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DeWitt, Iowa: Smart Growth Design

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City of DeWitt

Crossroads of Opportunity

Image souce:www.johnbloomgallery.com

DeWitt Smart Growth Design

Fall 2016, Spring 2017 Sustainable Working Landscapes Initiative

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SUSTAINABLE WORKING LANDSCAPES INITIATIVE

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Introduction

Acknowledgements

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The Sustainable Working Landscapes Initiative (SWLI)

The concept of the Upper Mississippi Center for Sustainable Communities (UMC) came from exploratory meetings with more than 125 on and off-campus community stakeholders between January and August of 2013. The need was clear: our area's urban and rural communities have identified many environmental and economic sustainability issues and do not have the staff, expertise, time or funding to address them. The vision of the UMC was to mobilize Augustana's faculty and students to help communities solve the social, economic, and environmental challenges facing the rural and urban landscapes of the Upper Mississippi region by integrating the study of these current, local issues into coursework taught on campus. After two pilot years, the UMC implemented a unique collaborative learning model named the Sustainable Working Landscapes Initiative.

The Sustainable Working Landscapes Initiative is modeled after the Sustainable Cities Year Program at the University of Oregon. Augustana College is the only exclusively undergraduate institution in the country to adapt this highly successful program to a residential liberal arts setting. The model creates a full one-year partnership between Augustana and a city/county partner, matching existing courses from multiple departments and other learning experiences (independent study, senior inquiry, internships) with community-identified and driven sustainability problems. The SWLI also helps cities and counties achieve their economic, social, and environmental sustainability goals while working with limited resources.

The Sustainable Working Landscapes Initiative represents a paradigm shift for service learning experiences in higher education. Instead of asking groups and communities to participate in initiatives that originate in academia, the UMC asks communities to identify their most pressing social, economic, and sustainability challenges. It then provides these groups and communities with the human and academic resources of Augustana College faculty and students to help them address the challenges. This is not a one-time group of volunteers. SWLI student and faculty participants commit to supplying three, 10-week terms of sustained research, study and work in the classroom and in the field. The UMC is establishing enduring relationships between Augustana and these constituents so they can continue to work together to find creative solutions, test and evaluate their effectiveness, and try again as challenges and problems change.

The Iowa town of DeWitt (pop. 5,284) is one of two SWLI partners for the 2016-2017 academic year. In DeWitt, students in urban planning-related classes during the fall and spring worked with city officials to discuss Smart Growth recommendations that fit the needs of the city for the implementation of future zoning and strategic planning practices.

Project Description and Planning Process

As part of the Sustainable Working Landscapes Initiative project, two urban geography and planning classes researched Smart Growth principles and their applicability for the City of DeWitt. Smart Growth is a cohesive set of design philosophies that prioritizes mixed-use development over single-use development, pedestrian–friendly and bike-friendly transportation over automobile-dominated transportation, and infill development over peripheral development. Dozens of governmental, businesses, and civic organizations, including the Environmental Protection Agency (EPA), have recognized the movement by founding the Smart Growth Network, which is an association that promotes Smart Growth nationwide.

Local officials in DeWitt are interested in incorporating the principles of Smart Growth into the planning process. The purpose of the class project was to assess and provide suggestions to improve the City of DeWitt in terms of Smart Growth principles such as mixed-use and infill development, green infrastructure, setbacks and lot sizes, and walkability.

To begin this process, urban geography students conducted research on Smart Growth plans in similar cities and prepared a preliminary report for city officials. In the spring, urban planning students conducted fieldwork in DeWitt to assess existing strengths and opportunities for improvement in the city and analyzed existing city plans (especially the recently adopted comprehensive plan *DeWitt 2030: Envisioning Opportunity*) and zoning codes. Students also held a focus group on May 8th in order to obtain input from DeWitt residents. A part of the focus group was dedicated to a visioning activity where participants answered a series of written questions about their perception of DeWitt and the direction they would like to see the city head in future years. All responses were analyzed and used to guide the rest of our class project.

Responses from the visioning activity highlighted several key words and phrases that define the City of DeWitt. Participants indicated that they view DeWitt as being forward-thinking, friendly, clean, and safe community as well as a crossroads. Another common thread was that residents know their neighbors, which invokes a strong sense of community and safety since people look out for one another. DeWitt's downtown was also a discussion point because of its relative success to other downtowns in cities of similar size.

In addition to what participants valued about DeWitt, the activity also asked what they would like to see in the city that does not currently exist. While responses varied, furthering recreation use in the city emerged as an important issue. Some examples of suggestions included adding bike racks downtown, updating the fitness center, and connecting parks to surrounding neighborhoods. Overall, the focus group and visioning activity responses highlighted the uniqueness of DeWitt and residents' positive feelings toward the city and its current direction.

What is Smart Growth?

Smart Growth is a set of principles about the design of cities and regions that are economically prosperous, socially equitable, and environmentally sustainable. Although there are multiple definitions of Smart Growth, there is broad consensus about the range of actions necessary to create healthy and sustainable communities; they encourage planners and developers to "mix land uses; take advantage of compact building design; create a range of housing opportunities and choices; create walkable

neighborhoods; foster distinctive, attractive communities with a strong sense of place; preserve open space, farmland, natural beauty, and critical environmental areas; strengthen and direct development towards existing communities; provide a variety of transportation choices; make development decisions predictable, fair, and cost effective; and encourage community and stakeholder collaboration in development decisions" (U.S. EPA, "About Smart Growth"). Smart Growth confronts the negative consequences of urban sprawl by proposing design features that encourage density, diversity of land use, reduced driving time, greater interactions between people, and environmental conservation. Our research suggests that the City of DeWitt can incorporate Smart Growth principles in order to develop sustainably in the future.

To truly implement Smart Growth, however, it is not enough for a city's leadership to believe in these philosophies. Instead, a city must legislate and regulate around these philosophies by devising a legal framework that accommodates Smart Growth. As urban planners Andrés Duany and Jeff Speck write in *The Smart Growth Manual*, "Despite the stated policies of so many official reports and comprehensive plans, most existing codes and standards effectively outlaw the construction of compact, diverse, walkable, and connected communities" (Duany and Speck 2010).

If census population trends are any indication, then DeWitt is bound to grow in the coming years. The City has seen slow but steady population growth since 1990 (City of DeWitt, "DeWitt 2030"). With the updated comprehensive plan in 2016, DeWitt has a platform to guide future growth. If growth is a given, Smart Growth is a solution to the problems often associated with municipal expansion: longer commutes, dispersal of community centers, and alienation from neighbors, to name just a few challenges.

Our class project addresses several aspects of Smart Growth that are relevant to Dewitt's position as a small but growing city on the edge of an expanding metropolitan area. These aspects include specific development principles, setbacks and streetscapes, and stormwater management through green infrastructure. Each section defines the planning principles, explains their benefits, and provides specific recommendations for the City of DeWitt. The final section describes several case studies of similar communities in more detail.

Development Principles

Mixed-use development (MUD) is the practice of allowing multiple land uses in a single zoning district. This allows for denser, more compact development through the process of building up, not out. A classic example of mixed-use development is having residences or office uses on the top floors of a building with business uses that people may access more frequently on the first floor. Because of these characteristics, MUD protects and preserves natural areas, requires fewer infrastructure demands, and promotes walkability by having business destinations in close proximity to residences. These benefits are lost when development sprawls outward with different land uses separated from one another because residents will then need to rely on automobiles to meet daily needs.

Another development principle outlined in Smart Growth is **infill development**, which focuses on developing residential neighborhoods, commercial districts, public spaces, and natural landscapes within the existing boundaries of the city. The EPA defines three key aspects of infill development:

(1) "occurs in already built-up areas with existing transportation and utility infrastructure"

(2) "repurposes or replaces existing buildings, parking lots, or other impervious areas"

(3) "adds homes and/or businesses near the center of cities and towns."

In other words, infill development is about filling *in* rather than building outwards (U.S. EPA, "Smart Growth"). Infill development is recognized by urban planners and designers as a key component of Smart Growth and occupies a prominent spot in The Congress for the New Urbanism's list of principles for policymakers, developers, planners, and designers.[1]

Adaptive reuse is the practice of renovating, rehabilitating, or otherwise reimagining existing buildings and sites (especially those that are underused or abandoned) in an effort to bring about a new use. Adaptive reuse is viewed as a corollary of infill development, since it seeks to work with existing buildings. This development type also coincides with historic preservation as older buildings with outdated purposes may be transformed for another use while still keeping the city's or neighborhood's historical character.

Figure 1: Example of mixed-use development (City Lab)

Economic Benefits

While Smart Growth development principles provide numerous benefits associated with health, the natural environment, and community, the most consequential benefits associated with mixed-used, infill,

[1] In *The Charter of the New Urbanism*, the Congress encourages city leaders to pursue the strategy, writing that infill development "conserves environmental resources, economic investment, and social fabric, while reclaiming marginal and abandoned areas" (The Congress for the New Urbanism, "The charter").

and adaptive reuse development may be the economic ones. Prioritizing the concentration of development in existing and mixed-use areas has tangible economic returns to cities. Imagine a big box store, such as Wal-Mart, compared to a mixed-use development that is close to the street and offers residences above. The latter represents a greater return on investment when looking at the economic return per land used. More tax revenue and jobs also can result from mixed-use development because of its compactness and variety of uses (Montgomery 2013). Additionally, mixed-use development (see Figure 1 for example) has the ability to connect businesses and residential areas because of smaller lot sizes. A greater number of businesses fit within a mixed-use development area, which incentivizes spending at multiple places by patrons and provides further economic return to the city. Think about how much space there would be for businesses if a big box store parking lot was infilled with mixed-use buildings or if old buildings were adaptively reused to house everyday services.

Research shows that denser, more walkable communities have significant economic benefits for cities and towns. A 2009 study in Toronto examined the correlation between sales from various businesses and the different modes of transportation such as bikes, cars, and walking. This study was conducted because storekeepers in downtown Toronto often resented the idea of prioritizing bike paths, in fear that bike paths would negatively affect sales. However, the results showed that a large percentage of the people who shopped at these places either walked or biked. In addition, these customers were more frequent and spent more money, on average, than customers who drove: "The survey shows that patrons arriving by foot and bicycle visit the most often and spend the most money. It appears in the best interest of merchants to favor allocating space toward their more frequent and higher spending patrons—in this case, pedestrians and cyclists" (Chan et al. 2010: 23).

Walkability and Public Health Benefits

An essential characteristic of Smart Growth involves planning in increments of "complete neighborhoods," a term that refers to places that aim to be diverse, walkable, and connected. In mixed-use development areas, businesses are compact and connected to each other as well as nearby housing (see Figure 2).

This design creates less automobile dependency and more walkable/bikeable environments. A diversity of places and transportation options encourages more people to visit mixed-use development districts and encourage socialization. Dannenberg and Wendel argue that "...a place with sidewalks and safe street crossings, attractive surroundings, low vehicle traffic, a feeling of safety, numerous pedestrians, and multiple desirable destinations nearby is more walkable than a place missing one or several of those elements" (Dannenberg and Wendel, 306). Better walkability and bikeability not only promotes socialization, but also helps keep the community safer.

Figure 2: Model of a Complete Street (Complete Streets 2016)

If people do decide to drive, street parking allows a convenient location for motorists but still promotes street level businesses by not having expansive parking lots in front. Additionally, residential development above businesses allows for residents to gain greater accessibility through walking or biking to amenities. By encouraging increased walkability and bikeability, mixed-use development promotes healthier lifestyles by encouraging people to physically move rather than passively move in an automobile.

Setbacks & Streetscapes

Research shows that sprawling development is a problem in many cities and small towns across the United States. Characteristics of sprawling, low-density regions include car-dependent communities, large setbacks and large lot sizes, and a lack of adequate environments for social interactions (Gamba 38). As the EPA's *Essential Smart Growth Fixes for Rural Planning* guide shows, "large, spread-out lots make it difficult to walk or bike to destinations, forcing residents to drive everywhere, increasing air pollution and greenhouse gas emissions from driving and making it less convenient for people" (Nelson et al., 27). Large setbacks and lot sizes also undermine streetscapes (the design of streets), including sidewalks, adjoining buildings, greenery, and street furniture. Improved streetscape design elements are beneficial because they delineate public and private space, promote better accessibility for all users, provide traffic calming measures, and heighten the aesthetic appeal of an area (University of Delaware 2014). Even though these benefits sound like convincing reasons for a city to implement smaller setbacks and lot sizes that might enhance streetscape standards, the design of streets continue to be focused primarily on the automobile, which means open spaces of asphalt with widened streets and expansive parking lots that move traffic at higher speeds and over-accommodate motorists.

The City of DeWitt has zoning codes that require a minimum setback standard and lot sizes that promote such development, which has the effect of lowering the aesthetic appeal of the city's streetscapes. Currently, the minimum residential setbacks range from 25 to 35 feet. In commercial zones, setback requirements range from 70 to 80 feet, with a 30-40 feet setback for parking in front of the building. In industrial zones, the minimum setback is 30 feet. For the single-family residential zones (R-1), minimum lot sizes range from 6000 to 17500 square feet. Single-family homes also have a maximum coverage requirement for the building to be only 35% of the lot. In moderate density dwelling zones (R-2), minimum lot sizes range from 6000-7500 square feet. Two-family and 3-4 unit structures have a maximum lot coverage requirement of 50%. For multifamily residential zones (R-3), the minimum lot size is 2750 square feet for two bedrooms, with an additional 750 square feet per extra room. The maximum lot coverage is larger than that allowed for single residence buildings, as multifamily buildings can cover up to 50% of its lot, with a minimum setback of 30 feet. Current ordinances for business districts dictate a minimum lot size of 5,000-6,000 square feet. Business districts are allowed to take up most of their lot space with a maximum coverage of 50-70%.

One area in DeWitt that may benefit from updated zoning standards is 11th Street. In *DeWitt 2030: Envisioning Opportunity*, 11th Street is outlined as one of two main arterials in the city and is characterized by high vehicle use, access to amenities, and access to US 61 and downtown DeWitt. A 4-lane, two-way commercial corridor running east to west through DeWitt, 11th Street provides the city with economic opportunities and serves as a valuable connector for residents and visitors, alike. As of 2014, 11th Street carried 9,300 vehicles per day at most, and this number even dwindles the closer one gets to the heart of the City (i.e. 9,300 to 5,700 vehicles per day), which happens to be the cross-connection to downtown (Iowa Department of Transportation 2014). While 11th Street embodies DeWitt's motto as a "Crossroads to Opportunity" in serving as an important connection point and an economic contributor, streetscape and zoning changes can improve the commercial corridor.

During our fieldwork in DeWitt, a varied landscape along 11th Street was observed. Commercial properties, residences, and institutions create a diverse range of land uses. Between the interstate exit and the high school and middle school, 11th Street provides essential services (i.e. motel, bike path, retail shops, automotive service, restaurants, etc.) to both residents and visitors. The destinations are important assets that provide tax dollars to the City and create a strong living environment for residents. Sidewalks also line 11th Street, which is important pedestrian infrastructure, but a general lack of pedestrian road crossings was noticed. The many businesses on 11th Street and the vehicle traffic generated from the interstate are valuable assets for the city and should be further highlighted to maximize DeWitt's potential.

Sparse green landscaping, large business setbacks with expansive parking lots, and few pedestrian connections are noticeable design elements that create an environment primarily for automobiles without an attention to aesthetic appeal or to different users (i.e. pedestrians). Not only does this design create barriers for pedestrians, but it also hinders potential economic activity and the attractiveness of the area. As an important linkage for DeWitt, we suggest that the city implement streetscape improvements on 11th Street by reducing minimum setback and lot size requirements in addition to enhancing the aesthetic quality of the streetscape.

Figure 1: Picture of 11th street with open, asphalt streetscape

Recommendations

1. Reduce setbacks in C-1, C-2, and C-3 commercial zones
    a. Reduce the setback requirement for new businesses in C-1, C-2, and C-3 zones to 30 feet (see table below). A reduced requirement can allow for greater accessibility by pedestrians/cyclists and enhance the streetscape aesthetic by not having expansive lots viewed from the streets.

Table 1: Current and proposed setback distances in commercial zones.

Land use	Current setback distance (ft.)	Proposed setback distance (ft.)
C-1 Commercial	70	30
C-2 Commercial	80	30
C-3 Commercial	80	30

2. Increase the maximum 35% building coverage requirement in the R-1 residential zone
    a. A relatively small maximum building coverage requirement results in larger lot sizes, dispersed neighborhoods, and potentially more isolated communities. Changing the minimum lot size for the R-1 zone would create more walkable and sustainable

neighborhoods in future developments and provide more options for middle-income residents to live in DeWitt.

Table 2: Current and proposed building coverage for residential properties

Land Use	Current building coverage (%)	Proposed building coverage (%)
R-1 Residential	35	50
R-2 Residential	50	50
R-3 Residential	50	50

3. Continue to promote mixed-use development in the downtown and on the 11th Street commercial corridor
    a. Downtown is currently zoned as a C-2 district (General Commercial District) with downtown overlay. This zoning allows for all C-1 Neighborhood Business District uses and residential land usage. The code also allows for "apartments above the first floor" (C-2, 165.33.020.6). The city should continue to promote mixed-use development on the second floors of downtown commercial buildings and incrementally add residential units to retrofitted buildings as businesses move in and out of the downtown (Ballard 2015).
    b. Promoting mixed-use development will allow DeWitt to attract younger residents and provide more walkable environments for aging residents. We suggest that DeWitt prioritize horizontal mixed-use development, which combines different building structures including a mixture of surface lots, garages, or underground parking or a wide variety of uses such as retail, food and beverage, services, office, residential, lodging, and entertainment. The city should also grant easements in the zoning of city blocks located in the downtown business district in order to accommodate and promote residential development in existing, underused downtown buildings.
4. Create an overlay mixed-use development district for 11th Street commercial corridor
    a. An overlay district is a planning tool that provides a special designation to a geographically bound area and is commonly implemented for historic preservation, environmental protection, and neighborhood design guidelines (Center for Land Use Education 2005; Georgia Department of Community Affairs 2017). The overlay consists of a mapped area that lies on top of the underlying zoning map. Along with the overlay are corresponding requirements that are in addition to requirements already in place; however, the overlay becomes the primary regulatory tool that governs new development given its topmost position on a map (Center for Land Use Education 2005) (see figure 4 for an example of overlay district).

b. We suggest starting with a small-scale overlay on 11th Street and increasing the size over time to highlight the most appropriate areas at the present time.
c. The overlay should contain development regulations that promote the above recommendations and also specific design guidelines that enhance streetscape standards.
d. Provide short-term pedestrian infrastructure such as public seating, street trees/landscaping, streetlights, and updated crosswalks/striping and long-term infrastructure such as pedestrian islands and multimodal transportation.

5. Develop a façade program for downtown and the 11th Street commercial corridor
    a. Implementing a facade program can help improve the downtown's appearance and attract businesses to DeWitt. Although they are neat and clean, some of the businesses in the downtown, such as the business seen in figure 5 below, are aesthetically plain. The downtown sets the tone of the city and should maximize storefronts' aesthetic appeal. The 11th Street commercial corridor could also benefit from a façade program.

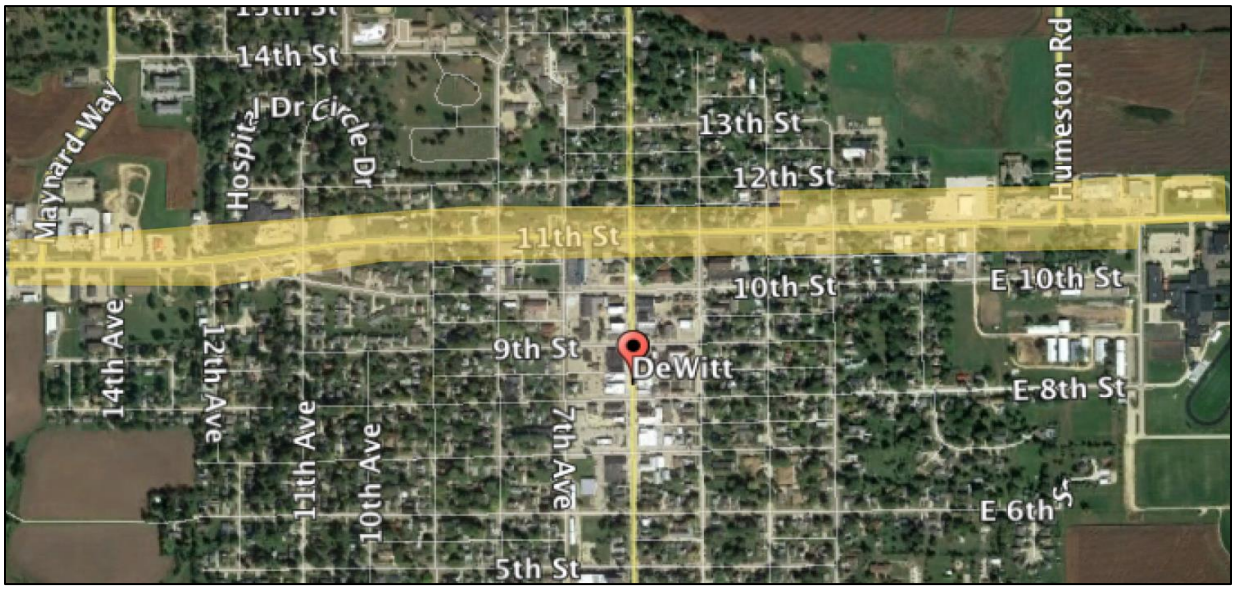

Figure 4: proposed overlay district for 11th Street commercial corridor

6. Prioritize the "filling in" of vacant R-3 Multiple Family Dwelling Districts with multifamily condos or apartment buildings over the "pouring over" of single-family residential development on the city's periphery
    a. Multiple R-3 zones in DeWitt stand vacant or underused, with little or no multiple-family dwellings. By generating more affordable housing opportunities in the interior of DeWitt, low and moderate-income people are more likely to feel welcome, increasing the odds that they will move to town. By avoiding further periphery development, the city would help prevent costly annexation. Forging a public-private partnership with a nonprofit developer such as Community Housing Initiatives could help the City secure funding for such development.

Figure 5: downtown DeWitt

Stormwater Management & Green Infrastructure

As DeWitt prepares for a gradually increasing population and more concentrated residential and commercial development, it is likely that more impervious surfaces will result in reduced absorption of water unless the city makes an adjustment. **Green infrastructure** is a popular approach to water management that protects or restores the natural water cycle in order to prevent or reduce the risk of flooding, reducing the pollutants that reach city stormwater systems. Green infrastructure can also hold water for residents to use as well as creating habitats and sustaining wildlife in cities (City of Rock Island 2017). The most common tactic of green infrastructure is using the natural process of soils and vegetation to absorb the storm water. Other methods to store water that are becoming more common are permeable pavements, rain gardens, rain barrels, bioswales, green roofs, and more (Kramer 2014).

Permeable Pavement

Permeable pavements refer to paving materials that promote the absorption of rainfall and snowmelt. There are four main types of permeable pavements: porous concrete, porous asphalt, permeable grid pavers, and permeable pavers (see figure 6 for a detailed description of each paving system).

Like any type of infrastructure, permeable pavement has a set of benefits and limitations. Some benefits include a reduction in space needed to absorb stormwater, a reduction in peak discharge rates, and improved landscaping (i.e. grass pavers). Limitations include the inability to handle high traffic loads and high traffic speeds, along with the lack of capacity to handle high pollutant runoff.

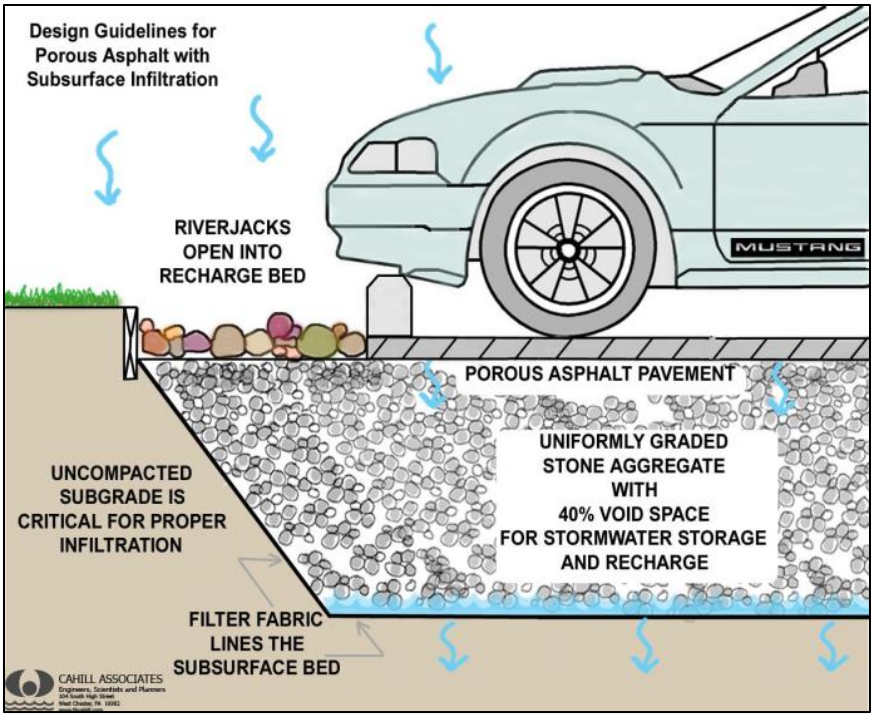

Figure 6: paving systems (Winco Storam Water)

Using the National Stormwater Calculator, we determined the areas in DeWitt can absorb more than 0.1 inches of water per hour, which helps us to determine which areas are suitable for permeable pavement. Figure 7 includes points that have at least 80,000 square meters of accumulation.

Because of the need to locate permeable pavements in appropriate areas, recommended areas include alleyways, driveways, parking stalls and overflow parking because those areas receive less heavy traffic and are typically low speed areas. Even though permeable asphalt is deep, it actually doesn't hold that much water because of all the particles in the asphalt, so the surrounding soil must be able to absorb water quickly. According to the Metropolitan Area Planning Council the soil should be able to absorb at least .3 inches of water per hour in order to be able to effectively have permeable pavement.

Permeable pavements require maintenance such as controlling and minimizing the use of salt or sand in the area during the winter, keeping landscaped areas around the pavement well-maintained and prevent soil from being transported onto the pavement, cleaning the surface of the pavement with vacuum sweeping machines monthly, monitoring the pavement to make sure that it is draining properly after storms, and inspecting the surface annually for damages.

Street map with points of interest:

Rain Gardens

Another green infrastructure strategy includes the use of rain gardens, which are low areas of land that collect noticeable and recurring amounts of stormwater and planted with perennial, often native plants (City of Rock Island 2017).

Rain gardens reduce vulnerability to flooding, increase the absorption of pollutants, and help to create areas that sustain more wildlife. Native plants in a rain garden absorb more water than a conventional grass lawn, resulting in less runoff and reducing the produce on storm water management systems. Reducing bare soil also decreases the amount of sediments flowing into sewer drains. Native plants often need minimal maintenance due to the fact that they have already adapted to the conditions of the area.

Rain Barrels

Rain barrels also offer a form of stormwater management with low environmental impact. By storing water from drains, rain barrels prevent excess runoff from entering sewer systems and that stored water may be used purposefully elsewhere. The less stormwater runoff that enters sewer systems, the less money needs to be spent on treatments. If rainwater is captured in a barrel, then it can be used directly by residents or businesses. Rain barrels also save money for individuals; the more rainwater they capture, the less money they will have to spend on city water for outdoor purposes such as washing cars/pets, watering plants, etc. According to the Environmental Protection Agency, watering lawns makes up 40 percent of typical residential water usage in summer months.

Recommendations

1. Implement permeable pavement projects in areas susceptible to flooding and water damage
    a. Due to these limitations and maintenance requirements, we would recommend implementing permeable concretes and asphalts in the downtown area.
2. Develop partnership with local schools to keep up with maintenance at the rain gardens.
    a. The city of DeWitt should provide economic incentive for homeowners take on is providing for homeowners who plant rain gardens. In the City of Rock Island's *Rain Gardens for Rock Island* program, homeowners can receive four dollars per square foot of a rain garden apply and build a rain garden. After guidelines are followed and inspection occurs to ensure all of the qualifications were followed, homeowners can receive their reimbursement (City of Rock Island 2009).
3. Promote Alleyways as Assets
    a. Downtown DeWitt already has many well-maintained alleyways. These alleys can be used to enhance walkability and bike-ability by creating connectivity in the town without intrusive bike lanes (signage would be needed to encourage usage). Further efforts to 'green' alleyways and present the downtown as a place for people to gather includes placing tables and chairs in the alleyway during warmer weather (Freehill-Maye 2016; Anzilotti 2016). Shrubs, small trees—such as those in the Village of East Davenport (Figure 4)—and even murals could greatly add to the aesthetic and sense of place (Anzilotti 2016).
    b. Designating one or two alleyways as a space to put table and chairs or greenery might serve as a model. Murals and art in alleys can enhance the downtown aesthetic while not impeding on alleyway functionality (i.e. deliveries and waste collection). The City of Dewitt also may encourage residents to engage in alley beautification programs; similar to those that took place in Baltimore (Figure 8).

Figure 8: Examples of green spaces and art in alleyways.

Case Studies

Mixed-Use Development and Walkability

One example of horizontal mixed-use development is Cranford, New Jersey. Over the past 12 years, local officials renovated the city and put in 366 new residential units. Officials found out that residential retail mix helps the downtown and it provides a built-in customer base for restaurants and stores. Cranford decided to reuse their old structures in new businesses in order to create an attractive downtown environment. Officials said that residents "like the look of the town. We want to keep that Victorian look. We don't want huge monster buildings in the downtown because that would change the character" (Lannan 2015). As we look into the downtown area, we can see the pops of color from the different businesses and the wide sidewalks promote walkability and a welcoming atmosphere. New restaurants and stores bring revenue to the city while the active downtown area will improve the overall health of the people living in Cranford.

An example of a small town that promotes walkability and bikeability is Albert Lea, Minnesota, (population 18,000). In 2009, the city developed a campaign with the slogan 'make the healthy choice the easy one.' One quarter of adults, half the local workplaces, and almost all children in grades 3-8 joined the campaign that promoted a more physical lifestyle; and the results were impressive. Walking increased by 70% over 5 years, smoking dropped by 4%, and residents who participated lost a total of 4 tons combined. The city also got businesses involved, with two-thirds of locally operated restaurants and one large supermarket editing their menu to offer more options for healthy eating. The city manager, Chad Adams, stresses that "a lively, walkable community is key to attracting businesses as well as the families and young people that Albert Lea needs to thrive in decades to come," (Walljasper 2015). A resident of the town of only one year proclaims, "I like how walkable Albert Lea is. When people walk more, they socialize more. That helps connect everyone and makes me feel more part of the community" (Walljasper 2015).

The method behind how all of this was accomplished included 1) creating a public education campaign about the health advantages of physical activity, 2) organizing people into informal social groups to walk or bike regularly, and 3) making the streets and parks safe and more appealing for pedestrians. More specifically, these were carried out by adding a bikeway along the main streets that connect to a park to a downtown. This resulted in an increase of biking by 74%. Sidewalks were added to 6½ miles of city streets in strategic locations near schools, senior centers and businesses; the downtown was also made more walkable by widening sidewalks, eliminating unnecessary traffic lanes, restoring diagonal parking, replacing some stop lights with stop signs, and "bumping out" sidewalks into the intersection, which shortens the crossing distance on busy streets.

Setbacks and Infill Development

The City of Gaithersburg, Maryland has zoning ordinances with specific requirements for low, medium, and high-density residential living. The medium density zoning is an especially good example of the smaller lot sizes and setbacks that Smart Growth recommends. For a single family detached dwelling there is no minimum lot size; instead, the city has a requirement that, "there shall be no more than nine (9) dwelling units per gross acre" (Chapter 24, Division 4, Section 24-44). Nine dwellings per acre equal approximately 4840 square feet per single-family dwelling. The zoning ordinance of Gaithersburg could be a good alternative to DeWitt's, where a single detached minimum lot size ranges from 6000 and 17500

feet. Lowering the minimum lot size and increasing the maximum lot coverage to 50 percent (in contrast to 35 percent in Dewitt) would help to reduce sprawl.

Yet another city working against sprawl is Mountain View, California. In their design guidelines, the Community Development Department noted that they planned to create more affordable and sustainable living arrangements. They introduced their zoning ordinances by explaining that, "this new type of housing serves an important need in the community. It provides single-family detached dwellings that are often more affordable than other single-family homes. A small-lot development creates more ownership housing in the community and provides a unique housing resource for young families. Compared to townhomes and condominiums, this housing type provides more privacy and is probably more likely to stay owner occupied". Developers of this city realized the importance of housing that not only brings people in but keeps them there. Mountain View's development sites differ from traditional neighborhoods because they have higher densities, smaller infill properties, and private yards, as well as a more-so urban effect than other standard zoning (Mountain View Design Guidelines). Some of the mentioned site development standards include: at least a 15' setback, private yards at least 15' by 15', distance of at least 10' between buildings, and at least 10' of landscaping between the front of the unit and the common accessway. Mountain View does not allow any more than 25% of a lot to be covered by "automobile-dedicated paving". This small Californian city is a great example of how even small commitments to change can make a difference in livability. Although buildings are only allowed a maximum of 35% of the total lot, along with a minimum of 45% allocated to open area, "with a density range of 7 to 10 units per acre, it bridges the gap between conventional single-family homes (1 to 6 units per acre) and multiple family housing, such as townhomes, apartments and condominiums (12 to 33 units per acre)."

A nearby city that DeWitt can look to for good as an example of anti-sprawl commercial zoning ordinances is Clinton, Iowa. Clinton's local commercial zoning regulations do not have a minimum lot size, unless the lot is in a residential district. If that is the case, then it must follow the residential zoning regulations (159.045). Having no minimum lot sizes is an effective way to fight sprawl because it can make the commercial zones more compact. There are several perks to this, like increasing walkability, which can attract a younger population to the commercial zones. In the local commercial zones of Clinton, the setback requirements are as follows: 20 feet in the front, no setback requirement on the sides (unless it is abutting a residential area, it is 5 feet with a barrier), and 15 feet in the back with a barrier only if it is abutting a residential area (159.045). The smaller setback requirements in Clinton are an advantage to the city because not only is it anti-sprawl, but it can increase the amount of customers that go to those businesses since people are more likely to stop in if a business is in close proximity to the street.

The Menomonee Valley Industrial Center (MVIC) in Milwaukee, Wisconsin, is an example of infill development (United States, "City Green", pp. 34-39). Located on the site of a once-contaminated vacant lot (known as a brownfield), MVIC now plays host to both private uses (in the more than 1,400 jobs located on the site) and public uses (in a park that connects residents to the once-distant Menomonee River). Because of these mixed uses, MVIC makes Milwaukee more walkable and concentrated, and therefore more adherent to the principles of Smart Growth. To fully understand why MVIC stands as an example of infill development, one cannot fixate solely on the site, but take in its surroundings: it is situated in a part of the city that was already compactly developed. Rather than attempt to start a neighborhood from scratch on the outskirts of Milwaukee, city leaders recognized the potential benefits of

walking within the existing boundaries. The resulting project was likely more affordable than developing on the periphery, and more useful to a greater number of residents.

Another example of infill development can be seen in the city of Excelsior Springs, Missouri. Its city council in 2012 voted to change zoning codes to include apartments or mixed-use buildings in the downtown (Copeland 2016). Previous codes did not allow for apartments above operating businesses without a special permit from the city. Now, city codes allow for rental of apartments above not only operating businesses but also empty, move-in ready commercial buildings so long as they are up to code.

The newly opened Roosevelt School Apartments building in Clinton, Iowa, is yet another example of adaptive reuse—one that has been achieved by a community similar to DeWitt right here in Clinton County, Iowa. Originally built as a high school and public library at the height of Clinton's lumber industry days, the building fell into disuse three years ago (Gaul 2016). Determined to refurbish the shuttered site despite Clinton's cash-strapped budget, the city partnered with a nonprofit developer to draft a strong grant application to the U.S. Department of Housing and Urban Development's competitive Community Development Block Grant (CDBG) program.

As announced last year, Clinton was among the relatively small number of cities to win CDBG funds. The Roosevelt School building was restored into an income-restricted apartment building preserved with its original Victorian Romanesque style. Indeed, the commitment to its architectural heritage was a key reason why Clinton was awarded CDBG funds, according to city leaders (West 2015), as was the city council's pledge to contribute $150,000 of city funds to the project if awarded the CDBG money.

What makes this case study particularly interesting is that it exemplifies how adaptive reuse—by way of architectural preservation—can intersect with low-income housing, which typically tends to be thought of as an eyesore best kept out of sight, not as a gleaming Victorian Romanesque building at a highly visible location, as is the new Roosevelt School Apartments building. All the more remarkable is that this was achieved by a public-private partnership spearheaded by a small Iowa town navigating its post-industrial reality

Façade Programs

Like Silvis, the city of Moline also has a façade program; but its program is on a larger scale and targets façades on visible public right-of-ways. An example of façade improvement, in Moline, can be seen below in Figures 9. More information regarding the Moline façade program can be found under “Façade Improvement” on the city’s website.

Environmental Conservation

Natural areas such as creeks, rivers, beaches, and forests give cities and rural areas unique personalities and can benefit local economies by attracting tourists and customers to nearby businesses. The City of DeWitt should consider expanding preserved natural areas and trails surrounding Silver Creek in order to benefit the community and the environment.

Figure 9: Moline façade improvement

East Lake Commons is a co-housing development in Decatur, Georgia that prioritizes preserving open space and farmland in part of their Smart Growth plan. Preserving open space and farmland contributes to Smart Growth by reducing urban sprawl into these places. The town created bicycle and pedestrian pathways to encourage multiple transportation options. The people of East Lake Commons have also pushed for a small orchard, a 6-acre organic garden, and a wildlife habitat corridor to surround a protected spring (EPA, 2016). This could be a helpful model for the area surrounding Silver Creek that has a somewhat developed forested area buffering the creek.

The city of Greensburg, Kansas, developed an extensive Sustainable Comprehensive Master Plan that includes plans for businesses, walkability, hazards, downtown structure, housing, energy, carbon emissions, parks and green corridors, infrastructure, and future policies and land use plans. For similar plans to work in DeWitt, the city should redefine the zone between the residential areas on the west end of the city along the river. To help protect the river from pollution and the surrounding farmland from erosion, the city should claim that area as a city park land with trails for residents to walk or bike through. A walking/bike trail can run through the wooded area near the Silver Creek in between the residential areas leading into the business district. There, it can have a gradual transformation into a green corridor for the main street while staying a biking trail/lane. This zoning transformation can allow the stream area to have preservation rights for environmental protection and easy access for appropriate public use.

Conclusion

By applying the principles of Smart Growth, the City of DeWitt can appropriately head into the future. Smart Growth embraces population growth, but focuses on growing in and up instead of expanding outwards. With steady population growth since the mid-20th century, DeWitt is the perfect city for the principles of Smart Growth to be implemented. However, preserving the small town character of DeWitt, which is an allure to many residents, should not be lost in translation. Smart Growth helps build off existing assets, such as having a small town where everyday needs can be meant and still be within a short drive to a larger city. By focusing development strategies with Smart Growth in mind, the City of DeWitt may successfully build a strong economy, increase sociability within and between communities, and heighten environmental awareness and sustainability.

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