

City of Alexandria, Virginia

MEMORANDUM

DATE: MARCH 28, 2006

TO: THE HONORABLE MAYOR AND MEMBERS OF CITY COUNCIL

FROM: JAMES K. HARTMANN, CITY MANAGER

SUBJECT: BUDGET MEMO #33: SOLAR LIGHTING ON MT. VERNON AVENUE

This memorandum is in response to Councilman Krupicka's question regarding a solar street re-lighting program on Mount Vernon Avenue, and the cost of a solar lighting pilot program.

If the decision were made to install solar lighting in the entire 13-block area of Mount Vernon Avenue, the cost would total approximately \$1.1 million, which includes \$100,000 for the study and design phase and \$1 million for construction (~\$80,000 per block). This cost is far less than if electricity was provided by underground conduit (which would have to be installed and the sidewalks then repaired).

The cost of a one-block pilot program would total approximately \$140,000. This estimate includes \$60,000 for study and design and \$80,000 for installation on the test block. T&ES engineering staff recommend that the initial study and design phase of a pilot program include some evaluation of the entire corridor (rather than one block) to establish whether a larger program would be feasible. This is reflected in the above estimate. The study and design phase would include test pits (to locate utility conflict for the light pole foundations), fixture selection, and an interactive process with the community.

There are additional issues associated with a solar lighting program that would need to be resolved. They include:

- Solar lighting produces direct current (DC) electricity; the Citywide electric grid system is alternating current (AC) electricity;
- Reliability, aesthetics, and cost;
- Billing and resale issues with Virginia Dominion Power;
- Long payback period on capital investment (approximately 25 years); and
- Comparison to alternative capital and operating costs in order to improve lighting on Mt. Vernon Avenue.