Recycling Asphalt Roofing Shingles in Asphalt Pavements

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The CURA Reporter is published three times annually to provide information about CURA’s programs, projects, and publications. Subscriptions are free upon request at www.cura.umn.edu/publications/reporter/subscribe.

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This publication is available in alternate formats upon request.

Printed with agribased ink on recycled paper, including 20% post-consumer fiber.

Cover Photo: House shingle scrap ing disposed of at a landslide. Photo courtesy Mihai Marasteau.
Recycling Asphalt Roofing Shingles in Asphalt Pavements

By Mihai Marasteanu, Jasmine Austin, and Ki Hoon Moon

Abstract: Up to one-fifth of construction and demolition waste in the Twin Cities metropolitan area consists of tear-off shingle scrap (TOSS), which is postconsumer roofing material that is removed when a home is reroofed. Of the 60,000 tons of TOSS generated annually in the metro region, more than 90% is potentially recyclable for use in asphalt pavement. At the beginning of 2010, the Minnesota Department of Transportation released a draft specification that would allow up to 5% TOSS to be used in asphalt. To fine-tune this specification, this study investigated how the addition of TOSS affects the low-temperature properties of asphalt mixtures used for paving roads, as well as the potential environmental benefits of using recycled materials in asphalt. The research showed that adding up to 3% TOSS resulted in no statistically significant differences in the low-temperature properties of the most commonly used asphalt mixtures. A preliminary environmental life-cycle assessment showed that asphalt mixtures that contain recycled shingles and reclaimed asphalt pavement consume less energy and produce fewer greenhouse gas emissions during the production process compared with an asphalt mixture with no recycled material. The highest reduction in these environmental impacts was estimated for the mixtures that used the highest amount of recycled materials. Based on this analysis, all the available TOSS in the Twin Cities metro area could potentially be recycled for use in asphalt pavement in the region. It is anticipated that the results of this research will provide critical information for the development of a standard specification for the use of scrap tear-off shingles in asphalt pavements in Minnesota. The research upon which this article is based was supported by a grant from CURA’s Faculty Interactive Research Program.

Asphalt pavements represent approximately 94% of the 2.5 million miles of paved roads in the United States. They are built using asphalt mixtures, which are composite materials that contain coarse and fine aggregates of specific sizes bound together with asphalt binder, a residue of the oil-distillation process. Asphalt binder is a highly temperature-susceptible viscoelastic material that flows like motor-grade oil at high temperatures and becomes as brittle as glass at low temperatures. As it ages, its properties change dramatically; the older the asphalt binder, the stiffer, more brittle, and more prone to cracking at low temperatures it becomes. The binder-aging process reduces the performance of asphalt pavements in climates like that found in Minnesota, where low-temperature cracking is prevalent due to very cold winter temperatures. The presence of cracks allows water to infiltrate the pavement and cause further damage in the form of potholes.

Recycled asphalt pavement is used extensively all over the world. According to the Federal Highway Administration, nearly 30 million tons of reclaimed asphalt pavement (RAP) is recycled and used as a component of new asphalt pavement every year, making RAP the most recycled material in the United States. However, due to the less desirable properties of aged asphalt binder in older pavements, the percentage of RAP added to new pavements has typically been limited to 20 to 30%.

Asphalt roofing shingles also contain asphalt binder, but it is stiffer than the binders typically used in paving applications. The Minnesota Department of Transportation (MnDOT) has sponsored several research studies during the past 15 years examining the potential use of recycled shingles in pavement applications. In 1996, the agency adopted a material specification that allowed up to 5% manufacturer waste shingle scrap (MWSS)—damaged or otherwise unusable shingles that manufacturers dispose of—to be used in asphalt pavement. Currently, approximately 70,000 tons of
MWSS per year are generated from three shingle-production plants in Minnesota, of which 40,000–60,000 tons are recycled into asphalt pavements.

Recent research sponsored by the metro-region Solid Waste Management Coordinating Board and the Minnesota Pollution Control Agency suggests that up to 20% of construction and demolition waste in the Twin Cities metropolitan area consists of tear-off shingle scrap (TOSS)—that is, postconsumer roofing material that is removed when a home is reroofed. Approximately 60,000 tons of TOSS are generated annually in the metro region. Informal observations indicate that 90% or more of this roofing waste is potentially recyclable. However, unlike MWSS, TOSS poses a substantial recycling challenge. The asphalt binder in these shingles has been exposed to years of solar radiation, oxidation, and very high summer temperatures (155–175°F), resulting in the binder being substantially more brittle at low temperatures. Thus, it is critical to understand how the addition of TOSS affects asphalt-mixture properties in order to provide recommendations concerning how much TOSS can be added to asphalt mixtures without substantially affecting their cracking-resistance properties.

At the beginning of 2010, MnDOT released a draft specification that would allow up to 5% TOSS to be used in asphalt. Our objective was to conduct additional experimental work and analyses to help fine-tune this draft specification. Our work was performed in conjunction with an ongoing effort by MnDOT’s Office of Materials that was funded by the Minnesota Pollution Control Agency, and we used a common set of materials in both studies.

**Methods and Findings**

We investigated the impact on pavement-engineering properties when different percentages of recycled shingles were introduced into asphalt-pavement mixtures. In addition, we conducted a preliminary life-cycle analysis to evaluate the environmental benefits of recycling asphalt shingles for pavement applications.

**Low-Temperature Properties.** To test low-temperature properties of various asphalt mixtures, we obtained test materials from MnDOT’s Office of Materials that consisted of asphalt prepared with combinations of RAP, MWSS, and TOSS. MWSS and TOSS were added in quantities of either 3% or 5%. RAP was added in quantities of either 15% or 25%, which is typical for newly constructed asphalt pavements in Minnesota.3

For each asphalt mixture, we performed a creep test, which involves placing a constant load (pressure) on thin asphalt beams created from the various mixtures. These tests were conducted at temperatures that simulate the climate extremes found in Minnesota. For each mixture, we measured creep compliance, or the degree to which the asphalt resists deformation over time under a constant load. From this, we obtained two characteristics that are specific to asphalt materials: creep stiffness, a measure of how stiff the asphalt binder becomes under temperature extremes; and relaxation rate, an indicator of how fast stiffness decreases with time and makes the material less prone to cracking. For asphalt-pavement applications, the goal is to have minimal increase in creep stiffness and minimal loss in relaxation rate with the addition of shingles to the asphalt mixture when these mixtures are tested at cold-weather temperature extremes equivalent to those encountered during Minnesota winters.

Based on our analysis, we found that adding 15% or 25% RAP to the asphalt mixture increased creep stiffness and decreased relaxation rate statistically significantly compared with asphalts without RAP added. Adding 3% or 5% MWSS to the mixtures in addition to the 15% or 25% RAP resulted in no significant differences in creep stiffness or relaxation rate compared with 15% or 25% RAP mixtures with no MWSS added. Based on these results, it is reasonable to hypothesize that the addition of 15% or 25% RAP dominates the properties of the mixtures so that adding as much as 5% MWSS has little impact.

Adding up to 5% TOSS also resulted in no statistically significant changes in creep stiffness for 15% RAP and 25% RAP mixtures. With respect to relaxation rate, we observed no change for mixtures containing 15% RAP. However, we observed a significant decrease in relaxation rate for mixtures containing 25% RAP when only 3% TOSS was added. Because all new asphalt pavements in Minnesota contain various proportions of RAP, these findings support imposing a 3% limit on the addition of TOSS to asphalt mixtures.

**Environmental Analysis.** One of the most substantial effects of recycling shingles is the impact on the environment. According to the U.S. Environmental Protection Agency (EPA), life-cycle assessment—which considers the entire life of a product from cradle-to-grave—can be used to quantify the

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cumulative environmental impacts throughout the entire life of a product. This method provides a general picture of the environmental benefits and consequences of various alternatives for products and processes.

Life-cycle assessment evaluates all stages in the product’s life, which includes raw-material extraction, transportation, processing, usage, and disposal. The analysis includes four steps:

1. Goal definition and scoping
2. Inventory analysis
3. Impact assessment
4. Interpretation

The first step involves defining the product, process, or activities and reviewing and establishing the environmental effects. In the second step, the material inputs and environmental outputs are identified. The inputs include water, energy, and materials, and the outputs include air emissions, solid waste, and wastewater. The third step involves assessing the potential ecological and human effects of the inputs and outputs. The final step involves evaluating the results from the impact assessment and inventory analysis and using these results for decision making.

For our analysis, we performed only steps 1 and 2 using a tool known as the Pavement Life-Cycle Assessment Tool for Environmental and Economic Effects (PaLATE). A PaLATE, a Microsoft Excel-based program, was created as a joint venture between the University of New Hampshire’s Recycled Materials Resource Center and the University of California at Berkeley. The program uses EPA data to quantify the environmental consequences from constructing and maintaining pavement. PaLATE also can be used to estimate the trade-offs between using virgin and recycled materials. The required user input includes data for initial construction-material quantities, maintenance quantities, and equipment use. This information is used to predict environmental effects such as energy consumption, water usage, global-warming potential, and various emissions.

Using PaLATE, our goal was to determine the environmental effects of using different quantities of shingles and RAP in pavement. We performed the life-cycle assessment on seven different mixtures: one with no recycled materials (the “control” mixture) and six with varying quantities of RAP and recycled asphalt shingles. We compared the environmental effects of mixtures with recycled materials with those of the control mixture. In this analysis, we assumed that recycled asphalt shingles contribute about 30% by weight of the total asphalt binder used to produce the mix, which decreases the total quantity of virgin binder required. Because insufficient pavement performance history is available to conclude otherwise, we assumed that the addition of recycled materials did not substantially affect the performance of the asphalt pavement during its service life compared with the control mixture with no recycled materials.

Using PaLATE, we modeled the potential energy use and carbon dioxide emissions for a 1-mile-long and 48-foot-wide (four-lane) section of pavement constructed with five inches of asphalt mixture and six inches of aggregate base. To estimate the environmental impacts of materials transportation—in this case, virgin aggregates and RAP—we assumed that the maximum one-way transport distance for any material was 30 miles. To account for the environmental effects of processing and construction, productivity values, fuel consumption, and engine capacity, we used values from the shingle-processing industry and construction-equipment manufacturers.

Based on our calculations, one mile of four-lane pavement containing no recycled materials would require more than 3,191 megawatt-hours of energy to construct—equivalent to the amount of electricity consumed annually by 277 average American households. In addition, construction would produce 702 tons of carbon dioxide (CO₂), a greenhouse gas that contributes to global climate change. This is equivalent to the annual CO₂ emissions from 128 standard-size American automobiles. We also determined environmental outputs for the other mixtures used to build the same road structure (Figures 1 and 2). All mixtures that contain recycled shingles and RAP consume less energy and release fewer tons of CO₂ to the atmosphere compared with the control mixture, which has no recycled material. Not surprisingly, we estimated that energy use and CO₂ were reduced the most for the mixtures that contained the highest amount of recycled materials: 25% RAP combined with 5% recycled shingles (TOSS or MWSS). Both energy use and greenhouse gas emission for these mixtures were reduced approximately 10–20% compared with the control mixture. These values should be interpreted with caution because this was a very preliminary life-cycle assessment study intended only to provide a general estimate of the environmental differences between using pavement with shingles and pavement without shingles.

Although the PaLATE tool does not calculate the environmental impact on landfills, it should be mentioned that using recycled shingles in asphalt-pavement construction results in a substantial reduction in the amount of shingles that are sent to landfills. For each mile of five-inch asphalt pavement created with a mixture that contains 5% scrap shingles, we calculated that roughly 137 cubic yards of scrap materials would be diverted from a landfill. If the mixture contains 3% shingles, then roughly 82 cubic yards of scrap material would be diverted.

Conclusions and Policy Implications

It is anticipated that the results of this collaborative effort with MnDOT’s Office of Materials will lead to the development of a standard specification for the use of tear-off shingles in asphalt pavements in Minnesota. It will also provide information that will be used to develop future guidelines for removing, storing, and processing tear-off shingles to facilitate the recycling of all tear-off shingles in pavement applications.

Some simple calculations can provide a rough estimate of mixture production and miles of paved roads required to use the entire amount of TOSS that potentially can be recycled. The average house roof surface is about 2,000 square feet, which translates to approximately 2.7 tons of asphalt shingles per roof. A mile of pavement that has two 12-foot-wide lanes and a surface layer of asphalt mixture that is

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five inches thick requires approximately 9,000 tons of asphalt mixture. Assuming that 3% TOSS is used in the mix design, then roughly 270 tons of TOSS would be used per mile of road (equivalent to the amount of shingles on 100 roofs). To use all 55,000 tons of recyclable TOSS generated annually in the Twin Cities metro area (from approximately 20,000 roofs), a little more than 200 miles of roads—requiring 1.8 million tons of asphalt mixture—would have to be built. According to the Minnesota Asphalt Paving Association (MAPA), asphalt-mixture production in the Twin Cities metro area exceeds 2 million tons per year.

Minnesota’s asphalt-paving industry has been one of the first to use recycled roofing shingles in asphalt mixtures. According to the Construction Materials Recycling Association, all asphalt-mixing plants have the capability of adding recycled shingles during the asphalt-mixture production process, and four companies in Minnesota currently process shingles. According to MAPA, one of these processor sites alone can process about 20,000 tons of TOSS per year. Theoretically, then, both the processing capacity and consumption demand exist to recycle and use all the available TOSS in the Twin Cities metro area.

Mihai Marasteanu is associate professor of civil engineering at the University of Minnesota. He has led two major national research projects to develop new specification methods for estimating the fracture resistance of asphalt materials at low temperatures and has used these methods to investigate the effects of shingles recycling on low-temperature performance of asphalt pavements. Jasmine Austin was a graduate student in the Department of Civil Engineering at the University of Minnesota at the time this study was conducted. She is currently an engineer at the U.S. Army Corps of Engineers. Ki Hoon Moon is a graduate student in the Department of Civil Engineering at the University of Minnesota, working toward his Ph.D. in civil engineering.

The research upon which this article is based was supported by a grant from CURA’s Faculty Interactive Research Program. The program was created to encourage University faculty to conduct research with community organizations and collaborators on issues of public policy importance for the state and community. These grants are available to regular faculty at the University of Minnesota and are awarded annually on a competitive basis.
Neighborhood Partnerships for Community Research (NPCR) has been renamed the Kris Nelson Neighborhood Research Program (Nelson Program) in honor of NPCR’s longtime director, Kris Nelson, who passed away in June 2011.

Nelson came to CURA in 1993, with funding from the U.S. Department of Education’s Urban Community Service Program, to run the newly created Neighborhood Planning for Community Revitalization (later renamed Neighborhood Partnerships for Community Research) program. Originally designed to support the research needs of neighborhood groups in the early days of the Minneapolis Neighborhood Revitalization Program, the central commitment of NPCR was to foster neighborhood-driven research. Nelson worked tirelessly to ensure that faculty and students at the University of Minnesota and other Twin Cities colleges and universities responded to the research needs of neighborhoods, rather than merely using neighborhoods as research laboratories.

Before NPCR, neighborhoods often did not have good information about the problems and conditions they faced, much less the resources to investigate their solutions. NPCR provided important research to help neighborhood groups formulate their neighborhood action plans, as well as opportunities for students to apply their skills to neighborhood-driven applied research projects. Projects have covered a range of topics, from housing and economic development to transportation and environmental issues. Since its inception, NPCR has funded more than 450 projects and employed more than 400 students from a range of academic departments to work with more than 200 community organizations.

Over time, the program has broadened the types of organizations eligible for funding and the geographic area served. Originally focused solely on Minneapolis neighborhoods, NPCR branched out to include district councils in St. Paul, and then to inner-ring suburban communities in the Twin Cities. NPCR also expanded beyond neighborhood groups to work with other nonprofit community organizations doing neighborhood development work, such as community-development corporations. The program’s name was changed to Neighborhood Partnerships for Community Research several years ago to reflect this wider scope. However, the commitment to neighborhood and place-based research remains.

The Nelson Program’s focus areas, program guidelines, and review criteria will remain the same as those of NPCR. The program matches the research and technical needs of community organizations with student research assistants, who work under the leadership of faculty to carry out community-defined and community-guided projects. The program provides approximately 200 hours of student time (260 hours during the summer) to work on a project. Community and neighborhood organizations in Minneapolis, St. Paul, and Twin Cities metropolitan-area suburbs are eligible. The Nelson Program distinguishes itself from other CURA programs as the only one that is composed of a consortium of 10 metro-area colleges and universities, enabling the program to access a greater pool of resources and expertise from a variety of institutions as well as creating valuable connections to area institutions, students, and faculty.

More information about the program, including application guidelines and an online application form, can be found at www.cura.umn.edu/Nelson-Program.
Assembly and Uses of a Housing Data-Sharing Network in Minneapolis

by Jacob Wascalus and Michael Grover

Abstract: Like many cities across the country caught up in the previous decade’s housing boom and bust, Minneapolis is experiencing mortgage-default problems on a scale not seen since the Great Depression. Foreclosed properties and vacant homes are dotted across the city, with concentrations in some particularly hard-hit lower income areas. In dealing with the slew of direct and indirect consequences, Minneapolis has benefited from a history of openness and information-sharing among local nonprofits, neighborhood organizations, City and County agencies, and academic institutions. This broad coalition of partners has developed a strong, data-driven network to help identify vacant properties for remediation and guide neighborhood-stabilization efforts. Fortunately, other cities can replicate this model and build a coalition of data providers to meet any number of needs. This article provides a snapshot of the housing situation in Minneapolis in recent years and highlights how a group of community, nonprofit, and government partners created and used a data-sharing network to develop stabilization strategies that focus on individual properties within neighborhoods.

Since 2005, Minneapolis has experienced a wave of foreclosures that has touched every neighborhood in the city. The citywide foreclosure rate crested in 2008 at 3.1% of residential parcels, and although this number pales in comparison to cities like Las Vegas and Phoenix, the percentage of foreclosures reached nearly 11% in some Minneapolis neighborhoods. In fact, North Minneapolis, where approximately 17% of the city’s residential parcels are located, had the dubious distinction of containing nearly 4 in 10 of Minneapolis’s foreclosures in 2010.

Vacancies provide an even starker indicator of an area’s economic and social health, with North Minneapolis leading the city in both categories.

Registration (VBR) program,1 which tracks vacant buildings and assesses fees to property owners, recognizes

1 The Vacant Building Registration program is Minneapolis’s primary tool for tracking, monitoring, and managing nuisance vacant properties, and all owners of vacant properties must register and pay an annual fee. For more information about the program, including conditions under which properties may be required to be registered as vacant, see www.minneapolismn.gov/inspections/inspections_ch249list.

Foreclosed and vacant properties are a stark indicator of an area’s economic and social health. North Minneapolis leads the city in both categories.

Nearly 500 North Minneapolis family residences as being vacant. However, other data discussed later in this article suggest a number closer to 1,600. The recently elevated level of vacant properties in North Minneapolis on the heels of a housing-market surge stoked by speculation, mortgage fraud, subprime lending, and rental property investment has contributed to an increase in property crimes.
The roster of participating parties grew housing market in North Minneapolis. driven strategies to address the ailing goal of establishing fact-based, data-olis were invited to join this effort, with housing conditions in North Minneap-vacancy and distress.

As a trusted broker of local information bank, rental. CURA was well positioned from vandals and thieves and for assess-identify vacant houses for protection VHP. The task-force began by strategizing with a repre-sentative of the Minneapolis Police Department on solutions to the growth in property crime, including copper theft. According to the police depart-ment, thieves were entering primarily vacant homes and stripping them of copper, causing substantial damage that ranged from flooded basements to torn-up floorboards to smashed walls. Conversations with real estate inves-tors, developers, and general contrac-tors indicated that, in many cases, the damage to these residences was so severe that the cost of buying and repairing these homes was too steep to justify financially. In addition, the demand for owner-occupied housing on the north side of Minneapolis was weak. As a result, the task force advocated a comprehensive approach that would include a portfolio of options, such as land banking, strategic demolition, and well-managed rentals. The first priority, however, was to identify which houses were vacant. For this, they needed to enlist additional partners to aid in the VHP.

In January 2011, the group reached out to CURA to help lead the effort to identify vacant houses for protection from vandals and thieves and for assessment of appropriate disposition options (e.g., rehabilitation, demolition, land bank, rental). CURA was well positioned as a trusted broker of local information to lead a data-collection effort to create a database of indicators of housing vacancy and distress.

Other partners affected by the housing conditions in North Minneap-olis were invited to join this effort, with the goal of establishing fact-based, data-driven strategies to address the ailing housing market in North Minneapolis. The roster of participating parties grew to include the following:

- various offices and departments within the City of Minneapolis, which provided water-meter data, properties slated for demolition, the official list of vacant buildings, and guidance on remediation strategies
- Hennepin County, which provided parcel data, foreclosure listings, real estate owned (REO) property listings, tax delinquency and forfeitures, and sheriff sale dates
- the Minneapolis Police Department, 4th Precinct, which provided a listing of properties that encountered copper theft
- the Federal Reserve Bank of Minneapolis, Community Development Department, which provided technical assistance and statistics on mortgage originations and mortgage foreclosure and delinquency rates
- the Pohlad Family Foundation, which provided funding and project guidance
- the Folwell Neighborhood Association and Webber Camden Neighborhood Association, whose members provided on-the-ground visual reports of homes that appeared to be vacant (referred to as “windshield surveys”) and local Multiple Listing Service data
- the Twin Cities Community Land Bank, which provided information on properties available through the Neighborhood Stabilization Program (NSP) First Look Program
- CURA, which acted as technical lead and central partner in data collection and analysis

Together, the partners created a list of data elements that could be used to help identify vacant and distressed properties (see sidebar at right).

### Developing Data Strategies

Based on its knowledge of neighborhood-level data and extensive experience assisting neighborhood organizations and local governments with the use of these data to identify issues and problems, CURA gathered a roster of data sets that was not only useful in identifying vacant and distressed properties, but also helpful in developing strategies for remediation. In fact, CURA already possessed several data sets needed to create this database, including parcel data, foreclosures, sheriff sales, and the City’s official VBR list. Obtaining most of the remaining information required little more than contacting those officials who had access to the pertinent data, many of whom had worked with CURA and members of the VHP coalition in the past. There were few administrative or legal barriers preventing the acquisition of data in a timely manner, and CURA was able to assemble the bulk of the indicator data in spreadsheets and mapping files in just a few weeks, with no cost other than staff time. At that point, CURA was able to provide

### Data Elements Used to Identify Vacant and Distressed Properties

After consulting with partners of the VHP about useful and—importantly—available data, CURA assembled the following data sets to help identify vacant and distressed properties:

#### Vacancy Indicator
- Zero or low water usage
- Copper theft
- REO properties
- Official VBR listing
- Windshield survey of vacant properties
- Properties slated for demolition
- U.S. Postal Service tract-level vacancy data

#### Legal judgment
- Foreclosure filings
- Tax delinquency
- Sheriff sales
- Mortgage delinquency rates

#### Other Tools
- Parcel data
- Multiple Listing Service data
- NSP First Look Program data

2 For information on the First Look Program, see www.stabilizationtrust.com/partnerships/hud.

3 For example, CURA participates in the National Neighborhood Indicators Partnership (www2.urban.org/nnip/) coordinated by the Urban Institute.
residential water meters may be broken or malfunctioning.

Next Steps in the VHP
The VHP coalition is continuing to work with CURA to enhance the database, even as it is beginning to apply it to neighborhood-stabilization issues. One potential avenue for enhancing the database is using the methodology of the Foreclosure Risk and Housing Market Indexes developed by the Local Initiatives Support Corporation (LISC) in conjunction with the local data at CURA’s disposal (see sidebar above). Recognizing that most municipalities have finite financial and human resources, LISC created indexes based on foreclosure risk and housing-market strength to help policy makers identify the areas in their jurisdictions that would respond best to specific remediation and stabilization efforts. Although the indexes provided by LISC produce census-tract-level maps, CURA could use data from the VHP database to produce census-block-level maps of Minneapolis’s north side that could help policy makers prioritize their resources on certain areas and specific properties.

The accuracy of the maps developed using this approach would depend greatly on the type and quality of the data that CURA collects. Although many of the indicators that CURA has so far collected to identify vacant or distressed houses are similar or identical

4 Currently, only CURA staff access the VHP spreadsheets and mapping files, and so far the government agencies and neighborhood organizations involved have been satisfied to receive maps, tables, and statistics from CURA upon request. As a result, there are no current plans to create a more interactive or publicly accessible version of the VHP data, but this matter may be reassessed as the users’ needs evolve.

5 At $6,746 per year, Minneapolis levies one of the nation’s largest fees on properties that sit vacant for extended periods of time.

Developing Policy Strategies
By the spring of 2011, the VHP coalition had begun to put its new database to use as a neighborhood-stabilization tool, using the data to sketch out a range of options to address crime prevention and reinhabitation (summarized in Table 1).

The new data also raised significant questions about the accuracy of the data that policy makers use. Because the VBR list appears to account for only a quarter of the properties believed to be vacant (as mentioned earlier), the City could be losing millions of dollars in vacant-property fees as well as failing to adequately address vacant-property issues. In addition, the vacancy maps reveal that the number of parcels with little or no reported water usage far exceeds other indicators of vacancy, raising the previously unrecognized prospect that thousands of the city’s

Related Research

One product of the Vacant House Project is the development of the North Minneapolis Housing Market Index, a data-driven analysis of housing market strength in Minneapolis’s north side. The VHP’s principal participants led the effort to develop this index, which is described in the report below.


This report introduces the Folwell Center for Urban Initiatives’ Housing Market Index (HMI), a new tool that measures the strength of an area’s housing market. The HMI can help local leaders better plan and target sustainable housing interventions as part of their broader reinvestment effort. The HMI borrows from an index created by the Local Initiatives Support Corporation. The most significant difference is the HMI’s geographic specificity—neighborhoods are measured by block, not census tract or zip code. The HMI offers a block-by-block view that provides a more precise understanding of neighborhoods. When applied to a neighborhood, it clearly shows investment and disinvestment, as rates of owner-occupancy, housing condition, vacancy, and value retention are combined and compared.

In North Minneapolis, the area examined in this report, the block-by-block view finds a much more diverse housing market, with the blocks in some neighborhoods falling almost entirely on one side of the housing strength spectrum and the blocks in other neighborhoods running the entire gamut of housing strength. Understanding this diversity can lead to improved intervention strategies and a better targeting of limited resources for long-term and, in some cases, scalable improvements.

The report argues that local leaders, city agencies, and neighborhoods should use the HMI when planning, especially in neighborhoods like those in North Minneapolis that have experienced disinvestment and destabilization. New public and private investment should also be sensitive to HMI data: property owners (banks or local governments), when considering whether to sell or hold REO property; new commercial investors, when considering where to locate needed amenities; and home buyers, when considering where to purchase a home. To further improve the housing environment in areas with distressed housing markets, the report recommends that the City adopt new policies and ordinances that incentivize responsible rental ownership. Doing so would result in improved HMI scores and, likely, improve results of efforts to increase homeownership. Finally, allowing flexible zoning in large areas with significant housing deterioration should also encourage redevelopment investment.
Figure 1. Composite of Residential Vacancy Indicators for North Minneapolis, July 2011

- Vacant or boarded
- Windshield survey
- Zero residential water usage
- CPED pending demolition
- Copper theft (2010–2011)
- Foreclosed
- 2011 properties pending forfeiture*
- Vacant residential land

*2011 Notices of Expiration of Redemption

**Citywide Statistics**

**Vacancy Indicator**

- Vacant or boarded: 483
- Windshield survey: 259
- Zero residential water usage: 1,559
- CPED pending demolition: 17
- Copper theft (2010–2011): 178

**Legal Judgment**

- Foreclosures: 1,021
- Tax forfeited: 339

Source: Hennepin County; City of Minneapolis; Folwell Neighborhood Association; CURA. Data compiled by CURA as part of the 4th Police Precinct VHP.
to those used by NEO CANDO, a leading neighborhood data aggregator based in Cleveland, the VHP also utilizes information on the location of copper-pipe theft, the City's official VBR list, and the City's list of houses slated for demolition. Using additional indicators not just to detect vacancy but also to determine the foreclosure risk and housing-market strength of each block could add even more richness to the database, though fees for the data and privacy issues still need to be considered. For instance, every four years city assessors rate the condition of every structure in Minneapolis, and the City is willing to provide this information to the VHP for free. Adding this information could help refine the remediation and stabilization measures taken for each structure. For example, if a vacant house that is assessed as being in poor physical condition is located on a block with a weak housing market and high foreclosure risk, the City may be more inclined to demolish the property rather than attempt to rehabilitate it. On the other hand, CURA is exploring the possibility of adding more utility information—such as zero electricity and gas usage, as well as garbage removal—to help determine the likelihood of vacancy, but the costs and the availability of these data sets are still unknown, as is the usefulness of the information.

6 The Northeast Ohio Community and Neighborhood Data for Organizing (NEO CANDO) is a free, publicly accessible social and economic data system. For more information, visit NEO CANDO's website at neocando.case.edu/cando/index.jsp.
How Other Areas Can Replicate This Data-Sharing Model

The data from the VHP—and, more importantly, the network supplying the data—are likely to play central roles in many additional neighborhood-stabilization initiatives going forward (see sidebar on page 14 for an unusual but critical example of this). In fact, the coalition that formed around the VHP represents just a cross section of sources that CURA regularly calls on for information. As an active participant in civic and neighborhood affairs for more than four decades, CURA has developed productive relationships with municipal departments and other nonprofits across the Twin Cities. Although not all areas of the country have a prominent organization such as CURA to act as data and information facilitators, it takes only a proactive neighborhood organization, nonprofit, or even municipal agency to begin the process of establishing one.

Finding and Nurturing Data Sources

Of all of the data sets used in the VHP, the most difficult to obtain is current parcel data, which includes geographic, legal, and zoning information of land and the structures on it. Most municipalities nationwide are beginning to capture this information for their own purposes. Given the increasing availability of parcel data and the networks that have developed to support the VHP, it is reasonable to expect that other areas will soon be able to use these networks to replicate the VHP.

Some areas that have established relationships with local organizations, such as CURA, have already begun to use such networks in unique and effective ways. For example, the City of Minneapolis and Hennepin County officials turned to CURA and the VHP database in May 2011 to help respond to the damage caused by a tornado that struck North Minneapolis. As described in the sidebar on p. 14, City and County officials, some of whom were involved in the VHP, turned to CURA and the database to help in organizing and targeting a rapid response to this disaster. Several weeks after the event, other organizations that had previously established relationships with CURA requested information to help in understanding the extent of the damage and to aid in planning their future outreach activities.

Table 1. Policy Strategies to Prevent Crime and Promote Reinhabitation in Minneapolis

<table>
<thead>
<tr>
<th>Preventing Property Damage</th>
<th>Reinhabiting and Selling Vacant Homes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ongoing</strong></td>
<td><strong>Temporary</strong></td>
</tr>
<tr>
<td>Require water shutoff as soon as home is vacant</td>
<td>Rent homes to individuals on Section 8 (if subsidies are available)</td>
</tr>
<tr>
<td>Train and pay neighbors, via neighborhood organizations, a small stipend to maintain and watch homes (e.g., cut grass, pick up trash)</td>
<td>House families on nonprofit waiting lists (e.g., Urban Homeworks)</td>
</tr>
<tr>
<td>Create local, private report system neighbors can use to report changes in vacant homes</td>
<td>Allow use of homes as transitional housing for families leaving shelters</td>
</tr>
<tr>
<td>Train local U.S. Postal Service workers to “check in” with reporting system above</td>
<td>Create list of college students willing to rent vacant homes</td>
</tr>
</tbody>
</table>

Figure 3. Parcel-Level View of Residential Vacancy Indicators for Folwell Neighborhood in North Minneapolis, July 2011

Source: Hennepin County; City of Minneapolis; Folwell Neighborhood Association; CURA.

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7 Already the new database was used for an unexpected but vital purpose after a tornado struck North Minneapolis in May 2011. As described in the sidebar on p. 14, City and County officials, some of whom were involved in the VHP, turned to CURA and the database to help in organizing and targeting a rapid response to this disaster. Several weeks after the event, other organizations that had previously established relationships with CURA requested information to help in understanding the extent of the damage and to aid in planning their future outreach activities.
Sharing Data to Aid a Tornado-Recovery Effort

A tornado with winds topping 110 miles per hour ripped through North Minneapolis on May 22, 2011, leaving a scar nearly four miles long and damaging nearly 1,900 properties. The damage assessments, which were conducted by the Federal Emergency Management Agency (FEMA), found that 274 properties sustained major damage (i.e., homes had structural or significant damages, were uninhabitable, and required extensive repairs) and that 1,608 properties sustained minor damage (i.e., homes were damaged and uninhabitable, but may be made habitable in a short period of time). Because of the large loss of viable housing, hundreds of people were left without homes. This situation heightened the urgency to act.

Partly due to cross-organizational relationships developed in the VHP, officials from the City of Minneapolis and various nonprofit groups quickly turned to CURA for help in understanding the extent and location of the tornado damage. Using data gathered from the VHP and other projects, CURA promptly provided maps that indicated—at the parcel level—FEMA’s assessment of structural damage, official ownership status (legal rental property or owner-occupied home), and specific repair needs. CURA also provided maps that indicated which of the damaged properties had emergency contact information available. These maps aided the City in prioritizing its outreach efforts and helped nonprofit groups plan their recovery services.

Such a data-mapping request was fulfilled not just because of the relationships CURA had nurtured with various organizations and City and County agencies, but also because of the reputation it had developed as a reliable and trustworthy source of information. Without its history of cooperation and networking, CURA would not have been able to respond in such a constructive way.

CURA’s role as the go-to place for neighborhood-level data and analysis did not happen overnight; rather, CURA achieved this distinction by continually demonstrating the wide application of data, by maintaining political support for its programs, and by disseminating its research findings to as broad an audience as possible. A key component of this formula is the strong connection of trust that must be built over time, whereby the organization requesting the information must demonstrate that administrative data has a value beyond the simple requirements for which it is collected. That was the case with the water-usage utility data obtained from the City for the VHP: Data collected primarily for administrative purposes (i.e., billing residents for water usage) provided valuable secondary benefits as well. These data have not only helped identify vacant houses, but have also revealed that a significant portion of water meters are likely malfunctioning—valuable information for City officials. By demonstrating data’s usefulness, CURA has established a network of partners that willingly shares data in a reciprocal system that benefits all parties involved.

Collaborating with Like-Minded Groups

Finally, connecting with other like-minded organizations will greatly expand opportunities and highlight and improve data-acquisition and data-analysis strategies. One particularly powerful resource is the National Neighborhood Indicators Partnership (NNIP), “a collaborative effort by the Urban Institute and local partners to further the development and use of neighborhood-level information systems in local policymaking and community building.” Since joining NNIP, CURA staff have connected with and learned from the more than 40 CURA-like centers across the country. These connections have resulted in an increased awareness not only of potential data sources, but also of the multiple uses that different data sets can have—educational insights that await anyone who reaches out to other organizations with similar or complementary interests.

Jacob Wascalus is a project manager at the Federal Reserve Bank of Minneapolis. At the time this research was conducted, Wascalus was a community GIS research analyst at CURA and a graduate student at the University of Minnesota’s Hubert H. Humphrey School of Public Affairs. Michael Grover is the manager of the Community Development Department at the Federal Reserve Bank of Minneapolis. His research interests focus on mortgage lending, homeownership, urban development, and community development corporations.

This article is adapted and reprinted with the permission of the authors from Putting Data to Work: Data-Driven Approaches to Strengthening Neighborhoods, a publication of the Board of Governors of the Federal Reserve System that was published in December 2011. The entire report can be found online at www.federalreserve.gov/communitydev/files/data-driven-publication-20111212.pdf.

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8 Another data-sharing success story occurred a decade earlier when CURA had developed a database and information-sharing structure that assisted Minneapolis neighborhood organizations in detecting properties that were susceptible to abandonment by owners. This early-warning system required the collaboration and cooperation of numerous City agencies and neighborhood groups, and it ultimately proved useful to the City itself, because the neighborhood residents who had access to the information not only provided feedback on data inaccuracies but relied less on City personnel for information requests. Although the work to create this database of early-warning indicators occurred more than 10 years ago, the City continues to use it in a modified form.

9 See the NNIP website at www2.urban.org/nnip/.
According to the Refugee Resettlement Programs Office at the Minnesota Department of Human Services, 2,993 refugees from Burma arrived in Minnesota between October 1998 and September 2010. Many of these refugees are Karen, a minority ethnic group from Burma’s eastern border along Thailand (Figure 1). A substantial number of Karen refugees in the United States have settled in St. Paul, which has the largest community of Karen outside of Asia. However, a combination of limited English proficiency and a highly competitive job market has made it difficult for Karen refugees to find full-time work in St. Paul. In December 2007, Lifetrack Resources—a nonprofit human services organization that provides education, therapeutic, and employment services to families and individuals—began helping Karen refugees relocate to Worthington, Minnesota, where they could find more stable employment opportunities.

With support from Lifetrack Resources and a Communiversity grant from CURA, I was hired in 2010 to identify key relocation success factors for the Karen in Worthington. Lifetrack staff and Karen community leaders helped me to identify Karen refugees whom Lifetrack had assisted with their relocation. I then conducted in-depth interviews with these refugees in their homes to ascertain how successful they considered their relocation to be, as well as what factors impacted this success. I also worked with Lifetrack to identify civic, business, education, social-service, and faith-community leaders who I then interviewed about their perceptions as to why this relocation was successful.

Based on these interviews, I identified the important factors contributing to successful resettlement outcomes in Worthington for the Karen. First, Nobles County (where Worthington is located) already had a diverse population. According to the 2010 U.S. Census, the county is the fifth most ethnically diverse of Minnesota’s 87 counties, with residents who represent 36 countries and speak 56 different languages. Community leaders reported that because of this history of diversity, a supportive infrastructure already existed.
in Worthington at the time the Karen began arriving, including bilingual outreach and interpretation/translation services, as well as classes on driving, car care, household management, the English language, the legal system, and home buying. These programs were readily adaptable to meet the needs of the Karen.

Furthermore, Worthington community leaders reported that they made conscious decisions to provide leadership by making a stand for diversity and modeling welcoming behaviors. In 2008, the city held a welcome event attended by hundreds of people to mutually introduce the Karen and Worthington communities.

Another important success factor identified by community leaders was the perception that the Karen people were generous, compassionate, and had a strong work ethic. Openness to mutual learning among both the Karen and established Worthington communities also helped foster success.

Based on this analysis, it may be helpful for service providers to consider the following factors when evaluating a community’s ability to provide a welcoming and supportive environment for refugee resettlement:

- previous positive experience or comfort with diversity
- available infrastructure that supports new immigrants
- flexibility in shifting between worldviews and demonstrating culturally appropriate behaviors
- interest in and a willingness to experience other cultures and values
- extraordinary commitment of community leaders to help new immigrants succeed

The resettlement of the Karen in Worthington is a relocation success story. The lessons learned from this research regarding mutual adaptation1 between the Karen and Worthington residents can be used to help create smoother transitions as refugees settle in other diverse rural and urban communities in Minnesota.

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The research on which this article is based was supported in part through a grant from CURA’s Communiversity program, which provides graduate student research assistance to community-based nonprofit organizations and government agencies on a specific project. Priority is given to groups serving diverse communities. Additional funding for this project was provided by Lifetrack Resources.

This article is a summary of two research projects conducted in 2010 and 2011. The full reports on these projects can be found at www.cura.umn.edu/publications/catalog/cmv-028 and www.cura.umn.edu/publications/catalog/cmv-034.

Digital Inclusion and the Twin Cities Homeless Community

by Rebecca Orrick

Abstract: Digital literacy is an essential skill in the 21st century, especially for homeless individuals searching for housing and other resources to leave the streets. In partnership with Open Access Connections, this project investigated whether homeless individuals in the Twin Cities metropolitan area felt that existing computer-based social services were available and accessible to them. Through an inventory of locations where people can access computers and technology outside their homes at no cost, as well as private interviews, focus groups, and open-ended surveys with homeless individuals, the research determined that homeless individuals have access to more than 150 locations where Internet access is available for free, but that location, hours of operation, limitations on the duration or purpose for using the Internet, and other barriers frequently hamper access. In addition, a substantial number of the homeless individuals who participated in the research are effectively digitally illiterate. Those who are digitally literate reported using the Internet primarily to search for housing or employment, or to learn basic computer skills. The research suggests a number of best practices for creating a community technology center for homeless individuals. The research was supported by a grant from CURA’s Communiversity program.

As commissioner Mignon Clyburn of the Federal Communications Commission noted during her address to America’s Broadband Summit in March 2010, “Knowing how to read is no longer sufficient to be ‘literate’ in the 21st century. Basic literacy must be supplemented with digital literacy”—the ability to use computers and other digital devices to access and share information. Whether it is searching for health information online, obtaining directions to get to a job interview, or sending an e-mail to a loved one, individuals who do not have access to Internet technology are at a distinct disadvantage when it comes to nearly every facet of modern life.

Although it is important for each of us to have access to Internet-based technology, it is especially important for individuals who are homeless. Finding housing and other resources to leave the streets becomes infinitely easier when one is comfortable performing basic computer functions and has access to a space where Internet service is available. Increasing the number of people who are digitally self-sufficient decreases the number of people dependent on case-workers and other overburdened social-service providers. In this study, I looked at the homeless population in the Twin Cities to investigate whether homeless individuals felt that existing computer-based social services were available and accessible to them.

The research described in this article was commissioned by Open Access Connections (formerly known as Twin Cities Community Voice Mail), an organization that provides free access to technology for low-income and homeless individuals. Open Access Connections wanted to investigate whether it would make sense to create an Internet center specifically for homeless individuals in the Twin Cities. Other organizations that collaborated on this research project included Voices for Change, the Minnesota Center for Neighborhood Organizing, the Main Street Project, the Trans Youth Support Network, and Alliance of the Streets.

Methodology and Limitations
To understand where people who are homeless and low income can currently access the Internet for free, I conducted an inventory of places in the Twin Cities where people could access computers and technology outside their homes at no cost. I started with a list of community technology centers (also referred to as public computer centers, public-access Internet centers, or neighborhood network centers) that had been compiled by the Technology Literacy Collaborative, a Twin Cities–based digital literacy advocacy organization, then added computer labs in other locations that I identified through my research. In addition to making an up-to-date list, I compiled information on each center, including information...
on hours, rules, and restrictions of use. I did not include in this inventory universities or other areas where access was intended only for students. However, many homeless individuals I spoke with reported using these facilities unofficially. For instance, individuals reported using these services by logging in to unsecured Wi-Fi or taking advantage of guest log-ins in college libraries.

To gauge feelings about the current levels of Internet access available for homeless individuals, I conducted 10 private interviews with homeless individuals and human-services professionals, led three focus groups composed of homeless individuals, and administered 89 open-ended surveys to homeless individuals at area shelters and at Project Homeless Connect. In addition, I received 20 messages in response to a question I posed using the Open Access Connections broadcast-messaging system. This messaging system works by sending a message directly to the voicemail inboxes of homeless and low-income individuals who are signed up for free voicemail services through Open Access Connections.

It is important to note several limitations to this research. First, individuals who are homeless are by nature transient, and there is no list of everyone who is homeless living in the Twin Cities. Therefore, I was not able to randomly sample all homeless individuals, creating inherent biases in the study. For instance, for the focus groups, individuals I spoke with were part of preselected groups of individuals working toward improving the conditions of homeless individuals, so their opinions were not necessarily representative of all homeless individuals. In addition, for the surveys, I had to rely on individuals frequenting shelters or visiting Project Homeless Connect, whose perspective might be different than the segment of the homeless population that is less connected to social services or shelters. My study had an inherent response bias as well, since individuals who took the time to answer my survey, attend a focus group, or respond to the broadcast message were self-selecting themselves as being inherently more knowledgeable about and interested in technology as a whole than the greater Twin Cities homeless population. Finally, my inventory of locations in the Twin Cities where individuals can access free Internet technology may be incomplete due to my being unaware of lesser-known centers.

Findings

This section summarizes findings from my research.

Where Can People Access the Internet for Free in the Twin Cities?

I identified 151 places where people can access the Internet and other technology for free in the Twin Cities (Figure 1). In both Minneapolis and St. Paul, people can access computers at libraries, workforce centers, nonprofits, parks and recreation sites, community centers, homeless shelters, and at various transitional housing locations. These locations offer a variety of different services and have differing restrictions on computer usage. For instance, some community technology centers are only available to certain clientele or only offer classes, whereas others are open to whoever wants to access the Internet. In addition, the range of assistance available varies widely; some centers cater to individuals new to computers, whereas others—such as public libraries—allow individuals to browse the Internet on their own.

Many existing centers have additional limitations. First, because of budget limitations, many centers are only open a few hours a day. Often these hours are weekdays during the day, making it difficult for homeless individuals who work during the day to use them. Public libraries are a notable exception, with many offering evening and weekend hours. Secondly, many centers have strict limitations on what people can do on the computers. If, for example, the computers at a particular center are designated for use only to secure work or to start a business, then the center likely will prohibit Internet access for other purposes. Although it might be argued that public libraries exist for this purpose, if someone needs one-on-one assistance using a computer, librarians may not always be able to offer the same degree of assistance that smaller centers might be able to. Furthermore, public libraries often restrict computer use to 30–60 minutes at a time. If someone is not familiar with computers, or needs to complete a more involved task on a computer, this may not be enough time. Libraries have started to address this issue by offering designated hours when individuals can work for extended times on things such as finding a job.

Interestingly, I identified 33 Internet centers that currently exist in shelters and transitional-housing locations. These have the characteristic of being private labs open only to residents or individuals involved in the location’s programming. Many of these labs are sponsored by private charities such as Catholic Charities, or public-housing agencies such as the U.S. Department of Housing and Urban Development. In many cases, activities in these centers appear to be tightly regulated and task-specific. For instance, at one shelter I visited, no computer free time was available for people staying in the shelter unless they were part of a specific group of people (such as individuals receiving Minnesota Family Investment Program Assistance or in the shelter’s job-search club). When guests did access computers, they could use them only to accomplish the specific task of the group for a tightly regulated period of time. In addition, these computer technology centers do not cater to the broader homeless population, just the ones who are lucky enough to have found a spot in that particular shelter and be part of a group with computer-access privileges.

I found that, although about a third more people lived in Minneapolis than St. Paul in 2010, Minneapolis has nearly twice the number of community technology centers as St. Paul (97 verses 54). Furthermore, public libraries, which represent the largest number of community technology centers, appear to offer better access to the Internet in Minneapolis than St. Paul in terms of time-limit and wait-list policies.

Despite the large number of places to access the Internet for free, the existence of these community technology centers is not common knowledge among homeless individuals. Although people often know that it is possible to access the Internet for free at the library and workforce centers, many of the homeless individuals I interviewed and surveyed did not know access to free Internet technology was available at many smaller centers. Given that each of these smaller centers has its own rules, hours of operation, and restrictions on use, it can be very tricky to navigate the system. For example, two out of the four locations where I surveyed homeless individuals offered Internet access; however, many interviewees were not aware that those services existed within the facility in which they were staying.

What do Homeless Individuals in the Twin Cities Think about their Access to the Internet? For the individuals I surveyed, by far the most
commonly reported place for accessing the Internet was the library (48 out of 89 respondents). Individuals also reported that they access the Internet at area shelters, nonprofits, universities, at the homes of friends and families, and on their smartphones and laptops. However, many individuals specifically mentioned that they did not know of other public places to access the Internet besides public libraries.

Homeless individuals staying near downtown Minneapolis gave largely positive responses about their access to Internet technology, often citing the Minneapolis Central Library as having computer access normally available with no wait. In contrast, the homeless community in downtown St. Paul gave less positive responses, frequently mentioning that accessing computers at the downtown St. Paul library, which is near where many shelters are located, was very difficult, and often resulted in long waiting times. Several people mentioned feeling so frustrated with how difficult it was to access the Internet (due to their limited skills and long waiting times) that they effectively gave up trying. One St. Paul respondent explained:

I waste time when I go to the library. [I] use the Internet for one hour and wait for three hours.

People also expressed frustration over the 60-minute daily time limit in St. Paul public libraries, saying that it was not enough time to do the things they needed to do on the computers. For instance, one respondent in a focus group mentioned that he went to the library to fill out a job application, but his daily limit was up before the job application was completed. Another respondent voiced a similar sentiment:

If you’re not familiar with the Internet, you could spend a whole hour just trying to get on.

When I asked individuals who are homeless what they wanted to do on the computers, many wanted to search for housing or find employment. Others wanted to learn advanced computer skills, build a website, or just see what the Internet had to offer. Many respondents also mentioned that they wanted to use the Internet to reconnect with family and friends and to keep up with world news. One respondent stressed the importance of using online computer games such as Farmville and YouVille to acquire life skills, noting:

[They are] excellent ways to learn life skills, such as budgeting money, buying homes, and saving for what you need [or] want.

In addition to being a good way to learn life skills, computer games can also be good tools to build computer competency. However, because many computer technology centers specifically restrict individuals from playing games or doing other similar activities on their computers, a service gap exists. As a recent Social Science Research Council Report noted, the “path to becoming an empowered user who views the Internet as a resource or expansion of his or her world” involves lots of low-pressure activities, such as learning how to instant-message, send an e-mail, or play...
The Internet is bad news—too many drug dealers and sex offenders. In addition, some felt that accessing the Internet would not have any positive benefit in their lives, such as one respondent who said:

When you’re on the street, [you] just go by what people tell [you], and it’s normally pretty good.

Several individuals reported that they did not access the Internet because they did not know how to read, suggesting a larger underlying barrier to digital literacy: lack of access to remedial education. Despite these concerns and barriers, many homeless individuals acknowledged that it would be useful to have more Internet skills. In a focus group, one respondent mentioned that it was frustrating that everywhere he went people would tell him that if he wanted more information on a topic, he should “just look [it] up online.” Because this respondent did not know how to use computers, this made him feel more socially isolated.

**What Would Homeless Individuals in the Twin Cities Like to See in an Internet Center?** When I asked people what they would like to see in an Internet center created specifically for homeless individuals, many focus group participants expressed a desire for a place that would be more than just an Internet center. Several mentioned that they sometimes felt uncomfortable in existing computer centers because learning how to use computers was such a daunting prospect. Instead, they wanted a place that had not only printers, fast Internet access, and copiers, but also creature comforts such as couches, coffee, and food so they could take breaks if computer tasks became too daunting. Many respondents mentioned that it would be useful to have an Internet center that was staffed with patient people who could teach them how to use computers. Other common themes included an option to save their work on computers (something that workforce centers, libraries, and many other centers do not allow) and having a phone near the computers so that individuals could be on the phone and online at the same time if need be.

**Proximity to Shelters.** Because many people who are homeless do not have reliable access to transportation, it is important that services for homeless individuals be located close to area shelters. Many (although not all) homeless individuals in the Twin Cities stay in shelters, which are generally located in downtown Minneapolis, downtown St. Paul, or south Minneapolis. Of these three locations, many homeless individuals I spoke with indicated that the area with the greatest deficiency in adequate Internet access was downtown St. Paul. Of the locations that do offer Internet access in downtown St. Paul, they noted that many of the existing centers had limitations. For instance, the central library has long waiting times; Listening House, a drop-in day homeless shelter, has computers but no Internet access; and Dorothy Day, another day homeless shelter, limits Internet access mainly to those conducting job searches.

**Safety.** Because many individuals who are homeless experience mental- or chemical-health struggles or are down on their luck economically, it is important that Internet centers for homeless individuals take measures to ensure that guests feel safe and equipment does not get stolen. This is particularly important if the Internet center is a stand-alone center that does not offer other services or is open at times when few people will be around. Safety issues were a recurrent theme in the surveys, focus groups, and interviews; individuals wanted to make sure that if a new center was developed, they would feel safe in it.

Safety and security could be addressed by having “bouncers” or other staff handle issues that may arise, or by installing security cameras or alarms. Community Technology Centers’ Network (CTCNet), a resource for community technology centers across the country, recommends that at least two staff members (paid or volunteer) be on the premises at all times that the center is open to reduce safety issues.

**Trained Staff.** Although it is important that all community technology centers make help available for those people who need it, it is particularly important in centers for individuals who are homeless. Learning to master computers can be especially difficult without a proper night’s sleep or when battling any number of other issues that individuals who are homeless face. In an interview, long-time homeless advocate Bret Byfield stressed the importance of having staff who are adequately trained to interact with people positively, so that the center is a welcoming place for individuals. He suggested that all staff be trained in a counseling technique known as motivational interviewing, “a collaborative, person-centered form of guiding to elicit and strengthen motivation for change.”

**Clearly Stated Rules.** Another issue of particular importance to the homeless population is that everyone who visits the center understands “who is in charge” and what the rules are. In one of the focus groups I conducted, participants stated that a major reason why Internet access was removed from the Listening House drop-in homeless shelter in St. Paul was because of fighting over who would use the computers, which stemmed from conflicts over unclearly defined rules.

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In addition to some of the recommendations regarding Internet centers suggested by my interviews, focus groups, and surveys, I identified the following “best practices” from researching Internet centers in the Twin Cities and in other cities around the country.

1. **Do not underestimate the amount of planning required to start a stand-alone computer center.**
   Starting such a center from scratch can be very expensive, difficult, and time consuming. If at all possible, it is best to partner with an existing initiative. Most computer labs do not exist as stand-alone centers, but within nonprofits and other organizations for this very reason. When searching for partners, the requirements of a good location and a shared mission should be prioritized.a

2. **Advertise the availability of the center.**
   Many computer centers have made the mistake of not advertising their services when they were just getting started, with the result that the labs were underutilized. If potential users don’t know about the center, they will not come.b

3. **Establish consistent hours of operation.**
   Visitors may become frustrated when hours change frequently, so it is often better to have shorter, consistent hours of operation rather than longer, but inconsistent hours. Many centers stretch their hours of operation through the use of volunteer staff, but volunteers may not be as responsible or reliable as paid staff. In addition, volunteers need to be recruited, trained, and managed, which can consume paid staff time.c

4. **Track the demographics of visitors.**
   Tracking demographics can be helpful for securing funding, and is required by some funders. It may be best to ask all visitors to sign in when they arrive, and new users to complete a short demographic questionnaire. Tracking such information as how visitors are using the Internet, and how successfully (i.e., the number of job interviews obtained, or the number of civic media projects completed), can also be helpful for securing funding.d

5. **Clearly post rules for use of the center.**
   This practice allows everyone who visits the center to understand what is expected of them. Typically these rules include such things as “No food or drink” so that computer systems do not get damaged, “Silence please” so that people can concentrate on their work, and “Be respectful of others” to set the tone for a harmonious environment.e

6. **Establish a clear policy on whether to allow children in the center.**
   If kids are permitted, they will have to be monitored closely so they do not damage equipment. If they are not permitted, some individuals may not be able to use the center because childcare is unavailable. The People Serving People shelter creatively addresses this issue by having an unsupervised play area situated next to the computer lab in a separate room. While parents are using the computers in the lab, they can monitor their children in the next room on a webcam.f

7. **Establish a policy regarding whether or not visitors can save material on the computers.**
   Centers approach this issue in many different ways. Project for Pride in Living does not allow visitors to save files on computers, but offers visitors a flash drive that they can purchase. Visitors to the Workforce Center are encouraged to save documents to their email. Waite House Neighborhood Center allows visitors to save materials on computers, and provides each person with a separate folder where they can save their documents. For privacy and security, folders can be password protected.g

8. **Establish a policy on printing.**
   Allowing unlimited printing can quickly consume resources. St. Stephen’s shelter solves this problem by requiring that all documents to be printed first be sent to a central computer staffed by a lab monitor, who must approve the print job. This prevents someone from printing a large document or multiple copies of a single document.h

9. **Be leery of donated equipment.**
   It is worth the cost to invest in new equipment if it means more reliable access for visitors and fewer maintenance issues for staff.i

10. **Hire staff who can provide regular maintenance and troubleshoot computer, printer, and network problems.**
    Purchasing new equipment can minimize maintenance and troubleshooting, but all computers will require some maintenance. Some Internet centers program their computers to automatically reset their memory every time a user logs off to keep them running smoothly and minimize maintenance issues.j

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a Personal interview with Catherine Settani, founder of the Community Technology Empowerment AmeriCorps Project, September 29, 2010; CTCNet, Center Start-Up Manual.
b Personal Interview with Angelina Nguyen, former staff member at Asian Community Technology Center, October 22, 2010.
c Site visit, Waite House Neighborhood Center (WHNC), October 13, 2010; CTCNet, Center Start-Up Manual. Centers can advertise volunteer opportunities at volunteermatch.org, and through community service offices at local colleges and universities.
d Site visit, People for Pride in Living (PPL), October 18, 2010; site visit, WHNC, October 13, 2010; personal Interview with Angelina Nguyen, October 22, 2010.

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about who was in charge of monitoring computer usage.

Conclusion, Recommendations, and Further Research
This research highlights a number of Internet access issues for the homeless population in the Twin Cities. Although many places exist where people who are homeless could access the Internet free of charge, many respondents did not perceive that they have adequate access to the Internet. A substantial number of individuals were not aware that locations exist outside of libraries and workforce centers to access the Internet for free. In addition, many reported feeling intimidated by existing locations. Common concerns included feeling overwhelmed by the prospect of learning how to use computers, worry that no one would be available to help them if they visited a center, and concern that it would take too long to access computers or complete their tasks within the time limits for computer use.

Several recommendations emerge from these findings. First, it is important to spread the word about existing computer centers to the homeless population, particularly about computer labs with assistance available that exist in and near shelters. It is important to conduct both outreach to the broader social-service community and direct outreach in shelters. Minneapolis and St. Paul might consider assigning to a specific employee or department the task of spreading the word about community technology centers within their boundaries. In addition to maintaining a list where people could find a center suited to their needs, this individual could advertise in shelters and nonprofits. Messaging should include what individuals could expect at each center, such as restrictions on use, availability of assistance, and hours of operation. This information would help to ease the anxiety that people new to computers might feel when visiting a computer center for the first time. The City of Seattle employs someone in its Office of Technology who has had great success spreading the word about community technology centers. In addition to publicizing the availability of computer centers, Internet access for the homeless population could be improved by having computer centers close to shelters extend their hours so that they better meet the needs of homeless individuals. Expanding the range of activities for which people are allowed to use

computers would also help people to feel comfortable in computer centers, and encourage those who wish to become digitally literate to take the first step.

In addition to spreading the word about existing centers, organizations in Minneapolis and St. Paul should also consider creating a new Internet center that specifically meets the needs of individuals who are homeless. Based on the results reported here, such a center would best be located in an area underserved by existing computer centers but near area shelters, such as downtown St. Paul. In addition such a center would need to have sufficient help available, be open during extended hours, and have staff trained in everything from crisis management to computer skills. Open Access Connections, the nonprofit organization that commissioned this research, would like to pursue such an Internet center, but it has been forced to temporarily postpone planning due to financial difficulties.

Moving forward, it would be useful to expand research about digital inclusion among the homeless population in the Twin Cities. Because my research sample was not representative of the homeless population in the area, it is not possible to calculate the percentage of homeless individuals in the Twin Cities who are digitally illiterate. However, for service planning, such information would be extremely useful.

One possibility for gathering this type of data would be to coordinate with the statewide homelessness study that Wilder Research organizes every three years. In this study, Wilder Research interviews nearly 10,000 homeless adults and children about their needs and current situation. If Wilder Research could add a question or two about digital literacy, meaningful data on this subject could be gathered.

Rebecca Orrick is currently a graduate student at the University of Minnesota working toward receiving a dual master’s degree in public policy and social work. She previously served as an AmeriCorps member in a community technology center in Minneapolis, teaching low-income and homeless individuals how to use computers to access employment information. Her research interests include issues affecting the homeless, ex-offender, developmentally disabled, and mentally ill populations in the Twin Cities metropolitan area. She is currently a social work intern at Hennepin County Department of Human Services and Public Health.

The research on which this article is based was supported by a grant from CURA’s Communiversity program. Communiversity provides student research assistance to community-based nonprofit organizations or government agencies that serve diverse communities in Minnesota.
The Community Geographic Information Systems (CGIS) program recently hired Lucas Winzenburg, student in the Master of Geographic Information Science program at the University of Minnesota, as a graduate research assistant to work on grant-funded indicator projects from the Twin Cities Local Initiatives Support Corporation and the McKnight Foundation. CGIS staff completed a hands-on redistricting training with neighborhood residents and organization staff at the Urban Research and Outreach-Engagement Center (UROC) in February. The workshop was designed to involve residents in the City of Minneapolis redistricting process. In addition, CGIS has produced a set of maps and data showing changes in the racial and ethnic composition of newly proposed ward boundaries in comparison with the existing wards (see www.cura.umn.edu/mcno/ward-demographics-maps).

Jeff Matson, CGIS program coordinator, attended the spring meeting of the National Neighborhood Indicators Partnership (NNIP) in Portland, Oregon, in February. NNIP is a consortium of 37 CURA-like centers from around the country that share similar goals of using data to inform neighborhood-level decision making. Sessions focused on technology and innovative uses of data. At the meeting, Matson presented ArcGIS online tools for creating simple and free web-based mapping applications.

This spring, CURA’s community-based research programs partnered with the Minnesota Evaluation Studies Institute (MESI) to support an evaluation research assistant to provide evaluation and proposal-writing assistance to nonprofit organizations that applied for but did not receive research help with evaluation projects through one of CURA’s community-based research programs. Nora Murphy, a Ph.D. student in organizational leadership and policy development, is working with eight organizations this semester. The partnership will not only help organizations in need of evaluation assistance, but will also improve the focus and quality of subsequent proposals for funding through CURA as well as inform MESI’s model of community evaluation consultation. Depending on demand for this type of evaluation assistance, CURA may continue the program in the future.

Upcoming CURA Housing Forums will feature George Sherman talking about tax credits for affordable housing (April) and Carissa Schively Slotterback presenting an analysis of planned unit development approaches in the Twin Cities metropolitan area (June). View upcoming CURA Housing Forums, review past forums, or sign up to receive announcements about future forums at www.cura.umn.edu/housing-forum.

This past fall, CURA launched the new Artist Neighborhood Partnership Initiative (ANPI) grant program, which supports partnerships with individual artists and community-based organizations to engage residents who are traditionally underrepresented and to develop innovative engagement approaches to address community issues. Three $10,000 grants were awarded to community organizations and their artist partners: Dayton’s Bluff Community Council and Terrell Woods; Phillips West Neighborhood Association and Peter Haakon Thompson; and District 7 Planning Council and Barry Kleider, Conie Borchardt, and Sheronda Orridge.

Edward Goetz, CURA director and Hubert H. Humphrey School of Public Affairs faculty member, received the 2011 “Best Paper” award from the Journal of Urban Affairs for his article “Where Have All the Towers Gone?” He received the award in April at the Urban Affairs Association Conference in Pittsburgh. Goetz was also named to the technical advisory committee for the U.S. Department of Housing and Urban Development’s new Housing and Transportation Index initiative. The index will be piloted in several communities around the country this year, including the Twin Cities metropolitan area.

Will Craig, CURA associate director, helped organize a meeting of state GIS coordinators and members of the U.S. Senate GIS Working Group in Washington, D.C., in February. The event was part of Hill Day at the 2012 Mid-Year Meeting of the National States Geographic Information Council, whose outreach committee Craig cochairs. The Senate GIS Working Group currently has two dozen members, but is likely to grow as more senators rely on maps to understand important policy issues.

Neeraj Mehta was hired in February as director of community-based research at CURA. Mehta has previous experience in community-based work as a program officer at Nexus Community Partners, a program manager with Project for Pride in Living, and the program and strategic development director with the Sanctuary Community Development Corporation. In March, he attended “Transforming-Race 2012: Visions of Change,” a conference hosted by the Kirwan Institute in Columbus, OH.

Mike Greco, CURA’s community planning assistance coordinator, attended the Sustainable Cities Year Program (SCYP) Replication Workshop at the University of Oregon in Eugene in April. SCYP matches faculty in various disciplines and their existing courses with city-identified projects in one partner city each academic year. The workshop included visits with city staff in communities that have previously taken part in the program, and provided participants with an in-depth look at how the community-engagement program works so that the model can be replicated at other institutions.

Esther Wattenberg, CURA’s policy and program coordinator in family and child welfare, is coordinating the fourth in a series of reflective seminars for child-welfare supervisors and practitioners, “The Role of Supportive Housing: Clarifying the Issues in Responding to Young, High-Risk Populations,” will be held in May or June 2012. Summaries and other materials from the first three reflective seminars, which were held in 2011, are available at www.cehd.umn.edu/sww/cascw/events/past_events/. In March, Wattenberg issued a Brief Note on “Initiatives for Assuring Successful Educational Experiences for All Minnesota Children,” available at www.bit.ly/BriefNote-March2012.
Many people think that small towns are losing their population and slowly disappearing, but they are wrong. More than 50 years ago, two well-known geographers gazed into their crystal ball and solemnly predicted that "small towns, villages and hamlets will continue to fade away," but they were wrong.1 In 2008, Richard E. Wood said that "for at least the last half-century people have been fleeing most small rural towns as if they were radioactive," and he predicted that these places were doomed to become "twenty-first century ghost towns," but he was wrong.2

The 2010 U.S. Census found that the population actually increased by more than 5% in two-fifths of the incorporated places in Minnesota between 2000 and 2010, remained stable in one-third, and decreased more than 5% in a mere one-quarter.3 In this analysis, we considered the population to be stable in any place where it had changed less than 5% over the decade, or 0.5% per year. These ratios (two-fifths increasing, one-third stable, one-quarter decreasing) have not changed much since 1940 (Figure 1), which suggests that the settlement system of incorporated places in Minnesota is impressively robust. It was created by the railroads in the horse-and-buggy era, and it had essentially been completed more than a century ago. Few new freestanding places have been incorporated since 1910, and few have died; the state has only a few ghost towns in mining areas and at whistle stops on abandoned railroad lines.

Craig and Schwartau also noted impressive stability in the state’s settlement system.4 They focused on change in the trade-center hierarchy, but a significant underlying theme of their work was the fact that most places remained at the same level in the hierarchy between 1989 and 2009.

The impressive overall stability (or inertia) of the settlement system as a whole camouflages haphazard fluctuations in the population growth of individual places, some of which have grown erratically and unpredictably. Places that have grown in one decade have lost in the next, and neighboring places that seem similar have changed in opposite directions. Population change in five places in Lac Qui Parle County between 2000 and 2010 illustrates just how erratic such change can be. Madison plummeted from 1,768 persons to 1,551, but Dawson inched up from 1,539 to 1,540. Bellingham dropped from 205 to 168, and Nassau dropped from 83 to 72, but Louisburg vaulted from 26 to 47.

Despite such fluctuations, most places of the same size have grown at roughly the same rate, and they seem locked in to their relative position in the settlement system. Within each size range the fluctuations of individual places have balanced each other out, and their long-term trajectory has been gently upward. The whole settlement system has continued to expand, rather like a lumpy balloon.

Between 2000 and 2010, a greater share of the smaller places in Minnesota lost population, and a greater share of the larger places gained, with a steady progression from smallest to largest (Figure 2). Only four places with populations of 2,500 or more (Ely, Blue Earth, Jackson, and Granite Falls) lost more than 5% of their population during the decade, as did only eight places of 1,500 to 2,499 residents, but even one-quarter of the smallest places actually gained more than 5% in population.

Nevertheless, places of fewer than 500 people seem to be in a different category, and they better fit the popular image, because as a group their population is stagnant or slowly declining

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2 R.E. Wood, Survival of Rural America: Small Victories and Bitter Harvests (Lawrence: University of Kansas Press, 2008), pp. xiii and xvi.
3 In 2010, the state of Minnesota had 729 freestanding incorporated places, ranging from the Twin Cities urbanized area, which we treated as a single place, to Tenney and Funkley, which boasted five residents each.
A place seems destined to continue growing once it has attained a population of around 500 people, but the population of smaller places as a group has been declining, and more than two-thirds of the Minnesota places that lost more than 5% of their population during the 2000s were in this category. They are too small to grow, but too tough to die.

You can sense the difference on Main Street. In places of fewer than 350 persons, Main Street typically has a “gap-toothed” look, with open plots of ground between the individual buildings, whereas in larger places at least one side of Main Street has a solid block of contiguous two-story buildings of brick or masonry, with stores or offices on the street level and residences above.

The Minnesota places that grew more than 5% during the 2000s were heavily concentrated in the commuter-sheds of metropolitan areas (the Twin Cities, Rochester, St. Cloud, Duluth, and Fargo-Moorhead) and along the transportation tentacles radiating out from and connecting these places, although Interstate 90 across the southern edge of the state has had remarkably little impact (Figure 4). Smaller clusters of places that grew were in the Twin Cities–Mankato–Winona triangle and in the lakeshore resort areas in the center of the state.

The places that remained stable or lost more than 5% were in peripheral areas, such as the northwest, the Iron Range, and especially the southwest, where the railroad towns of the prairies were too many, too small, and too late. The spacing of the railroad towns was appropriate for horse-drawn wagons hauling loads of grain to trackside elevators, but they were too close to their competitors when automobiles and trucks replaced horses.

Some people, when confronted with the fact that small towns of more than 500 people, despite their appearance, are growing, will invoke geography and say that they are merely “dormitory” or “bedroom” communities for larger places within easy driving distance. The automobile certainly killed Main Street by encouraging business to concentrate in larger places, but paradoxically today it provides life support for many places that have become dormitory towns.

Commuting from small places undoubtedly is helping to keep them alive, but the best statistical predictor of the population of any given place at any given census is the population of that

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Figure 1. Percentage of Incorporated Places in Minnesota, by Population Change per Decade, 1870–2010

Figure 2. Percentage of Incorporated Places that Gained and Lost Population between 2000 and 2010, by Size of Place

Figure 3. Mean Population of Incorporated Places in Minnesota, 1900–2010, by Size of Place in 2010
place at the preceding census: the oldest places, the first places that were incorporated in any particular part of the state, have grown the longest and are still the largest.5

Many small towns also have grown because they have taken on new economic activities, in addition to their function as dormitory communities. They have been transformed from central places serving the surrounding agricultural area, with which today they have precious few ties, into small cogs in the national system of manufacturing centers. Examples include seafood products (Morey’s in Motley), furniture (Foldcraft in Kenyon), packaging (Douglas Machine in Alexandria), compressors (Sanborn in Springfield), golf carts (NB Golf Cars in Hendricks), snowmobiles (Polaris in Roseau, Arctic Cat in Thief River Falls), and aluminum boats (Alumacraft in St. Peter, Crestliner in Little Falls, Lund in New York Mills).

Many of the new processing businesses, which we are reluctant to dignify as factories, are well disguised from the casual visitor in older buildings that have been recycled into new uses. The former schoolhouse, which was built solidly enough to keep the kids from trashing it, is an ideal candidate, but any solid old building will do.

Small towns that are fortunate enough to be in lakeshore areas have blossomed as resort and retirement centers. In the lakes area north of Brainerd, a new kind of dispersed metropolis—with more than 25,000 lakeshore residences—is quietly burgeoning. Some are still summer cottages, but many have been winterized and converted into year-round homes for retired couples.

Serving the needs of these elderly folk has generated jobs for local young people, who hitherto have had to leave the area in search of jobs when they finished high school. The affluent retired population has also attracted retail business; the four-lane bypass around Brainerd has spawned large new big-box stores, and it resembles the bypass strips around other metropolitan centers.

Of course not all places, especially the smallest, are growing. More than one-quarter of the small towns in Minnesota are home to fewer than 200 people, and these places are redundant to the needs of contemporary economy and society. Their storefronts are boarded up or converted into residences, and they neighbor overgrown weed-choked lots. They may linger on indefinitely, but few can aspire to any significant growth.

Perhaps these very small places of fewer than 200 people are ripe for euthanasia. Keeping them on life-support requires continuing public and private investment, however modest, and perhaps wise public policy should subsidize their residents to move to larger places instead of continuing to provide the public services that subsidize their tenuous existence.

Romantics might protest that communities would be destroyed if these places were to be cashiered, but few if any ever have been true communities. Their residents do have ties to each other, to be sure, but often these ties are less than affectionate, and some families have been feuding for generations. These smallest places are less than ideal places to live, and one must question the wisdom of continuing public and private investment in small places that have scant hope of significant growth.

John Fraser Hart is a professor in the Department of Geography at the University of Minnesota. Mark B. Lindberg is director of the Cartography Laboratory at the University of Minnesota.
Trucks and SUVs in the Twin Cities Metropolitan Area: How Dangerous Are They?

by Pinar Karaca-Mandic and Jinhyung Lee

Abstract: Light or heavy trucks and sport-utility vehicles (SUVs) are increasingly popular, in part because they provide improved protection to their own passengers in an accident. However, when an accident occurs, these vehicles also cause greater injury to passengers of other vehicles, pedestrians, bicyclists, and motorists. Because the costs of these injuries are external costs in no-fault auto-liability systems such as those used in Minnesota, consumers may have inefficiently high incentives to purchase light/heavy trucks and SUVs. This study investigated the extent of injury costs associated with light/heavy trucks and SUVs in the Twin Cities metropolitan area. We estimated the relationship between the type of vehicle in accidents involving one light/heavy truck or SUV and one standard passenger car and the level of vehicle damage caused, the likelihood of hospital admissions resulting from the accident, and the hospital charges for those hospitalized from the accident. The analysis showed that the likelihood of hospital admission was highest for occupants of standard cars and lowest for occupants of light/heavy trucks or SUVs. For accidents involving hospitalization, occupants of standard cars also incurred higher hospitalization charges on average compared with occupants of light/heavy trucks or SUVs. These findings suggest that light/heavy trucks and SUVs benefit their occupants in terms of the likelihood of a hospital admission and hospital charges stemming from an accident, but do so at the expense of standard-car occupants. We suggest several policy changes that would internalize the costs that light/heavy trucks and SUVs impose on occupants of other vehicles and pedestrians, and would lead to a more optimal mix of vehicle types in the nation’s vehicle fleet. The research upon which this article is based was supported by a grant from CURA’s Faculty Interactive Research Program.

Motor-vehicle accidents are the leading cause of injury-related death for all age groups in Minnesota and the nation. According to the Minnesota Department of Health’s Injury and Violence Prevention Unit, 50% of serious traumatic brain injuries and 60% of spinal cord injuries in Minnesota result from a motor-vehicle accident. Among motor-vehicle accident victims, pedestrians, young people (15–24 year olds), the elderly, and male drivers, as well as unbelted passengers and unrestrained children, are at higher risk of injury or death.1

Minnesota has a “no-fault” auto-liability system which, in contrast to the more common “tort system,” limits a driver’s liability for their actions. Evidence is mixed about whether or not no-fault liability systems alter driving behavior and reduce incentives to drive carefully.2

their own passengers. However, it is also generally agreed that when they are involved in an accident, these larger, heavier, and more rigid vehicles cause greater injury to passengers of other vehicles, pedestrians, bicyclists, and motorists. The safety benefits of driving a light/heavy truck or SUV are higher than the cost of damages to pedestrians and the occupants of other vehicles (external costs). In the absence of policy or market interventions that force light/heavy truck or SUV owners to bear the full costs they impose on others, consumers may have inefficiently high incentives to purchase and drive these heavy vehicles.

Previous studies have focused on the external costs of larger vehicles in terms of fatalities, but have not considered other external costs, such as the hospital costs associated with injuries to the occupants of other vehicles resulting from accidents involving larger vehicles. In this article, we describe our study of the relationship between the type of vehicle involved in accidents involving one light/heavy truck or SUV and one standard passenger car and the resulting vehicle damage, hospital admissions, and hospital charges. We investigated the extent of injury costs associated with light/heavy trucks and SUVs in the Twin Cities metropolitan area. To do this, we examined motor-vehicle accident data and hospital discharge data from 2004–2005 to assess the hospitalizations and hospital costs of injuries from accidents that involved one of these larger vehicles. We looked only at two-car accidents that involved one standard passenger car and one light/heavy truck or SUV so we could compare the injury costs for the passengers of each type of vehicle.

Data and Methodology

Our research used a unique data set called the Crash Outcome Data Evaluation System (CODES). The CODES data come from the Minnesota Department of Public Safety and provide information on all police-reported accidents, including age, gender, drinking status, driver/passenger status, and seat-belt usage for all persons involved in the accident, as well as detailed information about the accident itself (including location, time, road type, road conditions, and number of vehicles involved). We linked these CODES data with data on hospital charges for the hospitalized accident victims obtained from the Minnesota Hospital Association, the Emergency Medical Services Regulatory Board, and the Minnesota Departments of Health, Public Safety, and Transportation.

For our analysis, we focused on police-reported accidents in the Twin Cities metropolitan area in 2004 and 2005 that involved two vehicles—one standard passenger car and one light/heavy truck or SUV. The light/heavy truck or SUV category includes pickup trucks, sport-utility vehicles, vans, and minivans. We considered three outcome variables: physical damage to the vehicles, hospital admission for vehicle occupants, and the hospital charges for individuals hospitalized as a result of the accident.

Vehicle Damage. We conducted our analysis of the damage to the vehicle at the vehicle level. CODES categorizes data on damage to the vehicle as none, light, moderate, severe, or total. We simplified this metric by characterizing damage to the vehicle using a binary indicator (0 if no damage; 1 if light, moderate, severe, or total damage). Using logistic-regression techniques, we related vehicle damage to whether the vehicle was a standard passenger car or a light/heavy truck or SUV, as well as to characteristics of the driver (age, gender, seat-belt use, physical condition), the vehicle (number of passengers in the vehicle, auto-insurance status of the vehicle), and the accident (weather conditions, road conditions, and time of accident).

Hospital Admissions. We examined hospital admission at the individual level for both drivers and passengers using a binary indicator (0 if no admission, 1 if the individual received care at a hospital). We used logistic regression once again to relate hospital admissions to the predicted damage to the individual’s vehicle (estimated from our damage model), to individual characteristics (whether the individual was the driver or passenger, age, gender, physical condition, seat-belt use), and to vehicle and accident characteristics noted above. Our model allowed us to capture the differential effect of vehicle damage on drivers and passengers.

Hospital Charges. We examined hospital charges at the individual level for those who were hospitalized as a result of their accident. We considered all hospital charges incurred from emergency-room care to the time the patient was discharged to their home, transitional care, or rehabilitation. If the patient was discharged but readmitted within two days, we also considered charges associated with the readmission. We took into account the same individual, vehicle, and accident characteristics noted above for our other analyses. In addition, we considered the payer source for the hospital admission: private insurance, commercial insurance, government insurance (Medicare/Medicaid/MinnesotaCare), or self-payment.

This framework allowed us to first identify the effect of the vehicle type (i.e., standard passenger car versus light/heavy truck or SUV) on the damage to the vehicles in a two-vehicle accident. We then related predicted vehicle damage to the likelihood of hospital admission, and to the hospital charges for those admitted to the hospital. Because our models allowed for predicting the effect of vehicle damage on hospital admission and charges differentially for vehicle drivers and passengers, we could separately predict expected hospital charges for drivers and passengers of standard passenger cars and of light/heavy trucks and SUVs.

Findings

In 2004 and 2005, 10,512 two-vehicle accidents in the Twin Cities metropolitan area involved one standard passenger car and one light/heavy truck or SUV. These accidents involved 29,987 occupants (drivers and passengers) (Table 1). Approximately 96% of vehicles suffered damage (light to total damage), and 8% of occupants were admitted to the hospital. For each occupant, the mean hospital charges for those admitted were $3,625. On average, accidents involved two occupants per vehicle. Roughly 58% of occupants were male. Almost 10% were children or adolescents/teens, 65% were ages...
19–45, 21% were ages 46–64, and 4% were age 65 or older. Nearly all (97%) of the vehicles had auto insurance. Among occupants who were admitted to the hospital, 4% had private insurance, one-fifth (21%) had government insurance, nearly half (45%) had commercial insurance, and 4% were self-insured.

Nearly two-thirds (60%) of accidents occurred during clear weather, and nearly three-fourths occurred during daylight hours (73%) and under dry road conditions (71%). The physical condition (e.g., under the influence, fatigued, having a physical disability) of half of vehicle occupants was unknown; only 1.1% of occupants (includes both drivers and passengers) were determined to be under the influence of alcohol or drugs at the time of the accident. Seat-belt usage was not reported for 42% of vehicle occupants, but more than half (56%) of occupants did use their seat belt properly.

We analyzed the CODES data for three outcomes: damage to the vehicle (specification 1); likelihood of hospital admission (specification 2); and hospital charges for those admitted (specification 3) (Table 2). The likelihood of damage to the vehicle was significantly lower if the vehicle was a light/heavy truck or SUV. In an accident between a standard passenger car and a light/heavy truck or SUV, the adjusted probability of any damage to the passenger car was 98.7%, whereas it was 94.2% for the light/heavy truck or SUV (Table 2a). Male drivers and drivers 46–64 years of age were less likely to have damage to their vehicles, relative to teenage drivers under 18 who were used as the reference point. Accidents that occurred at sunset or after dark were more likely to result in damage to vehicles.

Damage to the vehicle was, in turn, positively associated with the probability of a hospital admission. The adjusted probability of hospital admission was close to 0% for individuals in vehicles with no damage, compared with 10% for those in vehicles with any damage (light to total damage) (Table 2b). On average, the adjusted probability of hospital admission was 9.5% for a passenger in a standard car, 6.9% for a passenger in a light/heavy truck or SUV, 6.5% for a driver of a standard car, and 3.9% for a driver of a light/heavy truck or SUV (Table 2c). Other factors that were associated with a greater likelihood of hospital admission included female gender, older age, being under the influence of alcohol or drugs, and

### Table 1. Descriptive Statistics of Outcome and Explanatory Variables (10,512 two-vehicle accidents, 21,024 vehicles, 29,987 occupants)

<table>
<thead>
<tr>
<th>Variable (Unit of Analysis)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Damage to Vehicle (vehicle)</td>
<td>96.4%</td>
</tr>
<tr>
<td>Hospital Admission (occupant)</td>
<td>8.0%</td>
</tr>
<tr>
<td>Total Hospital Charges Conditional on Admission (occupant)</td>
<td>$3,625</td>
</tr>
<tr>
<td>Number of occupants in the vehicle (vehicle)</td>
<td>1,993</td>
</tr>
<tr>
<td>Auto Insurance (vehicle)</td>
<td>97.4%</td>
</tr>
<tr>
<td>Male (occupant)</td>
<td>57.9%</td>
</tr>
<tr>
<td>Age (occupant)</td>
<td></td>
</tr>
<tr>
<td>0–18</td>
<td>9.5%</td>
</tr>
<tr>
<td>19–45</td>
<td>64.7%</td>
</tr>
<tr>
<td>46–64</td>
<td>21.3%</td>
</tr>
<tr>
<td>65 over</td>
<td>4.4%</td>
</tr>
<tr>
<td>Payer Source (occupant admitted to hospital)</td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>4.1%</td>
</tr>
<tr>
<td>Government</td>
<td>20.8%</td>
</tr>
<tr>
<td>Commercial</td>
<td>45.3%</td>
</tr>
<tr>
<td>Self</td>
<td>29.8%</td>
</tr>
<tr>
<td>unknown</td>
<td>1.8%</td>
</tr>
<tr>
<td>Weather (accident)</td>
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<tr>
<td>Clear</td>
<td>59.5%</td>
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<tr>
<td>Cloudy</td>
<td>26.7%</td>
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<tr>
<td>Rain</td>
<td>7.1%</td>
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<tr>
<td>Snow</td>
<td>4.3%</td>
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<tr>
<td>Other</td>
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<tr>
<td>Unknown</td>
<td>1.3%</td>
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<tr>
<td>Time (accident)</td>
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<tr>
<td>Light</td>
<td>73.0%</td>
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<tr>
<td>Sunrise</td>
<td>0.9%</td>
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<td>Sunset</td>
<td>2.5%</td>
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<tr>
<td>Dark</td>
<td>22.3%</td>
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<tr>
<td>Other</td>
<td>0.1%</td>
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<tr>
<td>Unknown</td>
<td>1.1%</td>
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<tr>
<td>Road Condition (accident)</td>
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<tr>
<td>Dry</td>
<td>71.0%</td>
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<tr>
<td>Wet</td>
<td>19.1%</td>
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<td>Snow</td>
<td>5.2%</td>
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<tr>
<td>Ice</td>
<td>2.8%</td>
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<tr>
<td>Other</td>
<td>2.0%</td>
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<tr>
<td>Unknown</td>
<td>1.3%</td>
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<tr>
<td>Physical Condition (occupant)</td>
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<tr>
<td>Normal</td>
<td>48.7%</td>
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<td>Alcohol or Drug</td>
<td>1.1%</td>
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<tr>
<td>Other</td>
<td>0.2%</td>
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<tr>
<td>Unknown</td>
<td>49.9%</td>
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<tr>
<td>Seat Belt Usage (occupant)</td>
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<tr>
<td>No Belt</td>
<td>1.3%</td>
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<tr>
<td>Proper Seat-Belt Use</td>
<td>56.1%</td>
</tr>
<tr>
<td>Improper Seat-Belt Use</td>
<td>0.3%</td>
</tr>
<tr>
<td>Unknown</td>
<td>42.3%</td>
</tr>
</tbody>
</table>

Note: “Other” categories include:
- **Weather**: sleet/hail/freezing rain, fog/smog/smoke, blowing sand/snow, and other
- **Road Condition**: water, muddy, debris, oily, and other
- **Physical condition**: fatigue/asleep, physical disability, ill, and other
accident time being at sunrise (relative to daylight). Not surprisingly, occupants properly using a seat belt were less likely to be hospitalized.

We did not find evidence that damage to the vehicle was associated with hospital charges for those admitted to the hospital.\(^5\) As one might expect, older vehicle occupants had higher hospital charges. Self-paying individuals had lower charges compared with those with private-insurance payers. For those admitted to the hospital, adjusted hospital charges were $3,252 for a driver of a standard car, $3,093 for a driver of a light/heavy truck or SUV, $1,884 for a passenger in a standard car, and $1,156 for a passenger in a light/heavy truck or SUV (Table 2c).

Finally, we calculated the average hospital charges spread across all occupants by vehicle and occupant type (driver or passenger). We found that these charges were $179 for a passenger of a standard car; $80 for a passenger of a light/heavy truck or SUV; $211 for a driver of a standard car; and $121 for a driver of a light/heavy truck or SUV (Table 2c).

**Conclusion**

Based on our analysis of two-vehicle accidents in the Twin Cities metropolitan area in 2004 and 2005 that involved a standard passenger car and a light/heavy truck or SUV, the probability of hospital admission was highest (9.5%) for passengers of a standard car and lowest (3.9%) for drivers of a light/heavy truck or SUV. For accidents involving hospitalization, occupants of standard cars also incurred higher costs on average (for drivers, $3,252 for a standard car versus $3,093 for a light/heavy truck or SUV; for passengers, $1,884 for a standard car versus $1,156 for a light/heavy truck or SUV). Furthermore, based on our predictions about the probability of hospital admission and our estimates of hospital charges in cases of admission, we found that in a two-vehicle accident between a standard passenger car and a light/heavy truck or SUV, hospital charges to standard-car occupants ($211 for driver, $179 for passenger) were substantially higher than corresponding charges for light/heavy truck or SUV occupants ($121 for driver, $80 for passenger). These findings suggest that light/heavy trucks and SUVs benefit their occupants in terms of the likelihood of a hospital admission and hospital charges from an accident, but do so at the expense of standard-car occupants.

Although we did not analyze fatality of occupants as an outcome, other research provides substantial evidence that the probability of fatality is higher among standard-car occupants than it is among occupants of light/heavy trucks or SUVs.\(^6\) Similarly, we did not consider the cost implications of accidents involving light/heavy trucks or SUVs and pedestrians, bicyclists, or motorcyclists. However, other research has shown these costs to be substantial.\(^7\)

Based on our analysis, the existing tort and no-fault liability systems—and auto-insurance rates in general—likely fail to make light/heavy trucks and SUVs fully accountable for the external costs they impose on other vehicles, pedestrians, and other road occupants. Auto insurance rates for larger vehicles may be higher (approximately 10% to 20%)\(^8\) than for standard passenger cars, but not all of the difference in insurance rates is necessarily attributable to the additional damage or injury they cause to others; much of the difference reflects their increased risk for roll-over accidents.

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\(^5\) The effect of predicted damage has already been observed in the hospital admission. Thus, the amount of vehicle damage may not have any subsequent effect on hospital charge.


accidents, higher repair costs, and higher theft rates. This is especially the case in a no-fault state that limits the liability of drivers for damage or injury to others. This market failure could lead to an inefficiently larger share of light/heavy trucks and SUVs on our roads and highways simply because the safety benefits of driving a light/heavy truck or SUV are higher than the cost of damages and injuries to occupants of other vehicles and pedestrians (external costs).

Several policies might help to internalize the costs that light/heavy trucks and SUVs impose on other vehicle occupants and pedestrians. For example, corrective taxes could be imposed in the form of an excise tax on heavier vehicles. In Minnesota, the registration tax for passenger-class vehicles such as cars, vans, SUVS, and pickups is determined by the base value and age of the vehicle, not vehicle type. Alternatively, gasoline taxes could be increased to ensure light/heavy trucks and SUVs pay an optimal amount of gasoline taxes. Although gasoline taxes do not vary by vehicle type, light/heavy trucks and SUVs consume more gasoline, and thus would be subject to higher taxes. Another alternative is a gasoline tax that is proportional to a vehicle’s weight, or one that varies by a vehicle’s make and model. However, the enforcement of such a tax would be problematic. Finally, policy makers could consider imposing more stringent safety regulations and licensing requirements on heavier vehicles to reduce accident risks associated with them.

Evaluating the optimal amount of corrective taxes or other corrective policies to internalize the costs that light/heavy trucks and SUVs impose on society is beyond the scope of this article, but such calculations would require quantifying the cost implications of light/heavy trucks and SUVs not only on standard passenger car occupants, but also on other types of vehicle occupants, pedestrians, bicyclists, and motorcyclists. Moreover, a broad range of external-cost implications other than hospitalization costs should be included in this calculus. For example, other monetary and nonmonetary costs of injury, pain and suffering, disability, and fatality need to be considered. In future work, we aim to study and quantify the implications of fatalities in accidents involving light/heavy trucks and SUVs statewide in Minnesota, differentiating between urban and rural settings.

Pinar Karaca-Mandic is assistant professor in the Division of Health Policy and Management at the University of Minnesota’s School of Public Health.

Chunying Xie Awarded CURA Dissertation Research Grant

Chunying Xie, a doctoral student in the Department of Economics at the University of Minnesota, was awarded the 2012 CURA Dissertation Research Grant. The grant provides one year of support to a Ph.D. candidate in good academic standing at the University of Minnesota for the purpose of completing dissertation research on a significant issue or topic related to urban areas in the upper Midwest region.

Xie’s research focuses on the MnPASS program’s dynamic pricing mechanism. Minnesota has been a pioneer in introducing dynamic pricing into its highway network, beginning with the introduction of the MnPASS program on Interstate 394 in 2005. Motorists who wish to use the special-access MnPASS lanes are charged a variable price that changes every three minutes based on current traffic conditions. If traffic is light, access to MnPASS lanes may cost only $1.25; during heavily congested rush hours, the price could rise to $8.00. This variable pricing mechanism serves an important economic allocation function, ensuring that the price is not so high that it discourages use of the MnPASS lanes, resulting in underutilization, and not so low that it encourages too many vehicles to use the lanes, resulting in congestion that slows buses and carpools.

Xie’s research will model how individuals respond “on the fly” to variable prices for MnPASS lanes using a newly available dataset from the Minnesota Regional Transportation Management Center. The dataset includes data in 30-second intervals on traffic volume, congestion, and speed for every lane, entrance, and exit on Interstate 394, as well as corresponding data on the MnPASS lane prices that drivers would have seen at every instant. The model will allow Xie to evaluate the traffic-efficiency gains of the program for drivers in the MnPASS lanes and regular lanes, and provide recommendations for modifying the pricing formula MnPASS uses to make the program more efficient.

An article summarizing Xie’s dissertation research will appear in a future issue of the CURA Reporter. For more information about the CURA Dissertation Research Grant program, visit www.cura.umn.edu/Dissertation.
The Hennepin-University Partnership (HUP) was created in 2005 to catalyze and strengthen collaborations between Hennepin County and the University of Minnesota. In the past, HUP has hosted an annual symposium showcasing successful collaborations. However, this year’s symposium focused on community engagement, a topic of interest to both Hennepin County and the University.

On March 9, 2012, HUP hosted a Forum on Community Engagement at the McNamara Alumni Center on the University of Minnesota’s Minneapolis campus. The event served as an opportunity for Hennepin County and the University to hear provocative speakers and to participate in an open discussion about why we engage communities, what we hope to accomplish through community engagement, and how to measure the effectiveness of our efforts. Participants at the event included approximately 60 Hennepin County staff and 50 University faculty and staff from many different departments.

The half-day event began with opening comments from Jan Callison, 6th District Commissioner for Hennepin County, and Ed Goetz, CURA director. Speakers included Kathy Quick, assistant professor for public and nonprofit leadership, on the spectrum of community engagement; Steve Kelley, director of the Center for Science, Technology, and Public Policy, on communicating complex ideas; Tai Mendenhall, associate director of the Citizen Professional Center, on cogeneration in community health practice; and Jay Clark, director of the Minnesota Center for Neighborhood Organizing (MCNO), on community organizing. The event was designed to be interactive and draw upon the knowledge and experience of participants. Each table had a trained facilitator (many trained in the art of hosting) who led three table discussions to expand understanding of the concepts presented by the speakers and to exchange thoughts and experiences around community engagement.

Following the presentations, Laura Bloomberg, director of the Center for Integrative Leadership, moderated a Leadership Conversation Circle with support from Gina Baas, assistant director of the Center for Transportation Studies. The Leadership Conversation Circle was designed to provide an opportunity for participants to hear from Hennepin County and University of Minnesota leaders about how community engagement is approached from an organizational level. The conversation began with Richard Johnson, Hennepin County Administrator; Peter McLaughlin, 4th District Commissioner for Hennepin County; Mark Stenglein, 2nd District Commissioner for Hennepin County; Tom Fisher, dean of the College of Design; and Heidi Barajas, director of the Urban Research and Outreach-Engagement Center, responding to the question of why community engagement is important. All participants were then invited to participate in the conversation.

Evaluation findings showed that 90% of attendees said they gained new insights about community engagement based on what they heard at the event, and 84% of attendees would consider changes in their approach to community engagement going forward. Many follow-up items have been suggested to continue the dialogue and continue to share best practices.

For more information about the Hennepin–University Partnership and the Forum on Community Engagement, visit www1.umn.edu/hup/index.html.
CURA Housing Forum Program Summaries

The CURA Housing Forum is a monthly brown-bag discussion of housing issues and research in the Twin Cities. Forums are held once a month during the academic year only, and are free and open to the public. The summaries below are from forums held in January and March 2012 (there was no February Housing Forum).

To sign up to receive notices about future CURA Housing Forum events or to learn about past events, visit www.cura.umn.edu/housing-forum.

Risk and Resilience in Homeless and Highly Mobile Children

Ann Masten, Distinguished McKnight University Professor at the Institute of Child Development in the College of Education & Human Development and Fesler-Lampert Chair in Urban and Regional Affairs at the University of Minnesota, spoke to a crowd of approximately 75 people at January’s CURA Housing Forum. Professor Masten has worked in the field of child development for more than 30 years, having spent the last 7 years concentrating on the field of risk and resilience research. CURA supported her work in this field with a Faculty Interactive Research Program (FIRP) grant in 2006, and she was named the Fesler-Lampert Chair in Urban and Regional Affairs for 2011–2013.

During the 1980s, Masten identified the need for research on resilience in children, especially those who are homeless and highly mobile. Up to that point, the majority of resilience literature was focused on adults. Masten saw this as an opportunity to engage with People Serving People, a homeless shelter located in downtown Minneapolis that serves families, as a local partner in her research. Working with a group of 8- to 17-year-olds, she found that homeless children were more fearful, experienced more frequent changes in school location, had more recent stressful life events, endured more extreme levels of risk, and experienced more disrupted lives in general compared with children in stable housing. For many homeless and highly mobile children, those types of experiences lead to more distress and behavior problems. However, Masten found that despite some of these children having very high risk factors, they experienced very little distress. These children were “resilient.”

At the CURA Housing Forum, Masten spoke about protective factors that contribute to resilience in children: good parenting, low levels of stress, and high executive-functioning skills. Executive-functioning skills include self-control, ability to pay attention, good memory, and ability to follow instructions. These skills can be learned and improved upon, and play a major role in resilience and school success. The results of Masten’s research during her time as Fesler-Lampert Chair will be published in a future issue of the CURA Reporter.

The Big Picture Project: Addressing Affordable Housing Along the Central Corridor

The March CURA Housing Forum featured Gretchen Nicholls, program officer for the Twin Cities Local Initiatives Support Corporation (LISC). Her presentation focused on the Big Picture Project, an effort focused on affordable housing along the Central Corridor Light Rail Transit (LRT) line that is funded by the Central Corridor Funders Collaborative. The Central Corridor runs from Target Field in downtown Minneapolis to the Union Depot in downtown St. Paul. By 2014, a light-rail train will run along this corridor and stop at 18 stations in various neighborhoods along the way. Along with the City of Minneapolis and the City of St. Paul, LISC was charged with bringing together various governmental, nonprofit, and private partners to research how affordable housing fits into the communities located along the future LRT line.

The corridor is home to many unique communities, each with their own identity and nuanced housing market. To understand “the big picture,” LISC and its partners held community forums and listening sessions, conducted case studies of similar transit corridors, and engaged a project team made up of four committees: government, development, finance, and community. With community input, the committees decided on three objectives to address the issue of affordable housing along the Central Corridor: invest in production and preservation of long-term affordable housing, stabilize the neighborhoods and invest in activities that help low-income people stay in their homes, and strengthen families through coordinated investments.

Above all, the Big Picture Project found that building more housing units is just one piece of the puzzle; of utmost importance is creating places of opportunity for people. Because of this larger goal, the Big Picture Project requires a collective-action approach to implementation, meaning that no one partner “owns” the plan. Instead, the goal is to generate momentum from grassroots community members and partner organizations. Nicholls stressed the importance of this approach and the need for partners to come forward and buy into and invest in the plan to move forward. Information about the Big Picture Project and Nicholls’s presentation are available at www.cura.umn.edu/events/2012-03-02 /cura-housing-forum-big-picture-project.
Each issue of the CURA Reporter features a few capsule descriptions of new projects under way at CURA. The projects highlighted in this issue were made possible through one of CURA’s community-based research programs, which provide graduate-student assistance for community-based applied research projects, program planning and development, and other short-term projects. These projects represent only a portion of those that will receive support from CURA and its partners during the coming year.

**Immigrant and Ethnic Farming Traditions in Frogtown.** The mission of Frogtown Gardens is to grow a greener, healthier community by protecting greenspace, promoting household and community gardening for food, and advocating for sustainable development in the neighborhood. Frogtown Farm is envisioned as a demonstration farm within a park, in which the farming traditions of the many diverse cultures in the neighborhood are showcased and celebrated. To accurately present these traditions, Ryan McLaughlin, a student in the University of Minnesota’s Law School, will interview residents from various ethnic groups and collect oral histories about their respective gardening, farming, and cooking traditions. The project will provide a valuable record of immigrant and ethnic traditions that may be dying out and that have not been recorded by the Minnesota Historical Society. In addition, the histories will inform the planning and design of culture-specific demonstration gardens in the future Frogtown Farm. **Program:** Kris Nelson Neighborhood Research Program

**Multijurisdictional Housing Authorities and Regional Housing Development Organizations in Greater Minnesota.** Greater Minnesota Housing Fund is a nonprofit organization with a mission to invest in affordable housing and sustainable development to strengthen communities in greater Minnesota. Minnesota has scores of very small housing and redevelopment authorities (HRAs) whose existence is threatened by the prospect of future budget cuts. Many HRAs have identified economies of scale and a potential for greater impact by operating across multiple jurisdictions. Rachel Fang, a Ph.D. candidate in the Housing Studies Program in the College of Design at the University of Minnesota, will document how multijurisdictional HRAs in Minnesota transitioned from single-jurisdiction agencies into multijurisdictional entities. The research will be used by Greater Minnesota Housing Fund, Minnesota Housing, and the Minnesota chapter of the National Association of Housing and Redevelopment Officials (a statewide housing and redevelopment authority organization) to share lessons learned and best practices to assist local housing organizations to think creatively and collaboratively about their future. **Program:** Community Assistance Program

**Winona County Organic Food Composting Feasibility Study.** Winona County is a government agency that serves rural and urban communities in southeastern Minnesota. The County owns property that community and market gardeners use to grow fresh produce, and the soil needs regular enrichment to increase the nutrient value to support these crops. Commercial food industries and institutions in Winona County are seeking ways to compost their organics rather than disposing of them as solid waste. To address both these needs, the County intends to establish a composting program. Aron Reser, a graduate student in the Master of Public Affairs program at the University of Minnesota’s Humphrey School, will research and outline the requirements, costs, and process for creating a successful sustainable organics compost operation. Winona County and other stakeholders will use this information to evaluate the feasibility of an organic composting site, what resources would be needed, and how it would benefit the community. **Program:** Community Assistance Program

**Responsive Affordable Housing Redevelopment: Involving Neighbors in Shaping Priorities and Assessing Outcomes.** Project for Pride in Living, Inc. (PPL) is a community-development corporation dedicated to helping low-income individuals and families develop the tools they need to achieve self-sufficiency through a broad range of integrated programs and services. Although the organization has long maintained that residents and neighbors are in the best position to assess the true community impact and quality of a housing development, PPL has no systematic way to capture and respond to the knowledge of these critical stakeholders. Kirsten Anderson, a Ph.D. student in evaluation studies in the College of Education and Human Development at the University of Minnesota, will create a study methodology and survey tools to capture the perceptions of neighbors around recently completed PPL redevelopment projects in north Minneapolis. The insight gained through these surveys will equip PPL to better address and respond to the redevelopment priorities of residents. **Program:** Communityuniversity

**Implementation of the Seclusion and Restraints Law: Progress and Barriers.** The National Alliance on Mental Illness Minnesota is a statewide, grassroots, nonprofit organization dedicated to improving the lives of children and adults living with mental illnesses and their families. Across the country, a movement is growing to decrease the use of seclusion and restraints in hospitals, treatment facilities, community programs, and schools. In Minnesota, legislation passed in 2008 limits the use of seclusion and restraints by child community mental-health providers. Under the new law, every school must develop a plan that includes a list of procedures they will use, how the restrictive procedures will be monitored and reviewed, and how staff training will be documented. Because schools are not required to report information to the state, methods do not exist to assess implementation. Sonal Markanda, a Ph.D. student in educational psychology in the College of Education and Human Development at the University of Minnesota, will survey school districts about their implementation of the new law. The results will be documented in a report to the legislature, advocacy and...
educational organizations, and local
media.
Program: Communiversity

- Near North Minneapolis Resource
  Equity Project. The Lao Assistance
  Center of Minnesota (LACM) was
  established by Lao immigrants in 1983
to respond to the urgent resettlement
needs of fellow Lao refugees, and now
also serves Lao immigrants, naturalized
citizens, and American-born Lao. Histori-
cally, Asian communities in the Near
North neighborhood in Minneapolis
have not been engaged in community
development efforts, despite the signifi-
cant growth in the neighborhood’s
Asian population in the last 30 years. In
addition, national trends suggest signifi-
cantly decreased investment specifically
in Hmong-led organizations. The Near
Minneapolis Resource Equity Project
seeks to understand and support equity
in the allocation of resources in the Near
North neighborhood. Kristin Cici, a
Ph.D. candidate in education policy and
administration in the College of Educa-
tion and Human Development at the
University of Minnesota, will research
4–5 case studies of recent resource
investments in Near North. LACM will
use this information to advocate for
greater equity in resource-allocation
strategies in the Near North neighbor-
hood and to support development of
an Asian community-development
blueprint.
Program: Northside Seed Grant

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**Project Assistance Available from CURA**

The Center for Urban and Regional
Affairs supports research and
technical assistance through a
number of individual programs, each
with its own deadlines and applica-
tion procedures. If you represent a
community organization or govern-
ment agency and are unsure which
program listed below is most suit-
able for your project proposal, simply
complete a general Community-Based
Research Programs Application Form
at www.cura.umn.edu/cbr and we will
route your request to the appropriate
program.

- The **Community Assistantship
  Program** (CAP) matches commu-
  nity-based nonprofit organizations, citizen
groups, and government agencies in
greater Minnesota with students who
can provide research assistance. Eligible
organizations define a research project,
submit an application, and if accepted,
are matched with a qualified student
to carry out the research. The applica-
tion deadline for fall semester 2012
assistantships (September through mid-
January) is June 30, 2012. For more
information, contact CAP coordinator Will Craig at
612-625-3321 or wcraig@umn.edu, or
visit www.cura.umn.edu/cap.

- The **Kris Nelson Neighbor-
  hood Research Program** (formerly
  Neighborhood Partnerships for Commu-
  nity Research, or NPCR) provides
  student research assistance to commu-
nity organizations in Minneapolis, St.
  Paul, and Twin Cities metropolitan-
  area suburbs that are involved in
  community-based revitalization. Proj-
  ects may include any issue relevant to
  a neighborhood or community’s needs
  and interests, including planning,
  program development, or program
  evaluation. Priority is given to projects
  that support and involve residents of
color. Applications from organiza-
tions collaborating on a project are
encouraged. The application deadline
for fall semester 2012 assistantships
(September through mid-January) is
June 30, 2012. For more information,
contact CURA community programs
assistant Jeff Corn at 612-625-0744
or curacbr@umn.edu, or visit
www.cura.umn.edu/Nelson-Program.

- The **Community Geographic
  Information Systems** (CGIS) program
  provides technical assistance in
  mapping, data analysis, and GIS to
  community-based organizations and
  nonprofits in the Twin Cities metro-
  politan area. Staff at the CGIS program
  specialize in parcel-level mapping,
demographic analysis, and Internet-
based GIS technologies. The CGIS
  program has no formal application
  process or deadline to apply. Project
  requests generally can be turned around
within two weeks. For more informa-
tion, to discuss potential projects, or for
assistance with data needs, contact CGIS
program coordinator Jeff Matson at
612-625-0081 or jmatson@umn.edu, or
visit www.cura.umn.edu/cgis.

- The **Minnesota Center for Neighbor-
  hood Organizing** trains people to work
effectively in organizing and staffing
neighborhood organizations. It trains
new organizers and increases the skills
of existing neighborhood staff through
internships, workshops, and other
programs. For more information about
the program and the training oppor-
tunities available, contact Jay Clark at
612-625-2513 or clark037@umn.edu,
or Margaret Kaplan at 612-624-2300
or mkaplan@umn.edu, or visit
www.cura.umn.edu/mcno.
HousingLink’s Rental Revue Provides Rental Housing Data

CURA has recently subscribed to an important new database of rental listings in the Twin Cities metro area. HousingLink’s Rental Revue provides quarterly reports and summary statistics on traditional and shadow rental markets in more than 50 cities, all seven Twin Cities metropolitan area counties, and subareas of Minneapolis and St. Paul. The Revue tracks both listings and demand for rental housing, and includes breakdowns by number of bedrooms and median rent. In addition, separate data are provided for listings that represent the growing “shadow rental market” of single-family homes, condos, and townhouses for rent. Reports also include trending to track the data over time. Database subscribers can access additional information such as pet policies, security deposit amounts, application fees, utilities residents are expected to pay, and whether background checks are required. Additional information, including frequently asked questions and a sample report, can be found at www.housinglink.org/tcrentalrevue.

In addition to the standard reports available from the Rental Revue website, CURA’s access offers the ability to create custom reports at neighborhood levels of geography for our nonprofit partners in the Twin Cities. These data will provide valuable information to communities about the number and types of rental units, affordability, and demand for rental housing in their areas, and can be an excellent source of information for grant applications. If you are a neighborhood organization and are interested in these data, please contact CURA community GIS coordinator Jeff Matson at jmatson@umn.edu or 612-625-0081 for details.