How to improve our current on-campus parking system?

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Previous survey questions:

1. Please select which of the following best describes you:
    a. Undergraduate student
    b. Graduate student
    c. Staff/faculty member

2. Do you own a car that you use (either regularly or occasionally) to commute to and from CMU?
    a. Yes
    b. No

3. Do you use a friend's or family member's car to commute to and from CMU (either regularly or occasionally)?
    a. Yes
    b. No

For the following questions, please think about how often in the LAST SEMESTER(starting January), you have parked at the METERED parking spots on Tech Streets, Frew Street, or surrounding Schenley Park.

4. How many times in an average week in the past semester have you parked at a metered spot on Tech Street, Frew Street, or surrounding Schenley Park? If you leave campus and return on the same day please count each distinct number of times you have parked.

    Please fill in the blank with your answer: _____ times in a regular week

5. How many times have you parked at a metered spot on Tech Street, Frew Street, or surrounding Schenley Park from when the semester began on January 16th until (insert date of beginning of survey)?
    Please fill in the blank with your answer? _____ times until (insert date).

6. How fair do you think the rates for the metered spots mentioned above are? The rate is $1 for 30 minutes ($2 per hour)?
    a. Very fair

b. Moderately fair
c. Neither fair nor unfair
d. Slightly unfair
e. Very unfair
f. No opinion

7. How many times have you gotten a ticket in this semester (insert dates appropriate for start of survey) because you have parked at a metered spot on Tech Street, Frew Street, or surrounding Schenley Park and the meter has run out or you have failed to pay?
   Please fill in the blank with your answer? _____ times.

8. What percentage of the times that you have parked at the above mentioned meters have you wanted to pay, but have not been able to pay in full or at all because you did not have enough quarters?
   Please fill in the blank with your answer? _____ % of the times I have parked.

9. What time of day (on every day but Sunday) would you consider to be the most fair to START requiring payment at the meters mentioned above? (be sure to mention AM or PM, and note 12 pm is noon)
   Please fill in the blank with your answer? _____

10. What time of day (on every day but Sunday) would you consider to be the most fair to STOP requiring payment at the meters mentioned above? (be sure to mention AM or PM, and note 12 pm is noon)
    Please fill in the blank with your answer? _____

11. Which of the following rates would you consider to be the most fair for parking at the mentioned meters?
    a. less than $.5 per hour
    b. $.5 per hour
    c. $1 per hour
    d. $1.5 per hour
    e. $2 per hour
    f. $2.5 per hour
    g. $3 per hour
    h. $3.5 per hour
    i. More than $3.5 per hour

12. How much more or less fair would you think the parking meter rates would be if you were allowed to pay with multiple kinds of coins (quarter, dimes, nickels)?

a. Much less fair
b. Less fair
c. The same fairness
d. More fair
e. Much more fair

13. How much more or less fair would you think the parking meter rates would be if you were allowed to pay with credit and debit cards at the meters?
    a. Much less fair
    b. Less fair
    c. The same fairness
    d. More fair
    e. Much more fair

14. How much more or less fair would you think the parking meter rates would be if you were allowed to pay with multiple kinds of coins (quarter, dimes, nickels) AND credit or debit cards at the meters?
    a. Much less fair
    b. Less fair
    c. The same fairness
    d. More fair
    e. Much more fair

15. How crowded do you perceive the metered parking spots above mentioned to be during the early morning hours (6 am – 9 am)?
    a. literally almost no cars parked at all (close to 0% of the spaces are taken)
    b. fewer than 25% of the spaces are taken
    c. about 25%-50% of the spaces are taken
    d. about 50%-75% of the spaces are taken
    e. about 75%-100% of the spaces are taken
    f. pretty much 100% of the spaces are taken
    g. I don't know

16. How crowded do you perceive the metered parking spots above mentioned to be during the later morning hours (9 am – 12 pm)?
    a. literally almost no cars parked at all (close to 0% of the spaces are taken)
    b. fewer than 25% of the spaces are taken
    c. about 25%-50% of the spaces are taken
    d. about 50%-75% of the spaces are taken
    e. about 75%-100% of the spaces are taken

    f. pretty much 100% of the spaces are taken

    g. I don't know

17. How crowded do you perceive the metered parking spots above mentioned to be during the afternoon hours (12 pm – 3 pm)
    a. literally almost no cars parked at all (close to 0% of the spaces are taken)
    b. fewer than 25% of the spaces are taken
    c. about 25%-50% of the spaces are taken
    d. about 50%-75% of the spaces are taken
    e. about 75%-100% of the spaces are taken
    f. pretty much 100% of the spaces are taken
    g. I don't know

18. How crowded do you perceive the metered parking spots above mentioned to be during the late afternoon hours (3 pm – 6 pm)
    a. literally almost no cars parked at all (close to 0% of the spaces are taken)
    b. fewer than 25% of the spaces are taken
    c. about 25%-50% of the spaces are taken
    d. about 50%-75% of the spaces are taken
    e. about 75%-100% of the spaces are taken
    f. pretty much 100% of the spaces are taken
    g. I don't know

19. How crowded do you perceive the metered parking spots above mentioned to be during the evening hours (6 pm – 9 pm)
    a. literally almost no cars parked at all (close to 0% of the spaces are taken)
    b. fewer than 25% of the spaces are taken
    c. about 25%-50% of the spaces are taken
    d. about 50%-75% of the spaces are taken
    e. about 75%-100% of the spaces are taken
    f. pretty much 100% of the spaces are taken
    g. I don't know

20. How crowded do you perceive the metered parking spots above mentioned to be during the night hours (9 pm – 12 am)
    a. literally almost no cars parked at all (close to 0% of the spaces are taken)
    b. fewer than 25% of the spaces are taken
    c. about 25%-50% of the spaces are taken
    d. about 50%-75% of the spaces are taken
    e. about 75%-100% of the spaces are taken

     f.   pretty much 100% of the spaces are taken

     g. I don't know

21. How much more or less often you would park at the metered spots if you were allowed to pay with multiple kinds of coins (quarter, dimes, nickels)?
     a. Much less often
     b. Slightly less often
     c. The same amount
     d. Slightly more often
     e. Much more often

22. How much more or less often you would park at the metered spots if you were allowed to pay with credit or debit cards?
     a. Much less often
     b. Slightly less often
     c. The same amount
     d. Slightly more often
     e. Much more often

23. How much more or less often you would park at the metered spots if you were allowed to pay with multiple kinds of coins (quarter, dimes, nickels) AND credit or debit cards?
     a. Much less often
     b. Slightly less often
     c. The same amount
     d. Slightly more often
     e. Much more often

24. For how long do you normally park at the metered spots at any given time?
     a. Less than 1 hour
     b. About 1 hour
     c. Between 1 and 2 hours
     d. About 2 hours
     e. Between 2 and 3 hours
     f. About 3 hours
     g. Between 3 and 4 hours
     h. About 4 hours
     i. More than 4 hours

25. How many times in a given week do you park at the metered spots in the following time slots?
     a. 6 am – 9 am   _____ times

b. 9 am – 12 pm   _____ times
c. 12 am – 3 pm   _____ times
d. 3 pm – 6 pm   _____ times
e. 6 pm – 9 pm   _____ times
f. 9 pm – 12 am   _____ times

Current survey questions:

1. Please select which of the following best describes you:
    a. Freshman
    b. Sophomore
    c. Junior
    d. Senior
    e. Graduate student
    f. Staff/faculty member

2. Please select your gender:
    a. Male
    b. Female

3. In what college do you belong to? (Only apply to undergraduate students)
    a. HSS
    b. MCS
    c. CIT
    d. CFA
    e. Tepper
    f. SCS
    g. Heinz

4. Do you own a car that you use (either regularly or occasionally) to commute to and from CMU?
    a. Yes
    b. No

5. Do you use a friend's or family member's car to commute to and from CMU (either regularly or occasionally)?
    a. Yes
    b. No

For the following questions, please think about how often in the LAST SEMESTER(starting January), you have parked at the METERED parking spots on Tech Streets, Frew Street, or surrounding Schenley Park.

6. How many times in an average week in the past semester have you parked at a metered spot on Tech Street, Frew Street, or surrounding Schenley Park? If you leave campus and return on the same day please count each distinct number of times you have parked.

   Please fill in the blank with your answer: _____ times in a regular week

7. How fair do you think the rates for the metered spots mentioned above are? The rate is $1 for 30 minutes ($2 per hour)?
   a. Very fair
   b. Moderately fair
   c. Neither fair nor unfair
   d. Slightly unfair
   e. Very unfair
   f. No opinion

8. How many times have you gotten a ticket in this semester (insert dates appropriate for start of survey) because you have parked at a metered spot on Tech Street, Frew Street, or surrounding Schenley Park and the meter has run out or you have failed to pay?
        Please fill in the blank with your answer? _____ times.

9. How many times have you parked at the above mentioned meters that you wanted to pay, but have not been able to pay in full or at all because you did not have enough quarters?
        Please fill in the blank with your answer? _____ times.

10. What time of day (on every day but Sunday) would you consider to be the most fair to START requiring payment at the meters mentioned above? (be sure to mention AM or PM, and note 12 pm is noon)
        Please fill in the blank with your answer? _____

11. What time of day (on every day but Sunday) would you consider to be the most fair to STOP requiring payment at the meters mentioned above? (be sure to mention AM or PM, and note 12 pm is noon)
        Please fill in the blank with your answer? _____

12. Which of the following rates would you consider to be the most fair for parking at the mentioned meters?
    a. less than $.5 per hour

b. $.5 per hour
c. $1 per hour
d. $1.5 per hour
e. $2 per hour
f. $2.5 per hour
g. $3 per hour
h. $3.5 per hour
i. More than $3.5 per hour

13. For how long do you normally park at the metered spots at any given time?
    a. Less than 1 hour
    b. About 1 hour
    c. Between 1 and 2 hours
    d. About 2 hours
    e. Between 2 and 3 hours
    f. About 3 hours
    g. Between 3 and 4 hours
    h. About 4 hours
    i. More than 4 hours

14. How many times in a given week do you park at the metered spots in the following time slots?
    a. Before noon   _____ times
    b. 12pm-7pm   _____ times
    c. After 7pm   _____ times

15. How much more or less satisfied would you be if the following scenario happened?

(Check the ~~appropriate box~~) **check one box in each column**

	You are allowed to pay with multiple kinds of coins (quarter, dimes, nickels)	You are allowed to pay with credit and debit cards at the meters
Much less satisfied		
Less satisfied		
The same		
More satisfied		
Much more satisfied		

16. How crowded do you perceive the metered parking spots above mentioned to be during the following hours?

(Check the ~~appropriate box~~) **check one box in each column**

	6am-9am	9am-12pm	12pm-3pm	3pm-6pm	6pm-9pm	9pm-12pm
Almost no cars (close to 0% of the spaces are taken)						
Fewer than 25%						
About 25%-50%						
About 50%-75%						
About 75%-100%						
Pretty much 100%						
I don't know						

Is this the question that you're going to convert to "before noone, noon - 7, and after 7"?

17. How much more or less often you would park at the metered spots if the follow scenario happened? (Check the appropriate box) **one box in each column**

	You are allowed to pay with multiple kinds of coins (quarter, dimes, nickels)	You are allowed to pay with credit or debit cards
Much less often		
Slightly less often		
The same amount		
Slightly more often		
Much more often		

Redesign:

According to the professor's feedback from last week, we added a few demographic questions at the beginning such as gender, class rank and college, in order to ensure our sample contains a fair number of people from each category, thus very representative of the whole target population. Also, we combined the questions of the same type and made three tables for them. In this way we state the questions and answer choices more clearly, and respondents do not have to read the same question over and over again.

For the pretest, we surveyed three of our friends that own a car. They are all included in both the target population and sampling frame since they are all Carnegie Mellon undergraduates whose email address can be found in the c-book. During the process, we told them to focus more on the questions and answer choices themselves than their actual answers. According to them, number 4 and 5 from previous version were kind of a duplicate because one asks, "How many times in an average week… " And the other asks, "How many times during the past semester…". We can simply multiply their answer for number 4 by the total weeks to get answer for number 5, so we deleted number 5.

Moreover, the word "percentage" in number 8 is not appropriate because it requires people to recall the total times they parked there and the times they were not able to pay in full or at all, then get the percentage. This would be a lot of unnecessary work for respondents. So we just changed this question to "How many times…". If we really want to get the percentage, we can

just divide their answer by the total times, which they have already answered for previous question.

Also for the last question, they pointed out that we gave too many time slots that it is almost impossible to recall for all of them. So we reduced the slots to three: Before noon, 12pm-7pm, after 7pm. In this way it is easier for them to recall.

These are the changes we made according to the feedback from professor and pretest respondents.