Analysis of National City’s Neighborhoods and Functional Zones

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About The Sage Project

The Sage Project is a partnership between San Diego State University (SDSU) and a city or government entity in the San Diego region. The mission of the program is to engage students from across the University in assisting a local government with projects that address their smart growth, quality of life, and sustainability goals. In the Sage Project, students have the opportunity to engage in meaningful real-world projects and make positive contributions to a community in SDSU’s service area. The program’s vision is to connect SDSU students and faculty with high-priority, high-need community projects, thereby generating interest and fresh ideas that create momentum and provide real service to the community. The Sage Project embodies the University’s commitment to serving local students, engaging alumni, and contributing to the public good by focusing thousands of hours of course-based student involvement with high-impact activities.

The program is based on the highly successful and award-winning Sustainable City Year Program (SCYP) at the University of Oregon and is a part of the SCYP network. National City, California, is the Sage Project’s 2013-2015 partner city. Participating courses come from the following disciplines: Anthropology; Audiology; City Planning; Civil Engineering; Communication; Geography; Graphic Design; Homeland Security; International Security And Conflict Resolution; Marketing; Political Science; Public Administration; Public Health; And Speech, Language, and Hearing Sciences.
About National City

National City is a highly urban community of about 60,000 residents in south San Diego County. It is the second oldest city in the county and boasts a rich history, a diverse community, and is known as one of the most walkable cities in San Diego County. Located just south of downtown San Diego and just north of the US-Mexico border, the city is flanked by freeways and is home to large-scale industries. National City is a mid-size city that faces big city challenges, and, like many municipalities, the city is challenged to meet community needs and new demands of sustainability. By providing new ideas and human capacity, this partnership with the Sage Project will help National City implement sustainability concepts and practices into projects that will improve livability.
Course Participants

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Executive Summary

As part of a semester-long study, two sections of Geography 354: The Geography of Cities, participated in the Sage Project. The Sage Project is a collaboration between San Diego State University (SDSU) and the city of National City to engage students and faculty in assisting local governments with projects that enhance the city’s economy, landscape, infrastructure, safety, environment, and quality of life.

The students analyzed the neighborhoods and various functional zones in National City in order to answer the following questions:

1. Are the neighborhoods, functional zones, and their characteristics identifiable?
2. Is National City legible, or easy to navigate?
3. How is National City perceived by those that visit, work, and live there?

The purpose of this project was to answer these research questions, and gather information that would assist city officials, non-profits, and future Sage Project programs. Moreover, a variety of methodological techniques were implemented: a) census data analysis, to collect statistical information; b) landscape observations, to comprehend how people interact with their environment; c) surveys, to gather opinions; and, d) mental mapping, to assess legibility. By combining a range of data-collecting methods, students were able to produce cohesive and thorough findings.

Some of the most notable issues and concerns the students raised were the large amounts of fenced yards, some homes in disrepair, busy and unsafe streets in residential areas, and a lack of green space. Additionally, there are many families in National City living under the poverty line compared to the rest of the county, which may be due to the occupational disparities among the two. Furthermore, National City has more renters than homeowners and a significantly higher resident population of people aged 20-24 years. Moreover, there appears to be uneven access to and awareness of healthy food options in National City. Finally, surveys relayed mixed feelings about National City, such as “clean,” “dirty,” and “safe,” “dangerous.”

However, some possible solutions the students proposed included improving the variety of industries in order to diversify job opportunities, and implementing better educational standards and increasing after-school youth programs in order to help educate children on making better decisions and abstaining from illegal activities, such as gang violence and drugs. Likewise, increasing public safety would aid in better community engagement and pride in National City, and increasing the understanding of food awareness and access could be done by establishing farmer’s markets, and increasing accessible green space to all.
Introduction

This report presents the results of a semester-long analysis of the diverse neighborhoods and functional zones within National City; the report results can be used to support other projects undertaken as part of the Sage Project as well as other project undertaken by city officials and community organizations. This research was completed by two sections of Geography 354: The Geography of Cities at San Diego State University under the direction of Drs. Thomas Herman and Zia Salim, respectively. The desired objectives of this project were to combine data from the Census Bureau, qualitative studies and observations, and surveys and mapping to identify functional zones/neighborhoods and their characteristics, and investigate the legibility of National City’s urban landscape as perceived by its residents and visitors. According to Kevin Lynch, an author and planner of urban settings, five elements contribute to the legibility of cities – edges, paths, districts, nodes, and landmarks. These elements help people easily identify their surroundings. The three research questions were:

1. Are the neighborhoods, functional zones, and their characteristics identifiable?

2. Is National City legible, or easy to navigate through?

3. What are the perceptions of National City according to those that visit, work, and live there?
Methodology

Census Data
Students collected and analyzed data at the census tract scale from the 2010 decennial US Census, 2012 American Community Survey 5-year estimates (both provided by the Census Bureau), and other sources. The classes covered all the tracts in National City in order to get a more comprehensive and data-driven assessment of the area. Census data was also collected on a regional basis for statistical comparison: the students compared the data to the city of National City, San Diego City, and San Diego County.

Landscape Observations
Students were assigned individual census tracts in National City. They carried out observations of the landscape in their assigned census tracts and studied the area on foot. The purpose of this was to gain a better sense of what residents and visitors do and how they interact with their environment. Students took pictures of the tracts and recorded any noteworthy observations. Again, the classes were able to cover every census tract of National City.
Survey

Students asked residents and visitors in National City to fill out a survey and create a mental map that depicted their “image” of National City. The students went door-to-door, to the library, public parks, bus stops, and on the streets to find participants. The surveys were voluntary, confidential and anonymous and were provided in English and Spanish to accommodate the large Spanish-speaking population of National City. A data directory of the information gathered by the survey is included in Appendix 1, and the actual survey instruments are included in Appendices 2 and 3. Some of the information gathered from the surveys were whether the participants lived or worked in National City, the reasons for their visits if they did not live or work in National City, words to describe National City as a whole or their neighborhood (if they lived in National City), places they avoid visiting, and so on. Surveys were used in order to obtain opinions of those who visit and live in National City, thus enabling the students to get recommendations and to better assess how residents and visitors feel about this area.

The surveys elicited a combination of qualitative and quantitative data. The surveys featured questionnaire-like closed-ended questions that used a Likert scale as well as open-ended questions. While asking people if they would like to participate in filling out the surveys, students also had the opportunity to informally interview participants.

Mental Mapping

The surveys also prompted the participants to draw a mental map of National City. Mental maps, or cognitive maps, are an individual’s perception of their surroundings and which areas they engage with on a regular basis. Mental mapping also aided in assessing the legibility of National City to residents and visitors, as well as themes and topics.
Results

Census Data

The census data collected by the students examined various demographics and compared them to San Diego County. The percentage of the total population of people ages 0 to 19 years is slightly higher in National City; however, the population of people in the 20-24 year age bracket in National City is about one and a half times that of San Diego County (Figure 1). The population of people in the 25+ year age bracket is slightly higher in San Diego County than in National City. Overall the median age of the population in National City is 30 years, whereas the median age of the population in San Diego County is 34.6 years.

Figure 1 Population Age Distribution in San Diego County and National City
Likewise, the data collected showed that National City has more single parent-headed households (Figure 2) than the County of San Diego; this trend is especially prominent when considering female-headed single-parent households.

Moreover, the educational attainment (Figure 3) in National City and the rest of San Diego County varies. National City has a significantly higher percentage of individuals whose maximum educational attainment is a high school diploma, whereas San Diego County has a significantly higher percentage of individuals whose maximum educational attainment is a bachelor’s degree, a master’s degree, or doctoral degree.
Additionally, Figure 4 indicates the Family Income differences between San Diego County and National City. There are more residents in National City who earn between $15,000 – $62,500 than in San Diego County. As portrayed in the graph, the population percentage of residents who earn between $62,500 to $174,999 decreases drastically in National City, and the population percentage of National City residents who earn $174,999 and more is less than 2%. In San Diego County, the household earnings increase steadily until $62,500, where it fluctuates slightly.
Figure 5 indicates the percentage of families in National City and San Diego County who live below the poverty line. The percentage of families with related children under the ages of 5 and 18 years who live below the poverty line in National City are almost double that of San Diego County. Similarly, the percentage of female-headed households with no husband present and with related children under the age of 5 years who live below the poverty line in National City is slightly more than double the percentage of San Diego County. It is apparent that National City is challenged with a large number of families who live in poverty. According to the census data, there is also a poverty issue with senior citizens over the age of 65 years; in National City 20.3% of these seniors live below the poverty line.

Students also found an occupational disparity between National City and San Diego County. In National City, most residents are employed in educational services, health care, and social assistance, whereas San Diego County has a wider range of jobs in different sectors of industries.
Figure 6 shows the differences in racial and ethnic distribution. The chart illustrates that the Hispanic population in National City is almost double that of San Diego County (63% in National City compared to 32% in San Diego County), whereas the White population in National City is less than a quarter of that in San Diego County (11.7% in National City compared to 44% in San Diego County). The Asian population in National City is almost double that of San Diego County (17.8% in National City, compared to 10.6% in San Diego County), and the African American population in National City and San Diego County are comparable (4.5% in National City and 4.7% in San Diego County).

In addition, 24.6% of residents in San Diego County speak Spanish as the main language at home; and of these, 11.1% speak English less than "very well." However, in National City, these proportions are more than double the county average, with 55.9% of residents speaking Spanish as the main language at home, and 25.7% of these residents speaking English less than “very well.”
Moreover, the percentages of home rentership and ownership in National City and San Diego County differ greatly (Figure 7). In San Diego County the percentage of renters is 46%, whereas it is 67% in National City. On the other hand, the percentage of homeownership in San Diego County is 54%, and 34% in National City. Figure 8 illustrates the spatiality of the aforementioned data. The low percentage of homeownership in National City may be due to the high foreclosure rates in the area (Figure 9). Figure 9 illustrates that the foreclosure rates of the tract areas located in National City are in the highest class, which could be a result of the housing affordability in National City. Figure 10 shows that there are more homeowners and renters in National City who spend more than 30% of their income on housing than there are in San Diego County.

Figure 7 Percentages of Renter & Owner Occupied Housing in San Diego County and National City
Figure 8 Rentership vs. Ownership in San Diego County and National City

Figure 9 Foreclosure rate by tract
<table>
<thead>
<tr>
<th>Census tracts</th>
<th>Owners - 30% or more than income on housing costs</th>
<th>Renters - 30% or more than income on housing costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>116.01</td>
<td>30.3</td>
<td>56.4</td>
</tr>
<tr>
<td>116.02</td>
<td>51.4</td>
<td>56.8</td>
</tr>
<tr>
<td>117</td>
<td>74.4</td>
<td>57.9</td>
</tr>
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<td>62.7</td>
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<tr>
<td>220</td>
<td>65.6</td>
<td>59.2</td>
</tr>
</tbody>
</table>

| San Diego County | 49.6 | 58.4 |
| National City    | 56   | 60.4 |

**Figure 10** Housing Affordability in San Diego County and National City
Landscape Observations

It is important to observe the landscape because it reflects an area’s values (e.g. what it takes pride in) and sense of community. Further, the landscape can influence a community’s sense of security and encourage its behaviors and emotions. All students observed their census tracts and shared their observations. Three groups of students combined and presented these individual observations, dividing National City into three areas: the northwest part of National City (census tracts 219, 118.01, 118.02, 117), the eastern part of National City (census tracts 119.02, 120.02, 120.03, 220), and the south-eastern part of National City (census tracts 116.01, 116.02, 121.01, 121.02).

The first group of students examined the overall landscape observations in northwest National City and noticed the diverse land use – commercial and residential. They noted that there are two ‘faces’ of National City, which are consumers and workers who partake in the commercial industries of National City, and the residents who live in the area. The students also noticed that this part of National City is built up and lacks open space.

The second group of students presented their observations of the landscape in eastern National City. The observations relayed a lack of: cleanliness, abundant green space, aesthetic appeal, and a sense of welcoming to businesses and families. Furthermore, they noted many homes that were fenced off and had bars on the windows, which reveals a lack of security in the neighborhoods, many homes that were in disrepair, a lack of vegetation that lined the streets and sidewalks, and a lack of street signs and lights. This group of students believed that this kind of environment is uninviting, creates unsafe neighborhoods due to the lack of street signs and lights (Figure 11), causes a sense of sterility due to the lack of vegetation, and can discourage people from using public transit. On the other hand, this group noticed several examples of the use of xeriscaping (Figure 12), which is more sustainable and can be easier to maintain.
Figure 11  Lack of Street Signs and Lights in Residential Area

Figure 12  Example of Xeriscaping in National City
The third group of students listed some of the positives and negatives of the land use in the southeastern part of National City. The positive aspects they noted within their landscape observations were the community garden that has fruit trees and encompasses a teaching space, the historical preservation of the Victorian homes, a connected public transportation system, and an outdoor shopping area as seen by the farmer’s market. On the other hand, the negative aspects these students made references to was the plethora of brown space (unused land or land in an undesirable area) (Figure 13), some dilapidated homes, outside traffic that the golf course and Mile of Cars bring, and large amounts of fenced yards and barred windows which may create a dystopic feeling (Figure 14).

![Example of Brown Space in National City](image1)

![Example of Fenced House in National City](image2)
Survey

A total of 509 surveys were collected by the two class sections over the course of 3 weeks. The demographics of the survey participants were as follows: 51% Male and 48% Female; 36% Young Adult, 53% Adult, and 10% Older Adult; and 54% Latino/a, 19% White, 5% African American, 19% Asian/Filipino, 0.2% Native American, 1% Other, and 0.6% Surveyor Unsure. The surveys stated that 28% of the participants work in National City (Figure 15), 55% of participants live in National City, 21% of the participants live and work in National City, and 28% of them neither work or live in National City but were visiting. Some of the reasons cited by these respondents for visiting National City were to buy groceries, visit restaurants, visit the National City Public Library, go to school, and meet acquaintances.

Figure 15  Respondents who Work in National City
The surveys included a series of questions where participants rated their opinions on a Likert scale. The results for Figure 16 show that a majority of respondents (86%) felt that it was easy to get around National City; and just under 60% of respondents felt personally connected to National City, as seen in Figure 17.

**Figure 16** Perception: “I Have an Easy Time Finding my Way Around National City”

**Figure 17** Perception: “I Feel Personally Connected to National City”
For the third statement, “I like National City more than other areas of San Diego (Figure 18),” responses formed a normally distributed curve, where the number of responses increased from “Strongly Agree” to “Neutral” and decreased to “Strongly Disagree.” The greatest share of responses (32%) to this statement were neutral; 41% of respondents like National City more than other areas of San Diego, while 27% of respondents like National City less than other areas of San Diego.

Figure 18 Perception: “I Like National City More Than Other Areas of San Diego”
Nonetheless, residents and visitors believe in National City’s potential, and 72% of respondents agreed that “National City can be a great part of San Diego,” as depicted by the bar chart in Figure 19. The line graph (Figure 20) shows that 41% of responses strongly agreed or agreed to the statement “I like National City more than other areas of San Diego;” 32% of responses were neutral, and 27% of responses disagreed or strongly disagreed. Responses to the last statement, “National City can be a great part of San Diego,” show that 92% of participants “Strongly Agree,” “Agree,” and feel “Neutral” about this statement, and only about 8% disagree with the statement. These responses connote that although some people do not feel strongly about National City, they are optimistic and believe there is room for improvement to make National City a beautiful and admirable place in San Diego County. City improvements could have a large impact on the connectedness people feel towards the city and their overall perceptions towards National City.

**Figure 19** Perception: “National City can be a Great Part of San Diego”

**Figure 20** Participants who Like National City More vs. National City can be a Great Part of San Diego
A word cloud, which visually represents the frequency of a word, was created with all the words provided by the participants for each of the open-ended questions. The first open-ended question asked participants to “Please provide up to 3 words that describe National City, as a whole” (Figure 21) in which many people described National City as “Home.” The use of contradicting words such as “Dirty” and “Clean” presents various views of National City. However, most of the words that were mentioned were positive, in which 7% wrote “Friendly,” 6% wrote “Diverse,” 6% wrote “Quiet,” and 9% wrote “Nice.” The aforesaid words, alone, accounted for over 25% of the words used for this question.

Figure 21 Word Cloud: “Please provide up to 3 words that describe National City, as a whole”
Participants were then asked to use up to three words to describe their neighborhood, if they lived in National City (Figure 22). Similarly, most of the terms mentioned were positive: “Quiet,” “Friendly,” “Clean,” and “Safe.” Yet, there were still contradicting terms such as “Dirty” and “Clean,” and “Large” and “Small.” For this question, the students looked at the response differences of males and females, and found that males were more negative than females. Again, this illustrates the different perceptions of residents. Some general themes are as follows: young female adults and older adults, both male and female, had more concerns about their neighborhoods compared to other groups; female adults usually used one negative term; and older adults, male and female, used more negative words to describe their neighborhood. Most of the negative words used to depict neighborhoods were “Gangs,” “Dangerous,” “Theft,” “Dirty,” and “Busy.”

Figure 22 Word Cloud: “If you live in National City, please provide up to 3 words that describe your neighborhood.”
The next question the survey contained was “What 3 places do you like to go in National City?” (Figure 23) where places like parks, the library, and restaurants were major places that all ages mentioned in this survey. Many of the respondents also mentioned shopping destinations like Wal-Mart, grocery stores, and the mall. The next question was interrelated, as it asked “Are there any places in National City that you avoid going? And why?” The most common answers were “Wal-Mart,” “Gang Areas,” “Any Places After Dark,” and the “Police Station” (Figure 24). The top place to avoid, noted mostly by men, was the police station due to their perception of harassment, corruption, and the overall sense of trouble. On the other hand, women mentioned Wal-Mart as the top place to avoid due to its crowded atmosphere, the homeless people that loiter around the premises, and the fact that it is “Wal-Mart.”
The last question of this section was a three-part question that asked participants what the best, the worst, and the aspects that need change in National City are (Figures 25 - 27). Most responses about the best aspects of National City mentioned are the people and the diversity; and the worst parts are the illegal activities like “drugs,” “gangs,” and “trouble.” The word clouds (Figures 25 and 26) show that there are contradictory responses due to varied perceptions. Participants also mentioned that there is a need for change in National City (Figure 27), such as improving the quality of houses and roads, reducing gang activity, and creating a safer environment. Although respondents enjoy certain aspects of National City, there are a few issues that they believe need to be changed in order to make National City a more attractive place.

**Figure 25** Word Cloud: The best things about National City

**Figure 26** Word Cloud: The worst things about National City

**Figure 27** Word Cloud: The things that most need to be changed in National City
Mental Mapping

A total of 261 mental maps were collected over 3 weeks; these maps were analyzed by two groups of students. The first group of students analyzed all the mental maps to identify the elements of a city’s image as proposed by Kevin Lynch. Two main elements were clearly identified: paths and nodes. Some examples of paths were the frequently acknowledged roads and freeways, such as the I-805, I-5, and the 54 freeways, National City Boulevard, Plaza Boulevard, and Highland Boulevard. Some identified nodes on the mental maps were the focal points in the city such as Kimball Park, National City Library, Wal-Mart, Mile of Cars, and Sweetwater High School. This suggests that National City is somewhat legible. However, the mental maps suggest that National City lacks landmarks, which are a type of point-reference in which people do not enter, clearly defined districts, and edges, which are clearly defined boundaries.

The second group of students used the mental maps to examine the theme of food access in National City. On the mental maps, the most commonly identified food sources were McDonald’s, In-n-Out, Popeye’s, liquor stores, IHOP, and Seafood City. Students found that general grocery stores and other sources of healthy food were often not identified on the mental maps. The students found that participants’ mental maps depict some food options, while other do not. As a result, National City can be described as a “food desert,” according to the mental maps that were collected (examples of these mental maps are included in Appendix 4). The map published by the US Department of Agriculture (Figure 28) shows that parts of National City are considered food deserts, while other areas are not. Regardless of whether all or part of National City is a food desert, the value of the mental maps is to illustrate perceptions and understandings of residents and visitors.

Figure 28 USDA Map of Food Deserts in National City
Analysis

Issues

The information and data collected was analyzed by each methodological technique to identify limitations found in National City in order to pose possible suggestions to resolve them.

• Limitations of environmental landscape. These limitations included a lot of outside traffic and congestion especially near the golf course and Mile of Cars; a lack of green space in the form of parks, community gardens, shrubbery on the sides of streets; and a plethora of brown space, or unused/undesirable land. Additionally, a lack of overall aesthetic appeal and cleanliness was identified.

• Limitations of housing. The students noticed that there were large amounts of fenced yards, homes in disrepair, a lack of natural vegetation, and busy and unsafe streets due to the lack of stop signs and street lights, which may affect pedestrian activity and safety, and the use of public transit in residential areas. These issues imply that there may be an overall sense of fear, and a discouragement of pedestrian activities and the use of public transit systems. Moreover, the lack of lighting permits accidents and crimes such as gang activity or other acts of violence to exist in neighborhoods, creating an accident-prone and unsafe environment.

• Limitations highlighted by census data. The census data suggested that National City is struggling with a pertinent issue of families living under the poverty line (especially single mothers) and that National City does not offer a variety of job opportunities, in comparison to the rest of San Diego County. Also, the mix of renters vs. owners in National City is imbalanced.

• Limitations highlighted by surveys. The surveys revealed that people denoted National City as being high in traffic, gang activity, homelessness, and crowds, and that more parking is needed. The legibility of National City is mixed, with opportunities for improvement in designating edges, landmarks, and districts. Although a lot of the aforementioned issues were prevalent amongst the other forms of methodology used, the mental mapping uniquely identified a major concern, which is that of food deserts. The overwhelming majority of mental maps that noted any food source only mentioned unhealthy food options such as liquor stores and fast food chain restaurants.
Recommendations

There are many possible solutions to remedy the aforementioned limitations and issues.

- Suggestions for environmental landscape. The students have established that increasing permeable green space and making it accessible to everyone will enhance the aesthetic appearance of the city, and aid in facilitating a tranquil environment for all those who use it; this could be done by engaging the community in the renovation and improvement of parks. This will give the city an environment that its citizens will feel proud to be a part of, as well as increasing connectedness, especially across the different ‘faces’ of National City. Likewise, National City could implement a volunteer program similar to Community Housing Works’ FaceLift programs in City Heights, where community members get together to make low-cost renovations within the area. By intensifying the pride of residents and visitors, a lot of issues such as the lack of cleanliness, vandalism, and crime may be reduced. Finally, connecting the industrial and residential faces of National City through green space could be beneficial. For example, Wilmington Waterfront Park in Wilmington, California, used city owned land for a low-cost redevelopment project. It connected the more prosperous port area with the more industrial, dilapidated section of town, thereby creating a greater flow of activity and subsequent prosperity.

- Suggestions for safety. To create safer neighborhoods, better lighting and street signs may be installed and more “neighborhood watch” programs could be implemented; this may also help in the growth of homeownership. In addition, enhancing engagement with law enforcement services, increasing after school programs (particularly those that serve youth), and implementing better educational standards may aid in the reduction of gang violence. Given the high proportion of Spanish speakers indicated by the census data, any outreach or community involvement must specifically target Spanish speakers. Likewise, it is important to encourage youth participation within the city, as it has a higher probability of encouraging adult participation.

- Suggestions for issues identified by census data and surveys. Improving the variety of industries to diversify job opportunities may help National City’s economy by diminishing poverty, and in turn increasing homeownership. Increasing better food awareness and access, by establishing farmer’s markets, possibly at the well-known Kimball Park, and more grocery stores will give people the option to develop healthier habits. Also, in terms of improving legibility, various neighborhoods could be highlighted by using street banners or other signage, boundaries, and iconic buildings in order to help create the sense of districts, edges, and landmarks.
Limitations

This study does have certain limitations, most of which were due to time constraints.

The surveys presented are an opportunity sample and not a random sample. This was done for convenience and to meet class and project deadlines; however, problems with opportunity sampling can include biased and misrepresented data, which may lead to skewed results. What is more, surveys and mental maps were collected over the course of three weeks, which is a limited amount of time to produce comprehensive results. Furthermore, the responses from the surveys may have been affected by the Hawthorne Effect, where participants may have responded in a way they believe satisfies the researcher’s aims or expectations. This may explain why student observations and survey responses appear contradictory.

Further, the mental maps varied widely in detail, making it hard to identify common elements and issues. Lastly, as the Sage Project is based upon student involvement, it is important to consider that the students conducting the study had other education and personal obligations. As undergraduate students, they may have had little experience in conducting social science research.

However, this study’s results are valuable in that they provide a wide-ranging assessment of the legibility and perceptions of National City based on multiple data sources and that they communicate the perspectives of a large number of residents and visitors who may or may not participate in other “community-input” venues.

Future Research, Analysis, and Collaboration

This study can form a basis for future studies of National City. Future research can expand upon the questions addressed in this survey to examine new areas of interest. Also, longitudinal research can be done to assess how the areas studied in this project change over time. The fact that the responses and perceptions of the surveys and mental maps varied and presented what appear to be contradictory responses illustrates the idea that a wide variety of individuals participated in this project. An analysis of trends can be refined by considering various groups separately.

The Department of Geography at San Diego State University (http://geography.sdsu.edu/) has centered some of its program focus and research expertise on topics in the area of human geography, including urban geography, food security, and work with children and youth; work with children and youth is done through the ISIS research center (http://geography.sdsu.edu/Research/Projects/ISYS/index.html). This expertise has proved to be insightful and beneficial to this project and can inform further research and understanding. The City of National City and local non-profits may consider collaboration with the Department of Geography in the future.
Conclusion

The report reflects a semester-long analysis of National City completed by two sections of Geography 354: Geography of Cities. The results depict research conducted by the students through the combination of census data, personal observations, and feedback from residents and visitors of National City collected by surveys and mental maps.

According to the mental maps, neighborhoods, functional zones and their characteristics are somewhat identifiable; however, they are not clear-cut because National City’s legibility lacks landmarks, districts, and edges. Likewise, the surveys relayed the perceptions of National City according to those who interact with the area. There were contradictory and mixed perceptions as some responses were positive, while others were negative.

The main issues relayed were lack of green space, safety, cleanliness, use of public transportation, healthy food options, pride in National City, as well as traffic, crime, and poverty. Most of these issues are interrelated and by making changes to certain aspects of the city, the majority of these problems can be improved on, thus making National City a more desirable place in which to work, visit and live.

Deliverables

In addition to this report, other deliverables provided by the students to the Sage Project and National City include data libraries that provide census data, and the survey spreadsheet that compiles the survey results.

Contact

For questions regarding this report, please contact Dr. Jessica Barlow (jbarlow@mail.sdsu.edu) or Dr. Zia Salim (zsalim@fullerton.edu).
Appendix 1 – Survey Data Directory

Demographics
Age
Gender
Ethnicity

Residence and work
Live in National City? (If yes, neighborhood name)
Work in National City? (If yes, area name)
Neither? (Why do you come to National City?)

Description of National City
Three words to describe National City
Three words to describe your neighborhood
Three places you like to go in National City
Places in National City you avoid going and why

Perception of National City
Best thing about National City
Worst thing about National City
The thing that most needs to change in National City

Legibility and Connectedness to National City
“I have an easy time finding my way around National City”
“I feel personally connected to National City”
“I like National City more than other areas of San Diego”
“National City can be a great part of San Diego”
Appendix 2 – Survey Instrument (English)

National City Urban Image Survey

Our geography class at SDSU is conducting a study of National City. Thank you for taking the time to participate in this survey.

1. Do you live in National City?  ○ Yes  ○ No  If yes, in what neighborhood?

2. Do you work in National City?  ○ Yes  ○ No  If yes, in what area?

3. If you neither live nor work in National City, what brings you to National City?

4. Please provide up to 3 words that describe National City, as a whole, for you.

5. If you live in National City, please provide up to 3 words that describe your neighborhood.

6. What are 3 places you like to go in National City?

7. Are there any places in National City that you avoid going?  ○ No  ○ Yes (list up to 3 places)
Why do you avoid the places listed above?

8. Please complete the following statements:
The best thing about National City is ____________________________.
The worst thing about National City is ____________________________.
The thing that most needs to change in National City is ____________________________.

9. Please indicate how much you agree with the following statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have an easy time finding my way around National City.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I feel personally connected to National City.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>I like National City more than other areas of San Diego.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>National City can be a great part of San Diego.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Please turn this paper over and draw a map of National City, to the best of your ability. Please include any features and/or places that are important to you and label the map so that someone who is unfamiliar with the area can understand the map.
Appendix 3 – Survey Instrument (Spanish)

Encuesta de Imagen Urbana de National City

Nuestra clase de geografía de la Universidad Estatal de San Diego (SDSU) está haciendo un estudio acerca de National City. (Gracias por tomar el tiempo para participar en nuestra encuesta)

1. ¿Vive usted en National City? ○ Sí ○ No Si la respuesta es “Sí”, ¿Por qué rumbo / barrio vive?

2. ¿Trabaja usted en National City? ○ Sí ○ No Si la respuesta es “Sí”, ¿Cerca de qué área trabaja?

3. Si usted no vive o trabaja en National City, ¿Qué lo trae a National City?

4. Por favor escriba de una a tres palabras que describan a National City en general desde su punto de vista.

5. Si vive en National City por favor use de una a tres palabras que describan su barrio (rumbo / vecindario).

6. ¿Cuáles son 3 lugares en National City a los que le gusta ir?

7. ¿Hay lugares en National City a los que evita ir? ○ No ○ Sí (Si la respuesta es “Sí” escriba el nombre de 3 lugares)

¿Por qué evita esos lugares?

8. Por favor termine las siguientes oraciones.

Lo que más me gusta de National City es _______________________________.
Lo peor de National City es _______________________________.
Algo que necesita cambiar en National City es _______________________________.

9. Por favor indique que tanto está de acuerdo con las siguientes frases / aclamaciones.

<table>
<thead>
<tr>
<th>Muy de acuerdo</th>
<th>De acuerdo</th>
<th>Neutral</th>
<th>Desacuerdo</th>
<th>Muy desacuerdo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Es fácil para mí andar o pasear por National City</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Me siento con una conexión personal a National City</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>National City me gusta más que algunas áreas en San Diego</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>National City puede ser una gran (buena) área de San Diego</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

Por favor voltee esta hoja (al reverso) y dibuje un mapa de National City a la mejor de sus habilidades. Incluya los nombres de características y lugares que sean significativos para usted. Trate de dibujar el mapa de manera que alguien que no conozca National City lo pueda entender.
Appendix 4 – Examples of Mental Maps