SWATeam Recommendation

Name of SWATeam: Water/Stormwater

SWATeam Chair: Art Schmidt
Date Submitted to iSEE: 1 May 2019

Specific Actions/Policy Recommended (a few sentences):
SeeClickFix is an application that is used by citizens of both Champaign and Urbana to report damaged or underperforming infrastructure to their local public works departments for repair. According to this application, 2498 issues were fixed all time in Champaign, and 27 have been resolved in Urbana. In similar fashion, the University has a few options to crowd-source data about infrastructure problems.

1. Facilities and Services (F&S) can set up their own account as the University of Illinois at Urbana-Champaign through the service to cut out the need to communicate directly with the two cities. This would most likely be the more costly option, but would be quick and require no third-party effort.
2. F&S could collaborate with Champaign and Urbana to receive information about infrastructure problems that fall under the campus' jurisdiction. This option would likely be cheaper than having a subscription, but cooperation with the cities would be pivotal.
3. Through student-led projects, develop a campus-specific application and database. In this case, spatial data and data about the kind of problem can be incorporated with GIS and would be more readily available to the campus community. Water specific data could be used to determine the optimum locations for green stormwater infrastructure.

Rationale for Recommendation (a few sentences):
The SeeClickFix application or a student-developed application would allow students, faculty, and staff to report infrastructure problems directly or indirectly to F&S, vote for reported issues to be fixed, and see where problems have been resolved on a map. Getting the campus community involved in solving water/stormwater issues can be challenging, but a crowd-sourced application provides a platform that encourages community members to easily report problems and have confidence that their concerns will be followed through. F&S can also provide timely feedback to the community.

If taking the student project route, several project-based courses (CEE398PBL) and new courses (a new CEE 100-level project course yet to be named) will have students looking for projects in fields to which campus infrastructure and data analysis would apply. Having access to more raw data about campus infrastructure performance would be useful for students and researchers alike in several other interdisciplinary fields. Being able to tailor the application to the campus' needs is another reason to push for a student-developed application.

Connection to iCAP Goals (a few sentences):
Objective 5.4: Inventory and benchmark campus' existing landscape performance by FY17

- This proposal would give F&S a clearer picture of where the landscape is not adequately conveying stormwater. Collecting data about infrastructure problems, specifically related to water/stormwater, would help pinpoint the most feasible/economic locations of implementing raingardens, stormwater capture tanks, etc.

Objective 5.5: Implement four pilot projects for water reuse and/or non-potable water substitution

- Following through with this proposal would provide the necessary baseline data to identify the most promising locations for water reuse implementation.

This recommendation could help the campus achieve other iCAP goals outside of the scope of this SWATeam as it can encompass all infrastructure. The potential objectives in other chapters that this strategy can help achieve are:

- Objective 2.2: Improve Standards for New Buildings and Renovations
- Objective 2.4: Engage and Incentivize the Campus Community
- Objective 3.4: Reduce Single-Occupancy Vehicle Usage
- Objective 7.2: Sustainable Plantings & Maintenance Across Campus
- Objective 7.5: Increase Carbon Sequestration in Campus Soil

Perceived Challenges (a few sentences):
Getting Facilities and Services to commit to the application would likely be the largest hurdle to successful implementation. Communication between the Champaign-Urbana public works, F&S, and the campus community could also present problems. Application development through student-led projects would be the cheapest option and would have the potential for providing the University with the most useful data, but it would take considerably more time to develop.

Suggested unit/department to address implementation:
Facilities & Services, any interested department(s) interested in supporting students on the task of development.

Anticipated level of budget and/or policy impact (low, medium, high):
Cost of services could be up to thousands of dollars annually if F&S desired sole dashboard access. Collaboration with Champaign-Urbana would be a lower-cost option. Supporting students through class projects or research experience for undergraduates (REU) would likely be the cheapest.

Individual comments are required from each SWATeam member (can be brief, if member fully agrees):

Team Member Name	Team Member's Comments
Art Schmidt (Chair)	A crowd-sourcing application like this could help identify persistent storm-drainage issues where green stormwater infrastructure could be implemented. This could also provide information identifying potential problems that could be incorporated into teaching—particularly student projects in design and problem-based-learning courses.
Rabin Bhattarai	
N Rajagopalan	Agree with John;
Claire Samojedny	
John Berens	Crowd-sourcing data about infrastructure issues would be a win-win for F&S and the campus community.

Comments from Consultation Group (if any; these can be anonymous):

Explanation and Background (can be supplied in an attachment):

See video of how the application works at the following website: https://seeclickfix.com/