IOWA STATE UNIVERSITY
Extension and Outreach
Rural Sociology

SOC 3083
November 2017

www.extension.iastate.edu
smalltowns.soc.iastate.edu

Shrink-Smart Small Towns

Communities can still thrive as they lose population.

Small towns in the Midwest have experienced dramatic changes in social and economic conditions since the 1980s. In the Midwest, most small communities have experienced decline in terms of shrinking populations, exodus of younger people, job losses, and poorer community services (Kusmin 2016). One theoretical explanation for these changes is the shift away from an industrial economy to a postindustrial one, which has impacted traditional rural sectors like agriculture and manufacturing particularly hard (Peters 2013). There is clear evidence that these downward trends have persisted over the past several decades; and are unlikely to be reversed in most communities (Johnson & Lichter 2013).

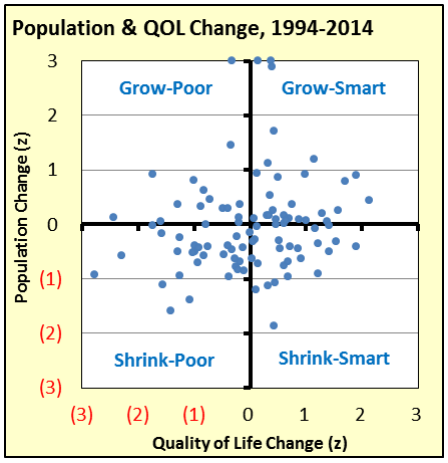
As a result, many in academia and the news media have focused on documenting aspects of decline or promoting uncertain growth strategies (Henderson 2017, 2015). ***This has led to the false premise that shrinking towns are also withering ones. However, not all shrinking communities are withering. In fact, some small towns have thrived in terms of quality of life despite shrinking populations.*** In the case of large cities, such places are called smart-decline or shrink-smart cities (Weaver et al. 2017). In this publication we apply the shrink-smart concept to small towns to better understand the characteristics of shrinking yet thriving towns; and how they compare to the more typical shrinking and withering ones.

Key Findings

- Shrink-Smart towns are small in size; have more children that live in two-parent families; and have more college graduates.
- Shrink-Smart towns are closely tied to agriculture; and have managed to grow their industrial employment base.
- No income differences between Shrink-Smart and Shrink-Poor towns.
- Shrink-Smart towns have diverse social linkages; more participation in local projects; and belong to more organizations.
- Shrink-Smart towns are better-kept, more open to new ideas, more trusting, and viewed as safer places.

Identifying Shrink-Smart Small Towns

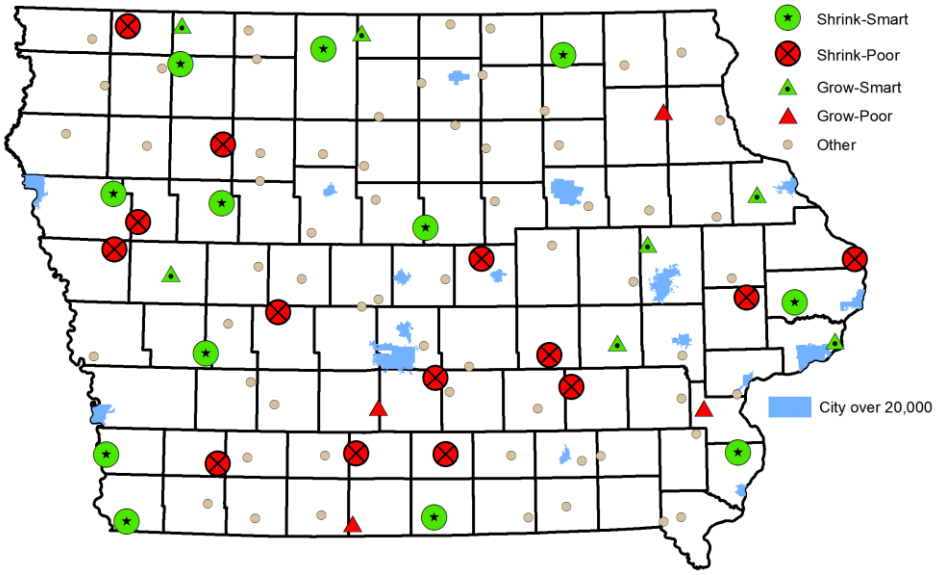
First a word about our **data and methods**. *Small towns* are defined as a municipality that had a population between 500 and 10,000 in 1990, but not adjacent to a major city. *Shrink* is measured using population change between 1990 and 2010. *Smart* is defined as change in community quality of life (QoL) between 1994 and 2014. Towns were classified as grow vs. shrink and smart vs. poor based on z-scores exceeding ±0.4 standard deviations above/below the mean in population and quality of life change.



Refer to the appendix for detailed tables and methods.

Our analysis found 12 **Shrink-Smart** towns that saw QoL grow by 10.8 points despite their populations shrinking by -11.3% since 1990. By contrast, 14 **Shrink-Poor** towns had similar rates of population loss (-11.5%), yet QoL over the past two decades fell (-2.2 pts.). **Grow-Smart** towns (n=7) saw big gains in both population (22.8%) and QoL (13.1 pts.) over this period. There were only 4 Grow-Poor towns, being too few in number for analysis. Most small towns (n=62) in our data had roughly average rates of change in population and QoL.

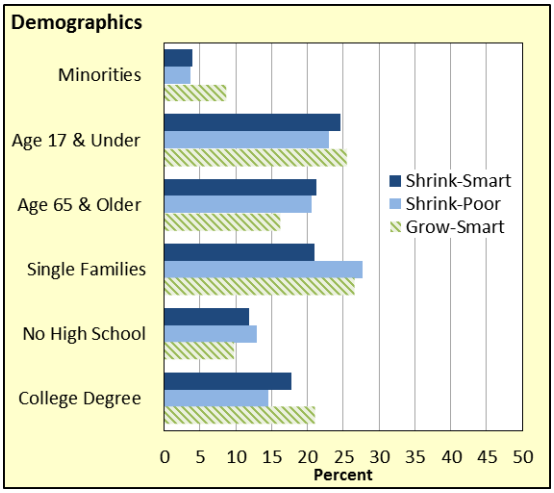
Referring to the map, Shrink-Smart towns tend to be located in west-central and northern Iowa, while Shrink-Poor towns cluster in the central part of the state. Eastern Iowa is home to many Grow-Smart towns where population is more concentrated. However, there is not complete geographic separation. For example, in northwest Iowa smart and poor shrinking towns are in close proximity. Thus, geography does not appear to be a major factor.

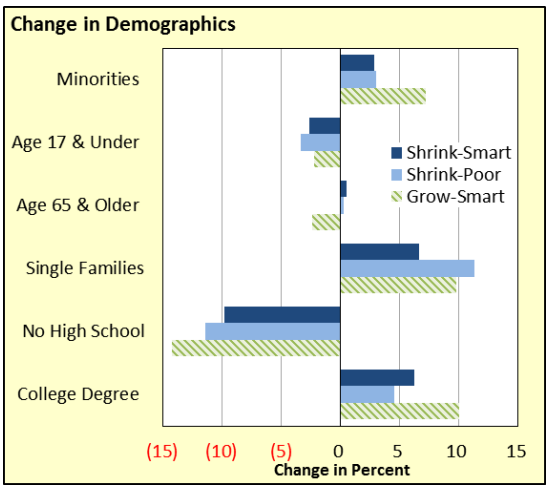


Shrink-Smart Towns: well-educated, good place for children.

Comparing ***Shrink-Smart versus Shrink-Poor*** towns in 2010, we find that although populations were similar (1,320 vs. 1,620), smart places had much lower population densities (30.1 vs. 79.9 people/sq.mi.), indicating smart towns are geographically larger. For other demographics, smart shrinking towns had more children under 18 years of age (24.6% vs. 23.0%), fewer single-headed families with children (21.0% vs. 27.7%), and more college graduates (17.8% vs. 14.6%). There were no differences in the minority, elder, or low education populations.

Shrinking towns were generally similar in terms of demographic shifts since 1990. The exceptions were that Shrink-Smart towns had faster growth in college graduates (6.3% vs. 4.6%), but slower growth in single-headed families (6.7% vs. 11.4%) than poorly shrinking towns. Both trends signal improving QoL.





Grow-Smart towns differed from smart shrinking ones by having much larger population densities, far more minority people (especially Hispanics), fewer older residents over 65 years of age, and better educated residents with low numbers of high school non-completers and more numbers of college graduates. However, Grow-Smart places also had many more single-headed families versus Shrink-Smart towns – a measure of poor QoL.

Besides growing faster than smartly shrinking places, Grow-Smart towns saw large increases in minorities and college graduates; declines in the elder population; and large drops in those without a high school degree.

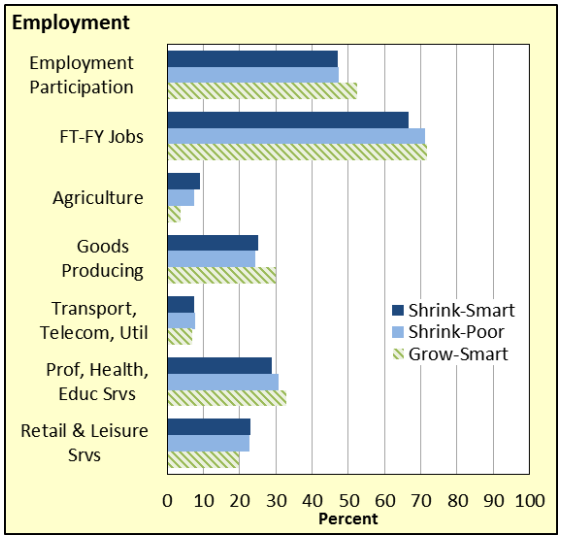
Statistically significant differences are discussed. Refer to the appendix for details

Shrink-Smart towns are smaller in size; have more children that live in two-parent families; and have more college graduates.

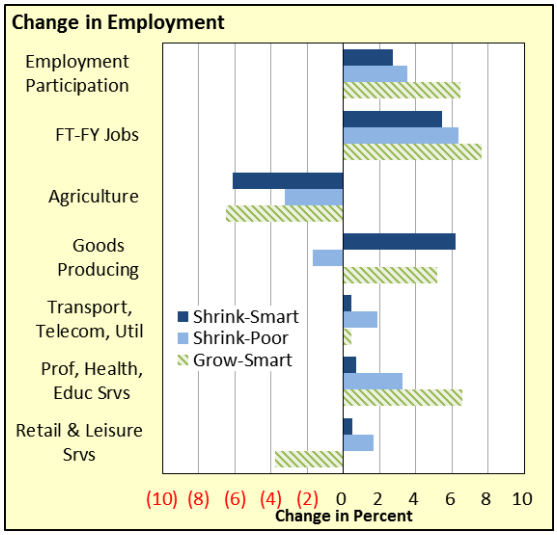
Shrink-Smart Towns: robust goods-producing economy.

There are very few differences between ***Shrink-Smart and Shrink-Poor*** towns in terms of employment characteristics. Smart shrinking towns had larger shares of people employed in agriculture (9.1% vs. 7.5%), but these jobs fell at double the rate of shrink-poor places (-6.1% vs. -3.2%). Shrink-Smart towns also had very fast growth in goods-producing jobs (manufacturing, constructing, and mining) since 1990, while poorly shrinking towns posted declines (6.2% vs. -1.7%) over the same period.

However, smart towns lagged behind poor ones by having fewer full-time and full-year jobs (66.7% vs. 71.1%); slower job growth in transportation services, telecommunications, and utilities (0.4% vs. 1.9%); and slower growth of high-skill jobs in professional services, education (K-12 and college), and healthcare (0.7% vs. 3.3%).



By contrast, ***Grow-Smart*** towns had higher labor force participation and more full-time/full-year jobs; more jobs in goods-producing industries; more jobs in professional services, education, and healthcare; and fewer jobs in agriculture and low-skill/low-wage retail and leisure services.



Middle-skill and middle-wage jobs are desirable for small towns because they provide good wages and benefits, yet are accessible to most small town residents who do not have high levels of education. Jobs in manufacturing, construction, transportation, telecom, and utilities all fall into this category. By contrast, high-skill and high-wage jobs in professional, education, and healthcare services are also desirable, but they require high levels of education and training that disqualify many residents in small towns.

Shrink-Smart towns are more closely tied to agriculture; and have managed to grow their industrial employment base.

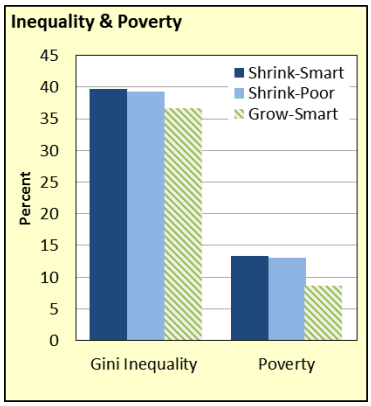
Shrink-Smart Towns: identical incomes, but higher home values.

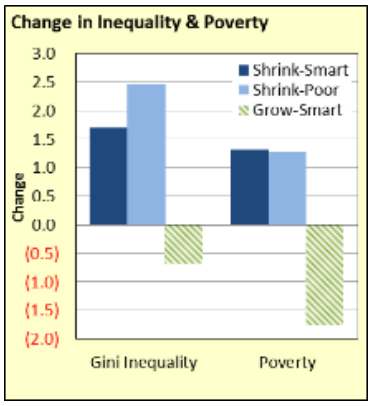
There were no statistical differences in incomes or inequality between ***Shrink-Smart and Shrink-Poor*** towns. This indicates changes in QoL are probably not driven by wealth differences between the towns. Both smart and poor towns had a median income of about $48,000, below the average for Iowa ($51,130) and the U.S. ($53,050). About 13 percent of residents in shrinking towns lived in poverty, a bit higher than the state rate (12.2%) but far below the nation (14.9%).

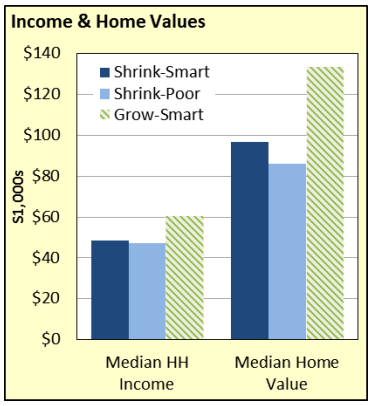
Income inequality is measured using the Gini coefficient, where scores closer 1.0 indicate greater income disparities. Inequality for both sets of shrinking towns was below average (0.390) compared to the rest of Iowa (0.430) and the nation (0.471).

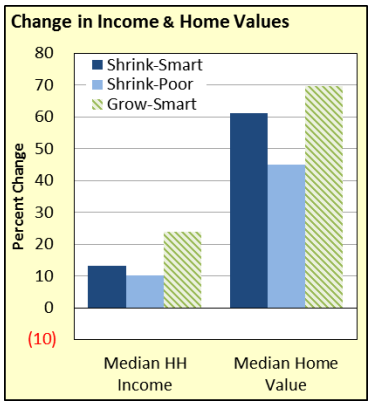
The only difference between shrink smart and poor towns is on median home values, where property in smart towns was higher valued ($96,734 vs. $85,939) and appreciated much faster in real terms since 1990 (61.3% vs. 45.2%).

As evident from the charts, ***Grow-Smart*** towns are doing well in terms of income. Smartly growing places had much higher and faster growing household incomes; and also had lower rates of poverty and inequality that fell over the past two decades. By contrast, shrinking towns had high and growing poverty and inequality. Although home values were much higher than in shrinking places, the rate of appreciation over time was the same in Shrink-Smart towns.





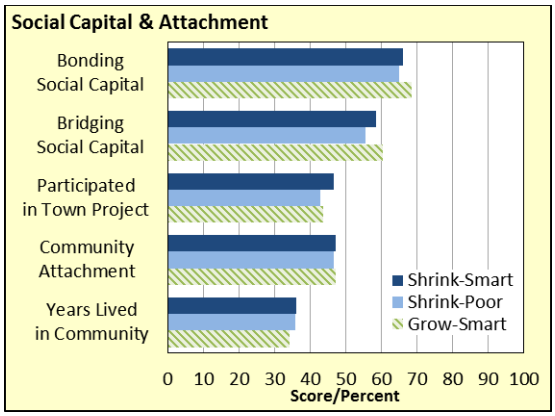




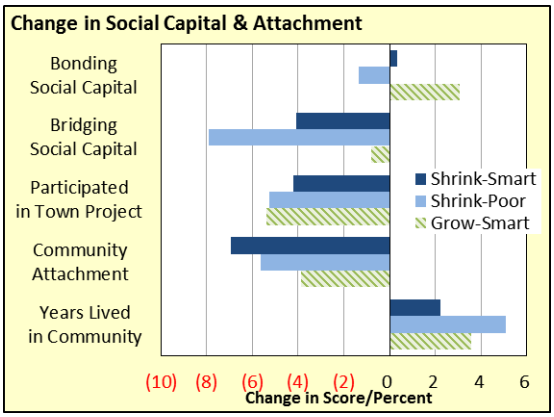
Shrink-Smart and Shrink-Poor towns are identical in terms of income and inequality, but smart towns had higher and growing home values

Shrink-Smart Towns: diverse social networks, more civically engaged

Social capital is defined as feelings of trust, norms of cooperation, and social networks that exist in a community that facilitate coordinated actions (Robison & Ritchie 2010). *Bonding social capital* are ties between very similar people based on emotional bonds, such as close friends and family. By contrast, *bridging social capital* are ties between very diverse and unfamiliar people based on achieving some common goal. Research has shown that bridging social capital is critical for community development (Halstead & Deller 2015). We find that bridging ties were stronger in ***Shrink-Smart versus Shrink-Poor*** towns (58.5 vs. 55.4); and although it has weakened over time the decline was slower than in poor places (-4.1 vs. -7.9 pts.). There were no differences in bonding social capital, but rates were stable in smart towns while they fell since 1994 in poor towns (0.3 vs. -1.3 pts.).



Civic engagement is an important indicator of pro-active and thriving communities (Flora et al. 1997). We find that in Shrink-Smart towns nearly half (46.6%) of all residents said they participated in a community improvement project in the past year, compared to only two-fifths (42.8%) in poor shrinking places. However, civic engagement has fallen since 1994 in both sets of shrinking towns. *Membership in organizations* is another indicator of civic engagement. Residents in smart shrinking towns were more engaged in both local organizations (9.7 vs. 9.3 groups/person) and groups outside the community (0.9 vs. 0.8 groups/person). Further, shrink-smart residents maintained these external links over the past two decades, where they fell in shrink-poor and grow-smart towns (see tables in the appendix).



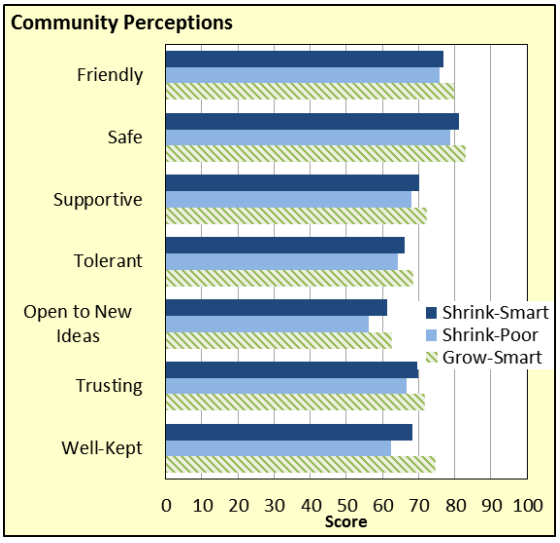
Although *attachment* to one's community is indicative of thriving places, we do not find any statistical differences between smart versus poor towns.

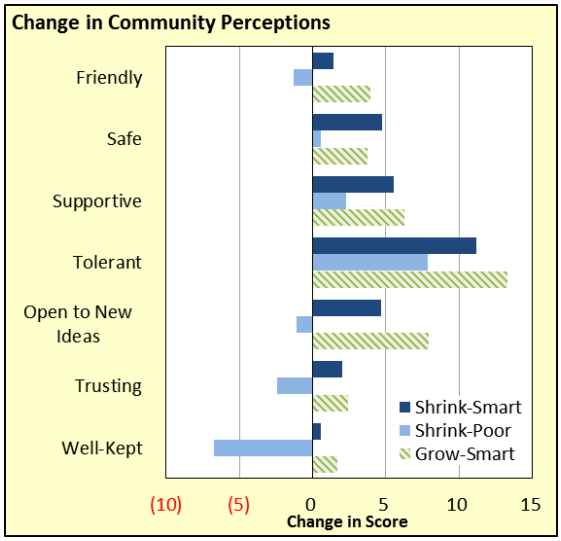
Residents in ***Grow-Smart*** places had higher bonding social capital that has strengthened over time; and also had slightly stronger bridging social capital that has remained stable instead of weakening. People in smart growing towns were just as civically engaged and just as attached to their community as shrink-smart residents, although attachment declined more slowly in grow-smart towns since 1994.

Shrink-Smart towns have diverse and inclusive social linkages; citizens participate more in community projects; and people belong to more organizations.

Shrink-Smart Towns: safe, supportive, trusting, open, and well-kept.

Besides simply documenting differences in population and economy, it is also important to understand how people think and feel about living in their communities. What we find is that residents in ***Shrink-Smart compared to Shrink-Poor*** towns rated their communities as safer (81.3 vs. 78.6), more trusting (69.9 vs. 66.8), better kept-up (68.4 vs. 62.3), and more open to new ideas (61.4 vs. 56.1). Shrink-smart towns also tended to be slightly more supportive and tolerant of others. Importantly, these positive perceptions have become stronger over the past two decades. The largest gains between smart and poor shrinking places were on being better kept-up (0.5 vs. -6.7 pts.), more open to new ideas (4.7 vs. -1.1 pts.), more trusting (2.0 vs. -2.4 pts.), and being safer (4.7 vs. 0.6 pts.) than in 1994.





Compared to smart shrinking places, ***Grow-Smart*** towns were more friendly (79.4 vs. 76.7), better well-kept (74.43 vs. 68.4) and slightly more tolerant (68.3 vs. 66.1). Smart growing towns also become more open to new ideas (8.0 vs. 4.7 pts.) and more friendly (4.0 vs. 1.4 pts.) than their smart shrinking counterparts.

In short, Shrink-Smart towns are viewed much more positively by residents than those in poorly shrinking ones. Changes in community perceptions and quality of life are very similar. This suggests that for most small town residents their perceptions of the community and their assessment of quality local services is closely intertwined.

Shrink-Smart towns are better-kept, more open to new ideas, more trusting, and viewed as safer places.

Implications for Shrinking Small Towns

It is unlikely that decades-long trends in depopulation will be reversed in most small towns. However, this does not mean that shrinking towns must also be withering ones. To the contrary, we find that some shrinking places have thrived in terms of quality of life (QoL) despite population losses – what we call Shrink-Smart small towns. Our analysis leads us to several recommendations that can be undertaken by declining towns so they can maintain quality local services.

Primary recommendations for shrinking towns to grow QoL are to ***enhance bridging social capital, increase civic engagement, and create a culture of openness and support***. We recommend these first because they are inexpensive to implement, actionable in the near-term, and success does not depend on outside socioeconomic or political forces. In short, it is within the community's power to achieve these recommendations.

Bridging social capital can be enhanced by local efforts to develop diverse and inclusive linkages between residents in shrinking towns. This includes bridging divides across economic class, race and ethnicity, gender, and even newcomers versus long-time residents. Civic engagement can be fostered by encouraging residents to *participate in local projects* and to *join local and outside organizations*. Inclusive linkages and community participation increases the long-term success of local projects to improve QoL. It provides the social infrastructure to identify relevant community needs, gain community support across different groups, garner human and financial resources from the entire community, coordinate activities to implement projects, and to manage conflict as it arises so projects do not get derailed. In particular, membership in outside groups is important to bring resources into the community that cannot be found locally.

Creating a *culture of openness and support* is also critical to the success of community projects improving QoL. Shrinking towns can nurture this culture by focusing on the personal, process, and physical aspects of the community. Personal aspects speak to emotional needs, such as how safe residents feel in their town, whether they can trust their neighbors, and if they feel the community is supportive of themselves and others. Process aspects deal with public deliberation and decision-making, such as a community's openness to new ideas and consideration of alternative solutions. Physical aspects are whether residents feel their town is being kept up and is worthy of future investment, or whether it is too run down and not worth the investment. Shrink-Smart towns do a better job at fostering these positive perceptions and providing for the emotional needs of their residents.

Bridging social capital, civic engagement, and a culture of openness and support are all indicators of ***entrepreneurial social infrastructure*** (ESI). ESI argues that effective or "smart" local actions are enhanced in three ways (Flora et al. 1997). First, *legitimacy of alternatives* is how well the community accepts controversy, depersonalizes politics, and focuses on process. Openness to new ideas, tolerance, trust, and friendliness are good examples of ESI which are found in Shrink-Smart towns.

Second, *resource mobilization* is the community's ability to invest in itself by raising funds, recruiting volunteers, and using other local assets. It also includes the town's ability to secure needed resources from outside the community. Participating in local projects, joining local groups, and being a member of outside organizations all contribute to resource mobilization. Shrink-Smart towns score high on these indicators.

Third, *quality of networks* is how people in the community connect both to each other and to outside groups to achieve shared goals. This includes diverse networks within the community, informal linkages to similar towns for peer-to-peer learning, as well as formal linkages to organizations outside the community. Shrink-Smart towns score high on bridging social capital, which measures diverse and inclusive networks. Residents in smart places also have more and increasing memberships in outside organizations for stronger vertical networks.

Secondary recommendations for shrinking towns are to ***stabilize agricultural employment and grow jobs in goods-producing industries***. We recommend these as a secondary priority because they often require sizable financing and long-term planning; and they carry risk because the community has little control over national policy or global economic conditions. In short, small towns may be powerless to make these changes in the face of global pressures.

Our findings show that smart shrinkage does not depend on geography, income differences, or for the most part the community's economic base – smart and poor shrinking towns are roughly the same. However, there are some important differences. More residents in Shrink-Smart towns earn their livelihood from *agricultural and natural resource* activities, but these jobs fell rapidly over the past 20 years. More surprising, smart towns actually saw job gains in goods-producing industries like *manufacturing, construction, and mining* – jobs that have declined sharply in other small towns.

Both agriculture and manufacturing contribute to higher QoL by providing middle-skill and middle-wage job opportunities, many which are full-time and full-year positions with decent benefits. These middle-skill jobs better fit the rural labor force that exists in small towns. Communities should use local and state economic development programs to recruit and retain middle-skill jobs in agriculture and the goods-producing sector.

In summary, Shrink-Smart towns have a unique combination of social and physical infrastructure that has permitted QoL to grow despite depopulation. We find social infrastructure to be more important in understanding smart shrinkage because it is actionable by the community in the near-term with little expense. While physical infrastructure linked to agriculture and manufacturing is also important, its main limitation is that small towns have little control over policy and economic conditions that impact those industries at the national and global levels.

ISU Resources

Community and Economic Development Extension have several programs available for communities aimed at fostering social capital, civic engagement, and local businesses.

- Promoting Inclusion
- Local Economies
- Local Governments
- Civic Engagement and Leadership

www.extension.iastate.edu/communities

ISU Smart and Connected Communities is a National Science Foundation funded project examining smart shrinkage in Iowa. The project will identify specific strategies using by Shrink-Smart towns; and also develop new data sources using social media.

scc.design.iastate.edu

Agriculture and Natural Resources Extension offers several programs aimed at improving commercial and small-scale farms in Iowa.

- Farm Management
- Beginning Farmers
- Value-Added Agriculture
- Small Farm Sustainability

www.extension.iastate.edu/ag/farm-management-resources

Center for Industrial Research and Service can assist businesses and communities in retaining, expanding, and creating opportunities in the goods-producing sector.

www.ciras.iastate.edu

Contributors

Prepared by David J. Peters, Associate Professor of Rural Sociology.
Assisted by Hannah Fisher, Undergraduate Research Assistant; and Kimberly Zarecor, Associate Professor of Architecture.

For more information contact

David Peters, Ph.D.
Associate Professor and Extension Rural Sociologist, Department of Sociology
dpeters@iastate.edu | tel. 515-294-6303

This work is supported by ISU College of Agriculture and Life Sciences; and by ISU Extension and Outreach.
Photo credit: Nick Vanberkum

Appendix

A. Tables

Shrink & Smart Indicators	Base in 2010: *Shrink Smart*	*Shrink Poor*		*Grow Smart*		Change from 1990: *Shrink Smart*	*Shrink Poor*		*Grow Smart*	
Population (#)[ab]	1,318	1,616		4,029	*	-11.31	-11.47		22.83	*
Quality of Life (0-100)[a]	53.60	43.74	*	62.52	*	10.75	-2.18	*	13.12	*
Demographics										
Population Density (sq.mi.)[a]	30.06	79.90	*	152.96	*	-4.12	-8.00		27.76	*
Minorities (%)	3.97	3.62		8.64	*	2.87	3.01		7.23	*
Age 17 & Under (%)	24.64	23.02	*	25.41		-2.64	-3.35		-2.21	
Age 65 & Older (%)	21.26	20.54		16.10	*	0.56	0.32		-2.37	*
Single-Headed Families w/ Children (%)	20.96	27.74	*	26.44	*	6.70	11.38	*	9.84	
High School Non-Completers (%)	11.82	12.90		9.61	*	-9.82	-11.42		-14.21	*
College Graduates (%)	17.80	14.56	*	20.88	*	6.28	4.59	*	10.09	*

Estimated means holding 2010 population constant at 2,632.
*$p<.05$ and †$p<.10$ statistical difference from Shrink-Smart mean using Games-Howell Test.
a denotes actual mean without population constant. *b* denotes percent change.

Employment	Base in 2010: *Shrink Smart*	*Shrink Poor*		*Grow Smart*		Change from 1990: *Shrink Smart*	*Shrink Poor*		*Grow Smart*	
Employment Participation (%)	47.00	47.28		52.51	*	2.74	3.57		6.50	*
Full-Time & Full-Year Jobs (%)	66.68	71.10	*	71.63	*	5.44	6.37		7.68	
Agriculture & Natural Resources (%)	9.07	7.54	*	3.62	*	-6.09	-3.24	*	-6.51	
Goods Producing (%)	25.21	24.30		30.01	*	6.21	-1.70	*	5.22	
Transport, Telecomm & Utilities (%)	7.62	7.72		6.84		0.44	1.90	*	0.46	
Professional, Health & Educ Srvs. (%)	28.83	30.85		32.84	*	0.71	3.29	*	6.57	*
Retail & Leisure Srvs. (%)	23.03	22.85		19.92	*	0.50	1.68		-3.75	*
Income										
Median Household Income (2015$)[b]	$48,329	$47,330		$60,188	*	13.26	10.33		23.87	*
Gini Income Inequality (0-100)	39.67	39.26		36.77	*	1.70	2.46		-0.67	*
Poverty (%)	13.36	13.03		8.65	*	1.32	1.28		-1.75	*
Median Home Value (2015$)[b]	$96,734	$85,939	†	$133,010	*	61.27	45.17	*	69.58	

Estimated means holding 2010 population constant at 2,632.
*$p<.05$ and †$p<.10$ statistical difference from Shrink-Smart mean using Games-Howell Test.
a denotes actual mean without population constant. *b* denotes percent change.

	Base in 2014					Change from 1994				
Social Capital	*Shrink Smart*	*Shrink Poor*		*Grow Smart*		*Shrink Smart*	*Shrink Poor*		*Grow Smart*	
Bonding Social Capital (0-100)	66.14	64.89		68.47	*	0.34	-1.33	*	3.09	*
Bridging Social Capital (0-100)	58.49	55.44	*	60.39	†	-4.07	-7.91	*	-0.80	*
Membership in Outside Groups (#)	0.91	0.77	*	0.71	*	0.05	-0.05	*	-0.15	*
Membership in Local Groups (#)	9.72	9.25	*	9.92		-2.90	-2.62	†	-2.51	*
Civic Engagement										
Participated in a Town Project (%)	46.55	42.77	*	43.63		-4.21	-5.25		-5.38	
Community Attachment (0-100)	47.27	46.75		46.95		-6.95	-5.63	†	-3.87	*
Years Lived in the Community (#)	36.13	35.88		34.11		2.22	5.10	*	3.61	

Estimated means holding 2010 population constant at 2,632.

*p<.05 and †p<.10 statistical difference from Shrink-Smart mean using Games-Howell Test.

a denotes actual mean without population constant. *b* denotes percent change.

	Base in 2014					Change from 1994				
Community Perceptions	*Shrink Smart*	*Shrink Poor*		*Grow Smart*		*Shrink Smart*	*Shrink Poor*		*Grow Smart*	
Friendly (0-100)	76.73	75.73		79.36	*	1.41	-1.28	*	3.98	*
Safe (0-100)	81.28	78.60	*	82.77		4.70	0.57	*	3.76	
Supportive (0-100)	70.07	68.07	†	71.82		5.53	2.30	*	6.32	
Tolerant (0-100)	66.07	64.35	†	68.28	†	11.14	7.82	*	13.35	
Open to New Ideas (0-100)	61.37	56.13	*	62.17		4.69	-1.13	*	7.96	*
Trusting (0-100)	69.87	66.78	*	71.31		2.01	-2.41	*	2.46	
Well-Kept (0-100)	68.37	62.28	*	74.43	*	0.53	-6.73	*	1.72	

Estimated means holding 2010 population constant at 2,632.

*p<.05 and †p<.10 statistical difference from Shrink-Smart mean using Games-Howell Test.

a denotes actual mean without population constant. *b* denotes percent change.

B. References

Flora, J., Sharp, J., Flora, C., and Newton, B. (1997). "Entrepreneurial Social Infrastructure and Locally Initiated Economic Development in the Nonmetropolitan United States." *Sociological Quarterly* 38: 623-645.

Halstead, J. and Deller, S. (2015). *Social Capital at the Community Level*. Routledge: New York.

Henderson, T. (2017). "While Most Small Towns Languish, Some Flourish." *Stateline, PEW Trusts*. Published 7/5/2017 at http://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2017/07/05/while-most-small-towns-languish-some-flourish

Henderson, T. (2015). "States Try to Counter Rural Flight." *Stateline, PEW Trusts*. Published 8/20/2015 at http://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2015/08/20/states-try-to-counter-rural-flight

Johnson, K. and Lichter, D. (2013). "Diverging Demography: Hispanic and Non-Hispanic Contributions to U.S. Population Redistribution and Diversity." *Population Research and Policy Review* 35: 705-725.

Kusmin, L. (2016). *Rural America At a Glance, 2016 Edition*. ERS Bulletin 162. USDA: Washington, DC.

Peters, D. (2013). "American Income Inequality Across Economic and Geographic Space, 1970-2010." *Social Science Research* 42: 1490-1504.

Robison, L. and Ritchie, B. (2010). *Relationship Economics*. Routledge: New York.

Weaver, R., Bagchi-Sen, S., Knight, J., and Frazier, A. (2017). *Shrinking Cities: Understanding Urban Decline in the United States*. Routledge: New York.

C. Data and Methods

Small towns are defined as a municipality having a population of at least 500 but under 10,000, not adjacent to a major city of 50,000 or more, according to the 1990 Census. In each county in Iowa, one small town fitting this definition was randomly selected for data collection, per the Iowa Small Towns Project methodology (see below). This resulted in n=99 small towns for analysis.

Shrink is measured as percent change in population between the 1990 Decennial Census and the 2008-2012 American Community Survey. ***Smart*** is measured as change in quality of life ratings from the 1994 and 2014 Sigma Study, now part of the Iowa Small Towns Project. Overall QoL is computed as an average of seven specific QoL questions that include: jobs, medical services, public schools, adequate housing, local government services, child care services, and senior citizen programs. QoL variables are on a 4-point Likert scale converted to a 0-100 scale. Towns were classified as ***grow vs. shrink*** and ***smart vs. poor*** based on z-scores exceeding ±0.4 standard deviations above/below the mean in population percent change and quality of life change. This standard deviation threshold was chosen because higher z-scores at ±1.0 and ±0.5 resulted in too few towns for statistical analysis.

Demographic and economic data are taken from the 1990 Decennial Census and the 2008-2012 American Community Survey. ACS 2008-2012 estimates were chosen because 2010 is the mid-point, permitting accurate comparison with 1990 data. Since municipal or place boundaries change often, and especially between Census periods, the data were recalculated or normalized to 2010 geographies to permit comparisons over time. Place boundaries do not precisely match Census statistical geographies, so block-groups were used to approximate place boundaries. Any block-group intersecting the municipal boundary was selected; and then the data were aggregated and normalized to current boundaries. Specific variable definitions are below.

- Minority is the population self-identifying with a non-white race or of Hispanic ethnicity regardless of race. High school non-completers are those without a diploma or GED. College graduates are those with a bachelor's degree or higher.
- Jobs are the number of employed persons by place of residence, including self-employed and government workers. Full-time and full-year jobs are those working 35+ hours per week for 50+ weeks per year. Agriculture and natural resources includes agriculture, forestry, and fishing. Goods-producing includes mining, construction, and manufacturing. Professional, health, and education services includes professional and related services; finance, insurance, and real estate; and health and education services. Retail and leisure services includes retail trade; entertainment and recreation services; business and repair services; and personal services.

- Median household income and median home values are reported in 2015 real dollars using CPI adjustments. Poverty is for the population using HHS thresholds for the reporting year. Income inequality is measured using the Gini coefficient, which ranges from 0.0 or perfect equality to 1.0 or perfect inequality. Gini scores are calculated from aggregate household income categories using a method developed by Peters (2013).

Social capital, civic engagement, and community perceptions data are taken from the Sigma Study, now part of the Iowa Small Towns Project. The Sigma Study is a decennial survey of 99 small towns in Iowa that has been done in 1994, 2004, and 2014; and is funded by AFRI-USDA. Towns were selected in 1994 based on the following methodology: (i) population of at least 500 but under 10,000 according to the 1990 Census, (ii) not adjacent to a major city of 50,000 or more, and (iii) random selection of one town meeting the first two criteria in each of Iowa's 99 counties. Housing units were randomly sampled in ZIP codes corresponding to selected municipalities. Oversampling for minority populations were done in 2004 and 2014. Each housing unit was given 4 treatments (postcard pre-notification, first questionnaire, postcard reminder, second questionnaire). The minimum number of completed responses was set at n=150. Response rates were 72.7% in 1994, 68.36% in 2004, and 41.5% in 2014. Specific variable definitions are below.

- Bonding social capital is an averaged index of four items on a 5-point Likert scale, converted to a 0-100 scale: (i) community is like living with a close group of friends, (ii) our neighborhood is closely knit, (iii) I would be sorry to leave this community, and (iv) I feel at home in this community.
- Bridging social capital is an averaged index of four items on a 5-point Likert scale, converted to a 0-100 scale: (i) organizations are interested in what is best for all, (ii) community receptive to new residents taking leadership positions, (iii) when something needs to get done the community gets behind it, and (iv) "every person for themselves" is a poor description of this community.
- Community attachment is an averaged index of three items on a 6-point Likert scale, converted to a 0-100 scale: (i) proportion of adults in the community you know on a first name basis, (ii) proportion of close personal adult friends that live in the community, and (iii) proportion of your adult relatives and in-laws that live in the community.
- Community perceptions are from a 7-point semantic differential scale converted to a 0-100 scale: (i) unfriendly – friendly, (ii) dangerous – safe, (iii) indifferent – supportive, (iv) prejudiced – tolerant, (v) rejecting of new ideas – open to new ideas, (vi) not trusting – trusting, and (vii) run down – well kept.

Statistical methods employed a general linear multivariate model (MANCOVA) to test mean differences controlling for population size in 2010 using the Games-Howell Test, which corrects for unequal group sizes and unequal group variables.