The Ecodistrict: A Framework for Environmental Mitigation at the Neighborhood Level

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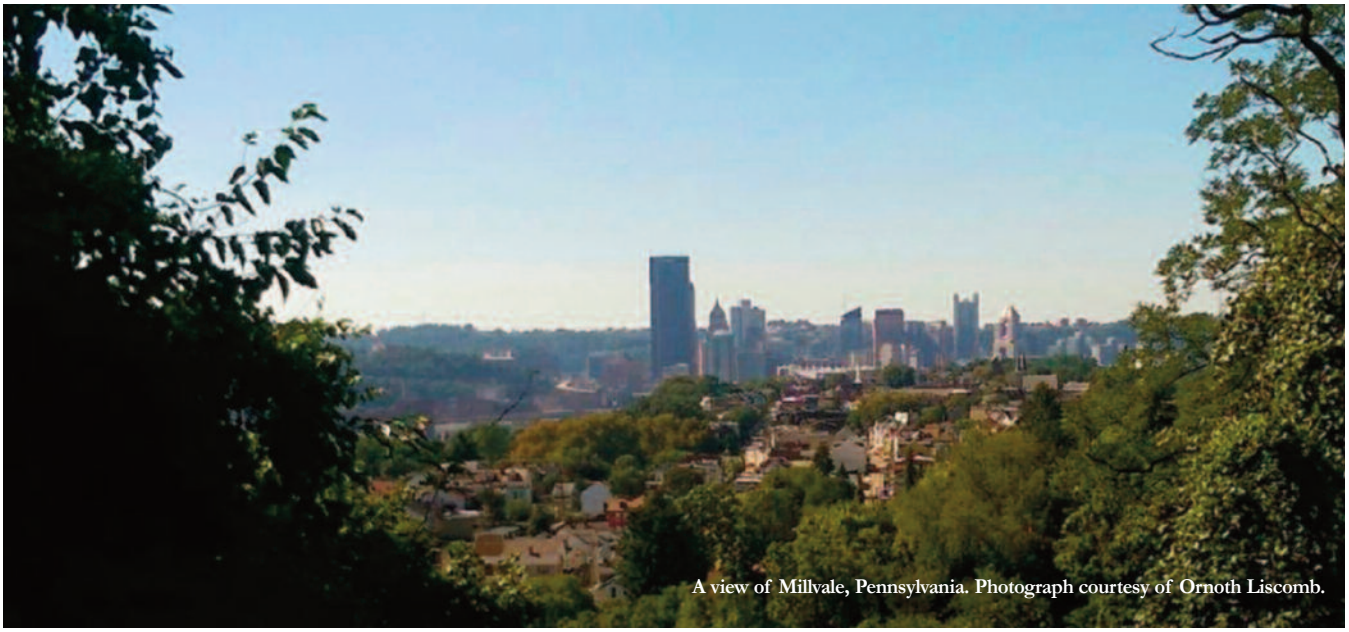

A view of Millvale, Pennsylvania. Photograph courtesy of Ornoth Liscomb.

While there are many conservation groups that focus on preserving pristine wilderness, few groups focus on greening up the city landscape. Worse yet, an overly simplistic understanding of natural systems in an urban context may result in greenery that amounts to little more than window dressing and is not fully integrated to provide comprehensive ecosystem services. New Urbanist developer Andres Duany used the term "green camouflage" when describing green infrastructure that fails to properly acknowledge its urban context: "an urban paradigm cannot be based on the implantation of natural vignettes in the residual places between buildings."[1]

One way to ensure that urban greenery provides tangible benefits is to create an ecodistrict. An ecodistrict helps establish a baseline of environmental performance in a neighborhood. By engaging in a comprehensive planning process, ecodistrict neighborhoods can then use this baseline to craft projects and performance goals that improve upon existing environmental conditions. This type of planning approach has value because it ties environmental mitigation directly into the institutional life of a neighborhood.

An Ecodistrict and its Elements

The Portland Sustainability Institute provides a good definition of the term ecodistrict:

> An EcoDistrict is a neighborhood that is committed to sustainability that links green buildings, smart infrastructure and behavior to meet ambitious sustainability goals over time. EcoDistricts are the right scale to generate sustainability – small enough to innovate quickly and big enough to have a meaningful impact.[2]

Developing an ecodistrict starts with determining the performance metrics, which are built in at the beginning of the planning process. The Portland Sustainability Institute identified eight performance areas for ecodistricts:

- equitable development
- energy
- water
- health and well being
- community identity
- access and mobility
- material management, and
- habitat and ecosystem function.

While neighborhoods have a great deal of discretion over what metrics they choose to pursue, these categories are a useful primer on the type of policy goals for neighborhoods.

A key component of the ecodistrict process is gathering data to understand prevailing environmental conditions within the neighborhood. This data can then be used to establish firm numbers on existing natural indicators within the study, thereby establishing a robust baseline. The type of data used varies widely from district to district, but existing ecodistrict documents and reports can reveal the sources needed to build that baseline. In the Lloyd ecodistrict in Portland, Oregon, data were gathered on the amount of pervious and impervious surface area within the neighborhood along with the number of gallons of stormwater the area produced over the course of a year.[3] Other relevant data categories cited include annual figures on carbon emissions, district energy demand, and waste generated within the area. Also, in order to develop a more complete picture of the district's ecological footprint, data were sorted and filtered by land use categories. For example, water demand was tabulated for each basic land use category: residential, commercial, industrial and open space. This type of data breakdown is useful because it helps build a more comprehensive picture of environmental impact within the area, and it can be a useful proxy for gauging the type of efficiency gains that may accrue to individual properties once the ecodistrict is implemented.

The Millvale Ecodistrict: A Blueprint for Neighborhood Action

In 2011, the Pennsylvania Department of Environmental Protection awarded an ecodistrict grant to the consulting firm evolveEA.[4] After being approached by a Millvale nonprofit organization, evolveEA decided to make Millvale, Pennsylvania the focus for its ecodistrict planning process.

While the ecodistrict concept has gained wide acceptance in dense and large urban neighborhoods, the Millvale experience shows how this type of visioning process can have benefits for smaller neighborhoods as well. With a population of around 3,500, the Borough of Millvale is comparable in scale and size to many neighborhoods within small and mid-sized cities.[5] Accordingly, the process used in Millvale could be used in small, older neighborhoods to evaluate how to allocate scarce resources and human capital.

The Millvale ecodistrict plan was completed in 2012, and updated in 2016. It focuses on six key areas of environmental sustainability: energy, water, food, mobility, air, and equity. The efforts of evolveEA and the Borough of Millvale in ecodistrict planning were recognized with a silver medal from the American Planning Association's National Planning Achievement Award for Environmental Planning.

Now on Phase 2.0 of the Ecodistrict Pivot Plan, the Borough of Millvale has already made a number of notable strides in community sustainability. For example, in Phase 1 of the plan, Millvale was able to create a comprehensive inventory of vacant lots that could be converted to food production along with information on food processing and distribution points.[6] A fresh food hub was also developed in the town center, complete with a business incubator on the second floor that will cater to emerging food entrepreneurs.

Another key area for the plan was water management, and since the plan allowed for a comprehensive analysis of the borough's watershed as a whole, participants were able to get a better handle on the type of projects that would have the greatest impact. Much of the data gathering for the water section was centered on Girty's Run, a tributary of the Allegheny River and the borough's main water feature. By gathering data about the existing hydrology within the study area, the plan's

A view of the Allegheny River under the 16th Street Bridge. Photograph courtesy of Matt Niemi.

authors learned that 61% of the flow originated from outside the study area, primarily from upstream separated sewer systems. As a result, many of the recommendations centered on improving regional cooperation around Girty's Run. Specific goals outlined within the document included the creation of a watershed authority for Girty's Run and increasing collaboration with the Girty's Run Joint Sewer Authority.

Having the ecodistrict in place made it easier to see how these projects fit into a larger framework for sustainability and whether they represent the best use of resources to improve upon the baseline of current environmental indicators.

Ecodistricts as Laboratories of Innovation

The use of neighborhood based performance metrics also provides a solid foundation for implementing novel policy proposals and design strategies that otherwise may not be imagined. One neighborhood where a number of interesting innovations have been made through the ecodistrict apparatus is the Capitol Hill neighborhood of Seattle. The organizers of the Capitol Hill initiative grouped proposed pilot projects and activities under eight performance areas: water, habitat, culture, energy, materials, transportation, health, and equity.[7]

One of the specific goals that emerged from the neighborhood planning process was the promotion of biodiversity. In order to achieve this, neighborhood leaders and local stakeholders hired an expert to implement a pollinator pathway.[8] A pollinator pathway has the goal of connecting two or more urban green spaces not just physically, but in a way that allows for a unified ecosystem to emerge. The process to create a pollinator pathway involved using a high number of native plants, which are able to meet the requirements of pollinating insects and creatures. This effort to build more meaningful connections between urban ecological communities would not be as easy to plan if an ecodistrict were not already in place to collect data on existing natural assets and the current environmental baseline of the neighborhood.

The Capitol Hill ecodistrict also sought to improve the area's urban fabric through design review and innovative building practices. One way this has been accomplished is through the creation of a neighborhood-based land use review committee.[9] The committee meets once a month and invites developers to come in and discuss their preliminary proposals. The committee forwards discussions and recommendations to Seattle city officials. The committee also participates in regulation changes, such as when the city undertakes a large-scale rezoning or implements design guidelines that will affect the community appearance and character of the Capitol Hill neighborhood.

The ecodistrict is also promoting more efficient land use through better parking management practices. A comprehensive report was released in 2015 detailing existing parking space occupancy within the neighborhood. The ecodistrict developed a plan to turn the existing stock of parking spaces from a maintenance burden into a collective community asset by creating a parking benefit district. The district would direct a portion of the revenue from city installed parking meters to the neighborhood, which is authorized to use those meter funds for whatever neighborhoods services are deemed important.[10] Aside from providing a new stream of revenue, a parking benefit district can potentially change the way residents perceive parking. By receiving financial benefits, Capitol Hill residents and business owners may be more inclined to favor extending parking hours or adding additional meters. It is a great way of giving local residents a compelling reason to optimize the use of parking spaces in the neighborhood.

Between the land use review committee and the exploration of parking strategies, it is clear that the Capitol Hill ecodistrict is bringing about a paradigm shift in how the neighborhood perceives itself and its role in facilitating change. By being able to gather comprehensive data on a neighborhood's social and environmental performance and translating those findings into achievable benchmarks, an ecodistrict provides a solid footing for the testing of untried policy solutions and design strategies. In this sense, an ecodistrict is a vehicle for incremental change since it can forge ahead with policy-based experimentation that might be harder to undertake in the formal arena of city politics.

Conclusion

With its performance metrics and specifications regarding data gathering, an ecodistrict may seem like an arduous undertaking for many communities. However, ecodistricts' high degree of customization and ability to set achievable benchmarks for environmental mitigation are very empowering for communities who value environmental mitigation, but do not know where to start. Smaller, neighborhood-based ecodistricts may also serve as a useful watchdog over decisions implemented by city governments. If a city policy is somehow perceived to be counter-productive or less than optimal, an ecodistrict can lobby the city for change while working on an alternative model for the city to adopt in the future. Above all else, the core idea behind ecodistricts – a neighborhood-based organization that can aggressively pursue environmental targets – may serve as the "missing link" to ecological planning in urban areas: a self-mobilizing, neighborhood-based entity that can provide a holistic perspective to green infrastructure implementation.

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Endnotes

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