

2011 MIDWEST UNDERGRADUATE GEOGRAPHY SYMPOSIUM

Saturday, April 30, 2011 at Gustavus Adolphus College in St. Peter Minn.

Second Floor, Jackson Campus Center
Hosted by the Department of Geography, Gustavus Adolphus College

Schedule at-a-Glance

Time	Activity	Location
9:00 am – 9:30 am	Check-in	Table outside of the Heritage Room
	Meet and greet / refreshments ..	Heritage Room / Three Crowns Room
9:30 am – 9:40 am	Welcome	Heritage Room / Three Crowns Room
9:45 am – 11:00 am	Session I Presentations	Heritage Room
		St. Peter Room
		President's Dining Room
11:00 am – 12:30 pm	Field Trips:	
	Eating Local in St. Peter	Gather in Heritage Room
	New Sweden Dairy	Gather in St. Peter Room
12:30 pm – 1:05 pm	Lunch	Three Crowns Room
12:45 pm - 1:20 pm	Poster Session	Heritage Room
1:25 pm – 2:25 pm	Session II Presentations	Heritage Room
		St. Peter Room
		President's Dining Room
2:25 pm – 2:30 pm	Break	
2:30 pm – 3:30 pm	Session III Presentations	Heritage Room
		St. Peter Room

Session Moderator: Bob Douglas, Gustavus Adolphus College

9:45

Eric Cronin - Gustavus Adolphus College '11

Make Admissions Count: Building a Multi-regression Model for Gustavus Academic Enrollment Data

With the significance of localized, at the high school and community level, admission method underestimated and understudied, it is imperative that a quantitative approach to studying this phenomenon be pursued through a comprehensive multiple regression model and generating thematic maps to visually display the gathered information. By utilizing Gustavus Adolphus College and its recruitment practices and target demographics as a case study, this project analyzes the relationship between high school and community characteristics and the number of students interested in Gustavus.

This was accomplished by examining, first, the effect of distance on student interest, noting any decay in interest as distance from St. Peter increases. The multiple regression model formulated and the maps produced for the study would include distance and population size of the senior classes as well as specialized variables for each high school such as number of referring and active alumni in the area. Demographic variables will also factor into the model such as the percent of racially under represented students and median income as expressed through the school's percent on free or reduced lunch. By examining the key demographics and attributes of these high schools and communities, admission offices can apply the proposed regression model and refer to the maps depicting past trends to predict the likely number of future students interested in their school. Being able to predict interest quantitatively would allow their recruitment efforts to be optimized and tailored to target schools and communities eventually leading to the individualized admission process.

10:05

Maren Hagman - Macalester College '11

Cartographic 'Colonialism'?: Comparing John Speed's Vision of Ireland and Bermuda

Examining John Speed's representations of Ireland and Ulster in his 1611 Theatre of the Empire of Great Britain and Bermuda in his 1628 Prospect of the Most Famous Parts of the World demonstrate two very different spatial processes of colonialism. Comparing three elements of the two maps, toponyms, borders, and colonial space provides a useful framework through which to construct the maps' differences. While Speed encountered technical limitations, partly in regards to Ulster, the contrast between the two maps reflects the distinctiveness of the colonial process in both. In Ireland, centuries of conflict and fighting resulted in a gradual takeover process, culminating in the patchwork colonization in the Ulster Plantation. The process was decentralized and long-term, taking decades to slowly wrest control from the native Ulster population. In Bermuda, however, there was no native population to dispossess of their land and an overarching Company structure, so the process was centralized and short-term. Speed's maps demonstrate the dissimilarity of the colonial experience in Ireland and Bermuda and reinforce the importance of interpreting colonialism as a pluralistic process, varied over time and space.

10:25

Whitney Westley - Gustavus Adolphus College '11

The Gentrification Equilibrium: The North Loop of Minneapolis

The North Loop area of Minneapolis, Minnesota is a thriving and expanding community on the west bank of the Mississippi River. But the North Loop was not always a successful area of the city. This presentation will examine the unique supply and demand factors in the gentrification of the North Loop neighborhood. By examining arguments for and against gentrification we will examine the relationship between supply and demand factors within the city of Minneapolis. This will be seen through the investment made by Minneapolis into the North Loop and an investigation of the social identity of the area.

10:40

Emily Kendall - Gustavus Adolphus College '11

Many Tales of One City: Different Perspectives of the Downtown Area of Chaska, Minnesota

Chaska, Minnesota, is a small town in the southwestern suburbs of the Twin Cities. This historic community has an ambitious mission to be "the best small town in Minnesota." In recent years, Chaska has grown significantly, with the newer areas competing with the old downtown area. The differences between these two distinct areas of Chaska are seen within various capacities. Through residential surveys and GIS analysis, this presentation

examines how Chaska embraces and exemplifies their small town character even through the successful growth of new development, economic issues and a time when small communities are struggling.

Session I Presentations (9:45 – 11:00)

St. Peter Room

Session Moderator: Laura Smith, Macalester College

9:45

Adam Van der Sluis - Macalester College

The Pull of University Avenue: A Prediction of Employment Distribution Post-Light Rail Construction

The construction of a light rail is meant to fulfill many purposes. While the most obvious is that of transit, city planners hope to gain many benefits related to economic development. With the new University Avenue light rail line, one of the stated goals of city planners is to have more people who both live and work along the Central Corridor. Using the Gravity Model, I will make predictions about how the added pull of University Avenue will allow this to happen, and what this will mean for the Corridor as a whole.

10:05

Ainsley Judge - Macalester College '11

Evaluating Light Rail Transit as a tool for place-making

As a large public infrastructure project, Light Rail Transit is often intended as not just a transit line, but as a way of spurring economic development and building identity along a corridor. As it applies to the Twin Cities, the Central Corridor project along University Avenue seeks to use LRT as an opportunity for “city-building and place-making.” This study evaluates how LRT may be used as a tool for place-making and how a new community identity is defined in conjunction with the communities that presently exist. Two different variables, community organizations based on tax-exempt properties and neighborhood tenure, represent two ways in which current neighborhoods function and provide a backdrop for an area positioned for rapid change and redevelopment. The data find patterns along the Central Corridor line in comparison with Ramsey County that may lead to increased property sales and a rising demand for community services post LRT construction.

10:25

Lily Gordon-Koven - Macalester College '11

Affordable Housing and the Central Corridor

As light rail construction begins on the Central Corridor, fears of gentrification and the future of existing communities circulate through the Twin Cities. This paper explores existing socioeconomic and racial demographics along the Corridor in relation to affordable housing. Illustrating these patterns shows the continued need for affordable housing to service local populations. In highlighting this need and current patterns, this paper hopes to contribute to the discussion surrounding housing and light rail development. Understanding the current characteristics of the Central Corridor is crucial for evaluating future change that may result from gentrification. This paper presents brief overviews of gentrification and affordable housing in Saint Paul and analyzes a series of maps depicting a variety of demographic and socioeconomic characteristics in relation to concentrations and locations of subsidized rental housing units.

10:45

Needham Hurst - Macalester College

How Does Light Rail Transit Affect Urban Land Use?

This paper uses a binomial logistic regression to estimate the effect of the Hiawatha Light Rail Transit (LRT) line on land use change within one mile of station areas in Minneapolis, MN, between 2000 and 2010. I find the effect of distance to LRT stations on land use change was less during construction (2001-2004) than after construction (2005-2010). For most land uses, the radius of LRT's effect on land use change was limited to between 200 and 500 feet from stations. Vacant land and industrial land experienced the highest magnitude and radius of LRT's effect. The radius of LRT's effect on low density housing, high density housing, and commercial properties was limited to station areas. This finding suggests that the potential of LRT to induce density is limited, especially in low-density neighborhoods. Complementary policies like rezoning had a small but significant positive effect on land use change.

Session Moderator: Anna Versluis, Gustavus Adolphus College

9:45

Samantha Rother - Gustavus Adolphus College '11

Clusters and Mergers in the Spatial Organization of the Roman Catholic Church

The structure of the Roman Catholic Church emphasizes geographical organization through the designation of dioceses and parishes. This research considers consequences for parishes when their church faces a proposed cluster or merger, the role of historical changes in these clusters and mergers, and the affect of architectural significance in these decisions. This research investigates the geographic implications of the changes proposed by the Archdiocese of St. Paul and Minneapolis in the October 2010 draft Strategic Plan. Data from the South Region of the Archdiocese of St. Paul and Minneapolis was mapped comparing current and historical population and demographic data for regions where churches are slated to cluster or merge. A case study of churches in Belle Creek, Bellechester, and Goodhue looks at the architectural significance of churches slated for closure.

10:00

Drew Ingvalson - Gustavus Adolphus College '11

The Impact of Ethnicity, Socioeconomic Status, and School District Sizes on MCA II Test Scores

A recent area of concern within the United States has been the implementation of high stakes testing through the No Child Left Behind Act (NCLB). In Minnesota, numerous school districts fail to meet Annual Yearly Progress (AYP) due to their low passing rate of students from low socioeconomic classes and minority groups on the MCA II Tests. School districts that are typically examined for achievement gaps in Minnesota are the Twin Cities' urban school districts, but this study looks to investigate school districts within South-central Minnesota's Region Nine (Blue Earth, Brown, Faribault, Le Sueur, Martin, Nicollet, Sibley, Waseca, and Watonwan Counties). These rural school districts are often overlooked when considering educational inequality, socioeconomic and ethnic disparities, but deserve a closer examination. Within these school districts there has been a significantly lower achievement rates from Hispanics and lower socioeconomic students when compared to white students. After noticing these staggering trends one should be left with one important question. Why are these students' achievement levels considerably lower than their white counter parts?

One possible variable for this achievement gap could be the size of the school district. Since school districts are allocated money from the state per student, it could be assumed that larger school districts would have more resources to help the socially disadvantaged. Also, the size of the minority population and number of students participating in the free and reduced lunch program would have an influence on the amount of resources required to support these students in passing the MCA II Tests. Finally, it is possible that some school districts are simply more capable of obtaining higher test scores from students that come from diverse backgrounds through district policy and programs.

10:15

Abby Williams - Gustavus Adolphus College '11

Protected Areas and Conversation: Solving the Problems of Conservation

The focus of this project is to show the biology major the social impact of Protected Areas and other conservation plans. Several individuals going into a conservation science do not receive a significant background in cultural anthropology, ethics, politics, and human geography. Therefore, proposals and plans to protect habitats or animals fail a vast majority of the time, as the scientists do not understand the needs of the local people and governments. Protected Areas can consequently act as enablers to corruption and social rights infringements. There is a general distrust of locals around the world of conservation plans as they feel their voices are ignored. Conservationists in other countries are faced with ethnocentrism, stereotypes, racism, and ignorance, which they need to combat to make the most effective plans. Finally, there are not enough tools (knowledge, technology, management strategies) for policy enforcers. Through creating a workshop as a teaching tool and creating a course curriculum, I addressed these issues and brought up options to best suit the needs of the people and ecosystems. Through use of previously researched options, I proposed use of GIS maps and image theatre to cut through language barriers. I mentioned the use of employment and involvement strategies for the locals as well as mechanisms to analyze and alter plans. One of my major conclusions is that the greatest gap in conservation is knowledge about the social and political atmospheres of outside areas. Throughout the developed curriculum, I introduce research from several fields including political science, sociology, anthropology, biology, social justice theatre, and geography. By using the class curriculum and workshop, is bringing light to the issues, allowing conversation on possible solutions, and spreading knowledge.

10:35

Matthew L. Fahrenbruch and Bradley C. Rundquist - University of North Dakota '11

An Examination of Shifting Economic Conditions and Changing Vulnerabilities in San Juan del Sur, Nicaragua Since The 1992 Nicaraguan Tsunami

San Juan del Sur is a small Pacific Coast town of approximately 5,000 residents in Southwest Nicaragua. On 2 September 1992, the town was inundated by a large tsunami. United Nations situation reports made at the time estimated that 60% of the homes in the town were destroyed and approximately 819 residents were evacuated. The San Juan del Sur economy, at the time of the event, was focused primarily on fishing and shipping. However, since the 1992 tsunami, the area has seen an influx of tourism and real-estate investment, to the point that a majority of the residents are now employed directly or indirectly by these industries.

The goal of this study is to determine how this economic shift has affected the vulnerability of San Juan del Sur to a similar event in the future. For this study, background research was done both to determine the level of the inundation in San Juan del Sur and the response of communities of similar economic make-up to similar events. Preliminary results suggest that tourism economies are viewed differently by relief organizations and have different needs during the recovery process compared to traditional economies. In addition, a comparison between a 1992 field survey after the event and current tourism maps available from San Juan del Sur promotional websites suggest that a large proportion of the tourism infrastructure in the town lies within the 1992 inundation zone, suggesting physical vulnerability of the town's main industry.

Field Trips (11:00 – 12:30)

Eating Local in St. Peter Gather in the Heritage Room

Van transportation will be provided to the St. Peter Food Co-op

Guest Speakers: Tom Nuessmeier, Partner, Pig in the Patch
Jennifer Luhmann, Brand Development Manager, St. Peter Food Co-op

New Sweden Dairy Gather in the St. Peter Room

Bus transportation will be provided to the dairy.

Guest Speaker: Ben Wenner, New Sweden Dairy

Lunch (12:30 – 1:05)

Three Crowns Room

Menu

Chicken Thai Wrap / Veggie Thai Wrap
Fresh Fruit
Bar
Coffee / Water

Alexander Boie - University of St. Thomas '12

Hydrogen Fueling Stations in Minnesota

The purpose of this project was to find ideal locations for a network of hydrogen fueling stations in the Metro area. Although hydrogen as fuel for cars is still in testing and won't be implemented for many years to come, fueling stations are a necessity if cars are to run on hydrogen. This project was created to solve this problem in the 7 county metro by providing locations to build hydrogen fueling stations.

The project started by identifying what statistics define the type of person who would purchase a hydrogen powered vehicle. I arrived on three key statistics age, income and education level. The second step was to locate where existing publicly accessible hydrogen fueling stations are located. My research showed that California, specifically in the Los Angeles area would provide me with a solid comparison for my analysis. I collected my key statistics by block groups for the area surrounding the existing stations. Mapped them individually, converted them to rasters, reclassified the rasters and added them together creating a suitability model. I then took notes about the average level of suitability surrounding each station and how far each station was located from a major highway.

Using the same methods as stated above, I created a suitability model for hydrogen stations in the 7 county metro. Using an intersect tool I found locations that were above the threshold set by my California study and were within ¼ mile from the highway. This defined the locations which would be suitable for hydrogen stations. I then placed hydrogen stations in the defined areas. To ensure that enough locations had been chosen, I used a drive time analysis to make sure that most of the 7 county metro was within 15 min of a station. As a final step I collected data about the suitability around the proposed station locations to determine if the station locations would have a strong enough customer base. Based on my finding, I am confident is saying, the areas, that I have defined as potential hydrogen fueling station locations, would be successful stations.

Liana Bratton and Steven Schmitz - St. Thomas University '12 and '12

Discovering the Buffalo Commons

There has been a steady trend of several factors concerning the Great Plains of the United States. The region is depopulating, agricultural operations are heavily subsidized and the ecological health of the region is suffering. Several decades ago two researchers perceived this same trend and proposed that an expansive portion of the land be deprivatized and become a national wildlife refuge sufficient to support healthy populations of the native and critical keystone specific- the buffalo.

Our poster explains the research and analysis we have undergone in order to isolate several regions that we believe are the most optimal to have such a Buffalo Commons.

We used three primary criterion for isolating the most reasonable land mass to support a buffalo commons. We have incorporated economic-specific data of farmer finances in order to focus on areas with failing farms and cheap land—a consideration we believe critical, for we do not want to use profitable farmland that is sustainable and wealth-creating. The second factor considered is areas of low population. The less amount of people present on the land, the less a commons would harm existing human communities and the less likely that a future commons will have to endure high impact of human activity. The third factor was proximity to already existing government-protected land and indigenous lands. The proximity factor is important to decrease fragmentation thereby maximizing the commons space. Locating a commons near indigenous lands is also highly welcomed by indigenous peoples and provides them the possibility of returning to a more traditional way of life post white settlement.

Eric Cronin - Gustavus Adolphus College '11

The Irish in Olmsted County: A Preliminary Study

This study focuses on one of Olmsted County's earliest ethnic groups: the Irish. It involves seeking answers to some basic questions, such as what was the population distribution of early immigrants to the county and where did they settle? Using the 1860 and 1870 Federal Manuscript Censuses and the 1868 County Plat Map, some general conclusions were drawn:

First, townships that had a large number of Irish settlers in 1860, namely, Rochester, High Forest, and Marion continued to expand their numbers in 1870. Whereas townships that began with a small Irish settlement in 1860 continued in 1870 to remain relatively small.

Second, there was a geographically un-even distribution of Irish settlement. That is, some townships had many more Irish than others. The greatest concentration of Irish, or the "Core Area" was immediately south and east of the city of Rochester in the townships of Rochester, High Forest, and Marion.

Eric Fitzsimmons - Gustavus Adolphus College Dec. '10

"Geographic Hot Spots for Business Location: An Analysis of the Minneapolis-St. Paul Metropolitan Region.

Renee D. Huset - University of St. Thomas '11

Land Cover Change in Rochester, MN: 1979-2010

The mere mention of Rochester, Minnesota, often evokes thoughts of the Mayo Clinic and its affiliated healthcare centers. This is not surprising, given that nearly 35% of all Olmstead County residents are involved in the Health Care and Social Services sector according to the United States Bureau of Economic Analysis (BEA). From a geographic perspective, however, there is much more to the city than its medical facilities. Using ArcView 3.3 technology, this project sought to understand the patterns of land use change in the Rochester area in the past 30 years. To do so, a supervised classification was carried out on each of the two selected satellite images—one each from 1979 and 2010—to categorize the land cover of the 40-square mile study area into six groups as follows: agricultural, barren, forested, urban or built-up, water, and wetlands.

After getting an idea of the land use change in and around Rochester, the next step involved a more in-depth examination of urban growth in the area, which calculations from step one showed to be a rise of 4% of the total land use over the 30-year timeframe. To accomplish this, a Normalized Difference Vegetation Index (NDVI) image was created for both satellite images and a different method of analysis—change detection—was utilized to compare the two NDVIs, resulting in a total of two land use change analyses for comparison and discussion. As a result of this project a number of trends in land use became visible. When considered in the context of the economic and social structure of Rochester and the immediate area, this application of remote sensing can shed some light on the underlying processes that have been working in Rochester over the past 30 years.

Justin Riley - University of St. Thomas '11

Residential Property Analysis in the UST Community

Neighbors of University of St. Thomas' St. Paul campus, as well as the University's department of University Relations, have been curious about the patterns of student rental housing around the campus and how it might affect the neighborhood's housing values. Working along with the Vice President for University and Government Relations, the St. Paul Neighborhood Liaison, and the West Summit Advisory Committee (WSNAC), I have developed spreadsheets and maps to discover these housing patterns. The maps were created from GIS software in UST's Geography lab, and the data was gathered from various sources such as ESRI and the Metropolitan Council. The focus of my maps is on changes in homestead status and values. Changes in homestead status over time were tracked along with changes in residential property assessed values, and other variables. For each variable, I compared three scales of study. The maps show the study areas that we are focusing on because they contain the highest concentrations of student housing, and also many of the variables we are working with for our analysis.

Matthew Weissan - University of St. Thomas '11

Mt. St. Helens Surface Analysis

Session II Presentations (1:25 – 2:25)**Heritage Room**

Session Moderator: Laura Smith, Macalester College

1:25

Jill Goforth - Macalester College '11

Exploring the Relationship among Transportation, Urban Form and Crime

The impending light rail transit development along University Avenue in Minneapolis-Saint Paul, Minnesota has led to local curiosity about the future possibilities for this urban street. Among many things, advocates of the light rail line suggest that the project will contribute to improved safety of the surrounding neighborhoods. This paper explores this claim by tracing crime along University Avenue over time. The study uses quantitative data to map crime along University, and finds that crime has increased over time, specifically in areas that are dominated by an automobile-oriented design scheme. Drawing upon theories of crime prevention and environmental design, I predict that the Central Corridor will become safer as a result of light rail transit development.

1:45

Mina Tehrani - Macalester College

The Ingredients of Change: A Political Ecology Approach to Diabetes in the Somali Community of Minnesota

2:05

Cory Copeland = Macalester College '11

Dallas to the Twin Cities: A Quantitative Analysis of Land Value change from Light Rail Construction

This paper explores the form that land value change takes after the construction of light rail transit in an urban area. Using a quantitative model based on the DART (Dallas Area Rapid Transit) system in the Dallas metroplex this paper will discuss the implications that land value change has on regional development. The paper then discusses the implications that the Twin Cities Central Corridor light rail could have on land value in Minneapolis and Saint Paul.

Session II Presentations (1:25 – 2:25)**St. Peter Room**

Session Moderator: Bob Douglas, Gustavus Adolphus College

1:25

Joseph Mueller - University of St. Thomas '13

Changing Landscapes: Roseville, Minnesota (1940-1974) From Pre-war Rural Farming Community to Post-war Booming Suburb: Land Use Change Detection

My presentation is about how I used remote sensing GIS technology to demonstrate the change in land use of the City of Roseville. Originally, the City of Roseville was an agricultural town. However, after the end of World War II the City of Roseville's population boomed as returning GI's and other people wanted to move out to the suburbs and buy land to own a house. The project I did analyzed the change in land use from agriculture to urban development from the years 1940 through 1975 in three distinct areas. I focused my analysis on my home neighborhood, the area encompassing Rosedale Mall and Har Mar Mall as well as analyzing the entire city itself. The data that I analyzed was from aerial photos obtained from the City of Roseville's GIS Department.

1:40

Aubrey M. Austin - Gustavus Adolphus College '11

The "Curb Appeal" of the Hiawatha Light Rail: How the Light Rail is marketed as a trendy mode of transportation

The Hiawatha Light Rail is a form of public transportation that has been an important addition to the Minneapolis area. The goal of this project was to study students' perspective on the public transportation system in Minneapolis and its suburbs. Responses from a survey were collected asking students about their preferences and their use of the Hiawatha Light Rail. The results of the survey were analyzed and maps were made with the results. The marketing of the Hiawatha Light Rail from places such as hotels, music concert venues, restaurants, and sporting event venues were deemed as an important factor in how successful the light rail has been thus far.

Websites were examined on how well they marketed the use of the light rail to their venue. Lastly, this paper examines ways to increase the productivity of the light rail in both from marketing and planning perspectives.

1:55

Nicholas Kludt - University of North Dakota '12

A Spatial Analysis of Buckthorn Distribution At Turtle River State Park

Turtle River State Park, located 22 miles west of Grand Forks, ND, is host to a massive buckthorn infestation. The buckthorn plant (*Rhamnus cathartica*) is perhaps one of the most difficult invasive species to eradicate once established. This project set out to determine the environmental envelope of major buckthorn thickets within Turtle River State Park using *in situ* mapping of major infestations, soil type distribution, and DEMs of hydrographic features. Mechanical means of infestation spread were examined, as well as possible remote sensing applications within mitigation efforts. The identification of areas at risk for future infestation was successfully modeled. Current mitigation techniques were also examined, with emphasis on cost.

2:10

Anne L'Heureux, Julie Rech, and Nicholas Yannarely - University of St. Thomas '13, '13, and '13

Discovering the Buffalo Commons: Using GIS to Target Optimal Lands in the Great Plains for Large Scale Restoration

The American Great Plains struggles with a relentlessly inhospitable climate and over-intensive farming, both of which have led to water shortages, soil erosion, and species degradation. These conditions triggered a substantial outmigration and depopulation of the region. In response to the deteriorating Plains, academics Frank and Deborah Popper posed the idea of a Buffalo Commons. A Buffalo Commons would restore the dry regions of the Great Plains to native prairie and reintroduce indigenous species, such as buffalo.

The plausibility of the Buffalo Commons is contingent upon research that could target specific lands suitable for such restoration. This research is exceedingly important, as the establishment of a Buffalo Commons would mean significant ecological, social, and economic progress for the Plains region. These benefits would include the reintroduction of native plant and animal species, the creation of jobs through tourism and recreation, and the revival of America's traditional Western culture.

The project used ArcGIS to analyze data layers such as grass cover, isolation, and protected lands. Our model used these data layers as building blocks to create detailed maps illustrating a land suitability continuum for a Buffalo Commons. Careful analysis of the maps allowed us to determine those areas best suited for restoration. We found these lands to be those that are economically unstable, isolated, and sparsely populated, while at the same time maintaining environmental quality.

Filling a research gap, our findings provide the necessary tools to actualize the idea of a Buffalo Commons. With specific areas targeted by our research, the initial stages of truly establishing a Buffalo Commons can follow. To begin, coordination between federal agencies, state agencies, and locals would be necessary to bring about this prospective large-scale restoration. Through our findings, the Buffalo Commons can become a reality. Despite being a substantial administrative undertaking, with cooperation, further research, and hard work it is possible.

Session II Presentations (1:25 – 2:25)

President's Dining Room

Session Moderator: Dan Trudeau, Macalester College

1:25

Benjamin Hejkal - Macalester College '11

The Role of Urban Agriculture in the Recovery of Detroit

Detroit faces many challenges, including poverty, segregation, a declining population and tax base, underfunded schools, food deserts, unemployment, and disinvestment. Urban agriculture initiatives can have an important and positive impact on many challenges Detroit faces, and thus should be an integral part of the recovery effort there. Though they cannot be viewed as the sole solution, and must work in conjunction with other initiatives, urban farming projects should be a significant component of a comprehensive plan for the city's recovery.

Through comparing and analyzing four existing and planned urban agriculture projects in Detroit, which vary in their form, approach, scale, participants, and priorities, it will be shown that urban agriculture initiatives in Detroit can help solve a number of challenges the city faces. The specific projects used have been chosen

because they provide a varying range of cases that connect well to the important issues of food security, land use, and long-term sustainability that form the conceptual framework of this study. Many other cities, particularly shrinking post-industrial cities, are facing problems similar to those in Detroit, albeit less severely. They also can benefit from the use of urban agriculture initiatives to help solve those problems. On a worldwide scale, urban agriculture is a critical part of transitioning to a food system that can be sustained and support future generations.

1:45

Charlotte Fagan - Macalester College

New Urbanism and Feminism: Exploring Design as a Means of Empowerment

This paper compares two New Urbanist developments in the Twin Cities area, Excelsior & Grand and Liberty on the Lake, to theories of feminist design, with the aim of seeing if New Urbanism can be seen as a design of empowerment for women. I argue that the two cases of New Urbanism that I examined do provide tools of empowerment for women, but both developments are limited in how empowering they can be because they are unable to sacrifice market prices in favor of incorporating more diversity across race and class. This paper builds on previous work by feminist geographers about the patriarchal design of cities, the feminization of suburbia, and contributes to studies of New Urbanism.

2:05

Matt Kazinka - Macalester College '11

Positioning Race in Efforts to Make Sustainable Communities

Multiple movements to create sustainable communities in the U.S. have arisen as branches of, or reactions to, the mainstream environmental movement, often seeking to incorporate social and economic justice into place-based environmental initiatives. In this paper, I analyze the discourses of two movements for sustainable communities, the Transition movement and the Green Economy movement, to illustrate how dialogue about race within those movements shapes the outcomes of their work in the places they occur. I hypothesize that such movements must acknowledge, discuss, and proactively address racial inequalities if they intend to achieve socially just outcomes in their work; otherwise, they risk replicating the patterns of social injustice in their efforts to achieve environmental justice. I identify some lessons for organizations leading the charge in those movements to better empower activists to address racial inequalities through discourse.

Session III Presentations (2:30 – 3:30)

Heritage Room

Session Moderator: Dan Trudeau, Macalester College

2:30

Andrew Berger - Macalester College '11

Geography and Architecture: An Integrated Study of Place Theory

In architectural and urban design projects, it is common to emphasize scalar yet harmonious design schemes. As a Geography student studying architecture, I am trained to analyze at multiple scales. In following my education, I have decided to investigate how geographic place theory applies to architectural design projects. If the essence of place theory is that each element contributes to the greater sense of place, then I postulate that we should be able to gain valuable insight by applying place theory to an entire urban place as well as the components of one individual building within an urban plan. What happens if we apply geography theory to an architectural project? In order to break down this question, I most prominently use the place-based literature of Kevin Lynch, the Architecture theory of Karsten Harris, and writings on city branding by Steven Ward and Berci Florian. In order to benefit from a multi-scale analysis, I chose two highly successful urban developments in entirely different places with entirely different approaches to urban growth and development: the New Urbanist development in Kentlands, MD and the Guggenheim Museum in Bilbao, Spain. What becomes evident is that individual architecture projects and new city plans can create efficient space using the same stratum of function and form. In turn, broader questions are asked about the validity of New Urban projects versus the revitalization of industrial cities.

2:50

Andrienne Palchick - Macalester College '12

Reworking Detroit: Examining an Urban Right-Sizing Effort in the Context of a Racially Segregated, Post-Industrial City

In the last fifty years, Detroit has transformed from an industrial powerhouse at the center of American economic expansion into a city that is facing serious challenges of disinvestment, depopulation, and degenerating, abandoned housing and neighborhoods. The difficulty of addressing these problems is intensified by the fact that this current crisis arises out of a history of segregation, which has enforced disparities in the city. As a response, the mayor, Dave Bing, and his administration have proposed a right-sizing initiative, which will attempt to redesignate how different areas of the city are used, specifically targeting areas zoned for residential use that are now largely abandoned. In this paper, I examine the planning process for this initiative, called The Detroit Works Project, as an effort to create a democratic process with participation from residents. I argue that a spatial reorganization of Detroit is a necessary project to effectively address inefficiency and disparity in the city, but one which must make a conscious effort to acknowledge and account for the barriers that segregation poses when creating a participatory process. I have gathered information about The Detroit Works Project largely through primary sources, such as news publications. I have also conducted interviews with actors who are approaching the Detroit Works Project from different perspectives. This specific study of the Detroit Works Project relates to larger questions about how to correct the historical policies that have formed American post-industrial cities so that they operate in a more efficient and accessible way. It also serves as an exploration of how to create a participatory process to address spatially enforced inequities in the context of an already segregated city.

3:10

Joe Rasmussen - Macalester College

Day Labor, Immigration, and the Right to the City in Austin, Texas

In the present era of economic uncertainty and fears about national security, immigration has become a prominent issue in national and local politics. One strand of the discourse suggests that "illegal immigrants" steal jobs from American citizens. Immigrant labor is a hotly contested issue, one that manifests itself in contention around, among other things, day labor centers and hiring halls. To explore the dynamics of this issue, I researched the politics of day labor sites in Austin, Texas. Analyzing newspaper articles, letters to the editor, and city council records reveals that day labor sites are a highly contested use of space and that the debate around them is connected to questions of immigration, race, and community belonging.

Session III Presentations (2:30 – 3:30)

St. Peter Room

Session Moderator: Laura Smith, Macalester College

2:30

Maya Fehrs - Macalester College '11

Public Art at Transit Stations

The Central Corridor Light Rail Transit project will incorporate the work of seven artists to provide design elements for the eighteen stations. This paper will address the role of public art at transit stations, particularly how it serves as a placemaker, applied to the specific context of the Central Corridor. Through interviews with the Central Corridor artists and discussion of the literature on public art in public transportation, the paper addresses the following research questions: How does public art at transit stations work as a placemaker? How does the public art at the light rail stations along the Central Corridor represent community? Finally, what are viable ways of judging the success or effectiveness of public art at transit stations? The paper uses a categorization method of the different types of community representation in public art to analyze the station designs of the Central Corridor. The paper concludes by discussing the various limitations and difficulties of creating placemaking art at transit stations.

2:50

James Christenson and Michael Perkins - Macalester College '12 and '11

Initiating an Era of Development on the Central Corridor: A Cross-Examination of Urban Design Plans with the Form of University Avenue Prior to Light Rail Installation

This study offers a catalog of the aesthetic and land-use characteristics of University Avenue in St. Paul as it appears prior to the construction of the Central Corridor Light Rail Transit project in the Spring of 2011. This catalog constitutes a baseline of comparison for the anticipated changes to the built form of the Avenue and additionally serves as a tool for examining the implications of city-published development plans. The areas identified for development in publicly available light rail station area plans are overlaid on a map of the documented appearance of the Avenue. This spatial comparison is presented with an analysis of the city's development strategy and a discussion of urban design concepts. The product is a transcription of the Central

Corridor that has been conceived by the collective vision of city planners, urban designers, and community members that makes relevant the design principles for future development to University Avenue as it exists today. It finds that planners have concentrated future development sites nearest station platforms and targeted vacant lots, surface parking lots, big box retailers, strip mall developments, industrial/warehouse properties, and auto-oriented chain businesses, such as drive-through restaurants. Planners tend to preserve new residential developments and built forms that contribute to the sense of place on University. Considering these trends, the city's development scheme applies design principles that are consistent with the Transit-Oriented Development planning movement.

3:10

Nolan Levenson - Macalester College '11

University Avenue Businesses and Consumers: Sales, Expenditures, and Opportunities for the Future (from Macalester)

Central Corridor Light Rail (LRT) construction is underway and the businesses around it will begin to change. This study will examine the business sales and consumer purchasing trends in areas around the proposed LRT station areas using Claritas data from 2010. It will depict current businesses trends occurring along the avenue before LRT construction. The results of the study will be used to make predictions about future business development along the corridor. This study asks: What kinds of businesses might open along University Avenue post-LRT? Where will they open? The analysis will examine the discrepancy between business and consumer trends, using total retail sales and consumer expenditures in each of the block groups that is tangential to a ¼ mile buffer around each station area. When expenditures exceed sales, there is a positive *opportunity gap*, which means that new business could fill the local need for retail goods. When sales exceed expenditures, there is a surplus of goods for the direct local population, and there is a negative opportunity gap, which means there is no room for new business in that area. These results will be compared with station area planning and LRT ridership projections from the City of St. Paul and Metropolitan Council. This study finds that only four stations (Dale, Capitol East, Western, and Victoria) have opportunity for new businesses. There are also various opportunities in different station areas for certain kinds of goods.