Child-friendly design for equity and sustainability in downtown Syracuse, NY

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Abstract

The work detailed in this report is focused on public space in downtown Syracuse, NY through the lens of infrastructure, services, and amenities for children and families. Special emphasis was placed on the goals of supporting underserved populations, reducing negative environmental impacts, and adapting to climate change.

Introduction

By the year 2050 nearly 70 percent of the world’s population will live in cities. This is up from around 50 percent in the year 2000 and just 30 percent in 1950 (United Nations Population Division, 2018). For most of humanity, the way forward is urban. There are many positive aspects to this shift. By reducing individual energy use and concentrating residential areas, cities can provide a more sustainable way of living. Unfortunately, cities are also frequently home to legacies of environmental degradation, overcrowding, and concentrated injustice and inequality.

Downtown Syracuse is in the midst of an exciting revitalization, becoming a vibrant

destination for arts, culture, and dining. However, the downtown area currently includes few public space amenities or parks designed to serve children and their families. In addition, existing challenges such as low tree canopy, urban heat island effect, and auto centric streetscape design disproportionately impact vulnerable groups such as children, especially those from lower income families. This is a lost opportunity to increase the appeal and walkability of the city, to better support families in nearby underserved neighborhoods, and to provide multifunctional greenspace in the city center.

Why design for children?

Children are citizens with rights alongside adults, and yet their needs are often left out of planning conversations in cities. The needs of children in an urban environment are not so different from the needs of adults. However, the impacts of poor planning and design can impact children in a more profoundly deleterious manner. A lack of quality outdoor spaces reduces opportunities for socializing, enjoying nature, and engaging in unstructured play. Auto centric urban designs have resulted in streetscapes that are often dangerous for pedestrians. Pollution due to vehicle emissions causes poor air quality. Increases in heat-retaining surfaces such as asphalt and concrete contribute to extreme heat in summer months, a problem made worse by the increasing impacts of climate change. While these issues impact everyone, children are especially vulnerable due to their lower body mass, incomplete development, and smaller stature. Children from lower income families tend to be most profoundly impacted by deficiencies in urban design and public space, as they generally have fewer private space options and often live in neighborhoods that are not prioritized for improvements and maintenance.

Work Completed

Goals of Sussman-funded summer work were to inventory existing amenities in public open space in downtown Syracuse, document use patterns, and conduct surveys to better understand the needs of area children and families. Additional goals were to summarize current design standards, curate a precedent list for similar projects in other cities and develop a set of Syracuse-specific design recommendations to better serve children and families.

*1. Inventory and assessment of public open space in Downtown Syracuse.*

Included in this portion of the study were a total of twelve spaces. Ten of these are within the traditionally defined Downtown borders. The remaining two parks were chosen for inclusion due to proximity to important Downtown amenities and residential areas. During the summer, I visited all twelve parks and public open spaces multiple times, taking photos and notes, compiling an inventory of current amenities and infrastructure, and documenting use patterns. Where possible, users were interviewed to gain an understanding of community needs and current patterns of use.

For each space I then compiled a report that detailed strengths, weaknesses, and opportunities with regards to supporting the needs of children and families. Included in each report was a list of specific recommendations for the space that could be implemented to better serve this group.

Emphasis was placed on providing shade and opportunities for cooling in a warming climate as well as increasing the availability and functionality of outdoor social and recreation space. While the recommendations were tailored to each site, common recommendations for many of the parks and open spaces were tree plantings to increase shade and provide thermal respite during summer heat, interactive water features, social seating to increase utility and appeal to families and youth, and improved pedestrian access.

*2. Inventory of destinations for children and families in downtown Syracuse.*

To better understand where to prioritize recommendations for public space improvements, I gathered data on potential Downtown destinations for families and children using online resources including Google Maps, City of Syracuse and other government websites. Information on destinations was then compiled, summarized, and mapped. Destinations were verified by physical walkthroughs of the Downtown area. Some destinations are those for recreation, such as parks, museums, and performance venues. Other destinations are those for accessing infrastructure such as transit and education or service providers for children and families. Several destinations immediately adjacent to Downtown were also chosen for inclusion due to proximity and likely importance to children and families.

*3. Documentation of use patterns and user interviews.*

One of the goals of summer work was to document current use patterns for public space in Downtown Syracuse and to conduct user interviews with families where possible. However, continued pandemic conditions resulted in relatively few people in Downtown spaces during the summer and substantially limited opportunities for observations and interviews. As part of my inventory work, I documented use patterns for parks and public open space, which is included in the report for each space. I also conducted several (n=5 individuals) informal interviews with park users to better understand their needs and preferences. The very limited presence of families and their reluctance to participate in interviews prevented this number from being larger and potentially more meaningful. However, common themes in these interviews were a desire for more shade in park spaces and more water play features such as splash pads and fountains. These preferences were supported by observations of users in park spaces, such as the frequency with which children played in park fountains despite signs posted prohibiting this activity and the concentration of individuals and groups seated in more shaded areas.

*4. Curation and summary of current standards for child-friendly urban design.*

Municipalities and organizations around the world are increasingly realizing the importance of child friendly urban design. One of the goals of my summer work was to identify sources of relevant standards and design precedent that could provide needed guidance and inspiration for the City of Syracuse. I read through many books, booklets, and online resources and have curated a list of eight of the most useful resources, together with a brief summary of what can be found in each.

*5. Precedent list of child-friendly design in other cities.*

Designing urban spaces with children in mind is not yet common practice in the United States. As such, it was important to find examples of what this sort of design could look like. I curated and summarized efforts in the cities of Boulder, CO; Portland, OR; Philadelphia, PA and Edmonton, Canada.

*6. Identification of priority areas for street trees and added tree canopy in public open spaces.*

Trees in urban areas provide numerous environmental, public health, and economic benefits (Turner-Skoff & Cavender, 2019). These include improvements in stormwater management and air quality as well as reductions in noise pollution and urban heat island effect.

The Syracuse Urban Forest Master Plan (UFMP) sets a goal of 34% city-wide tree canopy. Syracuse currently has approximately 27% tree canopy coverage, slightly below the national average of 32% for similar sized cities (City of Syracuse Forestry Division, 2020). Downtown Syracuse has only 9.3% tree canopy, and surrounding, mostly low-income, neighborhoods have between 14.4% and 23.3% coverage. Lower tree canopy is associated with higher summer temperatures, a correlation that is seen in recent thermal images of Syracuse. Downtown was identified specifically as an area for focus in the UFMP. Current canopy levels are estimated to be only about 56% of the potential maximum, indicating substantial room for improvement.

My goal was to identify specific areas Downtown where tree plantings would be of high impact and provide significant benefits for residents and visitors, especially children and families. I identified high impact/high priority areas by the overlap of summer “hot spots” with concentrated locations of likely destinations for children and families. Further evaluation will be carried out on the ground to determine specific locations for trees to be planted.

*7. Recommendations for additions to public space and modifications to current use.*

After inventory and analysis of amenities and infrastructure in downtown Syracuse, I prepared a detailed set of recommended additions to public space, as well as recommendations for expanded or modified use of existing spaces. These were based on precedent from other cities as well as user interviews and observations of current use patterns.

*8. Expanded focus on streets as public space and their impact on mobility and sustainability*

While the initial focus of the study was on destinations and public open space, it became clear that future child-friendly planning efforts should include and prioritize streetscapes. A safe and comfortable pedestrian environment is vital for families and children. Even those who arrive by car will at some point be pedes­trians, if only briefly. Compared to adults, the smaller stature and less predictable movements of children make them less likely to be seen by drivers (Global Designing Cities Initiative, 2020). Their smaller mass and less developed bodies make them more susceptible to injury when struck by a vehicle.

In addition to safety concerns, supporting active transportation (that is, human powered transit such as walking and biking) is important in reducing traffic congestion, de­creasing pollution, and cutting carbon emissions. It is also an important act of equity and social justice, as a significant portion of lower income urban residents do not have access to an automobile. This includes approximately one third of Syracuse residents.

In future work, I will be continuing my investigations into Downtown streetscapes and ways in which these can be modified and improved to better support vulnerable populations and encourage walking, biking, and the use of bus transit.

Future Work

Work completed over the summer will be expanded upon as part of my final student capstone project, with an emphasis on streetscape design. I am in the process of creating a downtown master plan for the City of Syracuse featuring child-friendly design principles and using the data compiled during summer work. I have also identified a smaller focus area where I will conduct detailed site design work to illustrate the application of principles laid out in the master plan.

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