



Department Source: City Utilities - Water and Light

To: City Council

From: City Manager & Staff

Council Meeting Date: March 4, 2019

Re: Report on East Campus Street Lighting

Executive Summary

Water & Light has completed a street lighting project in the East Campus neighborhood. This project upgraded 36 existing mercury vapor street lights. As part of this project, staff measured light levels, at representative locations, before and after the lighting upgrade and is reporting this information back to Council. This information is intended to represent the impacts of this change and help guide the decision for future lighting improvements in the East Campus neighborhood. The cost for to install these lights was \$19,651 and was constructed as part of the annual Capital Improvement Project (CIP) E0182 Mercury Vapor Street light Replacement.

Discussion

Concerns have been raised about the adequacy of street lighting in the area known as East Campus neighborhood. Specifically, a memo titled "East Campus Safety Walk" (dated 9/28/17) listed lighting, along with several other issues as an area that should be addressed. In an effort to increase the lighting in the East Campus neighborhood, a project upgrading 36 existing mercury vapor street lights has been completed. Two field checks of lighting levels before and after were made along with the replacement of 36 mercury vapor street lights. The results of these checks as well as the locations of the 36 lights can be seen on the East Campus Neighborhood Street Light exhibit.

Prior to the "before" field check, 36 mercury vapor street and dusk-to-dawn lights had been identified for replacement with appropriately rated LED lights. The lighting upgrade work was a one-for-one replacement of mercury vapor fixtures with LED fixtures (i.e. the height, mounting bracket, orientation, etc. for each location remained otherwise unchanged).

On the evening of July 12th the "before" lighting levels were taken and recorded (including GPS locations), using a digital light meter capable of displaying light levels to 0.001 Foot-Candles. After the July lighting level check, 35 of the previously identified 36 light fixtures were replaced with LED fixtures (the 36th fixture had previously been replaced with a LED fixture as part of regular maintenance).

On the evening of August 9th the "after" light level readings were taken using the same light meter and GPS unit. The results of the "after" light level measurements fell into several categories:

- A. Where mercury vapor fixtures were changed out & tree limbs do not block light, the lighting levels improved; in some cases dramatically. (Examples: University Ave by



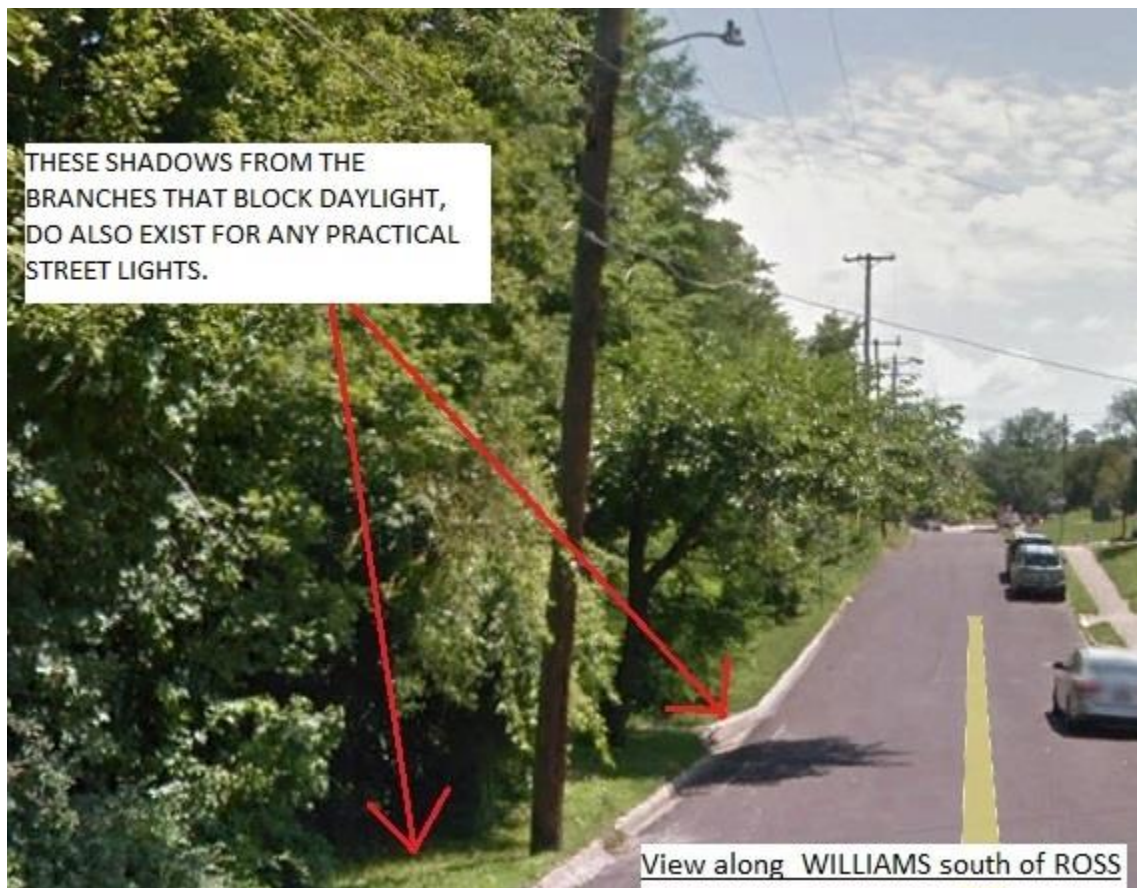
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Mimosa Ct went from 0.01 FC to 0.27 FC; mid-block on Shockley St went from 0.003 FC to 0.37 FC, University Ave at Lawrence Pl went from 0.12 FC to 4.74 FC & Bass Ave at Willis Ave went from 0.31 FC to 2.74 FC)

- B. Where existing light fixtures were not changed out (i.e. the existing light was not presently a mercury vapor type); significant changes in lighting levels were not expected; and generally, minimal differences were noted. (Example: along Bouchelle Ave)
- C. Where existing tree limbs block light, replacement of existing street light fixtures had only limited effectiveness. Significant trimming of tree limbs may help improve lighting levels considerably. The following pictures help illustrate some typical tree-vs-lighting conflicts.

These trees (on Williams south of Ross) block the sun; and also block the street light.





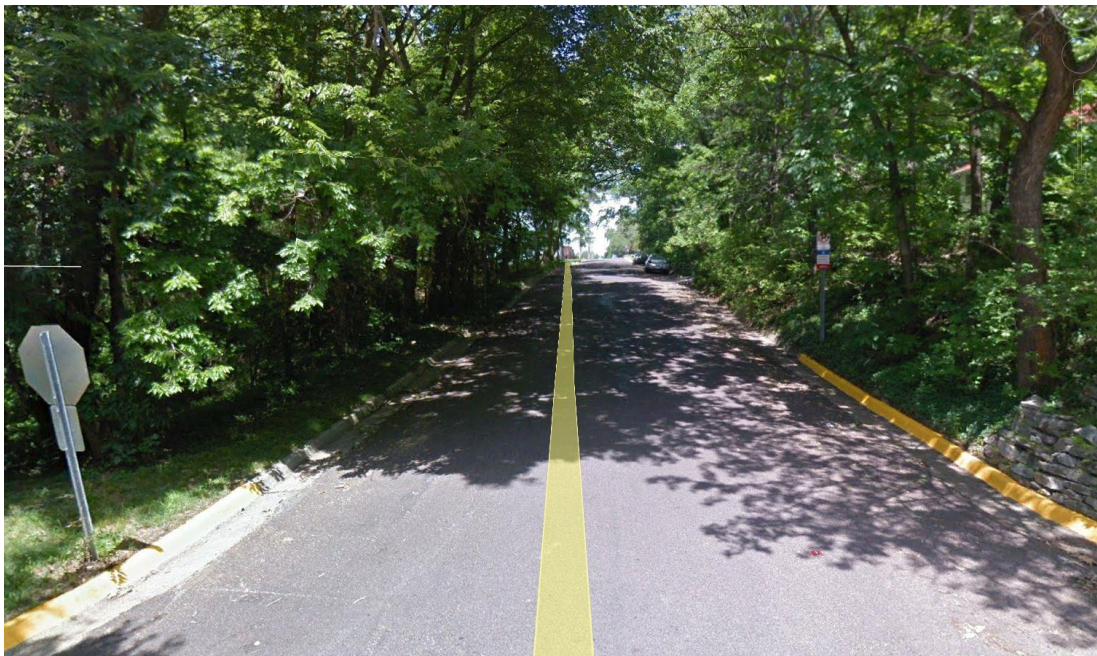
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3 views of the same street light (mostly blocked by branches from the west & almost completely blocked from the east) on University Avenue.



Parts of Ann St were commented about as being dark. Addition of any street lights in the southern most ~250' of Ann St (near University Avenue) will require that existing mature trees be significantly trimmed. This screen shot from Google Earth illustrates the conflict.





The East Campus neighborhood is in an older section of Water & Light's service territory and is served primarily from overhead electric service. There are over 115 existing streetlights within the East Campus neighborhood. These streetlights are attached directly to the wood poles used for the overhead electric distribution system, are placed at intersections and roughly 200 feet apart. This is far more than the minimum that Section 27-149 of the City's Code of Ordinances would require.

Staff has met with several groups since 2016 that live or own property within the East Campus neighborhood including several students, members of the East Campus Neighborhood Association and rental property owners. Consensus among these groups is divided on the issue.

If increased lighting levels are still desired, staff recommends commissioning a study with an appropriate lighting consultant to evaluate the East Campus neighborhood to recommend an appropriate lighting project.

Fiscal Impact

Short-Term Impact: None
Long-Term Impact: None

Strategic & Comprehensive Plan Impact

[Strategic Plan Impacts:](#)

Primary Impact: Infrastructure, Secondary Impact: Not Applicable, Tertiary Impact: Not Applicable

[Comprehensive Plan Impacts:](#)

Primary Impact: Infrastructure, Secondary Impact: Not applicable, Tertiary Impact: Not Applicable

Legislative History

| Date | Action |
|-----------|--|
| 4/18/2016 | R47-16 Authorizing the installation of a street light on the east side of Elderbrook Drive; authorizing the Purchasing Agent to request proposals for consulting services for an evaluation of street lighting levels in the East Campus neighborhood and a determination of the scope and costs associated with a lighting project. |
| 7/5/2016 | REP 57-16 Correspondence from the Environment and Energy Commission regarding East Campus lighting. |
| 4/2/2018 | R47-18 Authorizing the installation of streetlights on Cass Drive |



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| | between Rice Road and Mohawk Avenue, in the Bellwood Subdivision and on West Broadway Street near Reedsport Ridge; upgrading existing lighting in the East Campus neighborhood |
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Suggested Council Action

If increased lighting levels are still desired, staff recommends commissioning a study with an appropriate lighting consultant to evaluate the East Campus neighborhood to recommend an appropriate lighting project.