The University of Iowa

lowa Initiative for Sustainable Communities

Presenter: Ben Curtis

ABSTRACT

benjamin-curtis@uiowa.edu

The Greenspace Sioux City project

amidst ecological, financial, and

aims to enhance the livability and

area by proposing site-specific

greenspaces in downtown Sioux City

infrastructure constraints. The project

design and policy solutions for future

sustainability of the downtown business

addresses the deficiency of

Greenspace Team:

Varsha Borde Ben Curtis Katie Gandhi Parker Just

THE PROBLEM







stormwater design

and vast concrete areas

KEY FINDINGS

greenspaces.

- 77 percent of downtown space, excluding the Riverfront Park, is considered highly impervious.
- Only 3 different tree species exist downtown, which accounts for about 6.3 percent total tree cover in downtown.
- Only 4 percent of downtown space can be considered greenspace while 50 percent of downtown space consists of parking ramps or surface lots.
- Since 2002, downtown Sioux City has observed a decline in employment while experiencing a slight influx of residents moving to downtown.
- Space for community events, biking and walking trails, and places to sit or relax were the top 3 ideal amenities identified through an online survey distributed to downtown residents and workers.
- Public participation revealed that residents believe an unattractive streetscape and trees in poor health are the two most important issues in downtown related to the topic of greenspace.
- 10 blocks were identified as "Very High Priority" for greenspace development. The spaces present high public interest for greenspace development, low tree cover, high impervious surface area, low existing greenspace, and located near high concentrations of workers and residents.



The total amount of impervious space downtown is significantly higher than surrounding suburban neighborhoods



Tree cover is severely lacking downtown, which intensifies the urban heat island effect due to a lack of shade and cooling factors

Greening 45 Blocks of Concrete CBD

Sioux City, Iowa

THE PLANNING PROCESS

3. Minimal greenspace



- 3. Percentage of tree cover
- 5. Concentration of workers
- 6. Existing greenspace

The planning process utilized in the Greenspace Sioux City project was tailored for public participation and expert analysis



Open house attendees voted on their favorite greenspace amenities



Children and adults had the chance to draw their ideal downtown park



One child's drawing of what could be included in her ideal park



The Downtown Greenspace Plan recommends 15 primary objectives, which further the plan's mission to enhance the quality and quantity of greenspace for downtown residents, workers, and visitors



Eight variables were taken into consideration when forming a needsbased evaluation model for determining priority blocks for development

United Center Green Alleyway Project





A survey and open house identified greater preference for designs including native species



A digital illustration of a green roof located on the top deck of a public parking garage



A bioswale located on a public sidewalk featuring a variety of forb plants



An aerial view of a proposed pocket park located across from a new children's museum



Greenspace design for a surface parking lot that features tree islands, public seating, and public art





Conceptual rendering of a public gathering space in an alley near residential housing

REFERENCES

- 1. Environmental data (tree cover, soils, impervious surfaces): Iowa Department of Natural Resources Geographic Information Systems Library. <u>https://programs.iowadnr.gov/nrgislibx/</u>
- 2. Demographic data (age, housing, population): Economic Census 2013, American Community Survey 2014 5-year estimates. <u>http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml</u>

S384 [POSTERS]





Improved streetscape design featuring increased shade and native vegetation on sidewalks

THE DOWNTOWN GREENSPACE PLAN



Existing stock of greenspaces located downtown in 2016





The downtown greenspace vision for downtown Sioux City, including greenways, greenspaces, and green streetscapes

ACKNOWLEDGEMENTS

Team members of the Greenspace Sioux City Project would like to thank the following people for thier assistance and guidance throughout the planning process: Theresa Blossom, Michelle Bostinelos, Ragen Cote, Charlie Cowell, Sarah Fish, Lucie Laurian, Kathryn Pfaffle, Matthew Salvatore, Sarah SanGiovanni, Scott Spak, Christopher Stoakes, and the Sioux City Public Museum.