



# **BIRDIE Recommendation: Street Lighting**



September 9, 2014

Village Council Regular Session





## Executive Summary

This study of the “adequacy of street lighting” was undertaken as a result of relatively low satisfaction ratings in both the 2012 and 2013 Community Satisfaction Surveys. The Village’s satisfaction ratings of 45% and 42% respectively are well below the southeast and US satisfaction averages of 55% and 63%. In keeping with the Village’s stated strategic area of focus of “*provide & promote safe traffic and pedestrian mobility,*” the BIRDIE team was tasked with performing a comprehensive review of the Village’s current street lighting program and providing recommendations for potential improvement.

The BIRDIE committee conducted a thorough review of the current mapping for existing street lights, analyzed satisfaction ratings by neighborhoods, cross-referenced crime statistics with existing street light placement, cross-referenced street light satisfaction with sidewalk satisfaction, and conducted a second survey utilizing the NAC (Neighborhood Advisory Committee) in an attempt to validate the previous survey results and to gain an understanding of why those who are dissatisfied feel that way. In addition, the team sought to understand the reason (safety, after dark wayfinding, after dark walking) the residents want additional street lights and whether additional street lights would address their concerns.

A preliminary evaluation of the 2013 Community Satisfaction Survey data by neighborhood indicated that a “one size fits all” approach would likely cause more issues than it would resolve and thus we developed the NAC survey to try and dig into each neighborhood’s specific desires for street lighting. When analyzed by neighborhood, both the 2013 Community Survey and the 2014 NAC Survey indicate, that while satisfaction levels may vary, all neighborhoods have more residents satisfied with current levels of street lighting than dissatisfied with one exception, Village Acres.

### Considerations:

- 2013 Community Satisfaction Survey
- 12 month Crime Statistics
- 2014 NAC Survey (conducted)

Further review of data, as detailed later in this report, continued to indicate that Village Acres is the only neighborhood indicating a clear desire for additional street lighting. The same data indicated other neighborhoods were generally more satisfied than not.

Our recommendation is as follows: The neighborhood that has significant support for additional street lighting (high dissatisfaction and desire for higher amounts of street lighting) is Village Acres and we recommend action in that neighborhood alone. Prior to installing street lights, we recommend a master plan be devised by a newly formed second task committee.



We propose that the second task committee be inclusive of residents of the affected area, charged with identifying the locations and selecting the type and color of lighting to be used for a moderate lighting strategy. Moderate is defined as street lights only on main neighborhood roads at intersections with other key neighborhood roads. The Second Task Committee make-up, to include appropriate staff, is intended to ensure that the project meets the desires and expectations of the community, provides input and greater buy-in within the community and accomplishes the project in the most cost-effective and efficient manner.

Once the project is complete, the next annual community survey would give an indication if satisfaction levels rise. A second NAC survey should also be conducted for comparison purposes.

After the project is finalized, we should monitor future survey results by neighborhood. If a decline in satisfaction occurs in a particular neighborhood, we would then use Village Acres as a live demonstration area for those neighborhood representatives to visit and evaluate for lighting levels. If satisfaction levels remain above dissatisfaction on a percentage basis, we should leave those neighborhoods as they are.

### **Recommendation:**

1. Address lighting desires in Village Acres.
2. Establish a Task Committee to determine location and type of lights.
3. Evaluate results within Village Acres.
4. Listen for feedback/desires from other neighborhoods.
5. Provide each neighborhood NAC representative with their neighborhood's results and the interpretation of those results.



### Evaluation Process

The evaluation of the adequacy of street lighting began with formation of a BIRDIE team. BIRDIE is an acronym for the Village’s process improvement methodology and involves utilizing a cross section of disciplines and talent to thoroughly evaluate a problem, issue or work process.



The BIRDIE team for this evaluation was comprised of the following members:

- Jeff Batton, Assistant Village Manager
- Claire Phillips, Village Council
- Walt Morgan, Public Services
- Ken Hall, Police
- John Frye, Finance
- Chad Hall, Planning & Inspections
- Jamie Reed, Administration

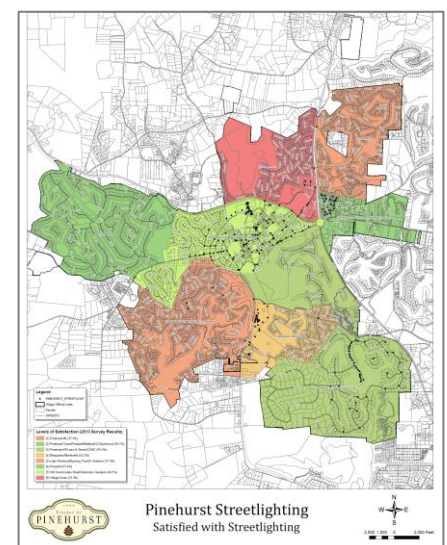
The team first established its project purpose and objective related to the task assigned. Members were also educated on the BIRDIE process and a timeline was developed that identified the steps needed to complete the task.

### Current Lights Mapped:

Once “housekeeping” items were complete, the team educated itself on the current number and location of street lights by working with Duke Energy Progress to map all Village of Pinehurst street lights.

### Color-Coding Neighborhoods:

Once familiar with where lights were located, the team color-coded satisfaction levels of “adequacy of street lighting” by neighborhood based on the 2013 Community Satisfaction Survey results and overlaid the color-coded neighborhood map on the street light location map. Color-coding the neighborhoods from those most satisfied (green) to those neutral (yellow/orange) to those least satisfied (red) allowed the team to visually see where the least satisfaction lies and to see the relationship between street light locations and varying levels of neighborhood satisfaction.

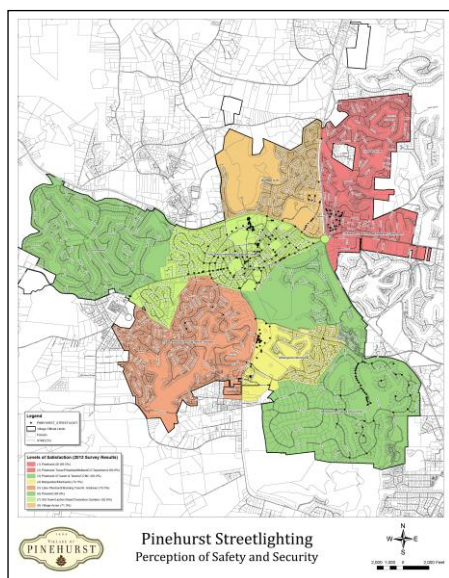




The street light location map indicates that with few exceptions, such as Pinehurst Trace, the greatest concentration of street lighting occurs in the Old Town section. The 2013 Community Survey combines Old Town with Clarendon Gardens and Donald Ross to form one neighborhood or zone for survey results. Since there are virtually no street lights in Clarendon Gardens or Donald Ross, we cannot conclusively say that the relatively high satisfaction level in this neighborhood (zone) correlates to where street lights are most prevalent.

### Crime Data:

Next the team retrieved crime data by type and location, mapped it and overlaid this data on the street light locations map. The team wanted to determine if a lack of street lighting played a role in increased criminal activity. The results were completely opposite. Areas where lights were prevalent had higher incidents of crime. The committee believes this is due to the fact that the areas of greatest light prevalence (hospital and downtown) are also the greatest areas of concentration in people and criminal opportunity.



The team also looked at the 2013 Community Survey results for perception of safety and security felt in each neighborhood. Again, a color-coded map was created using green for feeling most safe or being most satisfied to yellow/orange for the middle ground to red for feeling least safe or least satisfied. Although not supported by actual crime data, there is some correlation between satisfaction with street lighting and perception of safety and security. For areas highly satisfied with their lighting levels, there tends to be a higher perception of safety and security. However, the communities that have the highest perception of safety and security are the gated

communities, none of which have a substantial amount of street lighting. It would appear that guard gates provide that perception of safety and security in those neighborhoods. If you exclude the gated communities, you can draw a general conclusion from the color-coded maps that additional street lighting likely would increase the perception of safety and security however the crime data does not indicate that it would actually be safer and more secure.

### NAC Survey:

Armed with some general interpretations of data reviewed, the team set out to utilize the NAC to verify the 2013 Community Satisfaction Survey results for street lighting by neighborhoods and to confirm our initial understanding of the data.



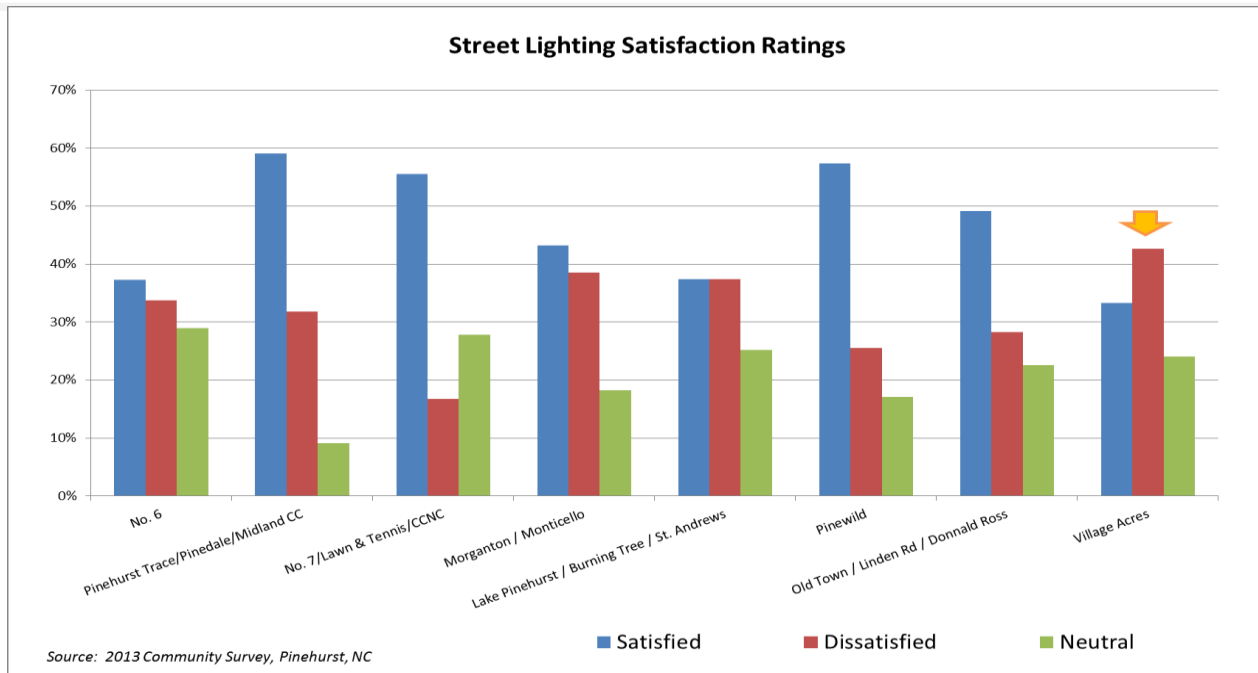
As part of our analysis and fact gathering exercise, the NAC survey included questions that were not part of the 2013 Community Survey. The NAC survey results were grouped to match up with the Community Survey's defined neighborhoods in order to give us a better "apples to apples" comparison. We tossed out the neighborhoods that had private streets (Pinewild, CCNC and #7) as they had high levels of satisfaction and are outside of our control. The remaining groupings gave us six neighborhoods or zones to look at in detail: Village Acres, Lake Pinehurst/Burning Tree/St. Andrews, Old Town/Donald Ross/Clarendon Gardens, #6, and Pinehurst Trace/Pinedale/Midland and Morganton/Monticello areas.

The additional information sought in the NAC survey included questions for adequacy of downtown lighting, lighting for neighborhood safety, how much lighting and the top reasons they wanted additional lighting.

All neighborhoods had high levels of satisfaction for adequacy of street lighting downtown. Respondents were asked if installing street lights would make a difference in the overall safety in their neighborhood and the greatest percentage of respondents in each neighborhood indicated "no difference," except in Village Acres. "Much safer" was the dominate response for Village Acres respondents. Respondents were asked about the desired levels of street lighting from "most lighting" to "no new lighting." Again, the greatest number of respondents in each neighborhood was "no new lighting," except in Village Acres where "most lighting" was the top response. We then gave a list of four choices and asked each respondent to rank the most important purpose for which they wanted additional lighting for. Village Acres number one reason was crime prevention.

### **Conclusion:**

Recognizing that street lighting is a highly subjective matter, and based on all the information gathered and reviewed, the team determined that Village Acres is the only neighborhood that has a majority of residents dissatisfied with current neighborhood street lighting. The rest of the neighborhoods are either evenly split or have greater satisfaction than dissatisfaction with current lighting levels (see chart on page 6). Significant changes in other neighborhoods at this point may only serve to sway some from being satisfied to dissatisfied and vice versa, which could have a net result of no change in satisfaction levels on a percentage basis.



Our recommendation is to add street lights to Village Acres in a conservative manner, meaning only at intersections of primary neighborhood roads. A second task committee is recommended to be formed consisting of appropriate Village staff (2 to 3 staff), Village Acres residents that represent a cross section of the neighborhood population (up to 4 people), representatives of #6 neighborhood (up to 2 people) and a Duke Energy representative. The #6 neighborhood representatives are included because they come next closest in satisfaction/dissatisfaction differential which makes them the next most likely neighborhood for lighting change based on their nearly even split in satisfaction/dissatisfaction levels. Duke Energy representative would be able to provide the most cost effective placements based on their existing grid within the neighborhood.

The determination of exact placement and types of lights is outside the scope of this BIRDIE committee's stated purpose and the team believes the second task committee as described above would be best suited to determine how the project is implemented.