



## Traffic Engineering and Parking Divisions

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**TO:** Members of the Pedestrian/Bicycle/Motor Vehicle Commission and Board of Public Works

**FROM:** David C. Dryer, P.E., City Traffic Engineer

**SUBJECT:** Southwest Path Lighting Project

On the agendas of the November 28, 2012 meetings of the City's Pedestrian/Bicycle/Motor Vehicle Commission and the Board of Public Works is the approval of the SW Path lighting project and a joint public hearing.

The SW Path was completed and opened to pedestrian and cyclist traffic in 2001. Since its opening, the path has proven to be one of the City's most well used paths, with approximately 3000 people per day using the facility. The path is sited in the old Illinois Central RR corridor and is currently owned by the State of Wisconsin.

The project is an important item for consideration. To provide some background information, Staff has prepared the attached project summary, or FAQs for your review in advance of the meeting.

Staff will give a short presentation at the joint meeting, and then there will be comments from citizens. Upon conclusion of the public hearing, each body will reconvene and discuss the project for possible action.

# **SOUTHWEST PATH LIGHTING PROJECT**

## ***Project FAQs***

1. WHAT HAS THE CITY PROPOSED?
  - a. Lighting the Southwest Path with hi-efficiency, 53 Watt LED full cut-off light fixtures with City designed/installed louvers set on 20 ft tall black anodized poles (A standard Street light pole is 30 ft tall). Sixty eight (68) poles on a spacing of approximately 210-240 feet. This is the same fixture that has been installed on the Cannonball Path in the summer/fall 2012.
  - b. 53 Watt LED fixture--uses less electricity than the standard street light (122 Watt) and uses less energy than the residential 60 watt incandescent light bulb found in many homes.
2. PROJECT LIMITS
  - a. From the Beltline Highway to Breese Terrace, a distance of approximately 3.1 miles
3. PROJECT COST
  - a. Estimated \$250,000-\$300,000 No assessments are scheduled.
4. WHERE IS THE PROJECT BUDGETED?
  - a. A budgeted item in the CE 2012 Capital budget
5. HOW MANY PEOPLE USE THE PATH?
  - a. Path usage peaks in the summer months, 2000-2500 cyclists per day. Pedestrians are not counted by machine and therefore are not reflected in the cyclist data. Staff observations find high numbers of pedestrians using the path, it is expected that daily path usage is approximately 3000+ people per day. This data and information was provided to the residents at two neighborhood meetings.
6. WHY LIGHT THE PATH?
  - a. The goal is to improve path usefulness, and improve nighttime visibility. The path is a significant bicycle corridor and would be considered equivalent in functional class as an arterial street would be for motorists.
  - b. Additional light will provide improved visibility along the path; light will illuminate path obstructions, debris and provide vertical illumination of approaching walkers and cyclists. Path users will be more comfortable and visible as people approach.

7. WHAT WAS IN THE CORRIDOR BEFORE THE PATH WAS CONSTRUCTED?

- a. The corridor had been an active RR line and is now in State ownership having been purchased from the Illinois Central Railroad. The path is not in a mapped E-way or environmental corridor. Funds to build the path were provided by the Federal Highway Administration as a transportation enhancement project.

8. WHY USE LED FIXTURES?

- a. LEDs provide a whiter light which provides better color rendition, Police often prefer the white light over the yellow light that old style high pressure sodium (HPS) street lights provide.
- b. LEDs are a more “directional” light and light can be directed where needed and thereby reduce light trespass off the path. Significant reduction in light trespass is the result.
- c. LEDs use significantly less energy.
- d. LEDs require significant less maintenance, no re-lamping.

9. ARE THERE ANY ISSUES WITH GLARE?

- a. Some statements have been made by people visiting the test fixtures that when they “look into the fixture it is uncomfortable and there is glare.” This would be expected, looking directly into any light fixture--be it on the street or in your home--the result will be discomfort. As long as people do not look directly into the light engine there should be no glare.

Presence of the light fixtures can actually reduce the glare caused by approaching path users who do carry their own light.

10. ARE THE PROPOSED FIXTURES DARK SKY COMPLIANT?

- a. Yes, the fixture is classified as a full-cutoff and International Dark Skies compliant

11. HAS THE PROPOSED POLE AND FIXTURE BEEN USED ELSE WHERE?

- a. Yes, as noted earlier the fixture proposed for use on the SW Path is the same fixture that is now being used on the Cannonball path on the City's south side, similar spacing South of Post Rd. We are not aware of any complaints with this fixture here.

12. WHY CAN'T BIKERS CARRY LIGHTS THAT LIGHT THEIR WAY?

- a. SS 347.489 requires bicycles to have a white, front light that is visible 500 ft away, plus a red rear reflector visible from 50 to 500 ft. There is no requirement for lights to illuminate the path and objects in front of a

bicyclist. many new bicycle lights are good at providing efficient light visible from a distance, but are poor at illuminating the paths of bicyclists

### 13. DOES THE DESIGN DEVIATE FROM WISDOT BIKE PATH DESIGN GUIDELINES?

- a. It has been purported that the City is required to follow the Wisconsin Highway Department's design guidelines for Bike Paths. The guidelines are not requirements that must be followed in lockstep. Licensed Engineers have the flexibility to deviate from design guidelines, particularly when the designer can rely on years of experience in design, installation, operation, maintenance, and outcomes. This is common practice and allows the designer to consider unique circumstances and context of the project.

The light levels proposed are consistent with previous path projects where our citizens have requested light levels lower than the various guidelines.

### 14. WHY DOESN'T THE CITY SIMPLY USE BOLLARDS?

- a. Bollards do a poor job lighting the area. Bollards do not provide the vertical illumination desired--they do not light the face of a person on the path, rather they light from the thigh down.
- b. The City has used bollards elsewhere and experience provides they are easily vandalized; hundreds of additional fixtures are a maintenance and operational concern and can be more easily damaged during snow plow operations because of the bollards closer placement to the edge of the path.
- c. To light the area as some residents have proposed with bollards requires a significant increase in the number of lights required. Where the City proposed lighting the project with 68 poles and fixtures the number of bollards required is at least 670.
- d. Bollards are a very expensive fixture and with the high number of them required, plus the increased cost of installation the cost of lighting the path increases drastically. Bollards are estimated to increase the project cost to over \$1.1 million. This presumes that the existing in-place conduit can be used.
- e. In summary to light the path with bollards dramatically increases the cost, requires more fixtures, more energy, and more maintenance, are vandal prone, and requires storage and warehouse space not available.

#### 15. WHAT MEETINGS HAVE BEEN HELD TO DATE

- a. First informational meeting was held December, 2011
- b. Design modifications were made and a second meeting was held in July, 2012 to present these modifications.

#### 16. WHAT CONCERNS WERE RAISED AT THE MEETINGS

Arguments and concerns raised by opponents and supporters of lighting at both public meetings and on the website are too numerous to summarize here. Some of the significant design concerns heard were the following:

- a. Some people commented that the LED Light was too bright, too cold, and too blue, and the pole too tall.
- b. Some commented light spills from the path and of particular concern will be light on the raised section of the path.
- c. Some noted lights will be visible from nearby residences.
- d. Some people noted wanting the path lit even more than proposed.

#### 17. WHAT WAS THE CITY'S RESPONSE TO THE DESIGN ISSUES RAISED

- a. Engineers went back and worked with the LED Light manufacturer and at a second neighborhood meeting Staff proposed a modified LED fixture going from 6.6 Lux to 3.7 Lux.
- b. At the same time new LEDs were used which create a "warmer white" light—going down from 4300 degree K to 3000 degree K, this addressed the concern that the light was too cold, blue and too bright.
- c. City electricians also outfitted the fixture with a series of baffles—which further minimizes light scatter and light trespass reducing the ability to see the light engine from properties abutting the path.

#### 18. WEB COMMENT TALLY

- a. The City developed a project website to provide public information and the public an opportunity to comment on the project, this way the public can see check for the latest information while also seeing project comments. The website and comments can be found here, please note that the website does not prevent people from making multiple comments:  
<http://www.cityofmadison.com/bikeMadison/planning/project.cfm?id=41>

- b. Comment tallies find about 300+ comments (please note multiple comments from individuals are included)
  - i. 36% Support Light
  - ii. 64% Oppose Light

#### 19. PATH USER SURVEY

- a. To determine the opinions of people who are using the path, Staff undertook a Path User Survey during the peak hours of path usage on July 10, 2012.
  - i. 562 people were contacted
- b. How did path users identify themselves using the path the day of the survey (multiple responses accepted)
  - i. Commuting and/or for transportation 432 responses (45%)
  - ii. Exercise 381 responses (39%)
  - iii. Recreation 153 responses (16%)
- c. How often did people use the path
  - i. Frequent (Once or more per day) 334 responses (59%)
  - ii. Regularly (Several times per day) 194 responses (34.3%)
  - iii. Infrequently 38 responses (6.7%)
- d. Preference of the 562 people surveyed
  - i. 181 (32.2%) noted favoring light
  - ii. 200 (35.6%) noted possibly favoring light
  - iii. 171 (30.4%) noted as not favoring light
  - iv. 7 (1.3%) noted favoring and possibly favoring light
  - v. 1 (0.2%) noted not favoring and possibly favoring light
  - vi. 2 (0.4%) no answer
- e. Path users were asked “Would you use the path more if it were lit?”
  - i. 89 people responded—considerably more
  - ii. 194 people responded—somewhat more often
  - iii. 219 people responded—Not at all or less often
  - iv. 38 people responded—same amount of usage
  - v. 22 people no answer

#### 20. WHY NOT PROVIDE CONTINUOUS LIGHTING?

- a. Many lighting manuals recommend continuous lighting for both higher order streets and bike paths. Madison residents have not historically supported lighting the City to these levels; in fact most City paths are not lit continuously. Staff believes continuous lighting is not necessary except in locations where crime may be a concern.

#### 21. WHY NOT USE SIGNS REQUIRING PEOPLE TO CARRY LIGHTS?

- a. While education is desirable it does not address the overall problem of encouraging the use of a valuable transportation corridor, nor does it address the problem caused by folks who choose not to comply and follow the rules.

22. DO THE LIGHTS NEED TO BE ON ALL NIGHT?

- a. No, the lights can be operated on a clock and shut off at an agreed upon time.