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***RESPONSIVE URBANISM: Sustainable Development Strategies for Small  
Communities with an Inter-Cultural Focus***

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This essay explores the development of a landscape design method referred to as *Responsive Urbanism*, the intention of which is to reverse the negative effects of globalization currently reordering the physical and social fabric of small communities. Responsive Urbanism utilizes a landscape based framework and systems focus that emphasizes the following series of disciplines (1) ecological networks in the natural world, (2) fabric of the built environment, (3) dynamics between land and transportation, and (4) socially networked decision making. The method also integrates community design events and cross-cultural collaboration, and concludes with multi-scaled design development that makes ecological integrity and urban landscapes the centerpiece of creating revitalizing building forms and constructed landscapes. This design method, utilized in a pilot project that spanned two years and involved more than 60 students from the University of Wisconsin-Milwaukee (UWM) in Milwaukee, WI and the Technical University of Graz (TUG) in Graz, Austria, compared two communities of similar size and importance, the village of Mukwonago, Wisconsin in the United States and city of Radstadt, Austria. The project demonstrated that through structured analysis and disciplined project development communities can develop new tools to harness the increasing complexity, intensity, and global span of networks and realize the potentials of globalism's universality, while simultaneously capturing the value of the singular and the local.

A reordering of the physical and social fabric of community on a global scale is underway influencing the development of new design theories and methods to address the negative effects of this spatial transformation. In the last decade of the 20<sup>th</sup> century over 50% of the global population lived in urban settlements as compared to less than 3% at the end of the 19<sup>th</sup> century. Global urbanization has been described as the extension of capitalism and the advancement of a system of nation states as instruments of influence in the global marketplace. Although there are competing schools of thought about the reasons behind the increasing scale and pace of urbanization, significant agreement exists that patterns of finance linked to the increasing speed of transportation, communication and organizational technology are the major drivers transforming the physical landscape and global settlement patterns (Clark, 1997).

While the emergence of "global cities" or global concentrations, linked to direct investments in core economies of developing nations, is taking place the spatial transformations observed in small communities within developed nations is more commonly that of dispersal and disruption. Two such small communities, one in the United States and the other in Austria, will demonstrate the challenges smaller

settlements face when it comes to managing local economic pressures that have become intertwined with global networks. The same “trans-nationalization of production” that results in global brands and production patterns linked to global business structure is increasing the scale and pace of transformation as well as adding complexity to community building dynamics. The inability of small communities to make sense of these changeable, invisible and far reaching relationships is increasingly creating ecologically and urbanistically compromised building forms and landscapes.

Responsive Urbanism posits that global and local dynamics can be understood through the alternative and inclusive framework of landscape, and demonstrated through visual argumentation (Waldheim, 2006). The method utilizes a systems focus and emphasizes the following series of disciplines: ecological networks in the natural world, fabric of the built environment, dynamics between land and transportation, and socially networked decision making. The method also integrates community design events and cross-cultural collaboration. Responsive Urbanism makes ecological integrity and urban landscapes visible through multi-scaled design development. Regional ecological corridors, local water and vegetation systems, and building scale energy and environmental strategies are depicted and integrated as essential components of each project. This process gives small communities tools to create new forms of urban spatiality (Sassen, 2003) that harness potentials of globalism’s universality, while simultaneously capturing the value of the singular and the local (Tzonis and Lefaivre, 2003).

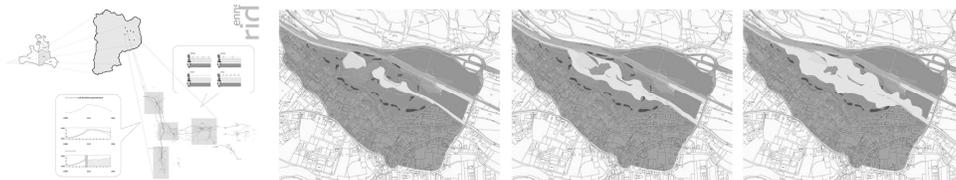
In this pilot project, two communities of similar size and importance have been compared, the city of Radstadt, Austria and the village of Mukwonago, Wisconsin in the USA. Both municipalities occupy a comparable position within their respective regions, and in their relationship to proximate urban agglomerations. Radstadt is located approximately 70 km/44 mi southeast from the provincial capital of Salzburg, which has a population of around 150,000 (210,000 metro. area). Mukwonago is situated around 60 km/38 mi southwest of Milwaukee, a city of approximately 600,000 (1.7 million metro. area). Radstadt is surrounded by five small communities and is conceived of a central recreation and nature zone; Mukwonago is also surrounded by five communities and has historically drawn recreation seekers from as far away as Chicago (145 km/90 mi) to visit its numerous woodlands and lakes.

Mukwonago and Radstadt are both communities under pressure from development that has resulted in the de-concentration of community elements, loss of high quality public space and in some instances clear signs of decline. The formerly well defined village center of Mukwonago has largely fallen victim to a string of state-issued road widening initiatives as well as the development of shopping centers and sprawling residential subdivisions. The planning culture is weak, governed predominantly by zoning codes that typify mono-functional planning methods that emphasize a separation of uses. Administrative planning responsibilities are commonly outsourced to engineering companies and community-wide planning was enacted by

the state less than ten years ago. In 1990, a master plan was commissioned and successfully completed, only to be put aside without further follow-up or implementation. The master planning process was at odds with day to day decision making, and no champions emerged to maintain citizen engagement. Most physical planning decisions are made by locally elected representatives, who possess no experience in the field. Generally, the belief is held that the free market will steer decisions in the right direction.

Radstadt, on the other hand, is representative of a typical Austrian planning structure consisting of State, County, and Municipality. The zoning plan is updated regularly and professionals are consulted for planning tasks. However, Radstadt has also been confronted with massive planning initiatives, such as the displacement of the courthouse, a possible expansion of the roadway and freeway, the potential relocation of the post office and police station, a suburban train station, and the development of shopping centers on the periphery. The opinion that the free market will guide development has gained stature in the past few years. A comparison of the current situation in both communities demonstrates that each faces similar challenges and struggles in identifying solutions.

The cross-cultural project included as many as 60 students in a unique 2 year, international effort using a method developed specifically to understand and develop strategies to reverse decline in small communities. Design studios were offered simultaneously – one at University of Wisconsin-Milwaukee (UWM) in Milwaukee, WI and a combined lecture/studio at the Technical University of Graz (TUG) in Graz, Austria. Students took part in a rigorous program of research and analysis, community design events and international design collaboration, as well as conceptual design development.

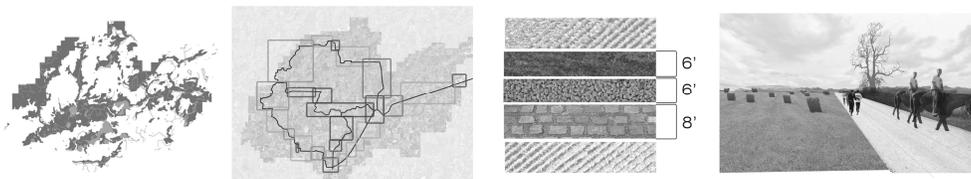


**Figure 1. Demographic analysis contrasts levels of contentment amongst citizens and outward migration which leads to ideas about levels and spaces reserved for flooding within Radstadt's alpine valley.**

The landscape design method's pedagogy emphasized multi-scalar mapping, analysis and graphic description of demographic data, and temporal mapping to reveal and communicate changes to the physical and social fabric of each community. Exercises that were particularly effective at demonstrating the increasing speed of change included making flip books (similar to frames in a film) from historical maps to dynamically illustrate changes over time. The analysis revealed not only a pattern of growth, but also a deconcentration of community elements that is becoming more rapid as the principal stages in global urban

development evolve from industrial capitalism [1780-1880] characterized by localized mills or factories to corporate capitalism characterized by trans-national global production [1950-] (Clark, 1997).

The landscape design method also challenged student groups to understand and graphically describe a series of disciplines to reveal how individual layers of community structure operate as a system. Collecting information about the natural setting, biologically productive elements, and climate created a foundation for strategies that integrated ecological processes. Understanding the system of land division and the specific dimensional characteristics of the built environment that includes buildings, sidewalks, parking, etc. help reveal the socio-cultural priorities that are imbedded in the physical landscape. Illustrating the dynamic relationship between transportation and land uses enabled the development of strategies that unite movement and place relative to speed and temporal experience. Examining planning tools and decision making networks described how decisions negotiated between the specific planning structures and cultures can lead to different outcomes. By examining elements of community dynamics within an inclusive framework that incorporates both natural and constructed communities, the project identifies networks of local conditions and begins to reveal the site specific manifestation of global connections – a restructured “big box” retail sector or financing structures that make a home on a 5-acre lot a standard division of community.



**Figure 2. Multi-scale design development transforms increasingly fragmented habitat corridors into a network of restored natural communities and shared public spaces in the Mukwonago region.**

Responding to contemporary cultural conditions, characterized by increased urbanization, globalization and climate change, has had a profound effect on design theories and methods. Historically, the advent of a global dynamics is associated with the years following the Second World War and this stage in global urban development was an outgrowth of a spirit of optimism about the ability of the rational planning and the functional city to resolve the significant social problems evident in industrialized cities. The ideas for independent zones for living, working, recreation and circulation, espoused in the Athens Charter of 1942, influenced reconstruction efforts in Europe and urban renewal programs in the United States. But by the 1960's, an understanding of the effects of global patterns of finance and incorrectly or incompletely understood design theory gained criticism for its inhumane results.

In 1967 Schnaidt, in his essay titled *Architecture and Political Commitment* speaks to the lost aspirations of modernism and its inability to address the 20<sup>th</sup> century's urban problems. Schnaidt states "Architecture that wanted to play a part in the liberation of mankind by creating a new environment to live in, was transformed into a giant enterprise for the degradation of human habitat – the rational dwelling turned into the minimal dwelling" (Frampton, 1980). More recently, it was acknowledged that today's emphasis on compact development and combating the environmental and health effects of sprawl in America is directly connected to the forces of globalism. Solomon notes in *Global City Blues* that, "In 1965 the physical elements of sprawl were formed – the shopping mall, the planned unit development and the business park were concepts that took hold of the development and design community" (Solomon, 2003).

The design theory of Modernism was unable to deliver a designed environment that upheld the social aspirations of its discourse, and the increasingly negative and unpredictable effects of global flows of capital engendered a crisis of confidence in the ability of design to address the issues of the contemporary city. In the United States, the failures of urban renewal along with the seemingly intractable conflicts rounds civil rights, homelessness, de-institutionalization of mental patients, crime, and concentrated poverty resulted in a shift towards policy-based solutions and away from physical design solutions. It was not until the 1990's that a resurgence of interest in physical design solutions was spearheaded by the New Urbanism movement. Despite the new focus on city building patterns and principles, New Urbanism has had only limited success addressing difficult urban problems around social equity and environmental degradation. The moniker the "New Sub-urbanism" is an implicit criticism of the design theory, referring to a movement that has demonstrated greater success with middle and upper income communities rather than the dynamics of truly urban populations.

In Austria, physical design ideas remain part of the solution, but mainly in the field of architecture, which has long housed the most significant practitioners of city planning and urban design. The need for new urban strategies and methods to address the pressures of a changing landscape are recognized but not yet defined. The complimentary fields of spatial design and landscape planning were largely treated with skepticism until the period of economic growth in the 1950's underscored their importance. In 1954, the constitutional court accorded the field of spatial planning with the task of defining the form of settlements and maintaining large undeveloped areas. Subsequent legal reforms create the conditions for the discipline, and a formal course of study was introduced at the technical university separate from the faculty of architecture.

The formal course of study for the discipline of landscape planning, on the other hand, was not recognized until 1992, and professionals were not admitted to the chamber of architects and engineers until 1995. Coordinated efforts amongst the related field remain few, and the design challenges are increasing.

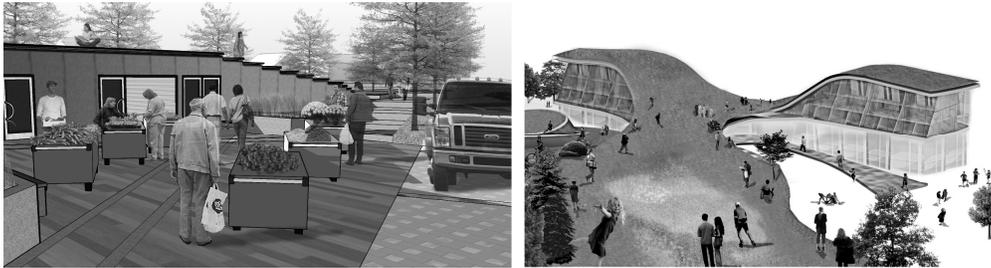
The model of the “European city” tends to be idealized, particularly in comparison to the “American city” Robert Kaltenbrunner cites the immense hope for providing solutions to urban problems – weather social, ecological, or related to transportation—that is projected onto the European city. Yet is the European city a model for the globalized world, or does it belong to the past? Kaltenbrunner states that “the power of the image of the traditional European city with its identifying historical center, “Grunderzeitvertel” and city wall too often blinds us from the reality of contemporary form” (Kaltenbrunner, 2006).

Although design theories and methods responsive to the issues of current urbanism and the challenges of globalism have waxed and waned in popularity two bodies of thought form the foundation of this landscape method. One group of authors focuses on recapturing the spatial definition typical in 19<sup>th</sup> century cities and advocates for design response that seeks a coherent, pedestrian scale constructed environment using built form. This group is generally pessimistic about globalism and rally for a design that resists the tendency of global capital to disperse homes, stores and community institutions across the landscape. Garreau in *Edge City* marvels at landscapes built to the specifications of the automobile and a real estate formula that prioritizes rentable and leasable space over human interaction and a pedestrian scaled public realm (Garreau, 1991). Kunstler characterizes America’s post-war landscape as tragic -filled with cities that are dead zones and a countryside that is a wasteland of cars and blacktop (Kunstler, 1993). This group uses design to channel the forces of global capital towards compact communities that rely on traditional urban form and resist sprawl.

Another group of authors focus on new forms of urban space making and advocate for a design response that utilizes alternative elements, such as landscape, to create a coherent urban condition. This group is generally optimistic about globalism and its potential as a generative force. Sassen in her essay *Reading the City in a Global Digital Age* sees opportunity in locally sited, non-local dynamics that create new forms of urban spatiality (Sassen, 2003). Waldheim, in *Landscape Urbanism Reader*, discusses the potential to use landscape as an alternative framework for reading and interpreting urban processes. Used as an operational tool, landscape can (re)define new forms of the urban, thought a “complex interweaving of natural ecologies with the social, cultural, and infrastructural layers of the contemporary city” (Waldheim, 2006). This group concedes that constructing new meaningful urban form through traditional built means may be impossible given the strength of speculative capital and the popularity of the private automobile, and instead use design to create an urban condition though non-traditional urban elements such as landscape and social networking.

The landscape design method of Responsive Urbanism incorporates both of these understandings about the potentials and problems associated with the forces of globalism to create sustainable development strategies for small communities. Throughout the rigorous program of research and analysis, community design events and international design collaboration, as well as conceptual design development,

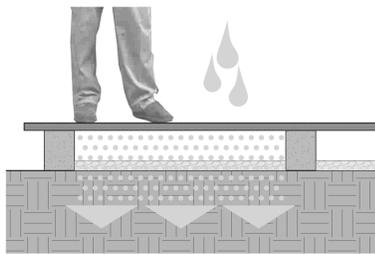
students were challenged to create strategies for community revitalization and develop specific design interventions that reveal the intersection of ecology and urbanism. The projects envisioned ways to combine the familiar urban elements of building, plazas, and streets with less familiar elements of landscape corridors, and systems of vegetation, water, and climate to show how small communities can combine generative global forces with place based elements. The result of the analysis and imagery is to enable small communities to make more informed and better choices about future development.



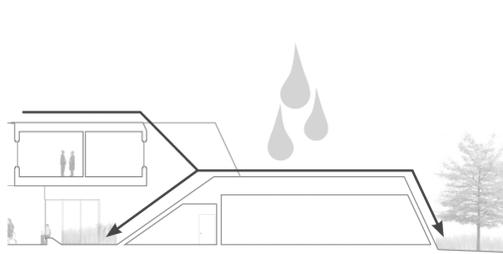
**Figure 3. Small communities work with students to envisioning how common development types, such as a farmers market and a community center, can be unique places and enhance local ecology.**

The landscape design method required students to either minimize or altogether eliminate built fabric that disrupts ecological function or, where high capacity urban environments are needed to respond to local growth demands, they were challenged to enhance ecological integrity and urban place-making in companion natural areas. Designs sought to concentrate community elements and restore the environment by making sense of local economic pressures and competition that are intertwined with global networks. Projects introduced spaces that incorporated distributed and integrated environmental elements (on-site water capture, urban agriculture, grid tied solar energy generation) or that prioritized ecological restoration (habitat corridors, greenways, ecological reserves) which worked coherently with efficient, high capacity urban environments that defied ecological limitations.

Permeable Decking



Roof Run-Off



**Figure 4. New building fabric will include elements that minimize or altogether eliminate disruption of the ecological function of the landscape.**

In conclusion, by using the design method Responsive Urbanism, students demonstrated ways to harness the increasing complexity, intensity, and global span of networks through a landscape based framework and a systems focus to benefit small communities. Projects demonstrated how place and community can be renewed in small cities, rather than dispersed or disrupted, by harnessing forces associated with globalization and integrating them with the singular and local. Even with new networks and dematerialized information, many elements of community are tied to local conditions and will persist – people, buildings, landscapes, and infrastructure remain with altered relationships that must be understood. Disciplined analysis, visualization, community events, and multi-scaled project development not only reveal these relationships, but also develop a culture of response. Through this method, municipalities make sense of the de-territorialized networks of economic, statistical, legal and political activity and lead revitalization efforts by establishing a systems focus, a collaborative working process, and engaging with multi-scale design proposals that focus on the intersection of ecology and urbanism. The results of this project demonstrate that increasingly complex, intense, and globally intertwined networks can be harnessed to foster local development that is sustainable in all its dimensions.

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