



Center for Land Use Education

# THE LAND USE TRACKER

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## PLANNING FOR YOUR AIRPORT: THE TIME IS NOW

By *Kassandra Walbrun, AICP*

*Wisconsin Department of Transportation, Bureau of Aeronautics*

When you think of an “airport,” what do you envision? Do you think of a large commercial airport, such as Milwaukee’s General Mitchell International Airport or Chicago O’Hare International Airport? Is your picture complete with lines for airport security checkpoints and airplanes waiting for their turn to take off? Now, imagine an airport with no lines of people or planes.

Here’s something that may surprise you – Wisconsin has 124 general aviation airports in addition to eight commercial service airports such as Milwaukee’s airport (see Figure 1). Wisconsin’s general aviation airports vary in size and services offered. Despite their typically small size, savvy business owners are already thinking about how to save time and money by using general aviation airports across the country.

While the economic woes of larger commercial airlines seem to continue, growth in air travel is up – way up. Air charter and air taxi services are on the rise to accommodate “just in time” business travel. These charter services offer a viable alternative for business travelers, with cost and time savings from flight cancellations and delays, security screening delays, layovers and long commute times to an outlying meeting location.

Many general aviation airports that were once struggling to survive are now busy with new charter services, corporate jets, and air taxi services using “very light” jets or VLJs. Industry experts and federal agencies anticipate VLJs will change the face of aviation over the next ten years. VLJs didn’t exist ten years ago but are now impacting air travel. VLJs weigh as little as a minivan and can land on runways as short as 3,000 feet. The smallest, more traditional private jets need 4,000 to 5,000 feet of runway

aviation airports included \$884.3 million in annual sales, 6,570 jobs and over \$283 million in personal income to people employed at airports. By including associated aviation businesses and industries, Wisconsin general aviation airports provided a total economic impact of \$1.5 billion in annual sales, 16,000 jobs and \$488 million in personal income.<sup>1</sup>

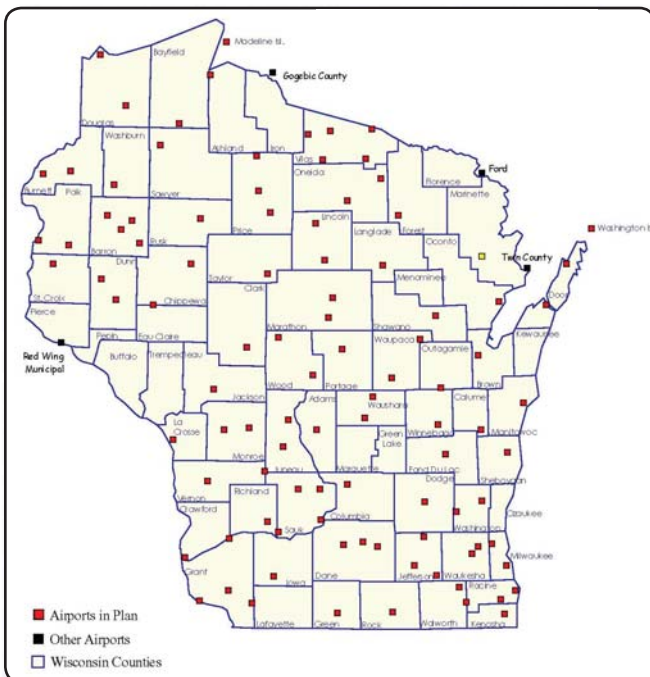
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*continued on page 3*

Figure 1  
The State Airport System by County as of January, 2000



<sup>1</sup> From Wisconsin Department of Transportation’s “2002 Economic Significance of the Aviation Industry in Wisconsin.” [www.dot.wisconsin.gov/projects/docs/aviation-economic-summary06.pdf](http://www.dot.wisconsin.gov/projects/docs/aviation-economic-summary06.pdf)

# CALENDAR OF EVENTS

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## SUSTAINABILITY: BALANCING PEOPLE, PLANET AND PROFIT

June 19, 2008 – Radisson Paper Valley Hotel, Appleton, WI  
[www.foth.com/resources/fothconferenceonsustainability.pdf](http://www.foth.com/resources/fothconferenceonsustainability.pdf)

## RENEWABLE ENERGY AND SUSTAINABLE LIVING FAIR

June 20-22, 2008 – ReNew the Earth Institute, Custer, WI  
[www.the-mrea.org/](http://www.the-mrea.org/)

## PLANNING LAW REVIEW

June 25, 2008 – River Falls and Milwaukee, WI  
[www.wisconsinplanners.org/aicp/audioweb\\_Wisconsin\\_wapa.htm](http://www.wisconsinplanners.org/aicp/audioweb_Wisconsin_wapa.htm)

## LAKE MANAGEMENT PLANNING: SHAPING THE FUTURE OF YOUR LAKE

June 26, 2008 – Nicollet College, Rhinelander, WI  
[www.wisconsinlakes.org/Events/08lake\\_planning.htm](http://www.wisconsinlakes.org/Events/08lake_planning.htm)

## ASSOCIATION OF COLLEGIATE SCHOOLS OF PLANNING CONFERENCE

July 6-11, 2008 – Chicago Marriott Downtown Magnificent Mile Hotel  
<http://tigger.uic.edu/cuppa/upp/congress/>

## MANAGING FLOODPLAIN DEVELOPMENT THROUGH THE NFIP

August 12-15, 2008 – Pleasant Prairie, WI  
For additional information, please contact [gary.heinrichs@wisconsin.gov](mailto:gary.heinrichs@wisconsin.gov)

## LEAGUE OF WISCONSIN MUNICIPALITIES CHIEF EXECUTIVES WORKSHOP

August 20-22, 2008 – Stone Harbor Resort, Sturgeon Bay, WI  
[www.lwm-info.org](http://www.lwm-info.org)

## GOING GREEN: SUSTAINABLE COMMUNITIES AND FARMS

September 11-12, 2008 – Olympia Conference Center, Oconomowoc, WI  
[www.townandcountryrcd.org](http://www.townandcountryrcd.org)

## AMERICAN PLANNING ASSOCIATION UPPER MIDWEST CONFERENCE

September 18-19, 2008 – Monona Terrace, Madison, WI  
[www.wisconsinplanners.org](http://www.wisconsinplanners.org)

## APA MINNESOTA CHAPTER CONFERENCE

September 22-24, 2008 – Duluth, MN  
[www.plannersconference.com/](http://www.plannersconference.com/)

## ESRI WISCONSIN USER GROUP CONFERENCE

October 9-10, 2008 – Paper Valley Hotel, Appleton, WI  
[www.ewug.org/Conference.html](http://www.ewug.org/Conference.html)

For additional dates and information, visit the online calendar of events  
[www.uwsp.edu/cnr/landcenter/events.html](http://www.uwsp.edu/cnr/landcenter/events.html)

*continued from page 1*

length. VLJs cost two-thirds less to purchase and half as much to operate per hour as the traditional small jets. This vastly broadens the market for smaller businesses to own jets and for the creation of new charter services. What does this mean for Wisconsin? Many of Wisconsin's general aviation airports can easily accommodate VLJs.

Luckily, Wisconsin has recognized the importance of aviation to its economy by adopting various statutes and administrative rules to help plan and protect airports. Local governments must take an active role in long-term planning for their airport to achieve success. Planning for your airport includes protecting it from incompatible land uses that limit the airport's safe operation. Several key tools are available to Wisconsin communities to make airport planning and protection a reality, including:

#### Comprehensive Planning (Wis. Stats. § 66.1001)

The 2010 deadline for comprehensive planning is fast approaching. Many communities have already adopted plans. While airports are one of the transportation modes included in the transportation element, few adopted comprehensive plans effectively consider their general aviation airport. Unfortunately, this results in no connection being made between future land uses and long term protection of the safe operation of the airport.

Considering the airport as part of a comprehensive planning process is a good way to address existing concerns, such as noise and quality of life issues. It is also the best way to address future land uses, long term goals, and needs of the airport in the appropriate context. Rather than trying to wrestle with long term goals and needs in a reactive way, the comprehensive planning process can potentially prevent controversial conflicts from arising in the first place. Integrating current airport layout and master plans within the community's comprehensive plan should be a

priority in protecting the community's interest in the airport's future.

#### Height Limitation Zoning (Wis. Stats. § 114.136)

This type of ordinance helps to protect your community and those flying above it by imposing height restrictions on structures within three miles of the airport. It is so important to air navigation safety that in order for an airport to be eligible for federal and state funds, an airport must have an adopted height limitation zoning ordinance. The ordinance, which can apply both within the community and extraterritorially, controls common structures that are often a concern to airports.

In some circumstances, the Federal Aviation Administration (FAA) and the Wisconsin Department of Transportation (WisDOT) must be notified of proposed construction or alteration to existing structures in or around an airport. If a height variance is sought, the FAA will complete an aeronautical study of the project and determine whether there is any hazard to air navigation by granting the variance. (See the FAA study request form here: [www.dot.wisconsin.gov/travel/air/docs/7460form.doc](http://www.dot.wisconsin.gov/travel/air/docs/7460form.doc).) The FAA will also conduct an aeronautical study for any structure taller than 200 feet or any structure located within a certain distance from runways that meet given slope ratios.

In some cases, a permit is required even if a structure (such as a cell tower or wind turbine) is located outside of the three-mile zone. (See TRANS 56 at: [www.dot.wisconsin.gov/travel/air/docs/trans056.pdf](http://www.dot.wisconsin.gov/travel/air/docs/trans056.pdf).)

#### Airport Overlay Zoning (Wis. Stats. § 114.135 and 114.136)

Airport overlay zoning is an effective tool to protect airport approach zones from incompatible land uses up to three miles from the airport boundary. Local governments that own airports can implement an overlay zone to regulate height, use, location and density of any building or structure and the use of land both within the



*These photos show a commercial airport, Milwaukee's General Mitchell International Airport (above) in contrast to a general aviation airport, the Southern Wisconsin Regional Airport (below).*



community and extraterritorially. These statutes grant a community the authority to adopt the ordinance without permission of other local governments.

Many land uses are not compatible near an airport for reasons of safety, quality of life, noise, and air quality. Complaints from residential property owners, especially in higher density areas, are common. Issues regarding noise, landing/takeoff patterns and concerns for safety are difficult to address once the residential land uses are established. Churches and other facilities that hold large numbers of congregating people are also a concern.

Land uses, such as stormwater ponds, landfills and large water impoundments that cause wildlife (such as deer, geese and other migratory birds) to cross flight patterns or venture onto airport runways can create a significant safety problem for airports. Locating these uses less than 10,000 feet from the airport poses such a potential safety hazard that the FAA has developed national policies to address these concerns.

There are land uses that may certainly be acceptable near an airport. Applying a zoning overlay for areas surrounding and including the airport will greatly help the community in the land use decision-making process. An overlay area will help a community to thoroughly consider the specific safety and quality of life issues that the proposed land use may face from an active, viable airport.

Although this type of ordinance does not require “approval” of other affected local governments to implement it, working cooperatively on these ordinances has proven to be the best approach toward successful implementation.<sup>2</sup> Several Wisconsin communities have adopted overlay ordinances and are experiencing positive results. Several more are in the process of developing an airport overlay ordinance. Funding is available from WisDOT’s Bureau


of Aeronautics to develop and adopt these ordinances.

### Easements, Land Acquisition, and Advanced Property Acquisition

Acquisition of land or easements is an important tool to achieve goals of the community and its airport. Most commonly used when an airport is looking to expand its runways or facilities, these techniques can be highly effective. Easements can be used to control the airspace above a specific height, such as trees, buildings and future land uses. Easements can also address current or future complaints about airport operations, particularly related to dust, noise and vibrations from aircraft flight patterns.

Airport layout plans, vehicle/pedestrian ordinances, airport master plans, and subdivision ordinances can also provide support for your community’s general aviation airport.

Planning and implementation of tools to promote the viability of the airport in your community is critical to your community’s economic health in the future. Without adequate planning, airports are like any other community asset – they are at risk and may even become a drain on already strained municipal resources.

An airport is a significant community asset that once lost, is gone for good. In our rapidly evolving and changing world, Wisconsin communities and their planners need to recognize airports as part of the “big picture.” There are several tools available to ensure local business requisites are met and to make certain goods, tourists and business travelers reach their desired destinations – namely, to your community – today, tomorrow and in the future. Is your airport ready to meet your community’s needs? 

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<sup>2</sup> To establish this type of ordinance, a municipal airport owner drafts it, publishes a “class 3” notice under Chapter 985, Wis. Stats., and holds a public hearing

## TARGETING PRIORITY WORKING LANDS AND OPERATIONS: EQUIPPING LOCAL PEOPLE WITH ACCURATE TOOLS

By Douglas Miskowiak, Center for Land Use Education

The Targeting Working Lands and Operations (TWLO) pilot project aims to provide local decision-makers with the tools and training necessary to identify priority working lands and operations. Priority working lands and operations are important farms and farmlands where protection efforts are desirable and help attain community goals and objectives.

Local people are at the heart of targeting priority working lands and operations. They know their community best and can share critical information about local needs, interests, and biophysical, economical, and cultural conditions. The TWLO pilot project will apply local feedback and information using the Land Evaluation and Site Assessment (LESA)<sup>1</sup> system and Geographical Information Systems (GIS)<sup>2</sup> to deliver flexible, accurate and understandable land protection models. The results are intended to help local decision-makers create, defend, and implement balanced public policy choices that protect important working lands and operations yet safeguard private property rights.

### Cultivating Educated Local Leaders

Local decision-makers (i.e. citizens, stakeholders, elected officials, plan commissioners) are responsible for influencing and making decisions that meet local needs. Access to reliable information helps them make sound judgments. The TWLO pilot project will help local decision-makers:

- Identify and communicate local priorities.
- Communicate model outcomes to fellow citizens.
- Use model results to make effective public policy choices.
- Build public acceptance of valid models and appropriate public policies.

### Balancing Community Interests in Diverse Landscapes

Wisconsin's working lands are as diverse as the interests and activities that occur on them. Some working lands possess the best soils on earth and support bumper row crops. Others have unique physical conditions prime for growing specialty crops. Working lands far from urban centers face different challenges than those on the edge of development. Working lands provide natural amenities that foster recreational commerce and ecosystem services that filter water and air, store flood water, and provide wildlife habitat. Importantly, working lands provide homes for people that earn a living from the land or love the opportunities these places offer.

However, increased demand for finite resources, especially from incompatible activities, can lead to conflict. TWLO will help local people wrestle with and balance the diverse interests in working lands. Project results are intended to help local governments, land trusts, and active stakeholders:

- Balance land preservation with rural development interests.
- Optimize the performance of a sustainable bio-based economy.
- Focus protection efforts on the most prized resources.

### Growing Support for the Future

The Targeting Working Lands and Operations pilot project will progress over a two year timeframe and will conclude June 30, 2009. Project partners will develop educational materials for local officials and interested citizens and training modules for professional resource conservationists, planners, and GIS analysts. Before concluding work, the Department of Agriculture, Trade, and Consumer Protection (DATCP) will host a meeting to share research findings and explore options for a statewide GIS/LESA support network.

*“No matter how big our economy grows, no matter how technology advances, no matter how global our society, we need people to till the land, produce our food, harvest timber, produce our paper, and conserve our most basic and precious resource, Wisconsin’s productive working lands.”*

*Rod Nilsestuen,  
Secretary, DATCP*



<sup>1</sup> LESA is a rating system developed by the USDA Natural Resources Conservation Service to evaluate the importance of a piece of land for agriculture use.

<sup>2</sup> GIS is a tool to store, modify, analyze, evaluate, visualize, or use spatial information. GIS provides the ability to combine and compare information that may have nothing else in common except for location.

## WHAT IS LESA?

By Douglas Miskowiak, Center for Land Use Education

### What is LESA?

LESA, or Land Evaluation and Site Assessment, is a decision-support tool designed to target priority working lands where protection efforts are desirable and help attain community goals and objectives. LESA applies suitability analysis techniques which prioritize land for its ability to sustain a particular use or activity, such as farming or forestry. The LE portion of LESA evaluates working lands based on soil characteristics, such as crop yields and erosion limitations. The SA portion evaluates non-soil site characteristics such as agricultural productivity, development pressure, and other public values (see the graphic on page 7 for sample characteristics and ratings).

### What are common uses for LESA?

Decision-makers use LESA to help them prepare well informed and justifiable policy choices about land use. It is most commonly used to identify, prioritize, and evaluate agricultural or forestry lands, but it has also been applied to identify important riparian areas, wetlands, and even areas suitable for urban uses. LESA helps decision-makers:

- Delineate areas on a map that should remain in agriculture or forestry.
- Respond to requests for a zoning permit, a zoning variance, or rezonings.
- Score agricultural operations or parcels applying for conservation funding.
- Evaluate the consequences of a development proposal on working lands.

### How does LESA assist with decision-making?

LESA helps decision-makers prepare policy choices that are:

- **Information based.** Physical and social sciences as well as community held values and public involvement informs how LESA is applied locally.

- **Measurable.** The choices decision-makers apply using LESA can be systematically measured and evaluated in comparison to community goals and objectives.
- **More equitable.** The LESA system can evenly apply decisions across an entire jurisdiction, so all working lands and operations are considered more fairly.
- **Transparent.** Every choice or decision made to develop LESA is openly visible so it is clear how each affects the results.
- **More defensible.** Decision-makers can point to the systematic procedures and criteria to defend their rationale for making a decision or crafting a policy.

### How is a LESA system put into practice?

LESA should be custom tailored to fit local conditions and circumstances. The following points, however, describe the fundamental steps.

- **Contact a resource professional.** To begin, it is wise to contact a resource professional that can offer advice and perhaps services to administer a LESA system. County planners, conservationists, or UWEX educators are good contacts.
- **Form a LESA committee.** A committee consisting of knowledgeable professionals and committed local stakeholders should be assembled to design and recommend a LESA system to the local governing body or other group.
- **Establish a purpose for LESA.** The purpose for developing a LESA system should drive its development, so that appropriate working lands are identified. The local comprehensive plan is an excellent source to establish a fitting purpose.
- **Get informed about local agricultural systems and issues.** Understanding local conditions and land use issues is important to

*The Land Evaluation (LE) portion of LESA evaluates working lands based on soil characteristics, while the Site Assessment (SA) portion evaluates non-soil site characteristics.*

*A local committee, equipped with LESA and GIS, identifies priority working lands to include in their town's comprehensive plan.*



ensure that LESA is designed to fit local circumstances.

- **Identify characteristics that accurately define priority working lands.** Address questions about how soil quality, agricultural productivity, development pressures, and other public values define working lands that meet your purpose.
- **Score and prioritize working lands.** Working lands are scored based on their individual characteristics (i.e. soils, parcel size, distance from urban areas). The combination of characteristics are then prioritized to determine which are most and least important for deciding which lands are priority working lands. A Geographical Information System is used to efficiently score and prioritize working lands.

- **Test the results.** LESA results should be tested for accuracy to determine if the system is indeed targeting working lands that meet the intended purpose.
- **Recommend the LESA system.** After ensuring that LESA is accurate and appropriate, the committee formally recommends the LESA system for use. The committee should be prepared to describe how the LESA system was developed, what the results suggest, and how it helps meet local goals and objectives.

*Douglas Miskowiak is an outreach specialist with the Center for Land Use Education. He may be reached at 715-346-4989 or by email at [doug.miskowiak@uwsp.edu](mailto:doug.miskowiak@uwsp.edu). Additional project information can be found at [www.uwsp.edu/cnr/landcenter/workinglands.html](http://www.uwsp.edu/cnr/landcenter/workinglands.html)*

### References

American Farmland Trust. (2004). *Land Evaluation and Site Assessment* (Fact Sheet). Northampton, MA: American Farmland Trust, Farmland Information Center.

Pease, J. R., & Coughlin, R. E. (1996). *Land Evaluation and Site Assessment: A guidebook for Rating Agricultural Lands, Second Edition*. Retrieved from [www.nrcs.usda.gov/Programs/lesa/lesa\\_sysdes\\_uses.html](http://www.nrcs.usda.gov/Programs/lesa/lesa_sysdes_uses.html).

# Land Evaluation and Site Assessment

Discussion Scenario

Characteristic	Points	Weights
Land Evaluation	0 - 100 point scale	Total = 100%

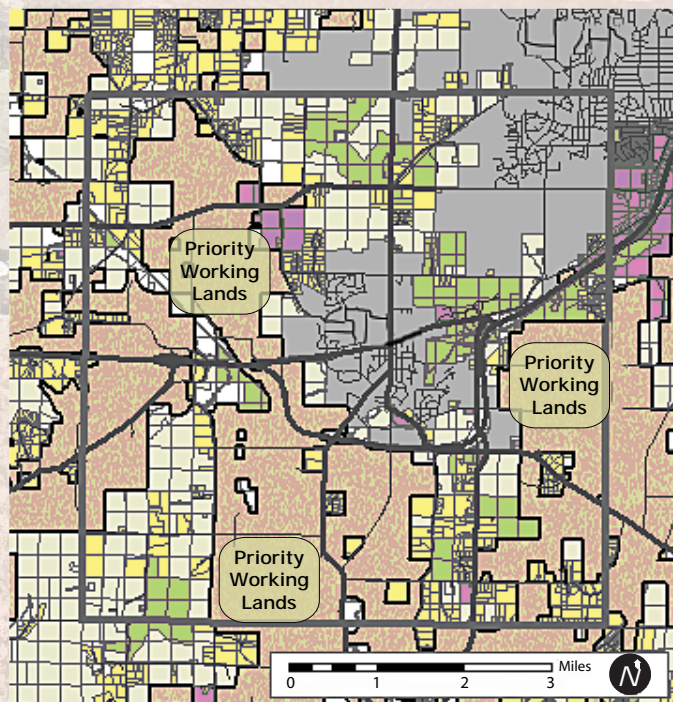
Soils	Best Soil = 100 Worst Soil = 0	40%
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### Site Assessment

Characteristic	Points	Weights
Farm Productivity	Farm Investment: > \$1 m = 100 \$500k - 1 m = 75 \$250 - 500k = 50 < \$250 k = 0	25%
	Annual Sales: > \$65 k = 100 \$25 - 65 k = 50 < \$25 k = 0	
	BMPs: Practiced = 100 Not practiced = 0	
	Acreage: > 100 acres = 100 75 - 99 = 70 40 - 75 = 40 < 40 = 0	
		30%

Characteristic	Points	Weights
Urban Pressure	Zoning: Ag Zone = 100 Non-Ag = 0	60%
	Urban Services: > 1/4 mi = 100 1/4 mi - 300 ft = 50 Adjacent = 0	30%
	Land Uses: < 5% non-ag = 100 5 - 10% = 75 10 - 25% = 50 > 25% = 0	10%
		20%

Characteristic	Points	Weights
Other Values	Easements: Adjacent = 100 < 1/4 mi = 75 > 1/4 mi = 0	45%
	Riparian Area: Riparian = 100 Not riparian = 0	20%
	Parkland WL Habitats: Adjacent = 100 Not adjacent = 0	35%
		10%



Prepared by Douglas Miskowiak, Land Use/GIS Specialist  
Center for Land Use Education, November 2007.

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## Submit Articles!

Please submit an article to our newsletter.

It should be:

- 1,000 words or less,
- Informative,
- Of statewide concern,
- And address a land use issue.

The managing editor will review your submission and get back to you if any changes are necessary.

Managing Editor  
Rebecca Roberts



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## REQUEST FOR PARTICIPANTS: COMMUNITY DESIGN RESEARCH SERVICES

The Department of Landscape Architecture at UW-Madison is continuing its long history of community service by requesting proposals for community-focused undergraduate and graduate thesis projects. Students in the professional program in Landscape Architecture will provide 400-600 hours of pre-professional services in the areas of land use analysis/land use planning, masterplan/neighborhood design, and site design. Previous projects have focused on, but are not limited to:

- Ecologically sensitive areas (wetlands, stream corridors, woodlands, prairies)
- Streetscapes, Main Streets, downtown development
- Community gardens
- Park and recreation facilities
- Walking and bike paths
- Stormwater mitigation
- Stream restoration
- Native landscape restoration
- Waterfront enhancement
- Urban neighborhood redevelopment
- Brownfield redevelopment
- Dam removal
- Alternative energy
- Arts and culture parks
- Historic preservation
- Abandoned strip mall/mall redevelopment
- Agricultural land preservation and development
- Environmentally sensitive development alternatives
- Rural village preservation and development
- Conservation development
- Regional open space connections

To be considered, interested communities are asked to fill out an application form and provide a small grant to cover out-of-pocket expenses (negotiable). If selected, projects will be executed by the student, guided by an advisory group from the host community, and supervised by Landscape Architecture faculty. Up to 25 projects per year will be accepted.

If you are interested in learning more about Community Design Research Services, please e-mail the faculty coordinator, Sue Thering at [sathering@wisc.edu](mailto:sathering@wisc.edu), or call 608-263-6506.

