Epistemic Communities or Forced Marriages? Evaluating Collaboration Among Sustainable Communities Initiative Regional Planning Grant Recipients

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Abstract

The Sustainable Communities Initiative Regional Planning Grant (SCI-RPG) program supported collaborative regional planning that crosscut silos, such as transportation and housing or business and social justice advocacy groups. This article examines the extent to which the program helped diverse regional actors work together and form an "epistemic community," in which diverse actors develop a common understanding of problems. To analyze the formation of these communities, we built databases on the organizational characteristics of core partners in each grantee consortium, the governance of the grant, and regional economic and demographic characteristics. Multivariate regression models suggest that elements of epistemic communities are indeed emerging, but their effect on implementation is harder to predict. Three case studies of grantee regions with longstanding political divides, inequality, or both illustrate just how the SCI-RPG program helped to bridge differences and form new epistemic communities. The findings of this research suggest that federal grant programs like the SCI-RPG can help catalyze and institutionalize regional collaboration among diverse actors.

Introduction

Communities in the United States face complex issues of growth, decline, and sustainability that are challenging to address at the local scale or within agency silos, such as transportation, housing, or economic development. However, in the face of deep regional schisms about how to move forward and the lack of a formal regional government, regional problemsolving requires collaborative governance networks. Nonprofits, the private sector, and other nonstate actors often work with the public sector to help envision the region's future, design new policy approaches, and implement specific projects.

The rise of these regional governance networks is leading to a lively debate about their form and effectiveness. If the networks are inclusive, leaderships and resources are in place, and processes are nimble and adaptive, leading to a shared vision, regional governance may be effective (Innes and Booher, 1999; McKinney, Parr, and Seltzer, 2004). A variety of regional actors may come together in a "diverse epistemic community" or in the formation of a regional consciousness among stakeholders that leads to joint problem definition and solving (Benner and Pastor, 2012). When confronting a problem, networks of actors come together to ascertain facts, share concerns, and reach a shared understanding. In the process, actors begin seeing them as part of a region where fates are intertwined (Benner and Pastor, 2012). At the same time, even when they strive to be inclusive, collaborations may reinforce existing power dynamics if inequities among stakeholders are not addressed (Lester and Reckhow, 2013).

Because the U.S. Department of Housing and Urban Development's (HUD) Sustainable Communities Initiative Regional Planning Grant (SCI-RPG) program required participants to develop broad collaborations or consortia, it offers an excellent case to examine regional governance and collaboration, specifically the formation of epistemic communities. Funded by Congress in 2010 and 2011, the SCI-RPG program provided grants on a competitive basis for collaborative regional planning efforts supporting more sustainable development patterns. With $165 million awarded to 74 grantees from across the country, the program marks the largest federal government investment ever in regional planning in the United States.

Based on a mixture of quantitative data analysis and qualitative case studies, this article examines whether SCI-RPG grantees succeeded at forming epistemic communities, and more broadly, at engaging in regional collaboration and governance. Specifically, we ask—

- What factors, if any, led to the formation of diverse epistemic communities among SCI-RPG participants?

- How did the existence of epistemic communities shape the implementation and sustainability of the initiative in grantee regions?

This article begins with a review of academic debates about regional collaboration, focusing on the definition of epistemic communities. After providing a brief background on how the SCI-RPG program structures collaboration, we describe our methodological approach and data. Based on the unique databases constructed for this study, the following section describes collaboration and governance structures among grantees. Regression analysis of both partners and plan adoption is used

to identify the factors that lead to epistemic community formation, and suggests the role communities play in implementation. Case studies both confirm and complicate the quantitative findings. A final section concludes and offers policy implications.

Conceptualizing Regional Collaboration

A rich literature establishes how collaborative planning can foster dialogue among diverse stakeholders (Innes and Booher, 1999; Forester, 1999). In a "community of inquiry," a cooperative and creative dialogue can build a common understanding that then motivates collaboration (Innes and Booher, 2000). An inclusive, equitable regional planning table, at which goals and definitions are aligned among stakeholders, can also help a diverse group of actors address complex social ills (Kania and Kramer, 2011). Thus, collaboration becomes critical in regional planning, which requires shared interests in order to rally around a regional vision (McKinney and Johnson, 2009). Given how experts have traditionally dominated planning, inclusion at the table, and in general, a stronger connection by planners to the people and places they serve, is critical for success (Fung, 2006; Manzo and Perkins, 2006).

Interconnected crises of job loss, inequality, and political fragmentation have led Benner and Pastor (2015: 7) to argue that "the starting point for addressing all three has to be shrinking the epistemic distance that allows us to believe we are living in separate and disconnected worlds." In this section, we will explore Benner and Pastor's definition of an epistemic community, as well as how similar concepts from collaborative public management research can help explain the collaborative knowledge communities created under SCI.

Building on constructivist scholarship in international relations, political scientists—notably Peter M. Haas—use the term epistemic communities to describe scientific knowledge production in global environmental governance. Haas (2008: 3) defined *epistemic communities* as "networks—often transnational—of knowledge-based experts with an authoritative claim to policy relevant knowledge within their domain of expertise." Members of these communities "share knowledge about the causation of social or physical phenomena in an area for which they have a reputation for competence, and a common set of normative beliefs that will benefit human welfare in such a domain."

Finding this reliance on expertise too narrow, Benner and Pastor (2015: 16) differentiated their approach by focusing on epistemic communities as "having a broader membership base, an ability to accommodate multiple ways of knowing, a scope of action which stretches across multiple outcomes and conversational arenas, a desire to move beyond the episodic, and a capacity to handle conflict even as they facilitate a sense of common destiny."

Inclusiveness and cultural humility must be core values in epistemic communities, or they risk perpetuating the very injustices that participants are trying to address (Daukas, 2006). Moreover, for local collaboratives to effectively address racial equity, members must develop a shared understanding and definition of racial equity that includes an analysis of historic laws and policies that have perpetuated racial inequities and defines bias and structural racism (Nelson, 2015).

Collaborative public management scholars help explain how and why formal epistemic communities are formed and sustained. For instance, in their framework for successful cross-sector collaborations, Crosby and Bryson (2010: 226) noted that cross-sector collaborations often have "competing institutional logics" that "significantly influence the extent to which collaboration leaders can agree on essential elements of process and structure as well as outcomes."

Another factor that influences the formation of cross-sector collaborations is system turbulence, which includes competitive forces, turbulent environments, and changing conditions, as well as recognition on the part of regional leaders that cross-sector collaboration is needed (Crosby and Bryson, 2010). The most important contributing factors to the formation of epistemic communities are "conditions of complexity and uncertainty… that lead people to recognize the value of" diverse knowledge communities (Benner and Pastor, 2015: 197).

Boundary objects and experiences are helpful for understanding how epistemic communities can be fostered in practice (Feldman et al., 2006). Like epistemic communities, boundary groups are "collections of actors who are drawn together from different ways of knowing or bases of experience for the purpose of coproducing boundary actions" (Feldman et al., 2006: 95). Boundary experiences are "shared or joint activities that create a sense of community and an ability to transcend boundaries among participants," whereas boundary objects are "physical objects that enable people to understand other perspectives" and "provide a common focus for different ways of knowing" (Feldman et al., 2006: 93–94). Examples of boundary experiences include field trips, joint problemsolving, and community projects, whereas boundary objects can be anything from a picture to a report or grant.

Boundary objects and boundary experiences help form the "alternative set of microfoundations" on which epistemic communities are formed (Benner and Pastor, 2015: 192–193), "in which individuals have a sense of place, are transformed by their interactions with each other, and come to see doing good and planning for the regional future as simply a set of standards and social norms they hold for themselves and others."

Collaboration in the SCI-RPG Program

In 2010, HUD, the U.S. Department of Transportation, and U.S. Environmental Protection Agency joined together for a first-of-its-kind grant program dedicated to promoting collaborative regional planning. The Sustainable Communities Initiative (SCI) funded multijurisdictional planning efforts across the country that addressed "the interdependent challenges of: (1) economic competitiveness and revitalization; (2) social equity, inclusion, and access to opportunity; (3) energy use and climate change; and (4) public health and environmental impact."[1]

Acknowledging the complexity of sustainable development governance, the Notice of Funding Availability (NOFA) required applicants to organize a consortium of government entities and nonprofit partners, including the region's principal city or county; additional cities to represent

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[1] Sustainable Communities Regional Planning Grant program. Notice of Funding Availability FR-5396-N-03. Fiscal Year 2010: U.S. Department of Housing and Urban Development: 68.

no less than 50 percent of the region's population; the metropolitan planning organization (MPO) or regional planning agency; and a nonprofit organization, foundation, or educational institution. Applicants from outside of a designated metropolitan statistical area (MSA) or MPO were asked to include similar partners with a rural planning organization or council of governments to substitute for the MPO. The core partners in the consortium could invite other collaborators as well. Although each consortium had a lead applicant, HUD's intention was for the consortium members to be as interdependent and cooperative as possible. To this end, consortium members were required to sign a memorandum of understanding that they will share responsibility for executing the grant activities. The NOFA also required matching or leveraged funds to 20 percent of the grant amount.

Acceptable activities under the SCI-RPG include improving regional planning and decisionmaking processes, coordination among agencies, and data collection. A regional plan for sustainable development could include an inclusive housing plan, a sustainable transportation plan, planning for water infrastructure, reducing environmental impacts of new land uses, planning for economic development activities that will create jobs, or conducting scenario planning or climate-impact assessments. The NOFA provides extensive examples of activities that constitute sustainable planning, with a focus on providing housing and transportation choices within the region, not simply shifting demand outside the region.

Data and Methods

To understand the nature of collaboration under the grant, we focused on three components of collaboration: who participated in the grant, how that participation was structured, and grant outcomes (as self-reported by grant recipients). We captured each with its own distinct database: a Partner Database, a Collaboration Database, and an *eLogic* database.[2] We defined each grantee region as the counties associated with each grantee (for more details, please see the appendix).

To get a sense of the types of groups involved in the consortia, we gathered the organizational characteristics of consortium members from a variety of secondary sources, including HUD databases and reports, and member websites. We also analyzed grantee consortia agreements and work plans to measure formal collaboration methods, and used a database of final grant report metrics to analyze collaboration outcomes.

Partner Database

To better understand the sectoral diversity of each grant consortium, we gathered the organizational characteristics of partners that collaborated with SCI grantees. We defined *partners* as the organizations listed in a HUD-maintained database of 2,550 organizations involved with each grantee project. For each of these partners, we gathered a series of variables: budget (2014 gross revenue), mission statement (available from their website and the Guidestar nonprofit database), and entity type, which we defined as the stakeholder group that the partner represented. Then, we developed a typology of 22 organization types (see appendix); these were then consolidated into

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[2] These databases are available online at our project website, http://www.planningsustainableregions.org.

the 6 categories used in the analysis.[3] These categories were also used to calculate the organizational diversity index, an entropy measure where 100 equals a perfect balance of the 6 types, and 0 means that only 1 type is represented.

The Partner Database makes no distinction between actual consortium members and organizations with less active involvement, and thus it may either underestimate or overestimate participation. For instance, the Partner Database includes the 150 businesses that participated in Erie County, Pennsylvania's economic working group, but these businesses did not participate in the formal grant consortium, which consisted of 74 members. Conversely, more than 100 municipalities and organizations were involved in East Arkansas' regional planning efforts according to their final plan, but the Partner Database only lists 34 partners.

Collaboration Database

The Collaboration Database measures both regional characteristics and the governance structure of each grantee's consortium.

In reviewing consortia agreements, we realized that grantees employed a host of tactics for building shared understanding of regional problems among stakeholders. Despite the challenge of measuring inclusive practices with secondary data, we noted some common trends. Using consortia agreements and grantee work plans supplied by HUD, we developed a governance typology by asking a series of questions about each grantee consortium and then entering the answer in our database. For this article, we use only two questions (in the following; the full set can be found in the appendix).

- In the governance structure, how many organizational tiers were between the highest body and lowest body? (In other words, was the organizational structure more horizontal or vertical?)

- How many governance structure bodies (committees, working groups, boards, etc.) did the consortium produce? (In other words, how broad was stakeholder participation?)

The regional characteristics for each grantee include three sets of variables—regional demographics, regional economy, and structural characteristics—identified by Benner and Pastor (2012) as important determinants of equitable regional growth. The variables employed in the analysis include the size of the region's Black and Latino middle class and the degree of service fragmentation within a region. We aggregated all variables by grantee county.[4]

We applied a similar methodology to our Demographic and Inequality variables. We calculated the total regional population and racial and ethnic makeup by summing the county-level 2010 Census

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[3] For budget, we preferred to use 2014 gross revenue; however, for many partners, this figure was not possible to determine, and instead we used the budget from the most recent year available. For partners that were no longer operational, we used information from their final year of operation. Content analysis of mission statements determined whether language on the "three Es" of sustainability (the economy, the environment, and equity) was present.

[4] We obtained the number of middle-class Black and Latino households, defined as households identifying as Black or African-American alone or Hispanic or Latino, from the American Community Survey (ACS). We defined the total number of middle-class households as the number of households that fell into income groups between two-thirds of and twice the median household income of each county. We defined service district complexity by dividing the total number of non-school district special purpose governments by the county population.

data for each grantee. We aggregated median household income with a weighted average using the total number of households.[5] We obtained income segregation and racial diversity indices from the Equality of Opportunity Project website (Chetty and Hendren, 2014). The racial segregation measure is a Theil's *H* multigroup entropy index, which is a 0 to 1 scale, where 1 represents complete segregation, and 0 represents fully integrated neighborhoods. We calculated both variables using data from 2000; for this analysis, we assume that segregation patterns have remained constant through the 2000s.

The limitation of this sort of analysis, however, is that it only shows the initial and formal structures of collaboration and not the more informal and interpersonal ways that consortia members interacted and operated. Furthermore, additional working groups, networks, and governance structures formed during the course of the grant were not captured with this method. For instance, each of the six demonstration projects that the Capitol Regional Council of Government's (CRCOG's) Sustainable Knowledge Consortium ended up forming their own local advisory councils, but this action was taken after the consortium had already formed its formal governance structure. Furthermore, some consortium agreements didn't describe their governance structure, so it is possible that bodies were not accounted for in the database. Finally, in some cases, working groups mentioned in the agreement may never have been formed. Overall, this database likely underestimates the extent of collaboration that occurred, but in some cases, it may overstate collaboration.

eLogic Database

In their final grant reports to HUD, grantees were asked to report a number of metrics related to their projects in a reporting document called an *eLogic Model*. The results were compiled into a database. Some of the metrics collected—including the number of residents participating in plan decisions, the number of participating jurisdictions, and the amount of local policy changes that resulted from the plan—are helpful for measuring the diversity and dynamism of each grantee's consortium. In this article, we focus on the number of jurisdictions that actually adopted the plans or projects from the initiative.

As self-reported metrics shared on a final grant report, the reliability and validity of the *eLogic* data points are questionable. Furthermore, many grantees were confused about the *eLogic* reporting forms, and quite a few skipped sections or the report entirely. As a result, the dataset is only partial, and the values it contains may be inflated.
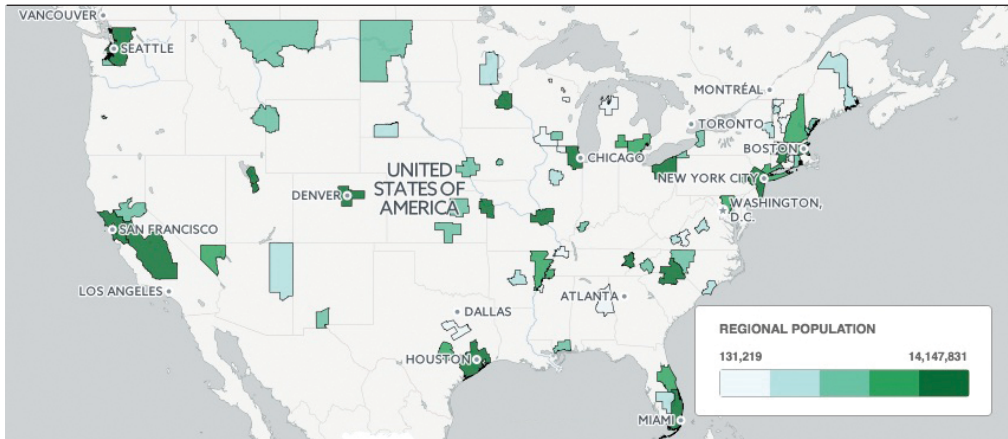
Describing Epistemic Communities

The 74 SCI-RPG grantee regions are situated across the country (exhibit 1). The group includes rural, small, and large metropolitan areas, ranging in population from 20,000 to 14 million. The regions present a broad range of income and racial/ethnic diversity, as well as political preferences.[6]

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[5] ACS 2014 5-year Estimates, Table B19001.

[6] To explore these differences further, see the maps at http://www.planningsustainableregions.org/sci-grant-recipients.

Exhibit 1

Location of SCI-RPG Grantee Regions

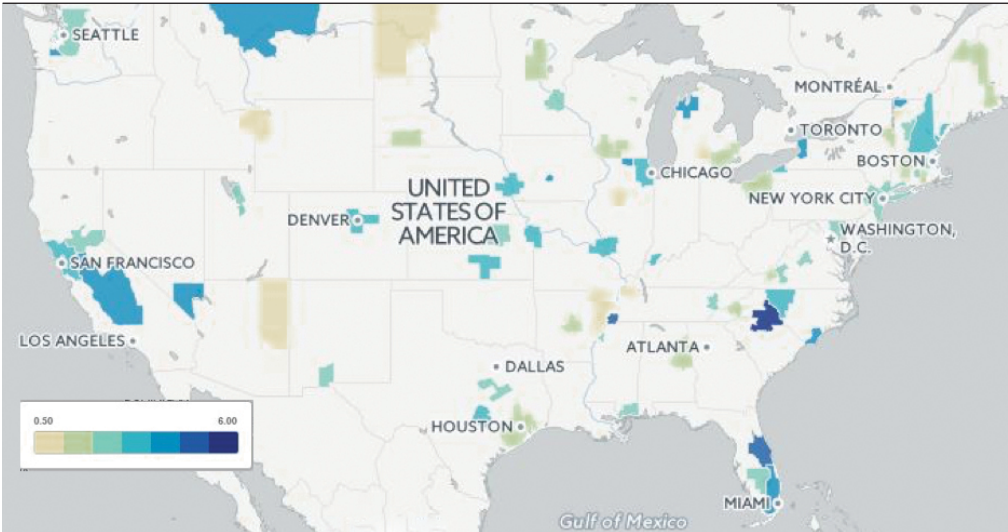*SCI-RPG = Sustainable Communities Initiative Regional Planning Grant.*

The Collaboration Database develops a typology of governance structures, and in this article, we focus on two variables: governance tiers and bodies. Structures with more governance tiers (shown in the darker shade in exhibit 2) have more levels of management or oversight for the project, representing a more vertical structure; those structures with fewer tiers are more horizontal (and possibly offer more opportunities for participation, input, and influence). Structures with more governance bodies (exhibit 3) have a more elaborate (and possibly cumbersome) management structure, including committees, working groups, boards, and so forth. On the one hand, having multiple groups may represent more opportunities to collaborate and develop shared ownership for a project. On the other, more governance bodies may create more fragmentation in governance.

The Partner Database categorizes the organization types for the 2,550 partners that participated in SCI-RPG across the 74 regions. These data represent the full consortia membership during the duration of the grant. Exhibit 4 groups the partners into six organization types. Not surprisingly, because the consortia were required to include governments representing 50 percent of the region's population, local government is the most common organization type. Likewise, each consortium was supposed to include a regional government entity, so more than 100 of these entities are represented across the grantees. What is more surprising is the involvement of nonprofits, business, and to a certain extent, universities in the consortia.

To learn more about the focus of these partner organizations, we took note of whether they had an explicit mission that addressed economic, environmental, or equity issues. Although all three areas were well represented among the partners, missions focusing on economic issues were most prevalent (exhibit 5).
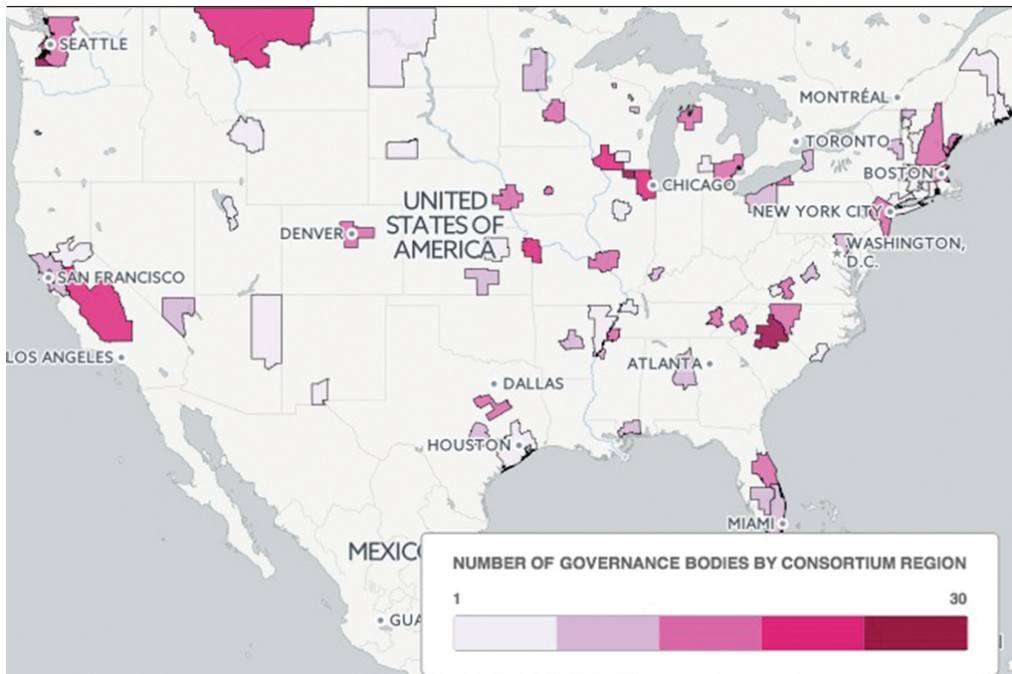
Exhibit 2

Governance Tiers by SCI-RPG Grantee Region

SCI-RPG = Sustainable Communities Initiative Regional Planning Grant.
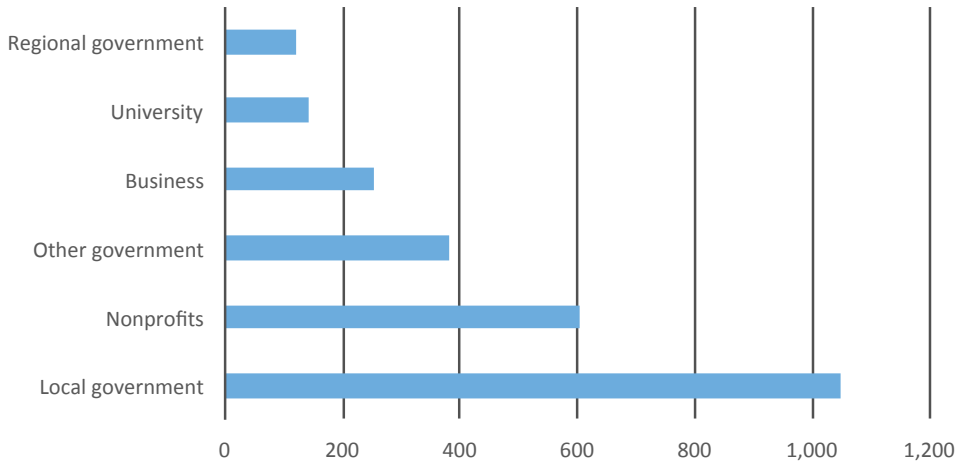
Exhibit 3

Governance Bodies by SCI-RPG Grantee Region

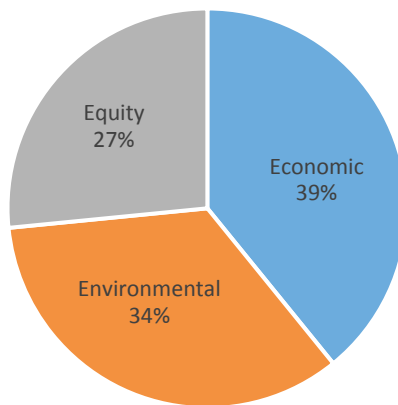SCI-RPG = Sustainable Communities Initiative Regional Planning Grant.

Exhibit 4

SCI-RPG Partner Organization Type, Governing Consortia

SCI-RPG = Sustainable Communities Initiative Regional Planning Grant.

Exhibit 5

Mission of SCI-RPG Partner Organizations

SCI-RPG = Sustainable Communities Initiative Regional Planning Grant.

We also evaluated participation via the results reported in the *eLogic Models*. These reports suggested that more than 200,000 residents nationwide engaged in regional planning processes related to the SCI-RPG grants. Participants included 1,856 jurisdictions, about one-third in the original consortium and another two-thirds joining with time. Altogether, 356 jurisdictions adopted plans or projects resulting from the grants.

The 74 grantees are a diverse set of regions in terms of demographic and regional characteristics. Exhibit 6 describes the key independent and dependent variables used in the models to predict epistemic community formation in the next section. In particular, the mean number of governance

Exhibit 6

Descriptives for Variables in Regressions

Type	Variable	Number	Minimum	Maximum	Mean	SD
Demographic characteristics	Regional population (2010)	74	20,048	14,147,831	1,593,051	2,407,620
	Median income	74	27,735	82,046	52,815	10,874
	Income segregation (2000)	74	0.01	0.14	0.06	0.03
	Racial diversity (2000)	74	0.01	0.51	0.15	0.09
	Percent of middle-class households that are African-American	74	0.00	0.72	0.08	0.11
	Percent of middle-class households that are Latino	74	0.00	0.56	0.08	0.10
Regional structure	Service district complexity (districts/10,000 population)	74	0.05	15.34	1.94	2.53
Governance structure	Number of governance structure bodies	71	1	30	7.73	5.80
	Number of governance structure tiers	71	0	6	2.20	1.38
	Number of partners whose mission statement mentions economic issues	74	0	33	5.34	5.95
Dependent variables	Organizational diversity	74	14.02	96.84	61.31	20.78
	Share of partners related to business	74	0%	33%	5%	8%
	Number of jurisdictions adopting plans	74	0	75	4.81	11.20

SD = standard deviation.

bodies is 7.7, whereas the mean number of tiers is 2.2. On average, 5.3 partners focused on economic issues. Average organizational diversity is relatively high, with an entropy index of 61.3, whereas the mean share of business partners is quite low, at 5 percent. Nearly 5 jurisdictions per region adopted the plan, on average.

Predicting Epistemic Communities

The literature on epistemic communities and how they help regions grow more equitably suggests the importance of several readily measurable factors. First, collaborations should be inclusive and diverse (that is, cross-sectoral); they may also be large and horizontally networked (Benner and Pastor, 2015; Innes and Booher, 1999). Second, regional economic and spatial structure matters: in particular, segregation and metropolitan fragmentation may be drags on the economy, whereas the existence of an African-American middle class may be positive (Benner and Pastor, 2012).

Using multivariate regression models, we examine the role of regional characteristics and collaboration governance in the formation and impact of epistemic communities, specifically examining the diversity of the collaboration (based on partner organization types), the participation of business,

and the project's effectiveness (as measured by plan adoptions). The findings suggest that epistemic communities, as measured by collaboration diversity and business participation, are indeed forming, but their impact on specific plans is harder to determine.

Ordinary least squares, or OLS, regression analysis is used, with a parsimonious set of variables representing regional demographic and economic characteristics, regional fragmentation, and governance structure. We identified multicollinearity by generating correlation matrices and variance inflation factors for each regression. Because of multicollinearity issues, we were only able to use one or two governance variables in each regression.

Collaboration Diversity

To measure the grants' diversity of collaborations—one indicator of epistemic communities—we developed a dependent variable that measured the diversity of partner organizations. We then examined the factors that predict diversity. The model is highly significant, with an adjusted *R*-squared of .306. In general, the most important predictors are related to economic challenges (exhibit 7): higher levels of income segregation, lower median income, and a lower share of the Latino middle class. At the same time, lower levels of fragmentation are important. In terms of governance, the most important factors leading to organizational diversity are less fragmentation in the region (in terms of special districts), fewer bodies in the governance structure, and partners who emphasize economic issues in their mission statement. In general, these findings confirm a common epistemic community narrative: collaborations coming together over a crisis and finding common ground in economic issues, facilitated by simpler governance and less fragmented regions.

Exhibit 7

Predicting the Diversity of Collaboration Partners

Type	Variable	Unstandardized Coefficients	S.E.	Standardized Coefficients	*t*-Statistic
Demographic characteristics	Regional population (2010)	0.000	0.000	– 0.101	– 0.643
	Median income	– 0.001**	0.000	– 0.327	– 2.133
	Income segregation (2000)	285.420***	103.276	0.442	2.764
	Racial diversity (2000)	– 34.049	30.420	– 0.162	– 1.119
	Percent of middle-class households that are African-American	– 10.516	22.566	– 0.056	– 0.466
	Percent of middle-class households that are Latino	– 51.120*	25.793	– 0.254	– 1.982
Regional structure	Service district complexity (districts/10,000 population)	– 2.172**	0.891	– 0.275	– 2.438
Governance structure	Number of governance structure bodies	– 0.603*	0.356	– 0.173	– 1.692
	Number of partners whose mission statement mentions economic issues	0.967**	0.377	0.285	2.567
	Constant	90.030	14.852		6.062

S.E. = standard error.
***p < .01. **p < .05. *p < .10.
Notes: n = 70. Significance = 0.000. Adjusted R^2 = 0.306.

Business Participation

To measure the extent of business participation in the partnerships—another indicator of epistemic communities—we developed a dependent variable that measured the share of partner organizations that were businesses or business representatives. The model is even more significant, with an adjusted *R*-squared of .455. Relatively few variables predict business participation (exhibit 8). In terms of regional economic characteristics, important predictors are more populous regions and a larger share of the middle class that is African-American middle class. In contrast to the first regression, more complexity actually enhances business participation; perhaps having a high number of special districts makes it more complicated to involve government in the collaboration, and businesses fill in the gap. Not surprisingly, however, the most important predictor of business participation is partner focus on economic issues. Overall, this idea suggests that businesses are most comfortable coming to the table with some degree of regional prosperity already present.

Exhibit 8

Predicting Business Participation in the Collaboration

Type	Variable	Unstandardized Coefficients	S.E.	Standardized Coefficients	t-Statistic
Demographic characteristics	Regional population (2010)	0.000**	0.000	– 0.295	– 2.125
	Median income	0.000	0.000	– 0.124	– 0.916
	Income segregation (2000)	0.474	0.350	0.192	1.354
	Racial diversity (2000)	0.033	0.103	0.041	0.320
	Percent of middle-class households that are African-American	0.188**	0.076	0.261	2.452
	Percent of middle-class households that are Latino	– 0.044	0.087	– 0.058	– 0.506
Regional structure	Service district complexity (districts/10,000 population)	0.006**	0.003	0.205	2.048
Governance structure	Number of governance structure bodies	0.001	0.001	0.071	0.781
	Number of partners whose mission statement mentions economic issues	0.007***	0.001	0.558	5.677
	Constant	0.002	0.050		0.034

S.E. = standard error.
***p < .01. **p < .05. *p < .10.
Notes: n = 70. Significance = 0.000. Adjusted R² = 0.455.

Plan Adoption

To predict the number of jurisdictions that adopted plans or projects (that is, the impact of epistemic communities and the SCI-RPG grant program), we used a dependent variable from the *eLogic Model* that reported this information. Not surprisingly, impact is harder to predict; the model is still significant, but with an adjusted *R*-squared of .142.[7] Again, the variables that stand out tend to be related to regional economic characteristics (exhibit 9), especially larger regional population, higher median income, and an African-American middle class. Unexpectedly, more complexity (that is,

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[7] In this model, we had to drop the segregation variables because of collinearity problems.

Exhibit 9

Predicting Plan Adoption by Jurisdictions

Type	Variable	Unstandardized Coefficients	S.E.	Standardized Coefficients	*t-*Statistic
Demographic characteristics	Regional population (2010)	0.000*	0.000	− 0.267	− 1.682
	Median income	0.000***	0.000	0.456	3.250
	Percent of middle-class households that are African-American	28.813**	13.073	0.276	2.204
	Percent of middle-class households that are Latino	12.841	14.843	0.115	0.865
Regional structure	Service district complexity (districts/10,000 population)	0.993*	0.566	0.226	1.753
Governance structure	Organization diversity	0.081	0.069	0.145	1.178
	Number of governance structure tiers	− 1.914*	0.976	-0.234	− 1.962
	Constant	− 24.264**	9.805		− 2.475

S.E. = standard error.
****p < .01. **p < .05. *p < .10.*
Notes: n = 70. Significance = 0.018. Adjusted R^2 = 0.142.

fragmentation) makes plan adoption more likely. Although diversity of the collaboration does not predict plan adoption, a more horizontal governance structure (with fewer tiers) does. This finding suggests that the models have mixed success at proxying for epistemic communities, and regardless, more affluent regions are most likely to adopt plans developed in the program. Further research might probe whether this success is due to their greater resources, capacity, or other factors.

Understanding the Formation and Impact of Epistemic Communities

How the SCI-RPG program helped regions form epistemic communities varied across regions. In regions that had already formed epistemic communities, SCI helped grantees bring a more diverse set of actors to the table and expand their shared vision for the region's future. In regions with no history of collaboration, SCI helped establish foundations for inclusive and deliberative regional decisionmaking. Even when grantees struggled to bridge epistemic differences or see them as a unified region with a common destiny, the process was still able to get a diverse set of regional actors to begin working together, and develop a joint understanding of the problems facing their region.

We conducted interviews with consortia members and analyzed grant documents of three SCI grantees to understand whether the grant helped regions form diverse and dynamic epistemic communities. For our case studies, we sought to examine collaboratives in fragmented regions, which we defined as having significant levels of racial and/or income inequality and jurisdictional complexity, but that were still able to build large consortia. We measured these features with the regional racial income gap, regional Gini coefficient (a commonly used statistical measure of inequality), number of municipalities per 10,000 people, and number of consortium partners. Because we were

also interested in examining the ways grantees were able to bridge epistemic differences, we chose consortia with significant participation from the business community. We used the relative number of consortium partners that were businesses or business councils as the proxy for participation by the business community.

The consortia we studied were the Sustainable Knowledge Corridor Consortium in New England, reNEW East Arkansas in eastern Arkansas, and Destination Erie in Erie County, Pennsylvania—regions that all exhibited high racial and income inequality and fragmentation, yet had relatively large consortia with business involvement (exhibit 10). Although the methodology was not exhaustive, conversations with consortia participants suggest that existing planning culture and consortium process design were major influences on the diversity and dynamism of epistemic communities that were formed. Although merely getting people involved makes a difference, the extent to which regions could bridge institutional logics and build epistemic communities ultimately came down to how well designed and facilitated their collaborative processes were.

The following text first provides a brief overview of the cases, then focuses on three aspects: the structure of the collaboration/epistemic community, how the collaboration led to shared understandings, and the lasting legacy of the region's collaboration.

Exhibit 10

Characteristics of SCI-RPG Case Study Regions

	Racial Income Gap	Gini Coefficient	Jurisdictional Fragmentation	Consortium Size	Business Partners
East Arkansas	Medium (0.67)	High (0.461)	High (2.77)	High (32)	1
Erie County	High (0.97)	Medium (0.455)	Medium (1.35)	High (359)	2
Capitol region	High (0.72)	Medium (0.455)	Medium (0.61)	High (39)	116
All regions (median)	0.505	0.45	0.72	21	0

SCI-RPG = Sustainable Communities Initiative Regional Planning Grant.

Sustainable Knowledge Corridor Consortium

The New England Knowledge Corridor is a two-state region encompassing three metropolitan areas: Hartford and New Britain, Connecticut, and Springfield, Massachusetts. Municipalities around the region face issues such as revitalizing urban centers, housing, food security, sustainability, and climate adaptation. Regional priorities include the Connecticut River's environmental quality, transit systems, highways, and focusing local land use decisions to support transit-oriented development.

The greater Hartford region benefited from an existing culture of collaboration among different jurisdictions as well as an epistemic community. According to one regional planner, the region's three MPOs—CRCOG, Springfield's Pioneer Valley Planning Commission, and the Central Connecticut Regional Planning Agency—all "shared many common goals for the area and decided that the best way […] to work on issues was to put together a cross-border consortium." The consortium was focused on the New England Knowledge Corridor, "a concept that has evolved over the last 10 years through the work of the MPOs and the partner agencies of the Hartford Springfield Economic Partnership" (CRCOG, 2011: 6). This work had established "the interrelatedness of these three regions as a single economic unit tied together by a wide range of regional assets," and regional planners generally acknowledged the artificiality of political boundaries.

The Sustainable Knowledge Corridor Consortium's primary planning concern was how to use $1.53 billion dollars in incoming transportation investment "to expand opportunity to all residents of the region" (CRCOG, 2011: 1). The grantee sought to "create a foundation of opportunity—in housing, education, transportation, employment, nutrition, and community resources—for all the residents in the region."

reNEW East Arkansas

The East Arkansas Planning and Development District (EAPDD) is one of Arkansas' eight planning and development districts. The district consists of 12 counties along Arkansas' eastern border, and borders three states: Mississippi, Tennessee, and Missouri.

The region is sharply divided, with local differences in racial composition, industrial structure, and even competition between local high schools. East Arkansas has a high racial income gap as well as high levels of income inequality and racial and income segregation. Quite a bit of competition between jurisdictions in the region, particularly around economic development, is known to take place. The region is also divided between areas that rely on a more industrial economic base and areas that are driven predominantly by agriculture.

The ultimate goal of the reNEW East Arkansas project was to find the root causes of apathy in the region and develop a shared vision for East Arkansas' future based on an inclusive and bottom-up process. The overall project involved developing a regional plan that would be informed by the development of 21 local strategic plans, a regional housing analysis, a land/use transportation plan, data analysis, local foods analysis, and community engagement.

Destination Erie

Bordered by Ohio, New York, and Lake Erie, Erie County has more than 280,000 residents. Its main municipality is the City of Erie, which, like many Rust Belt cities, has been hit hard by the loss of manufacturing jobs. Many of the surrounding 38 jurisdictions, however, are rural and have a more agrarian economic base. Poverty throughout the county is one of the region's greatest challenges, according to locals.

Like East Arkansas, Erie County did not have an extensive history of interjurisdictional collaboration. The region's racial, economic, and industrial diversity informed the consortium's goals to create a regional plan to build "a more prosperous and sustainable future for the Erie region" (Erie County Regional Plan for Sustainable Development Consortium, 2012: 1).

Structure of the Epistemic Communities

Despite their differences in regional characteristics and collaborative culture, all three grantees developed large consortia with a diverse set of institutional logics.

CRCOG and its partners used the grant process to expand the number and type of organizations participating in the New England Knowledge Corridor work. In addition to the three regional planning agencies, a number of other entities participated in the consortium, including municipalities; state and local agencies; educational institutions; and organizations dealing with workforce

development, sustainable agriculture, fair housing, transit, homelessness, and economic development issues. Although not everyone participated fully in each meeting, all members participated at various points in the process, and subgrantees reported back to the larger group.

Erie County's consortium, Destination Erie, was a 72-member consortium with five working groups: economic development, environment, housing and neighborhoods, community facilities, and transportation and infrastructure. Working groups met independently, whereas the entire consortium came together as a group only once or twice in the process. Unlike many SCI grantees, Erie County was successful in recruiting substantial participation from the business community. The Erie Regional Chamber and Growth Partnership was a key champion of the project; the largest and most engaged working group was in economic growth, which involved more than 150 businesses.

According to reNEW East Arkansas' final regional plan, "partnerships were developed with all 12 counties, most of the 107 cities, Arkansas State University, University of Arkansas-Little Rock, five community colleges and a consulting team" during the course of the grant (EAPDD, 2015: A-1). Each of the 12 counties formed their own plans, as did 9 municipalities. Plans were developed in each jurisdiction through an intensive series of workshops during the course of a week, called *Plan Weeks*. Uniquely, reNEW East Arkansas' local plans then informed the overall regional plan.

All three grantees benefited from bringing a wide array of actors together. In many instances, grantees were able to help consortia members bridge institutional logics. For instance, advocates and community-based organizations in the Sustainable Knowledge Corridor Consortium were able to raise issues with regional economic development practitioners that weren't already involved, particularly with projects and discussions related to transit-oriented development, growing the local economy, and how to best utilize transit investments. When economic development practitioners in the consortium argued for an increased focus on housing and initiatives to counter unemployment in the region, other members lifted up the need to prevent gentrification and displacement, as well as advocating for housing that serves the full range of the market, not only upper income. Similarly, advocacy and service organizations infused discussions about imminent transportation investments with the perspective that not everyone would be using the newly developed high-speed rail and rapid transit systems, and the on-road bus system within both regions still needed improvements. These conversations led to formal acknowledgement of the importance of putting "in place now the land use regulations and infrastructure that will…ensure that existing low income populations are not displaced" (CRCOG, 2015: 2).

In East Arkansas, the creation of the consortium created an "icebreaker that forced difficult conversations," particularly over infrastructure, education, racial inequality, and food deserts. For instance, a ridge geographically separates Poinsett County, which participated in the planning process; jurisdictions on either side of the ridge had traditionally interacted very rarely with one another. The county's Plan Week brought together more than 40 education leaders, community leaders, nonprofits, business leaders, tourism professionals, and opinion leaders throughout the county. According to a Poinsett County Plan Week participant, conversations throughout the process "were often heated and emotional, but ultimately led to new relationships, identification of common goals, and a desire to collaborate."

Although having these difficult conversations were undoubtedly important and beneficial, it is critical that people physically come together to have these conversations in person. When unresolved disagreements arose in all three case studies, it was often between working groups that did not regularly meet, and this lack of face-to-face interaction made it challenging to resolve conflicts and bridge different perspectives.

The creation of local committees or decisionmaking bodies also helped resolve regional differences and expand consortium participation. In addition to consortium members, many of the Sustainable Knowledge Consortium's six demonstration projects had some form of local advisory committee, such as the working group for New Britain's Complete Streets Master Plan and Streetscape Design, the membership of which were self-described as "extremely diverse culturally and professionally" (CRCOG, 2015: 2). In East Arkansas, each of the 21 local plans had their own steering committees of at least eight people and a plan director. The Plan Weeks also engaged a large number of local stakeholders.

Although issue-based working groups and committees enable participants to dive into complex topics, some instances also risked re-siloing participants with this structure. For instance, one participant felt that having issue-based working groups discouraged municipal participation, as jurisdictions didn't see a natural way to plug in. This move, according to the participant, in turn signaled that the grantee did not really intend for them to participate. Furthermore, at least among these three grantees, those that directly involved most of their consortia in stakeholder engagement felt more satisfied with the results of the process than grantees that relied on consultants, subgrantees, or committees to lead that work.

Building Shared Understandings

Just as the literature on collaboration suggests, several elements were key to building trust and shared understandings among the consortia members: skilled process facilitation, small wins through actionable demonstration projects, and the use of boundary objects and experiences. However, one area in which regions struggled to create shared understandings was racial equity.

Facilitation

One reNEW East Arkansas participant attributes the success of the entire process to the methodology and skill of its Plan Week facilitator, the consultant Building Communities. Strong facilitation enabled participants to delve into difficult issues while remaining focused on the end goal. Many of the people participating in Plan Week had deep-seated differences. The process emphasized that differences can strengthen communities, causing many participants to realize that they could collaborate with one another despite their differences.

In addition to strong facilitation, developing a shared understanding must be an explicit goal that is continually revisited. Benner and Pastor (2015: 15) noted that, "in high-performing regions, conflicts are attenuated by the recognition of a common regional destiny." The reNEW East Arkansas initiative was formed with the ultimate goal of developing a shared vision for the region, and consortium leaders were adamant throughout the process that actors were stronger together than apart, and that a regional voice was essential for generating progress.

Small Wins

Achieving small and actionable wins early in the process is another helpful way to establish and manage trust in collaborations (Huxham and Vangen, 2005). Building on lessons learned from Destination Erie, subsequent planning efforts in Erie County have attempted to balance the need for long-term systemic change and have demonstrated results with a mix of specific projects and work on broader systemic issues. The Sustainable Knowledge Consortium was able to strike this balance with its six demonstration projects. In East Arkansas, Building Communities' unique approach enabled participants to stay "focuse[d] instead on the development of action-oriented projects and initiatives" (EAPDD, 2015: A-6).

Use of Boundary Objects and Experiences

In addition to strong facilitation and a focus on actionable projects, reNEW East Arkansas' processes also benefited from the use of boundary objects and boundary activities to foster deliberative and inclusive epistemic communities.

EAPDD (2015: A-3) commissioned an ethnographic study on the "root causes for disenfranchisement" and apathy in the region in order to "determine the best methods of reaching deep into the fabric of communities in the Delta." Presentation of these findings to government officials was instrumental in shifting municipal leaders' perspectives. In particular, it debunked public perception that little could be done to affect change in the lives of the disenfranchised.

Large-scale data sharing was also a key factor in EAPDD's planning process. EAPDD conducted a large-scale collection and data dump process and uploaded everything to a portal for citizens and local jurisdictions to use. Sharing data also helped develop a shared understanding of the region's issues, as everyone was using the same information. Data collection was also incorporated into stakeholder engagement and the Plan Week processes.

By providing a "common focus for different ways of knowing" and helping "people understand other perspectives," both quantitative and quantitative datasets acted as excellent boundary objects (Feldman et al., 2006: 95).

EAPDD also made excellent use of boundary experiences. In addition to the localized Plan Weeks held throughout the region, the larger regional consortium met every 6 weeks. Meeting locations rotated around the district, and each meeting also consisted of a consortium field trip to a landmark or historical icon in that particular location. This arrangement helped the group develop a sense of regional appreciation and pride and rally around reNEW East Arkansas initiatives. Participants grew very close from these experiences, and relationships built during the course of the grant continue today.

Addressing Racial Equity

None of the grantees were able to significantly advance racial equity throughout their consortia. Regional racial inequalities, however, were addressed in some manner by all three consortia, and some consortium members addressed the needs of underrepresented communities. For example, the East Arkansas consortium identified outreach strategies for disadvantaged Delta communities, the Capitol Region studied the mismatch between at-risk Black and Latino youth and available jobs, and the Erie County consortium members discussed the challenges of communities that had been historically marginalized.

However, the lack of focus on racial equity issues could have been due to a lack of a shared "racial equity framework" (Nelson, 2015); none of the grantees used an explicit racial equity lens to approach their regional planning process. For many participants, the grants were the first time that they were addressing racial disparities as a group, according to interviewees. Thus, the grants may have been a first step toward this conversation.

Moving Beyond the Episodic: SCI's Legacy

Although only two of the three consortia have been able to sustain their collaboration, all three consortia have had some long-term impact. Despite hopes otherwise, the Sustainable Knowledge Consortium did not continue meeting after the end of the grant. Although this cessation is partly due to staff capacity, former consortium members are collaborating in other ways, and many of the projects initiated by the grant are moving forward on their own. Although the consortium no longer meets, one regional planner feels that "people have a better sense of who's working on what and how another discipline could connect to what's being done in one way or another."

Through Destination Erie, regional leaders were able to establish a shared understanding of Erie's problems. The final plan includes the "top five causes behind Erie County's biggest challenges today, as identified by the Consortium membership" (County of Erie, 2015: 3). Destination Erie's consortium also committed to formalizing and continuing its partnerships by creating Emerge 2040, "the successor organization to guide the implementation of the plan. This organization, funded with a mix of public and private funding, will support and coordinate a prioritized group of initiatives to move the Destination Erie recommendations forward" (County of Erie, 2015: 5). The City of Erie also developed its own comprehensive plan that built on the work of Destination Erie.

Collaboration also continues in East Arkansas, particularly around adult education, workforce development, and postsecondary education. Many participants "became like family" during the course of the grant and continue working together.

Although some grantees expressed disappointment that the formal consortium formed under the grant did not continue, Benner and Pastor (2015: 18) noted that "ultimately the processes of producing collective knowledge and common ground… are rooted in communication between people over long periods of time that may only partially and temporarily correspond to existing organizational structures." A more appropriate measure would be whether SCI-RPG created sustained relationships and a desire among regional actors for continued conversations and collaborations, which they most certainly did.

Conclusion: Epistemic Communities or Forced Marriages?

Fostering diverse epistemic communities may help support collaboration and governance in regions with deep divisions along lines such as race, class, and ideology. This research examined how SCI supported the formation of diverse epistemic communities, and what their impact was on regional planning. The analysis suggests that some elements of epistemic communities, as measured by collaboration diversity and business participation, are indeed emerging, but their impact on plan implementation is harder to determine. Regional economic characteristics, such as the presence of an African-American middle class, affect the composition of the governing consortia more than

governance characteristics do. In general, it seems that a diverse set of actors is coming to the table in areas with economic challenges, whereas business participation is occurring in areas with some degree of prosperity already. However, it is regional affluence, coupled with a more horizontal governance structure that shaped whether jurisdictions adopted plans developed under the grant program.

The cases studies provide a much more nuanced picture of how epistemic communities form and self-sustain. Although the Sustainable Knowledge Corridor Consortium had the advantage of building on foundations of regional collaboration, their regional planning grant enabled them to engage new stakeholders, and therefore deepen the shared understanding of the region. According to one regional planner, "the greatest thing that this grant did was bring people together who didn't have a history of working together. There were interests and individuals that weren't necessarily connected [before] that needed to be. Having that interchange of ideas and sectors was a new thing for the region and beneficial."

Destination Erie helped regional partners come together and develop relationships that wouldn't have otherwise been formed. Although Erie County still struggles to speak with a united voice or self-identify as a cohesive region with unified interests, the sense of the problems that the region faces is shared. Now, with Emerge 2040, the work continues with more focus on action and implementation.

By using processes, objects, and experiences that helped participants acknowledge differences and build a sense of togetherness, reNEW East Arkansas was able to hold numerous difficult and transformative conversations that helped a wide array of regional stakeholders coalesce around a shared vision for their communities.

Although compiling this unique dataset on regions participating in the SCI-RPG program enables a more thorough examination of epistemic communities than has been possible in previous research, the ability of the data to capture shared understandings and problemsolving is still limited. The variables serve as proxies for certain elements of successful collaboration, but questions remain about the validity of the data, that is, how accurate the proxies are. Our case studies suggest the importance of triangulating such databases with more qualitative interview findings.

Future research might investigate the role of jurisdictional complexity in epistemic community formation, given that we found mixed results (negative impacts on collaboration diversity, but positive impacts on business participation and plan adoption). Because other research (for example, Benner and Pastor, 2012) has found similarly contradictory results, it would be worthwhile to conduct more research on the challenges and opportunities of regional fragmentation for regions trying to build collaboration.

Another direction for future research could be a comparison of SCI-RPG regions with control regions. How did those who received SCI grants differ from those who did not, in terms of epistemic communities? The challenge would be to find matched pairs, with nonfunded regions conducting projects that are comparable to the SCI-RPG projects.

This article provides some evidence that SCI-RPG grantees succeeded in developing cross-sectoral collaborations that bridged agency silos and coordinated growth management across the region. In some cases, new dialogue led to new plans and solutions. Mostly, however, it was only in a few

regions that true epistemic communities emerged to help heal long-term divisions and conflicts with a shared vision for the region's equitable future. Even so, the SCI program was arguably one of the most innovative federal approaches to advance the goal of equitable regional growth in recent history.

Appendix A: Methodology

Geographies

We defined the grantee region as the counties associated with each grantee, which we obtained from the Grantee geographic information system shapefiles file on the U.S. Department of Housing and Urban Development (HUD) Sustainable Communities Initiative website.[8] We also assigned one Core Based Statistical Area (CBSA) to each grantee by linking the list of grantee counties via the established crosswalk,[9] which we then reconciled with the grantee metropolitan statistical area (MSA) designation from HUD's Grantee Information Table. With discrepancies, preference was generally given to HUD's MSA designation.

Partner Database

For entity type, we developed a typology of 22 types, grouped into 6 categories, as shown in exhibit A-1.

Exhibit A-1

SCI-RPG Grantee Organization Grouping

Organization Type	Category	Organization Type	Category
Business	Business	Government authority	Other
Business council		Quasi-governmental agency	government
Private		Native American nation	
Individual		Other government	
		Rural planning organization	
City	Local	State	
County	government		
Joint city-county		Nonprofit (local)	Nonprofit
		Nonprofit (national)	
COG	Regional	Nonprofit (other)	
MPO	government	Foundation	
Joint MPO-COG		Political	
		University	University

COG = council of governments. MPO = metropolitan planning organization. SCI-RPG = Sustainable Communities Initiative Regional Planning Grant.

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[8] https://archives.huduser.gov/sci/index.html.

[9] U.S. Census Bureau, Population Division; Office of Management and Budget, February 2013 delineations.

Collaboration Database: Questions

- Did the consortium goals and objectives simply reiterate the Partnership for Sustainable Communities' six livability principles; go beyond the livability principles; or fail to mention livability principles or consortium goals at all?

- Were consortium members eligible for subgrants or subcontracts?

- Were members paid to participate in the consortium?

- Were members expected to contribute non-in-kind funding to the consortium?

- Did the agreement mention equity or a proxy for equity (traditionally underrepresented groups, marginalized communities, and so on) as an explicit value or goal?

- Did the agreement have a definition of equity?

- Did the consortium have a designated seat or representation requirement for equity or public engagement?

- Did the governance structure include an equity or public engagement committee, working group, or other body?

- Did the governance structure include a body with open membership?

- Did the governance structure assign weighted votes to particular members?

- How many tiers were between the highest body and lowest body?

- How many signatories did the consortium agreement have?

- How many governance structure bodies (committees, working groups, boards, and so on) did the consortium produce?

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