

**The Middle of Nowhere:
Town Design and Sense of Community in Rural Youth**

by

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A.B. Modern American History
Brown University, 2000

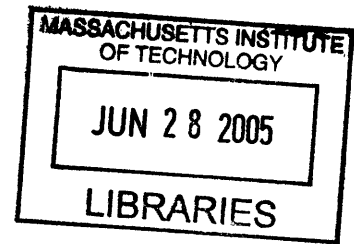
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Abstract

This thesis tests the theory behind the new urbanist call for “modern version[s] of the traditional town” with respect to one physical design feature: the clearly defined town center. It asks the question: how does the existence of a town center, which, as prescribed by new urbanism, integrates commercial, recreational, and civic facilities in close proximity, affect sense of community in rural youth?

The findings of this study, at least in part, support the new urbanist theory. Students in an area with a strong center do appear to display stronger feelings of basic need fulfillment, membership, and more positive feelings in general regarding their community. However, in other respects, students in the area *without* the center exhibited a much stronger sense of community, feeling much higher degrees of attachment, identity, and influence. The strong sense of community exhibited by the students in an area without a center may well be a product of that area’s edges, and may begin to elucidate the role of other physical (and potentially social) boundaries in fostering sense of community.

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1. Introduction

[There is a] widespread and familiar sentiment that the localism and variety of the places and landscapes that characterized pre-industrial societies...are being diminished and perhaps eradicated.

Edward Relph, *Place and Placelessness* (79).

The claim that American culture is gradually losing its “sense of community” is a common one. It has emanated from political platforms, pulpits, and principal’s offices, as well as from plans. Over the past several decades, in fact, literature surrounding this culture’s declining sense of community has abounded, positing potential causes as varied as the car, the modern suburb, the apathy of young generations, and most recently, a loss of “family values” (Kunstler 1994; Leibovich 2004; Putnam 2000).

As a natural corollary to this outcry, theories about how to construct, revive, and enhance the country’s waning sense of community, likewise, proliferate. Some advocate for various community development strategies, others offer a return to religion, and yet others propose campaigns for voting and civic engagement. Many planners, meanwhile, suggest a very different solution: the creation of community through the built environment.

In his 1993 book, *The Next American Metropolis*, Peter Calthorpe writes, “the result of the [post-WWII] era is that both the city and the suburb are now locked in a mutually negating evolution toward loss of community” (Calthorpe 1993, 9). In order to counter this “loss of community,” Calthorpe prescribes a heavy dose of “housing, parks, and schools placed within walking distance of shops, civic services, jobs, and transit – a

modern version of the traditional town” (16). He believes that this new “post-suburban” construct could revive community by giving “kids some autonomy, the elderly basic access, and others the choice to walk again” (17).

The environment-behavior theory behind the planners’ physical solution is old, and Calthorpe is by no means the first to work from or within it. The general idea is that the physical environment shapes people’s perceptions and use of space: their patterns of action, movement, and behavior. These patterns, importantly, result in varying degrees of social contact, and contact, in turn, fosters the formation of groups and communities (Talen 1999, 1363).

The specific details of Calthorpe’s “solution” are also familiar. In Calthorpe’s vision, planners and architects cultivate community by adopting the “timeless principles” of the traditional American town. Among these principles, he advocates walkability, diverse uses and users, an appropriate scale, and an “identifiable commercial center and civic focus” (Calthorpe 1993, 21). Other new urbanists have offered similar lists of ingredients for building successful “communities,” including walkable streets, public spaces, mixed uses, clear boundaries, and well-defined centers (Salvesen 2002; Talen 1999).

This thesis tests the theory behind the new urbanist call for “modern version[s] of the traditional town” with respect to the last of these “timeless” ingredients: the clearly defined town center. In it, I ask the question: how does the existence of a town center, which, as prescribed by Calthorpe, integrates commercial, recreational, and civic facilities in close proximity, affect sense of community in rural youth?

In order to answer this question, I use a comparative case study model. I choose two geographic areas in rural Maine with similar demographic profiles. One contains the independent variable, a clearly defined town center, while the other possesses a more dispersed pattern of development. I take samples of seniors from the high schools in both of these geographic areas. Then, using a combination of research methods including questionnaires, cognitive maps, and focus groups, I compare sense of community, as the dependent variable, across them.

Importance of Subject

The concept of “sense of community” is an important one for planners. And obviously, it is important in general. Although a strong sense of community can certainly have detrimental effects, research has historically regarded the concept as positive in nature. In fact, over the past forty years, research in both the sociological and psychological fields has found sense of community and its various elements inversely related to a variety of “negative” individual behaviors, including crime, drug and alcohol use, and migration (Drixler et al. 2001; Gardner & Shoemaker 1989; Glendinning et al. 2003; Hirschi 1969; Pretty et al. 2003). For this and many other reasons, planners spend considerable time and energy trying to “create” sense of community.

As noted above, new urbanists, as well as many other planners, advocate physical design as a means to this end. Surprisingly, however, little research in any field has actually been devoted to the relationship between the built environment and sense of community (Plas & Lewis 1996; Talen 1999). The existing research (e.g. Bonaiuto et al. 1999; Nasar 1997; Plas & Lewis 1996; Kim & Kaplan 2004; Talen 2000) is exploratory in nature and looks almost entirely at sense of community in suburban developments. While this work provides some indication that environmental variables including public

space, physical layout, and architecture correspond to a heightened sense of community in adults, considerable gaps obviously remain within this area of research.

One of the most significant of these gaps is the lack of research regarding the relationship between environmental variables and sense of community in youth. Studies indicate that sense of community increases with age and length of residence (Elder et al. 1996; Kasarda & Janowitz 1974; Hay 1998; Pretty et al. 2003), and this may explain why very little research has focused on the effect of physical design decisions on sense of community in young populations. However, research in various fields also illustrates that when youth display delinquent behavior, abuse drugs, and make decisions to migrate, these behaviors are, in fact, related to their lack of attachment, belonging, place identity, and general sense of community (Gardner & Shoemaker 1989; Hirschi 1969, Drixler et al. 2001). It follows that sense of community *is* an important concept for youth, and that research on any variable that might foster sense of community in youth is absolutely critical.

Furthermore, a significant gap exists regarding our understanding of the relationship between environmental variables and sense of community in a rural sphere. Much of the research on the physical environment and sense of community has used planned, new urbanist towns or suburbs as units of study. This is not surprising, considering that the goals of many new urbanist and suburban developments revolve around a desire for a heightened sense of community.

However, many argue that new urbanism also springs from a nostalgia for the idyllic (and prototypically rural) communities of the past (Lee & Ahn 2003; Mandel 1997; Talen 1999). Critics have labeled neotraditional developments nothing short of

“new neighborhood[s] designed to summon up images of old-town America” (Mandel 1997, 13) and a “nostalgic...resurrection of some old, well-tested principles of town planning” (McGrath 2000). The nostalgic vision of small town America is not new; nor is it singular to new urbanism. Many disciplines equate the image of rural America with tight knit communities, social support, and shared values (MacTavish & Salamon 2003). It *is* surprising however, that given the “intuitive appeal...of the American small town as a model for local community,” little research exists which actually looks at the link between the prototypically rural, small town physical environment and sense of community (Talen 1999, 1362). This model, the rural community, deserves further exploration. Do the design constructs of small town America actually produce the sense of community which new urbanists (and many others) seek?

Further, do these design constructs actually create sense of community in a modern day and age? Critics argue that new urbanism’s nostalgia for “traditional” American towns results in a series of design principles (e.g. walkable streets and town centers) which may have “created” community in the 19th century (McGrath 2000). But life was different then, and forcing old development patterns on modern America, with its culture of cars, fast food, and high speed internet, simply may not work. Furthermore, “traditional” town patterns may not even enhance sense of community in present day *rural* America. Do new urbanism’s design constructs still apply in the 21st century?

Goals

In a broad sense, the goal of this thesis is to shed light on whether and how planning practitioners can better create places that evoke sense of community. As noted above, this is not only an overarching aim of many contemporary planners, it is also a worthwhile pursuit, in that research shows that a heightened sense of community can

improve peoples' lives (Chipuer et al. 2003; Glendinning, 2003; Pretty et al. 1994; Prezza et al. 2001). Yet, many have argued that new urbanism's environment-behavior prescriptions for "creating sense of community" are simplistic (Mandel 1997; McGrath 2000). This thesis will begin to test whether the physical design constructs advocated by new urbanists, as applied in modern America, actually achieve their desired result.

Second, this thesis aims to inform the way in which planning practitioners might treat this pursuit with respect to an important population: youth. This population obviously feels the effects of planning, just as we all do. I hope that this thesis might provide some insight into how kids perceive, interact, and relate to their communities, useful information both for future planners as well as for those who work with youth more generally. Furthermore, I hope that this thesis will illuminate ways in which we may be able to use the built environment to improve the experiences of youth in their communities. Again, as noted above, this could have profound effects.

By investigating the effects of town design and development patterns in a rural area, this thesis aims to shed some light on future planning decisions in rural communities. Rural areas face land use dilemmas similar to those of their urban and suburban counterparts. However, some argue that in rural areas, many of which lack adequate planning resources, land use decisions are hastily and carelessly made (Daniels & Lapping 1996). Decisions to site schools, businesses, and public facilities often hinge more on economics or the availability of inexpensive land than on any planning objective. I hope that this thesis might better inform such future decisions.

Further, I hope that this thesis will add to our understanding of rural communities more generally. As noted above, an idealized image of small town America pervades this

country's predominant historical, sociological, and planning paradigms. However, research shows that rural Americans "lag behind the nation as a whole in income, educational attainment, quality of housing, employment opportunities, and the provision of health care and social services" (Daniels & Lapping 1996, 285). Rural children are more likely to live below the poverty level, more likely to drop out of school, and more likely to use and abuse alcohol than their urban counterparts (Lichter et al. 2003). While supportive, tight-knit, and healthy rural communities do exist, the problems of rural America are thus very real. It follows that it is both simplistic and counterproductive to perpetuate the rural-community-as-idyllic myth. I hope that this thesis will contribute to a more nuanced perspective on small town design, community, and people.

2. Town Design and Sense of Community in Theory

Before delving into any study on “sense of community” as conceived by new urbanism, it is important to consider the theory that surrounds the concept itself. Over the past half century, numerous models of “sense of community” have been offered by scholars from various disciplines. Glynn, in an oft-cited 1981 study, created a 133-item scale which aimed to assess sense of community in the residents of Maryland neighborhoods and an Israeli kibbutz. Riger and Lavrakas (1981) connected sense of community and neighborhood attachment, finding that two factors were especially important in sense of community: social bonding and behavioral rootedness. More recently, research has combined “sense of community” with various concepts from community and environmental psychology, among them social support, attachment, place identity, and membership (Chipuer et al. 2003; Pretty et al. 1994).

These works are vast, and as a result, it can be difficult to define what is actually meant by the term “sense of community.” Yet several established definitions do exist. Seymour Sarason, a community psychologist, provides the first in his 1974 book, *The Psychological Sense of Community*. At its very core, he defines a psychological sense of community as the feeling “that one was part of a readily available, mutually supportive network of relationships upon which one could depend and as a result of which one did not experience sustained feelings of loneliness that impel one to actions or to adopting a style of living masking anxiety and setting the stage for later and more destructive behavior” (Sarason 1974, 1).

The second and even more salient definition comes from two other community psychologists, David McMillan and David Chavis (1986). McMillan and Chavis's definition of "sense of community" incorporates aspects of various other studies, including that of Glynn (1981) and Riger and Lavrakas (1981), into what they call a "description of the nature of sense of community as a whole" (McMillan & Chavis 1986, 8). Their definition includes four distinct elements, including membership, influence (a bidirectional concept which includes both influence of the individual on the community and vice versa), fulfillment of needs, and emotional connection.

Since this thesis is exploratory in nature, the object is neither to analyze existing nor to propose new definitions of the "sense of community" concept. Instead, this study borrows a broad cross-section of elements from these definitions of "sense of community" to inform the concept as applied here, and uses this theoretical framework to elicit a general understanding about how youth in rural America feel about the places in which they live.

Sense of Community as a Construct of Interaction

New urbanist theory rests on the premise that sense of community results from social contact, and in that regard borrows extensively from the work of interaction theorists, including Mayhew and Levinger (1976), Milgram (1970), Simmel (1903), Wilkinson (1991), and Wirth (1938). The interaction theory literature establishes the connection between social interaction, "reciprocal behavior between or among any number of components of a situation," and the development of social support and collective experience, critical aspects of the sense of community concept (Timasheff 1952, 153). For example, Milgram's 1970 essay, "The Experience of Living in Cities," finds a correlation between the nature of social interaction and the development of

responsibility, trust, and the “exercise of everyday civilities.” Further, Milgram observes that anonymity, or the absence of interaction, “deprives the individual of a sense of direct contact and spontaneous integration in the life around him” (Milgram 1970, 167). Thus, according to Milgram, the formation of community depends on human contact.

A slight derivative of social interaction theory, social exchange theory, has relevance to the sense of community concept as espoused by new urbanists as well. Social exchange theory rests on an economic understanding of interaction, positing that any social contact between individuals involves an “exchange” of material or intangible resources in an act of mutual reciprocity. Social exchange theory also assumes that in the time and space around any given exchange, obligations, trust, and cooperation evolve between the participating individuals. These byproducts of the exchange, in turn, provide the basis for relationships, groups, and communities (Uehara 1990).

Mark Granovetter’s “Strength of Weak Ties” also helps to explain the new urbanists’ conception of community by differentiating between the types of interactions which actually contribute to community formation. Granovetter posits that interaction creates human relationships, or ties, which exist along a spectrum of strength, from those that develop out of strong, primary, time-intensive contacts to those that involve weaker secondary ones. While strong ties form the foundation for a close, dense network of friends, Granovetter claims that weak ties actually play a more important role in community formation by bridging social distance and creating intergroup linkages. He writes, “Weak ties are more likely to link members of *different* small groups than strong ones, which tend to be concentrated within groups” (1973). As described by Granovetter, weak ties, or those that form out of incidental interaction, thus form the essence of

community.

Sense of Community and Environment

New urbanist theory hinges not only on the interaction premise, but on the idea that certain types of spaces can actually facilitate or enhance the opportunity for such interaction. The underlying idea, of course, is simply interaction theory with a physical variable. In this regard, new urbanists draw on the work of a number of theorists who link human behavior to the physical environment. For example, focus theorists lend a specific object, a social, psychological, or physical “focus,” to the social interaction that occurs within any place, positing that people who use the same physical space share a higher probability of forming ties (Feld 1981). Very similarly, the ecological theory of routine activity establishes a link between spatial patterns, the distribution of activity within them, and the interaction that this activity creates (Grasmick & Bursik 1993).

Environmental psychologists have also connected the built environment with the frequency and quality of social contact, and thus with the development of groups, social support, and sense of community. Of the first to do so successfully, Festinger, Schachter, and Back’s 1950 piece, *Social Pressures in Informal Groups*, links passive social contact, or the incidence of chance social encounters, with a site plan for student housing. Festinger et al.’s study demonstrates that group formation and social support result not only from physical proximity, closeness, but from functional distance, or distance as measured by the features of design that influence likely contact. Working from this foundation, Fleming et al. (1985) further highlight the link between the physical environment, behavior, and interaction. They claim, more generally, that environmental variables such as proximity and the existence of appropriate space affect the frequency

and quality of social contacts, which in turn, allow group formation and the concurrent social support.

Similarly, Yancey (1972), in his famous study of the Pruitt-Igoe housing project in St. Louis, connects residential satisfaction and happiness to the existence of semi-private space conducive to informal passive social contact. Maybe even more famously, Oscar Newman's 1972 *Defensible Space* defines the relationship between the idea of personal control over space and the contacts that might occur within it. Newman's work finds that the existence of shared, regulated places profoundly decreases crime rates and increases residential satisfaction.

Sense of Community and Planning

Especially since the birth of new urbanism, planning has begun to look critically at the relationship between environment and sense of community as well. Recently, Plas and Lewis conducted a fairly detailed exploratory study which investigated the link between town design, architecture, planning philosophy, and sense of community in the planned, new urbanist town of Seaside, Florida (1996). This study found that "an impressive number of people (54%) [of residents sampled in Seaside] referenced...town design factors when asked a general question about Seaside's strengths and weaknesses." (Plas & Lewis 1996, 133) Of those participants in the study, a majority felt a strong sense of community in terms of three of McMillan and Chavis's basic elements: belonging, need fulfillment, and emotional connection.* Respondents seemed to feel especially satisfied with the town plan's ability to "evoke emotional connections" (136).

Kim and Kaplan undertook a similar study in 2004 which explored the relationship between neotraditional development and sense of community in contrasting

* Very few felt the fourth element, influence from and over their community.

new urbanist and prototypical suburbs. Kim and Kaplan found that residents of the new urbanist community did, in fact, exhibit a greater sense of community, expressing higher degrees of attachment to their community as well as identifying more strongly with it. They found that, among other things, the existence of public greens, footpaths, tot lots, and natural water features significantly enhances sense of community. Furthermore, they found that overall layout played an important role in determining sense of community in new urbanist residents.

Thus, new urbanists appear to draw on a substantial theoretical foundation in their prescriptions for town centers. However, critics claim (and to some extent, researchers agree) that these new urbanist studies, by testing new urbanist success in new urbanist communities, may in fact measure the effect of variables altogether unrelated to design (Talen 1999). Critics argue that new urbanist residents are more likely to make their residential choices based on “community” criteria and, in this sense, that new urbanist towns are hardly characteristic of the American population. In fact, their social homogeneity and socioeconomic character may play an equally or more significant role than any design feature in fostering sense of community. This begs the question: in actual places not intended to cultivate community, *does* town design affect sense of community? Further, does the model advocated by new urbanism, the centralized small town, even in a modern setting, continue to produce the romanticized new urbanist result?

Theory, Sense of Community, and Two Communities

Given the theory, it is certainly possible to hypothesize about the function of a town center on youths’ social experience, even in modern America. For example, as new urbanists claim, a center should affect what Festinger, Schachter, and Back term

“functional distance,” or “positional relationships and features of design...which determine the specific pattern of required paths in an area and consequently determine which people will meet” (Festinger et al. 1950, 35). In this case, a town with a strong center should exhibit less “functional distance,” in that it contains a node which hypothetically defines a pattern of activity for its inhabitants. According to the theory proffered by Festinger et al., its inhabitants should thus interact more easily (and more often).

Further, Fleming et al. (1985) provide the foundation for hypotheses about the social networks that should evolve out of the physical form. They write, “the opportunity for regular face-to-face contact is part of what makes a group “a group,” and if space does not permit this regular contact, groups cannot form or survive” (Fleming et al. 1985, 330). According to Fleming et al., groups form in places conducive to passive social contact. Further, they generate social support as a byproduct. In this case, a place with a center favorable to regular passive interaction should facilitate the development of groups, networks, and social support. Thus, one might expect to find higher feelings of emotional connection and attachment among youth in a town with a well defined center.

Granovetter’s study of social networks offers further insight into just how and what types of social support might develop within these groups. Granovetter’s theory implies that a place that provides ample opportunity for casual encounters should positively affect the formation of “weak ties,” those infrequent incidental acquaintances that are nevertheless essential to the formation of broad social networks. In theory, then, more weak ties should exist in a place with a clearly defined town center, replete with commercial, educational, and civic services. Further, the existence of these weak ties

should affect multiple aspects of sense of community. First, weak ties should factor into feelings of need fulfillment, in that weak ties are essential to resource procurement (Granovetter 1973, 1373). Second, Wilkinson, working from Granovetter's theory, writes that these weak ties facilitate larger social structures and the development of actual feelings of community (Wilkinson 1991). Thus, one might expect youth in a centralized area to exhibit higher feelings of both need fulfillment and community strength, cultivated by the weak ties that form around the clearly defined town center.

In contrast, in a place *without* a center, weak ties should not develop to the same degree. The social ties which predominate in a dispersed area should be strong ones, or those that exist between neighbors, families, and close friends. According to Granovetter, the prevalence of these strong ties should inhibit feelings of responsibility and influence with respect to the community at large, in that people who feel less affiliation with a larger group of weak ties may also be less likely to intervene in each other's affairs (Milgram 1970). One thus might expect to find lesser feelings of responsibility and influence amongst youth in a community without a clearly defined center.

Lastly, in addition to centers as a place for interaction, Edward Relph posits that centers are highly "imageable," to use Lynch's terminology. Relph writes, "crossroads, central points or focuses, landmarks" draw attention to themselves "but also...declare themselves as places that in some way stand out" (Relph 1976, 35). In this sense, Relph continues, "nucleated villages offer a distinctive experience of being inside, or being in a place" (35). Given this characterization, one would expect that youth in an area *with* a

center would have a heightened sense of membership and identity with their community, formulated around this central location.

To generalize, in accordance with new urbanist theory, one might expect to find that in a community with a clearly defined center, kids feel a higher sense of satisfaction in, attachment to, identity with, influence from, responsibility for, and membership in their community. In contrast, in an area without a single node for interaction, the theory suggests that kids might be dissatisfied with, detached from, and disinterested in their community. Before testing these hypotheses, however, it is important to explore the actual context for this thesis: the real communities in which this study's kids actually live.

3. Communities

This thesis draws on the experience of youth in two contiguous coastal New England communities: the Blue Hill area and Deer Isle-Stonington, both in Hancock County, Maine (*Figure 1*).^{*} Both the Blue Hill area and Deer Isle-Stonington are



decidedly rural, with aggregate populations of less than 10,000 at the time of the last census. Both lie on a stretch of two lane road known as Route 15, at least two hours from any major highway and three hours from the nearest significant urban center, Portland. Further, both reflect a long agricultural and maritime history. Only in the past half-century have historical trades in both areas surrendered to more

Figure 1: The Blue Hill area and Deer Isle-Stonington, Maine GIS 2005

^{*} For the purposes of this study, both communities have been defined geographically as the set of towns sending their kids to the areas' two regional high schools: George Stevens Academy in Blue Hill and Deer Isle-Stonington High School in Deer Isle. "The community" in one instance thus consisted of the synonymous terms, "Blue Hill area," "the Blue Hill peninsula," or "the towns sending their students to George Stevens Academy." For the other, "the community" was defined as "the island of Deer Isle," "the island," or "the towns sending their students to Deer Isle-Stonington." Communities were defined in this broad multi-town manner because of the difficulty of isolating students by town in regional high schools.

seasonal tourist-based economies. While these communities thus share similarities, in terms of this study they also differ in one important sense: one has a clearly defined center and the other does not.

The Blue Hill Area: A Clearly Defined Center

The town of Blue Hill, the economic and social center of the Blue Hill area, lies 36 miles from Bangor, eastern Maine's largest city, on the shores of Blue Hill Bay. It sits at the head of what natives call "the peninsula," an area comprised of over 200 square miles and roughly seven towns: Brooklin, Brooksville, Castine, Sedgwick, Penobscot, Surry, and Blue Hill itself.

History

Surprisingly, the original settlement of Blue Hill began not at the head of the harbor where the village stands today, but at Blue Hill Falls, just to its south. As in many New England towns, early settlers at Blue Hill Falls worked 80 acre farms on either side of a central road, and together the community built a school and a mill in its early years.

By the late 1700s, however, Head of the Bay, the village between "the head of the tide and the foot of [Blue Hill] mountain," had outgrown the settlement at Blue Hill Falls (Wood n.d., 1). This village became the de facto center of Blue Hill when local Congregational and Baptist denominations built churches there in the 1790s (Clough 1953, 14). During the following decades, construction in the village boomed; a school was built on the George Stevens property downtown, and public facilities including a library, post office, town hall, and hospital sprouted in the village as well (*Figure 2*).

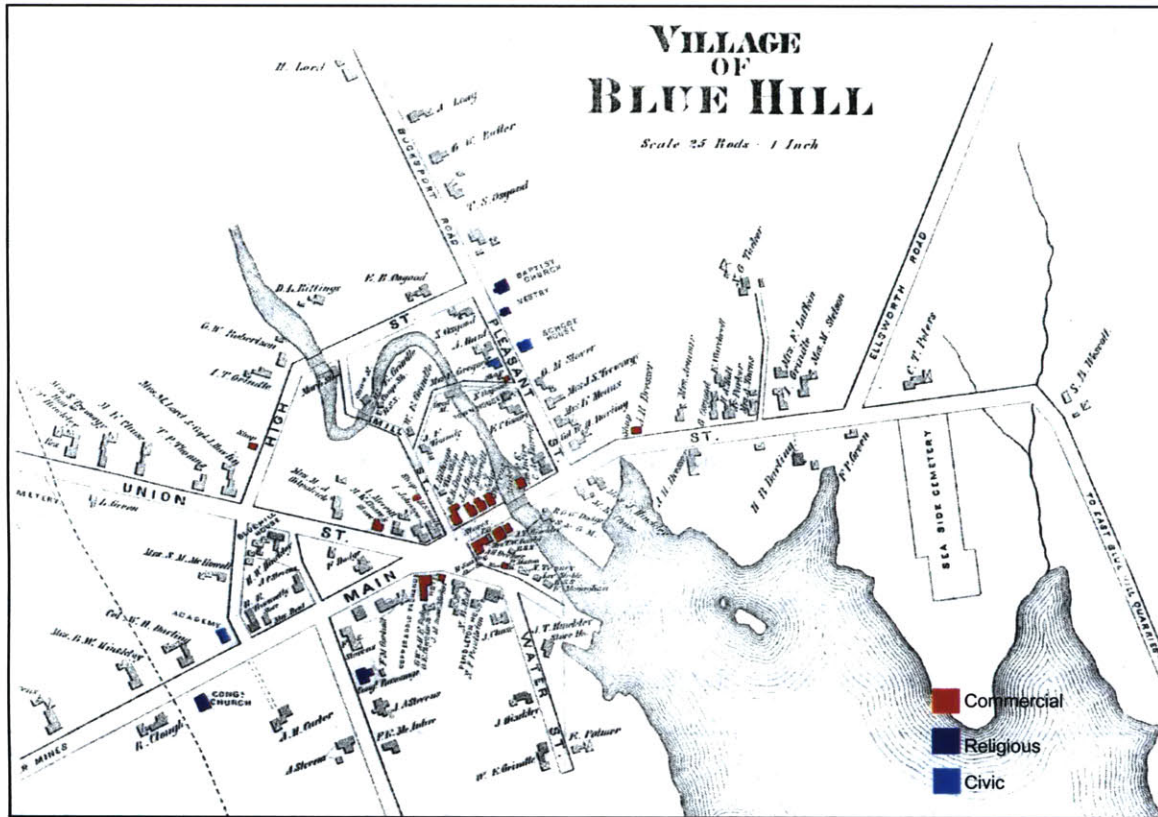


Figure 2: Blue Hill Center, Colby & Stuart 1881

Due to both its proximity to the harbor and its access to regional roads, over time Blue Hill village also became the nexus for most of the area’s commercial activity. The turn of the 19th century witnessed the construction of several sawmills and a carding mill, and by the mid-1800s, a canning factory had developed on the town landing. Shipbuilders worked on the shores of the inner bay, and industrial uses such as granite and copper mining evolved just outside of Blue Hill center.

By the turn of the 20th century, downtown Blue Hill had established itself as the social, political, and economic center of the entire Blue Hill peninsula. Blue Hill center included a variety of boarding houses, inns for summer visitors, shops, forges, and numerous private homes. A triangular grass plot at the town center held a scale for weighing hay and oxen, and a small bandstand, which stood at the fork in the roads, featured Saturday night concerts during summer months (Clough 1953, 38).

Contemporary Physical Environment

Though the bandstand eventually disappeared, a Blue Hill much like that of the 1800s remains today. For visitors “from away,” Blue Hill center, replete with white clapboards and colonial architecture, represents quintessential New England. The town’s major two-lane roads, Routes 15, 172, 176, and 177, still cross near the triangular town green (Figure 3). The center’s original series of subsidiary streets, including Union, High, Main, and Water Streets, today hold the greater Blue Hill area’s civic activity: the hospital, town hall, schools, churches, a post office, and the town library. As it always has, the town center also serves as the area’s commercial hub; today it houses a collection of galleries, gas stations, banks, stores, and restaurants (Figure 4).

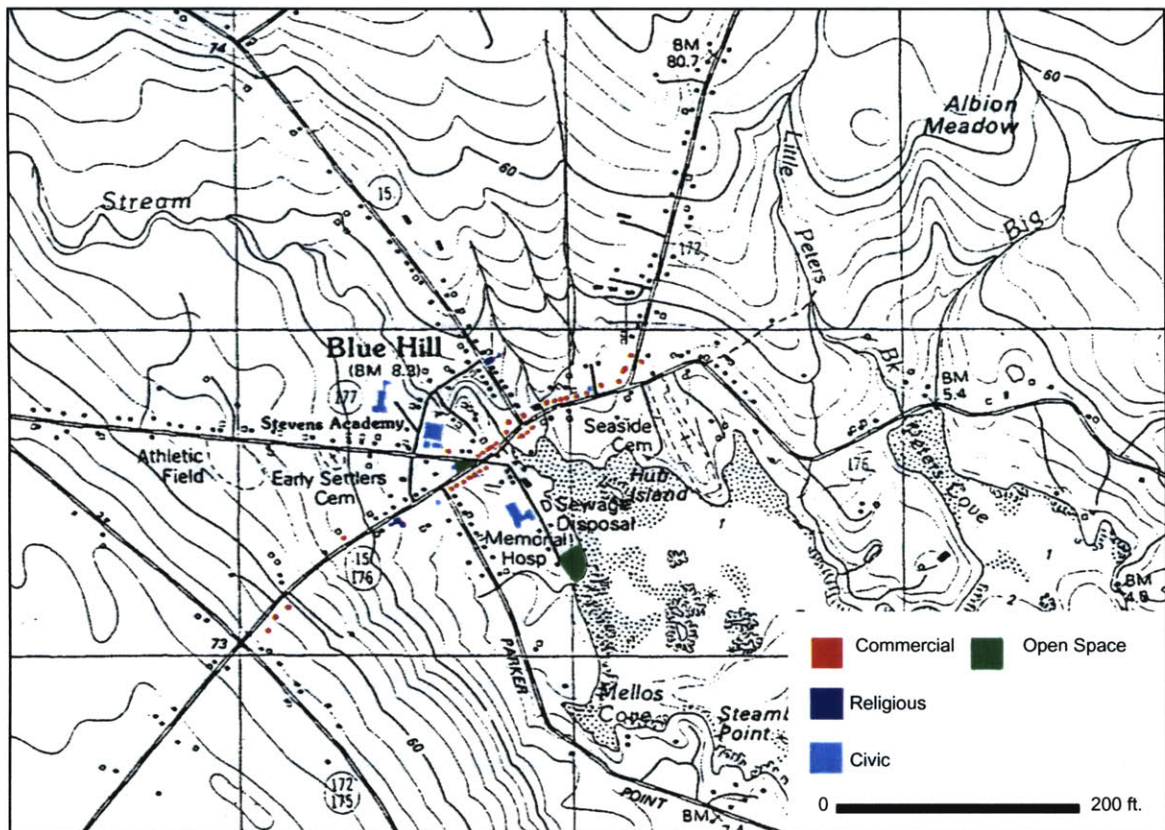


Figure 3: Blue Hill Center, Durgin 1994

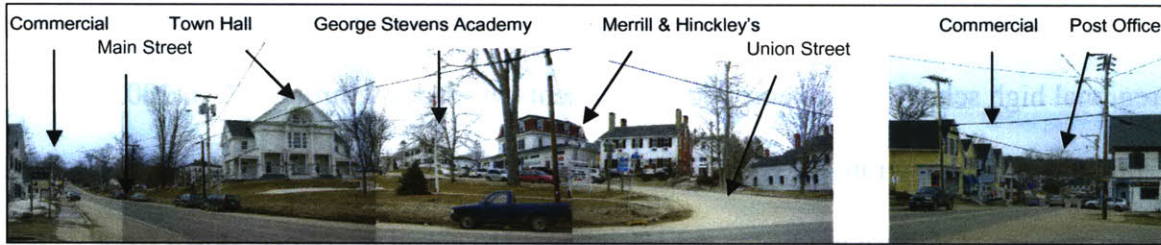


Figure 4: Blue Hill Center, present

While some development has sprung up outside of the original town center in the past several decades, most notably to the southwest, up Route 176 on South Street and to the northeast along the Ellsworth Road (Route 172), to a great extent Blue Hill has confined its growth to the village area. This is due partly to a large group of active, vocal, and conservation-minded residents. In the town’s 1991 Comprehensive Plan, Blue Hill made preservation of the center a priority, warning “if the town chose to take no action at this time Blue Hill would continue to develop rapidly and randomly” into “suburban sameness” (Hancock County Planning Commission 1991, 93). As part of the Comprehensive Plan, the town established the town center as a “growth area” and adopted strategies to “encourage clustering, maintain a pedestrian orientation, preserve open space, and have housing affordable to a wide range of income groups” within that center (93). To a large degree, this growth strategy has succeeded.

Demographic Profile

The downtown “growth area,” Blue Hill center, serves the entire Blue Hill peninsula, a region which, including all seven towns, houses approximately 9,000 people (US Census). Over the past several decades, this population has increased markedly. Between 1990 and 2000, for example, the area grew by 20.9% (Hancock County Planning Commission 2003, 2). Most of this growth is a direct result of the area’s appeal to people “from away.” Thus in 2000, 12.4% of Blue Hill area residents had lived out of state five years earlier and 41.5% reported a place of birth other than Maine (US Census).

Seven distinct elementary schools serve this population. All seven feed into one regional high school, which enrolled 354 students in grades 9 through 12 in 2003-4. In 2003, the graduation rate for Blue Hill area high school seniors was 90.3%, just above the state average. Of those graduates, 63.1% intended to enroll in college, down from 75.6% the previous year (Maine Department of Education). These graduation and college enrollment rates reflect the community's educational attainment levels more generally. In 2000, for example, 91.3% of the Blue Hill area's population had completed high school and 35.4% had earned a bachelor's degree (US Census).

In terms of socioeconomic characteristics, the Blue Hill peninsula shows considerable change over the last decade. Within that period, the median income in every town on the peninsula increased by at least 20%; in fact, from 1990-2000 the median income in three area towns increased by over 70% (Hancock County Planning Commission 2003, 6). In 2000, the median of the Blue Hill areas' median incomes was

General Demographics	Population	Population	9,292
		Population growth 1990 – 2000	20.9%
	Place of birth	Maine	52.2%
		Different state	43.7%
Education	School enrollment		2,515
	Graduation rate (2003)		90.3%
	Educational attainment	High school graduate	91.3%
		Bachelor's degree	35.4%
Economic	Median of towns' median incomes		\$36,786
	Individuals in Poverty		12.2%
	Major industries	Construction	11.2%
		Manufacturing	8.2%
		Educational, Health, Social Services	29.8%
	Unemployment		4.1%

Table 1: Selected Demographics for the Blue Hill Area, US Census, 2000

\$36,786, just below the median for the state as a whole. That same year, a substantial 12.2% of Blue Hill area individuals lived below the poverty line. 4.1% were unemployed (US Census).

Of those employed adults living in the Blue Hill area at the time of the 2000 census, most worked within the educational, health and social service, construction, and manufacturing industries. 35% of the population held management or professional occupations, with slightly less in sales, office, and service jobs (US Census). The area's major employers include Blue Hill Memorial Hospital, the Blue Hill School Department, School Unions 93 and 76, and the Maine Maritime Academy in Castine.

“The Island” or Deer Isle-Stonington: A Dispersed Development Pattern

To the southwest of the Blue Hill peninsula and further down Route 15 lies this study's second community, the island of Deer Isle. In actuality, Deer Isle consists of several different islands connected to the mainland via bridge and causeway, and two separate towns, Deer Isle and Stonington. Deer Isle proper is 10 miles in length and at its widest, 5 miles across; in total it encompasses approximately 65 square miles.

History

In many ways, the Deer Isle-Stonington community developed much like Blue Hill. The first settlers arrived in the 1760s, like their Blue Hill counterparts, and like that of Blue Hill, their original settlement lay on a protected swath of oceanfront property. Each original settler worked a 100 acre plot, and as the population grew, families moved from the northeast coast to the island's interior and southern sections. Naturally, these early Deer Isle residents earned a living from the ocean, fishing for cod, then mackerel, and finally lobster from the mid 1800s onward. In order to support this population and

these industries, villages developed all over the island, Oceanville, Sunshine, and South Deer Isle among them.

Simultaneously, the village at the causeway between Northwest and Southeast

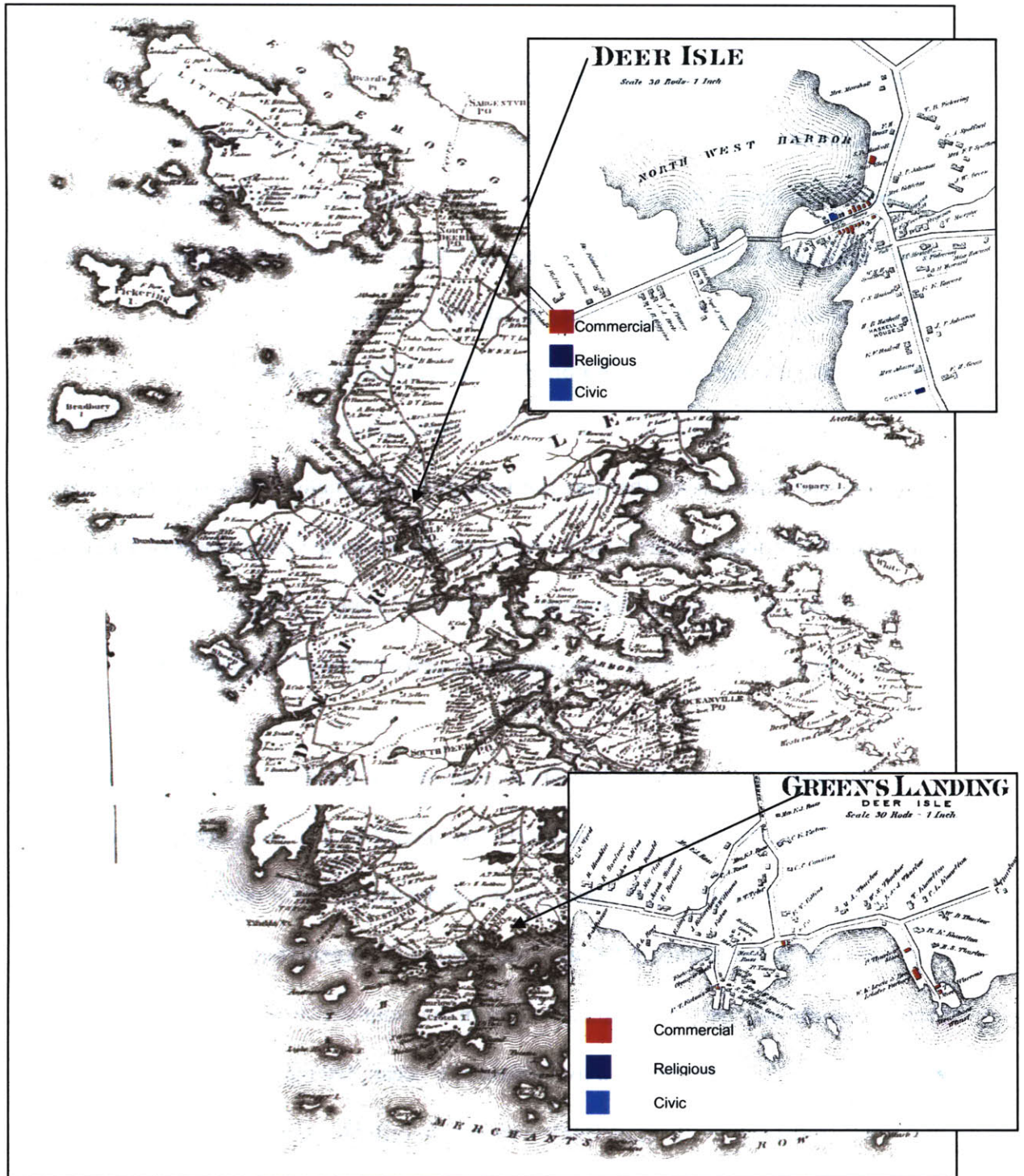
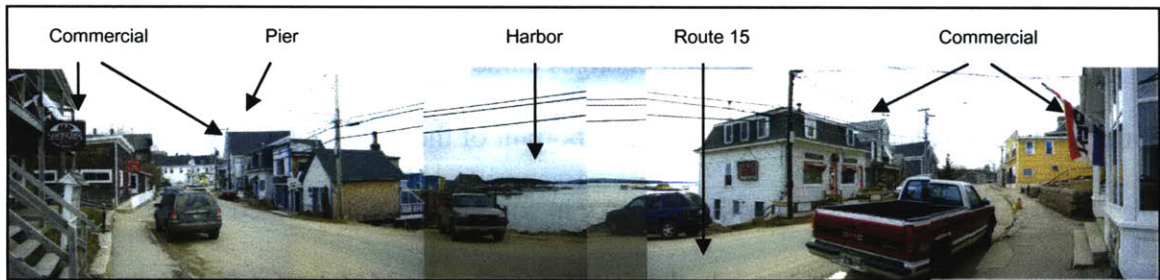


Figure 5: The Island of Deer Isle, Colby & Stuart 1881
Figures 6 & 7: Deer Isle Village (above) and Green's Landing (below), Colby & Stuart 1881

Harbors, what is today known as Deer Isle village, the geographic center of the island, developed as the hub of the island's "business and social activities" (Bicentennial Committee 1989, 21). Commercial uses including shipbuilding, sailmaking, and tanneries filled Deer Isle village in the early 1800s, as well as municipal buildings like the town post office, town paper, and town hall (*Figure 6*).

By the 1870s, however, several changes came to the island which altered the community's development pattern. Most important of these, Deer Isle's world famous granite was discovered. The granite industry in south Deer Isle boomed (eventually granite from Deer Isle would supply the foundation for the Museum of Fine Arts in Boston, Rockefeller Center, and the JFK memorial in Arlington National Cemetery) and both people and the commercial and municipal services that accompany them naturally flowed to the source of the boom. Green's Landing, a heretofore sleepy point at the southern end of the island, grew quickly (*Figure 7*). In fact, by 1897, Green's Landing had separated from the town of Deer Isle altogether and taken the name of Stonington (in reference to the industry which gave it life).

In *A History of Deer Isle, Maine* (2002), Dave Buckhout writes that at the height of the granite boom, twelve different quarries operated in the town of Stonington. Faced with the challenges of an expanding industry, the town created a public water system, thereby encouraging further development. Eventually, boarding houses for quarry laborers were built in downtown Stonington, as well as rows upon rows of modest, densely settled oceanfront homes. To accommodate this burgeoning population, the town constructed a school in the early part of the 20th century, as well as a town hall and post



Figures 8 & 9: Deer Isle Village (above) and Downtown Stonington (below), present

office. Shops and even a music hall (later to become the Opera House) filled the lots in between.

Contemporary Physical Environment

In a 1989 town history, the Deer Isle Bicentennial Committee wrote that from the point of its founding onward, “Stonington followed a more industrial, urban path of development while Deer Isle was more rural and agrarian” (Bicentennial Committee 1989, 6). Deer Isle village at Northwest Harbor continued to exist - at present it includes a post office, town hall, fire department, and several shops within walking distance - but Stonington’s development effectively stunted its growth. Today, one is more likely to drive by Deer Isle village than to stop “in” it; “in” it includes few year-round businesses and Route 15 effectively bypasses the village altogether (*Figure 8*).

Stonington, by contrast, contains most of the commercial uses on the island of Deer Isle: a seasonal movie theater, restaurants, and small shops, and until recently a major grocery store and pharmacy, as well as several significant municipal uses including a post office and town hall. Stonington’s present day harbor buzzes with lobster boats,

and in the summer, visiting yachts and people. Commercial uses crowd both sides of Route 15 in Stonington, and a large pier links the town with the ocean (*Figure 9*).

Significantly, the towns of Deer Isle and Stonington have come together in recent years to share several important municipal services. Of these, the most striking might be the community's schools. The towns built the combined Deer Isle-Stonington High School in 1974, and added the Deer Isle-Stonington Elementary School in 2001. Simultaneously, Deer Isle and Stonington worked together to design, fund, and develop a community concert hall and theater. Today, Deer Isle-Stonington's schools, the Reach Performing Arts Center, and a small store called The Galley occupy a sizable campus north of Deer Isle village in the town of Deer Isle.

In a general sense, then, the present day community of Deer Isle contains a tripolar development pattern. Stonington serves as the commercial hub at the southern end of the island. Deer Isle village, at the island's geographic midpoint, functions as the historic center. And the school campus north of the village operates as the third major node. Route 15, which runs down the island's east side, connects all three. At their closest, these areas lie approximately one mile apart.

Notably, recent smaller scale development in Deer Isle-Stonington has evolved in locations *outside* of these three major nodes, indicating a trend towards further dispersion. The Deer Isle Draft Comprehensive Plan noted this trend in March of 2005, stating, "There has been a gradual move of businesses from the village areas to less developed areas along major roads. The limited water supply and parking problems have made it difficult for commercial uses to operate in the village area. Route 15 and 15-A have been the primary sites for new commercial activity" (Hancock Planning

Commission 2005, 91). Surprisingly, however, the Comprehensive Plan suggests no means to halt this sprawl, finding that “overall, the villages have a limited potential to serve as primary growth areas in a future land use plan for the town” (92). A land use strategy for Deer Isle is currently under development, but promises no measures to concentrate growth.

Demographic Profile

The fact that Deer Isle and Stonington have not adopted growth management strategies may result from slower than average growth patterns. In 2000, Deer Isle-Stonington was home to just over 4,000 people and expanding at a slow 3.6%. This growth seems modest compared to that of Blue Hill. However, it is important to note that Deer Isle and Stonington have witnessed considerable housing turnover in the past several decades and that the cause is the same: a general influx of people “from away.” Thus, 9.7% of Deer Isle residents lived out of state five years prior to the 2000 census, and 29.7% reported a place of birth other than Maine (US Census).

Deer Isle contains both an elementary and regional high school, which draw from Deer Isle, Stonington, and, at the high school level, Sedgwick as well. The graduation rate for Deer Isle-Stonington seniors in 2003 was 85%, just below the state average. Of those graduates, 52.9% intended to enroll in college, down from a five year high of 70% the prior year (Maine Department of Education). These graduation rates reflect the community at large. In 2000, 82.2% of Deer Isle-Stonington’s population held a high school diploma; 22.1% had completed a bachelor’s degree or higher (US Census).

In terms of socioeconomics, like the Blue Hill area, Deer Isle-Stonington shows dramatic change over the past decade. Over the period from 1990 to 2000, Deer Isle’s

median income grew by 50.2%, from \$21,852 to \$32,826. Over the same period in Stonington, the median income grew by 51.8%, from \$19,038 to \$28,894. In 2000, 9.8%

General Demographics	Population	Population	4,130
		Population growth 1990 - 2000	3.6%
	Place of birth	Maine	68.0%
		Different state	29.7%
Education	School enrollment		939
	Graduation rate (2003)		85.0%
	Educational attainment	High school graduate	82.2%
		Bachelor's degree	22.1%
Economic	Median income, Deer Isle		\$32,826
	Median income, Stonington		\$28,894
	Individuals in poverty		9.8%
	Major industries	Agriculture, Forestry, Fishing	12.3%
		Construction	12.3%
		Retail Trade	15.0%
		Educational, Health, Social Services	18.8%
	Unemployment		5.9%

Table 2: Selected Demographics for the Deer Isle-Stonington Area, US Census, 2000

of the Deer Isle-Stonington population remained below the poverty level, and 5.9% of the population aged 16 and over was unemployed (US Census).

Deer Isle-Stonington's economy has long reflected its maritime history. Thus, while 24.3% of the working population worked in managerial positions in 2000 and 21.5% worked in sales or office occupations, a very substantial 11.5% of working-age adults in Deer Isle-Stonington also worked in agricultural or fishing occupations (as compared to 1.7% for the state as a whole). In 2000, 29.1% of Deer Isle-Stonington workers were thus self-employed, a large proportion of them presumably in the lobster industry. Other major employers include the Island Nursing Home, the school system, and the island's various retail establishments (US Census).

Comparison

In terms of this study, it is most important to highlight that the two subject communities exhibit clear differences in regard to the independent variable, the town center. The Blue Hill area contains one major node: “the village” or downtown Blue Hill. That node includes the great majority of the area’s economic, social, educational, and political facilities. Deer Isle-Stonington, in contrast, divides these functions into three separate nodes: downtown Stonington, Deer Isle Village, and the Deer Isle-Stonington school campus.

It is also important to note that the two communities diverge in other significant ways as well. First and in a most basic sense, the Blue Hill area’s aggregate population in 2000 was substantially larger than that of Deer Isle-Stonington. Likewise, the two areas’ rates of recent population growth differ significantly, with Blue Hill growing much faster and for a longer period of time. Although their growth rates vary, it is important to restate that for both communities the source is the same: a recent influx of people “from away” (Hancock County Planning Commission 2003, 4).

Second, the actual geographic characteristics of the communities, even beyond their development patterns, deserve noting. It should be reiterated that Deer Isle is an island. Although the Deer Isle-Sedgwick Bridge has connected island residents to the mainland via two-lane road since 1939, in many senses “the island” is still an island, and that fact presents itself in the community’s language, industry, and culture

The “islandness” of Deer Isle-Stonington certainly and admittedly complicates the comparison between these two communities. The sociology of island life is not well documented, but writers have long noted the fierce independence, separateness, and loyalty of “islanders” (Fowles 1999; Putz 1984). Further, literature has devoted

considerable attention to the subject of island communities. Dean Lunt, a Maine islander himself, writes, “You gain or inherit a sense of community when you live on an island. A lot of towns don’t have that anymore. You gain an identity from an island. Each one’s different, but you always have that unique identity to draw on.” (Lunt 1997, 44).

The choice to study these two communities, including the “islanders” that live in one of them, resulted largely from pragmatism. Both had high school principals who were willing and eager to host such a study. Furthermore, the study could serve dual purposes in these communities; both principals exhibit a keen interest in learning more about their students’ feelings regarding community. With more time and resources, a better comparison might have been drawn between two more geographically similar communities.

While differences thus confound the comparison, it is also important to reiterate that on most counts the Blue Hill area and Deer Isle-Stonington are similar. In fact, in terms of intervening variables with proven effects on sense of community, including social homogeneity (Keane 1991), education (Prezza et al. 2001), and socioeconomic status (Talen 1999), the two communities match quite closely. They lie in close proximity to each other and are characterized by the same ethnic composition. Both send their students to regional high schools and show fairly similar levels of educational attainment. And general economic characteristics including poverty rates and unemployment roughly match. The question thus becomes, how does the major difference between these two communities, their development pattern, affect the kids living inside them? Do kids in Blue Hill, with a clearly defined center, actually exhibit a higher sense of community?

1. The first part of the text discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that this is crucial for ensuring transparency and accountability, particularly in financial reporting and auditing. The text also mentions that proper record-keeping helps in identifying trends and anomalies, which can be useful for decision-making and risk management.

4. Methodology

In order to explore this question, I chose to talk to youth living and attending school in these two rural Maine communities. I selected the samples from the senior classes of each of the two communities' high schools: the George Stevens Academy (GSA) in Blue Hill and the Deer Isle-Stonington High School (DISHS) in Deer Isle.* The decision to draw samples from high schools resulted from a combination of pragmatism and conscious choice. First, high schools contain students who, by their senior year, face questions about staying in or leaving the community. These seniors are thus more likely than their younger counterparts to have developed articulate thoughts about their community and their experience within it. Second, as Alan Peshkin writes in his book about school and community, schools are "located in a particular place, serve a particular clientele, and therefore take on the flavor of that place...Each school is based...in a community with its own history, aspirations, and commitments" (Peshkin

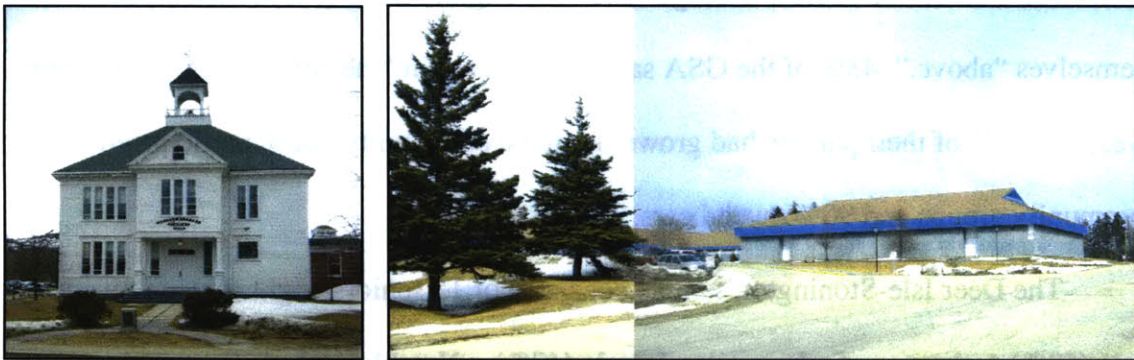


Figure 10: George Stevens Academy (left) and Deer Isle-Stonington High School (right)

* It should be mentioned at the outset that George Stevens Academy is what the state of Maine terms a "public-private" school. Although it began as a private "academy" and continues to operate under a Board of Trustees, it essentially functions as a public high school. It serves all students in its catchment area free of tuition.

1978, 9). Put simply, schools themselves reveal insights about the nature of their communities.

Samples

As mentioned earlier, both GSA's and Deer Isle-Stonington's principals have a strong interest in learning more about their students' experience in, satisfaction with, and decisions to stay in and leave their community. As a result, both were very willing to allow me access to their classrooms and their senior classes. Furthermore, both principals offered to help facilitate data collection. At GSA in Blue Hill, the principal solicited two student volunteers from a first period study hall and a teacher who volunteered her second and third period Social Studies classes. At Deer Isle, the principal and director of student services recruited two teachers to volunteer their second and third period English classes.

The Blue Hill area sample consisted of 21 seniors: nine males (43%) and twelve females (57%). Almost all of the GSA students who participated in the study considered themselves "average" income as compared with others in the community (81%). 5% considered themselves "below average" and only slightly more (9%) considered themselves "above." 43% of the GSA sample had lived in "the community" all of their lives, and 57% of their parents had grown up in the community. 62% participated in community groups and 90% owned cars.

The Deer Isle-Stonington sample consisted of 15 seniors, eight of whom were male (53%) and seven of whom were female (47%). Notably, only 53% considered themselves "average" in income as compared with others in the community. 13% considered themselves "below average" and 33% considered themselves "above average." 87% had lived their whole lives in "the community" and 73% of the sample's

parents had grown up in the community. 80% participated in a community group, and 100% owned cars.

It should be noted that while the populations' demographic characteristics generally match, some major differences between the two student samples do exist. More Deer Isle-Stonington students self-reported above average incomes. More than twice the proportion of DISHS students had lived their entire lives in the community, and more of the DISHS sample had parents who had grown up on "the island" as well. Research indicates that all of these variables - income (Bonaiuto et al. 1999), ancestry (Hay 1998), and length of residence (Kasarda & Janowitz 1974) - can positively affect sense of community.

Further, it should be mentioned that the high rate of car ownership in both samples may affect students' sense of community as well. As in most rural areas, cars in Blue Hill and Deer Isle-Stonington serve as the basic mode of transportation, allowing people to move to and from school and work, secure basic needs, and socialize. New urbanist theory, admittedly, places a premium on walking (in and around the town center) and the interaction that this walking facilitates. With such high degrees of car ownership, these teens undoubtedly do not walk as much as new urbanists might hope, and certainly this mobility may affect sense of community as facilitated by the town center.

Methods

In each school I collected qualitative and quantitative data in two or three sessions over the course of one day. Sessions varied in number from two to nine students and ranged from 40 to 60 minutes in length. Within each session, I asked students to perform three distinct activities. In sequence, they completed a 30-item anonymous questionnaire, drew a cognitive map of what they considered "the community," and participated in a

focus group in which they answered a series of open ended questions. Together, these three methods allowed me to collect a variety of data types, including qualitative and quantitative data, a visual representation of students' community, a verbal definition of community, and a range of anonymous, private responses regarding students' feelings about community. Through these various thoroughfares, I could develop a broader perspective on the students' sense of their physical and social environments.

The questionnaire included a number of diagnostic questions aimed to identify each student's basic demographic profile. It also included fifteen Likert scale questions designed to measure student's feelings of emotional attachment to, influence from, satisfaction with, and membership in their respective communities. Lastly, the questionnaire asked a series of open-ended questions intended to elicit a sense of students' definitions of physical and social community, conception of community identity, and feelings about staying or leaving (*See Appendix A*).

Next, drawing on the writings of Kevin Lynch and other environment-behavior researchers, I asked students to create cognitive maps of their community. I used a standard prompt taken from Lynch's *Image of the City*, directing students to "make a quick map, just as if you were making a quick description of the community to a stranger, covering all the main features" (Lynch 1960, 141). Students constructed maps in three three-minute intervals, switching colors at each interval, in order to facilitate an analysis of the sequence in which the maps were drawn (*Figures 11 & 12*).

Lastly, I asked the focus groups, as a whole, a series of open-ended questions. First, students collectively generated an inventory of activities that people can do within the community and a list of things for which people must go outside, with one student

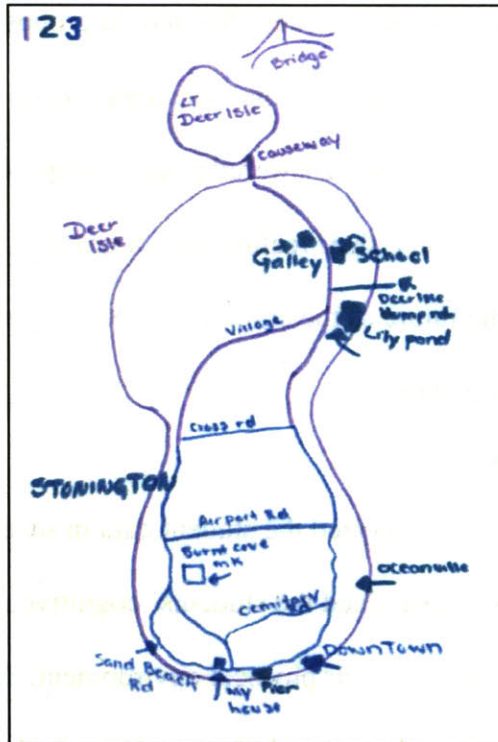
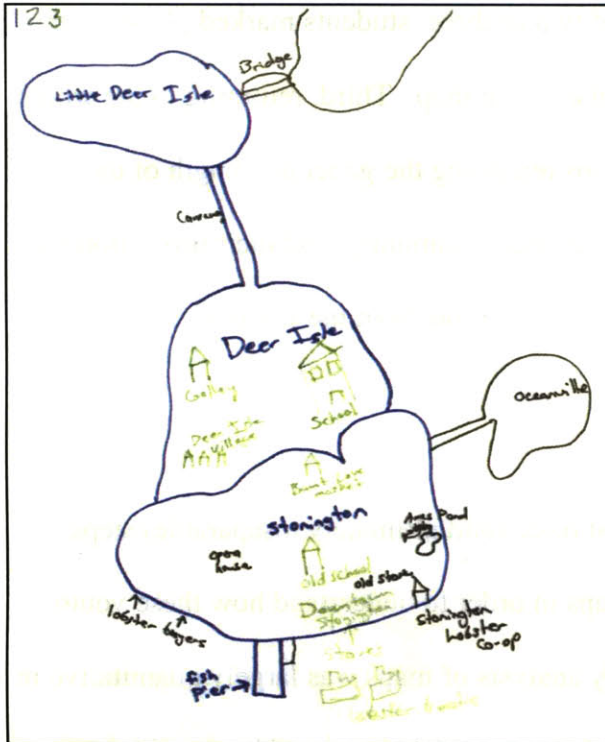


Figure 11: Cognitive Maps, Deer Isle-Stonington Sample

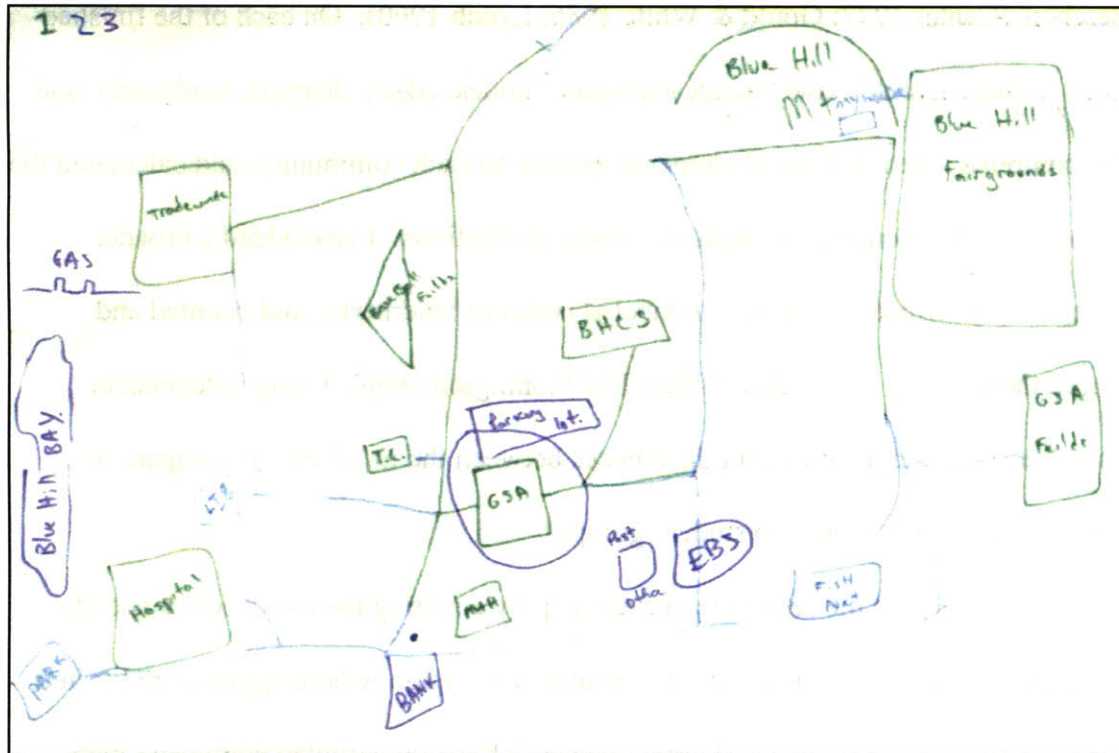


Figure 12: Cognitive Map, Blue Hill Area Sample

acting as the recorder. Second, in groups of two or three, students marked places within the community that they use regularly on an existing map. Third, returning to the whole group, students answered a series of questions regarding the general strength of their community, their feelings about growing up in that community, and their projections as to the future of the community (*See Appendix B*). Throughout the sessions, I recorded written notes.

Analysis

I analyzed the student data in several basic (and ultimately inseparable) steps. First, I examined the students' cognitive maps in order to understand how these youth conceive of their physical environment. My analysis of maps was largely quantitative in nature, and consisted of several standard techniques widely practiced by cognitive map researchers (Canter 1977; Gould & White 1986; Lynch 1960). On each of the finished maps, I counted Lynch's five "image elements," nodes, edges, districts, landmarks, and paths, compiled a detailed list of elements specific to each community, and calculated the incidence of those elements in terms of sample proportions. I also added a broader element simply termed "location," or labeled nodes or landmarks, and counted and averaged these across the GSA and Deer Isle-Stonington maps. Using independent samples t-tests, I found significant differences between the incidence of comparable elements in the maps of the two student groups.

I then analyzed the sequence in each map by counting the incidence of specific image elements in each of the three minute intervals. Again, where appropriate I tested for significant differences in sample proportions. Then I constructed composite maps, both in general and in terms of sequence, in order to visually highlight the major similarities and differences between the two student samples. Lastly, I grouped the maps

according to structure, as suggested by Lynch, and tested for significant differences (*See Appendix C*).

Next, I analyzed the “sense of community” data contained in the questionnaire and focus groups. I compiled student questionnaires, coded ordinal variables, and computed frequency distributions. I then conducted independent samples t-tests in order to find significant differences between the samples. In addition, I recorded the answers to open ended survey and focus group questions, coded them into general categories when possible, and converted to proportions.* I conducted frequency distributions and t-tests where appropriate.

When taken as a whole, the analysis of these three data sets - the cognitive maps, the questionnaires, and the focus group responses - paints a general picture of these students’ physical and social worlds. This synthesis reveals some profound disparities in terms of the way youth in the two subject communities conceive of the space in which they live. Further, it illuminates startling differences between students’ feelings regarding their environments.

* For instance, with questions regarding the future of the community, it was possible to classify responses into positive, negative, and neutral categories.

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5. Findings: Perceptions of the Physical Environment

New urbanist theory as applied to these cases suggests that Blue Hill area youth, living, shopping, and attending school within a clear center, should interact more often with their neighbors than their counterparts in Deer Isle-Stonington. This interaction should manifest itself in their physical conceptions of community. Those physical conceptions, as portrayed by cognitive maps, should therefore exhibit significant differences.

Scale

I gave the Blue Hill area and Deer Isle-Stonington students the same blank 1.5' by 2.5' piece of paper and the same prompt, to "make a quick map, just as if you were making a quick description of the community to a stranger, covering all the main features." The community as defined in Blue Hill actually covers a much larger area (seven adjacent towns and approximately 210 square miles) than that of Deer Isle-Stonington (an area of roughly 65 square miles). Yet, at GSA the students actually drew a *smaller* area in their images than the students at DISHS. 62% of the GSA students' maps showed only downtown Blue Hill, an area which is less than a mile in diameter.* In contrast, a large majority, 93%, of Deer Isle-Stonington students drew the entire island of Deer Isle, an area of at least ten miles in diameter. Thus, although their instructions were identical, most Blue Hill students drew maps at approximately $\frac{1}{10}$ the scale of Deer Isle-Stonington's.

* Further, another 24% drew this small area plus an image of another community within the peninsula at a similarly small scale, for a total of 86% of maps of an area of roughly one mile in diameter.

The disparity in scale illuminates the first simple but profound difference in the way that GSA and DISHS students seem to “image” their communities. The Blue Hill students show a tendency to draw their community as the center or the downtown area and very little else. In Deer Isle-Stonington, in contrast, students appear to image the community as the two towns in their entirety and the island as a whole.

Connections

A second noticeable difference between students’ perceptions of the Blue Hill area and Deer Isle-Stonington arose in their treatment of connections into, out of, and within their communities. In the Blue Hill area, several major thoroughfares exist: Route 172, Route 176, Route 177, and Route 15. On the Blue Hill maps, however, only 48% of the students identified these major roads. A much higher percentage, 81%, showed some form of subsidiary roads: Main St., High St., or Union Street. In contrast, 80% of DISHS students showed the major road in Deer Isle-Stonington, Route 15. Many fewer, 47%, showed subsidiary roads.**

This difference may simply reflect the contrasting scales at which the two student groups drew their maps. Likewise, the fact that Deer Isle-Stonington has one major (and important) thoroughfare may naturally heighten its prominence in students’ images. However, the singularity of Route 15 in Deer Isle-Stonington does not explain the presence or absence of subsidiary roads in their maps. Deer Isle-Stonington contains many subsidiary roads: the Airport Road, Reach Road, and Cross Roads among them. They simply do not appear as prevalently in Deer Isle-Stonington students’ maps. This suggests a second difference between the two student groups’ images: the Blue Hill area

** Difference significant at the .05 level.

students much more commonly focused on the road network and connections downtown. DISHS students, in contrast, focused on the macro-level road network and the road to the mainland.

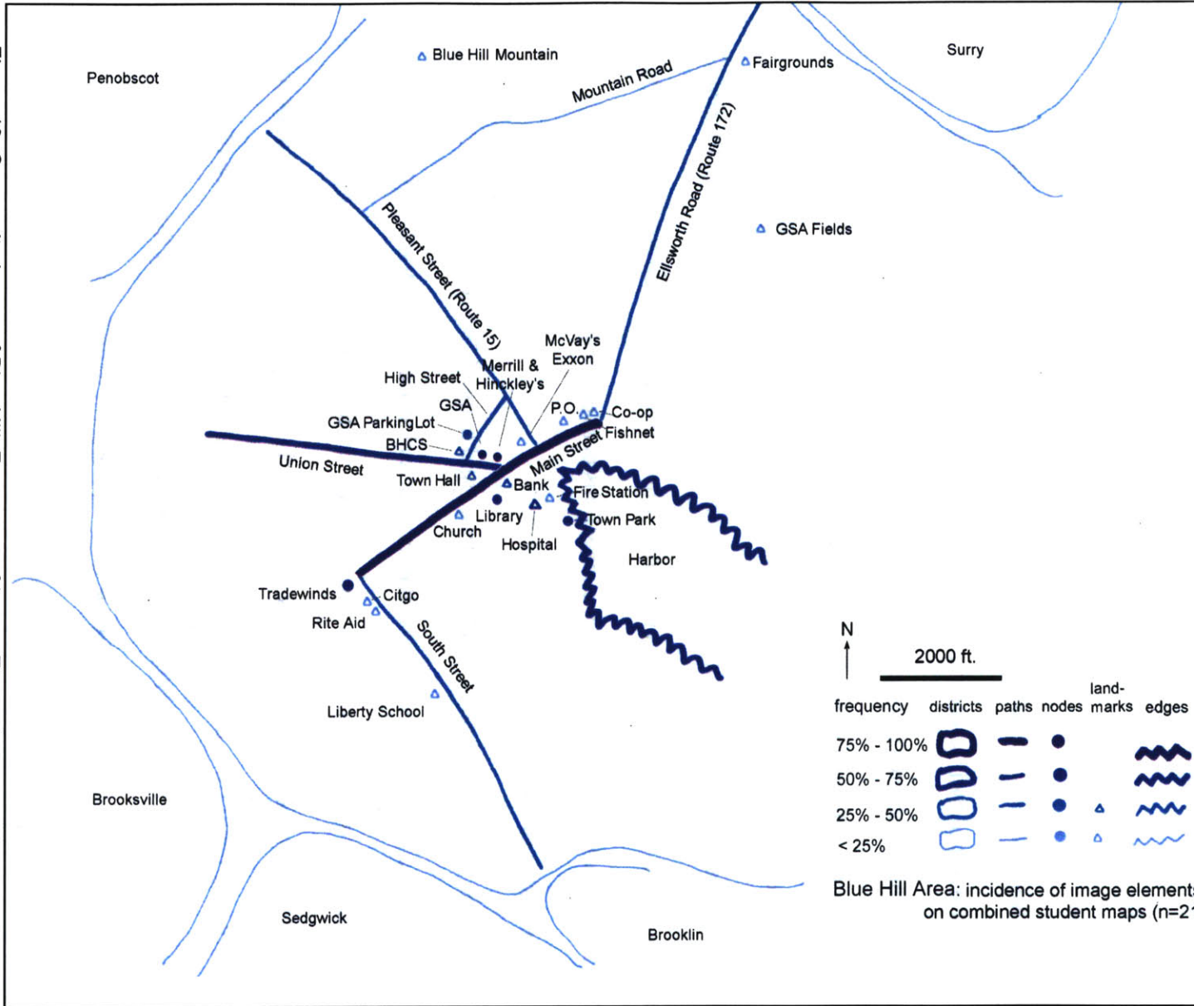
Structure

Another major difference in the maps by Blue Hill and Deer Isle-Stonington students arises in their structure. In *Image of the City*, Kevin Lynch distinguishes between four structures in cognitive maps which exist along a loose spectrum: free, positional, flexible, and rigid. Free maps contain objects floating in space, with no relations between them. Positional maps show some understanding of spatial relationships, with objects positioned in general direction or relative distance. Flexible maps include loosely connected parts, with “limp or elastic ties,” and rigid maps exhibit the most structure, with a network of connections between objects that is most representative of actual space (Lynch 1960, 88).

The Blue Hill students’ tended to draw rigid maps (57%), with locations connected via roads in a real approximation of actual space. In contrast, only 27% of Deer Isle maps qualified as rigid in construction.* Instead, Deer Isle-Stonington maps tended to be positional, with six maps falling into this category. The Blue Hill students’ rigidity may result from the relative ease of replicating structure when the area of reference is small (i.e. the center). Nonetheless, it does seem to imply that students in Blue Hill have a stronger mental image of an overarching structure within their community, and perhaps how to get from one place to another. Deer Isle-Stonington

* Difference significant at the .1 level.

Figure 13: Composite Image of Blue Hill: Frequency of Image Elements



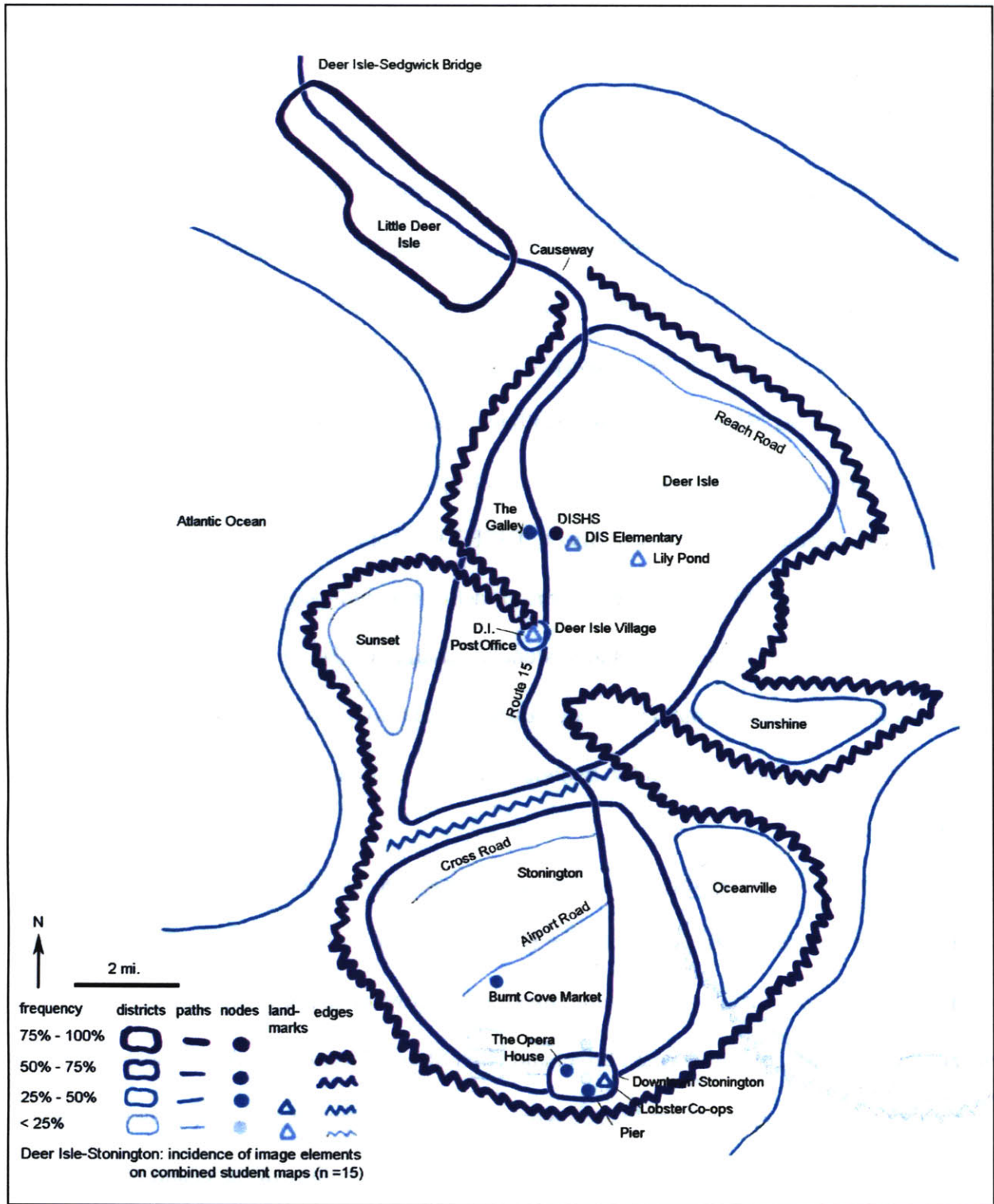


Figure 14: Composite Image of Deer Isle-Stonington: Frequency of Image Elements

students, in contrast, seem to demonstrate a sense of what exists within their community, but not the connections between.

Detail

The variability in structure may indicate a larger difference witnessed on the students' maps: the level of detail in general. Although the two communities contain similar assets, the Blue Hill maps contained many more representations of actual places. An average of 12.6 specific locations appeared on GSA maps as compared to 8 at DISHS. Likewise, Blue Hill students exhibited a larger variety of locations on their maps; 47 different locations appeared on GSA maps, as diverse as the boat launch and the retirement community on Pleasant Street. DISHS students, in contrast, noted a total of only 28 locations. This difference in terms of detail may indicate that the strong center in Blue Hill may add micro-level detail to students' images of their environment. Meanwhile, in a place without a center, students appear to focus more on macro-level characteristics of their community: boundaries, paths, and edges.

Construction

The most striking difference between the maps of the two student groups may be their order of construction. 71% of Blue Hill students drew GSA within the first three minutes of drawing. 62% drew Union Street, 43% drew the major grocery store, Tradewinds, and 38% drew Main Street and High Street (*Figure 15*). All of these predominant map elements are located within walking distance of each other. In striking contrast, 80% of students in Deer Isle-Stonington drew the outline of the island within the first three minutes. Following, in order of predominance, 60% drew the causeway, and 53% drew the bridge and Little Deer Isle (*Figure 16*). While these elements are

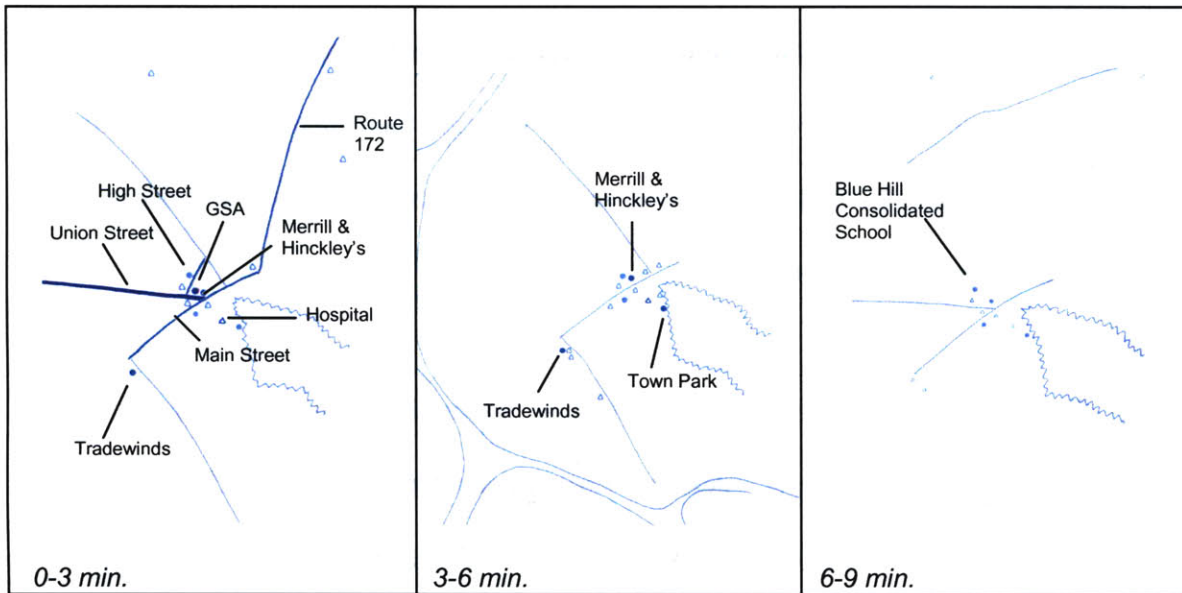


Figure 15: Composite Images of Blue Hill by Sequence

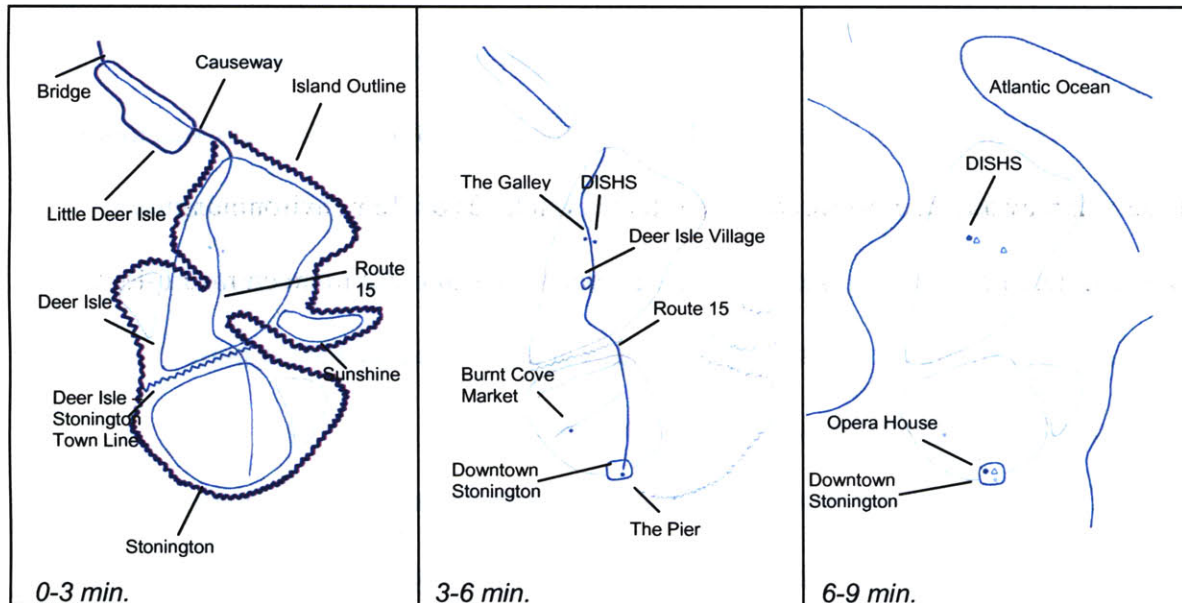


Figure 16: Composite Images of Deer Isle-Stonington by Sequence

technically in walking distance of each other as well, they stand far from any of the island's three major nodes.

This difference illuminates the most startling disparity between the ways in which students in these areas with and without a center seem to use the actual physical space to order their image. Students in the Blue Hill area seem to draw their community from inside out, while the students in Deer Isle-Stonington seem to do just the reverse, drawing

their community from outside in. More precisely, GSA students appear to use the center and the downtown places in which they see others to begin their mental images. Deer Isle-Stonington students, on the other hand, seem to use their boundaries in order to begin their mental image of community.

Edges

The number of edges, defined by Lynch as “linear elements not used or considered paths by the observer,” deserves further consideration (Lynch 1960, 47). 80% of Deer Isle-Stonington students drew the boundary of the island. Only 27% of GSA students, in contrast, drew an outline of their community^{***} and only 52% drew the edge of the water.* Further, *all* of the Deer Isle-Stonington students who drew the edge of the island drew it in the first 3 minutes, while construction of Blue Hill’s edges was more evenly distributed throughout the nine minute sketch. Thus, Deer Isle-Stonington students not only used edges more often to order their maps, their perception of the boundary was strong enough that if it appeared at all, it was noted at the outset. In Blue Hill, boundaries appeared much more incidentally.

It is important to note that this predominant appearance of edges may suggest the strength of a confounding variable: Deer Isle-Stonington’s geography. The boundary of Deer Isle-Stonington appears first and it appears frequently, suggesting that Deer Isle-Stonington’s “islandness” is *the* defining feature of its students’ community. Furthermore, the prevalence of the boundary begins to suggest that students in Deer Isle-Stonington not only focus on the island as the identity of their community, but that the

^{***} Difference significant at the .01 level.

* Difference significant at the .1 level.

physical boundary around that island may play a highly influential role in defining their feelings about community.

6. Findings: Perceptions of the Social Environment

The cognitive maps illuminate clear differences between the two communities' physical environments. The town center serves as the salient feature in Blue Hill students' maps; the boundary predominates in Deer Isle-Stonington. The question which naturally arises out of these contrasting conceptions is the social one: how do these students' dramatically different images of their respective physical environments shape perceptions of the community as socially defined?

Basic Need Fulfillment

Both the Blue Hill area and Deer Isle-Stonington contain basic services: doctors, grocery stores, gas stations, banks, and jobs. Even so, during the focus groups, students from both communities indicated that they left the community to serve basic needs anywhere from once a month to seven times a week. They left for activities ranging from grocery shopping to filling prescriptions.

However, major differences emerged when they were asked to list "things you do inside the community and out." In their inventory, the 21 student sample in Blue Hill generated 15 basic needs that could be met *inside* the community. These included banking, going to the doctor, grocery shopping, and 24-hour gas. Deer Isle-Stonington students, in contrast, produced a total of only four basic needs that could be met inside the community: going to the dentist, grocery shopping, lobstering, and banking. It should be made clear that the ability of youth in the Blue Hill area to meet basic needs is, in actuality, slightly easier than in Deer Isle-Stonington. Until recently, Deer Isle-

Basic Needs	George Stevens Academy	Deer Isle-Stonington High School
Inside	church school (3) grocery shopping (2) 24 hour gas (2) banks (2) hospital prescriptions hardware store work (2)	dentist banks (2) grocery shopping lobstering
Outside	buy a car work college	medication/prescriptions (2) orthodontist grocery shopping

Table 3: Basic Needs as Filled Inside and Outside the Community

Stonington had a pharmacy and a larger grocery, both of which have closed within the last ten years. Thus the difference in perception may be a function of actual resource differences. Nevertheless, a difference between the students' feelings of need fulfillment clearly exists.

A closer look at food, one basic need available in both communities, helps to clarify the difference between the two student groups' feelings of need fulfillment. Both communities contain several choices for groceries. They differ however, in that those places in the Blue Hill area are contained within Blue Hill center, while for Deer Isle-Stonington, they are, like many things, much more dispersed. In the Blue Hill area students' images, Tradewinds and Merrill & Hinckley's, a grocery and convenience store proximate to GSA, appeared on 81% and 86% of maps respectively. By contrast, the major shopping nodes in Deer Isle-Stonington, the Galley and the Burnt Cove Market, appeared less frequently, both on only 47% of maps.** This does not necessarily indicate that GSA students go to Merrill & Hinckley's or Tradewinds any more often than their counterparts go to the Galley or to Burnt Cove. It does mean, however, that these

** Difference significant at the .05 level.

shopping places (i.e. places to meet a basic need) form a much more predominant part of the image of the community as defined by Blue Hill students.

Social Need Fulfillment

Both groups of students indicate a clear preference to leave the community for social purposes: shopping, fast food, Dunkin' Donuts, and "anything fun." Both likewise indicate that they go to nearby towns outside of the community on weekends in order to "hang out." However, when asked about specific places *within* the community where they spend time, it became clear that for kids in both communities, those places do in fact exist.

Hangouts, for both sets of kids, seemed to be characterized by two main features: auto accessibility and a semi-public nature. This is not uncharacteristic of adolescents regardless of their environment (Hall 1993). Thus, kids in both communities mentioned similar types of places: beaches, parking lots, gravel pits, and each others' houses. When asked to denote the location of major hangouts on their maps, students in Blue Hill invariably mentioned the town park on the waterfront (which includes parking facilities) and the parking lots at both Merrill & Hinckley's and the school. At DISHS, students mentioned similar places, namely a beach in north Deer Isle and the pier in downtown Stonington. The pier has a large parking area and a monument, and sits directly on the waterfront; the beach shares some of the same characteristics. Interestingly, of the main hangouts noted on Blue Hill area students' maps, many were near the town center: the mountain, the park, GSA, and Merrill & Hinckley's among them. Meanwhile, Deer Isle-Stonington's were much more dispersed around the island, north and south.

Notably, when asked to rank agreement with the statement, "there are places within this community that I like to go," it actually appears that Deer Isle-Stonington

students may exhibit a higher degree of satisfaction. Thus, 57% of GSA kids agreed that their community contains places they “like to go.” Considerably more, 73%, at DISHS felt likewise. In part, the dispersed development pattern may actually explain this discrepancy. Kids at Deer Isle-Stonington may feel satisfied with the places in their community as a *result* of the dispersion, in that it gives them less visible places in which to be adolescents.

Attachment

86% of Blue Hill students and 87% of Deer Isle-Stonington students planned to “go away after graduation.” Of these, 62% and 54% of GSA and DISHS leavers respectively planned to “come back.” This difference is not statistically significant. For both student groups, safety seems to serve as the major impetus for staying. Students from both communities strongly emphasized their sense of security within their communities, and drew contrasts with the broader world. A typical comment came from a GSA student, “It’s a lot easier here than some places, like New York, like the Bronx. You can walk around, do what you want. You don’t have to worry about shootings” (paraphrased). This feeling seems to exist irrespective of physical patterns, and may be indicative of rural youth everywhere (Glendinning et al. 2003).

Interesting differences arise when looking at the students’ conceptions of community strength, however. Only 57% of the Blue Hill area students agreed with the statement that “this is a strong community” as compared to a remarkably higher proportion, 87%, of the Deer Isle-Stonington students.** When asked about the strength of the community in discussion groups, one Deer Isle-Stonington student commented, “This really is a good community.” Further, during discussion two of the Blue Hill focus

** Difference significant at the .05 level.

groups actually predicted this finding, saying “It’s tighter in Deer Isle because of fishing,” “because they don’t leave,” and because “it’s an island” (all paraphrased). It thus seems that a higher proportion of Deer Isle-Stonington students feel that they live in a strong community. Furthermore, it appears that Blue Hill area students feel that theirs is comparatively weak, despite the presence of an arguably stronger center.

Identity

A large majority of both sets of students felt they “fit in” with their community. However, there was some disparity in terms of degree and character of this identification. Only 62% of Blue Hill area students identified more with “the peninsula,” or the greater Blue Hill area, than their home community. In contrast, 93% of Deer Isle-Stonington students identified more with “the island” than with Deer Isle or Stonington proper.^{***} The scale of the maps corroborates this difference in identification. In their images, the Blue Hill students often drew the community center, and in some cases, a small part of an outlying community as well. Deer Isle-Stonington students, in contrast, focused on a much larger scale image of their community: the island as a whole.

Notably, while students in Deer Isle-Stonington seemed to identify more with their greater community, they also seemed to conceptualize the identity of that community quite negatively. When asked “What first comes to mind when you hear the words ‘the island’ or ‘the Blue Hill area,’” both communities’ students thought of a variety of positive words: “friends,” “home,” “welcoming,” and “unity” among them. However, while 9 of the 12 (75%) clearly positive or negative responses from Blue Hill area students could be considered positive, only 6 of 11 (55%) Deer Isle-Stonington responses qualified as positive in nature. The three negative responses by Blue Hill area

^{***} Difference significant at the .025 level.

students included “tourists,” “small,” and “boring.” The negative responses by the Deer Isle-Stonington students included “boring,” “isolation,” “everyone knows everything about you,” “fishbowl,” and “rock.” One Deer Isle-Stonington student commented, “sometimes I just feel like it’s turning into *The Shining* around here.” 71% of GSA students agreed with the statement “I am proud to be from this community” while 5% disagreed. In comparison, 53% of DISHS students agreed that they were proud of their community, and 27% disagreed.* It appears that Deer Isle-Stonington students, while possessing a stronger feeling of identification with the community, feel remarkably more negative about that identity as well.

Influence

This negativity raises an important point. While the commonly-held perception of rural community is that of a tight knit place where everyone gets along, the existence of negative feelings regarding community has long been noted as well (Glendinning et al. 2003; Fleming et al. 1985; Pretty et al. 2003). For students at both schools, privacy and infighting recurred as major themes. To some extent, issues of privacy simply stem from adolescence. But they are also a function of population; the smaller the population, the less effective privacy. Thus while 40% of Deer Isle-Stonington students, in a smaller community, strongly agreed with the statement “within this community, people know who I am,” only 14% at GSA felt likewise.* While some might choose to interpret this positively, people knowing “who I am” certainly has negative implications for these students as well.

* Difference significant at the .1 level.

* Difference significant at the .1 level.

Thus, in focus groups, many more comments regarding privacy and infighting arose at Deer Isle-Stonington, the community without a center, than in Blue Hill. Students commented that people know too much, cut lobster traps in the summer, “only look after their own,” and sometimes “tear each other down.” While some students in Blue Hill mentioned similar privacy and infighting issues, remarking on the stigma of hanging out in the parking lots, profiling by the town cop, and news getting “spread around,” overall GSA students presented their community much more positively. Thus, no students at DISHS strongly *disagreed* with the statement, “I feel like it’s hard to be myself within this community,” as compared to a much larger proportion, 24%, in Blue Hill.*** On a similar note, when asked about the quality of life in their communities, only 27% of DISHS students agreed that it was “much better in this community” than somewhere else. Considerably more, 57%, of GSA students felt likewise.* It thus seems Deer Isle-Stonington students may feel a stronger influence from community than their counterparts in Blue Hill. Further (and maybe as a byproduct), it seems that Deer Isle-Stonington students perceive this influence more negatively as well.

Responsibility

When considering feelings of empowerment and responsibility over change and the future of the community, a similar set of differences emerged. The evidence suggests that Deer Isle-Stonington students, even without a strong center, may actually feel just as responsible for their community; 27% of Deer Isle-Stonington students strongly agreed with the statement, “I feel responsible for the future of this community,” as compared to 24% in Blue Hill. However, the Blue Hill students again voiced much more positive

*** Difference significant at the .025 level.

* Difference significant at the .1 level.

Changes	George Stevens Academy	Deer Isle-Stonington High School
Positive	There will be chains like Dunkin' Donuts. It won't be so plain, so square. There will be something for kids to do. (2) It'll be a better place for kids. It'll be newer, caught up to the time, not so old. There will be a new theater. There will be a better school.	Cell phones will work. There will be a new bridge.
Negative	There won't be so many young people. Stores will shut down. It will be smaller. It'll be richer. The population will grow with summer people.	The summer people will take over. There will be a swing towards tourism. It'll be just like Cape Cod. People with money will buy up all the houses. We won't be able to purchase land anymore because of the summer people. The property values will increase. It'll be built up with rental homes. It'll be all old people. Fishing will disappear. The school will be smaller.
Neutral	It will look different. It will have more houses, apartments, and clearing (3). There will be more building on the coast. It'll have to build up, maybe with Dunkin' Donuts and Wendy's. It will be more commercial.	It depends on the fishing industry.

Table 4: Changes Predicted for the Next Ten Years

forecasts about their community's future. For example, GSA students theorized about a variety of potential changes over the community's next ten years, among them "There will be a lot more houses," "It won't be so square," and "It will build up" with places like Dunkin' Donuts and Wendy's. Of those changes mentioned at GSA, seven could clearly be considered positive (i.e. "There will be something for kids to do"), five could be considered negative (i.e. "There won't be so many young people"), and five could be considered neutral (i.e. "There will be more development along the coast").

In contrast, Deer Isle-Stonington students mentioned many more potential negative changes. DISHS students predicted only two positive changes in the next ten years: cell phones will work on the island and the state will replace the bridge.

Meanwhile, the Deer Isle-Stonington groups predicted ten *negative* changes for the next ten years, including “It will be all old people,” “There will be a smaller school,” “Stores will go out of [year-round] business,” and “It’ll be just like Cape Cod” (all paraphrased). Most commonly, students mentioned that property values will rise beyond their reach; one student remarked, “We can’t purchase land here anymore...people with money have bought up all the houses” (paraphrased). It thus seems that Deer Isle-Stonington students may feel just as responsible for the future of their community. However, they feel significantly more pessimistic about that future than their counterparts in Blue Hill.

Membership

In terms of membership, a different pattern arises. When asked whether they agree or disagree with the statement “I feel at home in this community,” 76% of GSA students and only 47% of DISHS students agreed.* This significant difference becomes even more so when considered in light of length of residence. Only 43% of the GSA respondents had lived their entire life in the Blue Hill area, as compared to more than twice that, 87%, of the Deer Isle-Stonington students.*** Yet Blue Hill students felt much more “at home” in their community.

Feelings of belonging emerge further through an exploration of students’ conceptions of their schools. Schools serve as places where students affiliate; they are the primary places, outside of the family, where students “belong.” Thus, in Blue Hill, 100% drew GSA on their maps. Of those, 71% drew it within the first three minutes. At Deer Isle-Stonington, an equally impressive 80% drew DISHS (although it is a bit striking that any student did not draw the building in which they were sitting while

* Difference significant at the .1 level.

*** Difference significant at the .01 level.

drawing those maps). Only 20% drew it within the first three minutes,^{***} with higher proportions drawing it in each of the subsequent three minute intervals.

It should be mentioned that both groups of students certainly mentioned the schools as critical and valuable places. Schools were listed as places for benefit suppers when someone gets hurt, a place to hang out (at least in the parking lot during basketball games), and a place for sports and music. In addition, Deer Isle-Stonington students actually singled out the school as a place of “support;” one student commented on the value of knowing every single person in the hall. But the physical representation of the schools does imply that the primary place of belonging outside of the home is markedly less prominent in Deer Isle-Stonington students’ conceptions of community than it is in Blue Hill.

Thus, in terms of membership as well as other elements of sense of community, some clear differences between students’ conceptions of their social environment emerge. The students from Blue Hill, the community with a clearly defined center, exhibited a higher sense of basic need fulfillment, membership, and more positive feelings regarding community in general. In contrast, the students from Deer Isle-Stonington, the community without a strong center (but with a strong boundary), felt a higher sense of attachment, identity, and influence. Still, the fundamental question remains: what do these findings indicate about the relationship between these students’ physical and social worlds?

^{***} Difference significant at the .01 level.

7. Conclusions

The central question of this thesis asked how the existence of a town center, which, as prescribed by Calthorpe, integrates commercial, recreational, and civic facilities in close proximity, affects sense of community in rural youth. It was designed to test the environment-behavior theory behind new urbanism's call for "modern versions of the tradition town" (Calthorpe 199, 16). And it meant to clarify the role of these "traditional" constructs with respect to modern America. However, during data collection it became apparent that the two cases used in this study, Blue Hill and Deer Isle-Stonington, Maine, not only differed significantly in terms of the independent variable, the clearly defined center, but also in terms of another physical feature: the boundary. In this light, it is possible to draw several general conclusions and hypotheses, not only about the function of a town center in community formation, but about the role of edges as well.

1. When they exist, town centers predominate students' conceptions of community.

The Blue Hill students' images clearly illustrate that the center is an important part of their community. It not only forms the centerpiece of most of their maps, it is most of their maps. Further, it contains a large variety of identifiable connections, nodes, and landmarks. It is the first thing most Blue Hill area students think of when they form an image of their community, and it is quite obviously a large part of the community's practical, daily functioning. The evidence suggests that Blue Hill area students use this

center both for basic needs as well as social purposes, and that a considerable portion of their action seems to focus around it.

In contrast, in an area without a strong center, students' images contain no clear node for interaction. While Deer Isle-Stonington students converged on the drawing of certain map elements, of the most predominant of these map elements (the boundary, bridge, Little Deer Isle, Route 15, and the high school) only one actually contains or facilitates social contact. Obviously, Deer Isle-Stonington students interact. Yet, as new urbanism might predict, their nodes for interaction simply appear much less prominently in their physical conceptions of community.

2. Boundaries appear to play a dominant role in conceptions of community as well.

The cognitive maps of Deer Isle-Stonington students clearly indicate that the edge of their island is the defining feature of their community. It dominates their images, appearing on the vast majority of students' maps and almost invariably first in sequence. Further, it serves as a framework of sorts, determining not only the scale at which students conceive of their community, but the treatment of connections, landmarks, and nodes within it.

The dominance of this edge in Deer Isle-Stonington students' maps begins to suggest the power of boundaries, both physical and otherwise, in students' definition of and feelings about community. Clearly, more research would be necessary to adequately understand the role of boundaries in sense of community formation. However, this study does suggest that in a town *without* a clearly defined physical or social boundary, edges function almost incidentally, as if students in Blue Hill are altogether unaware of where their community begins and ends. For students *with* a boundary, in contrast, the edge appears to play a markedly more definitive role.

3. *Town centers positively affect some elements of sense of community in youth.*

Some evidence from this study suggests that, in accordance with new urbanist theory, the presence of the town center, even in modern auto-centered America, does in fact positively affect sense of community. First, students in the area with a clearly defined center appear to exhibit stronger feelings of need fulfillment. Places for meeting basic needs appear much more prominently in Blue Hill students' maps, and students in Blue Hill were much more likely to list basic needs as "things you can do inside the community." As focus theory implies, the center may promote this sense of need fulfillment by allowing the formation of weak ties which foster access to resources. The center may also evoke feelings of need fulfillment simply through its visibility from and proximity to the place in which students spend the majority of their day.

Blue Hill area students also demonstrated a higher degree of community membership. As theorized by Relph, it may be that Blue Hill area students' stronger sense of feeling "at home" results from the existence of an identifiable central place which "offers a distinctive experience of being inside" (Relph 35). GSA students, by virtue of their school and their hangouts downtown, occupy clearly defined spaces within the center which are public and visible, but owned by them alone. This defensible space, as suggested by Yancey (1972) and Newman (1972), may help to foster feelings of ownership and thus membership.

Furthermore, Blue Hill students' *positive* conceptions regarding identity, influence, and responsibility over the future of their community may be related to the center as well. Proshansky et al. write that "positively valenced cognitions" regarding a place result from a combination of the quality of the physical and social environments, and that positive feelings toward the social setting (i.e. the community) may rest, in part,

on “how well individuals play their roles, the nature of their feelings toward each other, the degree of conflict and frustration that arises, the extent that social expectancies are met” (Proshansky et al. 1983, 77). Due to their physical and functional proximity to the center, Blue Hill students, willingly or not, interact with and observe the rest of the community on a daily basis. Their proximity thus not only forces them to *be* a part of the community, it allows them to witness a variety of community residents in a variety of community roles. As Proshansky et al. theorize, the center may thus contribute to their positive conceptions of the community.

It is interesting to take this analysis one step farther. In Deer Isle-Stonington, the towns have, in effect, segregated adult and youth space into different nodes. Deer Isle-Stonington students go to school far from the rest of the island population; in fact, they go to school 7 ½ miles from the node that they consider “downtown.” While in some ways this may positively influence students’ feelings about their community (by providing a private, defensible space), in others it may, in fact, have detrimental effects. Research has found that teenagers want access to public, adult spaces, and this may explain why teenagers at DISHS prize the pier in downtown Stonington (Hall 1993; Lynch 1977). However, several comments arose in focus groups about being “kicked out” of these public spaces (the pier specifically) on a regular basis. This functional (in addition to the physical) distance between school/youth and adult spaces may preclude interaction between age groups in the Deer Isle-Stonington community. As described

Element	Need Fulfillment		Attachment	Identity	Influence	Responsibility	Membership
	Basic	Social					
Predicted	Blue Hill	Blue Hill	Blue Hill	Blue Hill	Blue Hill	Blue Hill	Blue Hill
Actual	Blue Hill	DI-S	DI-S	DI-S	DI-S	Comparable	Blue Hill

Table 5: Predicted and Actual Predominance of Sense of Community Elements

by Festinger et al. (1950), this segregation may stunt the development of social support. Furthermore, as theorized by Proshansky et al., the active exclusion of youth from downtown spaces may actually result in negative feelings regarding community. They write, “physical settings of home, school, and neighborhood that threaten, detract, or interfere with self-identity conceptions of the individual will not only preclude the development of place-belongingness but may indeed produce its very opposite: ‘place aversion’” (Proshansky et al. 1983, 76).

3. Boundaries may positively affect sense of community as well.

When considering other elements of sense of community, however, the data indicate that a center may *not* add to students’ experience as much as new urbanists theorize, and that, in fact, the presence of a boundary may contribute just as much (if not more) to sense of community formation in youth. When considering youth’s attachment to community, for example, the data seem to defy new urbanist theory. In a quite profound finding, a considerably higher proportion of students in the diffuse area, Deer Isle-Stonington, felt that they lived in a “strong” community. Further, the evidence suggests that a larger proportion of Deer Isle-Stonington students felt an attachment to and identification with the greater community and that more Deer Isle students seemed to feel influence from the community as well. This suggests that in a very general sense, town centers may not play as clear a role in creating “strong communities” as new urbanists might predict. Moreover, other physical variables (e.g. boundaries) may in fact have higher salience.

In the cognitive maps, Deer Isle-Stonington’s “islandness” manifests itself in the depiction of a clear, uninterrupted edge. This boundary creates a distinct inside v. outside dichotomy, and in this regard it may have remarkable social implications. For example,

the boundary in Deer Isle-Stonington may play a powerful role in strengthening the sense of “inside” community. In fact, it may actually create a much stronger network within the island than the community created by interacting around Blue Hill’s center. In other words, defining *against* others may be more powerful in fostering community strength than defining *with*.

This theme emerged in focus group discussions, in which Deer Isle-Stonington students clearly displayed evidence of an inside v. outside mentality, especially in their characterizations of their relationship with summer people. One DISHS focus group mentioned that the community is stronger in the summer because “we band together against the summer people” (paraphrased). While students in Blue Hill also defined summer people as different, no one mentioned the community being strengthened by that relationship. GSA students actually remarked that the community is “socially stronger in the winter,” when it is easier for people to “know their neighbors” (paraphrased).

It is interesting to consider how the island boundary might also play into feelings of identification and influence. A boundary, in creating a distinct “inside” and “outside,” creates “insiders” and “outsiders” as a byproduct. This clear, dichotomous classification helps to explain the high proportion of Deer Isle-Stonington students who identified with “the island” community, or more precisely, the community of “insiders.” Further, it begins to clarify why Deer Isle-Stonington students also might have felt a stronger sense of familiarity (and subsequently influence) with respect to people in their community.

4. Both boundaries and town centers have limitations in terms of sense of community.

While Deer Isle-Stonington students conceived of their community as stronger in nature than the students in Blue Hill, it should be noted that they also felt much more negatively about that community. This negativity may partially result from population

size and the associated socio-cultural “fishbowl” factor. As previously mentioned, it may also be a product of the segregation of Deer Isle-Stonington’s adult and youth spaces. However, it is also interesting to consider the possibility that this negativity may indicate where the boundary as a discriminating feature in sense of community begins to fall short.

When asked in focus groups about reasons for staying or leaving the community, both groups of students overwhelmingly mentioned positive attributes of their communities. Deer Isle students commented, “It’s unique here,” “It’s a good place to lobster,” and “This truly is my home.” Likewise, students in Blue Hill noted, “It’s quiet,” “Everyone I know and love lives here,” and “It’s a great town.” However, several students at Deer Isle-Stonington also indicated strong feelings of isolation, evidenced in statements like “I feel like I no longer relate to those I have grown up with” and “I want to experience other parts of the world” (paraphrased).

These feelings raise an important point. Centers provide places for interaction as well as “imageability,” or “that quality in a physical object which gives it a high probability of evoking a strong image in any given observer” (Lynch 1960, 9). While a boundary may also provide a community with imageability, it cannot facilitate interaction. Thus, youth on the island, with an inside v. outside mentality, may clearly find strength in and identify around their edges. As new urbanists would predict, however, substantially less interaction may occur inside Deer Isle. Fewer weak ties and less expansive social networks therefore develop, and a feeling of isolation (and negativity) may ensue.

Further, while the edge may create community strength and identity, in Deer Isle-Stonington's case, it also clearly stimulates feelings of captivity. Lynch writes that edges are strongest when they are "not only visually prominent, but also continuous in form and impenetrable to cross movement" (Lynch 1960, 62). The "impenetrable" nature of the island's coastline may actually create a psychological barrier around the island. Thus, it may foster feelings of constriction in Deer Isle-Stonington youth, witnessed in comments like "I don't want my kids to grow up with all this gossip" (paraphrased).

Comments about "gossip" and confinement were certainly not singular to this study's bounded community. However, they appeared much less prominently in Blue Hill, the community with a strong town center, and this may begin to suggest some of the relative advantages of cultivating sense of community through a clear, central node rather than through fixed, "impenetrable" boundaries. The students in Blue Hill did not express as high a sense of general community strength as the students in Deer Isle-Stonington. Nor did they exhibit the same heightened degree of community identity. Just as importantly, however, they also did not demonstrate the same level of negativity regarding their community. More Blue Hill students felt "at home" in the community, more felt they could be themselves, more characterized their quality of life as "better" than "somewhere else," and more felt proud.

These subtle but important differences begin to indicate that both centers and boundaries may have distinct advantages *and* disadvantages in sense of community formation. As new urbanism theorizes, students in an area *with* a clearly defined town center do appear to display stronger feelings of basic need fulfillment and membership than students in a community without. On the other hand, students in the community

without a clearly defined town center appear to exhibit a much higher sense of general community strength, attachment, identity, and influence. In spite (or potentially because) of those strong feelings, however, the findings of this study also indicate that the spatial arrangement associated with a clear and fixed boundary may have negative manifestations. And while a town center does not appear to cultivate the same degree of positive feelings of community in youth, it also, in a very clear sense, does not appear to cultivate the same degree of negative feelings either.

8. Implications

As originally conceived, this study had several purposes. First, I intended to provide insight into the environment-behavior paradigm within which new urbanists and many other planners work by exploring the relationship between town design and sense of community. Second, I aimed to inform the way that planning practitioners try to create sense of community with respect to youth. Third, I hoped to add to the practice of planning in rural communities. And last, I intended to add to our understanding of the strengths, weaknesses, and nuances of rural America.

Environment, Sense of Community, and New Urbanism

In *The Next American Metropolis*, Peter Calthorpe writes that a clearly defined town center, together with other design elements identified as important by new urbanists, could “turn suburbs into towns, projects into neighborhoods, and networks into communities” (Calthorpe 1993, 17). While Calthorpe’s goals may seem lofty, in several ways, this study actually supports new urbanist theory. It suggests that the existence of a clearly defined town center may produce heightened feelings of basic need fulfillment, membership, pride, and positivity more generally. Students in the community with a clearly defined center exhibited all of these elements to a much higher degree than those in the community without.

In other ways, however, the findings of this thesis directly contradict new urbanist theory. A town center does not magically produce all of the elements of sense of community in residents. In fact, this study demonstrates that town design may have little

or no effect on elements of sense of community including social need fulfillment, emotional attachment, feelings of identification, and influence.

Further, these findings indicate that in modern America, the new urbanist paradigm may not hold entirely true. Even in a study of new urbanism's archetype, the small town, the romanticized 19th century sense of community does not appear wholesale. While it does appear in part, the findings of this study indicate that in attempting to apply a 19th century construct to a 21st century landscape, new urbanist principles may, in fact, oversimplify the objective of "creating" community.

Clearly, to gain better insights as to how new urbanist style town centers effect sense of community, it would be necessary to compare communities without the presence of pervasive intervening variables. A confounding geographic feature obviously played into sense of community as exhibited by the students in one of this study's communities. That variable, the physical boundary, appeared to affect feelings of attachment, identification, and influence. Future research on town centers and sense of community would benefit from the use of more comparable communities.

Future research on environment and sense of community might also be informed by this intervening variable. This study demonstrates that the existence of edges may play a substantial role in fostering community identity and strength. It would be fascinating to explore how physical boundaries serve, in these ways and others, as community-building features. Further, this study illustrates that boundaries can obviously play a negative role in sense of community as well. Accordingly, it would be interesting to investigate where the community-building nature of boundaries reaches its limit.

Moreover, new urbanism and environment-behavior research might benefit from an examination of the role of more figurative boundaries in sense of community formation. Critics have long noted the aesthetic and social homogeneity of new urbanist developments, as well as, to some extent, their exclusive nature (Mandel 1997). The existence of these social boundaries may play just as influential a role in building sense of community as more literal, physical ones. Some research supports this hypothesis (Keane 1991; Talen 1999); it would be interesting to further explore the ways in which social “edges” help to define and support communities.

Armed with research of this nature, planning practitioners, new urbanists and others alike, might indeed be able to use physical design elements like town centers *and* edges to better create places that evoke sense of community. Of course, in applying the concept of boundaries planners would have to be careful *not* to create islands, gated communities, or replicas of the walled towns of medieval Europe. The confining (and exclusive) nature of such communities, as this study shows, not only elicits negative feelings in “inside” residents, but presumably in those outside as well. In applying the idea of edges, then, it would be important for planners to think about creating more figurative boundaries, either physical (through zoning and design) or social (through policy or programming), which are large and permeable enough to allow movement across *and* within them. Thus, planners might capitalize on the positive attributes of boundaries without fostering feelings of confinement, isolation, or exclusion.

The Physical Environment and Youth

The findings of this thesis suggest that the town center may play a positive role in developing sense of community in youth, and that a center may foster feelings of fulfillment, membership, and positive feelings of identity and influence in particular. As

Hall writes in her study on space and youth, “Teenagers want access to the adult world, but in places where the power of the authority figures is weak” (Hall 1993, 60). Thus when students’ “own” space within the community’s mixed-use, mixed-age, and very public center (e.g. the school, if a good one, and parking lots), they appear to use that space, feel satisfied with it, and may as a result feel “at home” and proud of it as well.

However, a *decentralized* community may actually enhance feelings of fulfillment on another level, in that it creates a variety of spaces in which youth can socialize, both privately *and* publicly, as adolescents. This variety may allow different students to “own” diverse places within the community. Further, it may allow students to share ownership of multiple spaces around the community. With cars the dispersal of hangouts does not present a problem. In fact, it’s an asset, in that it makes those hangouts both less public and less regulated, a well-documented need in terms of adolescent development (Hall 1993).

These nuances begin to suggest that in designing spaces for youth, planners should be careful to allow both semi-public (and auto accessible) spaces within a center and, if possible, spaces outside the center as well. Kids will use these places in different ways. However, the combination of these two types of spaces might provide a sense of ownership, membership, and need fulfillment, and foster more positive feelings regarding community as well.

Further, this study indicates that with respect to the places in which youth spend most of their day, schools, it may be of critical importance to make land use decisions which favor the development of a town center. The data indicate that placing a high school in a clear center, if one exists, may encourage use of that center, and membership

as a byproduct. Even if kids use places in the center with their cars (as students in Blue Hill do), at least they are *using* places within the center. And in that regard, they have an opportunity to interact with the rest of the community. As a result, they may develop heightened feelings of belonging, as well as more positive conceptions about the people and opportunities that surround them.

Of course, further research regarding the physical environment and youth is necessary to make more definitive conclusions about the effect of design on sense of community in kids. This study, in presenting “students” as a homogeneous group, did not investigate the important differences within the populations represented in this study, not only in terms of gender, but in terms of income, ancestry, and residence. A more thorough analysis based on these variables (and with larger sample sizes) would add layers to the discussion of the physical environment, sense of community, and youth.

Furthermore, research might consider sense of community in youth as a function of car ownership. This study looked at a very specific population of eighteen year olds, and almost all of those eighteen year olds had access to automobiles. A future study might investigate how the use of cars affects sense of community as facilitated by a town center (or by boundaries, for that matter) by conducting a comparison with age as the independent variable. A study of this type would allow a further understanding of the influence of cars, car culture, and the physical environment on the formation of sense of community in youth.

And lastly, it might be interesting to further explore the function of boundaries in sense of community with respect to youth in particular. It is quite possible that youth, naturally struggling with issues of identity, are more susceptible to the negative effects of

boundaries than their elder counterparts. Thus, youth in a community with strong physical or social boundaries (e.g. an island, a homogeneous suburb, or even a poor, isolated urban neighborhood) may exhibit more negative feelings about their communities, may be more likely to leave, and may even engage in a variety of destructive behaviors as a result.

Planning and Rural Communities

The findings of this thesis help, in a small way, to illuminate the implications of growth patterns in rural communities. A confined growth pattern does appear to enhance some elements of sense of community, and may also profoundly affect the development of positive feelings regarding community. These findings indicate that siting civic, commercial, and educational facilities in a central location may well be a good strategy for rural communities.

Furthermore, while the dispersed community's students actually exhibited higher sense of community in some respects, this should not be interpreted as license for dispersion. The sense of community displayed by these students was, in all likelihood, *not* a function of the decentralized development pattern and more likely a function of a confounding variable. Furthermore, even if dispersion produces no detrimental effect on sense of community in youth, the type of sprawling development occurring in many rural areas in this country does do considerable harm, not only to the environment but municipal budgets as well.

In this regard, towns of these types might do well to more carefully consider the zoning in their communities, in particular the ways in which current zoning practices enforce or mitigate sprawl. Furthermore, these towns might benefit from a careful consideration of the ways in which zoning might be modified to produce a more

centralized effect. Progressive zoning strategies, including adequate public facilities or phased growth programs, might help to cultivate the development of mixed use commercial centers and confine growth to areas equipped with sufficient infrastructure.

Likewise, towns like Blue Hill might consider adopting strategies which result in the establishment of figurative boundaries in their communities. Again, this should *not* be interpreted to mean that communities like Blue Hill should build a wall, secede from regional planning associations, or construct gates around their perimeters. However, such towns might cultivate a strengthened sense of community through the implementation of programming that defines the community's parameters, establishes a sense of where the community begins and ends, and thereby enhances the community's sense of identity. Obviously, strategies of this type can be taken to extremes, and as noted above, if boundaries become too clear or impenetrable, a community may encounter significant drawbacks: confinement, isolation, and exclusion. In that regard, communities might consider developing strategies that foster *both* edges and town centers through zoning, programming, or design.

Furthermore, island towns (and towns with similar rigid physical or social boundaries) might take active steps to mitigate the negative effects of the "impenetrable" nature of their edges. Deer Isle-Stonington, notably, is currently enacting strategies in this regard, from sending students on trips all over the globe to inviting musicians and performers from "outside" in for events at the Reach Performing Arts Center. While it is impossible to change the fixed nature of Deer Isle-Stonington's granite coast, social programming of this sort at least begins to change *perceptions* of that fixedness.

The Nature of Community in Rural America

This study contributes to a general understanding that rural communities, with or without a center, are not necessarily the idyllic places that new urbanists and others envision. Rural communities *do* require cars. By their very nature, they *are* often “fishbowls.” And many rural communities *are* limiting for youth. They are full of fear, confinement, teenagers who do teenager things, “outsiders,” and “insiders.” For certain, they are not perfect.

The rest of the country could learn from rural America; it certainly does many things right. But it is dangerous to presume that rural communities do *everything* right. This type of conception not only falsely portrays the experience of one-third of the American population; it allows us to conveniently forget that rural problems which need attention do, in fact, exist.

The development of sense of community is obviously a valuable objective. And obviously, the built environment can play a substantial role in fostering sense of community. Both town centers and boundaries seem to exert a powerful influence on the communities built around and inside of them. However, it is simplistic to think that planners can easily “create” sense of community through the built environment, or through a laundry list of new urbanist principles. In fact, the development of sense of community is a function of both physical and social forces, fostered and hindered in complex ways. And in the end, it takes more than a simple town center, or boundary for that matter, to turn the middle of nowhere into the middle of somewhere.

Appendix A: Questionnaire (Deer Isle-Stonington High School)

This questionnaire is anonymous and voluntary. You may choose to leave any question blank..

1. Circle your gender. MALE FEMALE	2. Age: _____	3. Town of Residence _____			
4. Compared with others in this community, how do you consider your family's income? Circle one.					
BELOW AVERAGE	AVERAGE	ABOVE AVERAGE			
5. Have you lived in this community all of your life? Circle one.	YES	NO			
6. Did your parents grow up in this community? Circle one.	YES	NO			
7. Do you participate in any community groups? Circle one.	YES	NO			
8. Do you own a car? Circle one.	YES	NO			
Check whether you strongly agree, agree, are unsure, disagree, or strongly disagree in the boxes at right.	Strongly Agree	Agree	Unsure	Disagree	Strongly Disagree
<i>Emotional Connection/Attachment</i>					
9. This is a strong community.					
10. I feel at home in this community					
11. I am proud to be from this community.					
12. It is important for me to live in this community for a long time.					
<i>Influence</i>					
13. I feel like it is hard to be myself in this community					
14. I feel responsible for the future of this community.					
15. I don't care whether this community does well.					
<i>Fulfillment of Needs</i>					
16. There are opportunities for me within this community.					
17. There are places in this community where I like to go.					
18. I feel that most people in this community get along.					
19. Compared to elsewhere, the quality of life is much better in this community.					
<i>Belonging</i>					
20. Within this community, people know who I am.					
21. I would say that I fit in with this community.					
22. This is a good place for people like me to live.					
23. Overall, I would say that I am valued in this community.					

*This questionnaire is anonymous and voluntary. You may choose to leave any question blank.
Note that in this questionnaire the term "community" refers to the "island" community.*

24. What first comes to mind when you hear the words "the island"? *List three things.*

1. _____ 2. _____ 3. _____

25. What do you feel are the most important parts of this community? *List three in order of importance.*

1. _____ 2. _____ 3. _____

26. How would you define the word "community"? _____

27. With which do you identify more? *Circle one.*

YOUR TOWN community

the ISLAND community

28. Are you planning on going away after graduation? *Circle one.* YES NO

If yes, do you think you will come back? *Circle one.* YES NO

Why or why not? _____

If no, what makes you want to stay here? _____

29. Do you see Deer Isle-Stonington as one large community or two separate ones? *Circle one.* 1 2

Appendix B: Open-Ended Focus Group Questions

1. On the T-chart, make a list of things that people can do inside this community and things that people have to go outside for.
2. On the map, mark the places that you use, hang out, or like to go. Make sure to label them, just as if you were pointing them out to a stranger.
3. Do you think the Blue Hill area/island is a strong community? Why?
4. Are you happy you grew up in this community? Why or why not?
5. How do you think this community will be different in ten years?

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Appendix C: Sample Cognitive Map Analysis



1. First, I analyzed each map for the incidence of Lynch's five image elements:

Districts: 0

Paths (labeled and unlabeled roads and streets): 10

Nodes ("the strategic spots in the city into which an observer can enter, and which are the intensive foci to and from which he is traveling" (Lynch 1960, 47). Since this definition is oriented towards the urban environment, in this case I included schools, major stores, clubs, library, parking lots): 9

Landmarks ("another type of point-reference, but in this case the observer does not enter within them, they are external" (Lynch 1960, 48)): 12

Edges: 1

2. I then did the same with the incidence of additional elements:

Locations (labeled nodes and landmarks): 21

3. Using these data, where appropriate I then compared element counts across student samples.

4. Next, I compiled the frequencies of specific elements from *all* maps, creating tables as follows:

Blue Hill: Frequency of Specific Image Elements in Student Maps									
Districts		Paths		Nodes		Landmarks		Edges	
	%		%		%		%		%
Sedgwick	19	Main St.	76	GSA	100	Banks	43	Water	52
Blue Hill	14	Union St.	71	M & H's	86	Town Hall	43	Towns	14
Brooklin	14	High St.	43	Tradewinds	81	Mountain	24		
Brooksville	14	Pleasant St.	43	Hospital	71	Fairgrounds	19		
Deer Isle	14	Route 172.	43	Park	62	McVay's	19		
Orland	14	South St.	43	Library	52	Rite Aid	19		
Penobscot	14	Mtn. Rd.	19	Parking Lot	33	Church	14		
Surry	14					Citgo	14		
						Co-op	14		
						Fire Station	14		
						Fishnet	14		
						GSA fields	14		
						Liberty School	14		
						Post Office	14		

Deer Isle-Stonington: Frequency of Specific Image Elements in Student Maps									
Districts		Paths		Nodes		Landmarks		Edges	
	%		%		%		%		%
Little Deer	80	Bridge	67	DISHS	80	Opera House	40	Island	80
Deer Isle	67	Causeway	67	Downtown	60	DI Elementary	20	Town Line	47
Stonington	60	Route 15	60	The Pier	53	DI Post Office	20		
Atlantic O.	40	Reach Rd.	20	Burnt Cove	47	Lily Pond	20		
Oceanville	33	Airport Rd.	20	The Galley	47	Lobster Co-op	13		
Sunshine	27	Cross Rd.	20	DI Village	33	Bank	13		
Sunset	20								
Clam City	13								
The Reach	13								

5. I then used these tables to construct the visual representations which appear in the text of this thesis, compare the predominance of certain elements, as well as compare the frequencies of similar elements across the two student samples using t-tests.

6. I constructed similar incidence tables by sequence. I counted the number of students who drew each specific image element in each of the three minute intervals and found proportions. With the compiled data, I could again construct visual representations as well as compare using t-tests.

7. Lastly, I took note of the structure of the maps as defined by Lynch (1960). The sample on p. 77 qualifies as rigid in structure, in that it contains places connected by paths in a manner that is representative of actual space. The maps broke down in the following way:

Structure	Blue Hill		Deer Isle-Stonington	
	<i>Count</i>	%	<i>Count</i>	%
Free	2	9	1	6
Positional	1	5	6	40
Flexible	6	29	4	27
Rigid	12	57	4	27*
	21	100	15	100

* Difference significant at the .1 level

8. I used these proportions for comparison.

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