

CRIME WATCH LIGHT PARTNERS

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**PROJECTSUMMARY**

**PROBLEM**

Due to larcenies from autos, community residents wanted streetlights. User fees pay for streetlights and not local government. Many residents cannot afford to pay for the lights by themselves. The local power company does not have a process for sharing the costs of a streetlight.

**ANALYSIS**

The cost for local government to provide this service would cause a higher property tax that would not benefit more rural areas of the County. The Lakeside Community Officer worked with residents and the local power company with a plan to reduce the individual cost of residential streetlights by having four neighbors share the cost of a single light placed between the four properties so neighbors share the benefits and cost of the light. A lighting survey was done before and after installation of the streetlights.

**RESPONSE**

The Lakeside Community Officer used one street with 142 homes as a demonstration area. The partnership required homeowners to gain the support of the individual neighbor next door and across the street in order to share the cost of the light and share the responsibility of watching their neighbor's property.

Neighborhood Watch Block Captains and the Lakeside Community Officer secured agreements and worked as liaison with the power company.

## ASSESSMENT

Block Captains and the Community Officer were able to sign-up 112 neighbors for 30 Crime Watch Lights. The initial cost savings for each partnership member was \$109 a year with a single street savings (142 homes) of \$12,202 during the first year. Projected cost savings for 5000 residential homes in the Lakeside Community is \$387,500. Additional benefits of this partnership will result in a reduction in the fear of crime and community building. Minimal resources were used to provide a service with a large community savings. It is scalable to larger areas with this need.

## SCANNING

### *Problem Identification*

In September 2000, the Lakeside Community Officer formed a nine-block area of residential homes into the Holy Angels Neighborhood Watch. A month later there were eight larcenies from vehicles located in this Watch area. This crime soon resulted in calls for additional patrol and many residents wanted to know how they could get streetlights by the next monthly Neighborhood Watch meeting. User fees pay for street lighting. How to pay for the cost of streetlights in this neighborhood was the problem. In the past, this question had been answered with, "share the cost with a neighbor," without any follow-up or guidelines to pay for the streetlight. Could groups of four neighbors organized within the Watch group share the cost of the streetlight? The idea of forming a formal partnership came from that meeting.

## ANALYSIS

### *Problem History*

Residential lighting is important for safety and preventing crime. While streetlights are a service provided by most urban areas in the United States, this is not always the case in suburban and rural areas. During the initial forming of many Neighborhood Watch groups, members often make a list of community wants. Besides requests for additional radar enforcement, speed bumps, and sidewalks, there have always been requests for streetlights.

The County of Henrico is located in central Virginia. It is the fourth largest locality by population in the state with 262,300 residents in 244 square miles. Henrico County builds and maintains its streets but does not install or maintain streetlights. The cost for Henrico County to provide this service would cause a higher property tax that would not benefit more rural areas of the County. User fees pay the cost for security lighting by the local power company, Dominion Virginia Power.

It costs a homeowner \$\$ a month for a 5,000-lumen light and \$12 for a 14,000-lumen light installed and maintained by the power company. This \$96 to \$144 cost per year is too high for many residents on a fixed income. Many of the existing streetlights have been installed as a result of fear caused by prior residential breakins.

### *Streetlights versus Security Lighting*

Many residential urban areas have streetlights at the end of each block and in the middle of the block. The purpose of this illumination is to put an elongated light pattern on the street and sidewalks. Streetlight designers consider additional light to residential homes wastage. The purpose of security lighting is to provide a feeling of comfort or freedom from worry for people using the area. A security light mounted

on a pole between four homes creates an illumination with a round light pattern that provides additional light to yards and front door of each home.

#### *Crime Prevention Through Environmental Design*

Placing the light facing the street between the four homeowners and sharing responsibility and cost for the light would prevent crime in two ways.

1. Natural Surveillance - placing legitimate eyes on the area between the homes illuminated by the streetlight.
2. Territoriality - sharing responsibility for the streetlight creates a sense of ownership for the area illuminated by the streetlight.

#### *Cost*

If 24 homes on a block have a 50 foot road frontage, six sets of four neighbors could share the cost of 6 (8,000-lumen) streetlights placed every 100 feet for \$2.63 a month or only \$31.59 a year instead of \$126.36 for a single homeowner with one streetlight. This individual savings per streetlight is \$94.77 for the first year. Each set of four neighbors agrees to sign a Partnership Agreement with the power company. They would prepay their share of the streetlight on an annual basis. If only three partnership members agree to the light, they could divide the annual cost at \$42.12 per year.

#### *Additional Savings*

The cost of installation by the local power company is based on the number of streetlights in one area divided by the revenue for three years. There is a \$15.00 charge per light that is installed on an account. If numerous lights are installed at one time there is only one \$15.00 charge. The customer can save an additional \$4.08 per year by having direct draft billing.

*Community Savings*

If all 5000 residential neighbors in the Lakeside Community participate in this program, there could be a net savings of up to \$387,500 per year on residential street lighting.

Cost for individual 8000-lumen open vertical street light.....\$126.36

Cost for shared street light.....\$31.59

Individual savings per street light.....\$94.77

(\$31.59X3 neighbors)

Savings on single light service charge.....\$15.00

Total individual savings per home.....**\$109.77**

Individual savings on Maplewood Road.....\$15,478.00

*Demonstration street (\$109 X 142 homes)*

Potential net savings:

5,000 homes in Lakeside Community.....\$387,500.00

72,208 single family homes in Henrico County.....**\$5,596,120.00**

*Community Building*

The Crime Watch Light Partnership requires homeowners to gain the support of the individual neighbor next door and across the street in order to share the cost of the light and share the responsibility of watching their neighbor's property. Currently the Neighborhood Watch program in Henrico County has narrow lines of authority with members reporting to block captains, block captains reporting to Community Coordinators, and Community Coordinators reporting to the Neighborhood Watch Council. The Partnership would establish a broader base of program support for these higher levels of authority and increase active participation by members of the

Crime Watch within each block. Each Crime Watch Light Partner receives a list with the name, address, and phone number of members paying for the shared light.

*Program marketing*

While the partnership appears to sell itself on cost savings alone, each individual light pole presents the opportunity to further market crime prevention. Why not have Dominion Virginia Power identify each pole with "Crime Watch Light Partner"? Light poles are currently considered "unattended property" subject to unauthorized signage and graffiti.

**RESPONSE**

*Response alternatives*

The cost of streetlights is too high for many residents. Without a large tax increase, Henrico County will not pay for streetlights. One option is for residents to form large sanitary districts and petition the Circuit Court to add a tax on each homeowner. This plan would involve two to three thousand homeowners agreeing to the additional tax. This solution was too large in scale and uncertain in outcome. The second option is for a limited number of neighbors to share the cost of the light. This option would work in a smaller area.

*Response Plan*

The first requirement was securing an agreement with Dominion Virginia Power and resolving any unforeseen problems that the Partnership Agreement would create. The first meeting was with the accounting department. After a week, they determined the shared billing arrangement could be done and sent additional information on the customer requirements and a Crime Watch Light Partnership Application was created (see Appendix 1 and 2). This form listed the four neighbors on the front. The back of the form gave additional information on light placement,

installation, and legal disclaimers (Things to Consider). A "Crime Watch Light Partner Savings Cost Breakdown" was created to show the costs and benefit of sharing the light. (Appendix 3)

#### *Streetlight Selection*

According to Dominion Virginia Power, the brightest light for the money is currently a Type S Cobra style high-pressure sodium lamp mounted on a 30-foot pole. This 14,000-lumen light reflects an elongated light pattern that would reduce light trespass on other property and provide additional cross lighting on the street. The cost for this light would be \$152.76 per year. While this is a good light for lighting streets, the problem resulted in lighting up six homes. A smaller and cheaper light with a round light pattern was needed.

#### *Demonstration Project*

Because the Holy Angels Neighborhood Watch wanted the lights, this area was selected as a demonstration project. It would allow the power company to see the project economy to scale and resolve any problems. The Neighborhood Watch Coordinator for Holy Angels was unable to get anyone to share a light. The electric service for this neighborhood was located in the rear alleys. The local power company would have to mount a pole in the front yard and run a wire to the light. This was not difficult for Dominion Virginia Power, but the process confused many residents, and confusion builds mistrust. One neighbor said, "If light poles are in our front yards, property values will decline." At this point, the Lakeside Community Officer shared the Crime Watch Light Partner information with the seven remaining Neighborhood Watches. He also told them that if they were the first one to get a light up, he would help them "sell" the lights to everyone on their street.

### *Maplewood Road*

The first light partnership was on Maplewood Road. The type of light selected was an 8000-lumen open vertical high-pressure sodium mounted 30 feet high on an existing pole. This amount of light kept the illumination within the area of the four partnership homes, and made it easier to "sell additional streetlights" within view of the existing light (see Appendix 5 maps).

### *Partnership Agreements*

Neighborhood Watch Block Captains and the Lakeside Community *Officer* secured agreements and worked as liaison with Dominion Virginia Power. The first two streetlights were on Maplewood Road located in the Lakeside Methodist Watch Area. The Neighborhood Watch Block Captain and two additional neighbors wanted to share the cost of two lights. Working eight evenings and three Saturdays, Block Captains and the Lakeside Community Officer were able to sign-up 112 neighbors for 30 Crime Watch Lights.

### *Light Survey*

The Lakeside Community Officer used a light meter to measure the amount of light on Maplewood Road without the streetlights mounted on the poles. The darkest location on the street was selected and the light from a full moon was measured. It read .01 foot-candles (fc). The light directly under the first two lights measured .12 fc. A light reading was taken across the road from the light. It measured .05 fc. The reading decreased to .03 fc at the steps of the home across from the light. From this baseline, measurements of the existing lighting were taken along Maplewood Road. A reading was taken in front of a light pole in the middle of each block, at the edge of the street, and in front of the steps of a home. He later returned after the lights were up to measure the increase.

*Crime Watch Signs*

Dominion Virginia Power did not want to identify this program by mounting signs on their poles. The solution was to mount an additional sign to existing Neighborhood Watch Signs. A simple sign worded "Crime Watch Light Partner," with the picture of a light bulb was used. Henrico County paid for the signs. One sign was mounted per block for a total of 7 signs. Two residents on Maplewood Road volunteered to attach the signs. (Appendix 4)

**ASSESSMENT**

*Neighbor participation*

Out of 142 residents on Maplewood Road, 112 paid for 30 streetlights. Twelve residents were in the process of moving, 10 homes were vacant and 8 residents were unable or unwilling to pay the cost for the lights. Only one resident did not want the light. One neighbor planed to move in two months but agreed to pre-pay for the full year. The level of participation allowed for lights to be mounted on every power pole except three. No light was mounted more than 200 feet, skipping only one pole.

*Demonstration Street Cost Savings*

Cost of 30 lights on Maplewood Road.....	\$3,790.00
Net savings on Maplewood Road.....	\$11,688.00

*(Individual savings - cost of lights)*

### *Light Survey*

The primary question that needed to be asked about the effectiveness of the security lights was, "at night, with existing lighting, can you tell who is walking on the street?" Every resident on Maplewood Road said it was too dark to see anyone walking on the street before the lights were installed. A light meter was used to measure the increase after the lights were installed. The light survey was done on an east-west two-lane road; the lane width was 12 feet, with power poles spaced every 100 feet on the north side of road. The measurements were taken at 2030 hours on a full moon with a light meter in foot-candles. Homes were located 35 to 50 feet off roadway with a 50-foot road frontage.

#### **Security Lighting on Maplewood Road**

<b>Pole</b>	<b>Av. Light Level (fc)</b>	<b>Lowest level (fc)</b>
<b>Semi-Cutoff, 8,000-lumen high pressure sodium, 30' mounting height</b>		
100 ft	0.08	off
150 ft	0.08	.05
200 ft	0.06	.03

### *Community Building*

Many residents on Maplewood Road did not know their neighbors name or phone number before the partnership. The Lakeside Community Officer made face-to-face contact with each resident and listened to his or her concerns about the neighbor's dog or children. Eight residents from Maplewood Road attended the next Neighborhood Watch meeting for their first time.

### *Results*

The partnership provided an essential service to improve the quality of life for residents on Maplewood Road with a large community savings. Pedestrian and traffic safety was improved. Security lighting provided a feeling of comfort and reduced the fear of crime. Neighbors shared and accomplished a crime prevention goal. Shared user fees paid the cost of the lights and minimal resources were used by Henrico County. Problem-Oriented Policing methods using the S.A.R.A. model and leadership helped to solve the problem.

### **Agency and Officer Information**

#### *Supervision*

The Lakeside Community Officer submitted a 3 page interoffice memorandum to the Commander of Uniform Operations, District II in November 2000. Using the S.A.R.A. model format, the plan outlined the process to solve the problem. After the approval of the plan, updates were submitted in draft form until the completion of the project. The Sergeant for Community Officers in District II reviewed the plans. The Lakeside Community Officer was given broad authority and discretion to accomplish this task.

#### *S.A.R.A. Training*

The S.A.R.A. model for Problem-Oriented Policing is taught in the Police Academy and In-Service training. Its use is supported agency-wide. The Lakeside Community Officer attended the 7<sup>th</sup> Annual Problem-Oriented Policing Conference in November 1996.

### *Unintended Response Problems*

Demonstration area- the first area had electric service in the rear yard. It is much easier to mount a light on an existing pole.

Resistance to plan - some reasons given for not wanting streetlights; "I don't want a pole in my front yard." "A light will attract bugs," "I like to sit on my porch in the dark," and, "Why do we need a light, do we have a crime problem?"

Dominion Virginia Power - There was no initial contact between customer accounts and the customer service department.

### *Cost*

Shared user fees paid the cost of the lights. The Lakeside Community Officer spent 141 hours during a five-month period on this project. Henrico County paid for 14 signs. Minimal resources were used by Henrico County.