THE GEOGRAPHY OF INDIANA'S CREATIVE CLASS:
STUDENT PLACE PREFERENCES AND
ALUMNI MIGRATION PATTERNS

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Chapter 1
Introduction

We are tasked to rebuild not just a damaged economy, and a debt-ridden balance sheet, but to do so by drawing forth the best that is in our fellow citizens. If we would summon the best from Americans, we must assume the best about them. If we don’t believe in Americans, who will? (Mitch Daniels, Governor of Indiana 2005 to 2013, 2011)

Today’s key economic factors—talent, innovation, and creativity—are not distributed evenly across the global economy. They concentrate in specific locations. (Richard Florida 2008, p. 9)

According to the National Bureau of Economic Research, the United States wrestled with an official recession from December 2007 until June 2009, and even as this has subsided many have continued to struggle in their search for meaningful employment (Schaefer 2010). This economic downturn was coined the “Great Recession” because it was the longest national recession for the country since the Great Depression of the 1930s (Isidore 2008). Additionally, October 2009 marked the peak of unemployment for the country when it reached 10 percent, the highest the country has seen in the last 25 years (U.S. Department of Labor 2012). While unemployment has currently stabilized, it has remained high, and those who have continued to be unemployed struggle to find work. Unemployment benefits ran out for many before they could find a job that provided an adequate income to meet their needs. Those jobs that do exist are highly prized and sought after and have created a fierce and competitive job market. Businesses as well as individuals have suffered as consumers have been spending less on both luxury items and necessary goods. With the high levels of unemployment, businesses have focused on hiring the most qualified people by more selectively choosing from the candidates.
Some parts of the country, such as the Midwest, felt the onset of this recession prior to the official declaration. As a rust belt region with a large rural population and a history of jobs based in factory work and other unskilled labor, this region had already taken a hard hit during the 1990s when the North Atlantic Free Trade Agreement (NAFTA) took effect (Longworth 2011). Many of these unskilled positions that kept the local economies afloat were relocated to Mexico since human labor there was notably cheaper than what was available in the United States (Ensinger 2009). This left a large unskilled labor workforce to settle for lower paying service jobs and less capital to reinvest into the economy. The snowball effect of this policy left individuals with less spending power and businesses with fewer consumers interested in their products or services.

With these significant economic problems in the United States and specifically in the Midwest, local and state governments have felt pressure to attract a better educated workforce into the region. There has been a belief that the strong presence of college graduates in a city or region can also increase the earning potential of other jobs in a city that do not require higher education (Florida 2002b). As a result government leaders have been attempting to entice college graduates in the hopes that their presence would also increase the job potential for those individuals who do not possess college degrees. Public universities have also felt pressure from state and local governments to help retain graduates within the region due to a perception that there has been a growing outmigration of people who have earned college degrees (Skirvin 2012). One common thread among the reasons college students moved to a new state after they graduate is the belief that they would find better economic opportunities elsewhere (Bernhard 2007; Delisle and Shearmur 2010; Kennan and Walker 2011; Kodrzycki 2001; Tornatzky et al. 2001; Wozniak 2010). There have been many studies addressing the motivations of college graduates who choose to relocate but none on Indiana graduates. While Indiana itself has not suffered from a negative population growth rate as some of its neighbors have, it has maintained a consistently
low population growth compared to other parts of the country (United States Census Bureau 2010). Furthermore, Indiana is located in the heart of the rust belt and surrounded by other states that have also struggled. This thesis identified the place preferences of current college students at Ball State University through the use of surveys. Preferences identified as important by these students were then used to analyze to the actual migration patterns of alumni from Ball State and three other Indiana universities to clarify the choices of these graduates.

This research focused on investigating Indiana college graduates likely migration patterns in relation to specific criteria and on evaluating the types of preferences current students have about where they want to live after they graduate. The first step was to identify where college graduates desire to move after graduation and what might have motivated them to move to these places. Current Ball State University students were surveyed and asked a variety of questions focused on trying to understand the preferences they have about the types of places they would prefer to live after they graduate. This information provided a foundation to understand where Indiana graduates may want to live after they graduate. The next step was accomplished by using alumni data from four universities in Indiana to find the current locations of their graduates from selected years between 1998 and 2010. This portion of the thesis mapped and tracked where former graduates decided to settle immediately after graduation as well as where they settled for their more permanent residence years after they graduated. The alumni migration data was then examined using the specific factors from the student surveys that may have played a role in their decisions to live in these places. Although the place preferences of current students cannot determinative the migration decision of those that come before them, such preferences may be stable over the time period in this study. As such, place factors identified as important by current students may be an important way to understand the geography of Indiana’s recent college graduates.
Chapter 2

Literature Review

There have been many factors that contributed to the likelihood a college graduate will choose to move away from the city or state where they attended college. For example people in general have been more likely to move to a place with a seacoast than to move from the seacoast to a location within the interior (Kodrycki 2001). This indicated that the physical geography of a region has some influence on where people have wanted to live. Other factors that have been examined include some of the following: whether students were earning a non-physical science or engineering degree, if they were international students, whether they were older students, or if the college they attended was in a large city or metropolitan region (Tornatzky et al. 2001). In some cases race seemed to play a determining role in a return migration to the southern United States as African Americans whose families left the south to seek opportunities elsewhere have been returning in large numbers (Hunt, Hunt, and Falk 2008). Economic potential is the most frequently discussed motivation behind why college graduates choose to leave the state or region where they grew up (Kennan and Walker 2011; Kodrzycki 2001; Tornatzky et al. 2001; Wozniak 2010). While each of these factors may have influenced individuals differently, it is generally agreed that economic reasons have been the most significant influencing factor in determining whether a graduate decides to leave a city or region or stay.

One economic factor that college graduates have considered when deciding where they want to seek employment after graduation has been whether there are more opportunities for advancement and increase in wages in the medium-term (Wozniak 2010). This suggests that
graduates have been looking beyond short-term increases and that they may have been willing to wait to find the best long term fit for their career goals. Another factor that has been an important influence in the Midwest is that many students have been leaving what has been perceived to be a poor economic region (Keenan and Walker 2011). One study in the state of New York, a state which has experienced a positive in-migration, suggested that college graduate migration has been similar to labor migration for all ages and educational backgrounds as both groups sought to minimize expenses and maximize their benefits (Kyung 1996). After spending at least four years earning a degree, it has been thought that most graduates want to earn as much money as they can to be able to justify the time and expense of having attended a university.

During the 1970s some economists argued that there would be a surplus of college educated individuals and that the need for such people would decrease (Trostel 2010). However, as technology has advanced there has been a continuously growing need for more college graduates to fill the demand for an educated workforce (Fortin 2006). The increased need for college graduates has put pressure on universities and local and state policy makers to help find new ways to encourage their college graduates to remain locally. Some politicians have been reluctant to put money into funds that would support future graduates due to the fear that the state will help pay for them to earn their degree, only to have the individual leave the state, and have the investment benefits accrued elsewhere (Trostel 2010). Based on one study, this concern has been viewed as unfounded since a student attending a public university is less likely to leave the state than a student who attended a private university (Trostel 2010). Another study investigated whether there were other factors that have contributed to students remaining locally after graduation. This research suggested that students who worked at local internships were more likely to remain than those that had not (Bernhard 2007). In order to find successful policies to retain college graduates locally, city and state government officials need to look at the variety of factors that affect college graduate motivations to leave. Local communities and government
institutions have also put pressure on university administrators to conduct their own investigations to attempt to discover strategies that would encourage graduates to settle nearby to help benefit the local economy.

One drawback to financial incentive programs such as scholarship opportunities has been that in some locations there are not jobs available to suit the degree the student has earned (Bernhard 2007). If there are no jobs for graduates, then they have no other option but to seek employment elsewhere. Another factor that has seemed to have attracted college graduates is having an existing educated population already established (Trostel 2010). This has been a problematic situation for communities that seek to entice a more educated workforce, but have not already possessed a desired demographic threshold of college graduates. Before communities can hope to attract individuals possessing college degrees, the first step would seem to be finding ways to appeal to industries that require a highly educated workforce. On the other hand without a highly educated workforce it is harder for cities to attract these types of industries.

The United States is not the only country that has been witnessing the out-migration of college graduates from agricultural and rustbelt regions to seek other opportunities in larger cities and provinces. Studies have also been conducted in Canada to explain the flow of college graduates out of rural regions into larger urban cities (Delisle, Francoise, and Shearmur 2010). Indiana has faced a similar problem since it also has been a predominately rural state with a cooler climate than other regions of the United States. Based on information from the 2000 Census, there has been a steady flow of people who have left the northern regions of the United States to move to warmer states such as Florida (Perry 2003). College graduates have also been more likely to move from rural regions to metropolitan regions than non-graduates (Domina 2006). Young adults in general have tended to be more mobile than older adults. Many who have no families of their own and limited job experience have also been looking in other places to find careers that they believe will provide for them economically and are also fulfilling. With the
vast possibilities offered by large cities, college graduates have been seeking out those careers within cities and have left the rural regions behind.

College graduates have been generally drawn to cities or states with perceived economic advantages. Local and state government officials have the ability to create policies that could have a positive or negative impact on the ability of a state or region to attract an educated workforce. While university administrators have the ability to shape the focus of an institution to be primarily teaching or research, the local community has also been influenced by the types of people that are drawn to the institution. One researcher suggested that research institutions are more likely to draw high performing people to the community (Florida 2002b). By analyzing the migration patterns and the place preferences of college age individuals, government and university officials in these states can better understand the different factors that motivated these people to leave the state. This could lead to better policies being implemented that would encourage college graduates to remain within Indiana. While many studies have indicated that economic behavior has been the primary driving force behind migration patterns, there are other researchers who have investigated whether the desirability of specific locations or places based on social factors has become a more important determining factor than economic behavior to some college graduates in whether they decide to move on or stay locally.

The physical characteristics and social desirability of specific places has the potential to be a powerful influencing factor on an individual’s decision to relocate or to remain close to where they attended college. There are environmental characteristics about place that a person may find appealing such as climate or landscape features, but there are also cultural activities and social constructs that make different locations appealing to different types of people. These preferences for different types of places could have been a strong factor that has motivated college graduates to move to one place over another. Some individuals may have preferred large cities with access to many activities and types of amenities, while others desired smaller
communities that usually have stronger bonds among the individuals who live there. Scale also could have been an issue to those who have looked for a specific type of place to reside. Scale ranges from the scope of the entire earth to the size of an individual. Places such as parks, libraries, or churches are located in both major cities and in small towns. Place also could include a larger network of suburbs or the sprawl of the entire metropolitan region, with access to the neighboring cities, or the prevailing attitudes of the entire state or region. Just as activities occur in relation to scale, their presence could have been a factor that has motivated people as they have decided what they are looking for in the types of places they want to live.

With such a wide variety of understandings of how places matter and the contrasting values that individuals put on these ideas, it has been difficult to operationalize the concern for studies like this one. Physical location, such as a place that can be located on a map, is the most basic representation of place (Staeheli 2003). Another way to understand place is in how it could be related to cultural locations; “people are located within webs of cultural, social, economic, and political relationships that shape their identities, or positionalities” (Staeheli 2003, p. 160). An example of this would be a city divided by different socioeconomic groups with few acceptable avenues to cross these divisions. While no physical boundary exists, individuals obtain an understanding of those boundaries from the general sense of place possessed by the community. These types of factors could be used to explain the appeal of different communities. Whether there is a cultural identity or a specific economic group that an individual would like to identify with, both have provided a means of relating to the community. A similar explanation to understand “place as context” has been through factors such as education and income, and how these have affected how a person has related to the place where they live and work (Staeheli 2003). This digresses from place related to cultural locations in that social networks have helped to give people identity within places, while place as context has described the identity of places.
Cultural locations may possess boundaries, while place as context is related more to the attitudes that have developed due to cultural location.

Cultures and people are not stagnant and as they change, so do the places in which they exist, leading to change over time. The idea that attitudes within places have evolved can be used by the community to help shape the future of a location by acknowledging the effects of the past and the present (Staeheli 2003). Finally, the issue of scale has also come into play with some processes that have extended beyond a place, and how these larger processes could have impacted the economic opportunities present within a place (Staeheli 2003). For example, having a park in a town may have drawn more recreational activities to the community, or a city that has access to the interstate highway system may have experienced more commercial opportunities as commuters stop to get gas or food. A helpful approach to why place matters has been to recognize the range of what it has meant and how it has been interpreted differently. People have migrated for a variety of reasons, and recent college graduates represent a uniquely mobile group of people. Place has been used to describe physical locations, cultural locations, place as context, and different scales. These different ideas represented by place may give a glimpse into the motivations of graduates as they search for where they want to live after having earned their degrees.

As described before, the concept of place is not only complicated but also has been interpreted in different ways by many people. Place can be as simple as a specific location like a park or city, but it also can give a connotation of ownership, such as “my home” or represent a form of self-expression. For example, by displaying symbols and styles of an ethnic heritage, an individual can feel as if they have established themselves not only in the community, but also make them feel as if they have helped define to others an aspect for their individual identity through representing their heritage (Cresswell 2004). In the latter example, place has become a
creation or a way to personalize an otherwise impersonal space. This process could be considered as a way to make a place “home” (Cresswell 2004).

College students are in a transitional period when it comes to finding a place that meets their anticipations for a place that they can consider home. This can be as basic as a college dorm room or an apartment rental agreement, both of which are temporary residences. Other students who have been able to live at home with their parents or with other family members are also in an interim housing arrangement since often there is an anticipation that the student will move on to their own residence shortly after graduation. With college representing a short term destination where students only plan to be for a finite amount of time, being able to create their own identity through their personal space seems to become the focus. With these factors in mind, the places college students move to after graduation can represent more than future job possibilities. They can also represent an aspect of identity that may appeal to graduates.

Another characterization of place is how it has helped to shape and represent an individual’s identity through context. This has provided the larger overarching influences that represent what has influenced an individual’s decision making process. David Ley stated that, “this symbiosis between place and identity was [is] a geographical extrapolation of symbolic interactionism, an important theoretical position that holds that reality is social and is constructed and perpetuated through the routine interactions of everyday life” (Ley 2001, p. 5). In this theory, each person created their own reality through the social interactions that are a part of their daily living, and the types of places they chose to live or frequent provided the backdrop of what type of influences an individual wanted to experience. The types of places that college graduates desire to be associated with may become an important factor as they seek these places and the social opportunities available in them. The notion that place and identity are intermixed is related to the concept that place has been a means of self-expression, which was already suggested by Cresswell (2004). Both deal with place as something that has represented uniqueness and
individuality. These characteristics have allowed something for the individuals to connect with and help identify with something they feel is important. As a mobile population seeking out their own identity, college graduates may have the desire to find a place that reflects how they see themselves or how they want to see themselves.

The United States as a whole has been branded a mobile nation. Some have argued that this implies that the importance of place has decreased, while others have argued that place remains relevant (Agnew 1987, Friedman 2005, de Blij 2008). Having a place where an individual can feel some level of connectedness gives them a reprieve from the chaos of modern life (Creswell 2004). Unique districts in large cities have emerged each with their own distinct identities, which has helped to connect individuals to a sense of place. While this does create in one way a level of connectedness, these connections seem to be focused on weak relationships between the people within these communities and the resulting social groups. These types of weak connections have been desirable to some types of college graduates who have only a few strong close-knit relationships but prefer many weak variable relationships (Florida 2002b). The desire by individuals to be connected to their communities could be an important pull factor for college graduates, but also the availability of many cursory relationships.

There has also been research conducted to determine if certain types of people are more likely to move away from where they attended college. Dragseth (2008), for example, set out to determine if risk takers and individuals who are more creative had a higher propensity to move away from the state of North Dakota. While she discovered that no correlation existed, she did discover that students with high GPA’s were the most likely group to move away. Another researcher, Richard Florida, has gained attention from academics and non-academics alike for his research on what he has called the “creative class” (Florida 2002b). In his work Florida focused on a specific type of person, which he dubbed the creative class, and the type of places these people have desired to live. For Florida, this class generally consisted of young, single, and high
performing graduates who also have an intrinsic desire to learn, create, and master a skill and then move on to the next challenge. They also have a tendency to be drawn to places with high tolerance levels for alternative lifestyles. Florida (2002b) also argued that first individuals move to places they found desirable and then businesses would choose to locate where this “creative” human capital was concentrated. Once a creative class population is established, it also in turn will draw more creative class individuals from a larger variety of industries to a city or regions (Knudsen et al. 2008). According to Florida, members of the creative class first seek out a place where they want to live and then will investigate the economic opportunities. Florida’s (2002b) narrative is in distinct contrast to the research that has suggested that economic forces are the primary driving factor in where graduates decided to relocate. Social capital theory has presented a similar perspective in that businesses will locate where there is already human capital available. Florida (2002b) deviated from social capital theory by focusing on loose ties that are more flexible, where social capital theory concentrates on tight-knit associations. Overall, Florida (2002b) has positioned the traits of the place above the desire to maximize potential earnings when it related to people in his creative class and where they would choose to live after having earned their degrees.

Another study picked up where Florida left off by defining the criteria that influenced migration as “Quality of Living” or QoL (Lambiri, Biagi, and Royuela 2007). In this research QoL is considered important because individuals and business have used it to make decisions on where to locate, and people have been willing to trade equally valuable considerations in order to receive scarcer QoL options (Lambiri, Biagi, and Royuela 2007). QoL considerations include, “local environment (climate and physical), public goods and services, local government policies (taxation and fiscal incentives), and social interactions” (Lambiri, Biagi, and Royuela 2007, p. 5). This description included the conditions introduced by Florida (2002b) in social interactions and goods and services, but also acknowledged the influence of the physical environment as well as
financial considerations. In addition, QoL refers to attributes that a specific place has possessed that are likely to attract or influence both individuals and businesses to relocate. Florida’s (2002b) theory was based on the individual moving first, and then businesses following. This study discussed the importance of both the individual as well as businesses relocating based on the qualities of the city.

Another feature that college graduates might have been looking for is a place that was inclusive and made them feel welcomed. Some neighborhoods may have felt closed off to outsiders, and while this would have appealed to those already established in these neighborhoods it would have excluded the addition of new talent and new growth. This attitude may have been caused by the homogeneity of the existing community or the fear of those who are outside the existing cliques (Sibley 1992). A neighbor or city of this type could discourage college graduates who not only are looking for places to fit in, but are also seeking localities that are more tolerant of new ideas and lifestyles (Florida 2002b). Because of the closed nature of these types of communities, even college graduates who were established may not wish to return if they feel it is too restricted from other types of groups. Cities have to consider in-migration as well as the ability to prevent out-migration. This dynamic relationship would produce a total net-migration, and the goal of municipalities should be a positive net migration. Retaining college graduates is important, but so is the ability to entice new people.

An alternative perspective has attempted to define amenities or the availability of specific goods and services of places based on their economic significance (Clark et al. 2002). Having focused on the conveniences that are available in larger cities, Clark and his colleagues (2002) used many of the same types of criteria that Florida (2002) outlined and added to it the desirability of places that encourage the accessibility of local services. By using Chicago as a case study of cultural amenities and city politics, this research attempted to demonstrate the attractiveness that Chicago offered in terms of diversity, tolerance, and amenities (Clark et al.
A city that was once dominated by industry, Chicago is an important example how a city can transform itself from within. With policies that focused on education and beautifying the city with parks and trails, Chicago not only improved its school system and recreation opportunities, but also reduced crime and helped promote an inner pride. While not in the same category as the goods and services that Florida’s creative class would tend to favor, the ability to improve a city from within by developing aggressive ways to improve a locality has been well demonstrated by Chicago’s example (Clark et al. 2002).

Florida (2002b) also discussed how cities with large mixes of Bohemian style individuals tend to have appealed to people from his creative class. Cupers (2005) has harnessed the idea of the Bohemian to have suggested that within urban studies, a nomadic geography could become a research specialty in its own right. He has not defined nomadic in the tradition context of the word, but instead used it to describe people who are drawn to new experiences and move accordingly (Cupers 2005). Just as traditional nomads pattern their behavior by moving between places and are sometimes in familiar environments while other times reside in new and strange environments, in the urban setting Cupers (2005) proposed there was a similar type of movement patterns. While Florida’s (2002b) creative class has not necessarily been made up of these types of people, they have been represented in communities that are desirable to the creative class because Bohemians add to the culture and character of place. Whether they originated in the city or more likely represent another form of migration, they enhance the human experience of the city, and some enjoy the atmosphere of places that welcome these types of people.

Another follower of Florida (2002b), Edward Glaeser, conducted research on places that have higher levels of human capital and how they have been able to better attract additional people with at least a bachelor’s degree. Glaeser and a colleague investigated the likelihood of skilled entrepreneurs to hire other skilled workers and determined that unskilled entrepreneurs would have difficulty in attracting skilled workers (Berry and Glaeser 2005). They concluded, as
did Florida (2002b), that the educated and highly educated prefer to reside in localities with other people of their education level. Glaeser (2005) also believed that the primary way that cold weather cities will be able to induce high preforming individuals to remain locally or move to these places is through appealing to them directly instead of attempting to attract technology based industries. This suggested that appealing to the individual is more important than attracting companies. His findings would encourage cities and localities to concentrate on motivating individuals to stay just as Florida suggested (2002b). His theory indicated that companies will locate where they would find an educated workforce already established.

Florida (2002b) and his supporters are not without theoretical opposition. One set of skeptics have been leery of accepting that the pursuit of individuals is the best way to improve the local economy and attract businesses. Even while individuals within the creative class may prefer places of tolerance and amenities, they are still in need of the means to live, and these ideas of finding a desirable location based on resources without addressing economic need may seem logical on their surface, but they fail to recognize the dependence of individuals on the economic climate (Storper and Scott 2009). These skeptics have also pointed out that these cities were not founded on the principals espoused by Florida (2002b), but existed long before his ideas became factors. Florida has failed to address the fact that these communities were established as economic centers first and then later became cultural centers of tolerance (Storper and Scott 2009). This analysis focused on how economics has still been an important driving factor to increasing the educated workforce. Finally Florida (2002b) and those that have drawn on his ideas have been unsuccessful in addressing the “basic issues of building, sustaining and transforming regional ensembles of production activities and their attendant local labor markets” (Storper and Scott 2009, p. 164). Ultimately Florida’s (2002b) contributions may be insufficient in providing suggestions to local policy makers who are seeking ways to better promote their communities and attract a highly talented workforce.
Another critique of Florida’s (2002b) research is that it fails to differentiate between correlation and causality. While Florida’s (2002b) three T’s (talent, technology, and tolerance), may have been a component in the creative class individual’s decision to migrate, they are not strong first-order criteria. Factors such as a lack of opportunities locally and wages have been stronger motivations in most cases (Borén and Young 2013). Florida’s (2002b) broad definition of “creative class” has also been problematic since it has made it difficult to further investigate the validity of his claims (Borén and Young 2013). Thomas Borén and his colleague Craig Young (2013, p. 198) observed that “a lack of studies that disaggregate the creative class and analyze their motives for migration underpins the lack of understanding of creative migration.” Without the ability to identify and understand their motives based on Florida’s (2002b) model, it is not possible to determine the causality which led them in their decision to resettle. There have been a number of underlying assumptions in Florida’s (2002b) research that either have not been substantiated or have been refuted in the independent research that has taken place since he made his claims about the creative class.

Florida (2002b) also assumed that his creative class is a highly mobile population. To attempt to verify this assumption a study was conducted on the mobility of artists in Stockholm, Sweden because they are presumably the most mobile group among creative class individuals. (Borén and Young 2013). Stockholm was selected due to a large population of creative class individuals and high creativity index even though as a community they are less mobile than similar populations in other countries. The sampling included men and women in their late twenties to early sixties who had at some point in their lives lived a lifestyle that was highly mobile. There are many different types of artists choosing to express different ideas and different mediums for their work. For this study the artists that were chosen preferred to use their art as a form of social commentary. Many received grants or funding to travel, but ultimately returned to Stockholm due to family connections as they wanted to start families of their own, or they were
already embedded in the local creative communities (Borén and Young 2013). In their final assessment, this study determined that there has been a complex set of push/pull factors influencing the artists and that Florida’s (2002b) claims of a highly mobile creative class fail to take these factors into consideration. Other circumstances, such as where they were in their life-cycle and their professional connections, played a much greater role on where these creative class individuals were choosing to live. This suggests that Florida (2002b) made assumptions about his population that fail to represent their true levels of mobility.

Yet another angle in migration research focused on identifying why people would decide not to migrate, and how these individuals would be more likely to have a strong attachment to the place where they were currently located (Barcus and Brunn 2010). In this study, a region in Appalachia was chosen due to the high likelihood that the individuals studied would be especially connected to the locality based on historic trends. By using the same theories that are utilized to understand why people migrate, such as the push-pull model and the value expectancy model, the researchers hoped to prove that the same motivations that caused people to leave a region also influenced people to remain (Barcus and Brunn 2010). These models both indicated that the decision to migrate has been based on economic, social, and family criteria. What the researchers discovered was that those who were more connected to a place were more likely to remain, and even those who decided to move away still retained strong connections to their hometown through electronic means (Barcus and Brunn 2010). These results suggested that the closer the bonds were of an individual to place the less likely they are to leave that community. These strong connections to place may be utilized in migration studies that hope to uncover methods of retaining people and encouraging them to not leave the region.

The methods of studying likely migration patterns have been enhanced with the inclusion of qualitative and quantitative data. This synthesis has allowed for a fuller understanding of the multiple meanings and interpretations that have been engaged in population geography and
migration studies (Findlay and Li 1999). The intent was to encourage a modern methodology in migration studies and the ability to utilize the tools available in order to garner the best conclusion. Another study encouraged the usage of different spatial scales with the purpose of better understanding migration patterns and motivations (Nelson and Sewall 2003). This research in particular focused on how age itself was not the only factor to be analysed but also on the effect of age-cohorts, such as the baby-boomers to influence economic and migration trends in metropolitan and nonmetropolitan cities and towns. Different generations have their own unique socio-economic characteristics which are the result of cultural events and practices during their childhood and youth. This means that with their own unique generational values, the push and pull effect of different places has some correlation with their age-cohort (Nelson and Sewall 2003).

The research to date has demonstrated that the migration decisions of college graduates have included many criteria as they decided if they wanted to remain where they grew up verses where they went to college. There is little doubt that economic factors have been considered as being one of the primary motivating factors influencing graduates to move and in an increasingly mobile society this has become significantly easier than it would have been for generations past. Social factors of place, such as tolerance, also have become more highly recognized as possible incentives for the highly educated to move to a certain locality. What a place has to offer in terms of recreation and amenities has also been shown to have an impact on graduate’s decisions. Within all these factors there needs to be an underlying desire to find a place that appeals to them on some level. Economics have been most likely the first priority in drawing graduates to a city or region, but as they have become secure in their financial stability, exploring other place options may have also become more attractive. Helping graduates connect on a level beyond economics could help retain not just recent college graduates but draw graduates from other places at different points in their lives to the city or state. The reasons graduates move away or
remain are multifaceted and complex, but there do seem to be similar defining factors that could help influence them to remain locally.
Chapter 3
Research Questions and Methods

In order to study college graduate migration patterns for those having earned a bachelor’s degree in Indiana, research needed to be conducted to discover where they decided to live after they graduate and to uncover possible motivations that lead them to choose those places. Indiana was chosen due to its economic difficulties in the last ten years and its low population growth over the last several decades. There is a belief that a brain drain phenomenon has been taking place in many rust belt states such as Indiana (Skirvin 2012). This trend of college educated students leaving a place where there is the perception of low economic opportunities to move into regions where there is a better prospect of high paying careers would negatively impact the economic potential of an already struggling community. Without an educated base for employers to draw from, the likelihood of them locating in the area is diminished. It has been suggested that college graduates may have been more interested in the attributes associated with place than simple economic advantage (Florida 2002b). Cities often have unique identities, and while there are many different communities within cities, college graduates have most likely been viewing the overall reputation and identity of the city as a whole when they decided that they want to move to a new location.

The first step of this thesis was to identify the preferences for place that current Ball State University students have regarding where they want to live after graduation. Next, the locations of Indiana alumni from four Indiana universities were mapped over time and analyzed using the place preferences gathered from the student surveys. Taken together, these two approaches
intend to answer the following questions: 1. What are the place preferences of current Ball State University students as they decide where they want to live after graduation? 2. Where have college graduates from Indiana moved to after earning their Bachelor’s degree? 3. Has there been a trend of out-migration of college graduates from Indiana and has it been a new phenomenon or the continuation of an existing pattern?

For the first research question, Ball State students were surveyed to gather more specific information to help determine what types of views students have on whether they plan to migrate away from the state after they graduate and why. This data provided insight into whether students currently enrolled in the university were expecting to leave the region, and what they are hoping to find in the places they want to live after graduation. Table 3-1 is the survey that was sent to current Ball State students to better understand their background, where they want to live after they graduate, and why. This survey was sent out through the university email system, and the results are limited to those who volunteered to answer the questions. Its purpose was to help develop a baseline understanding of how current students view their possible future migration decisions and their potential for relocating after they earn their bachelor’s degree. The analysis of this data evaluated the overall attitudes of Ball State students and whether academic class, degree of study, GPA, ethnicity, gender, age, relationship status, or if they have children had any bearing on what types of places future college graduate would wish to live. It also identified any priorities students placed on the different criteria, and what other factors may have had any influence on where they would like to live after they graduate.
<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>What is your academic year?</td>
<td>a. Freshman</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. Sophomore</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. Junior</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d. Senior</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e. Senior, graduating after current semester</td>
</tr>
<tr>
<td></td>
<td></td>
<td>f. Graduate student</td>
</tr>
<tr>
<td>2</td>
<td>What is your Major(s)?</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>What is your Minor(s)?</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>What is your cumulative GPA (enter high school GPA and the scale it is</td>
<td></td>
</tr>
<tr>
<td></td>
<td>based on if it is your first semester in a university or college)</td>
<td></td>
</tr>
<tr>
<td>5a</td>
<td>What is your ethnic background?</td>
<td>a. Caucasian/White</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. African American</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. American Indiana/Alaska Native</td>
</tr>
<tr>
<td></td>
<td></td>
<td>d. Asian/Pacific Islander</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e. Other</td>
</tr>
<tr>
<td>5b</td>
<td>Are you Hispanic, Latino, or Spanish origin?</td>
<td>a. Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. No</td>
</tr>
<tr>
<td>6</td>
<td>What is your gender?</td>
<td>a. Male</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. Female</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. Transgender</td>
</tr>
<tr>
<td>7</td>
<td>How old are you?</td>
<td>a. 18-24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. 25-34</td>
</tr>
<tr>
<td></td>
<td></td>
<td>c. 35 or older</td>
</tr>
<tr>
<td>8a</td>
<td>Are you currently married?</td>
<td>a. Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. No</td>
</tr>
<tr>
<td>8b</td>
<td>If no, are you currently in a long term committed relationship or engaged</td>
<td>a. Yes</td>
</tr>
<tr>
<td></td>
<td>to be married?</td>
<td>b. No</td>
</tr>
<tr>
<td>9</td>
<td>Do you currently have children or are you expecting any children?</td>
<td>a. Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>b. No</td>
</tr>
<tr>
<td>10</td>
<td>What is your hometown and state?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<tr>
<td>---</td>
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<td></td>
</tr>
<tr>
<td>11a</td>
<td>Name the ideal city/state where you would like to live after graduation.</td>
<td></td>
</tr>
<tr>
<td>11b</td>
<td>List up to 3 reason(s) or characteristic(s) that appeal to you about this place.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>What city/state do you plan on living after graduation?</td>
<td></td>
</tr>
</tbody>
</table>
|13  | Please mark any of the following factors that are playing a significant influence on the place you plan to live after graduation.  
   a. Weather  
   b. Family Connections  
   c. Economic Opportunities  
   d. Physical Attributes (Coast, Mountains, etc.)  
   e. Cost of living |
|14  | Which of the following types of places would you prefer to live?  
   a. Rural  
   b. Town  
   c. Small City  
   d. Suburb  
   e. Medium City  
   f. Large Suburb  
   g. Large City  
   h. Town or Small City with access to Medium or Large City |
|15  | Please rate on a scale of 1 to 10 (1 being not at all important and 10 being very important), how important the following criteria are to you in determining where you plan to live after graduation.  
   __Thriving Night-Life  
   __Ethnic Diversity  
   __Tolerant Atmosphere  
   __Family Friendly  
   __Access to Parks  
   __Dependable Public Transportation  
   __Cultural Opportunities  
   __Varied Recreational Activities  
   __Civic Opportunities  
   __Pedestrian Walkways/Bike Trails |
|16  | For criteria you ranked as important to you (you ranked as 8-10), list one primary factor that makes these important to you. |
|17  | For criteria you ranked as not important to you (you ranked as 1-3), list one primary factor that makes these not important to you. |
|18  | Are there any other criteria you are looking for in the place where you plan to live? |
Please rank the criteria (The top being the most important) of what is most important to you in finding a place to live in the future.

a. Cost of Living
b. Physical Attributes (Near Coast, Mountains, etc.)
c. Economic Opportunities
d. Family Connections
e. Weather
f. Thriving Night-Life
g. Ethnic Diversity
h. Tolerant Atmosphere
i. Family Friendly
j. Access to Parks
k. Dependable Public Transportation
l. Cultural Opportunities
m. Varied Recreational Activities
n. Civic Opportunities
o. Other

The purpose of this survey is to help determine what graduates want in trying to decide where they want to live after graduation. Do you have any other input that would be valuable for this study?

In order to answer the next two research questions, this study identified where Indiana graduates from four different Indiana universities are currently living and what characteristics these places possess that may have enticed graduates to choose these places to live. New graduates may take several positions after graduation prior to finding a career in which they wish to remain, but by using data from recent graduates as well as from those who have been out of college for a longer period of time it was anticipated that it would help identify trends in migration patterns. Another factor that was taken into consideration when choosing the graduation years that this research has covered was the general population trends in Indiana. Data from the 2000 census demonstrated that Indiana’s general population was growing at a slower rate than the rest of the country, and as a result the state lost a congressional representative after that census (Perry and Mackun 2001). In order to determine if there was a correlation between the general population growth and the loss of college graduates over time, this study started by
identifying the location of graduates from 1998 in an attempt to account for the low state population growth in 2000. This study also used college graduates from the years 2002, 2006, and 2010 to identify any temporal patterns between college graduate migration rates.

Another variable this research has taken into consideration is the type of institution from which the individual graduated. Graduates from private technical institution may have possessed different levels of mobility than those having graduated from a state universities since the ability to appeal to different types of students may have been a factor in whether graduates from different institutions are more or less likely to migrate. Two private universities (Rose-Hulman Institute of Technology and the University of Evansville) and two public universities (Ball State University and Indiana University-Southeast) were selected for this study. Rose-Hulman also represented alumni from an exclusive technical school to provide addition data about where high performing students may be choosing to live. Each university was analyzed as a whole in comparison to the other institutions to determine if the graduates from different types of schools have different rates of mobility or if there have been different factors affecting their graduates’ motivations to relocate. These schools were also examined individually with each of all four of the selected years to determine if there was any change over time. Additionally, this information was mapped through GIS (geographic information systems) at the county level to display a visual representation of the data of where graduates are choosing to live in relation to the factors identified as important by the surveys.

The results of survey question 19 were used to identify additional areas of research in the analysis of the alumni data. The top three results were identified and then used to better understand place choices of former graduates. The information from these results were applied to the current locations of Indiana alumni to determine if there was a correlation between what factors current students indicated were important to them about the types of places they want to live and where alumni were choosing to reside. The top three results were economic opportunity,
cost of living, and family connections. In order to understand economic opportunity, it was measured based on the average personal income per capita at the county level with spreadsheets provided by the United States Department of Agriculture (USDA 2012). Cost of living was equated to the average listing price of homes at the county level. Trulia.com, which is a website that lists properties for realtors as well as individuals, provided an estimate of the average listing cost of homes by county (Trulia 2012). The final criterion, family connections, was analyzed based on the distance graduates are choosing to live from their home university. With none of these factors relating to the characteristics of place, another correlation was measured based on Florida’s (2002b) creativity index. Since Florida’s (2002b) index covered only a limited number of places, a similar measure was used that was developed by the USDA that measured the creativity indexes of places by county. Florida’s (2002b) creativity index was based on his Innovation Index, High-Tech Index, Gay Index, and the Creative Class (Florida 2002b). The USDA on the other hand provided its own version of the creativity index in which it took into consideration the size of the Bohemian population and re-classified creative occupations. The USDA (2007) researchers found that these criteria had the strongest predictive indicators of creative centers. All correlations for this research used the Pearson correlation coefficient and a one-tailed test to determine the direction and strength of any relationships.

All of these factors must be taken into consideration when trying to understand the migration patterns of college students after graduation. It is believed that the Midwest region of the United States has experienced a brain drain of college graduates and that Indiana is one of the places where this effect has been considered to be pronounced. In order to inform public policy makers on these issues, research should focus on the different factors influencing graduates to leave the state. This data may give a better picture of why Indiana college graduates may have chosen to remain closer to home. By mapping the locations of graduates and then analyzing the resulting patterns with the place preferences of current students, this research aimed to provide
information that could inform policy makers on ways they could encourage Indiana graduates to remain in the state.
Chapter 4
Survey Data

The first step of this study was to identify the place preferences that current students have as they consider where they would prefer to live after they earned their bachelor’s degree. With Ball State University (BSU) representing the largest student body in this study and as the home institution for this research, its student body was selected for student surveys to determine what factors would be important to them as they decided where they want to live after graduation. The student surveys were designed to not only identify what types of places the students preferred, but also to consider if different groups of students may have different criteria for what they would qualify as an ideal place. Questions were asked about each student’s background and then related to where they wanted to live and where they planned to live after graduation.

Since BSU is a traditional four year university, most respondents were between 18 and 24, unmarried, and had no children. The survey was sent to the entire student body, but only undergraduate students were asked to respond for the purpose of this research. There were a total of 144 individuals that responded to the survey; however one was excluded because they identified themselves as a graduate student. Table 4-1 displays the breakdown of the different groups that are represented in this study and the percentage of those who responded to each question. Of the groups that responded, there were a number of variables that require mention. Females represented 71 percent of total respondents while only 29 percent of those who responded to this survey were male, and freshmen represented 34 percent of the respondents
which made them the highest represented academic class in this survey. There was a fairly balanced response from students who classified themselves as either in a long-term relationship or as married compared with students not currently in a serious relationship. Finally, in order to simplify the student’s majors and minors, the respondents were grouped together by college. The largest groups were those who had majors in either the College of Sciences and Humanities, represented by 34 percent of the respondents, or the College of Applied Sciences and Technology, represented by 32 percent of the respondents. Some students had multiple majors and minors in different colleges, and they are represented as a whole person for each college in which they had a major or minor, which resulted in some students being represented multiple times in the same set of data. Of these students, three respondents were in both the College of Sciences and Humanities and the College of Communication, Information, and Media, two respondents were in both the College of Sciences and Humanities and the College of Applied Sciences and Technology, and one student was in both the College of Fine Arts and the Teachers College. The first analysis for this study was completed based on all the responses, and then analysis was conducted related to specific groups of respondents.

Table 4-1. Basic Demographic Information of Survey Respondents

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Number of respondents</th>
<th>Percentage of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior, graduating after current semester</td>
<td>16</td>
<td>11%</td>
</tr>
<tr>
<td>Senior</td>
<td>23</td>
<td>16%</td>
</tr>
<tr>
<td>Junior</td>
<td>23</td>
<td>16%</td>
</tr>
<tr>
<td>Sophomore</td>
<td>32</td>
<td>23%</td>
</tr>
<tr>
<td>Freshman</td>
<td>48</td>
<td>34%</td>
</tr>
<tr>
<td>GPA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cum Laude 3.6-4.0</td>
<td>55</td>
<td>39%</td>
</tr>
<tr>
<td>2.667-3.5</td>
<td>65</td>
<td>47%</td>
</tr>
<tr>
<td>1.667-2.666</td>
<td>20</td>
<td>14%</td>
</tr>
<tr>
<td>Ethnic Background</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caucasian/White</td>
<td>134</td>
<td>94%</td>
</tr>
<tr>
<td>African American</td>
<td>6</td>
<td>4%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td>1%</td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>--------</td>
<td>---</td>
</tr>
<tr>
<td>No</td>
<td>140</td>
<td>98%</td>
</tr>
<tr>
<td>Yes</td>
<td>3</td>
<td>2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>100</td>
<td>71%</td>
</tr>
<tr>
<td>Male</td>
<td>41</td>
<td>29%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>18-24</td>
<td>136</td>
<td>96%</td>
</tr>
<tr>
<td>25-34</td>
<td>3</td>
<td>2%</td>
</tr>
<tr>
<td>35 or older</td>
<td>3</td>
<td>2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Married or Long-term Relationship/Engaged</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>80</td>
<td>56%</td>
</tr>
<tr>
<td>Yes</td>
<td>62</td>
<td>44%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Children</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>139</td>
<td>98%</td>
</tr>
<tr>
<td>Yes</td>
<td>3</td>
<td>2%</td>
</tr>
</tbody>
</table>

**What is your Major (by College)?**

| College of Applied Sciences and Technology | 46 | 32% |
| College of Architecture and Planning      | 6  | 4%  |
| College of Business, (See Miller College of Business) | 9  | 6%  |
| College of Communication, Information, and Media | 15 | 10% |
| College of Fine Arts                      | 6  | 4%  |
| College of Sciences and Humanities        | 49 | 34% |
| College, Teachers (See Teachers College)  | 15 | 10% |
| Undecided                                | 3  | 2%  |

**What is your Minor(s) (by College)?**

| College of Applied Sciences and Technology | 27 | 19% |
| College of Architecture and Planning      | 2  | 1%  |
| College of Business, (See Miller College of Business) | 13 | 9%  |
| College of Communication, Information, and Media | 5  | 3%  |
| College of Fine Arts                      | 2  | 1%  |
| College of Sciences and Humanities        | 39 | 27% |
| College, Teachers (See Teachers College)  | 4  | 3%  |
| Unavailable/None                          | 61 | 43% |
After the demographic questions, the survey focused on the specific aspects of place preferences students may have held. Students were asked to identify their hometown and state. One unexpected outcome of this survey was that none of the students identified their home state, but just their hometown. In order to compensate for this omission, two assumptions were made to allow the data to be analyzed. The first was that most of the students were from cities and towns in Indiana, and the second was that those who were not from Indiana probably came from the most prominent city of that name. For example, some of these prominent cities were Chicago, Illinois; Titusville, Florida, and Lancaster, Pennsylvania. Figure 4-1 illustrates the distribution of the hometowns of the student respondents. This figure illustrates that most BSU students have most likely come from cities or towns that are east of the Mississippi River, with the vast majority having come from all parts of Indiana.

Figure 4-1. Student Survey Respondents Hometown Locations
Those who responded to the survey represented both large cities like Chicago, Indianapolis, and Fort Wayne as well as smaller towns that can be hard to locate such as Albany, Nappanee, and Paoli. With this much variety, it was inferred that the respondents would possess a variety of expectations in the criteria for the places they want to live after they graduate. Individuals from major metropolitan areas would have been familiar with cities that cater to a variety of interest and had access to a large assortment of amenities, while those from smaller cities may not have felt that these aspects of place were as important since amenities would not have been as readily available to them.

Students were then asked two separate questions about their possible future residences. The first question asked for them to name their ideal place and why they wanted to live there. The second was to identify where they expected to live after they graduated. These questions were asked in an attempt to encourage the students to conduct a self-evaluation of their answers so that they would give the best possible answer for each question. Only 95 of the 143 applicable responses listed a specific ideal city, so only those responses were mapped. Also, in some instances, students gave multiple responses to their preferred or expected city of residence. In these circumstances the first answer was selected to represent the student’s preference. Figure 4-2 displays where students' ideal homes are located in relation to creative places using the USDA creativity index to determine if the student respondents would choose to live in creative places. It was not surprising to discover that many students would like to live in creative centers after they graduate, although the number of students wanting to stay close to home was unexpected. There could have been many reasons for graduates to desire to leave home and relocate in places that are classified as creative. On average the student’s ideal home was 542 miles from their hometown while they expect to live on average 253 miles from home. Any one or all of the following reasons could explain students’ selections of ideal places: economic reasons, the thrill of a large city, or creative factors.
Figure 4-2. Student Survey Respondents Ideal City
Out of all the student responses, 24 percent of the respondents listed someplace in Indiana as their ideal future home. For those who selected a place in Indiana as where they wanted to live, some of the most prominent reasons that they listed included: living close to family or home, job opportunities, the size of the community, weather or climate, familiarity, and friendly atmosphere. For those who desired to leave Indiana, some of the reasons that they gave were similar or identical as the reasons given by those who wanted to remain. Some of those responses were: weather, culture of the place, job opportunities, the size of the community, family, a change from what they already knew, scenery, and diversity. Students who desired to leave Indiana seemed to be much more interested in creativity issues based on their ideal city choices than those who would chose to remain closer to home.

The next question dealt with non-creative issues that may have been important to students as they made the decision about where they want to live after they graduate. They were given the option to select any or all of the following factors that would significantly influence where they would like to live after they graduate: weather, family connections, economic opportunities, physical attributes (coast, mountains, etc.), and cost of living. Table 4-2 displays how many respondents chose each factor and what the percentage of the total student respondents selected that factor. Economic opportunities were selected the most frequently with family connections not far behind. Weather and physical attributes also were important factors for about half of the students. While none of these are creative issues, most of them seemed to have been an important role in where future graduates would prefer to live after they graduate.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Number of Selections</th>
<th>Percent of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Opportunities</td>
<td>102</td>
<td>71%</td>
</tr>
<tr>
<td>Family Connections</td>
<td>93</td>
<td>65%</td>
</tr>
<tr>
<td>Weather</td>
<td>72</td>
<td>51%</td>
</tr>
<tr>
<td>Physical Attributes</td>
<td>69</td>
<td>48%</td>
</tr>
<tr>
<td>Cost of Living</td>
<td>15</td>
<td>10%</td>
</tr>
</tbody>
</table>
One significant non-creative issue that many students listed as an important factor was the size of the community in which they wanted to live. The next survey question addressed this potential preference based on eight different options. Figure 4-3 lists the survey options for this question and the percentage of total students that picked each option. The largest percentage of students preferred to live in a small community, but still have the access and advantages of larger cities. Medium-size and large-size cities were also highly desired by these students. Nearly two thirds of all student respondents chose one of these three options as the type of place that they would prefer to live after graduation. Based on these preferences, it can be theorized that most students desire to live in places where they would have access to the advantages of city life. With a city possessing more economic advantages, social opportunities, and cultural possibilities than smaller cities and rural regions, there could have been many different reasons why students would chose to live in or near a city. The next question tried to pinpoint more specific reasons why they may prefer to live in different places.

Figure 4-3. Student Respondents Community Preference
Students were asked to rate ten criteria each on a scale from one as the lowest to ten as the highest to indicate its level of importance to them. This question was focused on more creative class issues than the previous question. They were then also asked to explain their reasons for each factor they rated as very low (3 and below) or very high (8 and above). Table 4-3 displays the average, median, and mode rating for each of these responses. The highest rated factors were varied recreational activities, family friendly, tolerant atmosphere, and access to parks, and the lowest rated factors were ethnic diversity and thriving night-life. Based on these numbers alone, it would seem that places with opportunities for family activities would have been more desirable to this group of students. Family friendly and tolerant atmosphere appeared at the top of these measures; average, median, and mode, and ethnic diversity the lowest on all three.

Table 4-3. Student Respondents Rating of Creative Class Issues

<table>
<thead>
<tr>
<th>Place Factors</th>
<th>Average</th>
<th>Median</th>
<th>Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Varied Recreational Activities</td>
<td>7.64</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Family Friendly</td>
<td>7.54</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Tolerant Atmosphere</td>
<td>7.38</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>Access to Parks</td>
<td>7.11</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Pedestrian Walkways/Bike Trails</td>
<td>6.89</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Civic Opportunities</td>
<td>6.25</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Cultural Opportunities</td>
<td>5.98</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Dependable Public Transportation</td>
<td>5.94</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Thriving Night-Life</td>
<td>5.01</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Ethnic Diversity</td>
<td>4.89</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Tolerant atmosphere is a major creative class preference, and this could have been the primary individual factor from Florida’s theory that BSU students are looking for in relation to place. As the students elaborated on why they picked their top choices, many mentioned wanting to have their own families, and wanting to live in places that were safe and accepting for their future families, and that they have been very active and want to be close to nature. Their reasons for rating ethnic diversity and night-life lower where more generic. Many listed, “does not apply
to me” and “not interested” in why they rated these so low. While rating each issue on a scale is one measure of how important each individual factor was to the respondent, this research also examined each factor in relation to the others. The next question asked the students to rank the separate factors. For this question, all the previous factors were listed, and the students were asked to place them in order of importance. The preceding question allowed the students to rate each factor independent of the other factors, while this one forces them to make a decision about what factors were most and least important to them. The top five ranked results were selected from each survey and summed to determine which criteria were in the top five results overall. For example, 113 of the 143 student surveys listed economic opportunities in their top five most important factors. The top five results in order of total occurrences were economic opportunities, cost of living, family connections, physical attributes, and weather. None of these issues are considered creative issues. The top three of these results were used to analyze the place choices of alumni from the four universities with the addition of the creativity index. Additional research could be conducted to better understand the impact the physical geography issues of physical attributes and weather. The results from both this question and the previous question suggested that while creative issues such as tolerance are important to future Indiana graduates, they were not as high of a priority when compared to the other factors.

Finally, students were asked for any additional criteria they were looking for in the places that they wanted to live after they graduate. Students responded that safe neighborhoods, good schools, local attractions, and their spouse’s preference were additional factors that they would explore as they decided where they wanted to live after graduation. Also, even though it was already asked, many students reiterated that job opportunities and family connections were important to them. These results were gathered from all the student respondents. The next step in this study was to determine if there were any different types of preference for place between academic class, major, GPA, gender, and relationship status. While other types of identifiers
were also used, such as ethnic background and age, there were not a significant variety of
responders from the different groups in these results, so this study did not investigate further if
there were different preferences for place for these categories.

The first comparison was to investigate if students from different academic classes had
different preferences for the places that they wanted to live after they graduate. Table 4-4
displays the distance from home that each academic class would move if they relocated to their
ideal city compared to how far they expected to live from home. Freshmen expected to live the
closest to home while sophomores expected to live the farthest from home. Seniors selected the
closest ideal place while sophomores once again desired to move the farthest away from home.

<table>
<thead>
<tr>
<th>Academic Class</th>
<th>Number of Students</th>
<th>Ideal Distance</th>
<th>Expected Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>48</td>
<td>408</td>
<td>187</td>
</tr>
<tr>
<td>Sophomore</td>
<td>32</td>
<td>747</td>
<td>343</td>
</tr>
<tr>
<td>Junior</td>
<td>23</td>
<td>620</td>
<td>276</td>
</tr>
<tr>
<td>Senior</td>
<td>23</td>
<td>414</td>
<td>225</td>
</tr>
<tr>
<td>Senior, graduating after current semester</td>
<td>16</td>
<td>608</td>
<td>278</td>
</tr>
</tbody>
</table>

The first set of factors consisted of preferences that would not have been included in
Richard Florida’s definition of “creative class.” Freshmen and seniors marked both family
closest to home after graduation. Additionally, this preference was
connections and economic opportunities as the most important of these factors as they examined
the places they would want to live. Sophomores, juniors, and graduating seniors marked
in terms of creative class related issues, freshmen
rated family friendly as the most important factor, while sophomores, seniors, and graduating
seniors rated varied recreational activities the highest, and juniors rated access to parks as the most important. Freshmen stayed true to their priorities that family was very important to them. The other groups selected activities that they are likely to enjoy but did not necessarily exclude a connection to family. Finally, the students ranked their preferences for place based on all of the listed factors. Freshmen, juniors, seniors, and graduating seniors all listed economic opportunities, cost of living, and family connections as their top three ranked criteria. Sophomores ranked family connections and cost of living higher than economic opportunities, but they still have these three factors in their top three results. When it came to the most important factors for current students in relation to place, there was no difference among academic years. There were large differences between the distances they wanted and planned to move from home, but ultimately they were all looking for the same type of criteria in relation to place. The next set of analysis investigated if a student’s major had any relationship to their preferences for place.

Students with a wide variety of academic majors responded to this survey. The best way to analysis this data was to break it into the different colleges that were represented. Students with academic majors in multiple colleges are represented as a whole person in each college in which they are pursuing degrees. The College of Sciences and Humanities (CSH) had the most responses with 49 student respondents, and some of the majors that were included consisted of: Anthropology, Chemistry, Computer Science, Geography, Mathematical Sciences, Psychology, Speech Pathology, and Social Work. A close second was the College of Applied Sciences and Technology (CAST) with 46 student respondents; some academic majors in this area included: Exercise Science, Family and Consumer Science, and Nursing. The next two highest programs in the results with 15 student respondents each were the Teachers College (TC) that trains future educators and the College of Communication, Information, and Media (CCIM), with degrees in Communication Studies, Journalism, and Telecommunications. Finally, there were nine student
respondents from the Miller College of Business (MCB), six student respondents from the College of Architecture and Planning (CAP), and six student respondents from the College of Fine Arts (CFA). Table 4-5 compares the average distance to their ideal place against the distance to their expected future residence from their hometown.

Table 4-5. Student Survey Respondents Average Distance in Miles from Home versus Expected Distance from Home by College

<table>
<thead>
<tr>
<th>College</th>
<th>Number of Students</th>
<th>Ideal Distance</th>
<th>Expected Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Sciences and Humanities</td>
<td>49</td>
<td>548</td>
<td>361</td>
</tr>
<tr>
<td>College of Applied Sciences and Technology</td>
<td>46</td>
<td>588</td>
<td>151</td>
</tr>
<tr>
<td>Teachers College</td>
<td>15</td>
<td>284</td>
<td>106</td>
</tr>
<tr>
<td>College of Communication, Information, and Media</td>
<td>15</td>
<td>790</td>
<td>271</td>
</tr>
<tr>
<td>Miller College of Business</td>
<td>9</td>
<td>303</td>
<td>206</td>
</tr>
<tr>
<td>College of Architecture and Planning</td>
<td>6</td>
<td>723</td>
<td>534</td>
</tr>
<tr>
<td>College of Fine Arts</td>
<td>6</td>
<td>421</td>
<td>434</td>
</tr>
</tbody>
</table>

CCIM and CAP students had the farthest average distance to their ideal place, and they may be the most mobile cohorts because of their highly specialized degrees. CAP students in particular may be more mobile since they will eventually be licensed to practice at the national level. These students also had the greatest average distance to their expected place compared to the other colleges. Student in the TC had the least average distances for both, and this may explained by state teaching licensure. There were a wide range of preferences for different types of communities. Students from the CSH indicated that they would like to live in a town or small city with access to a large city, CAST students would prefer either a rural area or a large city, TC students would like to live in a suburb, and CCIM students wanted to live in a medium-size city. The remaining colleges did not have enough survey respondents to give a clear indication of this type of place preference. The next step was to relate this information to other place factors.
Similar to the information based on academic class, there were few differences in the factors for their preferences of places among the university colleges. Students in the CSH, CCIM, CAP, and CFA selected economic opportunities the most frequently, and students in the CAST and the TC chose family connections. MCB students exhibited a tie between both of these factors. In terms of creative issues, CSH, CCIM, and CFA students rated tolerant atmosphere the highest, and CAST, TC, and MCB students placed more importance on a family friendly environment. CAP students had very high ratings for all of these factors, and while varied recreational activities was the highest and family friendly was rated the lowest, they still rated family friendly higher than students from other colleges. Finally, the students from all colleges except CCIM listed economic opportunities, cost of living, and family connections somewhere in their top three ranked factors. CCIM on the other hand ranked economic opportunities as the highest followed by cost of living and physical attributes. CCIM students were the first of two groups to not have family connections in one of their top three priorities in place features, and as already mentioned, they rated living in a tolerant atmosphere the highest of the creative factors. If there was a group in this study that might have been more interested in creative class values it may be students in the College of Communication, Information, and Media.

One assumption that has often been made is that Indiana is losing the best and the brightest in the brain drain. One measure of who qualifies as a top performer is a student’s GPA. For this factor the respondents were divided into four GPA groups: highest performers - cum laude (3.6) and higher, above average performers - 2.667 to 3.5, average performers - 1.667 to 2.666, and low performers - 0 to 1.666; there were no respondents in the lowest GPA group. Table 4-6 displays each group’s preference for how far their ideal place and expected place is from their hometown. Based on this information, those with the highest GPA would prefer to live closer to home than the other GPA groups. It was the above average performers that wanted and expected to live the farthest from home. Students in the highest GPA group also indicated that
they would prefer to live in a town or small city with access to a larger city, while above average students wanted to live in a medium-size city, and the average GPA group would prefer to live in a small city.

Table 4-6. Student Survey Respondents Average Distance in Miles from Home versus Expected Distance from Home by GPA

<table>
<thead>
<tr>
<th>GPA</th>
<th>Number of Students</th>
<th>Ideal Distance</th>
<th>Expected Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cum laude + 3.6-4</td>
<td>55</td>
<td>432</td>
<td>218</td>
</tr>
<tr>
<td>B to Cum laude 2.667-3.599</td>
<td>65</td>
<td>680</td>
<td>313</td>
</tr>
<tr>
<td>C 1.667-2.666</td>
<td>20</td>
<td>555</td>
<td>145</td>
</tr>
</tbody>
</table>

The next issue analyzed was what these group’s preferences were for different places. For the first group of non-creative factors, all three of the GPA groups selected economic opportunities as the most frequently among this group of factors, and the above average performers indicated that weather also played an important role in where they want to live. In relation to more creative related factors, the students with the highest GPAs rated family friendly the highest, while the next two groups of students both rated varied recreational activities as the highest. Finally, the highest performing students ranked family connections, cost of living, and weather the highest, the above average students ranked weather, family connections, and varied recreational activities the highest, and the average performers ranked cost of living, economic opportunities, physical attributes, and weather as the most important factors in trying to determine where they wanted to live after graduation. It is interesting to note that students with a GPA between 1.667 and 2.666 are the only group to place such a high level of importance on physical geography attributes.

In order to better understand an individual’s preference for different places, the next factor analyzed was whether gender had any significance in preferences for places. Table 4-7 lists the average distances from home to these individuals’ desired places compared to the
average distance from home to their expected places. Males preferred to live much farther away from their hometown than females, but both genders were very close on how far they expected to live from home. In terms of the types of communities each group would like to live, males selected that they would like to live in either medium-size or large-size cities. Females on the other hand preferred the smaller communities of a town or small city with access to a larger city. To better understand these selections, their preferences for traits of place will be discussed next.

Table 4-7. Student Survey Respondents Average Distance in Miles from Home versus Expected Distance from Home by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number of Students</th>
<th>Ideal Distance</th>
<th>Expected Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>41</td>
<td>715</td>
<td>278</td>
</tr>
<tr>
<td>Female</td>
<td>100</td>
<td>485</td>
<td>248</td>
</tr>
</tbody>
</table>

Economic opportunities were important to both of these groups, but females placed just as much importance on family connections. In addition to this, males rated varied recreational activities as the highest of the creative class factors, while females rated family friendly as the highest. Traditional male and female roles seem to be impacting the results of this survey. Females put preference on issues that were more likely to affect their families, while males chose economics and an active lifestyle. When given the option to rank all these factors based on importance, males were the only other group in addition to students in CCIM academic majors to not have placed family connections in their top three results. Instead they chose economic opportunities, cost of living, and physical attributes as their highest priorities in the places they wanted to live after graduation. Females ranked economic opportunities, cost of living, and family connections as their top preferences. As already mentioned, there were a much larger percentage of female respondents than there were male respondents which may have impacted these findings.
The final set of survey results was between those who were married or in a serious relationship versus those who were not. Table 4-8 displays the average distance to their ideal city and the average distance to where they expected to live in relation to their hometowns. While those who are not in a serious relationship wanted to live farther away from home, they expected to live closer to home. This may be due to an additional need to be supported by family since they may not have expected to have a partner to help them through any tough times immediately after graduation. Those individuals in serious relationships also preferred to live in a town or small city with access to a larger city, while those not in a serious relationship indicated that they would like to live in a medium-size city. This information was then related to the different preferences for place that these groups may have.

Table 4-8. Student Survey Respondents Average Distance in Miles from Home versus Expected Distance from Home by Relationship Status

<table>
<thead>
<tr>
<th>Relationship Status</th>
<th>Number of Students</th>
<th>Ideal Distance</th>
<th>Expected Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married or Serious Relationship</td>
<td>62</td>
<td>489</td>
<td>305</td>
</tr>
<tr>
<td>Not Serious Relationship</td>
<td>81</td>
<td>603</td>
<td>237</td>
</tr>
</tbody>
</table>

Both of these groups rated economic opportunities as the most important factor for where they wanted to live after they graduated. There was an interesting similarity between how these groups rated creative class factors. Just as females rated family friendly the highest, those in relationships also rated this criterion as the most important. Also males rated varied recreational activities as the most important factor, and those not in a serious relationship also selected this factor as the most important. There may be some connections between how these two different groups view their preferences for places. The final measure of these individuals’ preferences for place was for them to rank the issues that were most important to them. Both those in relationships and those not in relationships listed economic opportunities, cost of living, and family connections as their top three factors in the same order of importance.
The student surveys were used to identify BSU student’s preferences for different types of places. There were some expected results and some surprising results. Overall, economic opportunities, cost of living, and family connections stood out as important traits of places the current students were looking for as they considered where they wanted to live after their graduation. Living in a place with a tolerant atmosphere also had a strong impact on what they wanted in their future home. The additional information from the students emphasized how important job opportunities and family friendly places were to this group of student respondents. The different groups that were analyzed also demonstrated the different priorities they each possessed. There was a significant amount of information gathered from this survey, and it has helped this study identify what BSU graduates and possibly all Indiana graduates may be looking for in where they want to live after graduation.

The results of question 19 were also used to help understand possible preferences for place that alumni from different universities across the state may have held as they decided where they wanted to live after they graduated. This question asked the students to rank the different aspects of place in the order that they were important to the student. The number of times each characteristic of place was ranked among the top five results was summed and the top three of those results were used to further investigate how these criteria may have affected the decisions of Indiana college graduates. The top three ranked results were economic opportunity, cost of living, and family connections. While creative issues in general were not ranked high among the student respondents, tolerant atmosphere had a high rating among creative class criteria, and in order to examine any link to creative places, the USDA creativity index was used to discover if Indiana alumni were settling in places that were considered highly creative. The next section of this research analyzed and discussed how the creativity index, economic opportunity, cost of living, and family connections may have been influential in Indiana alumni’s choice of places.
Chapter 5  
Alumni Data  

The next stage of this study gathered alumni data from educational institutions in the state of Indiana. Each university that was chosen for this study was picked due to the unique characteristics of its student populations to determine if different types of students may have different preferences for places. Different graduations years were also analyzed to ascertain if there were any changes in preferences over time. The first school, Rose-Hulman Institute of Technology (RHIT) in Terre Haute represents a unique student body in Indiana. RHIT is an elite institution specializing in science and engineering and out of the 4,298 applicants to the school only 506 were admitted in 2011. Additionally almost all graduates have jobs immediately after they graduate with an average starting salary of approximately $62,000 per year (Rose-Hulman Institute of Technology 2012). The University of Evansville (UE) is another private institution, larger than RHIT and located in the third largest city in Indiana with a student population that has representatives from most of the states in the country (University of Evansville 2010). The next school, Ball State University (BSU) in Muncie is the third largest public, four-year university in Indiana, although with an enrollment around 22,000, it is still less than half the size of either of the two largest public institutions, Indiana University and Purdue University. Even with its relatively small size by comparison, BSU draws students from every county in Indiana as well as 48 of the 50 states (Ball State University 2011). While Indiana University-Bloomington declined to provide information for this research, one of its smaller branches, Indiana University-Southeast (IU-SE) did contribute alumni data for this study. IU-SE is a regional university in New Albany
with a student population that is predominately drawn from nearby counties in Southern Indiana and Kentucky (Indiana University-Southeast 2011). Gathering alumni data from these very different universities allowed for better consideration of whether students from different Indiana institution had different place preferences.

One drawback to the data collected is that most schools in this study did not provide the hometown information of their alumni. In order to estimate the distance graduates have moved from home, their home institution was used as a proxy for their hometown. Most of the universities in this study have probably drawn students from nearby cities or from within the state, with the exception of Rose-Hulman, which would have likely appealed to a broader geographic region due to its specialized programs. Rose-Hulman was also the only university that provided hometown locations for most of their students. RHIT graduates are living an average distance of 407 miles from their hometown, and they are living on average 432 miles from their home institution. With only a 25 mile difference between these two averages, an alumnus’s home institution is likely a reasonable proxy for the actual distance Indiana graduates have chosen to live from home, particularly for a national-scale analysis.

All Universities

The first analysis compared all the graduates from the universities in this study and divided them based on their alumni data for the selected years: 1998, 2002, 2006, and 2010. The alumni information included any individuals that graduated that year with a bachelor’s degree, but excluded those that were residing internationally. None of the schools in this study are located in highly creative counties according to the USDA creativity index. As represented in Figure 5-1, all of the schools in this study are located in counties that were in the center range of the creativity index, displaying that these counties are not rated as highly creative. The scale was mapped using five ranges representing the natural breaks in the data from all the counties in the
United States. Indiana does have counties that fall into the highest range of the creativity index in the greater Indianapolis metropolitan area with a rating greater than 0.3166, and there are a few isolated counties that fall into the range between 0.2349 and 0.3165 around several major metropolitan areas. Overall though, most of the counties in the state are in the lower ranges with a creativity index less than 0.1786.

Figure 5-1. Indiana Colleges and County Creativity Index

This information provided a background context on what counties are rated as creative in Indiana, setting the foundation of what migration preferences college graduates may have in relation to creative places. In addition, Figure 5-2 displays where every graduate from all the universities and all the study years are currently living, which provided additional information
about where Indiana graduates are living in relation to creative places. The total number of graduates was divided into four groups based on quantiles. Many graduates are clustered in more “creative” locations as they move farther away from where they went to school, but there is also a very large group that have remained in Indiana. With such a large cluster of graduates that have remained in Indiana, Figure 5-3 gives a better picture of where graduates have elected to live when they remained in Indiana. These graduates were also divided into four quantiles based on only those who choose to remain in Indiana. The relationship of where Indiana alumni have chosen to live in relationship to creative communities is weakly correlated at the national level but has a stronger correlation within Indiana. The correlation coefficient between Indiana graduate and the county creativity index are .069 nationally and .522 in Indiana and both have a significant correlation at the 0.01 level in a one-tailed test. While graduates have clustered in counties that have a high creativity index, these creative locations are also metropolitan regions in the state and could have other factors that drew graduates to these counties. As shown in Figure 5-5, over all study years there are fewer graduates still in Indiana with each passing year, but a significant number have still remained in the state. Across all years, 67 percent of Indiana college graduates from these schools have stayed in Indiana. While the motives for having remained within the state were likely varied, it is possible the economic climate and the difficult job market contributed to this geographic trend for graduates from each school.
Figure 5-2. Indiana Graduates from all Schools and all Study Years with the County Creativity Index for the Continental United States
Figure 5-3. Indiana Graduates from all Schools and all Study Years with the County Creativity Index for Indiana

![Map of Indiana with creativity index and total graduates]

**Total Graduates**
- 1 - 16
- 17 - 38
- 39 - 94
- 95 - 1482

**Creativity Index**
- 0.0904 - 0.1365
- 0.1366 - 0.1785
- 0.1786 - 0.2348
- 0.2349 - 0.3165
- 0.3166 - 0.5407

Figure 5-4. The Percentage of Indiana Graduates Remaining in Indiana from all Schools

![Bar chart showing percentage of Indiana graduates remaining in Indiana from 1998 to 2010]

- **Indiana**
- **Other States**
The creativity index was used to determine if there was a relationship between where graduates have chosen to live after they earned their degrees and the attitudes and social climates of that place. Figure 5-5 displays the total average county creativity index of where Indiana graduates have decided to live by institution as well as the average for each county in the United States and Indiana. The average county creativity index for each university was calculated by using the county creativity index for where each graduate in currently living and averaging the totals.

**Figure 5-5. Where Graduates Reside in Relation to the Average County Creativity Index**

RHIT graduates have chosen to live in places with the highest average creativity index, followed in order by BSU, UE, and IU-SE, all of which exceed the average creativity index for both the U.S. and Indiana. This demonstrates that these groups of college graduates are currently living in more creative counties. Additionally, graduates from all of the schools except for IU-SE have selected to live in counties that are on average between the 0.2349 and 0.3165 range on the creativity index quantiles. IU-SE graduates have chosen to live in counties that are higher than the national average, but on average are in the middle quantile. This data has indicated that college graduates prefer to live in more creative places than the national and state average. Even though there is a correlation between where college graduates have decided to live and the
creativity index of these places, that does not prove that they have moved to these places because of the creative environment. Based on literature from other studies and the students’ surveys, economic factors and family connections were more likely the significant determining factors in where college graduates want to live after they graduate.

The first economic factor that this research examined was the personal income per capita at the county level. The students’ surveys indicated that they would prefer places with high economic opportunities. The average per capita income for each county was used to measure this factor. This information of the places graduates have settled was calculated by county and displayed in Figure 5-6. The school averages were calculated in the same manner as the creativity index averages.

Figure 5-6. Where Graduates Reside in Relation to the Average County Per Capita Income

The schools in this graph followed a similar pattern as the creativity index graph. This suggested a relationship between personal income and the creativity index. A correlation analysis confirmed that there is a strong positive correlation between income and creativity index with a correlation coefficient of 0.72, and that the correlation is significant at the 0.01 level in a one-tailed test. The most notable difference between the county creativity index graph and the county per capita income graph is that while Indiana is below the national average in the creativity class
index, it is higher than the national average in per capita income. This may be one possible explanation of why such a high percentage of Indiana graduates have chosen to remain in Indiana.

Figure 5-7 displays how the 1998 and 2010 graduates are distributed in Indiana. Just as the creativity class index was divided into natural breaks on the national level, so was the personal income per capita. Figure 5-7 displays that the more recent graduates in 2010 have not chosen places that have higher incomes. Once again this could be an indication of students returning home after they graduate instead of moving on to a more permanent long-term location. Graduates from both 1998 and 2010 have a positive weak correlation in relation to per capita income in Indiana, but only 1998 alumni have significance at the 0.01 level in a one-tail test. This indicated that 1998 graduates have been more likely to settle in higher income counties. All the universities in this study have graduates that live in places where the incomes fall within the quantile range of $44,645 and $54,806. As graduates have not settled in places with the highest economic opportunities, there may be another economic factor to take into consideration.

Figure 5-7. Graduates for all Schools in Indiana Related to County Personal Per Capita Income
Another economic factor that students indicated as important to them was the cost of living. In order to determine if graduates had a similar preference, the average listing price of homes was used to represent this data. Figure 5-8 displays the average housing cost by county where graduates from each school have located, as well as the average housing cost for Indiana and the United States. Unlike the creativity index and personal income graphs, the counties with lower housing costs should indicate a higher level of preference among graduates. The student surveys identified cost of living as an important factor in where they wanted to live, so counties with lower housing costs should have a higher preference among Indiana graduates. It was assumed that graduates would prefer places with a lower cost of living rather than places that were more expensive. While Indiana has lower housing cost on average than the country as a whole, most graduates that remained in Indiana seemed to be living in places with housing costs that are higher than the state average. Figure 5-9 also indicated that graduates have not settled in places with the lowest cost of living. The pricing categories in Figure 5-9 were based on five quantiles of national data instead of natural breaks used in the previous data maps. Natural breaks did not give an even enough distribution, with most counties clustered in the lowest housing cost group. The distribution in this figure does not reflect a preference for low cost housing at the county scale.

**Figure 5-8. Where Graduates Reside in Relation to the Average County Listing Price of Homes**

<table>
<thead>
<tr>
<th></th>
<th>United States</th>
<th>Indiana</th>
<th>RHIT</th>
<th>UE</th>
<th>BSU</th>
<th>IU-SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>$238,834</td>
<td>$154,139</td>
<td>$288,750</td>
<td>$252,287</td>
<td>$222,677</td>
<td>$186,979</td>
</tr>
</tbody>
</table>
Figures 5-9. Graduates for all Schools in Indiana Related to the Average County Listing Price of Homes

A.

B.

Figure 5-8 does illustrate that Indiana overall has a lower housing cost than the national average, and this could be a factor in why large numbers of graduates have remained in Indiana. Counties with low housing costs are also places with low economic opportunities, so at the county scale these areas would most likely not be desirable to graduates. At the state scale, Indiana has an overall lower housing cost with a higher average per capita income, and this may make Indiana more attractive because even within counties with a higher cost of living, this cost is still overall lower than it would be in other states under similar circumstances.

The creativity class index seems to be the best indicator of where graduates are living when compared to economic opportunities and cost of living expenses even though the student surveys did not indicate a high preference for creative places. The final preference students gave from their student surveys was family connections. This was measured by calculating the distance between the graduates home university and were they are currently living. Only RHIT provided data on the actual hometowns of their graduates. The average distance RHIT were living away from their actual hometown was very close to the average distance they were living from their home institution. Based on this analysis, the university attended by each student
provided a reliable substitute to approximate the distance Indiana graduates have chosen to live from home. Figure 5-10 displays the total average distances graduates have decided to live from their alma matres.

**Figure 5-10. Average Distances in Miles Graduates Moved from their Home Institution**

![Bar Chart](chart.png)

<table>
<thead>
<tr>
<th>School</th>
<th>Average Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>RHIT</td>
<td>432</td>
</tr>
<tr>
<td>UE</td>
<td>305</td>
</tr>
<tr>
<td>BSU</td>
<td>239</td>
</tr>
<tr>
<td>IU-SE</td>
<td>66</td>
</tr>
</tbody>
</table>

RHIT graduates settled the farthest from their home school, but they likely had been more willing to travel farther after they graduate due to their specialized degrees. On the other end of the spectrum, IU-SE graduates on average have settled very close to their home institution. IU-SE’s student body is made up with individuals whom already live in the area and may already be predisposed to remaining locally after they graduate. Figure 5-11 displays what these average distances are geographically. This figure used each school as the center point of a circle with a radius length equal to the average distance these graduates moved from that institution. This figure illustrates that even RHIT graduates on average have remained in the mid-western United States, even if they are not residing in Indiana. This data suggested that graduates have chosen to live near where they attended college, whether within Indiana or the Midwest. In some cases this is within a couple of counties from the school, and in others within the region. In both situations, graduates on average have still remained relatively close to home, and this could indicate a preference to places with family that are not reflected by the creativity index or economic factors. This first set of data evaluated the preferences of graduates between the different universities. The next set views each university individually and compared the data by graduation year.
Rose-Hulman Institute of Technology

The first school individually discussed is Rose-Hulman Institute of Technology. RHit focuses on the study of sciences, engineering, and mathematics, and seeks the best and the brightest from high schools all over the country. Figure 5-12 charts where current RHIT alumni have decided to live in relation to Indiana. While, not as many RHIT graduates settled in Indiana as from the other institutions, more than a third still chose to stay within the state. Figures 5-13 and 5-14 illustrate where all RHIT graduates live in relation to creative places. The overall distribution of RHIT graduates does seem to be more localized in creative places, but they also have a strong presence in places that are lower on the creativity index. In a correlation analysis between where these graduates live within the United States and each county’s creativity index,
there is only a 0.007 correlation, and it is not significant. Within the state of Indiana there is a weak positive correlation of 0.189 and is significant at the 0.05 level in a one-tailed test. There is a noticeable absence of RHIT alumni in the Evansville area, and a slightly higher presence around Terre Haute. The counties around Terre Haute have the largest group of RHIT graduates of any other place with that low of a creativity index.

Figure 5-12. The Percentage of RHIT Graduates Remaining in Indiana

Figure 5-13. RHIT Graduates with the County Creativity Index for Indiana
Figure 5-14. RHIT Graduates with the County Creativity Index for the Continental United States
Figure 5-15 illustrates how each cohort year compared to the creativity index. RHIT alumni are more likely to live in creative places as time passes. Figures 5-16 and 5-17 display this change over time for the state of Indiana. One noticeable difference over time is the number of RHIT graduates who moved away from the counties surrounding Terre Haute. Soon after graduation many alumni remained in these counties, but gradually they moved away. These counties have low creativity indexes, and this could be a significant indicator to explain why graduates have preferred creative places and over time and have chosen to relocate to these types of places. The next issue, economic opportunity, helped to evaluate if there were other factors influencing where RHIT graduates are living.

Figure 5-15. Average County Creativity Index for RHIT Graduates

![Average County Creativity Index for RHIT Graduates](image)

Figure 5-16. RHIT Graduates from 1998 and 2002 Related to the County Creativity Index

A. 1998 Graduates

B. 2002 Graduates

![1998 Graduates Map](image)

![2002 Graduates Map](image)
RHIT displayed a gradual change over time for where graduates settled with respect to the county creativity index. Figure 5-18 displays the average county personal per capita income of where RHIT alumni are living by graduation year. The average county income of where graduates are living is higher as time passes, but it is not gradual. The first couple of years after graduation graduates settled in areas with significantly less economic opportunity than they did in later years. This would strongly suggest that RHIT alumni looked to maximize their income and had been willing to wait to find their long term careers.
Figure 5-19 displays the change over time of where RHIT have chosen to live in Indiana. In some cases, RHIT graduates settled in an area with a lower per capita income, but they were likely commuting to work in places that may have a higher income. In Indiana, there has been a noticeable difference between where graduates have decided to live in relation to per capita income in 1998 versus the successive years. So while the graph displays 1998 and 2002 alumni living in places with comparable economic opportunities, at least in Indiana there is a noticeable difference among 1998 graduates and those graduating in later years.

Figure 5-19. Graduates from RHIT in Indiana Related to County Personal Per Capita Income

A. 1998 Graduates

B. 2002 Graduates

C. 2006 Graduates

D. 2010 Graduates
The next economic factor that was related to the places RHIT graduates have decided to live was the cost of living, which has been represented by the average listing price of homes. Figure 5-20 illustrates the average cost of housing for RHIT alumni based on graduation year. There was a large increase in the average income of the places that RHIT graduates between 2002 and 2006 chose to live. There was a similar increase in the cost of housing between the residences of these two groups. Since it would be expected that as time pass graduates would live in places with an increase in the price of housing and in places where people have a higher average income, this is not surprising. Figure 5-21 provides a visual perspective of change over time. There are very few RHIT graduates in places with the lowest housing prices with the exception of the Terre Haute area. RHIT graduates have settled in places with the highest cost of living compared to all the other schools in this study. While, they also chose to live in the most creative counties with the highest economic opportunities of all the institutions, more than a third remained in Indiana. The final factor analyzed how far RHIT graduates moved from their home institution.

Figure 5-20. Average County Listing Price of Homes in Relation to RHIT Graduates
Figure 5-21. Graduates from RHIT in Indiana Related to the Average County Listing Price of Homes

A. 1998 Graduates

B. 2002 Graduates

C. 2006 Graduates

D. 2010 Graduates
RHIT graduates maintained a consistent percentage of those who decide to stay in Indiana across the selected study years. Figure 5-22 displays the average distance RHIT alumni have moved away from Terre Haute by graduation year. There has been a steady increase of distance over time, but there is still more than a 100 mile gap on average between where graduates from 2010 are living compared to where they are living in 1998. Figure 5-23 illustrates this mobility at the regional level. The range for RHIT alumni reached further than any of the other schools in this research with the least average distance by year approximately matching the greatest average distance by year for UE graduates. While it was no surprise that RHIT graduates had the greatest mobility of all the alumni in this study, the number who chose to remain in the state or in the Midwest was interesting. While each of the factors may have played into an individual’s decision to choose where they want to live after graduation, it is important to recognize that there does seem to be a desire to stay closer to home. This was an unexpected outcome among the alumni as well as with the student survey results.

Figure 5-22. Average Distance RHIT Graduates Moved from their Home Institution
University of Evansville

The University of Evansville is another private institution and likewise is small compared to the public schools. While RHIT is a specialized technical school, the UE provides a broader selection of academic disciplines. Figure 5-24 displays the trend of UE alumni and where they have settled after they graduated. This figure illustrates a gradual increase in graduates leaving the state as time passes. Graduates from RHIT chose to stay in Indiana at a relatively constant rate, but UE alumni have a gradual pattern of out-migration.
Figure 5-24. The Percentage of UE Graduates Remaining in Indiana

Figure 5-25 and 5-26 displays the distribution of UE graduates across the county and throughout the state of Indiana. This has a similar appearance as to where RHIT graduates have chosen to live in relation to the creativity index. Nationally, UE has a slight negative correlation with no significance, and within the state has a weak positive correlation and is significant at the 0.05 level in a one-tailed test. Figure 5-27 displays the change over time in the county creativity index of the places graduates chose to relocate. Figure 5-28 visually demonstrate how the distribution of graduates changes over time. These figures reinforced what the graph displayed: each year there were fewer alumni that settled in Indiana, and those who remain had either located in creative areas or near the UE campus. Just as with the RHIT graduates, UE alumni chose to live in more creative places as time passed.
Figure 5-25. UE Graduates with the County Creativity Index for the Continental United States
Figure 5-26. Graduates for UE in Indiana Related to the County Creativity Index

Figure 5-27. Average Creativity Index for UE Graduates
Figure 5-28. Graduates from UE in Indiana Related to the County Creativity Index

A. 1995 Graduates
   - 1
   - 2-3
   - 4-5
   - 6-97

B. 2002 Graduates
   - 1
   - 2-3
   - 4-5
   - 6-97

C. 2006 Graduates
   - 1
   - 2-3
   - 4-5
   - 6-97

D. 2010 Graduates
   - 1
   - 2-3
   - 4-5
   - 6-97
The next factor analyzed if there is a similar trend with graduates who decided to live in places with greater economic opportunities. Just as RHIT graduates settled in places with a higher creativity index over time, so have UE alumni. Figure 5-29 displays the temporal change of where UE graduates chose to live with regard to places with greater economic opportunities.

Figure 5-29. Average County Personal per Capita Income Related to UE Graduates

Once again this graph displays a similarity with RHIT data, in that the longer an alumnus has been out of college, the more likely they are to choose a place to live that has greater economic opportunities. UE alumni had a gradual increase in the personal per capita income of the places they have settled, while RHIT graduates displayed a large increase over a short period of time comparatively. Figure 5-30 illustrates this gradual change over time. There is only one Indiana county that falls into the highest income bracket, and there are many UE graduates from each year that have chosen to live there. Most graduates from every year have decided to live in the greater Indianapolis area or near Evansville. Location in relation to these two places seems to have been more important than the creativity index or income values unless these places are being chosen due to one or both of these factors. Without a deeper investigation of the actual motives of alumni, it would be difficult to conclusively determine why they have chosen these places.
Figure 5-30. Graduates from UE in Indiana Related to County Personal Per Capita Income

A. 1998 Graduates

B. 2002 Graduates

C. 2006 Graduates

D. 2010 Graduates
The next economic factor that UE data was analyzed by is the cost of living, which has been represented by the cost of housing in the places that UE graduates decided to live. RHIT alumni chose to live in places with a higher county per capita income over time, but it was not a gradual change. These graduates do have a gradual increase in where they settled in relation to the cost of housing. UE alumni on the other hand generally exhibit a gradual increase in both, with the exception of 2002 graduates. Figure 5-31 illustrates the distribution of UE graduates based on their graduation year and the cost of housing in the places they chose to live.

Figure 5-31. Average County Listing Price of Homes Related to UE Graduates

By excluding 2010 graduates who have presumably returned home for a time before moving to their more permanent long term homes, there has been very little change in the places UE graduates settled in relation to housing costs. Even with a general trend, graduates from 2002 decided to live in places that have similar housing costs as 1998 graduates with only a 0.18 percent difference between the two years. In addition, 2010 graduates are living in places that are notably less expensive than the other three years. Figure 5-32 displays 2002 and 2010 graduates data to display the differences in where UE graduates have chosen to live in relation to housing costs.
Figure 5-32. Graduates from UE in Indiana Related to the Average County Listing Price of Homes

A.

The final factor is how far UE graduates decided to live from home. Figure 5-33 illustrates the distance UE graduates have moved away from their home institution by graduation year. Graduates from 2002 changed an otherwise consistent relationship between time and distance. If the 2002 graduates are removed from the average distance graduates have moved, it changes the total average from 305 miles to 286 miles, which would seem to be a better estimate of the average distance UE graduates moved from their home institution. Figure 5-34 illustrates how far away UE graduates moved in relation to their home institution.

While the most recent graduates are staying close to home, the radius for those who have left expanded over time. Those from 2002 and 1998 on average were more likely to leave the Midwest and live in other places around the country. Even though graduates from UE over time settled in places with a higher creativity index, per capita income, and cost of housing, just as RHIT alumni, they have decided to live much closer to home. The next school, Ball State University, is a public school, but in some ways exhibited more similarities with UE than UE did with RHIT.
Figure 5.33. Average Distance UE Graduates Moved from their Home Institution

Figure 5.34. Average Distance UE Graduates Moved from their Home Institution
Ball State University

Ball State University is the largest institution of the selected universities for this research and also has the largest set of graduation data. Figure 5-35 displays where BSU graduates are living divided into groups based on their graduation year. Just as with UE, more BSU graduates have remained in Indiana in more recent years. As was stated before, this is most likely due to graduates living at home or near home before being able to find a more permanent long term job or career. Overall BSU graduates have only moved on average about 239 miles away from the school, so even when they left the state, they still have often remained within the region: Illinois, Kentucky, Michigan, and Ohio.

Figure 5-35. The Percentage of BSU Graduates that have Remained in Indiana

While more than 60 percent of all BSU graduates have stayed in Indiana, it also helped to examine the distribution of graduates on the national scale to better understand where they have moved if they decided to leave Indiana. Figures 5-36 A and B illustrate where BSU graduates chose to live across the country and where they are in relation to creative places. When BSU graduates left Indiana, they appear to have located in creative centers. Since more graduates from 1998 have settled outside of Indiana, this data may be the best indicator set to identify graduates preferences to places in relation to the creativity index. Figure 5-37 displays a close up view of where BSU graduates have chosen to live in Indiana and the corresponding creativity index of each county. BSU graduates were centered in the north, central, and eastern areas of Indiana,
while UE graduates are similarly locating in the creative centers around Indianapolis, Fort Wayne, and South Bend; there were also greater numbers in the southwestern region of the state. Many graduates from both BSU and UE have chosen to settle in places within a couple of counties from where they attended school.

Figures 5-36. Graduates for BSU for the Continental United States Related to the County Creativity Index

A.

B.
Figures 5-37. Graduates for BSU in Indiana Related to the County Creativity Index

A. 1998 Graduates
B. 2002 Graduates
C. 2006 Graduates
D. 2010 Graduates
While there do appear to be some counties where it could be argued that the creativity index has been a factor, there are also many counties, such as those in the northeastern portion of the state with many graduates that have a low creativity index. There have also been many graduates that moved away from Indiana. Figure 5-38 illustrates that there could be a relationship between those who have moved away, those who have remained, and the creativity index. This graph illustrates that as graduates have moved away, they went to more creative places. Graduates from 1998 were more likely to have left Indiana, and when they did, they tended to choose a place that was likely more creative than the place they left. The next factor will be to re-evaluate the influence of economic opportunities for BSU graduates and how that might influence where they have chosen to live.

Figure 5-38. Average County Creativity Index Related to BSU Graduates

As already mentioned, Indiana’s personal per capita income is slightly higher than the national average. This could explain why Indiana graduates have stayed closer to home. The longer BSU graduates have been out of school, the higher the average income is of the place they have settled. Graduates from 1998 have settled in places where average incomes are $51,580 and graduates from 2010 are living in places where people are earning on average $47,582. Figure 5-39 displays this gradual change over time. Based on both the creativity index and the average income, there seems to be a regular and consistent change over time in where graduates have settled in relation to these two factors. There have been large groups of BSU graduates not
maximizing the opportunity to live in highly creative places or places with a high per capita income. Figure 5-40 and 5-41 shows where BSU graduates are living in Indiana by graduation year in relation to economic opportunities. Just as there are inconsistencies between where graduates were living and creative areas, economic opportunity also seems to be a hit or miss measure. This is still not a strong reliable factor that explains why BSU graduates chose certain locations over others as places to live after they graduated.

Figure 5-39. Average County Personal per Capita Income Related to BSU Graduates

Figure 5-40. Graduates from BSU for 1998 and 2002 in Indiana Related to County Personal Per Capita Income
Housing was the next economic factor analyzed for the overall influence of where BSU graduates chose to live after their graduation. There is a large group of counties with low cost housing in the east central region of Indiana, which is the same overall region that BSU graduates have decided to live when they remain in Indiana. Figure 5-42 displays this general relationship between where graduates have settled and the cost of housing. The price of homes could have been a motivation for graduates to remain in that region, but they also could have originated in one of those counties prior to college and wanted to return close to home after graduation. Figure 5-43 displays that graduates from 1998 have chosen to live in the most expensive housing markets compared to the later graduation years, but the change over time especially from 2002 to 2006 is minor.
Figure 5-42. Graduates from BSU in Indiana Related to the Average Listing Price of Homes

Figure 5-43. Average County Listing Price of Homes Related to BSU Graduates
Over time the counties BSU graduates settled in are characterized by a higher cost of living, a higher average income, and a higher creativity index. BSU alumni have been more likely to settle in areas with a higher level of creativity, a higher average income, and more expensive houses over time, but there are only very weak correlations between where BSU graduates have chosen to live and these factors and none of them have been significant. The final element has to do with how far on average BSU graduates chose to move away from their home institution.

Because this research had previously noted that with each subsequent study year there was a decreasing number of BSU graduates leaving Indiana, there would be an expectation that the distance graduates are moving away from home would also decrease. Figure 5-44 charts the average distance BSU graduates moved grouped by their graduation year. There is surprisingly little change over time, except for the most recent graduates, of how far BSU alumni settled away from their home institution. This would suggest that while some groups of graduates have moved farther from home, others have returned home. Figure 5-45 illustrates that the average distance per year appears to be regionalized. Graduates from 2010 lowered the average, by excluding this year from the data, the average distance increases from 239 miles to 273 miles. This data supports that graduates remained at home or close to home in the initial years after graduation and then moved to more permanent jobs or careers as time passes. Alumni from Ball State University exhibited some interesting trends, but nothing that consistently relates to what might have motivated them as they chose where they want to live after they graduated. At best a combination of these factors has been important to all BSU graduates. The distance BSU graduates decided to live from home changed very little from 1998 to 2006 which could indicate that once graduates move away they stay in that general region. The next institution, Indiana University-Southeast, has another unique student population with their own preferences for place.
Figure 5-44. Average Distance in Miles BSU Graduates Moved from their Home Institution

![Bar chart showing the average distance in miles moved by BSU graduates from their home institution from 1998 to 2010. The chart indicates a decrease in average distance over the years.]

Figure 5-45. Average Distance BSU Graduates Moved from their Home Institution

![Map illustrating the movement of BSU graduates from 1998 to 2010, with graduates from different years shown in different shades of blue. The map highlights states such as Michigan, Ohio, Indiana, Kentucky, and Tennessee.]
**Indiana University-Southeast**

As a small regional public university, IU-SE appeals to a much different type of individual than a larger institution such as BSU. In comparison to all of the other schools in this research, graduates from IU-SE chose to live in places with the lowest creativity index, the lowest incomes, and the cheapest housing costs, and chose to remain very close to home after they graduated. Figure 5-46 displays the percent of IU-SE graduates from each research year living in Indiana, Kentucky, and all the remaining states.

**Figure 5-46. The Percentage of IU-SE Graduates in Different States**

Based on this information, more recent IU-SE graduates have been more likely to leave Indiana and live in Kentucky. With IU-SE located near the Indiana/Kentucky border, there are likely a significant number of students from Kentucky, and they may have been returning there shortly after they graduated. With alumni living on average within 66 miles from the school, many are less than a two hour drive from the university. Figure 5-47 displays the total distribution of IU-SE graduates. Even though IU-SE graduates settled in places that have a lower than the average creativity index, these places are still higher than the national average. Figure 5-48 illustrates an enhanced picture of which creative counties IU-SE alumni currently reside.
Figure 5-47. IU-SE Graduates with the Creativity Index for the Continental United States
Counties that include the cities of Louisville, Evansville, Indianapolis, and Fort Wayne and some of their adjacent counties all have large populations of IU-SE graduates. These graduates seem to prefer to live on the outskirts of creative places. This may indicate that while they have chosen counties that are low on the creativity scale, they have been commuting to work in the more creative places. Figure 5-49 displays another interesting relationship between IU-SE graduates and the creativity index. While recent BSU graduates initially lived in less creative places, over time there has been a gradual increase in the creativity index of the places BSU alumni have settled. IU-SE graduates, however, demonstrated an inverse relationship. In addition, graduates from 2002 are marginally higher than 2006 graduates creating a slightly irregular result. Since creativity issues do not play a strong role in where IU-SE graduates have
chosen to live, other factors may have been more important. The next step will be to see the relationship between creative features and where IU-SE alumni chose to live.

Figure 5-49. Average County Creativity Index Related to IU-SE Graduates

BSU data was very predictable when it came to the change in economic opportunity over time, with those that were out of college the longest living in areas with higher per capita income. Figure 5-50 illustrates the change over time for IU-SE alumni. There was a gradual increase in the income from 2010 to 1998 with the exception of 2002. Graduates from this year chose to live in places that have a significantly higher income than graduates from any other year. Figure 5-51 displays where each IU-SE graduate cohort decided to live in relation to places with high economic opportunity. Even though Figure 5-50 demonstrates changes over time in each graduation year, Figure 5-51 is not as conclusive in understanding where the graduates chose to live as it related to places with higher per capita incomes for 2002 graduates. IU-SE alumni from 2002 still have been living predominately in Indiana and Kentucky, but it’s possible that the abnormal results are caused by the small nine percent of graduates from that year that live in other states or slightly smaller groups of graduates that live in places above the average per capita income.
Figure 5-50. Average County Personal per Capita Income Related to BSU Graduates

Figure 5-51. Graduates from IU-SE in Indiana and Kentucky Related to the County Personal Per Capita Income

A. 

B. 

C. 

D. 

90
The next factor is whether there was any relationship between where IU-SE graduates live and the cost of living in those places. As stated before, this should be an inverse relationship with the lowest housing costs being the most attractive places to graduates. Figure 5-52 and 5-53 illustrate where IU-SE graduates settled based on graduation year and cost of housing. It was difficult to distinguish patterns between where IU-SE alumni from each graduation year have chosen to live in relation to income. The next measure, cost of living, was used next to try and identify the relationship between where graduates settled and the cost of living. Figure 5-54 is a more useful display of this information. Just as there were anomalies in where IU-SE graduates chose to live compared to where there are economic opportunities, there were also inconsistencies with where they settled in relation to housing costs. While BSU graduates from 1998 lived in places with the highest housing costs, the graduates from this graduation year from IU-SE chose to live in the places with the lowest income opportunities among the IU-SE alumni. There was a gradual decrease in the housing costs in subsequent study years among IU-SE alumni, except for 2002 graduates, which once again were anomalies in an otherwise consistent phenomenon.

Figure 5-52. Graduates from IU-SE for 1998 and 2002 in Indiana and Kentucky Related to the Average County Listing Price of Homes
The final factor, the average distance from the home institution, is unique for IU-SE among all the schools because its alumni have stayed very close after they graduate. Since 2002 has been an atypical result in the data, one possible explanation could have been that they have moved farther away in search of creativity preferences and economic advantages. Figure 5-55 shows that this is not the case. For this factor, 2010 graduates were the abnormal result. In this set of data, graduates moved far away initially, returned closer to home, and then gradually left again. The IU-SE alumni data does not seem to have the same patterns as the alumni from all the other universities. As time passed, all other graduates lived in increasingly more creative places,
but IU-SE alumni had fewer noticeable trends in their data sets. More research would need to be conducted in order to uncover if there are any reliable indicators of what types of preferences these graduates had for the places they want to live after they graduate.

Figure 5-55. Average Distance IU-SE Graduates Moved from their Home Institution
Chapter 6

Conclusion

Indiana residents have experienced their share of economic hardship. For example, during the most recent recession, there was a period in which Elkhart County had the highest rate of unemployment in the country. With the decline of manufacturing jobs throughout the Midwest, a rust belt region, there have been many questions asked about ways to boost the local economies. One method that has been suggested is to attract college graduates to the area, and then employers will follow (Florida 2002b). This thesis set out to discover what types of place characteristics current college students prefer as they decide where they want to live, and how these features may be used to interpret the migration patterns of groups of alumni from selected Indiana universities. It has been suggested that an increase in creative based job opportunities will cause a trickledown effect that could positively influence the incomes of service level employment (Florida 2002b). In other words, one potential result of current graduates remaining in Indiana would be an increase in the number and quality of service oriented positions and a subsequent increase in income for service related careers. A more recent study by Florida and some of his colleagues has also examined how groups of creative people living in close proximity to each other creates a spillover effect and the opportunity for even more creative industries (Knudsen et al. 2008). All of this is important as cities, counties, and states try to find the best way to entice highly skilled employees and employers to the area, but there are a number of underlying questions that need to be answered first.
The first question examined by this research was what are the place preferences of current Ball State University students. The student survey responses indicated a number of strong preferences for specific characteristics of place. One of the first and most notable is that 24 percent of all the students surveyed listed Indiana or a city in Indiana as their ideal place to live. These students identified being close to family or their hometown, job opportunities, size of the community, weather or climate, familiarity, and friendly atmosphere as reasons they want to remain Indiana. This suggests that many Indiana graduates may have a strong desire to remain in the state. Overall, current BSU students responded that they want to live in places with economic opportunities, strong family connections, and a low cost of living. They also indicated a preference for a small city with the amenities of a larger city close by. They may be looking for places that have a stronger, tight-knit community than would be available if they lived in a larger city. These students also linked family friendly places with those that have a tolerant atmosphere and varied recreational activities.

When broken down into smaller groups, freshmen identified their ideal and expected future homes as being much closer to their hometown than other academic classes. Another group that would prefer to live close to home was students in the Teachers College. Teachers receive their licenses from the state, while architects are certified at the national level, so it would make sense that those graduating from the Teachers College are more likely to remain locally. Another interesting result was that students with the highest GPA would prefer to live closer to home than those with a lower GPA. This is another important result considering the perception of a brain drain effect in Indiana. Females and those in serious relationships both preferred places that were more family friendly than their counterparts. Finally, most of the students responded that economics and family factors were the most important and influential criteria they were looking for as they decide where to live after they graduate.
The final point of discussion for the results from this research concerns if students indicated a preference for creative places. Students who wanted to move away from Indiana were looking for some of the same attributes of place than those who planned to stay. Those factors include: job opportunities, family connections, and weather, but they also identified additional factors related to creative places such as the culture of a place and diversity. Students from the College of Communication, Information, and Media in particular still felt that economic opportunities and the cost of living were important, but identified family friendliness as very unimportant in their search for where they want to live after graduation. Males and those not in a serious relationship had similar preferences and all these groups would in ideal circumstances desired to move far away from home. These groups may have been more disconnected from their family or from other individuals in general, making them more willing to look farther way for their ideal place. Further study of these groups may yield more information about what they are looking for in the places they want to live after they graduate.

Two additional research questions were explored using alumni migration data from four Indiana universities over four study years. Both questions: 2. Where have college graduates from Indiana moved to after earning their Bachelor’s degree? and 3. Has there been a trend of out-migration of college graduates from Indiana and has it been a new phenomenon or the continuation of an existing pattern? were grounded in an assumption that Indiana college graduates are leaving the state. This research set out to confirm whether or not this is actually taking place. This was accomplished by mapping where Indiana graduates who have earned a Bachelor’s degree live after they graduate and examining any trends over time regarding where graduates have decided to live. Alumni data from Ball State University, Indiana University-Southeast, University of Evansville, and Rose-Hulman Institute of Technology, was gathered to answer these questions. Additionally, several factors identified by current students as important to their decision making about to live after they graduate were also used to investigate the alumni
data. The student survey results indicated a preference for places with economic opportunities, cost of living, and family connections, and this information was used to analyze whether Indiana alumni were living in places that may indicate if previous groups of graduates may have had similar preferences for place to current students.

While this study set out to confirm that Indiana graduates were leaving Indiana, the truth was much different. Graduates from 1998 comprised the largest group of alumni living outside of Indiana, but more than 60 percent of these graduates have still chosen to live in Indiana. Even RHIT graduates, who are presumably more mobile than other alumni groups in this study, have more than 30 percent of all their graduates still living in Indiana. All schools and all graduation years were combined for a total of 67 percent still living in Indiana. This raised a number of additional questions. If a majority of all Indiana graduates have primarily remained in Indiana, then why is there a strong belief that they are leaving? There are a number of possible reasons. This study identified only students who have earned their bachelor’s degree, and it excluded those who they went on to earn more advanced degrees. Additional research needs to be conducted to determine the migration patterns of those who earned a Master’s degree or higher. Also, since this study demonstrated that Indiana graduates are staying in Indiana in large numbers, the perception of out-migration could be a result of a negative net-migration. If the graduates who have chosen to leave the state are not replaced by graduates from other states, then the overall result is that there are fewer college graduates in Indiana than the number that earned bachelor’s degrees in the state. While, this information was a surprising research result, there was other information that was verified by this research.

Graduates from RHIT are living in places that are characterized by a higher creativity index, higher personal per capita income, and more expensive housing market, most likely due to the highly specialized nature of their degree. They are also moving farther away from their home institution than any other school in this study. There was also a considerable increase in the
income and housing costs in the places that RHIT chose to live between 2002 and 2006. This may indicate that RHIT graduates are willing to wait, living in places with lower income and cheaper housing before increasing their standard of living. On the other hand, IU-SE students exhibited the lowest values for these factors and are living very close to home after they earn their degrees. Another interesting trend with IU-SE data was that they had an inverse relationship over time compared with the other three universities with each of the following factors: creativity index, income, and housing costs. Overtime IU-SE graduates are living in less creative places, places with lower incomes, and cheaper housing with the exception of 2002 graduates. The UE 2002 graduates also deviated from the general trend in where they choose to live in relation to their home school. There could have been a significant event or cultural shift during this time period to cause this deviation. Additional research focusing in on 2002 and the adjacent years could identify a different pattern in place preferences for that period of time. The final question was to address what types of preferences for place graduates in general may have while they were deciding where they wanted to live after having earned their degrees.

Creative class features were identified as important to all these groups based on the temporal relationship with the exception IU-SE graduates, and this is confirmed by the patterns in the alumni data which shows that more graduates moved to creative places as time passed. Even the student survey respondents indicated that a tolerant atmosphere was one of the most important factors they are looking for in place. The question becomes, why are graduates moving to these places? Are they moving because of creative factors or economic opportunities? The student surveys indicated that economic opportunities were much more important in the search for where they want to live after graduation. There is a strong positive correlation between places with a high creativity index and those with a higher average income with a correlation coefficient of 0.72. Based on the results of these surveys, it is doubtful that they are choosing these places based on creative class features.
Richard Florida (2002b) asserts that businesses will locate in places with a large creative class population. He also states that creative class individuals prefer places with a “low barrier to entry for human capital” represented by a high diversity which he argues can be measured based on the gay male population (Florida 2002a). Since this thesis demonstrated that Indiana has many graduates and creative class individuals that have remained in the state, it would seem that Florida’s idea that businesses will locate to places with a highly educated population may be conceptually flawed. In addition, students did indicate a preference for tolerance, but it was related to family friendliness rather than issues related to low barrier entries. Those students who indicated a strong preference for creative places had a stronger desire to move farther away than those who did not view creative class factors as highly important. Finally, family connections was an important feature that would influence where current students wanted to live after having earned their bachelor’s degrees, which is not a creative feature based on Florida’s model. Indiana students and graduates do not exhibit a high preference for creative places based on both the student surveys and where Indiana alumni have chosen to reside.
References


