ROADWATCH

Common Core Math Objectives

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools and strategies.
6. Attend to precision.
7. Look for and express regularity in repeated reasoning.
8. Look for and make use of structure.

Common Core State Standards: Statistics and Probability

S.ID.5 – Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data. Recognize possible associations and trends in the data.

S.MD.2 – Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.

S.MD.3 – Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value.

S.MD.4 - – Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value.

Data Interpretation

Use the data collected on your ROADWATCH handout to make a graph of your data.

Graph Title: _____
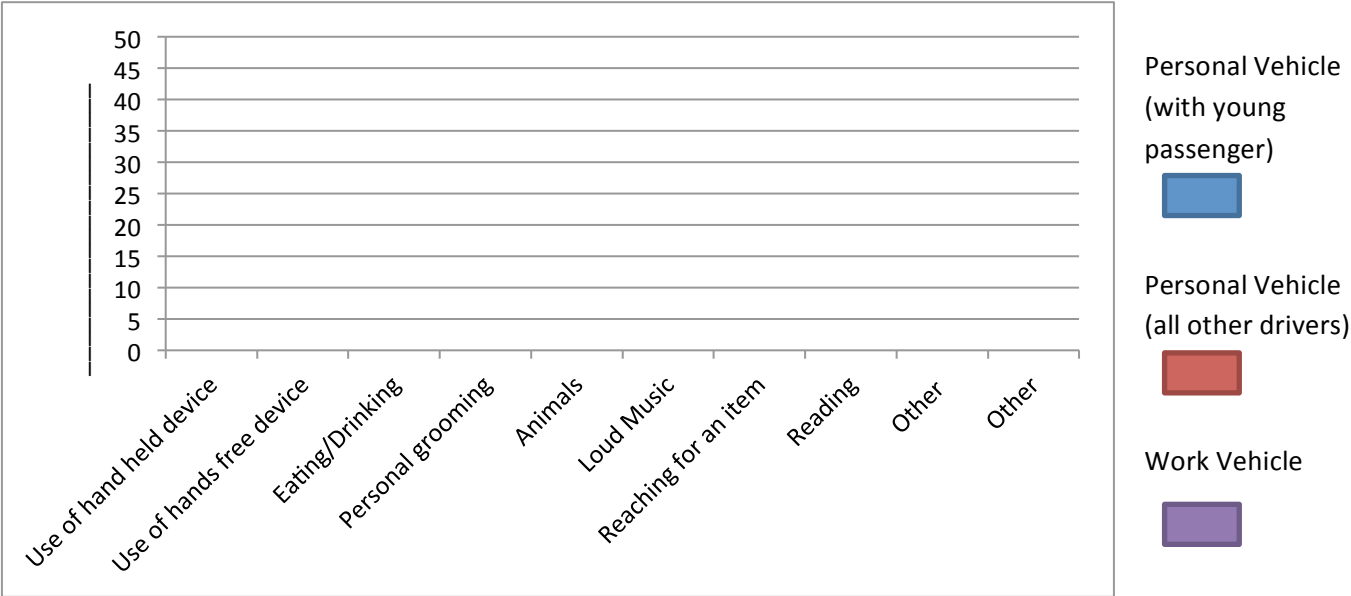
Questions

1. What percentage of drivers were using hand held devices while driving?

2. What percentage of drivers were using hands free devices while driving?

3. What percentage of drivers were eating or drinking while driving?

4. What percentage of drivers were grooming themselves while driving?

5. What percentage of drivers had animals in their car?

6. What percentage of drivers were listening to "loud" music while driving?

7. What percentage of drivers were reading or using a mapping system while driving?

8. Which category had the highest percentage of distracted driving?

9. What is the total percentage of distracted drivers compared to non-distracted drivers?

"At any given daylight moment across America, approximately 660,000 drivers are using cell phones or manipulating electronic devices while driving, a number that has held steady since 2010." – Distraction.gov

"The number of driver's licensed in the United States in 2013 was 212,160,000." – Statista.com

10. After reading the two facts above, what percentage of drivers would you EXPECT to be driving while distracted?

11. Which categories would you associate with "using a cell phone or manipulating electronic devices?"

12. Add all of the tallies you observed in those categories that you answered in question 10.

13. How many cars did you observe today in total (distracted and not distracted)?

14. Using the percentage that you calculated using National statistics, how many cars would you EXPECT to be

    driving distracted? (Hint: use the percentage in answer 9 with the total numbers of drivers from question 12).

15. What percentage of drivers did you OBSERVE using a cell phone or manipulating electronic devices?

16. Was the EXPECTED percentage different from the OBSERVED percentage? Try to explain your answer.