Student Project Reports   BCSE Student Research

2020

Lewisburg Shade Tree Commission: Tree Inventory Repair, Community Awareness, and Policy Recommendations

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Lewisburg Shade Tree Commission:
Tree Inventory Repair, Community Awareness, and Policy
Recommendations

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Abstract

Lewisburg has more than 900 officially recorded street trees, which are a significant part of the everyday scenery along the streets. This report explains the work that was done this summer to update the inventory of those 900 trees, and includes results from a survey of Lewisburg residents knowledge about street trees and their related responsibilities. Both projects are intended to help the Borough and the Shade Tree Commission better manage their street trees and make planting and pruning decision in the future, and to make suggestions of how to best use the data to drive policy. The project completed repair for 700 of the 900 trees, with the remaining ones being updated, or located within borough parks.

Part I. Tree Location Reparation

Introduction

The first goal of this project was to repair and update the existing inventory of street trees, which is currently in the software package ArcGIS. The original data was complied in 2007 by researchers from Penn State School of Forestry, including location, species, size, health, site condition, etc. Unfortunately, the locations were referenced using the street addresses of the adjacent houses, which were not proper X, Y geo-spatial coordinates. Thus, when the spreadsheet was opened in ARC-GIS, the tree locations were *centered* on the *entire property*, not properly shown *in the tree lawn* (the planting strip along the curb). So, the work to repair this glitch took two steps: 1) use a computer to compare current satellite imagery from Google to repair the locations, and 2) make direct field observations to fix those locations that could not be confirmed by satellite imagery.

Method

Repair of the database was done within the Arc-GIS software by overlaying a satellite layer on top of the tree data layer, thus bringing in a photographic representation of the tree locations. Google map was a good reference to be used since it offered current satellite maps with high resolution. This made it easy to compare the satellite images of the trees at the curb with the data-point floating in the middle of each property. At that point, all that was required was to use the mouse to drag the data-points onto the image of the curbside tree. That process automatically caused Arc-GIS to generate the proper geo-spatial coordinates, thus fixing this old problem with the inventory. This worked for about 500 of the trees, but there were some cases that could not be fixed in this manner such as corner properties with multiple trees and multiple species that required a site visit.

The screenshots show before and after maps of the ArcGIS data for street trees along sidewalks in the area of Market street, Saint Louis Street, and 3rd to 5th Street. Each icon represents a single instance recorded by the Penn State Forestry department. The graph on the left (Figure 1) results from our first stage of map fixing, with all the trees now properly situated along the streets rather than overlapped with the properties. At this point, all of the trees use the same white icon, because we had not yet developed a clear notation system (you might notice that many trees in the image are located in people's backyards, but those trees are not under the purview of the STC.)
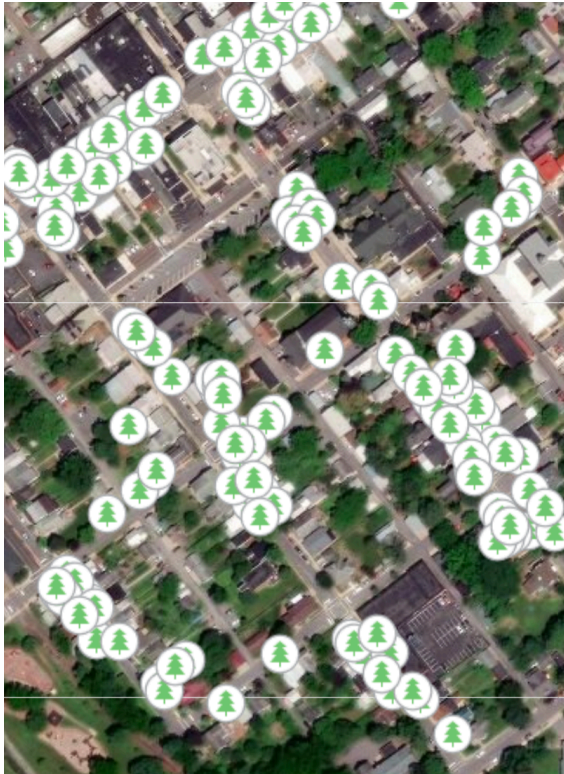

Figure 1. Arial view of street tree data layer in ArcGIS after moving trees to curb but prior to other data correction.
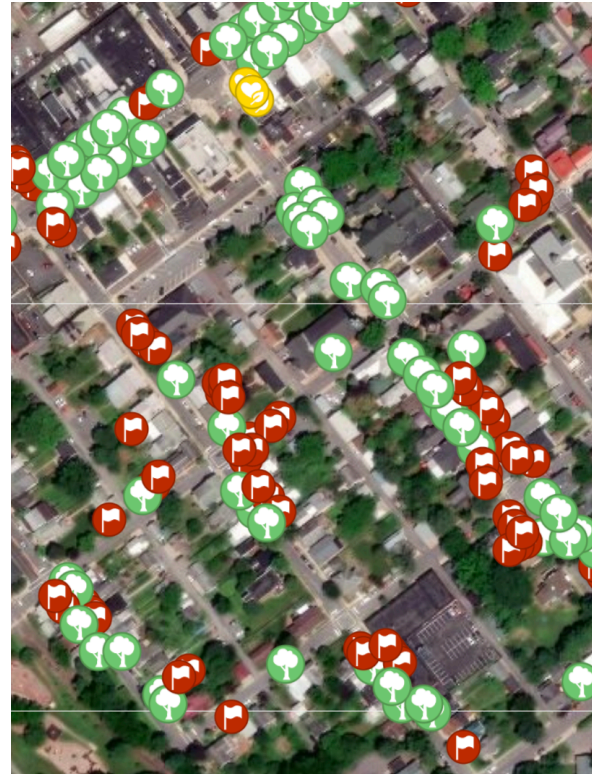
Figure 2. Arial view of street tree data layer in ArcGIS with new icon system after comparisons with the data table.

The graph on the right (Figure 2) shows results after the second stage of map fixing. Three styles of icon with different colors were implemented in order to clarify the status of each tree: 1. trees with confirmed locations and species were identified by green labels, 2. red labels represent those trees that needed a field check, possibly because there were multiple trees on the single address, and 3. yellow labels were used whenever the information in the original database was not complete, as shown in Figure 4. This system was devised to indicate that a member of the STC needed to make some corrections to the data.

As shown by Figure 4, the address of the property was useful even if the species of the tree could not be determined since there was usually only one tree near the address. If multiple trees

were shown in the same location, then a field check was needed in order to confirm the species and the locations of two different trees.
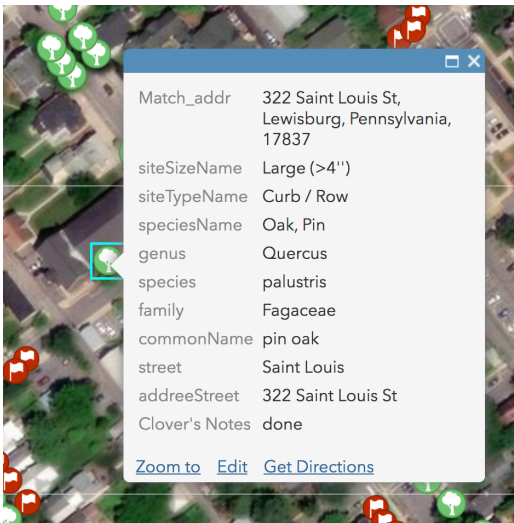

Figure 3. View of table data showing address, species, and size for a fully accurate green icon.
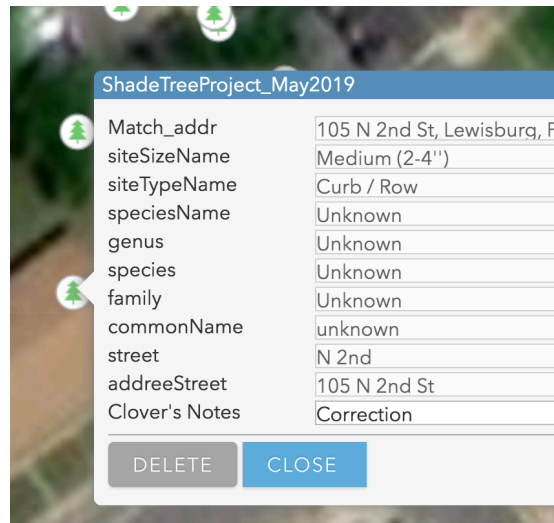

Figure 4. View of table data showing address and size but missing species data, meriting a yellow icon.

Before visiting the actual site, Professor Spiro and Gockley assisted me in acquiring basic knowledge about tree species identification. According to the original data file, there were about 21 species of street trees planted in Lewisburg, of which four varieties were Maple. This training helped me to distinguish among ash, cherry and zelkova, since they all had oval-shaped leaves. Under the instruction of Dr. Spiro, I was able to learn how to use the tree identification guide and identity the most common species. This was critical for updating the ArcGIS data table.

The following graph displays the final map of the street trees after multiple site visits and updates to the data table. To correctly distinguish the condition of each tree in the data set, we made some adjustments to the labels; 1. the green icons now represent trees with confirmed addresses and species, 2. the pink icons were used when the tree was in the dataset but not locatable at the actual site (this means the tree was not found at the indicated address and might have been removed during the past years), and 3. the yellow icons still represented trees with incomplete information that required final site visits by the STC.

According to the overall statistics after we repaired the data layer, we now have 388 street trees with complete data, 275 trees with almost complete data, and the remaining trees requiring a site visit. Completion of the site visits is planned for this May, with Dr. Gockley working with Penn State's Forestry department.

Conclusion and Policy Recommendations

Currently, the database is stored on the Bucknell Arc-GIS computers, as that is where the most recent repair was done. The Borough does not own a license for Arc-GIS, so is not currently

able to store the data. The Union County GIS office does have a license for Arc-GIS, and several trained operators. This would be a logical direction to explore further.

As some trees are planted and removed through STC procedures, while others are managed in emergency situations like storms or accidents, use of the database by both Borough employees and the STC is critical. This could be done by training the users in how to operated the software, of by creating simple paper forms to be filled out as needed, which could then be entered/ updated as part of a monthly process by a single individual. It is beyond the scope of this report how to best create a useful system, but perhaps a future consultant experienced with tree inventory management could be contacted. We are attaching a draft of a paper form that could be used by all parties to get started, and Dr. Gockley is willing to collect those sheets monthly and input the data to keep the inventory ups to date.

In the long run, the map will assist the Borough and the STC with the management of this canopy, as trees that are lost or planted can be added or removed from the database, and proper new species can be chosen. In other word, people who use this map in the future can precisely locate the trees they are interested in, and check all the attributes of that tree, including its species, size, condition, and so on. In addition, a repaired tree inventory will help the STC develop "sustainable design projects that serve simultaneously as tools for ongoing research, teaching and learning" https://www.bucknell.edu/SustainableDesign, and connect well with the mission of the United Nations' Sustainability Development Goals: to "provide a shared blueprint for peace and prosperity for people and the planet" (https://sustainabledevelopment.un.org/sdgs). The map will be consistently updated in the future as we can tell that further site visit is needed for incomplete information, and hopefully it can become an effective and beneficial tool for future STC members.

Part II. Survey about Community opinion

Introduction

This questionnaire is designed to discover community opinions about street trees in Lewisburg. Specifically, we wanted to collect survey data from Lewisburg property or business owners regarding their understanding of the role that street trees play in improving the town, their experiences with street trees, and their understanding of the role and policies of the STC. The survey questions were proposed by the STC members and were approved by the Bucknell IRB (Institutional Review Board). Samples of the actual questionnaire and the FAQ handout used can be found in the appendix. An informed consent was provided on the front page of the questionnaire.

Method

The questions on the questionnaire were discussed and decided by both the members of the STC and the BCSE. Besides the questionnaire, we also made the FAQ handout with the answers or the explanations to some of the questions in the survey, which we offered to them at the completion of their questionnaire.
We prepared 50 questionnaires in total. The survey was conducted on July 25, 2019 by using convenience sampling of Borough residents and was completed in one day. We began our survey at 9 in the morning by setting up the table and all the materials outside of All Star Bagels on Market Street. People who passed by were approached and asked to take the survey (they were also offered an Arbor Day pencil as free giveaway after they finished). Besides that, all the participants were offered the "frequently asked questions" handout and the STC brochures if they wanted to know more about street trees in the community.
Overall, we stayed outside for 7 hours and collected 27 questionnaires.

Analysis

They were 11 questions in the questionnaire and all except Question 8 were categorical (Question 10 asks for a further description if the participant choose yes, but we analyzed the answer as categorical variables). The following analysis is proceeded by the ordinal number (the order they were asked). We first did a univariate analysis (looking at the change within each question, regardless of other questions) to see the distribution of answers for each question. We then performed a bivariate analysis (testing the comparison of each pair of questions) and tested if there existed any relationship between the answers of any two questions.

I. Univariate Analysis (the actual questions are in italics, with the answers below)

1. *Are you a resident of, a business owner , or a property owner in the Borough of Lewisburg? (circle all that apply)*

Among the 27 people we surveyed, 24 participants were Lewisburg residents, 4 were Lewisburg property owners, and 2 were Lewisburg business owners. Note that 3 participants selected both Lewisburg resident and Lewisburg property owner to represent their identity. Clearly, the results are more representative of residents.

2. *How is a street tree different from a regular yard or forest tree? (circle all that apply)*

Among the 27 people we surveyed, 13 of them, which is about half of the participants, selected "more tolerant of urban environments". 12 people indicated that they were not sure. 7 people thought the difference is that a street tree was approved by the commission. 3 people selected "taller", and another 3 people selected "broader". Note that the question allows the participants to circle all that apply, so there were often multiple selections.
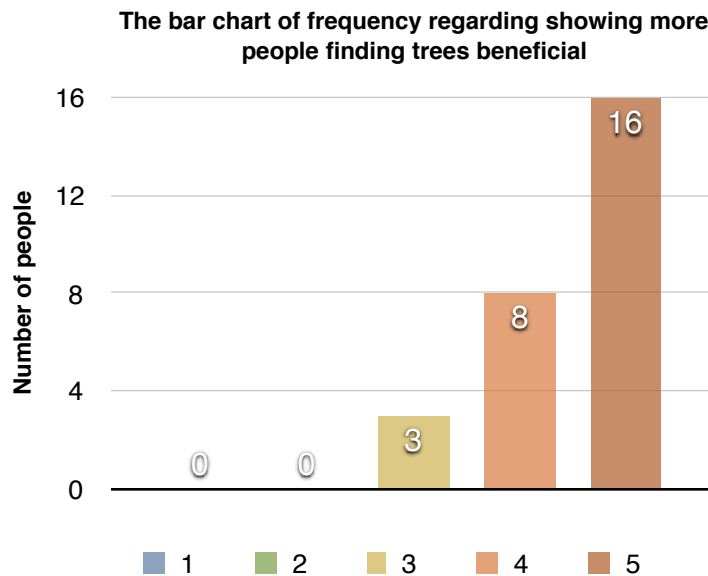
3. *How beneficial are street trees?*

> 1. Shade, beauty, small town atmosphere
> 2. Shade
> 3. They are pretty
> 4. Shade, pretty
> 5. Air quality, soil quality, environment, pretty, shade
> 6. Beautification, comfort for pedestrians, noise control
> 7. Shade for businesses
> 8. Shade, beauty, increased property value
> 9. Clean air, shade
> 10. More shade for pedestrians
> 11. Runoff filteration, shade
> 12. They give nice shade to people walking on the streets
> 13. Shade, visual aesthetics, oxygen

Figure 5. Specific benefits of having street trees, as written by participants.

Figure 5 shows the distribution of the frequency regarding people's attitude towards street trees. To answer the question "how beneficial are street trees", participants were give, a Likert scale with options from 1 to 5, corresponding from least beneficial to very beneficial, to render their impression on street trees. The resulting distribution is strongly left-skewed, as we can see that 16 out of 27 people thought that street trees are very beneficial. No one picked 1 or 2 on the Likert scale, which means no one from our sample denied the benefits of street trees.

The bar chart of frequency regarding showing more people finding trees beneficial

4. *How troublesome are street trees?*

Comparing to the distribution generated by the question of "how beneficial are street trees", the distribution regarding the detriment of street trees is more evenly distributed, as answers ranged across the whole of the scale. However, more thought they were less trouble, with 17 out of 26 (1 participant skip this question) ranking this question low. Of the 9 people who did feel street trees were troublesome, their answers as to why are in Figure 6.

1. Cause uneven sidewalks
2. Pollen after rain, sticks to street cars
3. break sidewalks, drop branches on car
4. Roots interfering with sidewalks; leaves, seed etc - littering sidewalks
5. Roots, cracks in sidewalks / foundations
6. Leaf maintenance clean up, branches fallen
7. Clean up, pruning, plumbing
8. Need maintenance, disturbs sidewalk,
9. Over grown
10. Lifts and cracks sidewalks

Figure 6. Specific problems of having street trees, as written by participants.

The bar chart showing the distribution for question 4
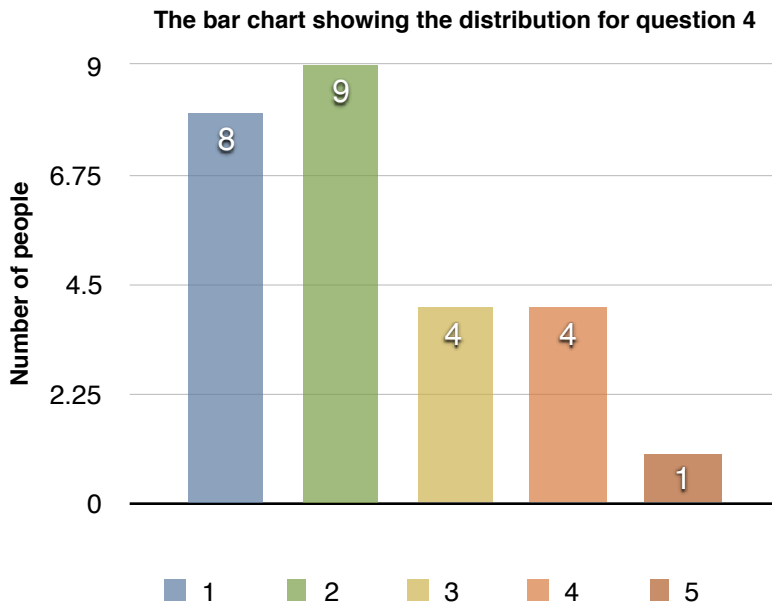
5. *Who owns the planting spaces alongside the curb?*

14 out of 25 participants selected "the borough", and 11 selected the property owner. Two participants skipped this question.

The bar chart of frequency regarding the recognition of responsibility on plating spaces
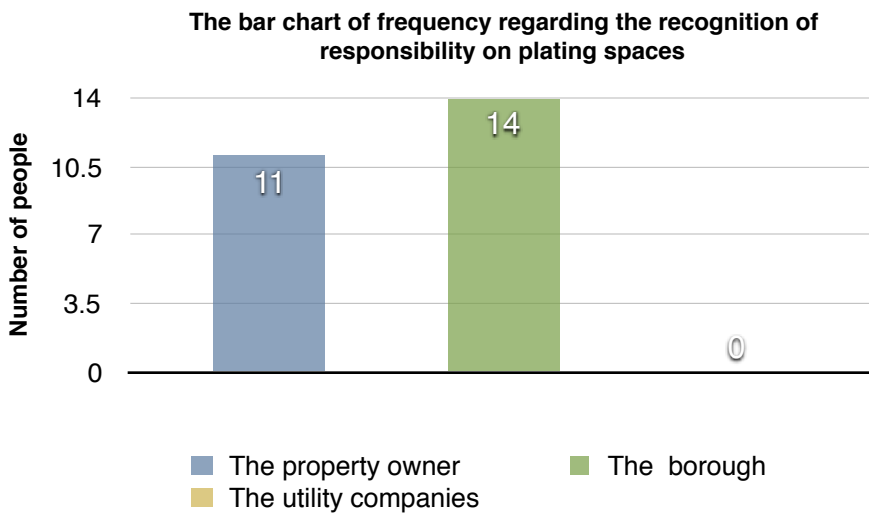
6. *Who is responsible for planting and maintaining the trees in that space?*

13 out of 25 participants selected "the borough", and the rest 12 participants thought the property owner is responsible for planting and maintaining the trees in the planting space alongside the curb. There are roughly same numbers of people within each category. Two participants skipped this question.

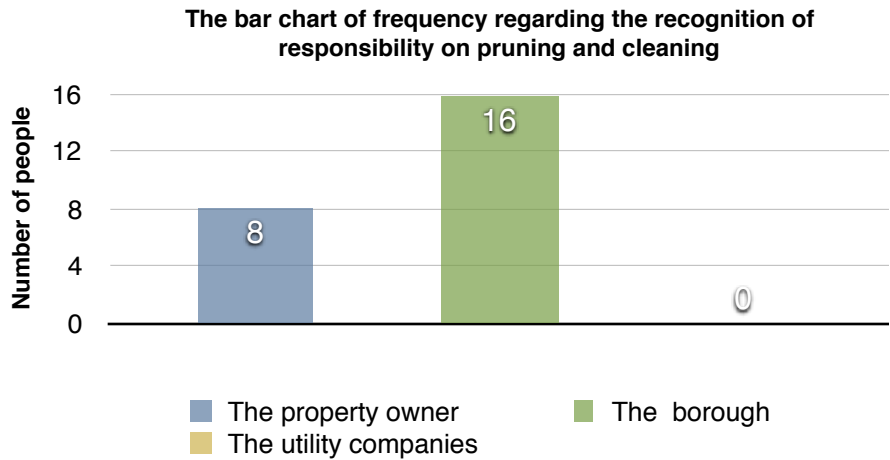**The bar chart of frequency regarding the recognition of responsibility on planting and maintaining**
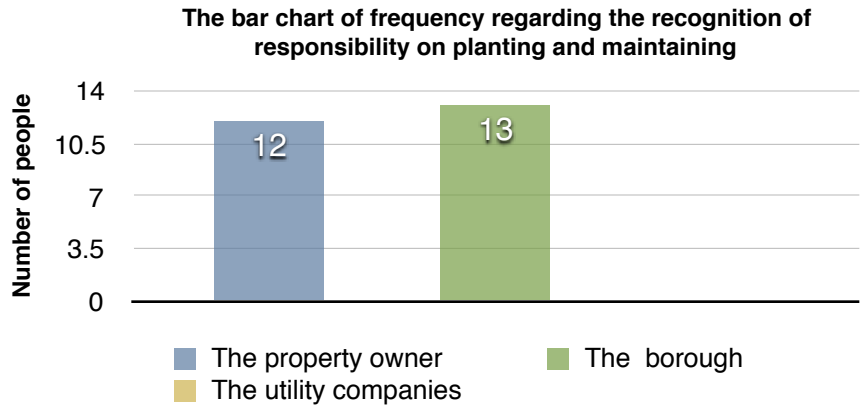
7. *Who is responsible for pruning and cleaning up after the trees in that planting space?*

According to the bar chart shown below, we see that 16 out of 24 participants selected "the borough", and 8 participants thought the property owner owns the planting spaces alongside the curb. We see that the result is different from that of question 5 or question 6 in a sense that the number of people selected "the borough" is twice as much as that of people who selected "the property owner". 3 participants skipped this question.

The bar chart of frequency regarding the recognition of responsibility on pruning and cleaning

From the above three questions regarding the responsibility of different group, we see that the results have one thing in common: no one selected the utility companies as the organization who should own the planting spaces alongside the curb, be responsible for planting and maintaining the tree, or pruning and cleaning up after the trees in that planting space. One thing worth noticing is that for all three questions, the number of participants who select "the Borough" is greater than that who select " the property owner", which means more people thought that the Borough is in charge of the jobs we mentioned above. And since property owners are actually the people responsible, this knowledge might need to be better publicized.

9. *Lewisburg collects a small Street tree Tax as part of its income taxes (Ordinance 1054, the Street tree Tax is 0.100 mils, or ten cents for every $1000). How do you think that tax is used?*

16 out of 27, more than half of the participants, indicated that they had no idea about how the tax is used. 8 people thought the tax is only spent on street tree planting and maintenance, and the rest 3 people thought tax is used as general funds.

The bar chart of frequency regarding usage of tax
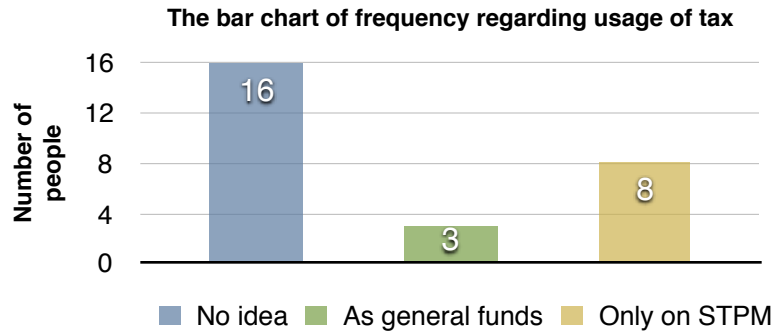
10. *Can you explain what a public right-of-way is? Please provide a full sentence answer.*

According to the statistics, 13 participants selected "Yes" and 14 participants selected "No". The pie chart shows that about 52% of the participants did not think they can explain what a public right-of-way is, and 48% of the participants thought they can and give reasonable explanation.

The Pi chart of percentage regarding recognition of public right-of-way
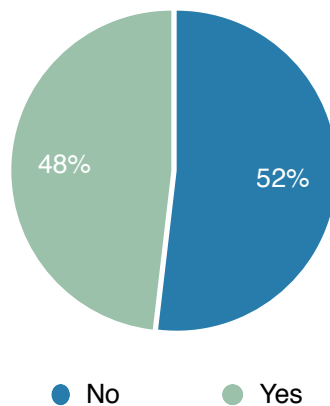
11. *Before you took this survey, were you aware that the Borough of Lewisburg had a Street tree Commission, and that Commission has responsibility for all street trees?*

According to the statistics, 15 participants selected "No" and 12 participants selected "Yes". The pie chart shows that about 56% of the participants did not know that the Borough of Lewisburg had a Street Tree Commission, and 44% of the participants do know about the Street Tree Commission.

II. Bivariate Analysis

After analyzing univariate variables, we are ready to take a look at how people's attitude towards one question may affect the results of another question. To test if there was any association between the answers of two attitude-related questions, we used both chi-squared and Fisher Exact test to build conclusions based on both frequencies and p-values (the p-value represents the probability that observing a test statistic that is at least as extreme under the null hypothesis). In our setting, the null hypothesis is "there is no association between people's attitude towards one question and that towards another".

1. How beneficial are street trees & How troublesome are street trees to community?

First we investigated the relationship between Question 3, "*how beneficial are street trees*", and Question 4, "*how troublesome are street trees*". We divided the participants who answered Question 3 into three groups based on their answers, which are **3**, **4** and **5**. Note that there are 3 people in group **3**, 7 people in group **4**, and 16 people in group **5**.
　　　　To test if their answers on Question 4 differ by, or can be affected by, their answer on Question 3, we ran the following two tests. According to the result, the p-value generated by the chi-squared test is 0.9876, which is much greater than 0.05. So we fail to reject our null hypothesis that "there is no association between people's answer on Question 3 and that on Question 4", which means people's attitude on "how troublesome are street trees" does not depend on how beneficial they think street trees are. In other words, a person who thinks street tree are very beneficial does not necessarily think they are least troublesome: both can be true.

```
> fisher.test(Q3q4_fisher,hybrid=TRUE)

        Fisher's Exact Test for Count Data

data:  Q3q4_fisher
p-value = 0.3509
alternative hypothesis: two.sided

> chisq.test(Q3q4_chi)

        Pearson's Chi-squared test

data:  Q3q4_chi
X-squared = 1.7543, df = 8, p-value = 0.9876
```
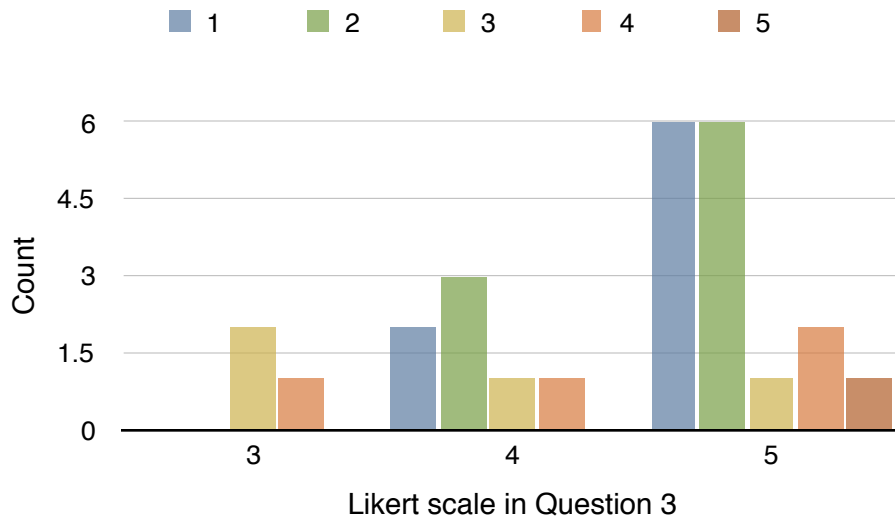
As for the bar charts shown below, the x-axis represents participants' answer to Question 3, which contains 3 groups. The y-axis for the left chart renders the corresponding count of people for each option in Question 4, while that for the right charts shows the corresponding percentage of people who choose the options in Question 4. If we look at each color bar in both
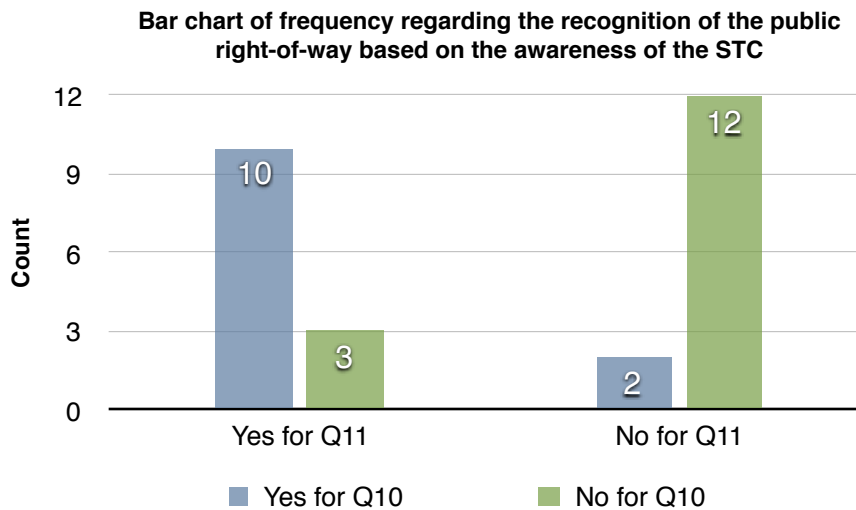
graphs, we see that there is almost no consistent trend. So based on our sample, we infer that people' opinion on benefits and troubles of street trees are independent.
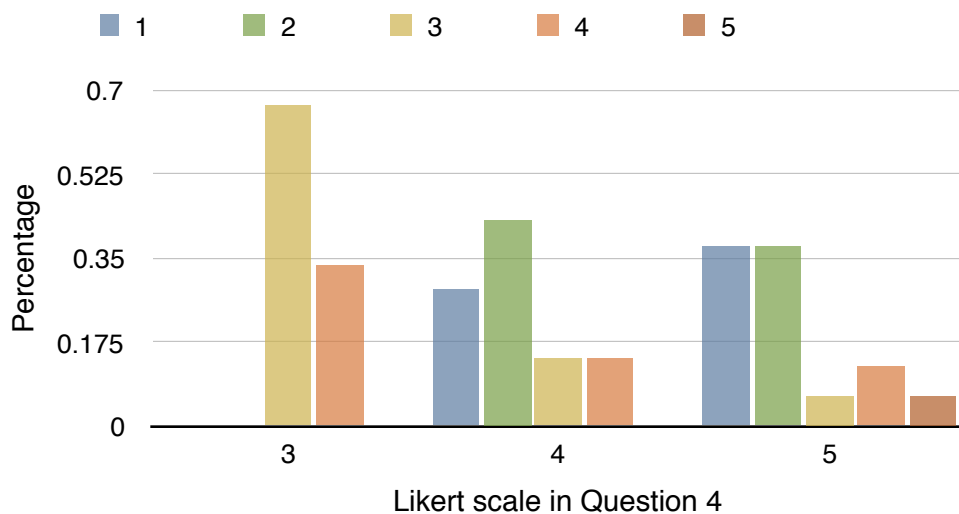
2. Next, we investigated the relationship between questions 10 & 11: "Can you explain what a public Right of Way is" & "Before you took this survey, were you aware that the Borough had a Street tree Commission." We thought that knowledge of legal aspects of right of way might imply additional legal knowledge of street trees.

We divided the participants into two groups based on their answers to Question 11. There were 12 people in the group "Yes" and 15 people in the group "No." From the bar chart we can see that among the 12 people in the Yes group, 10 of them answered yes to Question 10 and gave an explanation, while the rest (3 people) did not know what a public right-of-way was. In the "No" group, only 2 people thought they knew what a public right-of-way was.

Bar chart of frequency regarding the recognition of the public right-of-way based on the awareness of the STC

To test if people the relationship, we ran a chi-square test. As the following code shown, the p-value we obtained from the chi-squared test is 0.003912, which is less than our significant level of 0.05. We reject the null hypothesis that there is no association between the answers toward these two questions, and conclude that people's understanding of the public right-of-way differ by their recognition of the Street Tree Commission.

From this analysis, it seems that there is a relationship between understanding both of these legal issues.

```
> right_of_way <- c(10,3,2,12)
> Q11Q10 <- matrix(right_of_way,ncol=2)
> chisq.test(Q11Q10)

        Pearson's Chi-squared test with Yates' continuity
correction

data:   Q11Q10
X-squared = 8.3244, df = 1, p-value = 0.003912
```

3. "Before you took this survey, were you aware that the Borough had a Street tree Commission" & general realization

Like the previous analysis, we suspected that if a resident, a property owner ,or a business owner knew about the role of the Street Tree Commission, we might expect that they had a stronger general awareness about the commission's interest and endeavor, residents's responsibility and presence of street trees?

For overall measure of the knowledge of the individual taking the survey, a holistic score was generated for each survey. That scoring was done by Dr. Gockley, and though subjective, was based on the accuracy of the response to the known research. Some of the opinion questions were graded partially for accuracy within a range that matched researched evidence. For example, If a respondent answered that trees were beneficial at either a 4 or 5 level, that matches the evidence, but even if they gave it a 2 or 3, but then listed several specific benefits, then they were given whole credit. The definition of "benefit" that was used was the dollar value added to of street to to a property. Therefore, a respondent could have an opinion that the trees were NOT beneficial, but the research shows that they are, as measured in dollar values of property. This does not invalidate their opinion, but it does not match the STC's definition. Finally, some questions were given partial credit as they could have chosen more than one answer (borough AND property owned) but stye only chose one, and so got 1/2 credit. This holistic score was generated in part to determine the overall level of public knowledge, and was also used to look for patterns within the scores based on resident vs business owners, or knowledge of STC vs no knowledge.

The overall distribution of the scores is shown below.

From the distribution, we see that the distribution is slightly left-skewed. The average score is 5.0556, and the standard deviation is 1.918. As we did before to check if people's awareness of the STC reflected their general knowledge, we first put people into two groups. By using the average score 5.0556 as the criterion, we made an "above the average group" and a "below the average group". The data set indicated that 13 people received a score greater than the average, and 14 people were below the average.

The results (shown in the Figure XX) showed a consensus with our conjecture. Among those who knew the STC, there were more people who received a score that was higher than average. While among those who answered "No" to question 11, more than 2/3 of the people got a score that is less than the average. To test our assumption, it was still necessary to perform further systematic statistical analysis.

The result generated by R revealed the association between people's awareness to the STC and the score they received on the survey. A p-value of 0.03 is less than our significant level, so we reject the null hypothesis and conclude that people would have better general knowledge regarding the street trees and their responsibilities if they know about Lewisburg Tree Commission. That agreed with our earlier hypothesis that knowledge of the commission made them more knowledgeable of street trees.

```
> score <- c(3,9,11,4)
> Q11_General <- matrix(score,ncol=2)
> chisq.test(Q11_General)


        Pearson's Chi-squared test with Yates' continuity
correction

data:  Q11_General
X-squared = 4.4524, df = 1, p-value = 0.03485
```
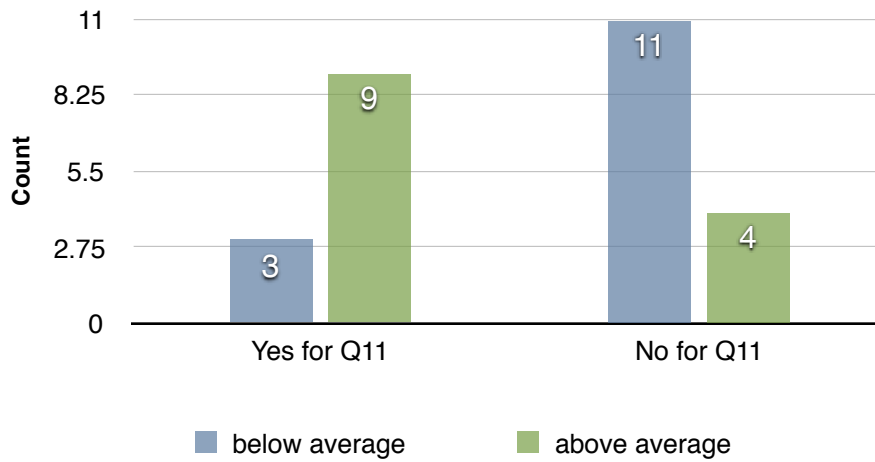
Scores on general knowledge
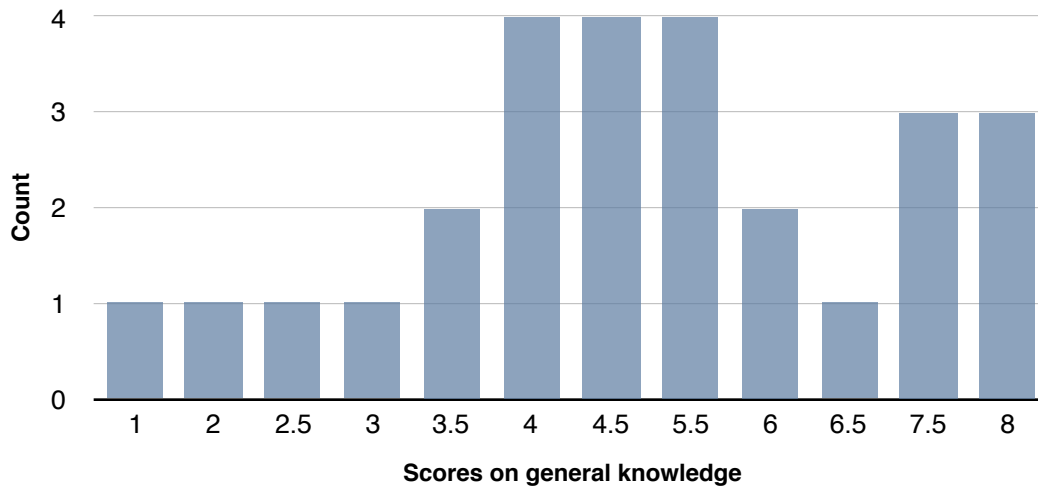
Bar chart of frequency regarding the score based on the awareness of the STC

below average ▪ above average

Conclusion and Policy Recommendations

From the analysis, there are two main conclusions we can make. First, property or business owners who knew about the existence of the Street Tree Commission in the Borough generally had stronger awareness of the role of street trees and of their own responsibilities, as well as the legal issues of ownership and right-of-way. Second, in light of the first point, the STC might want to take further actions to disseminate knowledge of their existence, since both the score distribution and the results shown by the univariate analysis indicate that about half of the participants did not fully understand who is in charge of tree planting, maintenance, tax usage, or the meaning of the public right of way. During the survey we prepared several kinds of flyers and brochures (see attached) to disseminate more information among the Lewisburg citizens, and we hope that STC members and Lewisburg citizens will together build a better living environment in the future.

Appendix

I. Tree Inventory Update Sheet

Date filled out: _____
Recorder: _____
Tree Address:

_____

Tree Species: _____

Reason for Update:
- Removal due to
  - Storm
  - Accident
  - Homeowner or tree service (whether approved or not)

- New Planting
- Other _____

Details:

_____

II. Questionnaire

Shade Tree Community Opinion Questionnaire

DATE
_ _ / _ _ - _ _ _ _

CONTACT
(570) 523-3614
Borough Office

Informed Consent

The Lewisburg Shade Tree Commission and Bucknell's Center for Sustainability & Environment are conducting a survey to assess citizen knowledge about trees and planting areas along the street in the Borough. Responses will be anonymous, and no identifying information will be collected. There will be no risk to you, and you may choose to stop the survey at any point. Completing the survey should take no more than 10 minutes.

Your completion of this survey is considered agreement to these terms. For any questions or concerns about this research project, please contact Dr. Shaunna Barnhart at sb060@bucknell.edu or Dr. Brian Gockley at bdg002@bucknell.edu.

1. Are you a resident of or a Business owner or a Property owner in the Borough of Lewisburg? (circle all that apply)

Lewisburg Resident   Lewisburg Business owner   Lewisburg Property owner

2. Which of the following are the characteristics of a shade tree? (circle all that apply)

taller   broader   more tolerant of urban environments   approved by the STC   not sure

3. How beneficial are street trees ?

1 (least beneficial)   2   3   4   5 (very beneficial)

Please list some specific benefits

_____

4. How troublesome are street trees to community?

1 (least troublesome)   2   3   4   5 (very troublesome)

Please list some specific troubles

_____

5. Who owns the planting space and trees alongside the curb?

the Property owner   the Borough   the Utility Companies

6. Who is responsible for planting and maintaining the trees in that space?

the Property owner   the Borough   the Utility Companies

7. Who is responsible for pruning and cleaning up after the trees in that planting strip?

the property owner   the Borough   the Utility Companies

8. What does it cost to plant approved shade tree?

_____

9. Lewisburg collects a small Shade Tree Tax as part of its property taxes (Ordinance 1054, the Shade Tree Tax is 0.100 mils, or ten cents for every $1000). How do you think that tax is used?

no idea   as general funds   only on street tree planting and maintenance

10. Can you explain what a public Right of Way is? If yes, please provide a full sentence answer.

No   Yes _____

_____

11. Before you took this survey, were you aware that the Borough had a Shade Tree Commission?

No   Yes

FREQUENTLY ASKED QUESTIONS
Lewisburg Shade Tree Commission

Q2. How is a shade tree (street tree) different from a regular tree?

Shade trees (also called street trees) are trees planted along the sidewalks (between the curbs and the sidewalks) throughout town (and a few other places like parks, etc.). They are usually medium to large (30-70 ft), and have tall trunks and a high broad branching habit (either starting above 8' or pruned to start above 8'). Branches may even reach to other trees to create a solid arch or canopy. Trees that branch low, have multiple trunks, or otherwise might block walking or driving, are not recommended (see the Shade Tree Commission's "Procedures" for the Commission's approved list of recommended street tree species and cultivars).

Q3. How beneficial are street trees?

Street trees provide shade to keep the town cooler, clean the air by removing carbon dioxide and particulate matter and releasing oxygen, provide habitat for birds and bees and other wildlife, and create a more pleasing and safer feeling. They improve the beauty of the streetscape by adding a variety of shapes, colors, and textures, and softening the hard lines of human structures. All of these things have been proven to work together to increase property values. Street trees and the canopies they create reduce the amount of rainwater that hits the ground, which in turn reduces erosion and the expenses of stormwater management.

Q4. How troublesome are street trees?

Trees can produce a variety of material such as nuts, seeds, small branches, bark, and leaves that may need to be cleaned up regularly. In addition, branches or tree trunks may occasionally break, and their falling may cause property damage. Finally, certain combinations of tree variety and planting depth can create conditions that lead to more surface roots, which can upheave a sidewalk, which is why it is important to follow the Shade Tree Commission's guidelines for tree selection and to regularly prune the street tree.

Q5. Who owns the planting spaces alongside the curbs throughout town where most of the street trees are growing?

The property owner. Street trees and the planting spaces that the trees grow in are owned by the property owner but are under the exclusive custody and control of the Shade Tree Commission. (§332-3)

Q6 & 7. Who is responsible for planting and maintaining the trees in the planting strip?

The property owner is responsible for the costs of planting, maintaining and caring for their street trees including watering and feeding, pruning and removal or replacement if they decline or die (§332-6). All shade trees must be kept pruned by the property owner so that the minimum clearance between any overhanging portion shall be 15 feet above any public highway and 9 feet above all sidewalks. The Shade Tree Commission's regulations and standards for pruning are the most recent Tree Shrub and Other Woody Plant Management -- Standard Practices (Pruning) as set forth by the American National Standard Institute (§332-9).

Q8. What does it cost to plant a shade tree?

Trees must be large enough to survive the rigors of growing alongside cars and people, so they must be at least 2" caliper (caliper is the diameter of a young tree's trunk approximately six inches above the soil level) with a strong central leader to at least 8' tall at the time of planting (§332-8). This size tree can cost more than $100 due to the years of care that the nursery has invested, and can cost more than $200 to plant as large trees need a bigger hole to be dug and take more effort to load and unload. Money can be saved by doing the planting oneself and advice is available from the Shade Tree Commission on proper planting procedures.

Q9. Lewisburg collects a small Shade Tree Tax as part of its property taxes. The Shade Tree Tax is 0.100 mills, or ten cents on every $1,000 of a property's assessed value (Ordinance No. 1054). How is that tax used?

The Shade Tree Tax is used for any emergency tree removal from storms or accidents, as well as for regular pruning to keep the public right-of-way clear. It is also used for shade tree replacement.

Q10. What is the public right-of-way?

Right-of-way is a legal term that describes the area along a street that includes the curb, the sidewalk, and possibly portions of the lawn that is under the control or ownership of the Borough, the Commonwealth of Pennsylvania, the United States of America and/or agencies and authorities of these governmental units. The public right-of-way is able to be used by the municipality to do things that benefit the whole community, such as install street lights, sewers, mailboxes, and other utilities. In Lewisburg, it is usually considered to extend to the back of the sidewalk or as far as 30' on either side of the centerline of the road. This can sometimes cause conflict between the various users of that space.

Q11. What is the Lewisburg Shade Tree Commission?

The Lewisburg Shade Tree Commission is composed of five members who are residents of the Borough who are appointed by Borough Council to staggered 5-year terms and who serve without compensation. The Commission has exclusive custody and control of the shade trees in the Borough and is authorized to plant, remove, maintain and protect shade trees in or along the public right-of-way (§332-2, -3).