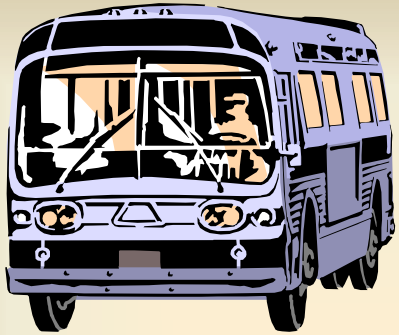
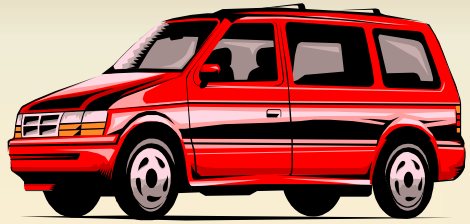
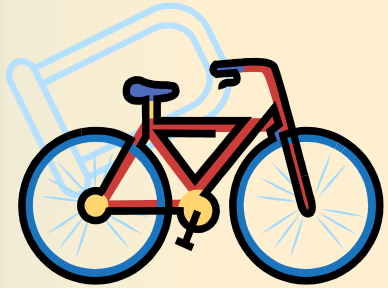
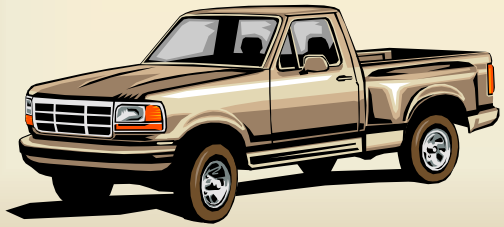


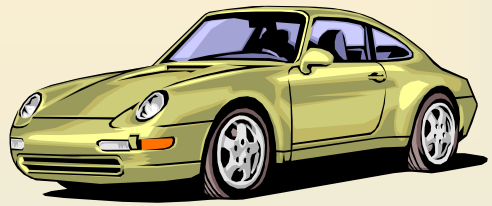


Wake County Public Schools
Modal Choice Survey



Wake County
North Carolina, USA





Survey Sponsored By…

School Transportation Group

- Joint venture of the Institute for Transportation Research and Education (ITRE) at North Carolina State University and the Highway Safety Research Center (HSRC) at University of North Carolina- Chapel Hill
- Conducts research, education, and technology transfer activities concerning the application of transportation technology, policy, and planning to all modes of school transportation

Survey Goals

- To determine modal split for research focus area-Wake County Public School System (WCPSS)
- To assess parental perceptions of problems with existing school bus service
- To estimate parental acceptance of and willingness-to-pay for technologies that could better the school bus service

Survey Statistics

- Surveys mailed to parents of 5000 WCPSS students
- Surveys sent to elementary, middle, and high school parents in each of 15 high school attendance boundaries
- Parents asked to complete survey for up to 4 of their children enrolled in WCPSS
- 1252 surveys returned (approx. 25%)
- 2274 useful records in database (1 record = 1 child)
- Useful information on approx. 1.8 children received in each survey

Survey Results
Respondents by Grade Level

WCPSS Student Population

- 49% Elementary (K to 5)
- 26% Middle (6 to 8)
- 25% High (9 to 12)

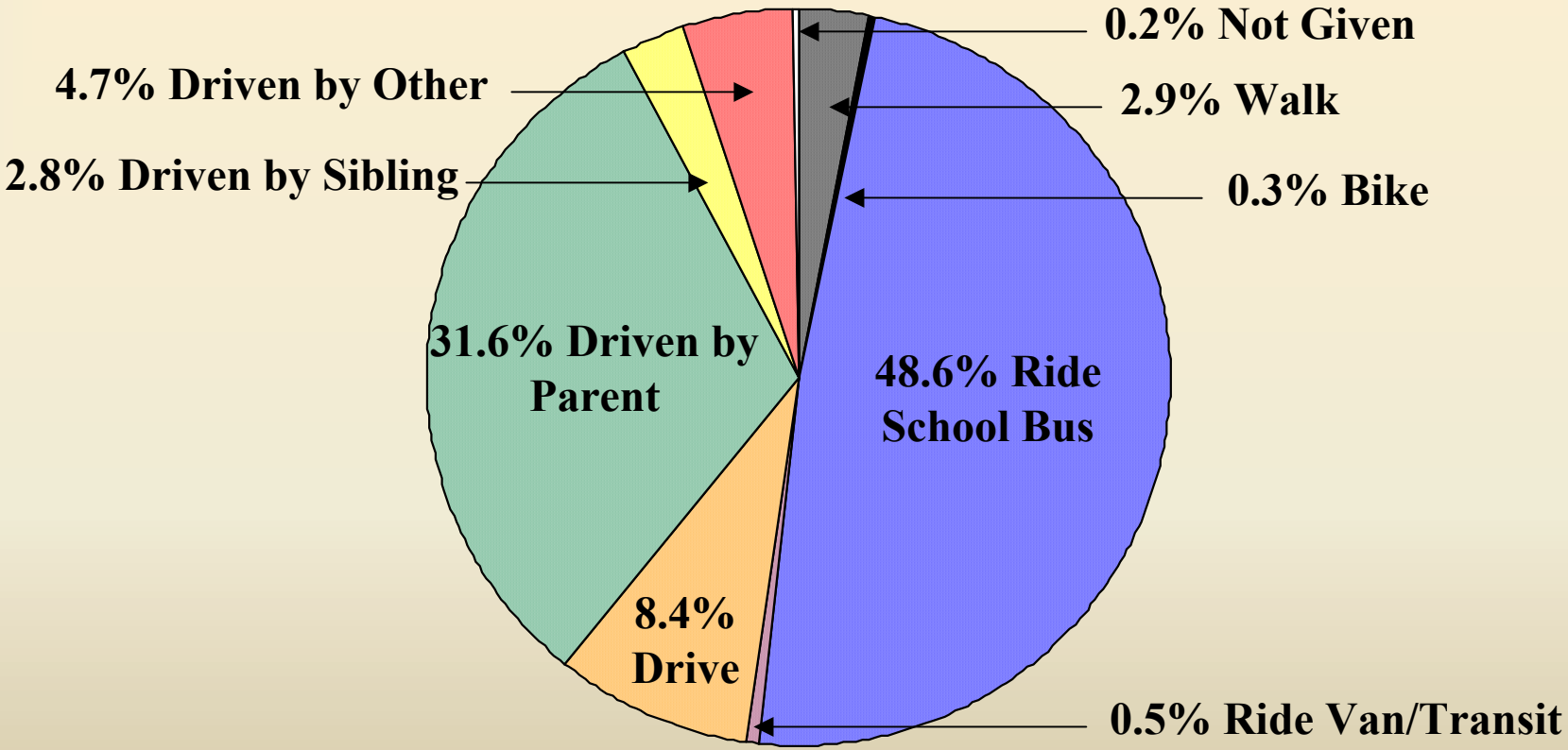
(25% High, 75% Non-High)

Survey Sample

- 39% Elementary (K to 5)
- 25% Middle (6 to 8)
- 36% High (9 to 12)

(36% High, 64% Non-High)

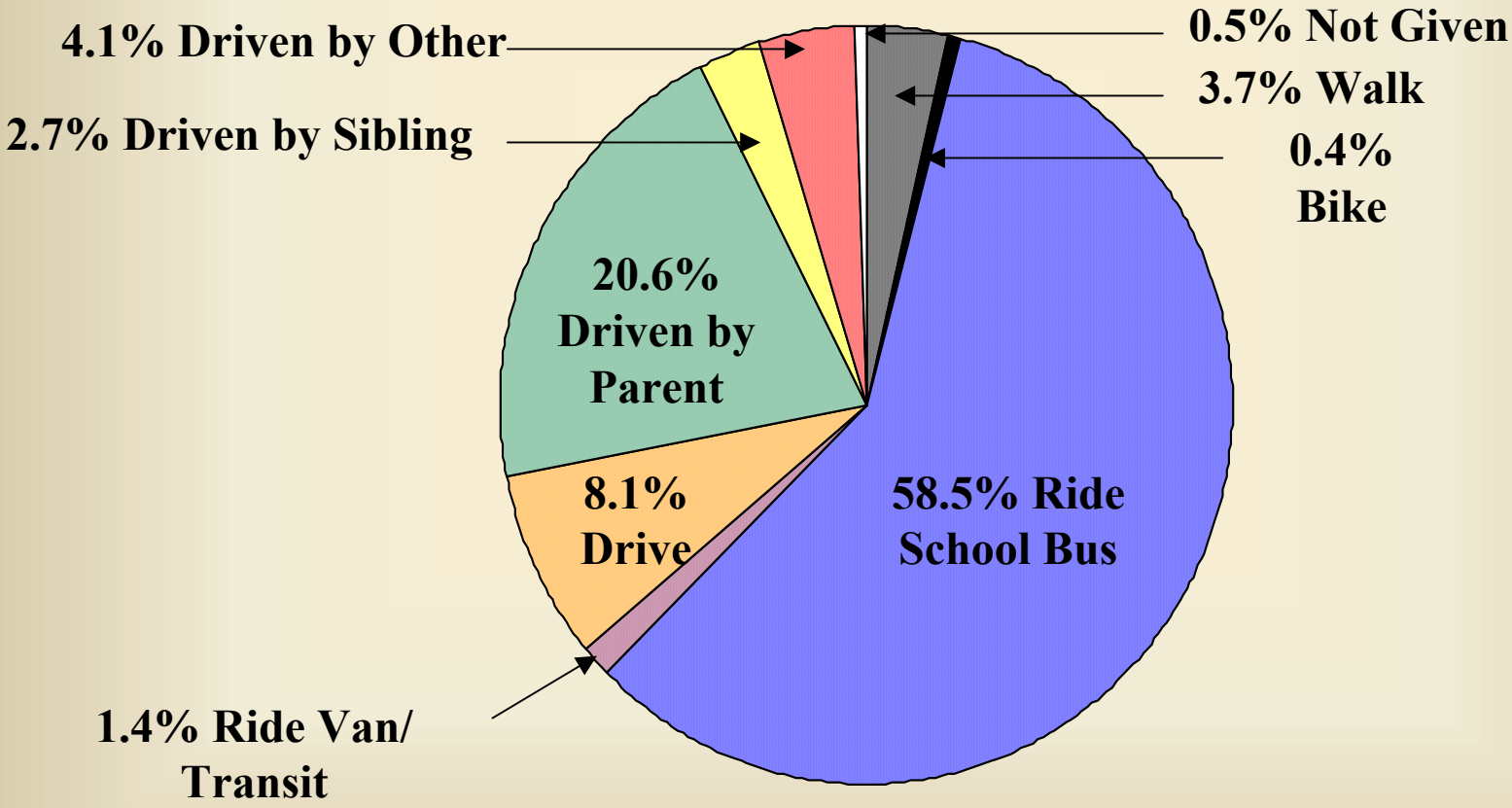
Survey Results: AM Modal Split



AM Modal Split Comparison by Grade Level

	Elementary	Middle	High
Walks	5%	2.5%	1%
Bikes	0.5%	0.2%	0.1%
Rides School Bus	**51%**	**64%**	**35%**
Rides Van/Transit	1%	0.4%	0.7%
Drives	0%	0%	24%
Driven by Parent	41%	30%	22%
Driven by Sibling	0%	0.4%	7%
Driven by Other	1%	2.3%	10%
Total in Passenger Cars	**42%**	**32.7%**	**63%**
Mode Not Given	0.5%	0.2%	0.2%

Survey Results: PM Modal Split

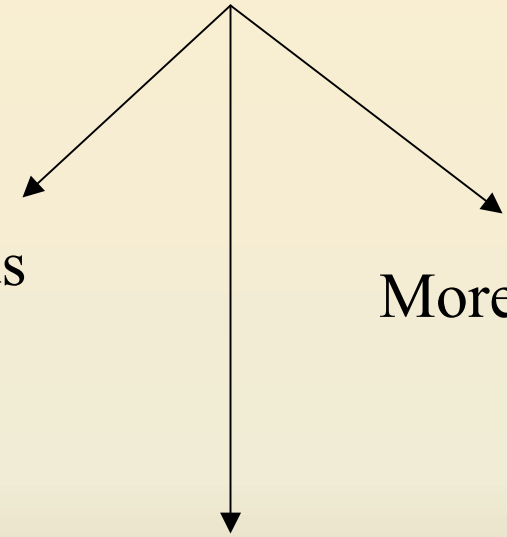


PM Modal Split Comparison by Grade Level

	Elementary	Middle	High
Walks	5%	4.8%	2%
Bikes	0.5%	0.2%	0.2%
Rides School Bus	**61%**	**76.5%**	**43%**
Rides Van/Transit	2%	0.9%	1%
Drives	0%	0%	22%
Driven by Parent	28.5%	15%	15.5%
Driven by Sibling	0.5%	0.4%	7%
Driven by Other	1.5%	2%	9%
Total in Passenger Cars	**30.5%**	**17.4%**	**53.5%**
Mode Not Given	1%	0.2%	0.3%

General Modal Split Results

Fewer students are driven by parent in PM than AM

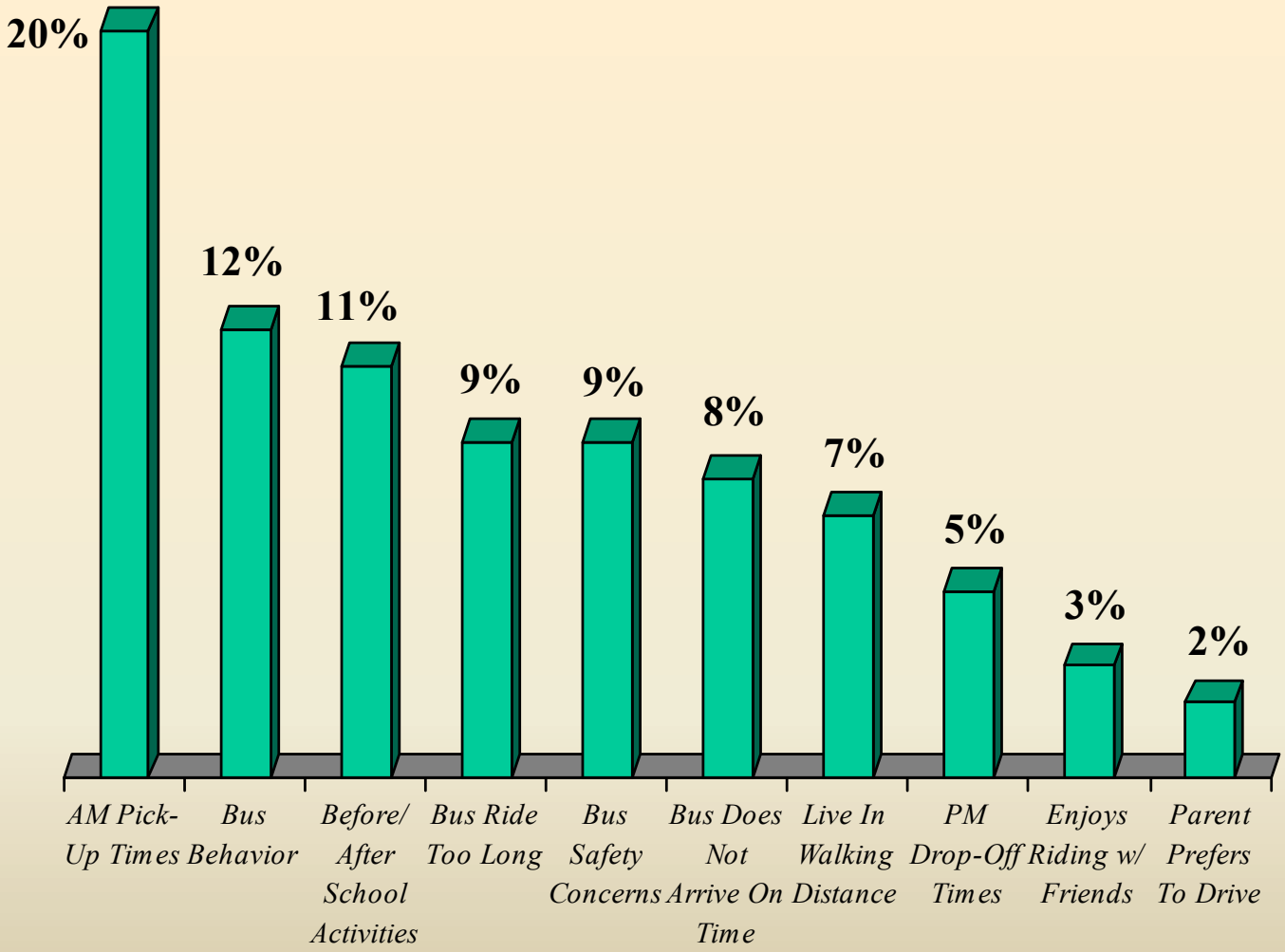


More students ride bus in PM than AM

More students walk home in PM than AM

More students ride van or transit in PM than AM

Survey Results: Why Students Don't Ride School Bus (Top 10)



Percentages based on total number of reasons given.

Survey Results:
Bus Arrival Time (BAT)

1363 total responses given to describe BAT

- 15 Classified Bus Timing as “Early”
- 107 Classified Bus Timing as “Late”
- 241 Classified Bus Timing as “Unpredictable”
- 1000 Classified Bus Timing as “On Time”

Note: Early buses perceived worse than late buses because child will almost always miss an early bus as opposed to having to wait longer for a late bus.

Parents Perceptions: BAT

- If bus comes 1 to 5 min. late, 1 time a week…
  - 72% of parents call this "On Time"
  - 28% of parents call this "Late" or "Unpredictable"
- If bus comes 6 to 10 min. late, 1 time a week…
  - 70% of parents call this "On Time"
  - 30% of parents call this "Late" or "Unpredictable"
- If bus comes > 10 min. late, 1 time a week…
  - 36% of parents call this "On Time"
  - 64% of parents call this "Late or Unpredictable"

Percentages based on number of parents replying "On Time," "Late," or "Unpredictable" with the given late count and approximate lateness in AM.

Parents Perceptions: BAT

- If bus comes 1 to 5 min. late, 2 to 3 times a week…
  - 55% of parents call this "On Time"
  - 45% of parents call this "Late" or "Unpredictable"
- If bus comes 6 to 10 min. late, 2 to 3 times a week…
  - 29% of parents call this "On Time"
  - 71% of parents call this "Late" or "Unpredictable"
- If bus comes > 10 min. late, 2 to 3 times a week…
  - 9% of parents call this "On Time"
  - 91% of parents call this "Late or Unpredictable"

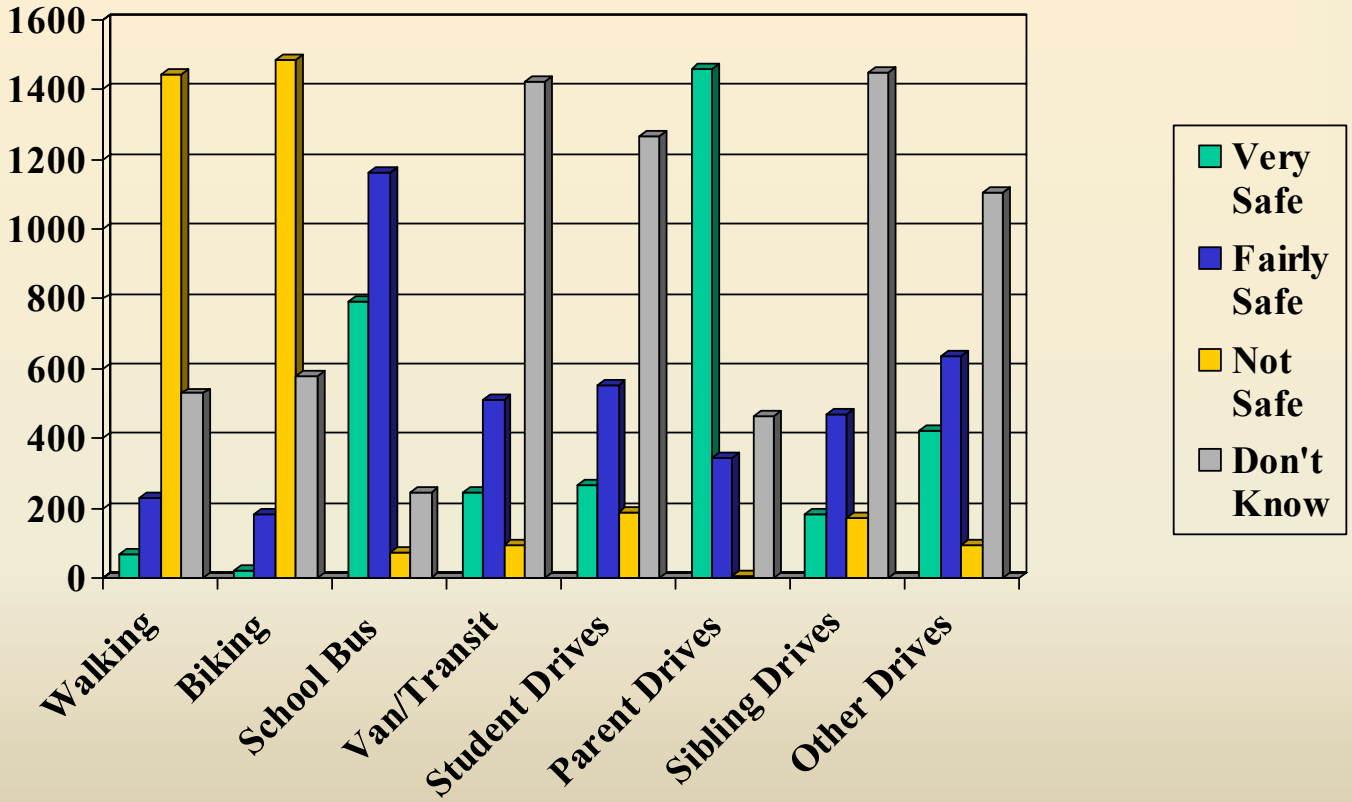
Percentages based on number of parents replying "On Time," "Late," or "Unpredictable" with the given late count and approximate lateness in AM.

Parents Perceptions: BAT

- If bus comes 1 to 5 min. late, 4 to 5 times a week…
  - 53% of parents call this "On Time"
  - 47% of parents call this "Late" or "Unpredictable"
- If bus comes 6 to 10 min. late, 4 to 5 times a week…
  - 12% of parents call this "On Time"
  - 88% of parents call this "Late" or "Unpredictable"
- If bus comes > 10 min. late, 4 to 5 times a week…
  - 11% of parents call this "On Time"
  - 88% of parents call this "Late or Unpredictable"

Percentages based on number of parents replying "On Time," "Late," or "Unpredictable" with the given late count and approximate lateness in AM.

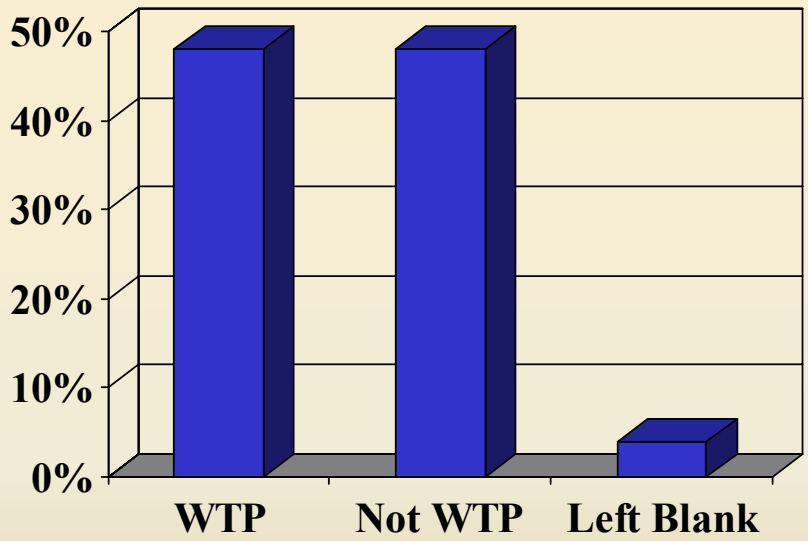
Survey Results:
How Safe Are The Modes?



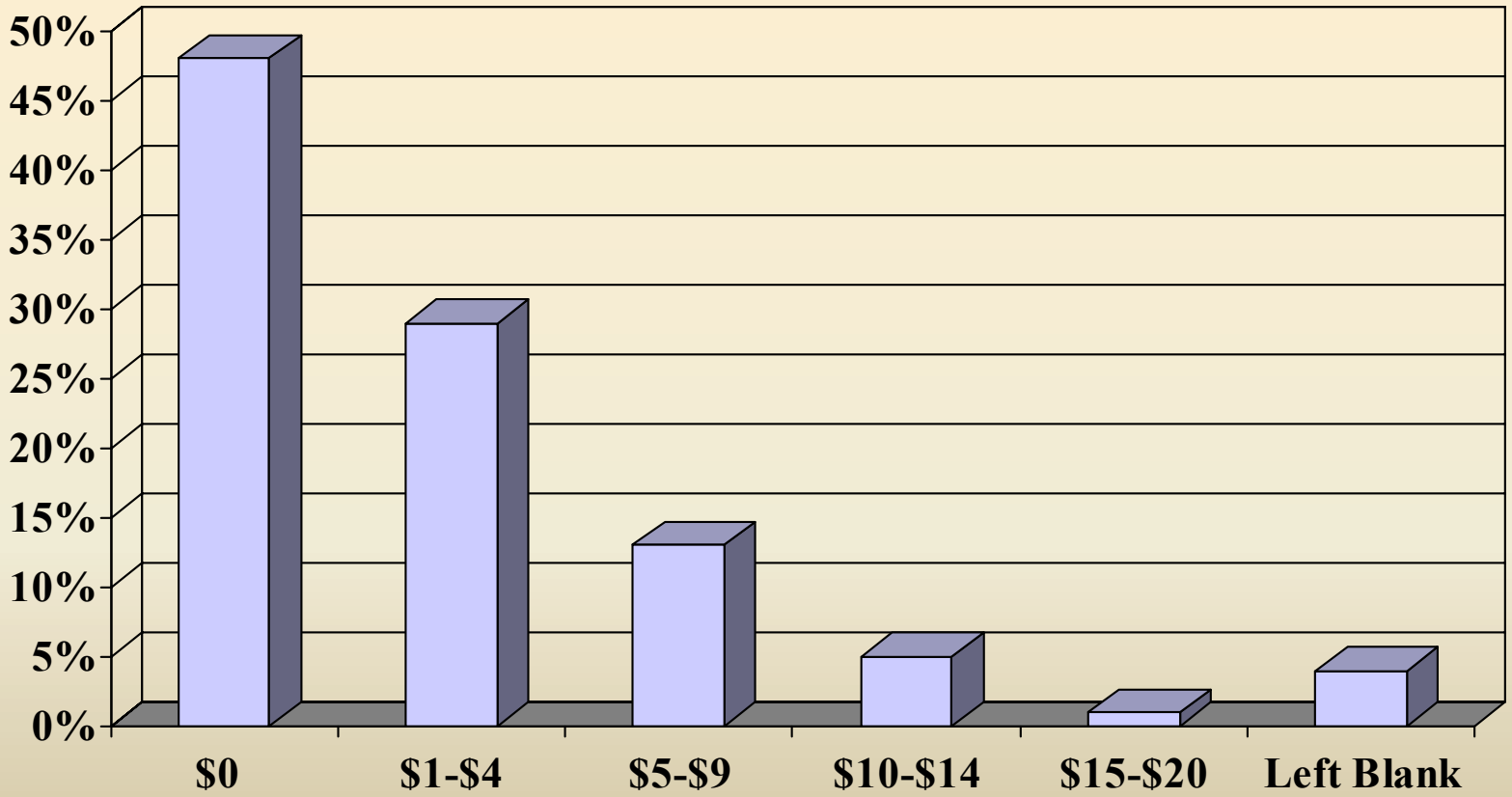
Note: Parents seem to combine safety and security components in their perception of what is "safe."

Survey Results: Paging Willingness To Pay (WTP)

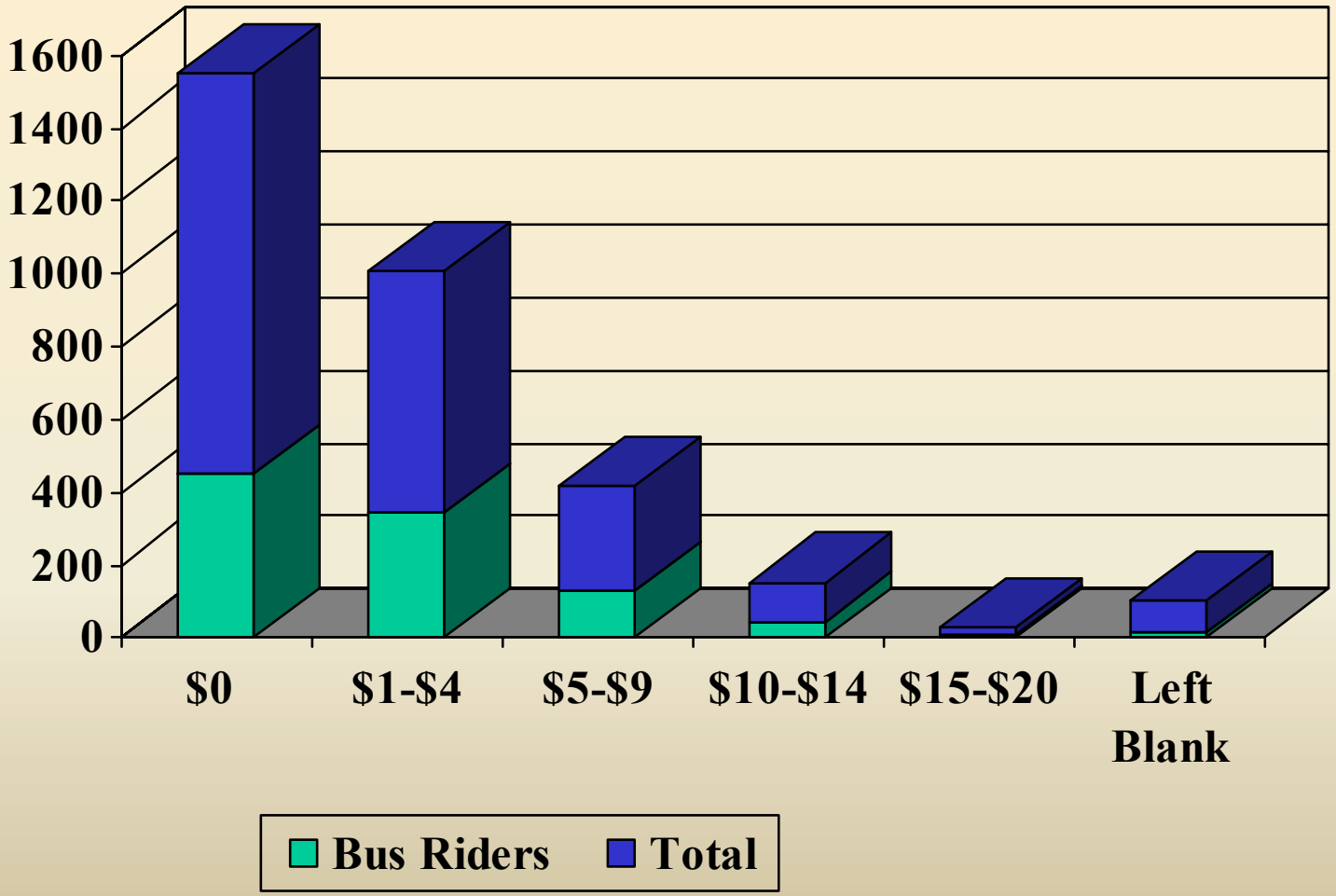
- Paging Technologies briefly explained in survey (pagers sound in the home a few minutes before actual bus arrival each day)
- Asked what cost parents considered “reasonable” to pay for paging service



Survey Results:
Levels of Paging WTP

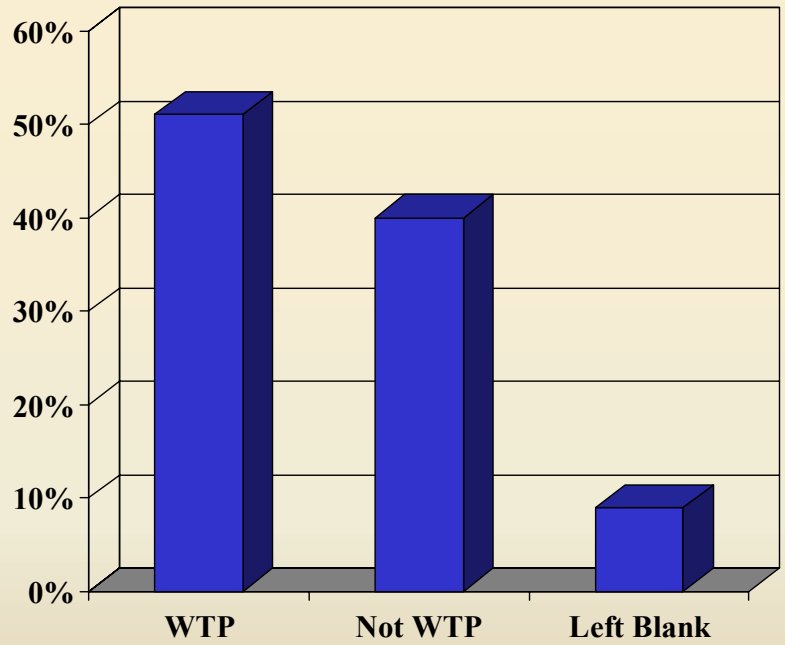


Survey Results:
Paging WTP for Bus Riders

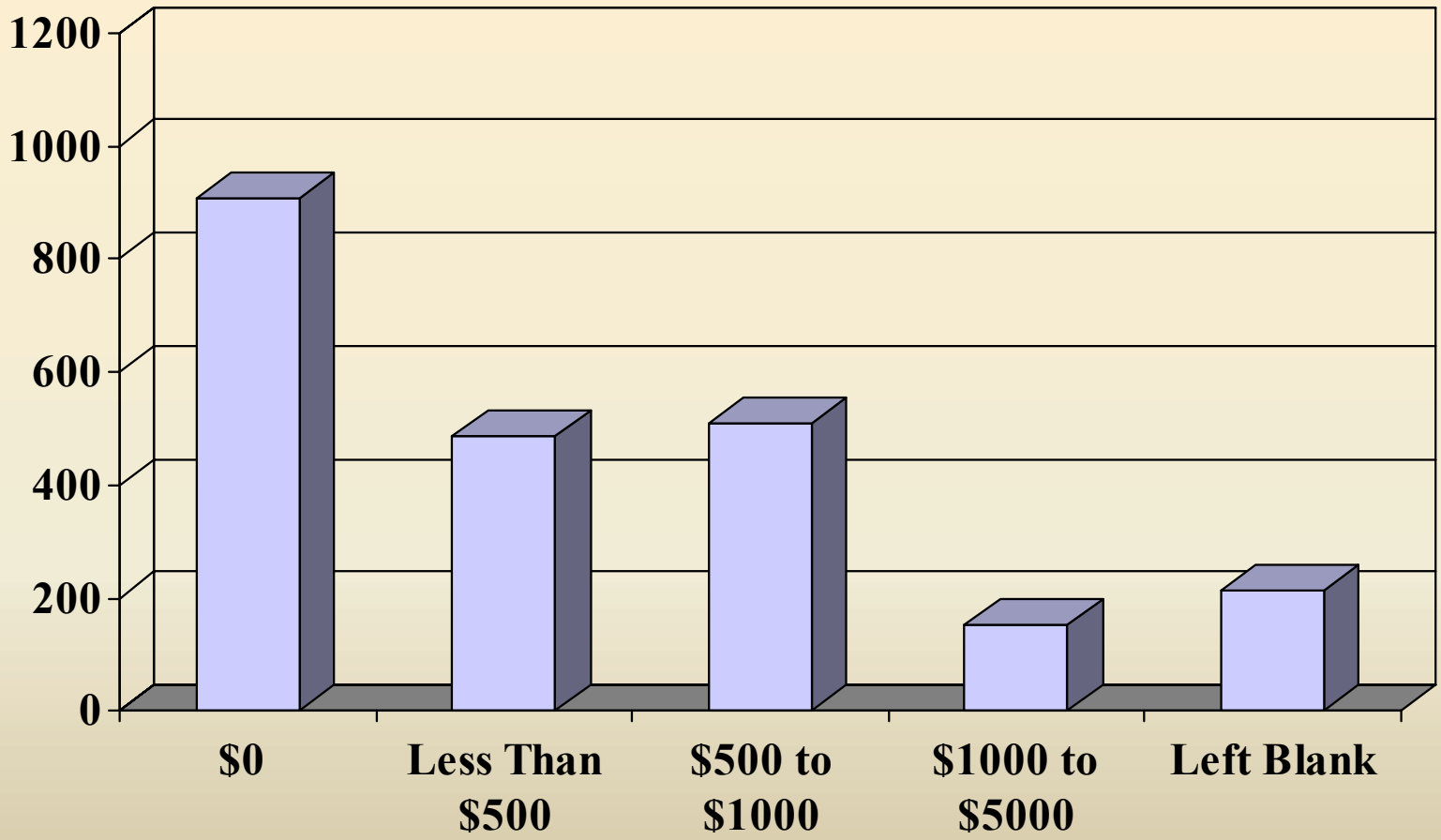
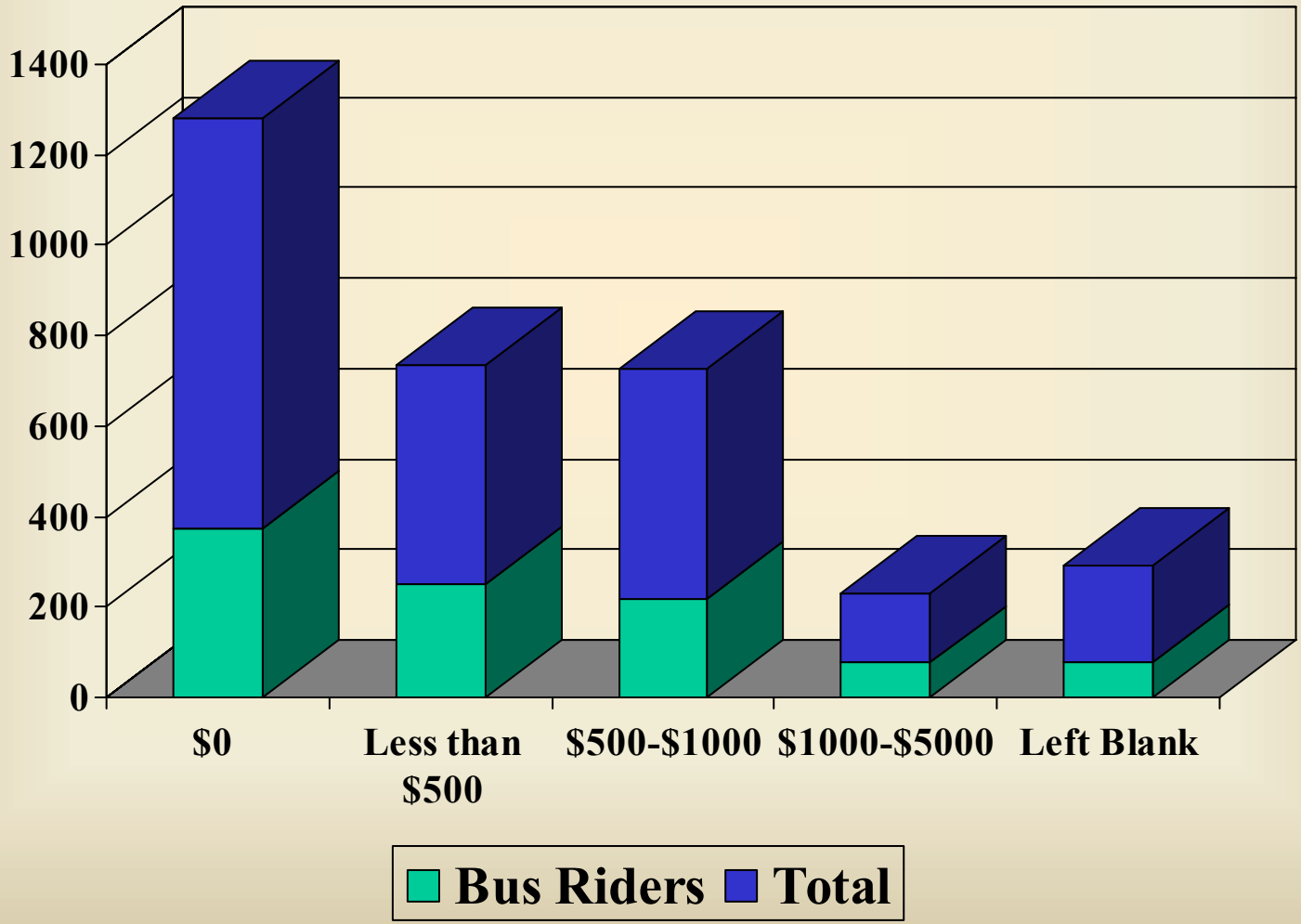


Survey Results: Tracking Willingness To Pay (WTP)

- Vehicle tracking briefly explained in survey (allows for central monitoring of locations of all buses)
- Asked what cost would be "reasonable" for WCPSS to pay to install tracking devices on a single bus



Survey Results: Levels of Tracking WTP



Survey Results: Tracking WTP for Bus Riders