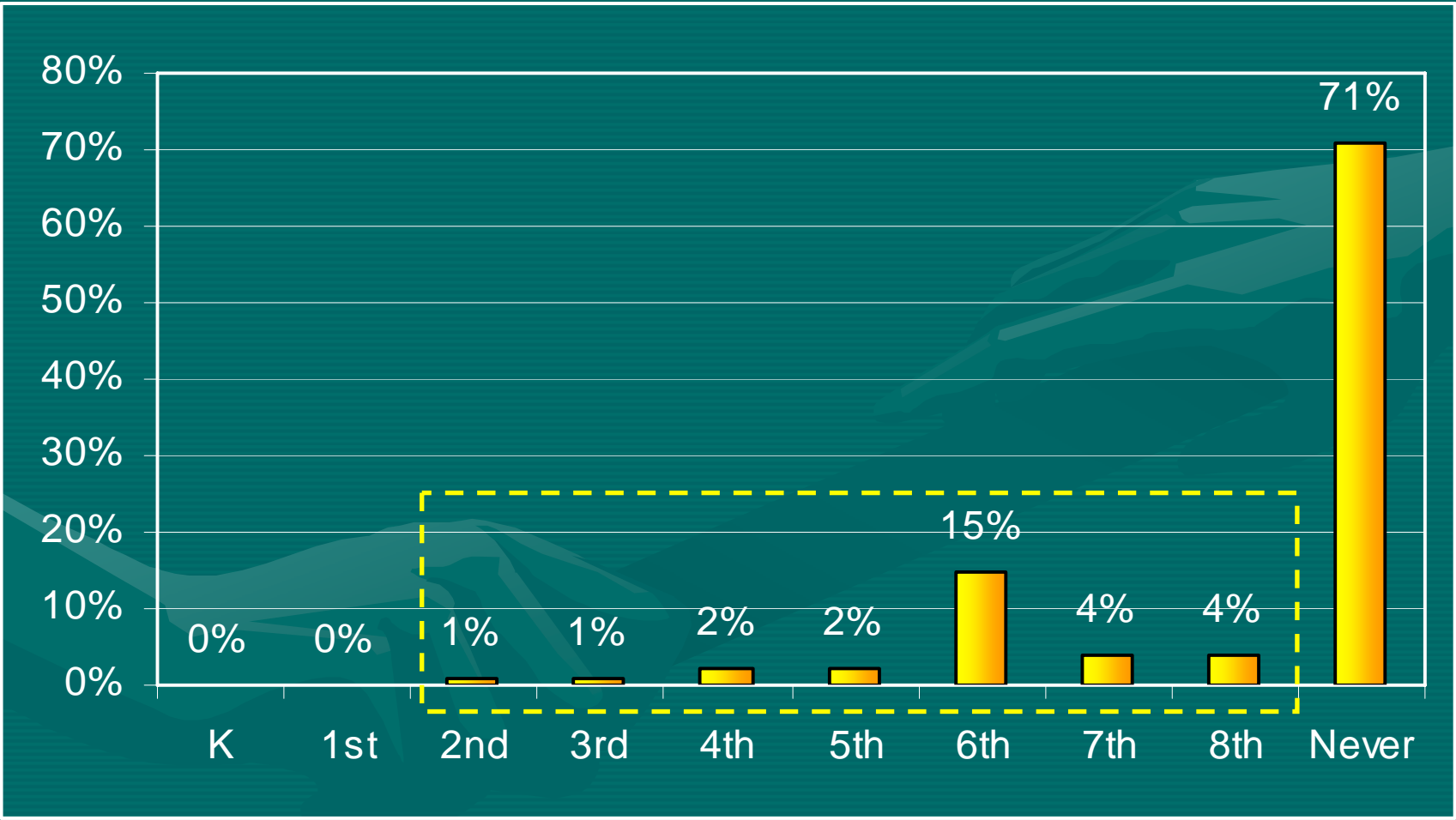


Altogether 72% parents thought that it's healthy or very healthy for their children to walk or bike to/from school.

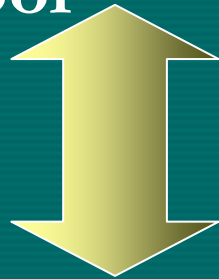
Students' Travel Mode to/from School



When Will Children Be Allowed to Walk or Bike Alone to School?



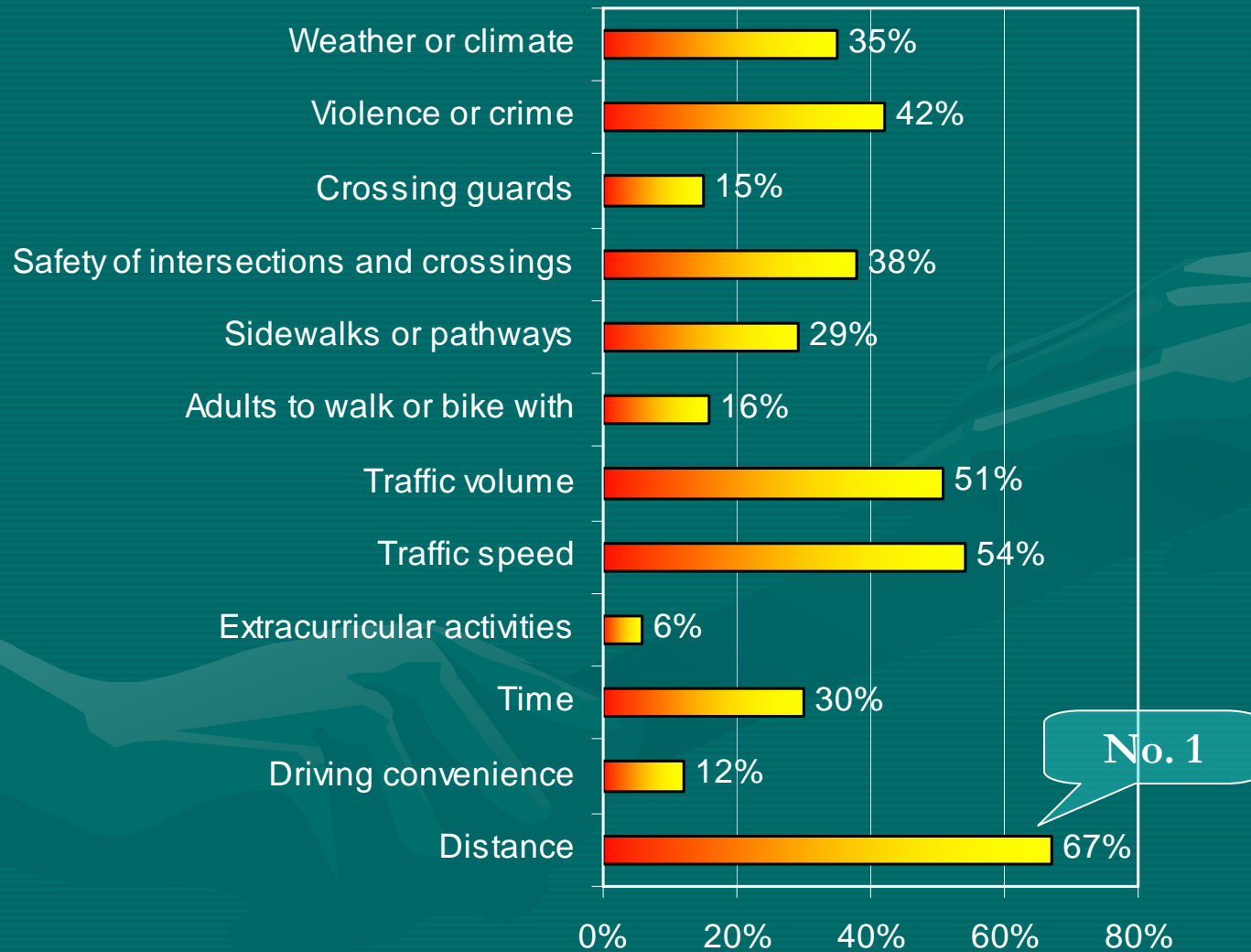
- 40% parents thought it's fun for their children to walk or bike to school
- 72% parents thought it's healthy to walk or bike to school



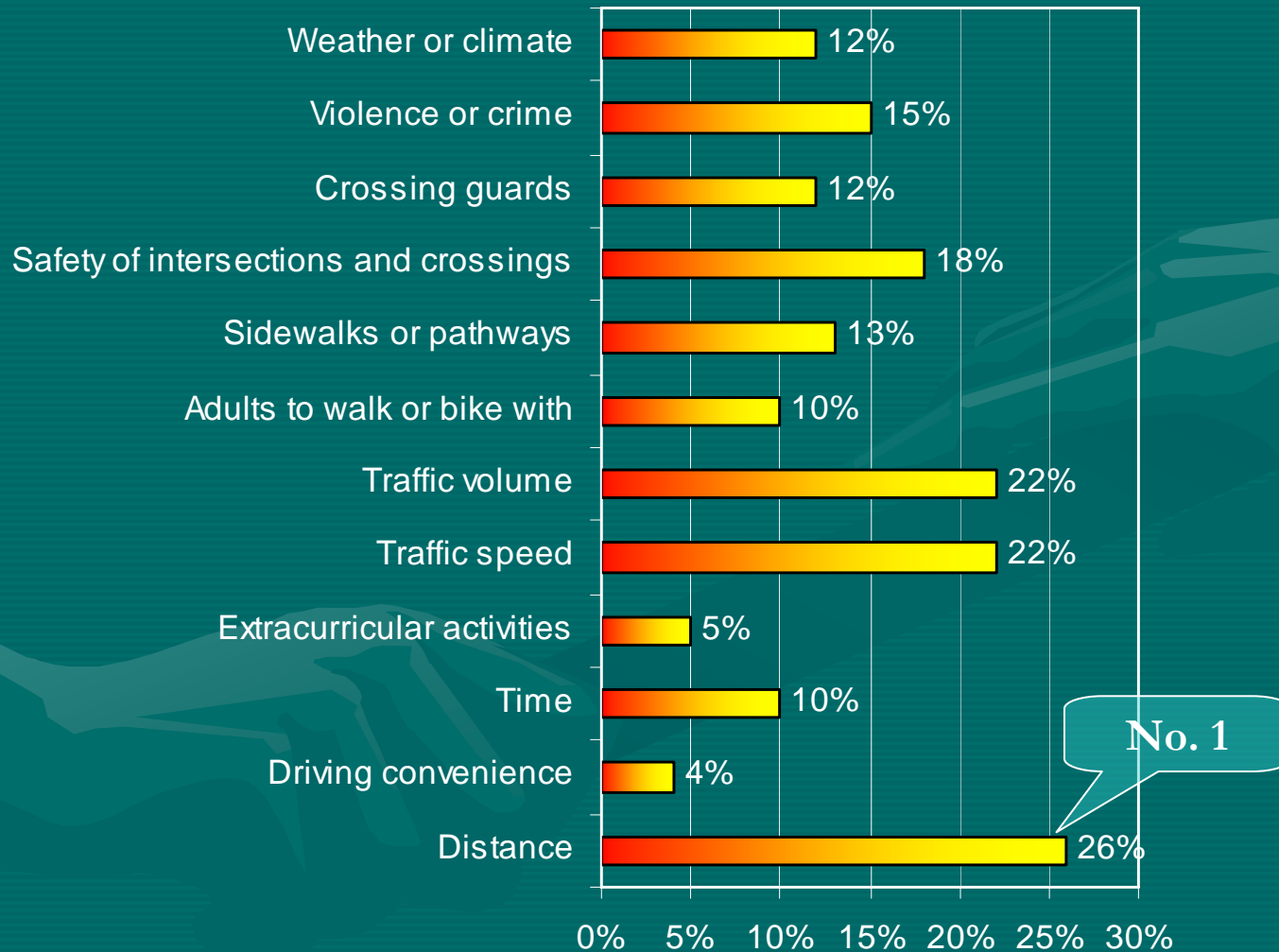
Why?

- Less than 14% of students walked or biked to school

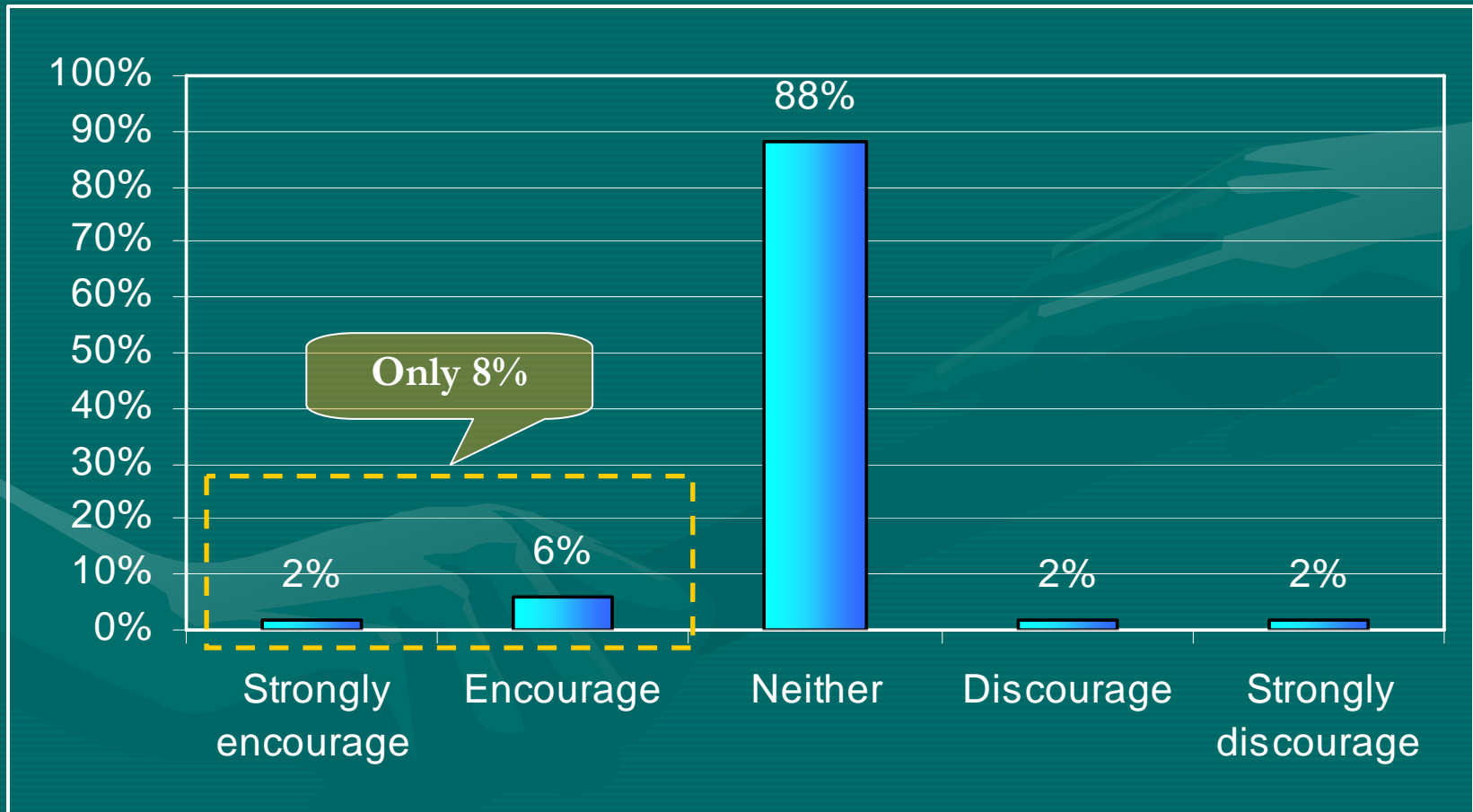
What are the Barriers?



After Improvement, Will Parents Allow Their Children to Walk or Bike?



What is the School's Attitude on Walking and Biking to/from School?



What Factors Influence Students' Travel Modes?

- χ^2 test was used to identify those factors associated with travel mode choice.
- Possible factors which impact students' travel modes to/from school include demographic characteristics, parents' subjective opinions on walking or biking to/from school.

Decision Factor

For level of significance $\alpha = 0.05$, the following factors are all significantly associated with students' travel modes to/from school

- Grade
- Gender
- Number of children in the family
- Distance from home to school
- School's attitude
- Enjoyment
- Health
- Students' attitudes
- Grade level for allowing a child to walk or bike to school alone

Conclusions

- The first SRTS survey in Hillsborough County sets up a successful example.
- The number of students walking/biking to school can be increased by SRTS infrastructure improvements and education program.
- The chi-square test indicated that many factors such as distance from home to school is significantly associated with students' travel modes to school.

Recommendations

- Focus on the students who live in less than 2 miles from schools.
- Change schools' attitudes through SRTS education programs.
- Develop a program to give the students' credit for walking or biking to schools.

Further Study

- Survey on students' travel mode after the SRTS program.
- Comparison on students' travel modes before and after the SRTS program.
- Recommendations on SRTS programs.