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Conducting an Effective Housing Survey to Inform Planning in the Royal Borough of Kingston

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Project Number: 10 E003 I

CONDUCTING AN EFFECTIVE HOUSING SURVEY TO INFORM PLANNING IN THE ROYAL BOROUGH OF KINGSTON UPON THAMES

An Interactive Qualifying Project Report

submitted to the Faculty

of the

WORCESTER POLYTECHNIC INSTITUTE

in partial fulfillment of the requirements for the

Degree of Bachelor of Science

by

Michael D. Judelson

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24 June 2010

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1. survey
2. housing
3. planning

Professor Robert Krueger, Co-Advisor

This report represents the work of one or more WPI undergraduate students
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Conducting an Effective Housing Survey to Inform Planning in the Royal Borough of Kingston upon Thames

Michael Judelson, David Kent, John Manero

24 June 2010

Sponsored by the Department of Strategic Planning and Sustainability of the Royal Borough of Kingston upon Thames

Abstract

This project's purpose was to conduct a survey of new housing developments in Kingston. The project group conducted a hybrid survey with post, web, and face-to-face components. The survey informed a variety of planning policies by gathering data on child yield, school enrolment, migration, car ownership, community facilities, and housing satisfaction. The group produced a catalogue of tables, graphs, and maps of the above data, a Microsoft Access© project and manual, and a set of recommendations for conducting future surveys.

Executive Summary

The goal of this project was to conduct a housing survey in the Royal Borough of Kingston to gather up-to-date information from residents of new housing developments. The information provided pertinent data for a variety of Kingston Council Services and contributed towards future policy formulation. With respect to housing completed (built/established) within the last 5 years, the following areas were investigated and mapped as far as possible:

- Child yield
- Trends of school enrolment
- Migration
- Patterns of car ownership
- Access to community facilities
- Housing quality

While these factors appear to be unrelated, they all fall under the more general category of aiding future planning policies for the Royal Borough of Kingston.

The Project Group distributed a housing survey carefully designed to maximize its response rate by including a cover letter, a frequently asked questions sheet, accessibility options, a monetary incentive for completion of the survey, and a reminder posting. The survey included a variety of different questions to cover the above list of topics.

The survey method itself was a hybrid survey, combining a traditional post survey with a web-based survey. Recipients had the choice either to fill out the survey on paper and return it with the included pre-paid envelope or to take an identical survey online. This increased the response rate, and receiving responses electronically eliminated the need for any time-consuming data entry for those responses.

The quantitative data gathered by the survey was supplemented by qualitative data gathered in face-to-face interviews. The project group met with representatives of various Kingston Residence Associations to determine general public opinions about the above areas examined by the survey. It also provided an opportunity to establish any issues with new housing developments that the survey did not address.

The first outcome of the project was an analysis of the survey results covering the areas listed above. This analysis was conducted using a few different methods. Cross tabulations of a few sets of survey

questions were used to determine child yield multipliers and trends of school enrolment, frequency tables of some of the survey results showed major reasons why people have been moving into and out of the Borough, and GIS maps based on frequency tables of more of the survey results indicated patterns of car ownership, ease of access to community facilities, and public satisfaction with new housing developments.

The project group had many relevant findings. In terms of child yield, the group determined that a larger sample must be surveyed to create more accurate tables of child yield multipliers, although a housing survey can determine collect this information. For school enrolment, the survey data indicated that new state primary and secondary schools may be required in the Borough. Three main reasons for immigration and emigration were determined, the most interesting being that people move into the Borough to get closer to their place of work, and people leave the Borough to move into houses with larger gardens. The car ownership analysis showed that there were no problems with the present state of parking around new housing developments, but more data needs to be gathered in the southern parts of the Borough. Survey responses showed almost no dissatisfaction with the accessibility of health services, community facilities, and shops and services. Finally, survey respondents indicated widespread dissatisfaction with the outdoor spaces available in new housing developments, and a general satisfaction with many other aspects including room size, property design, and safety.

The second outcome was a Microsoft Access© 2007 project, designed to allow Council Services to continue analyzing the survey data, and to aid in analyzing data for any similar surveys conducted in the future. The project contained a database of all of the raw survey data, a function to import web survey data into the database, and a form to enter post responses. This database can easily be adapted for any future surveys conducted by the Council. The project can also execute pre-written filters and queries to organize the survey data by a variety of criteria. Finally, the project includes functions to export results for use in GIS maps for farther survey analysis. A manual explains all of this functionality with easy to follow, step-by-step instructions, so that Council Services can continue to use the Access© project after the project group leaves.

The final outcome of this project was a set of recommendations for conducting future surveys of a similar nature. These recommendations include both elements of the survey that worked well, such as the hybrid format, and problems encountered and how to avoid them, such as asking for a general consensus of the household for opinion questions, rather than asking each individual

member of the house, providing clearer instructions on how to fill out the household questions, and waiting at least two weeks before posting a reminder questionnaire.

This was the Kingston Council's first collaborative housing survey, and it met with some success. The project group was able to accurately determine child yield multipliers with different inputs, trends of school enrolment, and popular reasons for migration, and produced maps indicative of car ownership and parking methods, ease of access to community facilities, and satisfaction with new housing. Other aspects of the survey did not go as well, e.g. the time between the initial posting and the reminder posting was too short and the household questions were confusing to fill out which led to less valid data on families. The Microsoft Access© 2007 project, the manual, and the recommendations should all help Council Services to conduct future surveys. Overall, this project increased the Council's knowledge of new housing developments, and it paved the way for more collaborative surveys in the future.

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Chapter 1. Introduction

The Royal Borough of Kingston upon Thames (RBK) is located on the southwest edge of London along the River Thames. Kingston is named one of London's Royal Boroughs, because seven monarchs of England were coronated there during the Anglo-Saxon period. Today, it is an exciting place to visit—home to the second largest metropolitan town center in London, major tourist attractions such as Chessington World of Adventures, and a rich historical legacy.

The residents of Kingston represent a diverse population. Since the United Kingdom joined the European Union in 1973, immigration to England has increased, changing the demographics of the Borough. In 2001, ethnic minorities comprised 16% of Kingston's population, and 29% of London's population. In both Kingston and London, the proportion of ethnic minorities is projected to increase to 29% and 39% by 2026 respectively (Field et al., 2009). Immigration is an issue that the local government will have to consider seriously, since the growth rate for the ethnic population of Kingston is greater than the growth rate for the ethnic population of London as a whole. Alongside other factors, this will present challenges in meeting the future needs of its residents.

To address needs that have arisen due to population growth, the Kingston Council has adopted The Kingston Plan. The Council has also implemented a Core Strategy to meet the goals of the plan. One of the plan's objectives is to "increase supply of housing and its affordability" (Royal Borough of Kingston Council, 2009), and to meet this objective, the Core Strategy includes provision for the construction of 385 new homes per year. The Council has exceeded this goal by a small margin for the last five years. With such an influx of new homes, coupled with the increase in immigration, the Council does not have enough information on their new population to use as an evidence base for planning for the Borough.

The goal of this project is to conduct a housing survey in the Borough to gather up-to-date information from residents of new housing developments. The information will inform a variety of Council Services and contribute towards future policy formulation. With respect to housing completed (built/established) within the last 5 years, the following areas will be investigated and mapped as far as possible:

- Child yield
- Trends of school enrolment

- Migration
- Patterns of car ownership
- Access to community facilities
- Housing quality

While these factors appear to be unrelated, they fall under the more general category of aiding future planning policies for Royal Borough of Kingston. Child yield and school enrolment trends help more specifically towards identifying needs for new accommodations to schools, such as increasing the number of classes, or in planning for the building of new schools. The analysis of the data about car ownership and accessibility to community facilities will affect future planning policies, to adequately provide for residents' needs. The questions about residents' opinions on housing quality specifically aim to inform the Council's upcoming Residential Design Guide. Finally, reasons for migration subtly affect many future planning policies.

The project group distributed a housing survey carefully designed to maximize the response rate. The survey will include questions on residents' housing, family size, education, and work status, for determining child yield and enrolment. It will also contain questions about transportation, computer use, and ease of access to public facilities. All of this information will be useful to departments across the Council such as Economy and Regeneration, Learning and Children's Services, Housing and Planning, and Transportation.

This is the Kingston Council's first collaborative housing survey, so establishing a successful methodology is an outcome that is important as well. Future surveys will be based on the parts of this project's survey that worked well, and will consider recommendations to address those elements that were unsuccessful. As such, the project group will give the Council a subjective evaluation of the effectiveness of the methodology used.

Chapter 2. Literature Review

The following chapter will outline some of the known information that will pertain to this project. Kingston Council has never conducted a collaborative housing survey before. Consequently, determining an effective survey methodology for the situation is important. As such, most of the research below focuses on the effectiveness of different survey methodologies as well as how best to present the information for urban planning purposes. The research includes scholarly articles about conducting various types of surveys, comparisons of different survey methods, and case studies on previously conducted surveys. The section will begin with some background information on the Royal Borough of Kingston, followed by a description of the data the Council hopes to extract from our results. The section ends with research and case studies about GIS mapping, since it will be a useful tool of analysis for the survey's results.

2.1 Background

The name "Kingston" is derived from the Old English phrase "*Kyningestun famosa illa locus*" which, roughly translated, means "farmstead of the kings" (Dickens, 1995). More commonly, the name is attributed to the coronation of seven Saxon kings within the borders of Kingston, commemorated by the Coronation Stone upon which it is said that the kings-to-be sat as they were crowned. The earliest sign of an organized government in Kingston is the record of a council convened in 838 AD. It was officially named a borough in 1481 by King Edward IV (Dickens, 1995). The Royal Borough of Kingston was officially founded in 1965 by the merger of three municipalities as a result of the London Government Act 1963.

The following background information will establish the known demographics and the current housing situation in the Borough. This information was crucial to the Kingston Housing Survey, because researchers must understand the population structure that they are examining. For a survey to be successful, it must be designed to cater to its audience. The section will begin with a summary of Kingston's demographic information.

2.1.1 Demographics

According to the 2009 Borough Profile, Kingston is the smallest borough by population (about 160,000) in all of Greater London, as well as one of the most homogeneous communities (15.5% non-white, compared to 29% for Greater London) as shown in Figure 1. Projections based on the 2001 Census put the largest ethnic groups in Kingston as Indian (4.25% of total population) and non-Chinese Asian (4.12%), with most of those non-Chinese Asians being of South Korean descent (Klodawski, 2009; Klodawski, 2009). The town of New Malden has the largest South Korean expatriate community in all of Europe (Field et al., 2007; Field et al., 2008; Field et al., 2009). Other notable minorities in Kingston include Chinese (3.90%), Pakistani (1.59%), and Black African (1.26%), as well as sizable populations of Black Caribbean and Bangladeshi people amounting to 1% of the total population (Klodawski, 2009).

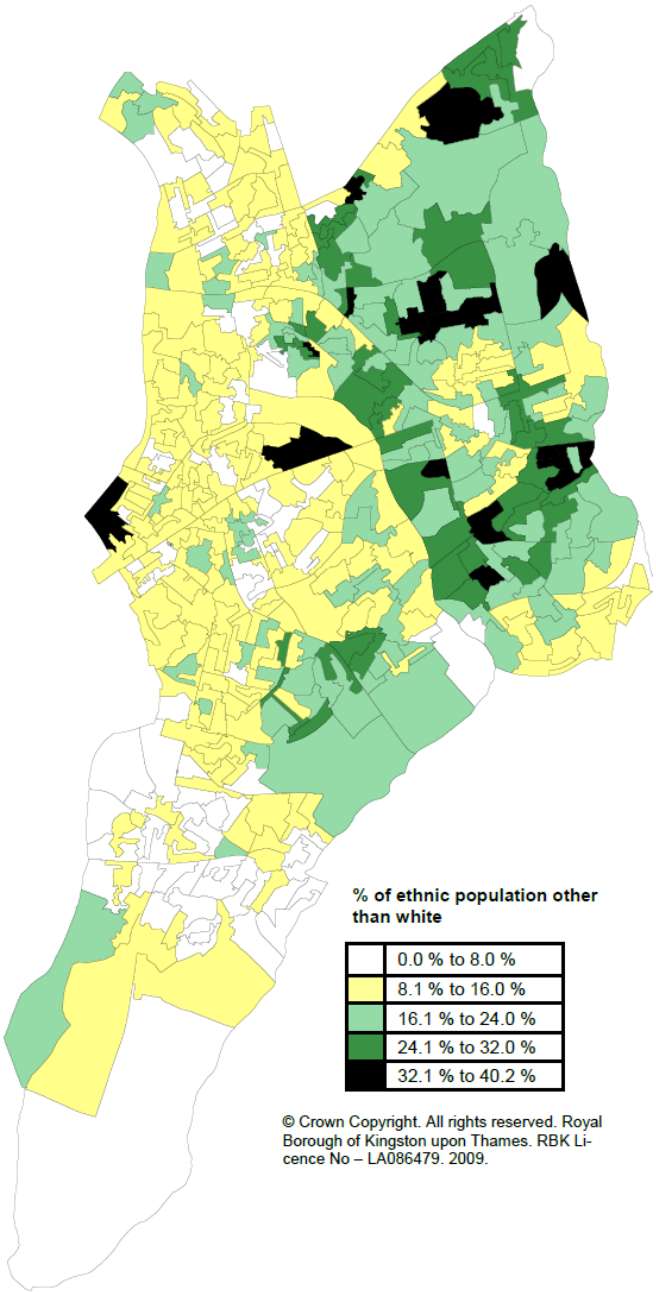

Figure 1: Ethnicity of Kingston (Field et al., 2009)

2.1.2 Housing and Income

Housing in Kingston consists mainly of owner-occupied and privately rented housing. There is a small amount of social housing, consisting of about 12% of the entire housing stock. The housing breaks down to 64% houses and 36% flats. However, new housing consists mostly of flats, since many of Kingston's houses were built decades ago. The average price of a house in Kingston was £279,128, which is about £35,000 less than the average house price in London. Also, in April of 2009, the average house price in Kingston dropped 21%, possibly due to the construction of new affordable housing (Field et al., 2009).

The focus of this project is on recent housing developments, specifically those completed (built/established) in Kingston within the last five years. This covers a wide range of housing. At the lower end, affordable social housing at Ely Court, Willingham Way (Kingston Town Neighbourhood) offers a range of options from one bedroom flats to five bedroom family houses (The Royal Borough of Kingston upon Thames, 2006).

Figure 2: Ely Court Housing, Photo by: David Kent

In the middle price range, the Borough has stand-alone housing developments that offer larger houses on separate plots. One such housing development is the development on the former Ministry of Defense land in Chessington, e.g. Ashlyns Way (South of the Borough Neighbourhood).

Figure 3: Housing Development in Chessington, Photo by: David Kent

There are also gated communities at the higher price range a concentration of which can be found in the Maldens and Coombe Neighbourhood e.g. Kingston Hill. These communities are made up of much larger houses, on larger plots of land. A final type of new housing in Kingston is in mixed-use developments, such as Charter Quay shown in Figure 4. These structures house both commercial

operations and residential space, using ground level real estate for retail—restaurants, cafes, and bars—and less accessible upper floors for living spaces (Cabe,). Charter Quay even provides underground residential parking.

Figure 4: Charter Quay, Photo by: David Kent

2.1.3 Section 106 Regulations

Section 106 of the 1990 Town and Planning Act, commonly referred to as "Section 106" or "S106," grants local planning authorities (LPAs) regulatory powers with regard to land development. The purpose of this law is to ensure the sustainability of new developments. In practice, Section 106 allows LPAs to place constraints upon development project specifications under certain conditions:

> Obligations can be used to implement planning policy through either prescribing the nature of a development (e.g. by requiring that a given proportion of new homes are affordable); or to secure a contribution from a developer to compensate for loss or damage created by a development (e.g. loss of a community facility) or to mitigate a development's impact on the locality (e.g. towards provision of infrastructure). The outcome of all three of these uses of planning obligations should be that the proposed development then complies with local, regional and national planning policies. (Aitken, 2010)

For example, a planning committee, upon analysis of its community's education infrastructure, may deem it necessary for a developer to construct new school facilities as part of a housing project. The committee's reasoning for the process would be that the increase in population indicative of new housing would result in an increase in enrolment for which the present education infrastructure would be unable to adequately provide (Whitehead, 2007).

To successfully implement the policies detailed by S106, LPAs must be able to anticipate the impact of land development by maintaining accurate historical databases and modeling techniques. The challenge then becomes that of collecting relevant data and deriving accurate correlations (Wade,

2004). Resources for data acquisition inevitably vary widely among communities. In some cases, planning committees may have direct access to many years worth of detailed housing records; however, if this is not so, some form of active data collection is required. Even with a strong database, LPAs must be proactive in periodic data collection to maintain the accuracy of their records.

2.1.4 Housing Survey

A housing survey can collect a variety of data about the residents of the Royal Borough of Kingston. As previously stated, the housing survey intends to collect a variety of data relating to:

- Child yield
- School enrollment
- Migration patterns
- Car ownership
- Access to community facilities and
- Housing quality

It may appear that these are unrelated factors but including them in this study supports cross-departmental cooperation within the Council regarding data collection and evidence based studies. For instance, the Housing Survey will supply data to a variety of Council services that are provided by different departments and contribute towards future policy formulation in all of them. In addition, working in a collaborative cross-directorate manner will ensure broader support and increased funding potential for future Housing Surveys conducted by the RBK.

Child yield data will be helpful for Learning and Children's Services and Planning as it informs how to best plan for school place demand and the potential need for remodeled or new schools. For example: would an increase in child yield require more classes to be accommodated in a school, or would demand be so great that a new school was required? If so, what age group would this apply to? In Planning, this information will feed into the Local Development Framework (LDF) evidence base and the emerging main development plan called the Core Strategy.

> The Core Strategy is a very important part of the LDF as it will shape future development and improvement and set the overall planning framework for the Borough. It sets a clear vision, closely aligned with the 2008 Kingston Plan as to how the Borough should look and function and how development needs will be met up to 2026. (Kingston LDF Team, 2009)

If the data emerging from the survey reveals an unexpected trend in child yield, it will act as justification for further research.

The reasons for collecting data regarding school enrolment are closely related to those of child yield. However, it is more important to gather specific information to determine whether or not children resident in Kingston attend schools within the Borough, and whether or not they attend state or private schools. Again, for both Planning and Learning and Children's Services this information is important not only to plan for demand on education facilities and the potential need for new or remodeled schools, but also to ascertain which types of education are (Rosser-Trokas,).

The subject of migration is of interest to all the departments involved in this study as it has a bearing upon issues such as housing, healthcare, community facilities and school place provision. In 2006 Kingston's population was 155,900. This figure is projected to increase by 2.8% in the period between 2006 and 2011 and rise a further 5.38% between 2011 and 2026 (Field et al., 2009). From 2001 to 2008, the major cause of this population increase was migration into the borough (Brunton, 2010). However, no research had been conducted to gauge the reasons why residents were moving specifically in and out of the Borough. This information would be useful for planning purposes as it could reveal policy gaps that need addressing in future.

With respect to car ownership, Housing and Planning Departments would find it useful to know whether housing completed in the last five years adequately provided for people's needs. For instance, if car ownership is high and their residence is a flat within a development that has been specified "car free", then this may put additional strain on on-street parking in the locality. Car free developments are generally located in areas of high public accessibility and the Council does not believe that they require parking provision. Additionally, residents in car free developments are not eligible to apply for on-street parking permits in those residential streets where they are required. If new housing in the Borough was not meeting resident's needs and displacing car parking issues elsewhere, then again, this would feed into future policy formulation (Rosser-Trokas,).

Resident's opinions on whether they have good access to community facilities would be useful qualitative data that may identify areas of deficiency in the Borough. If areas of deficiency were to be revealed by the survey and verified by qualitative research, then future planning policy would have to address these issues, perhaps by identifying areas of the Borough in which the S106 provision could be implemented to contribute towards new facilities.

Housing quality would be most relevant to the Planning Department. Resident's satisfaction with the quality of new housing could inform the formulation of design policy and forthcoming supplementary planning documents such as the Residential Design Guide. The Residential Design Guide would provide additional guidance to developers and householders on how to build high

quality homes that seek to "achieve a higher standard of design by helping to ensure that the best possible use is made of urban land whilst respecting the character and appearance of the surrounding area" (The Royal Borough of Kingston upon Thames Council, 2010).

For instance, if residents were generally dissatisfied with the quality of new homes, future guidance may have to be more stringent.

2.1.5 Project Scope

One of the most effective means of periodic data collection is the survey, which is "…highly efficient in bringing in a large volume of data-amenable to statistical treatment—at a relatively low cost in time and effort" (Coleman, 1958). The basic concept of a survey, of collecting data directly from *people*, can be wrapped in a variety of delivery and return methods, varying from the most basic form of personal interaction, to highly modern means using web-based forms and applications. Researchers must carefully consider the target audience in selecting a survey method to achieve the greatest accuracy and response rate. For this project, the project group used a housing survey, thus accuracy of information and a high response rate were especially important. Housing surveys gather mainly quantitative data on different types of housing and the characteristics of the residents of that housing. The focus of this project is to develop an effective housing survey for the Royal Borough of Kingston, implement the survey, and analyze the results. The Council needs accurate information, and, having never done this type of survey before, sufficient research must go into finding an appropriate survey method, as well as the best way to analyze and present the results of a housing survey.

2.2 Survey Methods Background

This section outlines the pros and cons of different survey methods. It begins with a general summary of commonly used distribution methods, followed by a comparison of different types of methods to each other, and how they apply to housing surveys.

2.2.1 Distribution Methods

The most basic form of a survey is face-to-face interaction with the target audience. In addition to the tendency for a larger response rate, this method provides for a highly qualitative response, as interviewees are free to comment as they see fit upon otherwise simple and dry inquiries. On the other hand, the surveyor must be especially careful not to show bias, or to allow the respondent's bias to overwhelm the response. For instance, Maria Krysan observed in her comparison of face-to-face and mail surveys that respondents are less likely to address controversial issues when polled in person (Krysan, Schuman, Scott, & Beatty, 1994). The face-to-face survey method is also highly inefficient in comparison to broadcast methods such as mail, electronic mail, and web forms, which

allow for large, potentially limitless numbers of respondents to be polled simultaneously with minimal surveyor resource expenditure.

Telephone surveys tend to suffer by the same limitations as the face-to-face method. In their conventional form, that of a surveyor calling a respondent, administering a questionnaire, and recording responses, the process still allows for the surveyor to conduct only one survey at any given time. Also similar to the face-to-face method, respondents tend to answer more positively with regard to opinion questions (D. A. Dillman, Sangster, Tarnai, & Rockwood, 2004).

The mail survey remains a powerful investigation tool in western culture thanks to the wide availability and low cost of postal services. The principle advantage of a mail survey is that it allows researchers to send out a large number of questionnaires over a short period of time. Unlike electronic surveys, a mail survey tends to target broader populations, rather than those with personal computer and Internet access (Shih & Fan, 2008). The mail method also tends to receive more accurate responses to opinion questions than methods with direct interaction with a surveyor. This combination makes mail surveys ideal for large target audiences of varied composition (Krysan et al., 1994).

As technology advances, alternative methods to paper and pencil are increasing. These alternative methods are relatively new, and most have not been extensively tested, but they do have some unique characteristics that make them useful in certain situations. For example, a more technologically advanced mode of telephone surveying, called Interactive Voice Recording (IVR), employs a prerecorded questionnaire and recorded vocal or touchtone (key pad) responses. This method allows for more automation than face-to-face and traditional telephone surveys, but still tends to experience a degree of limitation not inherent to web or mail surveys. That is, that the telephone system allows for only one call to be placed upon a line at any given time, and the resources required to conduct many simultaneous surveys tend to be costly compared to broadcast mailings or e-mails. In addition, response rates of IVR surveys tend to be less than those of mail and traditional telephone surveys (D. A. Dillman et al., 2004).

In a similar fashion, electronic mail (e-mail) surveying serves as a modern alternative to conventional mail surveys. Since e-mail is still relatively new, response rates are often low. Another downside to e-mail surveying is that if surveyors are not careful, e-mail surveys can have a limited sample, usually skewed toward middle- to upper-class white males (Yun & Trumbo, 2000). Another unique problem with e-mails is that large e-mail surveys can create technical problems, i.e. some e-mail clients will convert large messages into attachments, some will not, and some e-mail clients cannot send or

receive e-mails over a specified size limit (Couper, Blair, & Triplett, 1997). This especially creates problems when the recipients of an e-mail survey use many different e-mail clients. Because of this problem, “the technical limitations need to be overcome before e-mail can be routinely used for surveys of large and diverse populations across multiple organizations” (Couper et al., 1997).

The advantages of e-mail, however, can arguably outweigh its disadvantages. Scholars agree that the greatest advantage of e-mail surveys is their speed (Couper et al., 1997; Swoboda, Muhlberger, Weitkunat, & Schneeweib, 1997; Yun & Trumbo, 2000). E-mail surveys can also be extremely widespread, as Swoboda et al. demonstrated with their world-wide survey that received 90% of their responses (the survey had a 20% response rate overall) in only four days (Swoboda et al., 1997). E-mails are also both inexpensive and environmentally friendly, since e-mail eliminates the need for paper (Yun & Trumbo, 2000). Even the usually low response rates of e-mail surveys can be raised by pre-contacting recipients about the survey to give them some notice in advance (C. Cook, Heath, & Thompson, 2000), by sending follow-up e-mails to remind people to complete the survey (Shih & Fan, 2008), and by including some type of incentive to respond (Tse, 1998).

Another effective survey method made possible by the Internet is surveying by means of a web form or web application. Web-based surveys have problems similar to e-mail surveys in terms of reaching an appropriate sample, since web surveys also require access to an Internet connection (C. Cook et al., 2000). Like other electronic surveys, web-based surveys do not require paper and therefore cost less, and are better for the environment. Web-based surveys do have two unique positive characteristics, though. The Internet has the capability of supporting complex graphics, including animations, which can make a survey more pleasing to the eye (C. Cook et al., 2000; Yun & Trumbo, 2000), and by using scripting languages like JavaScript, web-based surveys can use “automatic question filtering”, thereby facilitating the questions asked in a similar manner as an interviewer would (Yun & Trumbo, 2000). The problem with web-based surveys is that they need to be distributed by another means, for example the URL for a web-based survey could be sent out by mail or e-mail, or the survey could be linked to by an already well-established website. If this problem can be overcome, researchers agree that web based surveys have great potential (Brown, 2005; C. Cook et al., 2000; Yun & Trumbo, 2000).

Another electronic surveying method being explored by researchers is surveying with facsimile, or fax, machines. A fax survey is basically a combination of a mail and a telephone survey, since it “permits researchers essentially to send a mail survey by telephone” (Dickson & MacLachlan, 1996).

These surveys are fast and inexpensive, but they require the recipients to have their own fax machines, and they do not allow the sender to include any incentives or a pre-paid return system.

The last electronic surveying method that is becoming more widely used is polling by Short Message Service (SMS), also known as text messaging. This method of surveying has become popular for television shows or at events with large crowds. At the current stage in SMS technology, SMS surveying requires "sending out a single, well-designed question to a defined database" (ITWeb, 2009). Computer programs can then send out specific responses based on the answer from recipients of the survey to ask for further information, but this gets complicated for a survey with anything more than a few questions.

Researchers have also discussed newer non-electronic surveying methods as well. There have been examples lately of combining case studies with surveys. Usually, a project will get enough information on public opinion by using only a case study (a qualitative method) or only a survey (a quantitative method), but some problems can benefit from using a combination of surveys and case studies (Gable, 1994). This idea is not new, but in the past it was rarely implemented. In his 1973 article, Sieber identifies three types of data: "(1) frequency distributions, (2) incidents and histories, and (3) institutionalized norms and statuses" (Sieber, 1973), and if all three types of data are required, using only a qualitative or a quantitative method will not suffice, and Gable agrees that this idea still holds true. Some situations that require a researcher to "understand the nature and complexity of the process taking place" and "document the norm, identify extreme outcomes, and delineate associations between variables in a sample can best be accomplished using a combined case study and survey " (Gable, 1994).

Researchers have also suggested combining different types of surveys, or mixed-method surveying. This can allow different survey types to offset each others' weaknesses, strengthening the survey overall. For example, combining web-based surveys with mail surveys, essentially allowing the recipient to choose to answer either by web or by mail, can yield a high response rate in a short amount of time. Yun & Trumbo tested this idea and found that "using multi-mode survey techniques improved the representativeness of the sample, without biasing other results" (Yun & Trumbo, 2000).

2.2.2 Methods Comparison

The question now is, with all of these survey methods, which would be the most effective for conducting a housing survey? Each method has its own advantages and disadvantages, and, based on current scholarly opinions, some are better suited to tasks such as housing surveys than others.

Looking at the well-tested older survey methods, mail surveys seem best suited to a housing survey today. Face-to-face interviews require many individuals to reach a sufficiently large sample over a widespread area, and a housing survey needs a large number of responses for accuracy. Another issue with face-to-face surveys is that people will respond differently to different interviewers. A recent study in the United States showed that interviewers of different genders and races greatly affected sensitive questions about behavior, but more surprisingly some non-sensitive questions about behavior were also affected (Raghunathan, 2009). However, face-to-face interviews can gather useful qualitative information which can supplement the quantitative data of a survey, giving a more complete picture of the housing situation (Gable, 1994).

With respect to telephone surveys the response rates are much lower today than they have been in the past (Tourangeau, 2004). Other than response rate, telephone and mail surveys also produce different response content. Researchers agree that telephone surveys produce a *recency effect*, i.e. people recall information better at the end of a list, whereas mail surveys produce a *primacy effect*, or better recall of information at the beginning of a list. Dillman et al. further examined the differences in response quality and created a chart detailing the differences in response between telephone interviews and mail surveys, as well as the causes of these differences, as shown in Figure 5:

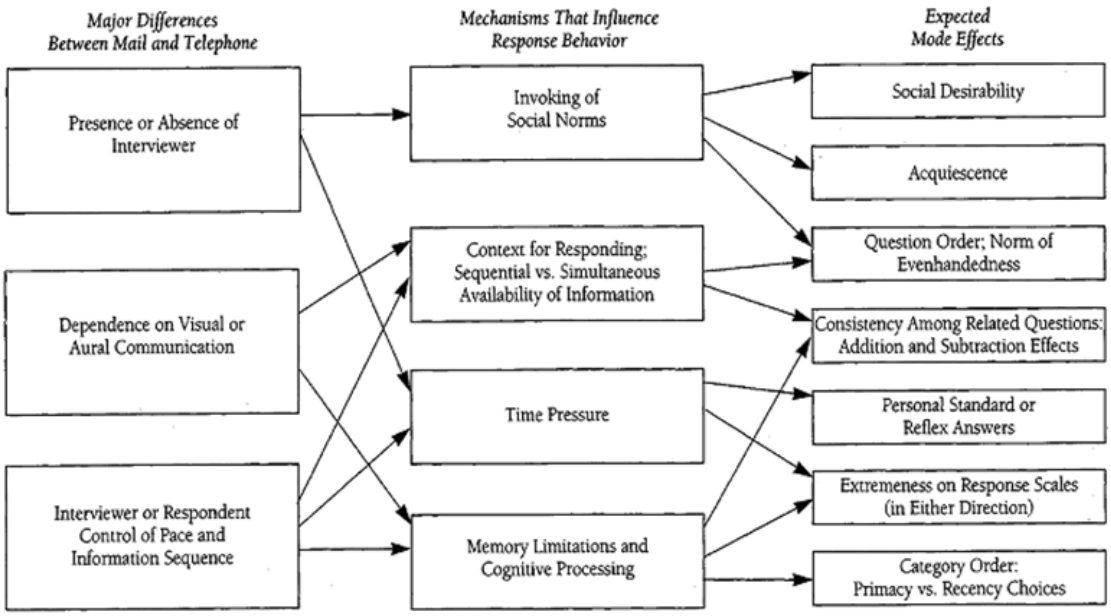

Figure 5: Differences Between Mail and Telephone Surveys (D. A. Dillman et al., 2004)

With relevance to a housing survey, the time pressure of telephone interviews can cause respondents to answer quickly and sometimes inaccurately, where a mail survey allows time to look up information and report more accurately.

Electronic methods can be just as effective for a housing survey as paper and pencil survey methods. E-mail can be just as effective as mail surveys for conducting housing surveys. E-mail surveys usually have a lower response rate than mail surveys, but as a trade-off they have a faster response time (Couper et al., 1997; Shih & Fan, 2008; Yun & Trumbo, 2000). They are less expensive, more environmentally friendly, and require less work in terms of stuffing envelopes (Yun & Trumbo, 2000). They also require less work in terms of combining the results, since computer programs can automatically export response data into spreadsheets. E-mail surveys are superior to mail surveys in this regard, but the e-mail survey's biggest weakness is its inherently limited sampling. E-mail surveys require more work in choosing an appropriate sample and rely on accurate and up-to-date databases. However, if the resources are in place, an e-mail survey is a valuable method.

Of the other electronic methods, fax and SMS surveying are less useful in this case, because fax surveys are ineffective in the consumer market (Dickson & MacLachlan, 1996), and housing surveys are too complicated for SMS surveying to carry out in an efficient manner. Web-based surveys, however, can be just as useful as e-mail surveys in terms of response rate and content of response (Cook et al., 2000; Brown, 2005). The response time of e-mail surveys is faster than that of web surveys, but web surveys still get quick results (Yun & Trumbo, 2000).

Brown suggests that one could use either a web survey or an e-mail survey interchangeably, with the only difference being that people will be more likely to disclose sensitive information for a web-based survey, since web-based surveys appear to be more anonymous, as they do not require linking one's response to one's e-mail address (Brown, 2005). For a housing survey, either an e-mail or a web-based survey should gather the same information, since housing surveys do not contain many sensitive questions about behavior.

A study by the Office for National Statistics estimates that 80% of all London households have Internet access, compared to a 70% national average (M. Pollard, 2009). Of all households in England with Internet access, 90% of them report having broadband access (M. Pollard, 2009). This means that along with the traditional mail survey, e-mail and web-based surveys are both valid alternatives to conduct a housing survey of the Royal Borough of Kingston. The only disadvantage is that the Borough does not have a list of its residents' e-mail addresses, rendering a large-scale e-mail survey

almost impossible. Therefore a mixed-method survey, combining a mail survey, a web-based survey, and face-to-face interviews, will be implemented.

2.3 Survey Case Studies

This section examines how different surveys have been carried out in the past, and how effective they were. Included are the Wandsworth, Brent, and Oxfordshire housing surveys, as well as a few other surveys conducted online that have a similar target population to this survey. Combined with local knowledge, these case studies provide a useful resource, as they show what survey methods have been successful for this type of survey, as well as what types of questions are appropriate.

2.3.1 Wandsworth Survey

The Borough of Wandsworth conducted a successful postal (mail) survey that gathered information about housing developments in the inner city borough and the demographics of the area while making a model for other boroughs of London to follow. The Wandsworth survey was conducted in 1997, in 2004, and again in 2007. The survey in 2004 received a much higher response rate than the original, by using a few different techniques to help increase response. These techniques included offering a free drawing for a cash prize, sending out two reminder letters, ensuring confidentiality, and enclosing an FAQ sheet and a self-addressed envelope. The first place winner of the drawing received £250, the second place winner received £150, and six runners up received £50. The reminders significantly increased the response rate in both the 1997 and 2004 surveys, as shown in Table 1 below. The table has data of the original survey response rate as well as the new, improved survey and its response rate. The 2004 survey attained a much higher response rate initially and had a 24% increase after the second reminder. This indicates that the reminders were important in acquiring a better response rate as shown in Table 1.

	Valid Responses	Response Rate	2004 Survey
Initial Letter	917	17%	25%
First Reminder	1461	26%	34%
Second Reminder	1926	35%	49%

Table 1: Wandsworth Mail Survey Response Rate (Pollard, 2007, p. 10)

The survey and the reminder letters clearly stated the purpose of the survey and ensured that the recipients' confidentiality would be protected. The first page of the survey was an FAQ sheet which stated,

> "Your views are very important in helping us to find out how well our housing and planning policies work and how they can be improved. Your answers will also help us assess the

> increased demand on local services as people move into new developments e.g. for doctors, schools and public transport. This information will be used to shape future planning policies and secure investment to ensure that local communities benefit from improvements to their area through new development." (C. Pollard, 2007)

Having a clear purpose stated in the FAQ section is important to ensure that the respondents will not question what their responses will be used for (C. Cook, 2004; Corporate Communications Unit Wandsworth Council, 2005; C. Pollard, 2007).

Even though the context of Wandsworth is not identical to the Royal Borough of Kingston, their Housing Surveys provide excellent examples of how to successfully conduct housing surveys in a London borough. They had similar goals to this project, collected the same kind of information that Kingston needs, had a high response rate, and are useful resources to base Kingston's housing survey on.

2.3.2 Brent Housing Survey 2008 IQP

The Brent Housing Survey was conducted in 2008 in London. The group followed many of the same methods as the Wandsworth survey. Their survey was successful overall, but not to the same degree as the Wandsworth survey, with a final response rate of 17.9%. Due to time constraints, the group was able to send only one reminder. Another difference the group made was that they included less open-ended questions in the survey. As indicated in the findings from the Wandsworth survey the second reminder was a useful way to achieve a higher response rate. The survey ended with demographic questions similar to the Wandsworth survey. Even with the small response rate the group was still able to make predictions about the Borough of Brent because the population was accurately represented in the response sample (Richardson, Lawrence, Heath, Cialdea, & Hansen, 2008).

The Brent Housing Survey shows many of the same successes as the Wandsworth survey, but it also outlines the importance of sending reminders, and it shows how another group based their housing survey on the Wandsworth survey, with some success.

2.3.3 Oxfordshire Housing Survey

The Oxfordshire Housing Survey was another successful postal survey. Oxfordshire County Council implemented it to determine how new housing developments will affect schools and transportation in the county. They conducted three surveys: one in 2004, another in 2005, and a final one in 2008. The survey was not accompanied by an FAQ sheet and sent only one reminder.

The Oxfordshire Housing Survey received a response rate of 54.1% in 2004, a response rate of 46.6% in 2005, and a response rate of 32.6% in 2008. Each survey was slightly changed each year. The first

was a six question survey, the second was an eight question survey, and the last was a twelve question survey. Each survey built on the surveys from previous years—in the second survey they added questions about 19-year-olds, and in the third they added questions about individuals under the age of 31. As the surveys increased in length, they received fewer responses.

Notably, the format of the survey is different from the Wandsworth survey. The Oxfordshire survey used tables to acquire information about the respondents instead of lists of questions about the same information, and it asked no questions about respondent demographics (Doherty, 2009; Melling, 2004; Melling, 2005).

Like the Wandsworth survey, this is another example of how to conduct a successful survey in the UK. However, this survey represented a more rural area than RBK and also made some errors that should be avoided. For example Oxfordshire did not emphasize the importance of each individual response, include an FAQ sheet, or use simpler question structures.

2.3.4 Survey2000

The National Geographic Foundation conducted a web-based survey called Survey2000. Their goal was to gather both demographic information and opinions on culture. It had over 80,000 responses, mainly from Americans and Canadians, and the sampling was comparable to other major surveys.

> "Data collected in Survey2000 falls into several clusters: (a) respondents. demographic characteristics, including the extent and duration of their Internet experience; (b) migration histories; (c) measures of community and community orientation; and (d) indicators of cultural values and tastes in food, music, and literature" (Witte, Amoroso, & Howard, 2000).

This indicates that Internet surveys can collect a wide range of data.

Survey2000's sample was compared to the samples of the 1997 Census and the 1993 and 1996 General Social Surveys. As seen in Table 2 below, the sample was comparable to the other surveys with the exceptions that Survey2000, which had a higher representation of respondents that were of white race and those who generally had a high level of education.

	Survey2000[b]		1996 General Social Survey		1993 General Social Survey		1997/1998 Census Bureau[c]	
	%	N	%	N	%	N	%	N (in thousands)
Gender								
Female	48.9	15,147	55.7	1,614	57.3	918	51.9	100,954
Male	51.1	15,801	44.3	1,283	42.7	683	48.1	93,474
Median age in years	38		44		43		40-44	
Race								
Black	1.4	428	13.9	402	11.2	179	11.6	22,590
White	94.5	29,004	80.9	2,344	83.9	1,343	84.0	163,368
Other	4.1	1,268	5.2	151	4.9	79	4.4	8,472
Education								
Less than high school degree	0.9	292	15.2	441	18.1	289	17.9	35,246
High school degree	31.9	9,882	54.1	1,567	52.5	840	52.9	104,334
Associate's degree	7.8	2,421	6.7	194	6.2	99	7.1	13,996
Bachelor's degree	34.1	10,569	16.3	471	15.8	253	15.2	30,087
Graduate degree	25.2	7,785	7.7	224	7.4	118	7.0	13,750

Table 2: Demographics of Survey2000 (Witte et al., 2000, p. 187)

Survey2000 placed its demographic questions at the beginning of the survey, as opposed to both the Wandsworth and Brent surveys, showing that demographic question placement does not appear to affect the results. National Geographic was able to have a successful Internet survey because they used their own website as a means to promote the survey (Witte et al., 2000).

Survey2000 shows the capabilities of web surveys, and makes a strong argument that a web survey could be an effective surveying tool for Kingston in terms of getting an acceptable response sample.

2.4 Geographic Information Systems

Data analysis tools are of the same importance to useful survey results as is selecting an appropriate survey method. A Geographic Information Systems (GIS) is one type of such analysis tools. GIS allows records in a dataset to be associated with spatial positions. For the user of GIS, this technique allows records to be placed upon a two or more dimensional map for visual analysis. Additionally, algorithms can be used to find trends in data which can be transposed as layers upon the original, or "Base" map. The ability to render data in more dimensions than the two of a table or graph allows users to visualize data from many sources in a single environment, and draw conclusions that otherwise would not have been discernable (Environmental Systems Research Institute, Inc., 2009).

The root of GIS is georeferencing, or the accurate representation of spatial locations on a map, in this case from somewhere on the earth's surface. A common method of georeferencing is to use latitude and longitude; however, the radial system (Figure 6, Left) used to denominate global coordinates requires moderately complex calculations to determine distance. Another method is to

use a Cartesian grid, but this does not account for the curvature of the earth over large distances (Environmental Systems Research Institute, Inc., 2009).

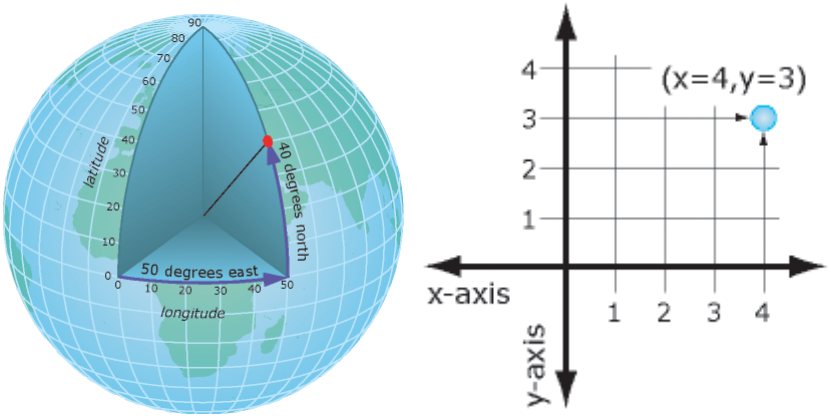

Figure 6: Latitude and Longitude vs. Cartesian Grid (Environmental Systems Research Institute, Inc., 2009)

GIS is a broad technological field, and has many applications. The following sections detail a few of these applications that will be helpful for this project.

2.4.1 Urban Development on a Local Level

An important role for local governments in urban areas is that of planning how the constituent city will be expanded. GIS can be a useful tool for urban planning, as it can both show the layout of the city on a map, and show relevant information such as population density. The following two case studies provide examples of the power of GIS systems in local government planning, whether by the relatively simple analyses performed in Daata Gun Bukhsh Town (Hussain, Qureshi, & Siddiqi, 2005), or by the more complex analysis performed in Tan Phu Thanh Village, Vietnam (Shandas, 2004).

In Daata Gun Bukhsh Town, Pakistan, the population was rapidly expanding. The local government needed a means to account for this increase. Their first step was to bring the current level of knowledge about the town up to date. To do this, they used existing maps and databases, preformed field surveys to gather missing information, and conducted interviews accompanying the surveys. The local government then showed that GIS mapping could be used for many planning purposes, such as determining school catchment areas and calculating optimal routes from commonly used places to alleviate traffic congestion (Hussain et al., 2005).

Another example is Tan Phu Thanh village, Vietnam, where the local government implemented GIS to determine the optimal use of the village land. The local government gathered data from both existing maps and socio-economic surveys. They plotted the collected data on a map of the village and then analyzed the data with complex mathematical formulas—with, among other things,

distances to markets, houses, schools, rivers, roads, and availability of supplies as inputs—to determine the best use of their land (Shandas, 2004).

Both of these examples show the application and value of GIS to local governments, such as the Kingston Council. The Planning Department of the Council recognizes these benefits and already uses similar GIS methods for borough planning, so this project will use GIS as well.

2.4.2 School Planning

Another example of a GIS application is for school planning. The capability of GIS software to locate regions based on certain criteria, such as population density of school-aged children and distance to existing schools, makes it an ideal tool for establishing where new schools are needed. After gathering records on population density of college-aged children and current college locations, researcher Alshehri Mushabab used a GIS program to ensure that new colleges would be in populated areas without causing excessive congestion. The application of a GIS made these calculations quickly and efficiently following data collection (Mushabab, 2009).

2.5 Conclusion

Social scientists have been using surveys for many years, and have developed a variety of opinions regarding which surveys are most effective in particular situations. The above research shows that, when used for a housing survey, traditional mail surveys are often employed successfully because of their broadcast format. Mailings allow a small number of surveyors to contact vast samples in short time periods. Telephone and face-to-face interviewing, on the other hand, are not as effective for large samplings, as they require a number of surveyors proportional to the sample size, but interviews can still gather supplemental information. E-mail and web-based surveys could prove to be a useful alternative method to the traditional mail survey, as long as the population being surveyed has an Internet connection.

A housing survey can gather a variety of data; this project's survey aims to collect data relating to child yield, school enrolment, migration, car ownership, accessibility of community facilities, and housing quality. The above topics are important for future planning policies. Child yield multipliers and school enrolment trends can help with remodeling or building schools. Migration affects many aspects of planning and may help fill gaps in future policies. Car ownership has a role to play in planning policies on on-street parking. Accessibility of community facilities is based on residents' opinions, and using S106 provisions, the Council can improve accessibility to community facilities, making the community happier. Housing quality as well is based on residents' opinions on design, and this can help with the production of the Residential Design Guide.

Much of the data that a housing survey aims to gather can be presented in the form of GIS maps. For this project, child yield and school enrolment can be mapped to specific areas of the Borough, and car ownership, accessibility of community facilities, and housing quality can all be shown using heat maps. GIS provides an excellent way to present information gathered in a housing survey, and once the data is in place in a GIS, further analysis can be done for planning purposes even after this project is finished.

Chapter 3. Methodology

The objectives of this project are to conduct a housing survey to gather information on residents of new housing developments, to use that information to establish child yield multipliers, trends of school enrolment, migration patterns, patterns of car ownership, ease of access to community facilities, and opinions on housing quality, and to map the results. To accomplish these objectives, we divided the project into three tasks: develop the housing survey, deploy it, and compile its results.

3.1 Development of Survey

The development of our survey was just as important as the actual implementation. Choosing an appropriate method and sample, and then writing a survey that would be well-received by the target population, was a process that required thorough research. This section explains the design of the survey.

3.1.1 Establish Method and Sample

The first step in developing our survey was to choose the most appropriate method for the Borough. Based on our research, we determined that mail surveys work well for conducting housing surveys. Mail surveys can reach many people in a short period of time, and researchers in England have used them in the past decade to conduct numerous housing surveys (Borough Planner, 2007; C. Cook, 2004; Corporate Communications Unit Wandsworth Council, 2005; Doherty, 2009; Melling, 2004; Melling, 2005). It would have been desirable to implement an e-mail survey, but the Borough did not have a comprehensive list of e-mail addresses from which to draw a sample. Therefore we decided to implement a hybrid survey which combined mail and web-based surveying techniques and face-to-face interviews. It was primarily a mail survey similar to the Wandsworth Housing Survey, but also included an optional link to fill out the survey on a web form, to give recipients more options to respond and to save us time with response data entry.

The next step in developing the survey was to select an appropriate sample. We first had to define our target population. Following discussions with members of the RBK Housing Survey Project Group it was agreed that it would be most appropriate to target those developments built or repurposed within the past 5 years. This was because the Council believed that the data for completions over this period of time was reliable. This consisted of approximately 1865 households. Since the target population was a manageable size, we sent the survey to every household, instead of using a sample. This would, in theory, result in a minimum of 400 responses (assuming a 20% response rate) per survey, which would yield a maximum error of 2.5% in our data. However, anecdotal evidence

suggests that a 10% response rate is more realistic in the RBK, which still puts our maximum error in the range of 2.5%-5% (Singleton, Straits, & Straits, 1993).

3.1.2 Development of Questions

In general, the survey questions were non-sensitive questions about behavior that were most appropriate for gathering quantitative data. The general consensus among social scientists is that non-sensitive questions about behavior should be written in closed form wherever possible (Groves, 2004; Nardi, 2003), and both the Wandsworth and Oxfordshire housing surveys followed this strategy.

This was the first collaborative housing survey conducted by the Borough and the Council needed to research good practice examples to inform the production of a questionnaire. The London Borough of Wandsworth has been conducting housing surveys for many years which have been relatively successful. We agreed that it would be beneficial to build on Wandsworth's experience by adapting our questions from their 2008 questionnaire and making them more appropriate for Kingston. This is an approach supported by Singleton et. al, "of all the raw materials available to the survey researcher, perhaps the most important are questions that have been used in previous research" (Singleton et al., 1993), and the Council used this idea. Planning Services then modified the questions to suit the purposes of Kingston.

The basic questions, including dwelling type and number of bedrooms, residents' tenure, and household type aided in establishing the nature of new housing developments and gathered data for comparison with other questions to establish trends such as child yield. Questions 11 and 12 asked respondents to rank their reasons for moving into and out of their current housing, both of which were used to determine migration patterns. Question 14, regarding ages of householders served two purposes: it gathered demographic data for equalities monitoring and allowed us to determine how many children were in the household. Questions 16, 17, and 18 were used to determine school enrolment, including the number of children attending schools outside of the Borough. By asking for the information three different ways, the questions acted as a validation for each other in case any one answer was unclear. Other questions were all rather straightforward in the information they aimed to gather. These included inquiries into car ownership, community facilities, and household satisfaction, all of which all of which are considered to be notable issues in Kingston by the Council.

After our survey's questions were completed, we revised them for simple and straight-forward wording. We also added additional answers to closed-response questions to ensure that respondents had the widest possible range of response options available (Groves, 2004). We

modified the order of the questionnaire to group questions in a logical, thematic order. We also broke any questions that were unnecessarily long and potentially confusing into smaller pieces. The purpose of these changes was to make the survey as easy as possible for respondents to complete quickly and accurately.

Once we finished modifying the questionnaire, it was distributed to interested departments within the Council who suggested additional questions that would make the analysis more useful to their respective departments. Those questions were incorporated into the final edition.

3.1.3 Formatting of Questionnaire

The format of the questionnaire was based on the 2008 Wandsworth example. To maximize the questionnaire response rate further, however, we made the questionnaire as visibly compact as possible. In addition, the Council's envelope stuffing machines could only fill envelopes with six sheets, which, accounting for the cover letter, instructions, accessibility options, and FAQ sheet, left only three sheets for the questionnaire. Due to this limitation, we had to combine groups of questions covering similar topics into single questions, whilst ensuring the questions were easy to understand.

The questionnaire followed a progression from individual questions to household questions and ended with equalities monitoring questions. The individual questions pertained to the household as a whole, for the person filling out the survey to complete. Figure 7 is an example of an individual question.

Q6 Where did you live previously?	
	Tick
Royal Borough of Kingston	☐
Elsewhere in London	☒
Outside Greater London but within U.K	☐
Outside U.K. (please specify)	

Figure 7: Individual Question

The survey then asked a series of household questions, which pertained to up to seven individual members of the household, as seen in Figure 8.

Q18 Where is your main place of work, school, nursery, college, or university?	Person						
	1	2	3	4	5	6	7
Royal Borough of Kingston	X	☐	X	☐	☐	☐	☐
Other Borough (Please specify)	.....	Merton	.....	.....	.....	.....	.....

Figure 8: Household Question

The equalities monitoring questions at the end of the survey asked for demographic information about the person filling out the questionnaire, to find out what groups of people had completed the survey and what groups were missed.

The final aspect of formatting the questionnaire involved upholding the Kingston Council's strong public profile. The Council uses a style guide detailing the formatting of all of their publications, and we had to make sure that the questionnaire was consistent with this guide. Most of the changes were small, for example the logo had specific requirements about its placement, and the font of the questions had to be sans serif and size 11 or greater for readability.

With the questionnaire fully written and formatted, we sent the questions to the Council's web team. Using an online survey program called SurveyMonkey, they adapted the print questions into a web form, appropriately formatted according to the Council's style guide.

3.1.4 Completion of Survey

The questionnaire comprised about half of the entire survey. The whole package contained many other parts, including a cover letter, a Frequently Asked Questions (FAQ) sheet, an instruction sheet, and an accessibility options page. We included each of these sections to help increase the accuracy and response rate of the survey.

The cover letter was a general description of what the survey was and why the Council was conducting it. It intentionally left out specific details in favor of being more persuasive and easy to read. The cover letter did, however, clearly state important information for the recipient about completing the survey, including the return date, the inclusion of a free post envelope, a link to the online survey, and information about the incentive, a free draw for a £100 voucher to any store (the Council cannot support any one particular store, so the choice went to the winner of the drawing) in the Borough of Kingston.

The FAQ sheet was a companion to the cover letter, giving slightly more detailed information to the recipient if they were interested in reading it. We put the FAQ sheet on the back of the survey, so that when a recipient took the survey out of the envelope, it would be one of the first things he saw

as he flipped the document over and examined it. Some information that the FAQ sheet gave that was not on the cover sheet was why each individual recipient was important to the survey and what each individual had to gain by filling out the survey. Finally, it reiterated the web survey option, to increase the chance that recipients would see it and choose to take the survey online instead.

Preceding the questionnaire, we included an instruction sheet to clearly show the recipient how to answer the different types of questions. Also, it provided a final place to remind recipients that they could take the survey online. With three mentions of the web form, we hoped that it would be difficult for anyone to miss the Internet address due to a quick read-through.

Finally, we included a page detailing accessibility options. Accessibility of publications is one of the services provided by the Council, and it extended to this survey as well. The Council offered the recipients of the survey a helpline to call if they needed the survey in different languages, in large print, or as an audio tape. This was important as it recognized diversity, helped recipients who could not normally answer a survey to respond to this one, and helped maintain the Council's strong public profile.

3.2 Deployment of Surveys

Although a survey's content, layout, and formatting dramatically affect respondent acceptance and response validity, we cannot overlook the method in which the survey is presented. Surveyors must consider how accessible a given polling method will be to respondents, and what effects this will have upon sample validity (Inter-university Consortium for Political and Social Research, 2003).

3.2.1 Post Survey

The original design for this project called for a number of surveys in both post and electronic form; however, upon our arrival in Kingston, we realized that the time frame for these objectives was not realistic. To accomplish the goals of the project, we devised a single hybrid survey. The implementation of this hybrid survey consisted of a questionnaire distributed via post, and made available to post recipients via a public web site. Because of the degree of success of the Wandsworth Housing Survey in its respective borough and the Royal Borough of Kingston Council's familiarity with it, we based the format of the questionnaire for the Kingston survey heavily upon that of Wandsworth.

We believed that post surveying would have inherently reliable distribution. That is, because the project would target home-owners or tenants, it was nearly assured that the survey material would reach its destination via the UK postal service (D. A. Dillman et al., 2009). This assertion was,

however, dependent upon the validity of our recipient addresses, which we will discuss subsequently. The post survey package included a cover letter from the department head, an instruction sheet detailing each type of question, and an FAQ sheet, in addition to the questionnaire and a prepaid response envelope. A reminder package would follow the initial posting, which we distributed one week after the initial questionnaire. We manually entered responses via post into a database discussed in Section 3.2.4.

As mentioned above, delivery of a post survey depends upon the validity of its recipient address. The Department of Strategic Planning and Sustainability had direct access to planning requests for housing construction, modification, and conversion, but did not have complete postal data for these requests, as the parcels' street names and numbers and post codes would commonly change after construction or modifications were completed. We used the Council's GIS database system, called the Integrated Spatial Information System (ISIS), to generate an address list of the past five years' housing growth, by querying tables containing street name and number data. This method succeeded in verifying the addresses of roughly 1,300 of 1,500 planning applications. To verify the remaining 300 or so applications, we performed manual searches in the ISIS database, and used the system's mapping features to identify newly formed parcels and flats.

3.2.2 Web Based Survey

The Hyper Text Markup Language (HTML) is a simple programming syntax used to store and transfer formatted data. The use of HTML to distribute large-scale surveys, like e-mail, is highly cost effective. However, unlike email distribution, a web form, upon submission, stores user responses in a database record which computer software can then process and sort, with no need for a surveyor to manually enter data (Solomon, 2001).

The Royal Borough of Kingston Council uses an out-of-house service called SurveyMonkey to conduct periodic web surveys. This service allows for rapid production of high quality web questionnaires, but introduces a number of limitations in functionality (Marra & Bogue, 2006). In particular, the service includes response tracking which is oriented towards email distribution by sending recipients a message containing a unique hyperlink. Unfortunately, the Council did not possess a comprehensive list of e-mail addresses of its residents, and SurveyMonkey does not allow surveyors to access a list of unique links which would otherwise be mailed to survey recipients. To allow the Council to track responses to these web surveys, the web form provided the respondent with an initial page which requested an "access code" provided on the post survey. This access code was stored in a table with address information and other identifiers which we will discuss in greater detail in the next section.

3.2.3 Mail Merge

A mail merge is a technique used to automatically personalize a form document for a number of recipients. There are many tools available with a wide range of functionality and price to accomplish this task; however, most products have several common elements, including a database table to store sets of values and a template document with fields to be filled from the database (Indiana University, 2010). This project used the mail merge functions in Microsoft© Office Word 2007 to generate addressed cover letters and add identity numbers to the questionnaire. Word 2007 can use a variety of data sources including Sequel databases, delimited text files, and Microsoft Access© databases, to perform a mail merge; in this case, we used a Microsoft Excel© 2007 document to house recipients' data.

As discussed in Section 3.2.1, the web form required respondents to provide an access code before viewing the survey. This six-character, randomly generated code was recorded with the survey response, and could be matched to an address and GIS identifier in the mail merge table. Post questionnaires were identified by a four-digit sequential number which was also matched in the mail merge table. By identifying the locations of survey responses, it was the hope of the Council to be able to identify social trends graphically, on a map, as well as textually.

3.2.4 Response Collection

The final phase of the survey deployment was that of recording responses. We needed to compile all of the responses from both the post and web surveys in a table with their corresponding location data: the respondent's address and the parcel's unique parcel reference number (UPRN) and coordinates, called "Northings" and "Eastings".

Given the present scope of the project, Microsoft Access© 2007 was ideally suited to store response data, and to then serve as a tool for basic analysis. The most important feature of Access was the program's ability to store tables, used to house the survey response data, forms, used to input and access response data, and queries, used to generate some basic analyses in a single project file. In addition, data could be easily migrated from Access to the Statistical Package for Social Scientists (SPSS) which could perform many advanced analytical operations.

3.3 Evaluation of Survey Methods

Quantifying a data collection tool such as a survey, like any scientific experiment, requires repeated trials with specific independent variables, dependant variables, and controls (Kazantzis, 2010). Unfortunately, the time constraints of our project did not allow for such experimentation. Instead we were able to use data from past surveys conducted by the Borough as well as comparison

between different types of questions within the survey and interviews with residence association leaders to evaluate the effectiveness of our survey in terms of its ability to generate responses from a broad sampling of socio-economic statuses within Kingston. This evaluation helped us to provide the Council with several recommendations for future surveying methods to improve effectiveness.

From past experience, the Council aims to receive a 10% response on average from its surveys. This, the Council believes, is the threshold for a successful response. Additionally, we were able to compare responses from the two types of questions, that is, single response and household, in the survey as an indicator of the usefulness of household questions.

While there are no mechanisms built into our survey to measure response validity in general, we were able to draw some conclusions about the relevance of response data to types of social groupings within the Borough. Interviews with residence associations also contributed to our overall understanding of the socio-economic makeup of Kingston, and the subset therein which our survey reached. Though we could not analyze the validity of the results as a whole, we were able to determine which geographical regions of the Borough, types of dwellings, and types of households the response data was most pertinent to from questions in the survey.

3.4 Analysis of Results

We analyzed indicators of child yield, school enrolment trends, migration patterns and motivations, patterns of car ownership, ease of access of community facilities, and housing satisfaction. For such a wide range of data, we used many cross tabulations and other frequency tables as the first step of our analysis. With the tabular analysis complete, we used GIS mapping to graphically present our results.

3.4.1 Cross Tabulation and Frequency Tables

Cross Tabulation is "a combination of two (or more) frequency tables arranged such that each cell in the resulting table represents a unique combination of specific values of cross tabulated variables" (StatSoft, 2010). It is an analytical method that can show the relationship between two or more survey questions. Since the majority of the questions had single variable response data, most of the data from questions gathered in this survey can be cross tabulated with data from other questions.

* * *

We analyzed household child yield in several ways. We compared the number of bedrooms and the tenure or ownership status of residents, to the number of children in households. Cross tabulation of the number of bedrooms was an indicator of current trends of child yield based on house size.

Resident tenure provided another way to calculate child yield, using a different input as a source of validity. These two methods were combined and so that child yield could be calculated even more accurately by using multiple inputs, such as a socially owned two bedroom flat, or a privately owned five bedroom house.

Although the Council has access to enrolment data for its publicly funded schools within the Borough, determining the subset of residents who attend these schools has proven difficult. Furthermore, predicting future enrolment numbers has become a topic of notable importance to the Council as it moves towards plans to construct new state school facilities. By cross tabulating household child yield with 'place of work/school' or 'post-code of work/school' we were able to present an example of a solution to predict future school enrolment to the Learning and Children's Services Department. The ratio of children attending school within the Borough out of all resident children can be used as an indicator for future enrolment when combined with child yield figures discussed earlier.

A cross tabulation provided reasons for migration into the Borough. By filtering respondents' post codes of previous addresses, reasons they moved into their new housing was be tabulated. We showed the most important reasons that people were moving into Kingston from other boroughs. Because we did not ask where respondents' planned to move to, we could not determine why people were moving out of the Borough, but instead created a frequency table show why people wanted to move out of new housing developments.

Car ownership, ease of access to public facilities, and opinions on new housing were all shown with frequency tables. To take these a step further, though, responses were cross tabulated with the post codes of the respondents, to show all of the information with regards to locations in a tabular form.

3.4.2 GIS Mapping

For this survey, GIS mapping served two purposes. Primarily, it could graphically show our data with respect to geographic locations in the Borough, and could help us present our results to the Council in a more compact and visually intuitive way. Secondly, the Council has a well-developed GIS system in place. If our data was compatible with ISIS, not only could it be input and immediately update current data, but also provide a basis for updating data easily in the future.

* * *

GIS provides many options for interpreting our data. It is possible to create a variety of maps, ranging from basic units showing the locations and size of new developments to more complicated

examples of comparison between the population density of school-aged children attending Kingston schools with the locations of schools throughout the Borough.

A primary function of GIS is to combine tabular data with a map (Environmental Systems Research Institute, Inc., 2009). As such, any of the tabular analysis discussed in the above section can be transferred to a GIS map. Because each survey response was tracked, we were able determine the coordinates of each respondent, based on their postal address, and place their response data accurately on a map of Kingston. The ArcGIS Spatial Analyst package includes many tools to convert the data from disconnected points to continuous regions (Environmental Systems Research Institute, Inc., 2010). This allowed us to create heat and density maps for the entire borough and to map responses by pre-defined regions, such as the system of 16 wards that Kingston is divided into. The most important data to map for planning purposes was the data on car ownership, ease of access to public facilities, and housing satisfaction, which could all be represented as either continuous heat maps or regional maps by ward.

This survey data could easily be input into ISIS since we included the correct coordinate system and georeferencing. Each parcel of land in Kingston has a Northing and Easting coordinate, as well as a Unique Parcel Reference Number (UPRN). As our survey questionnaires included tracking numbers, it was possible to correlate this data with both Northing and Easting coordinates and UPRNs, so when we were finished with the project, the Council could input all of our data into ISIS for any future analysis.

3.5 Residence Association Interviews

Residence Associations (RA) are organizations formed by members of residential communities. These associations give each community more representation, as they allow each community to express their ideas and concerns to the Council. The chairs of the RAs have a good understanding of the opinions of the people who they represent, and so they are useful resources to learn more about the opinions of residential communities. We conducted a series of face-to-face interviews with the chairs of some RAs to gather information that the post questionnaire may have missed.

We chose 12 Residence Associations covering as much of the Borough as possible, including groups that the survey was not getting many responses from, such as residents of the less urban southern parts of the Borough and the South Korean community in New Malden. Using the Council's database of contact details, we contacted the chairs of the RAs by post explaining briefly what our project was and why we were interested in interviewing them. We then set up individual interviews with anyone who was interested. The questions we asked were similar to the survey questions, except that they

were rephrased to ask about general communities instead of individual households, and they invited more opinions as well.

Other than gathering some general information to supplement our survey data, the interviews helped to explain why certain groups were not answering the survey. For example, the Southborough Residence Association covers an area with little migration, because residents tend to purchase larger houses and stay in them, and residents of the area fight to keep their gardens and outdoor spaces from being developed into new housing. As a consequence, the area has little new housing, save for a few older houses converted into flats.

3.6 Conclusion

We chose to implement a hybrid survey including postal and web-based questionnaires as well as face-to-face interviews. The target population and sampling frame consisted of all dwellings established in The Royal Borough of Kingston within the last five years. This sample included approximately 1850 households.

The postal questionnaire element of the survey was based on the Wandsworth 2008 example, in that it utilized a direct system of tick boxes and multiple choice questions. The web-based element of the survey used identical questions to the postal survey, with the addition of a unique web code for survey tracking. The potential response rate was maximized by including a cover letter, an FAQ sheet, accessibility options, mailing out a reminder, and incentivizing response with a cash prize. Face-to-face interviews provided information on groups within the Borough that the original questionnaire did not target.

The survey results were analyzed to indicate a variety of information, including child yield, school enrolment, migration, car ownership, ease of access to community facilities, and housing satisfaction. We used a combination of frequency tables, cross tabulations, and GIS mapping to analyze the results of the survey.

Chapter 4. Findings

The purpose of this survey was to determine child yield multipliers, trends of school enrolment, migration patterns into and out of the Borough, statistics on car ownership, opinion on ease of access to community facilities, and satisfaction with new housing developments. All of this analysis was accomplished with a combination of frequency tables, cross tabulation, and GIS mapping. This section will begin with a summary of the response to the survey.

4.1 Survey Response

The response rate broke down as follows:

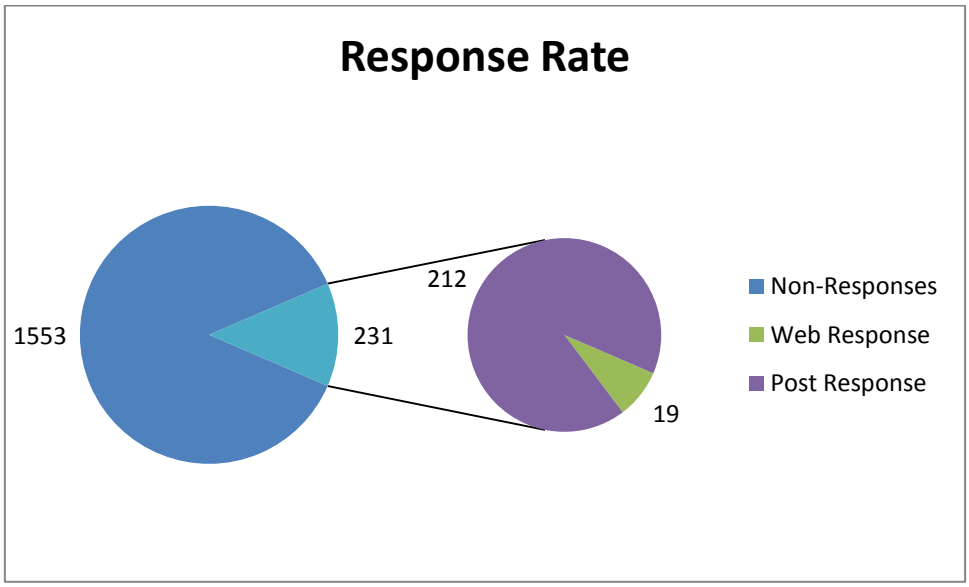

Figure 9: Response Rate

The total response rate of the survey was 12.9%. Out of that 12.9%, 91.8% came from post returns and 8.2% came from online responses. Based on past evidence, Kingston Council expected a total response rate of approximately 10%, and this survey surpassed that expectation, and therefore had an acceptable response rate. Also, despite the fact that the web survey response was so low, it was still a successful method, as it made entering those 19 responses considerably faster and required little effort overall to implement.

The response quality, however, was affected significantly by the question type. The individual questions found at the beginning of the survey were answered easily enough, but the household questions appeared to confuse many post respondents. Some respondents did not answer the household questions for everyone living with them, some did not keep the order of their

householders consistent, and some answered as if the person number was actually a quantity of people in the household that fit a certain category. The web survey did not have the third problem, since the web form did not allow respondents to put more than one response per column. With all of these incorrect ways of responding only about half of the respondents answered the household questions correctly. The other answers were not useless though, as the project group interpreted the incorrect responses as the data was manually entered. This did affect the statistical reliability of the data, though.

Respondents to the survey fell into a somewhat narrow group. Most respondents lived in flats, with a low number of bedrooms, and their households comprised of either single residents or couples without dependent children, as seen in Figures 10, 11, and 12.

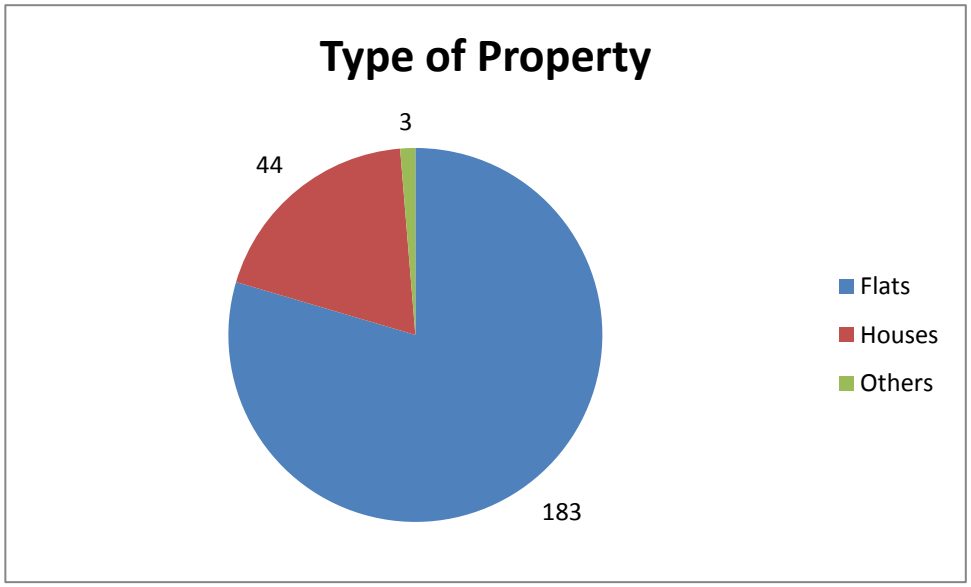

Figure 10: Type of Property

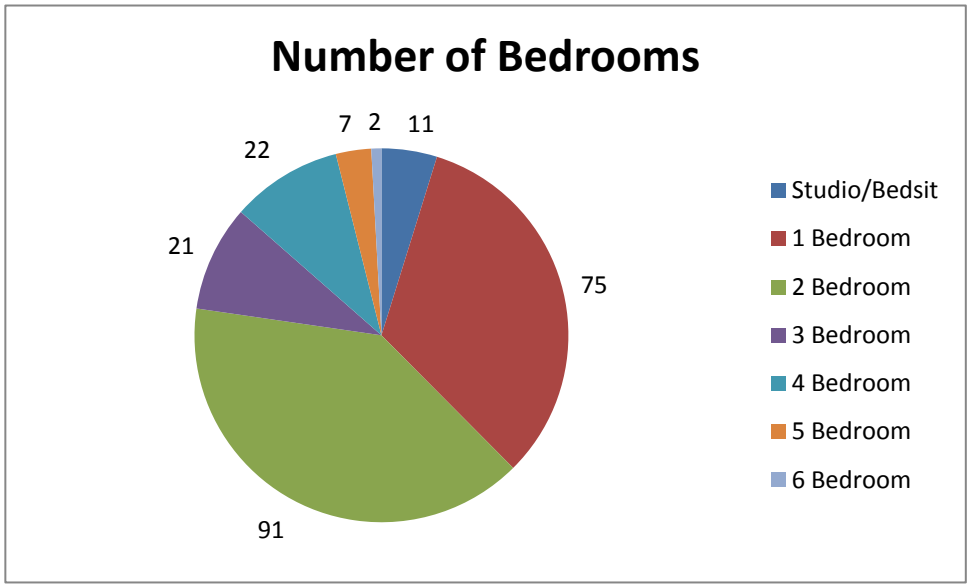

Figure 11: Number of Bedrooms

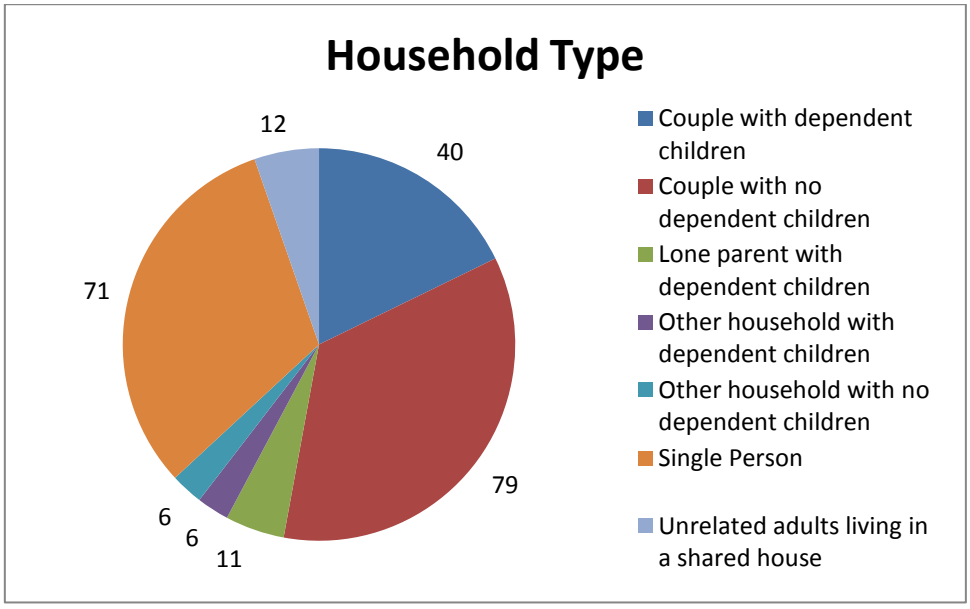

Figure 12: Household Type

This was not wholly unexpected. The Council assumed that most new housing consisted of flats, which did not leave many options for families, and this assumption proved to be true.

The face-to-face interviews further validated this assumption. One group, the Southborough Residence Association, explained why the response contained a low number of houses. Housing in the Southborough area consists of larger houses with four bedrooms or more, and there are a small number of flats. This is precisely the response group that appeared to be under represented in the survey, but the interview explained why. Most of the houses in the area are older than the five-year range that the survey was targeted to. Residents of the area have fought through the years to

prevent new housing developments from being built in their area because they care about the conservation of their outdoor spaces. These communities are made up of residents who plan to live there on a long-term basis. In more suburban areas such as Southborough where Kingston's larger houses are found, the households rarely qualify as new housing for these reasons, and so this group makes up a small proportion of our response.

Geographically, the responses were dense in some regions of the Borough and sparse in others. Also, due to issues with the compilation of the address list (see Section 5.5 Addresses and Data Sources), not all of the addresses of the respondents could be verified 100% certainty, so any maps in the following sections are based off of the data shown in Figure 14 to ensure accuracy.

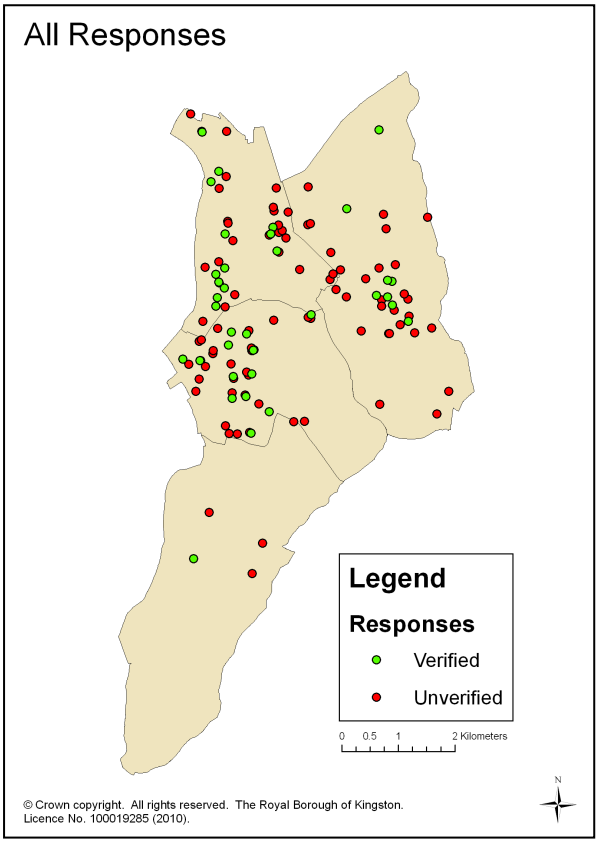

Figure 13: Geographic Distribution of All Responses

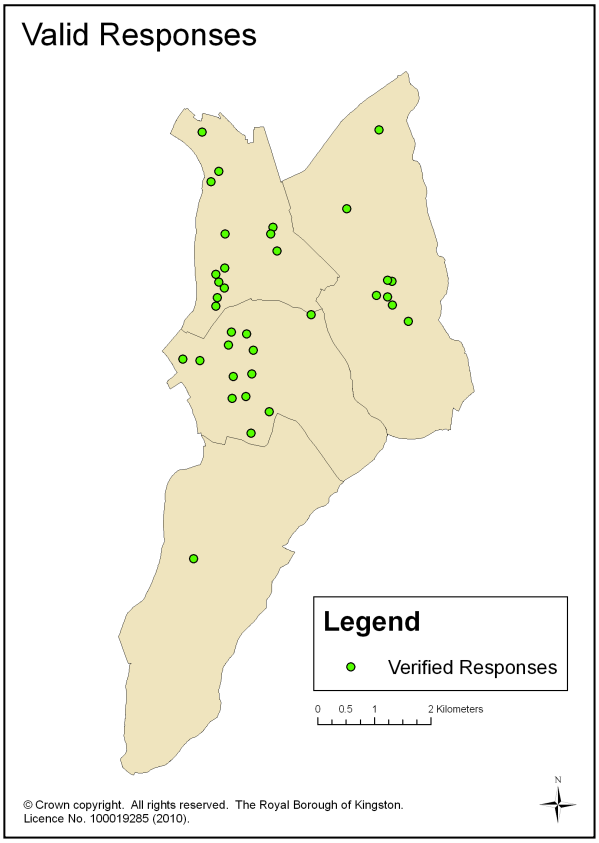

Figure 14: Geographic Distribution of Responses from Verified Locations

Again, the lack of responses from the more rural, southern parts of the Borough could be explained by the type of residents and housing situation in these areas that the Southborough Residence Association described.

4.2 Analysis of Results

While the analysis of the results appears to cover a variety of unrelated topics, they all fall under the category of informing future planning policies. The purpose of the survey was to gather a wide range of data, and the wide range of the analysis reflects this original purpose.

4.2.1 Child Yield

Cross tabulation of the survey results can show the child yield of new housing developments based on a number of inputs. The first such input is house size (Question 2), as number of bedrooms should be related to number of children in a house by age groups (Question 14). A cross tabulation of number of children and housing size shows the frequency of how many children live in what size houses:

Ages	*1 Bedroom*	*2 Bedroom*	*3 Bedroom*	*4 Bedroom*	*5 Bedroom*	*6 Bedroom*	*Studio/Bedsit*
0-2	1	14	2	5	2	0	1
3-4	0	7	1	1	1	0	0
5-10	0	6	1	0	0	1	0
11-15	0	4	2	1	0	0	0
16-19	0	2	5	3	0	0	0
Total	1	33	11	10	3	1	1

Table 3: Child Yield Frequency by Number of Bedrooms

Dividing each entry in the frequency table by the number of *n*-bedroom houses in the response sample results in a table of child yield multipliers:

Ages	*1 Bedroom*	*2 Bedroom*	*3 Bedroom*	*4 Bedroom*	*5 Bedroom*	*6 Bedroom*	*Studio/Bedsit*
0-2	0.015	0.156	0.071	0.227	0.286	0.000	0.100
3-4	0.000	0.078	0.036	0.045	0.143	0.000	0.000
5-10	0.000	0.067	0.036	0.000	0.000	0.333	0.000
11-15	0.000	0.044	0.071	0.045	0.000	0.000	0.000
16-19	0.000	0.022	0.179	0.136	0.000	0.000	0.000
Total	0.015	0.367	0.393	0.455	0.429	0.333	0.100

Table 4: Child Yield Multipliers by Number of Bedrooms

These multipliers can be used to determine the number of children expected in a new housing development, by using the following formula:

$$Child\ Yield\ for\ Age\ m = Number\ of\ Houses\ with\ n\ Bedrooms * Child\ Yield\ Multiplier\ for\ Age\ m\ and\ n\ Bedrooms$$

For example, to determine how many infants (0-2 year old children) would move into a new housing development consisting of twenty 2-bedroom houses and ten 3-bedroom houses, the child yield would be:

$$20 * 0.156 + 10 * 0.071 = 3.83 \approx 4\ Infants$$

The multipliers in Table 4 show trends that households with more bedrooms have higher child yields. This result makes sense, as having more children would require more bedrooms in a household. Since the survey got a small response from houses with five and six bedrooms the multipliers under those headings are less accurate, and many of the cells have zeros due to this lack of data. For one through four bedroom houses, though, the multipliers are more accurate. Because of the low number of children overall, the table should not be used for planning new schools without more validation first. However, the table does show that a housing survey can effectively gather this type of information, provided it has a large enough sample size.

Another input for child yield is housing tenure (Question 7). The project group believes that there is a correlation between housing tenure and number of children in a house, so it is another question to cross tabulate with the number of children, resulting in another way to calculate child yield. The process is the same as above:

Ownership	0-2	3-4	5-10	11-15	16-19	Total
Own your home outright	2	1	1	2	1	7
Own your home with a mortgage/loan	12	1	1	2	2	18
Part own/part rent (including shared equity)	1	2	1	1	0	5
Rent your home from a private landlord	5	2	0	1	4	12
Rent your home from a housing association	4	4	4	1	0	13
Rent your home from a/the Council	0	0	0	0	1	1
Live with parents/family	0	0	0	0	2	2
Other	1	0	0	0	0	1

Table 5: Child Yield Frequency by Housing Tenure

Ownership	0-2	3-4	5-10	11-15	16-19	Total
Own your home outright	0.061	0.030	0.030	0.061	0.030	0.212
Own your home with a mortgage/loan	0.185	0.015	0.015	0.031	0.031	0.277
Part own/part rent (including shared equity)	0.143	0.286	0.143	0.143	0.000	0.714
Rent your home from a private landlord	0.060	0.024	0.000	0.012	0.048	0.143
Rent your home from a housing association	0.148	0.148	0.148	0.037	0.000	0.481
Rent your home from a/the Council	0.000	0.000	0.000	0.000	0.500	0.500
Live with parents/family	0.000	0.000	0.000	0.000	1.000	1.000
Other	0.250	0.000	0.000	0.000	0.000	0.250

Table 6: Child Yield Multipliers by Housing Tenure

This table does not show any strong trends, but overall rented households have a slightly higher child yield than owned households. This data suffered from the lack of responses, and should not be used for evidence.

Originally, a cross tabulation with multiple inputs (number of bedrooms and housing tenure), would have provided a more specific set of child yield multipliers, but due to the low number of households with children who responded to the survey, there was not enough data to fill up a table of that magnitude. However, with a higher sample size, this sort of table could be useful.

4.2.2 School Enrolment

One of the questions in the survey asked residents for the educational status of each of their householders. The results break down as follows:

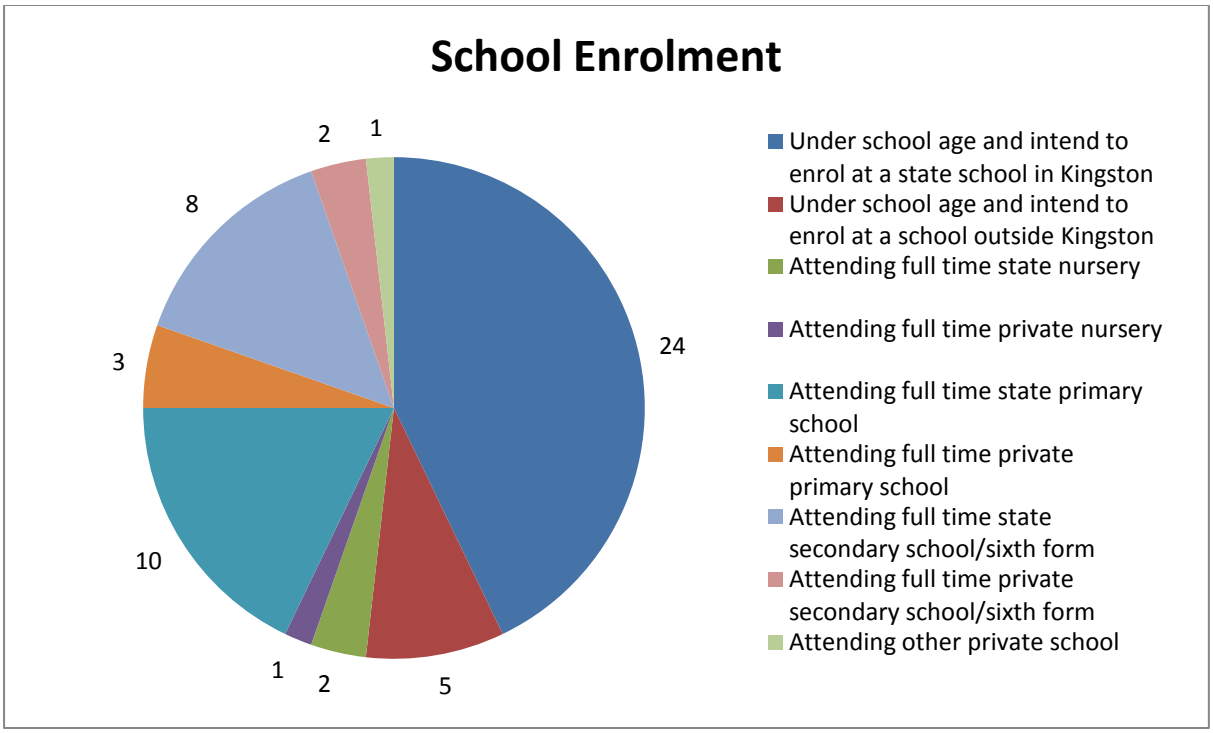

Figure 15: School Enrolment by Educational Status

One point of note is that, out of all of the children identified in the survey responses, more than half of them are under school age. Looking at the children who are of school age, the majority are enrolled in state schools rather than private schools, showing that state schools are a much more popular option in Kingston.

Looking at another aspect of school enrolment, cross tabulations can show trends of school enrolment by location, to compare the number of children enrolled in schools within the Borough to the number of children enrolled outside of the Borough. Beginning with general relationships, the chart below shows the proportion of children enrolled in the Borough and outside of the Borough.

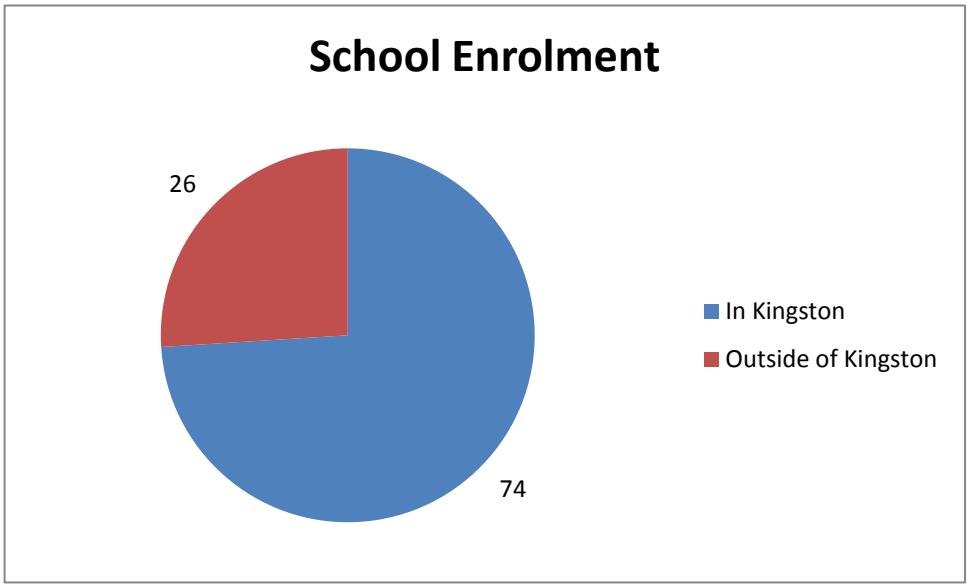

Figure 16: School Enrolment by Location

Looking at this chart alone, about three quarters of children in the Borough are enrolled in Kingston schools, with the rest attending schools outside of the Borough. Overall, this graph suggests that a large number of children are not attending schools within the Borough, which may indicate a lack of schools in Kingston. A lack of primary and secondary schools in the Borough is actually common concern in Kingston, and further analysis of the data shows that this may in fact be an issue.

Breaking down this information further, the following two charts were produced from a cross tabulation of number of children in a house by educational status (Question 16) and whether they go to school within the Borough or not (Question 18), showing frequency and percentages:

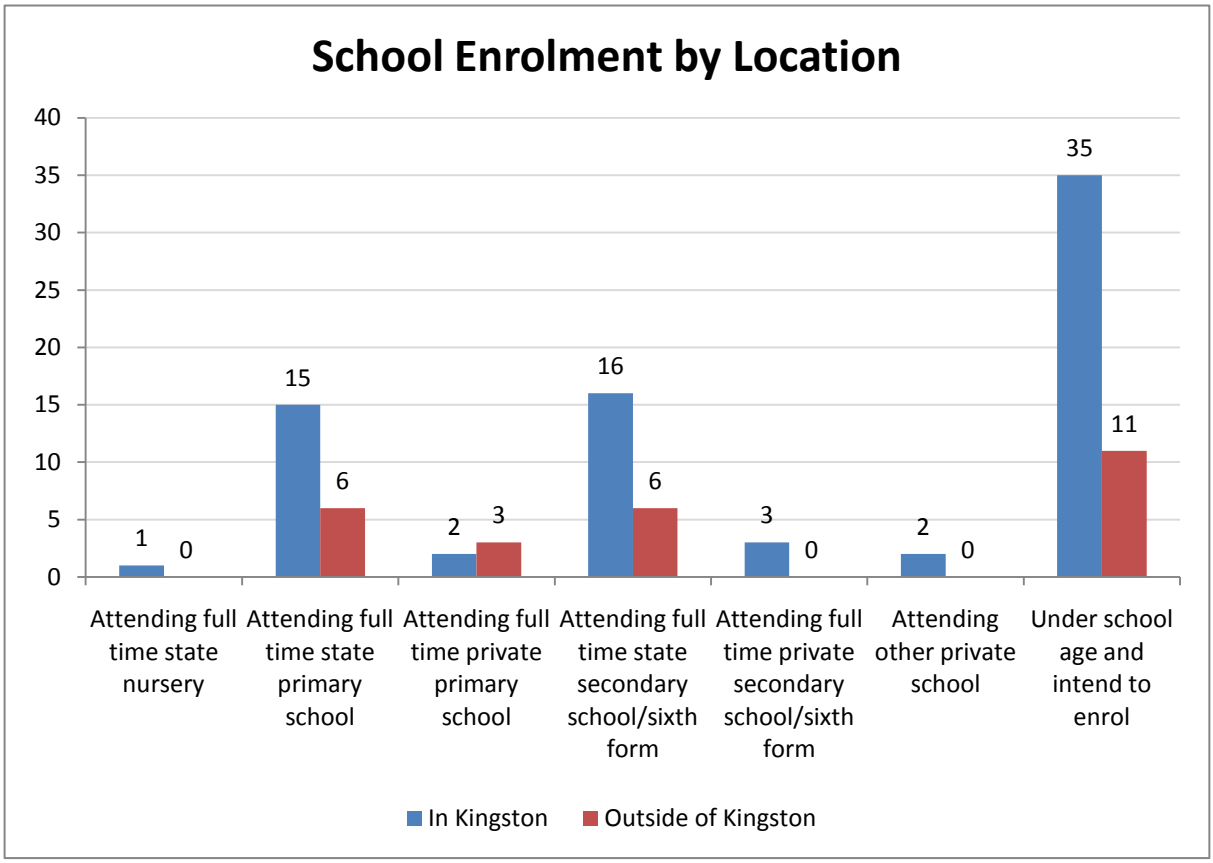

Figure 17: School Enrolment by Location Frequencies

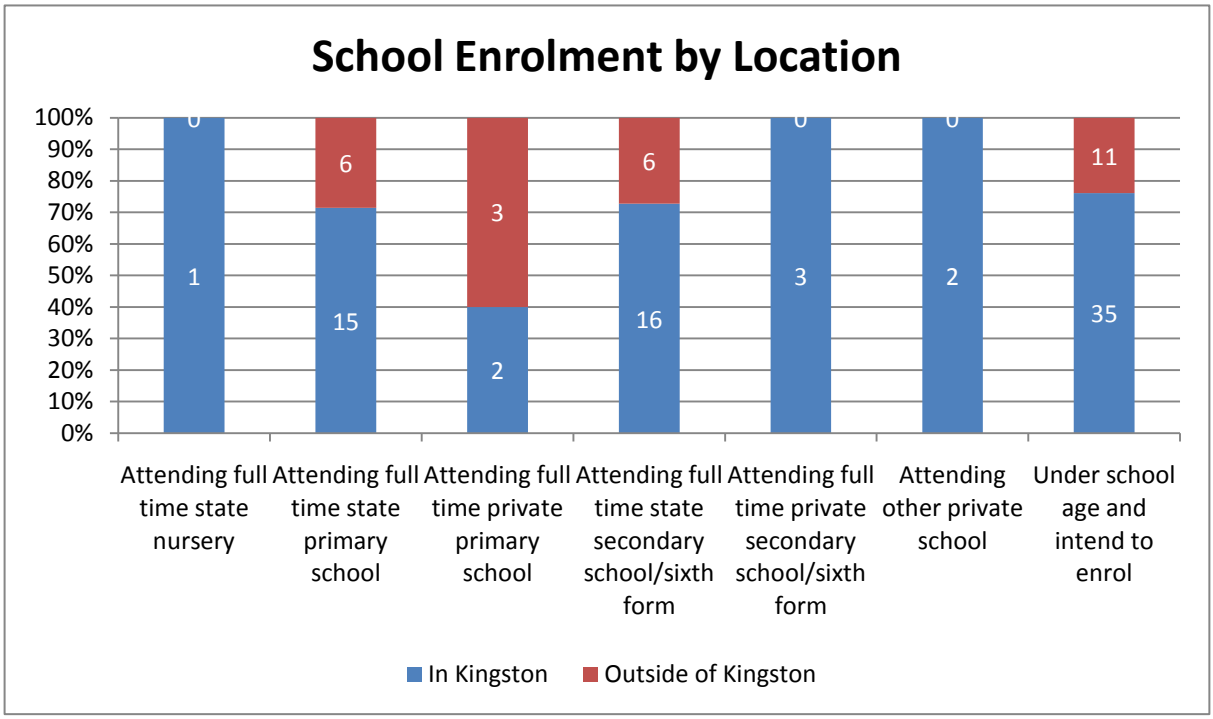

Figure 18: School Enrolment by Location Percentages

These charts show that, specifically for primary and secondary schools, about 30% of the children attend schools outside of the Borough. Interviews with representatives of Residence Associations verified this trend, as they all stated that, while they consider Kingston to have good schools, a fair number of their residents sent their children to other boroughs for education. A representative of the Canbury and Riverside Association suggested that the principle cause of this trend is related to the high quality of Kingston's schools. He explained that because the Borough has well reputed schools, especially in the secondary level, residents of other boroughs enroll their children in Kingston schools, and this competition does not allow for all of the children in Kingston to enroll in the Borough's schools. Whether this is the principle cause or not, the survey data does show a need for more state primary and secondary schools in Kingston.

4.2.3 Migration to and from Kingston

The Borough desires to capture reasons for immigration and emigration of its residents. By understanding its resident's reasons for relocation, the Council can attempt to eliminate causes of egress and bolster reasons for ingress.

The survey includes questions regarding this topic, which direct respondents to prioritize their top three reasons for moving to and from the Borough from lists including costs of resources, land parcel and dwelling size, safety, and proximity to employment and family. The project group's task was to tabulate these prioritized or "weighted" responses and establish a hierarchy of motivations for relocation. Tables 7 and 9 show the un-weighted response data. While the data is not particularly revealing on its own, by multiplying first, second, and third choices by large (1.2), medium (1), and small (0.8) metrics respectively and summing the results we generated single values for each reason shown in tables 8 and 10. Percentages for tables 8 and 10 originally did not add up to 100%, and this was due to non-response. Some respondents only entered their first or first and second choices, leaving some categories blank. The final column of the table shows the corrected percentages accounting for the non-response.

Reason to Move In	Priority 1	Priority 2	Priority 3
Air pollution	0	2	3
Career Move	8	7	10
Change in personal circumstances	68	20	18
High cost of living	2	3	6
High house prices	2	7	3
Level of crime	2	4	6
Noise	5	6	3
Relocation outside London	0	0	0
Relocation overseas	0	0	0
Relocation to rural area	0	0	0
Retirement	5	7	3
School choices	1	6	1
To move closer to family/friends	5	9	7
To move closer to work	14	25	8
To move to a larger property	42	14	7
To move to a property with garden/larger garden	5	10	10
Traffic Congestion	0	0	0
Total	159	120	85

Table 7: Un-weighted Reasons for Immigration

Reason to Move In	Priority 1	Priority 2	Priority 3	Sum	Weighted %	Corrected %
Air pollution	0	2	2.4	4.4	0.70%	1.16%
Career Move	9.6	7	8	24.6	3.92%	6.49%
Change in personal circumstances	81.6	20	14.4	116	18.50%	30.62%
High cost of living	2.4	3	4.8	10.2	1.63%	2.69%
High house prices	2.4	7	2.4	11.8	1.88%	3.12%
Level of crime	2.4	4	4.8	11.2	1.79%	2.96%
Noise	6	6	2.4	14.4	2.30%	3.80%
Relocation outside London	0	0	0	0	0.00%	0.00%
Relocation overseas	0	0	0	0	0.00%	0.00%
Relocation to rural area	0	0	0	0	0.00%	0.00%
Retirement	6	7	2.4	15.4	2.46%	4.07%
School choices	1.2	6	0.8	8	1.28%	2.11%
To move closer to family/friends	6	9	5.6	20.6	3.29%	5.44%
To move closer to work	16.8	25	6.4	48.2	7.69%	12.72%
To move to a larger property	50.4	14	5.6	70	11.16%	18.48%
To move to a property with garden/larger garden	6	10	8	24	3.83%	6.34%
Traffic Congestion	0	0	0	0	0.00%	0.00%
Total	190.8	120	68	378.8	60.41%	100.00%

Table 8: Weighted Reasons for Immigration

Reason to Move Out	Priority 1	Priority 2	Priority 3
Air pollution	0	1	0
Career Move	5	6	8
Change in personal circumstances	20	15	12
High cost of living	4	10	8
High house prices	3	8	9
Level of crime	1	2	2
Noise	1	4	10
Relocation outside London	6	5	6
Relocation overseas	5	3	3
Relocation to rural area	1	6	1
Retirement	4	1	6
School choices	2	9	3
To move closer to family/friends	3	7	5
To move closer to work	5	4	10
To move to a larger property	46	5	6
To move to a property with garden/larger garden	21	24	7
Traffic Congestion	1	1	2
Total	128	111	98

Table 9: Un-weighted Reasons for Emigration

Reason to Move Out	Priority 1	Priority 2	Priority 3	Sum	Weighted %	Corrected %
Air pollution	0	1	0	1	0.16%	0.29%
Career Move	6	6	6.4	18.4	2.93%	5.36%
Change in personal circumstances	24	15	9.6	48.6	7.75%	14.17%
High cost of living	4.8	10	6.4	21.2	3.38%	6.18%
High house prices	3.6	8	7.2	18.8	3.00%	5.48%
Level of crime	1.2	2	1.6	4.8	0.77%	1.40%
Noise	1.2	4	8	13.2	2.11%	3.85%
Relocation outside London	7.2	5	4.8	17	2.71%	4.96%
Relocation overseas	6	3	2.4	11.4	1.82%	3.32%
Relocation to rural area	1.2	6	0.8	8	1.28%	2.33%
Retirement	4.8	1	4.8	10.6	1.69%	3.09%
School choices	2.4	9	2.4	13.8	2.20%	4.02%
To move closer to family/friends	3.6	7	4	14.6	2.33%	4.26%
To move closer to work	6	4	8	18	2.87%	5.25%
To move to a larger property	55.2	5	4.8	65	10.37%	18.95%
To move to a property with garden/larger garden	25.2	24	5.6	54.8	8.74%	15.98%
Traffic Congestion	1.2	1	1.6	3.8	0.61%	1.11%
Total	153.6	111	78.4	343	54.70%	100.00%

Table 10: Weighted Reasons for Emigration

The corrected percentages of Tables 8 and 10 show which reasons for migration are most common, and for both questions there are three distinct causes which are much more common than the rest. For immigration, these are changes in personal circumstances, moving to larger properties, and moving closer to work; for emigration, these are moving to larger properties, moving to properties with gardens/larger gardens, and changes in personal circumstances.

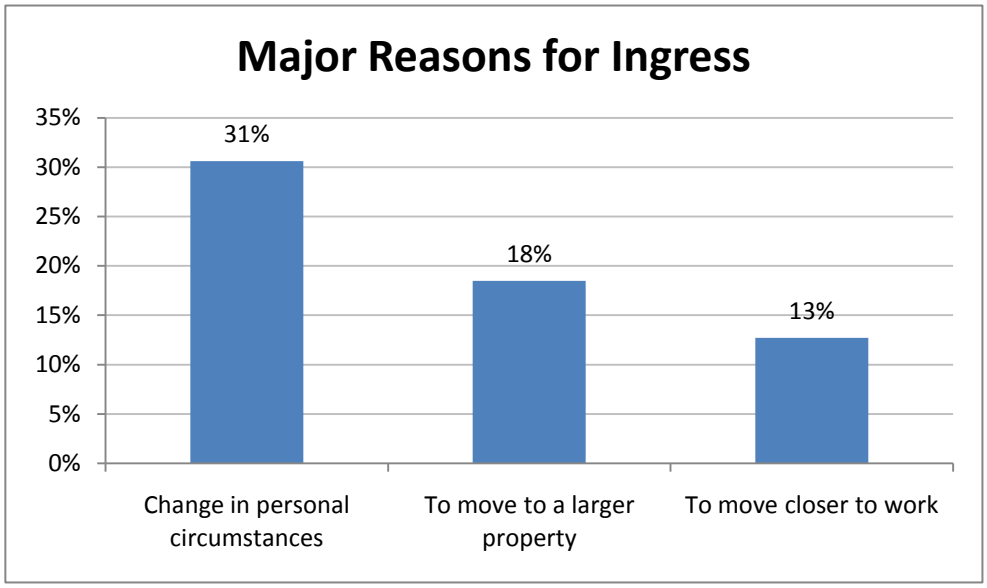

Figure 19: Major Reasons for Immigration

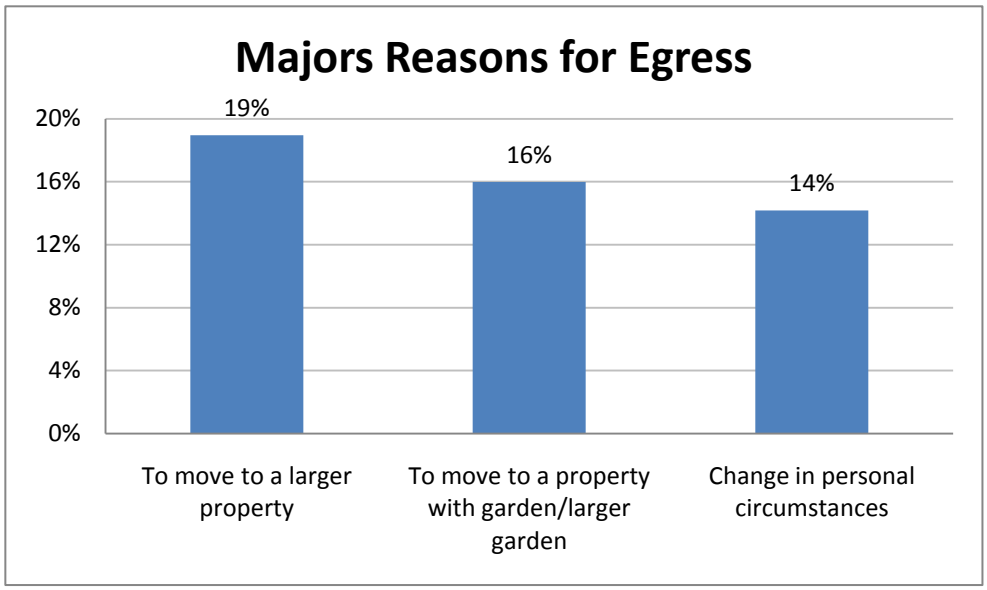

Figure 20: Major Reasons for Emigration

Two of the reasons for migration are the same for people moving in and out, and these do not have any important implications. Moving because of a change in personal circumstances is a broad topic, and personal circumstances are not something that planning policies involve. Likewise, moving to a larger property is likely a reason to move that people will always have, no matter what the current state of housing is. More interesting, however, are the two differing reasons.

The third most popular reason that people move into the Borough is to move closer to work. This reason indicates the recent change to Kingston from an industrial town to a retail-oriented town over the last few decades. As a representative from CARA explained, this has brought a lot of

commuters to Kingston. As a result, the survey shows that many people are moving into the Borough to shorten their commute to work.

The second most popular reason that people are moving out of the Borough is to move to a property with a larger garden. Again, this is fitting with what interviewees related on the subject. Outdoor spaces are an important issue throughout the Borough. In the north, Kingston's residents desire more outdoor spaces, and try to conserve what they already have. More towards the south, residents of Southborough have been fighting to keep their outdoor spaces from being developed over the last few years. The CARA representative expressed his belief that residents of Kingston are not ready to accept that higher density housing must be built to keep up with Kingston's growth, often with the sacrifice of outdoor spaces, because they still think of Kingston as separate from London. Future planning policy may need to take into account this desire for outdoor spaces to improve the quality of new housing, as the survey results show in more detail in *Section 4.2.6 Satisfaction with New Housing*.

4.2.4 Car Ownership

Questions 20 and 21 on the survey asked about car ownership and car parking. Both were straightforward questions, and were easily put into frequency tables. From the frequency tables, the project group generated maps of car ownership density as well as where people park their cars:

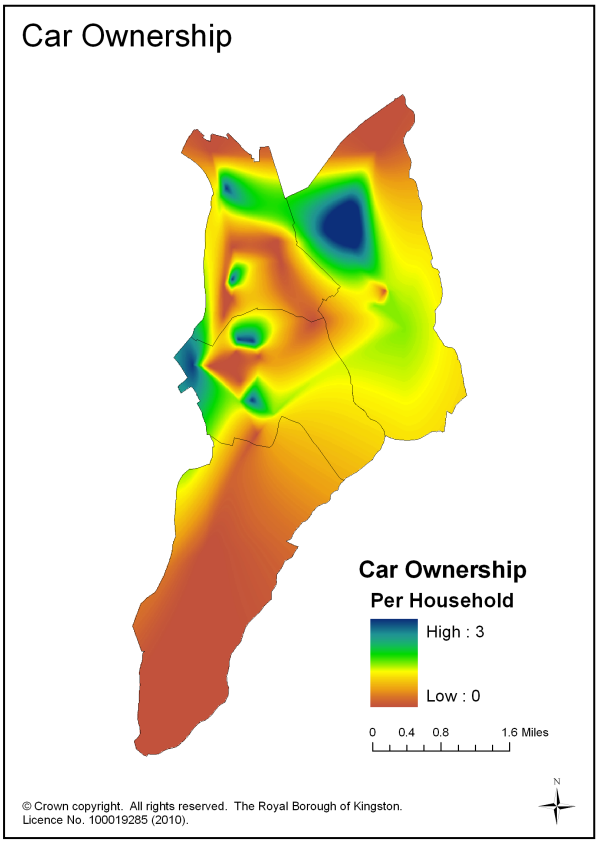

Figure 21: Car Ownership

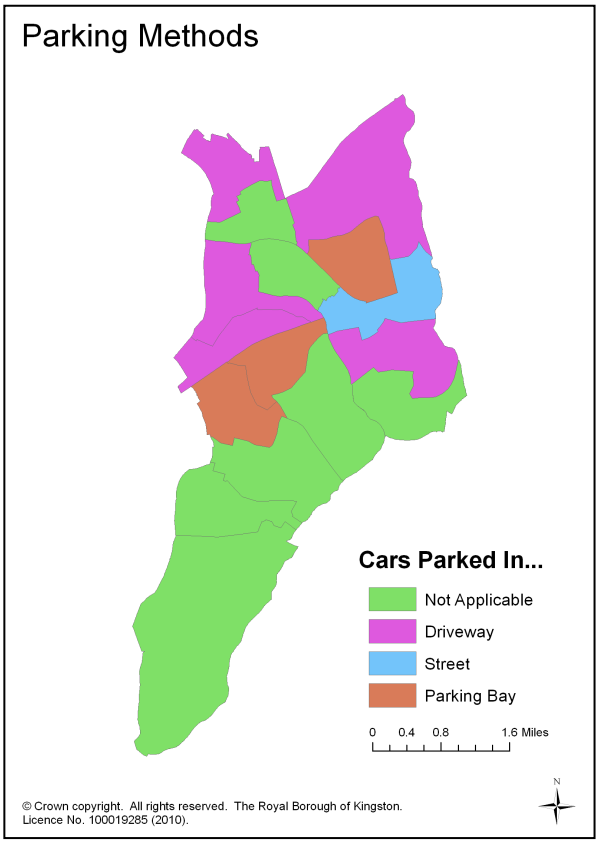

Figure 22: Parking Methods

Figure 21 shows which areas of the Borough have a higher density of cars: dark blue and green regions indicate areas with 2-3 car households, yellow areas indicate regions with single car households, and brown areas indicate regions with zero car households. This, when looked at in conjunction with Figure 22, can show where new housing developments in the Borough are not adequately provisioned for parking.

Looking at the maps, there do not seem to be any major problem areas. Areas with the highest car density, i.e. Coombe Vale, St Marks, Surbiton Hill, and Berrylands wards, have the majority of their parking either in driveways or parking bays, so they are all off-street. Beverly ward (in blue in Figure 22) is the only ward that the data shows a majority of residents are parking on-street, but it is in an area with an average of about one car per household. In the southern parts of the Borough, though, the survey did not collect enough data to see any results, so more information is required in this region.

4.2.5 Community Facilities

A frequency table can represent the information asked for in Question 24, i.e. what respondents think about their access to the health services, community facilities, and shops and services. Since the surveys are tracked, the data was broken down into zones by post codes. In these zones the project group determined a percentage of how many people responded positively, and mapped the results with a color scheme, from light blue (100% positive) to dark blue (0% positive). The project group generated three different maps for the three different services offered using this method:

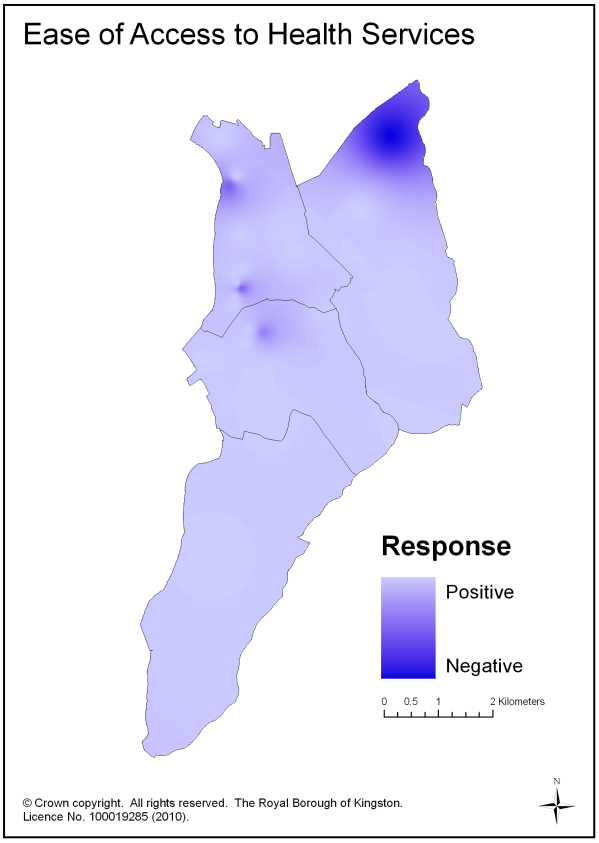

Figure 23: Ease of Access to Health Services

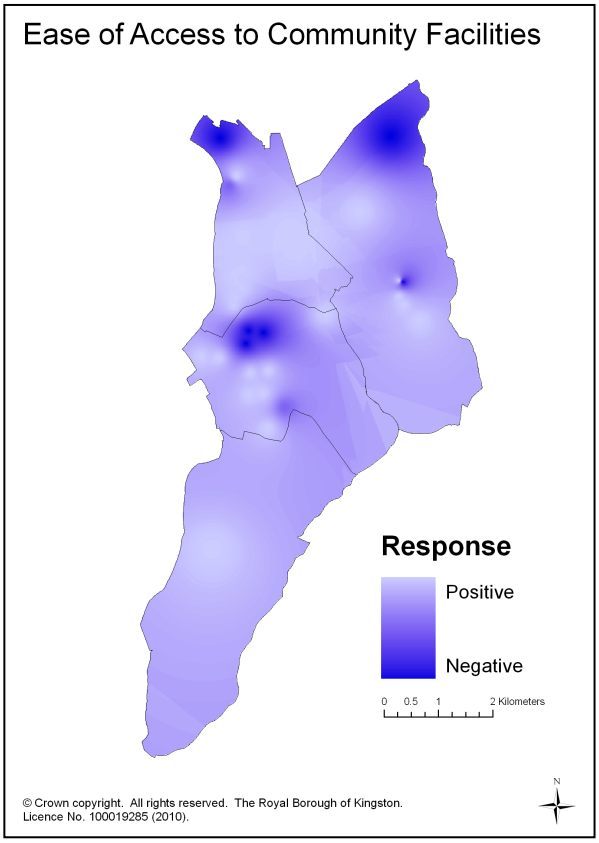

Figure 24: Ease of Access to Community Facilities

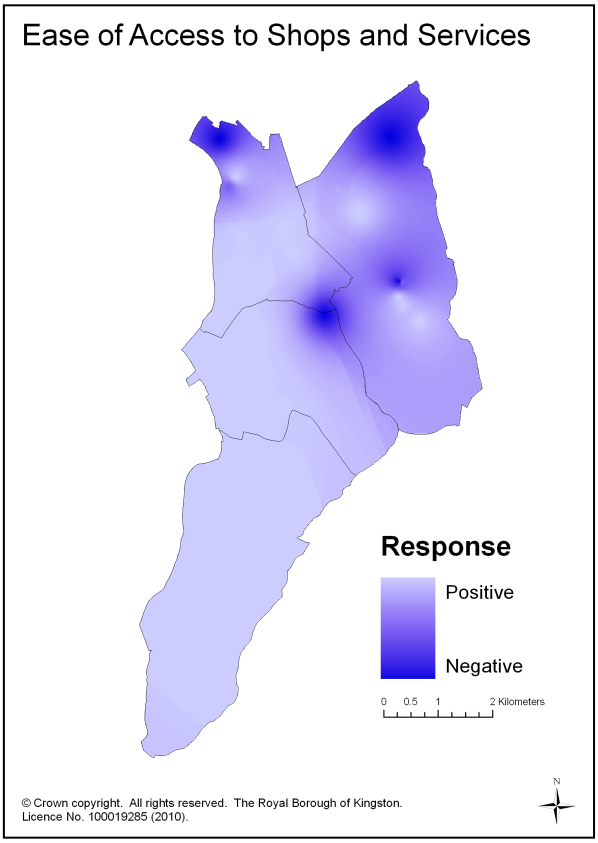

Figure 25: Ease of Access to Shops and Services

The three maps above show that residents responded positively throughout the Borough about ease of access to health services, community facilities, and shops and services. The least positive of the three was the response with regards to ease of access to community facilities, which includes libraries and leisure centers. Interviewed representatives of the Residence Associations believed that their residents were happy with the community facilities in their respective areas, which could indicate that residents of flats have less access to community facilities than those of traditional homes.

4.2.6 Satisfaction with New Housing

The final question of the survey (Question 25) asked how happy residents are with six different aspects of new housing. Respondents answered on a scale of 1-5, 1 being very unhappy and 5 being very happy. Since the surveys were tracked, housing satisfaction can be mapped to specific areas of the Borough. Using averages for each response over regions such as post code, six GIS maps were generated with a color scale showing resident satisfaction of each housing aspect by region.

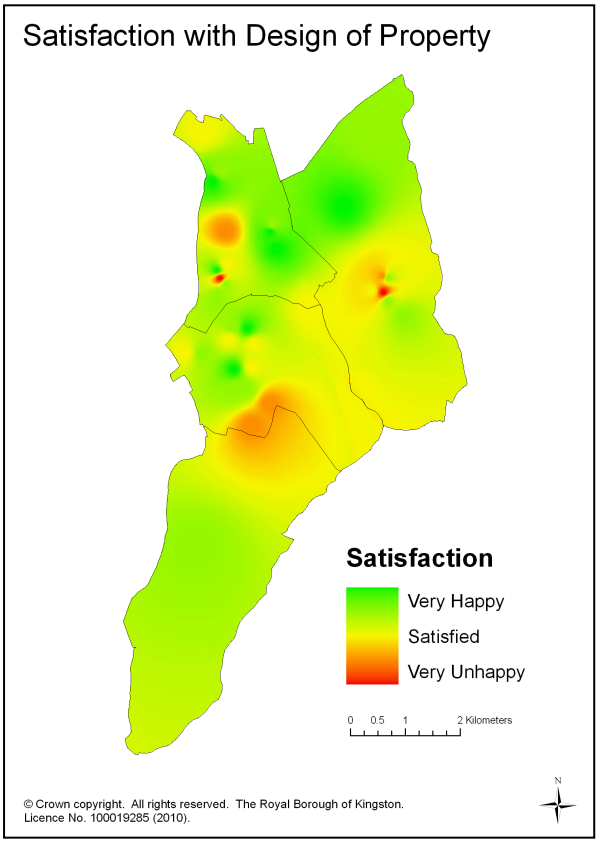

Figure 26: Satisfaction with Design of Property

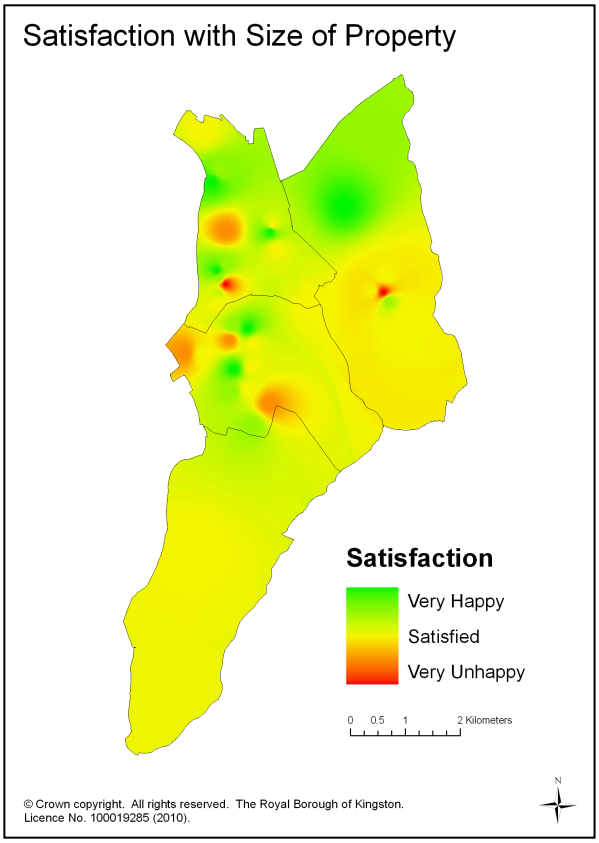

Figure 27: Satisfaction with Size of Property

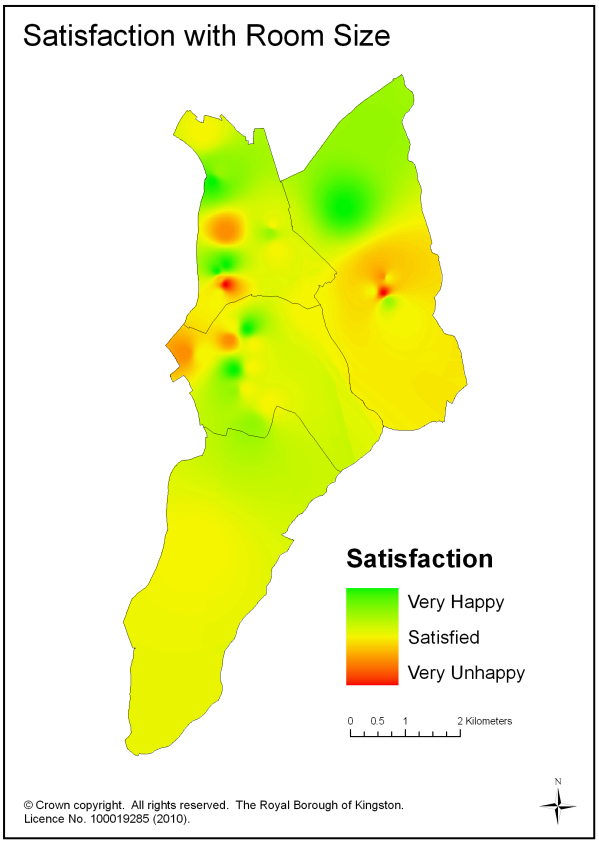

Figure 28: Satisfaction with Room Size

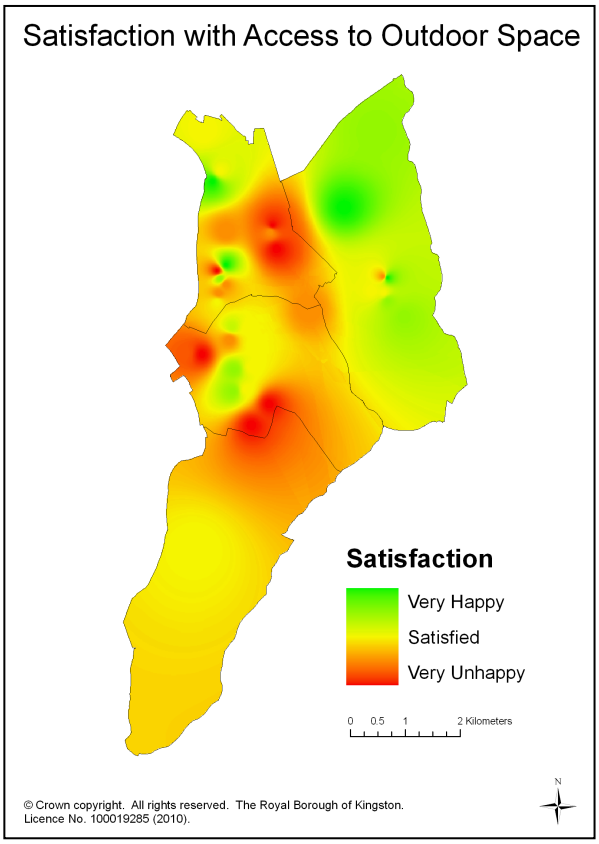

Figure 29: Satisfaction with Access to Outdoor Space

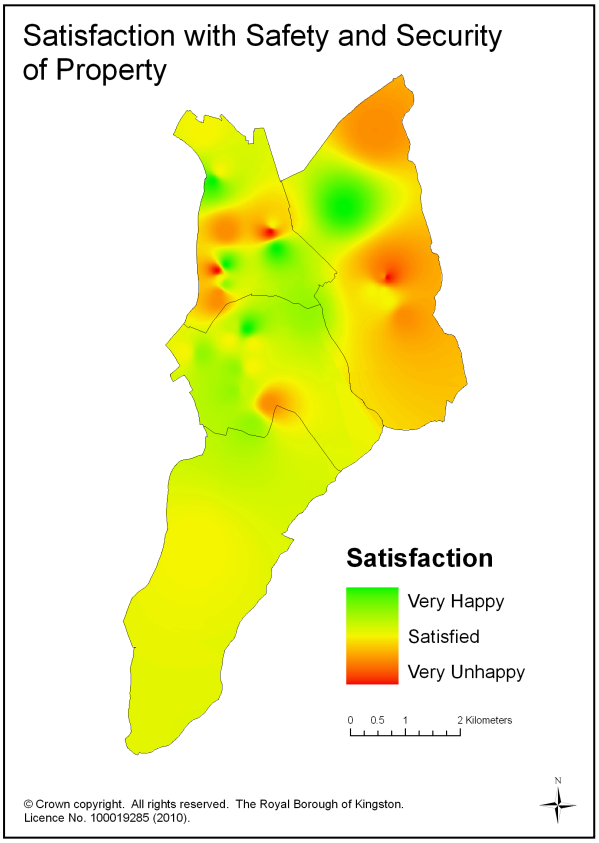

Figure 30: Satisfaction with Safety and Security of Property

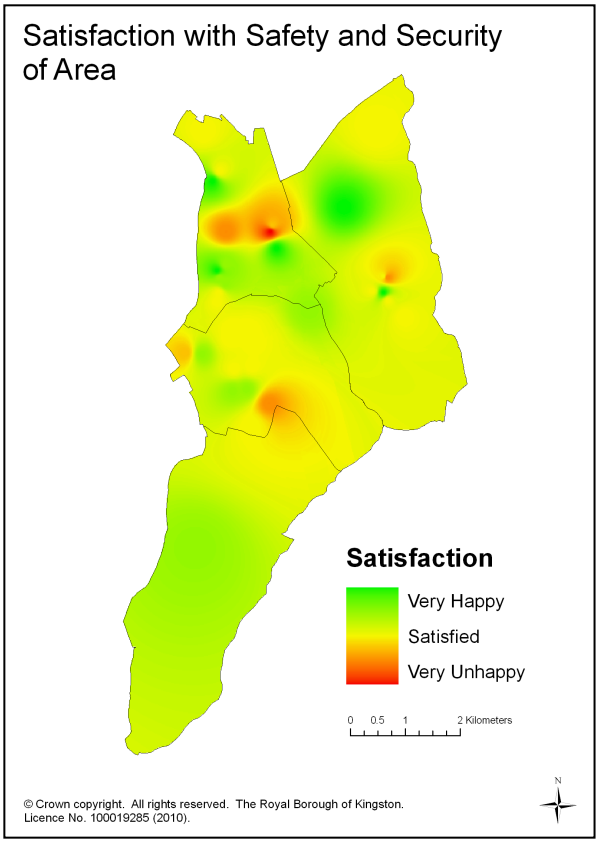

Figure 31: Satisfaction with Safety and Security of Area

The first map shows satisfaction with the general design of the property. Most of the map is green, indicating that most residents of Kingston are very happy with the design of their housing. Moving into more specific questions, the map of satisfaction with property size shows much more yellow, indicating that most people are satisfied. This suggests that property size is not something people are excited about, which makes sense as most of the respondents live in flats, but it is not something they are unhappy with either. It is simply acceptable. Room size shows the same characteristics as property size, as the two are related.

The area that residents are most unhappy with is access to outdoor spaces. Figure 29 shows by far the most red of any of the maps, indicating unhappiness with access to outdoor spaces throughout the Borough. This coincides with responses to reasons for moving out of the Borough, as previously discussed. Residents care most about having outdoor spaces with their housing, so any new housing should take into account this need to make people as satisfied as possible.

Satisfaction with the safety and security of the property is the next area where people are the most unhappy, but it is a large improvement to the opinions on access to outdoor spaces. There are a few areas in the Kingston Town, Maldens, and Coombe neighborhoods with some dissatisfaction, and this may need to be looked into further, but otherwise residents of the Borough are happy with the

level of safety and security of their properties. Similarly, residents are generally happy with the safety and security of their area, which makes sense as Kingston is one of London's safest boroughs.

Chapter 5. Recommendations

Based upon our findings, we have compiled recommendations for the Council to aid in conducting future surveys. These recommendations include topics ranging from more effective methods for formatting survey questions and designing the survey as a whole to techniques for printing and distributing the survey more efficiently, with fewer errors.

5.1 Format of Questions

We found that the household questions which comprised the latter half of our survey were not completed according to the provided instructions as regularly as were the single response questions in the first half of the questionnaire. While we cannot draw valid conclusions as to the reason for this trend, we can recommend to the Borough that in future questionnaires, this style of question should be used conservatively. Wherever this type of question is used, instructions on how to fill them out should be included immediately before the questions, instead of solely at the beginning of the questionnaire, to minimize the chance that respondents will fill out the question incorrectly. In addition to response error and omission, we found that responses to these questions were time consuming to enter into our response database, and that they required many fields in the database which were usually left unused, so again, these types of questions should be used sparingly.

If this specific survey is used again, certain questions should be changed from household questions to individual questions. Any question asking an opinion, such as the computer use questions, the access to community facilities questions, and the housing satisfaction questions, should be changed to the single response format. Asking these questions to the entire household did not gather any useful data, because it was either the same opinion of everyone, or in some cases it involved asking the opinions of young children, which added unnecessary complications to the survey.

5.2 Design Methods for the Questionnaire

To generate our survey, we used Microsoft© Word 2007. Within the Word 2007© document, we used Excel© tables to hold the formatting of the questions. While this made the graphical formatting of the survey simple, there were several negative side effects. Most notably, the complexity of the document introduced by Excel© tables caused printing of the survey to be extremely slow. We recommend to the Borough that future questionnaires either use regular tables in Microsoft© Word, be formatted entirely in Excel©, or use a different graphical editing program altogether.

5.3 Printing and Post

To track responses from our survey, each page of each questionnaire was marked with a matching sequential number which corresponded to the address the survey was posted to. This required that each page of the survey be printed as part of a mail merge. When printing a mail merge, the "multiple copy" functionality of a printer cannot be used as each page is unique. Instead, each iteration of the merge is sent to the printer as an individual page or pages in what appears to be a large document. Accordingly, printing 1865 twelve-page surveys required a very long time, and in several cases, caused strange errors. To save time in the mail room when printing the reminder survey, we recommend that the document be merged and converted it to a single PDF file to print fully collated, or several PDF files to print pages separately.

Another problem that we ran into was that the pages of the survey got mixed up with surveys of other serial numbers somewhere between the time that they were printed and the time that they were posted. This made for a lot of uncertainty as to where the surveys were being returned from, since they could have more than one serial number on different pages. To avoid the risk of accidental mixing, we recommend that each individual survey be stapled as it comes out of the printer, so that no pages can be changed before posting. The drawback of this method is that the envelopes cannot be machine stuffed, but ensuring that the surveys can be tracked is worth the extra time it takes to hand-stuff the envelopes.

5.4 Sample Size

Groups interested in our survey's results expressed their desire for 1000 or more responses to provide statistically sound evidence for their policies. Unfortunately, surveys in the Borough tend to receive responses of around 10%. This means that to obtain a response for viable evidence, at least 10,000 questionnaire would need to be distributed throughout the Borough. For this to work, the sample would have to be broadened to look at the entire borough, rather than just housing developments built within the last five years. Given an approximate population of 160,000 in The Royal Borough of Kingston, we believe that this could be possible, but would require a vastly simplified approach to mailings and response collection with the current printing and technology resources of the Borough as stated in the preceding sections (Field et al., 2009).

However, since the Planning department was interested in information on new housing, and did not have the requirement for 1000 responses, the sample can still be expanded. If the survey were conducted again in a few years, we recommend that the planning department use a sample that extends back to at least the addresses we used for this survey. Before this can be done, the

addresses in our survey database need to be re-matched to UPRNs, because the data currently in our database does not all match up with the GIS team's databases. This must be done either by hand or by someone on the GIS team who has extensive knowledge of their databases. Once the data is all matched, though, our database can be used for a sample for future surveys, with any new builds between the time that our survey ended and the time that the new survey began added in.

5.5 Addresses and Data Sources

The original specifications for our project dictated that we survey all residences established in the past five years. Unfortunately, the Borough's GIS system does not directly cross-reference building records with current postal addresses. This meant that our address list could not be exported directly from the GIS system, but rather required that it was compiled from several sources with inconsistent location data. Without consistent, accurate position data for responses, we were not able to map all of the recipients. Additionally, we had to search "by hand" for location data corresponding to responses lacking such data. To ensure accuracy and consistency when mapping results from future surveys, we recommend to the Borough that all future recipient lists for household surveys should include complete geo-location data (UPRN/Easting-Northing) when exported from the ISIS database.

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Appendix A: Questionnaire

Instructions

Thank you for taking the time to complete this survey. Please return it by 11 June 2010 in the pre-paid envelope provided. Alternatively, complete an on-line version which can be found at the following Internet address:

https://www.surveymonkey.com/s/rbk-housing

Web Survey Access Code: ***SAMPLE***

Online Survey

If you choose to take the survey online, instructions will be provided on the web.

Paper Survey

This survey contains two types of questions. Please answer only those questions you feel comfortable with.

General questions

Unless instructed otherwise, please tick only the most relevant response OR supply a free response answer where applicable.

Example:

Q6 Where did you live previously?	Tick
Royal Borough of Kingston	☐
Elsewhere in London	X
Outside Greater London but within U.K	☐
Outside U.K. (please specify)	

OR

Q6 Where did you live previously?	Tick
Royal Borough of Kingston	☐
Elsewhere in London	☐
Outside Greater London but within U.K	☐
Outside U.K. (please specify) Munich, Ger.	

Household Questions

Unless instructed otherwise, please tick the most relevant response OR supply a free response answer where applicable. If possible, you must respond on behalf of all members of your household.

Example:

Q18 Where is your main place of work, school, nursery, college, or university?	Person						
	1	2	3	4	5	6	7
Royal Borough of Kingston	X	☐	X	☐	☐	☐	☐
Other Borough (Please specify)	.....	Merton	.....	.....	.....	.....	.....

Survey

Residence

Q1 What type of property do you live in?	Tick
House	☐
Flat (including maisonette)	☐
Other (please specify)	

Q2 How many bedrooms does your property have?	Tick
Studio/Bedsit	☐
One	☐
Two	☐
Three	☐
Four	☐
Five	☐
Six	☐
More (please specify)	

Q3 How would you describe your household?	Tick
Single Person	☐
Unrelated adults living in a shared house	☐
Lone parent with dependent children	☐
Couple with no dependent children	☐
Couple with dependent children	☐
Other household with no dependent children	☐
Other household with dependent children	☐

Q4 Is this your...?	Tick
Only residence	☐
Main residence (e.g. weekend home elsewhere)	☐
Second residence (e.g. main home elsewhere)	☐
Company's property	☐

Q5 Where did you live previously?	Tick
Royal Borough of Kingston	☐
Elsewhere in London	☐
Outside Greater London but within U.K	☐
Outside U.K. (please specify)	

Q6 Time at:	current property Tick	previous property Tick
Less than 1 year	☐	☐
1 - 3 years	☐	☐
3 - 5 years	☐	☐
5 - 10 years	☐	☐
Over 10 years	☐	☐

Q7 Ownership of...	current property Tick	previous property Tick
Own your home outright	☐	☐
Own your home with a mortgage/loan	☐	☐
Part own/part rent (including shared equity)	☐	☐
Rent your home from a private landlord	☐	☐
Rent your home from a housing association	☐	☐
Rent your home from a/the Council	☐	☐
Live with parents/family	☐	☐
Other	☐	☐

Q8 Are you expecting to move house in...?	Tick
The next year	☐
1 to 5 years	☐
5 to 10 years	☐
Over 10 years	☐
Don't know	☐

Q9 What was your previous UK postal district (e.g. SW18)?		Q10 Including yourself, how many people live in your property?	

Q11 Why did you move from your previous address? Please rank your 3 main reasons in order:

Please rank in order of priority (1 = most important)

	No.		No.
To move to a larger property		High house prices	
School choices		High cost of living	
Change in personal circumstances		To move closer to family/friends	
Level of crime		To move closer to work	
Air pollution		Career move	
Noise		Retirement	
To move to a property with garden/larger garden		Other (please specify)	

Q12 If you intend to move from your current address, please rank your 3 main reasons in order:

Please rank in order of priority (1 = most important)

	No.		No.
To move to a larger property		Air pollution	
To move to a property with garden/larger garden		Noise	
Relocation outside London		High house prices	
Relocation overseas		High cost of living	
Relocation to rural area		To move closer to family/friends	
School choices		To move closer to work	
Change in personal circumstances		Career move	
Level of crime		Retirement	
Traffic congestion		Other (please specify)	

Q13 What gender are you/your householders?	Person						
	1	2	3	4	5	6	7
Male	☐	☐	☐	☐	☐	☐	☐
Female	☐	☐	☐	☐	☐	☐	☐

Q14 What age are you/your householders?	Person						
	1	2	3	4	5	6	7
0 -2 years	☐	☐	☐	☐	☐	☐	☐
3 - 4 years	☐	☐	☐	☐	☐	☐	☐
5 - 10 years	☐	☐	☐	☐	☐	☐	☐
11 - 15 years	☐	☐	☐	☐	☐	☐	☐
16 - 19 years	☐	☐	☐	☐	☐	☐	☐
20 - 29 years	☐	☐	☐	☐	☐	☐	☐
30 - 39 years	☐	☐	☐	☐	☐	☐	☐
40 - 59 years	☐	☐	☐	☐	☐	☐	☐
60 - 79 years	☐	☐	☐	☐	☐	☐	☐
80+ years	☐	☐	☐	☐	☐	☐	☐

Employment and Education

Q15 What are you/your householders?	Person 1	2	3	4	5	6	7
Full time worker	☐	☐	☐	☐	☐	☐	☐
Part time worker	☐	☐	☐	☐	☐	☐	☐
Home worker	☐	☐	☐	☐	☐	☐	☐
Homemaker	☐	☐	☐	☐	☐	☐	☐
Unemployed	☐	☐	☐	☐	☐	☐	☐
Permanently sick or disabled	☐	☐	☐	☐	☐	☐	☐
Retired	☐	☐	☐	☐	☐	☐	☐
Other (please specify)	.....	.....	.....	.....	.....	.....	.....

Q16 What is the current educational status of you/your householders?	Person 1	2	3	4	5	6	7
Under school age and intend to enrol at a state school in Kingston	☐	☐	☐	☐	☐	☐	☐
Under school age and intend to enrol at a private school in Kingston	☐	☐	☐	☐	☐	☐	☐
Under school age and intend to enrol at a school outside Kingston	☐	☐	☐	☐	☐	☐	☐
Attending full time state nursery	☐	☐	☐	☐	☐	☐	☐
Attending full time private nursery	☐	☐	☐	☐	☐	☐	☐
Attending full time state primary school	☐	☐	☐	☐	☐	☐	☐
Attending full time private primary school	☐	☐	☐	☐	☐	☐	☐
Attending full time state secondary school/sixth form	☐	☐	☐	☐	☐	☐	☐
Attending full time private secondary school/sixth form	☐	☐	☐	☐	☐	☐	☐
Attending special state school	☐	☐	☐	☐	☐	☐	☐
Attending special private school	☐	☐	☐	☐	☐	☐	☐
Attending other state school	☐	☐	☐	☐	☐	☐	☐
Attending other private school	☐	☐	☐	☐	☐	☐	☐
Attending college	☐	☐	☐	☐	☐	☐	☐
Attending university	☐	☐	☐	☐	☐	☐	☐
Homeschooled	☐	☐	☐	☐	☐	☐	☐
Not in full time education	☐	☐	☐	☐	☐	☐	☐
Other (please specify)	.....	.....	.....	.....	.....	.....	.....

Q17 What is the postal code of your main place of employment/education?	Person 1	2	3	4	5	6	7
	.....	.....	.....	.....	.....	.....	.....

Q18 Where is your main place of work, school, nursery, college, or university?	Person						
	1	2	3	4	5	6	7
Royal Borough of Kingston	☐	☐	☐	☐	☐	☐	☐
Other Borough (Please specify)	.....	.....	.....	.....	.....	.....	.....

Transport

Q19 How do you usually travel to school/work etc?	Person						
	1	2	3	4	5	6	7
If you use several modes of transport, please choose the one that accounts for the main part or majority of your journeys							
Car	☐	☐	☐	☐	☐	☐	☐
Motorbike	☐	☐	☐	☐	☐	☐	☐
Tube	☐	☐	☐	☐	☐	☐	☐
Train	☐	☐	☐	☐	☐	☐	☐
Bus	☐	☐	☐	☐	☐	☐	☐
Taxi	☐	☐	☐	☐	☐	☐	☐
Bicycle	☐	☐	☐	☐	☐	☐	☐
Walk	☐	☐	☐	☐	☐	☐	☐
Work/study at home	☐	☐	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐	☐	☐
Does not apply	☐	☐	☐	☐	☐	☐	☐

Q20 Do you own a car?	Person						
	1	2	3	4	5	6	7
Yes	☐	☐	☐	☐	☐	☐	☐
No	☐	☐	☐	☐	☐	☐	☐

Q21 Where do you park your car?	Person						
	1	2	3	4	5	6	7
Your driveway/on your property	☐	☐	☐	☐	☐	☐	☐
On the street	☐	☐	☐	☐	☐	☐	☐
Rent someone else's garage/driveway	☐	☐	☐	☐	☐	☐	☐
An allocated parking bay within your development	☐	☐	☐	☐	☐	☐	☐
Does not apply	☐	☐	☐	☐	☐	☐	☐

Q22 Do you use a car or vehicle for work?	Person						
	1	2	3	4	5	6	7
Yes	☐	☐	☐	☐	☐	☐	☐
No	☐	☐	☐	☐	☐	☐	☐

Miscellaneous

Q23 Computer Access	Person 1 Yes	1 No	2 Yes	2 No	3 Yes	3 No	4 Yes	4 No	5 Yes	5 No	6 Yes	6 No	7 Yes	7 No
Do you have access to a computer?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Do you own a computer?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Do you use a computer regularly ?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Do you have access to the Internet?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Do you use the Internet regularly (daily/weekly)?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Q24 Community Facilities	Person 1 Yes	1 No	2 Yes	2 No	3 Yes	3 No	4 Yes	4 No	5 Yes	5 No	6 Yes	6 No	7 Yes	7 No
Do you think you have easy access to health services e.g. dentist/doctors	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Do you think you have easy access to community facilities e.g. library/leisure centre	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Do you think you have easy access to shops and services e.g. bank/post office	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Q25 On a scale of 1-5, how happy are you/your householders with...?	Person 1	2	3	4	5	6	7
1=Very unhappy; 2=Unhappy; 3=Satisfied; 4=Happy; 5=Very happy							
The design of your property							
The size of your property							
The room sizes in your property							
Access to outdoor space e.g. Garden							
The security/safety of your property							
The security/safety of your area							

Equalities Monitoring

Q26 What is your country of origin/birth?		Q27 What is your nationality?	

Q28 Do you have an illness or disability which limits your activities in any way?	Tick
Yes	☐
No	☐
If yes, what kind of disability?	*Tick*
Physical/Mobility	☐
Sensory	☐
Mental Health	☐
Learning Disability	☐
Health Diagnosis	☐
Other (please specify).....	
	Tick
I prefer not to tell you	☐

Q29 What is your Religion or Belief?	Tick
Christian	☐
Buddhist	☐
Hindu	☐
Sikh	☐
Jewish	☐
Muslim	☐
Atheist	☐
Agnostic	☐
Other (please specify).....	
	Tick
I prefer not to tell you	☐

Q30 What is your Sexual Orientation?	Tick
Heterosexual (Man & Woman)	☐
Gay	☐
Lesbian	☐
Bisexual	☐
Other (please specify).....	
	Tick
I prefer not to tell you	☐

Q31 What is your ethnic group?	
White	*Tick*
British	☐
Irish	☐
Other White	
Black and Black British	*Tick*
Caribbean	☐
African	☐
Other Black	
Mixed	*Tick*
White and Black Caribbean	☐
White and Black African	☐
White and Asian	☐
Other mixed	
Chinese and Other Ethnic Groups	*Tick*
Chinese	☐
Other ethnic group	
Asian and Asian British	*Tick*
Indian	☐
Pakistani	☐
Bangladeshi	☐
Tamil	☐
Korean	☐
Other Asian	
	Tick
I prefer not to tell you	☐

Thank you for your help.

Please return your completed questionnaire in the pre-paid envelope provided to: Royal Borough of Kingston upon Thames, Guildhall 2, Kingston upon Thames, Surrey KT1 1EU.

If you have difficulty reading this document because of a disability or because English is not your first language, we can help you. Please call our helpline on 020 8547 5757 or ask someone to call on your behalf.

چنانچه قادر نیستید این نامه را به دلیل ناتوانی یا مشکل زبان بخوانید ما میتوانیم به شما کمک کنیم. لطفا خود یا شخص دیگری با شماره کمک شهرداری کینگستون تماس بگیرید.
020 8547 5757 ۰۲۰۸۵۴۷۵۷۵۷ تلفن

"당신이 신체적인 불편함 혹은 언어 문제로 인해 이 서류를 읽지 못할 경우, 저희들이 돕겠습니다. 킹스톤 의회 상담전화 (Kingston Council helpline) 020 8547 5757 로 직접 전화하시거나 혹은 다른 사람에게 전화를 부탁하십시오"

ئەگەر توانای خوێندنەوەی ئەم نوسراوەت نیە لەبەر پەککەوتەی/ بێ توانای یاخود لەبەر زمان نێنە گەیشتن . ئەوا ئێمە ئەتوانین یارمەتیت بدەین . تکایە پەیوەندی بکە بە هێڵی یارمەتی شارەوانی کینگستۆنەوە (Kingston Council) بەژمارە تەلەفۆنی 020 8547 5757 یان بەکەسێ بڵێ کەبەناوی تۆوە پەیوەندی بکات .

"إن لم تكن قادراً على قراءة هذا النص بسبب اللغة أو أيّ عائق آخر، اتصل بنا فنحن نستطيع مساعدتك. الرجاء الاتصال بخط مجلس كنجستون للمساعدة (Kingston Council helpline) على الرقم 020 8547 5757 أو اطلب من أيّ شخص آخر الاتصال بنا نيابة عنك."

''ਜੇਕਰ ਤੁਸੀਂ ਅਪਾਹਜਤਾ ਜਾਂ ਭਾਸ਼ਾ ਦੇ ਕਾਰਣ ਇਸ ਦਸਤਾਵੇਜ਼ ਨੂੰ ਪੜ੍ਹਨ ਵਿੱਚ ਅਸਮਰਥ ਹੋ, ਤਾਂ ਅਸੀਂ ਤੁਹਾਡੀ ਸਹਾਇਤਾ ਕਰ ਸਕਦੇ ਹਾਂ। ਕਿਰਪਾ ਕਰਕੇ 020 8547 5757 'ਤੇ ਕਿੰਗਸਟਨ ਕੌਂਸਲ ਦੀ ਹੈਲਪਲਾਇਨ 'ਤੇ ਕੌਲ ਕਰੋ ਜਾਂ ਆਪਣੇ ਵੱਲੋਂ ਕਿਸੇ ਨੂੰ ਕੌਲ ਕਰਨ ਲਈ ਕਹੋ।''

Caso você nao consiga ler este documento devido a disabilidade ou idioma, nós podemos ajudar. Por favor, lique para o canal de atendimento Kingston Council no telefone 020 8547 5757, ou solicite a alguém para ligar por você.

உங்களால் இந்த கடிதத்தை படிக்க இயலவில்லை என்றால் தயவு கூர்ந்து கிங்ஸ்டன் உதவி மையத்தை நீங்களோ அல்லது உங்களை சார்ந்த எவராவது தொடர்பு கொள்ளவும்.
தொடர்பு கொள்ள வேண்டிய எண் 020 8547 5757

اگر آپ کو اس دستاویز کو پڑھنے میں مشکل کا سامنا ہے کیونکہ آپ کو کوئی معذوری ہے یا اگر یہ آپ کی پہلی زبان نہیں ہے، تو ہم آپ کی مدد کر سکتے ہیں۔ براہ کرم ہیلپ لائن کو 020 8547 5757 پر فون کریں یا کسی اور سے کہیں کہ وہ آپ کی جانب سے فون کریں۔

Haddii aadan awoodin akhrinta dokumentigan sabab naafada ama luqadda ah, waan ku caawin karnaa. Fadlan soo wac Khadka caawimada ee Kawnsalka Kingston 020 8547 5757 ama qof ku matalaya ka codso inuu na soo waco

我们可以协助您，如果您因语言障碍或残疾不能阅读此文件。请拨打金斯敦市议会热线服务电话 020 8547 5757 或请求他人来代表您通话。

Në qoftë se nuk mund ta lexoni këtë dokument, për shkak të gjuhës o ndonjë të mete tjetër, ne mund të ju ndihmojmë. Ju lutem telefonojen Këshillin e Kingstonit (Kingston Council) në linjën 020 8547 5757, ose që dikush të telefonoj në emër tuaj.

« Si vous êtes dans l'incapacité de lire ce document à cause des barrières linguistique ou autre, nous pouvons vous aider. Appelez ou faites appeler le numéro d'assistance du Kingston Council au 020 8547 5757. »

Frequently Asked Questions

Why was I chosen to take part in this survey?

You have been sent this survey because your home was constructed in the past five years. This is a pilot survey distributed to a selective group of approximately 2000 residents. If met with success, a similar questionnaire may be distributed to continue the Kingston Housing Survey 2010.

What will the results of this survey be used for?

Responses to the Kingston Housing Survey Questionnaire will inform a variety of Council services. For example, when providing future school places it is important to know how many children live in new developments and how old they are. In addition, the survey will provide data to inform population forecasts, illustrate access to community facilities and show how satisfied residents are with the quality of new housing.

Why is my response important?

To aid with planning for the borough, the Council needs an accurate representation of the Kingston community. Your response will help the Council to address the needs of every resident of the borough.

Who should fill out this survey?

This survey should be completed by a decision-making member of the household.

When does this survey need to be returned by?

The completed questionnaire should be returned in the prepaid envelope by **Friday, 11 June 2010**.

Is this survey confidential?

Yes. All responses to this survey will remain confined to relevant Council staff.

Can this survey be taken online?

Yes. For your convenience, the survey can be taken online at the following Internet address:

https://www.surveymonkey.com/s/rbk-housing

Web Survey Access Code: ***SAMPLE***

Appendix B: Survey Letters

The following section contains the original questionnaire cover letter, the reminder questionnaire cover letter, and the letter sent to Kingston's Residence Associations to set up interviews with them.

Survey Cover Letter

Directorate of Environmental Services
Roy Thompson,
Service Director, Planning and Transportation

SAMPLE Address Block

LDF and Planning Policy Team
Guildhall 2
Kingston upon Thames
Surrey
KT1 1EU

Enquiries to: LDF Team
☎ 0208 547 5312
Fax: 0208 547 5363
Website www.kingston.gov.uk/corestrategy
Email: ldf@rbk.kingston.gov.uk

18 May 2010

Dear Sir/Madam,

Kingston Housing Survey 2010

Our records show that your home may have been completed (built/established) within the last five years. Kingston Council would therefore welcome your feedback using the enclosed questionnaire, which forms part of the Kingston Housing Survey 2010.

We value all responses to the Kingston Housing Survey Questionnaire as they will inform a variety of Council services.

For example, when providing future school places it is important to know how many children live in new developments and how old they are. This is because Housing Surveys conducted in other parts of England suggest that the occupancy rates in new housing can be very different to those in established housing. In addition, the survey will provide data to inform population forecasts, illustrate access to community facilities and show how satisfied residents are with the quality of new housing.

Please return your completed Housing Survey in the Freepost envelope provided by the **11 June**. Alternatively, you can complete this questionnaire online via the following Internet address:

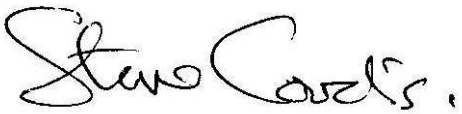
https://www.surveymonkey.com/s/rbk-housing

Web Survey Access Code: ***SAMPLE* 000000**

All completed questionnaires will be entered into a free prize draw, where you have the chance of winning £100 worth of shopping vouchers of your choice (from a store represented within the Royal Borough of Kingston).

If you have any further questions or comments please contact us via one of the methods detailed overleaf.

Yours sincerely,



Steve Cardis
LDF and Policy Manager

Survey Reminder Letter

Directorate of Environmental Services
Roy Thompson,
Service Director, Planning and Transportation

SAMPLE Address Block

The LDF and Planning Policy Team
Strategic Planning and Sustainability
Guildhall 2
Kingston upon Thames
Surrey
KT1 1EU

Enquiries to: The LDF and Planning Policy Team

☎ 0208 547 5312
Fax: 0208 547 5363
Website www.kingston.gov.uk/corestrategy
Email: ldf@rbk.kingston.gov.uk

4 June 2010

Dear Sir/Madam,

Kingston Housing Survey 2010 Reminder

You may have received a questionnaire recently regarding the Kingston Housing Survey 2010. If you have already returned a completed questionnaire, please accept our thanks and ignore this letter. If not, there is still time!

Our records show that your home may have been completed (built/established) within the last five years. Kingston Council would therefore welcome your feedback using the enclosed questionnaire, which forms part of the Kingston Housing Survey 2010.

We value all responses to the Kingston Housing Survey Questionnaire as they will inform a variety of Council services.

For example, when providing future school places it is important to know how many children live in new developments and how old they are. This is because Housing Surveys conducted in other parts of England suggest that the occupancy rates in new housing can be

very different to those in established housing. In addition, the survey will provide data to inform population forecasts, illustrate access to community facilities and show how satisfied residents are with the quality of new housing.

Please return your completed Housing Survey in the Freepost envelope provided by the **14 June 2010**. Alternatively, you can complete this questionnaire online via the following Internet address:

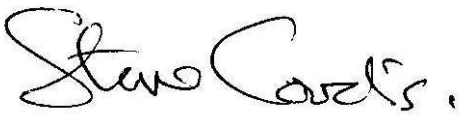
https://www.surveymonkey.com/s/rbk-housing

Web Survey Access Code: ***SAMPLE* 000000**

All completed questionnaires will be entered into a free prize draw, where you have the chance of winning £100 worth of shopping vouchers of your choice (from a store represented within the Royal Borough of Kingston).

If you have any further questions or comments please contact us via one of the methods detailed overleaf.

Yours sincerely,



Steve Cardis
LDF and Policy Manager

Letter to Residence Associations

Directorate of Environmental Services
Roy Thompson,
Service Director, Planning and Transportation

SAMPLE Address Block

The LDF and Planning Policy Team
Strategic Planning and Sustainability
Guildhall 2
Kingston upon Thames
Surrey
KT1 1EU

Enquiries to: The LDF and Planning Policy Team

☎ 0208 547 5312
Fax: 0208 547 5363
Website www.kingston.gov.uk/corestrategy
Email: ldf@rbk.kingston.gov.uk

01 June 2010

Dear Mr. *SAMPLE*,

Kingston Housing Survey 2010

As part of the 2010 Kingston Housing Survey we are gathering information from residents of housing developments that have been completed (built/established) within the last five years. In the last few days we have sent out questionnaires to those residents which may include some members of your Association, or residents in your area. However, we are also keen to seek your views on new housing in Kingston.

Kingston Housing Survey will inform a variety of Council services. For example, when providing future school places it is important to know how many children live in new developments and how old they are. This is because Housing Surveys conducted in other parts of England suggest that the occupancy rates in new housing can be very different from those in established housing. In addition, the survey will provide data to inform population

forecasts, illustrate access to community facilities, and show how satisfied residents are with the quality of new housing.

We are interested in supplementing our data from residents with more detailed views from your Association. Therefore, we would like to arrange a face to face interview in the next couple of weeks.

If you would like to participate in an interview, have any further questions, or know of any other residents' associations that would be interested in participating in the Kingston Housing Survey, please do not hesitate to contact me.

Yours sincerely,

Steve Cardis
LDF and Policy Manager

Appendix C: Residence Association Interview Questions

Residence Association Survey *Date:* _____

Residence Association: _____

1. Can you describe the general demographics of residents in your area?

Age:

Ethnicity:

Work status:

Housing tenure:

Other:

2. How much of the housing in your area consists of flats?

3. What types of house/flat sizes are there, for example studio, 1-bedroom, 2-bedroom, etc.?

____ Studio
____ 1 Bedroom
____ 2 Bedroom
____ 3 Bedroom
____ 4 Bedroom
____ 5 Bedroom
____ 6 Bedroom
____ Other:

4. About how many of your residents do you think have children?

Roughly what school ages do you think the children fall under?

____ Infant
____ Primary
____ Secondary
____ Post Secondary

1

Residence Association Survey *Date:* _____

5. In general, how do you think your residents feel about the housing? Are they happy with...

5a. The design?

If not, do you have any suggestions to fix this?

5b. The room size/overall size?

If not, do you have any suggestions to fix this?

5c. The outdoor space/gardens?

If not, do you have any suggestions to fix this?

5d. The safety/security of the property?

If not, do you have any suggestions to fix this?

5e. The safety/security of the area?

If not, do you have any suggestions to fix this?

2

Residence Association Survey *Date:* _____

6. About how many people move into the area from outside of the borough?

   What do you think are some typical reasons why they move in?

7. About how many people from your area are leaving the borough?

   What do you think are some typical reasons why they are moving out?

8. How many residents do you think own cars?

   Where do they park them?

   ____ Driveway ____ Street

   ____ Garage/Park in Development ____ Other Garage/Park

   ____ Other:

9. Do you believe your residents have easy access to the Internet?

3

Residence Association Survey *Date:* _____

10. In your area, do you think there is easy access to...

Hospitals?	Y / N
Dentists?	Y / N
Libraries?	Y / N
Leisure Centres?	Y / N
Post Offices?	Y / N
Banks?	Y / N

Would you say that residents in the area want better access to any of the above facilities?

____ Hospitals ____ Dentists

____ Libraries ____ Leisure Centres

____ Post Offices ____ Banks

____ Other:

ADDITIONAL NOTES:

4

Residence Association Survey *Date:* _____

EXTRA QUESTIONS

1. Are there any other issues with the new housing in your area that you would like to bring up?

2. In terms of public/alternative transportation, what do your residents often use?

Is there anything that they want more support for?

____ Cars ____ Walking

____ Buses ____ Cycling

____ Trains ____ Taxi

____ Tube ____ Other:

5

Residence Association Survey *Date:* _____

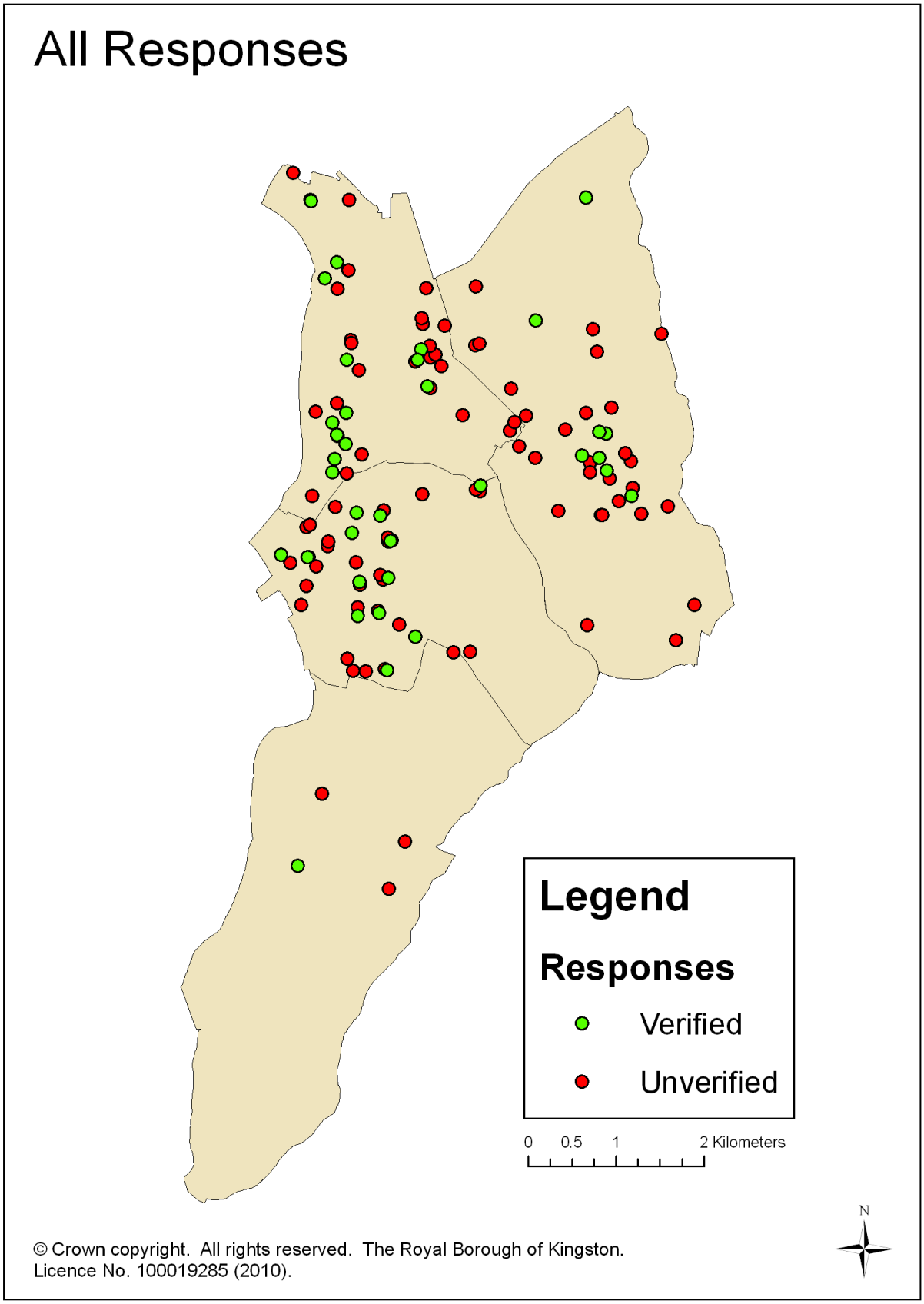
3. What do you think your residents' opinions are on schools in the area?

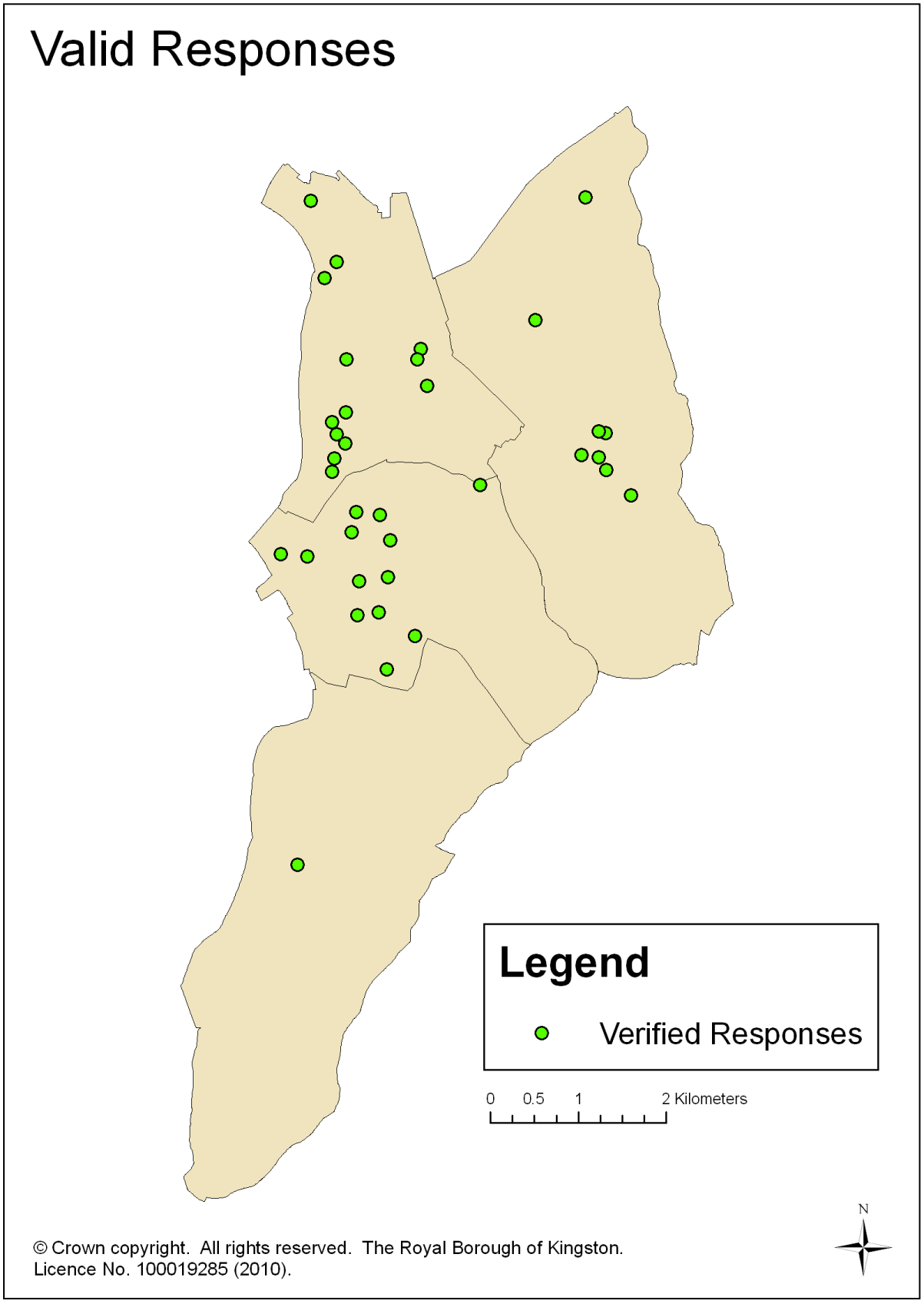
Do you think that many people send their children to schools outside of the borough?

ADDITIONAL NOTES:

6

Appendix D: GIS Maps




Valid Responses
Legend
Verified Responses
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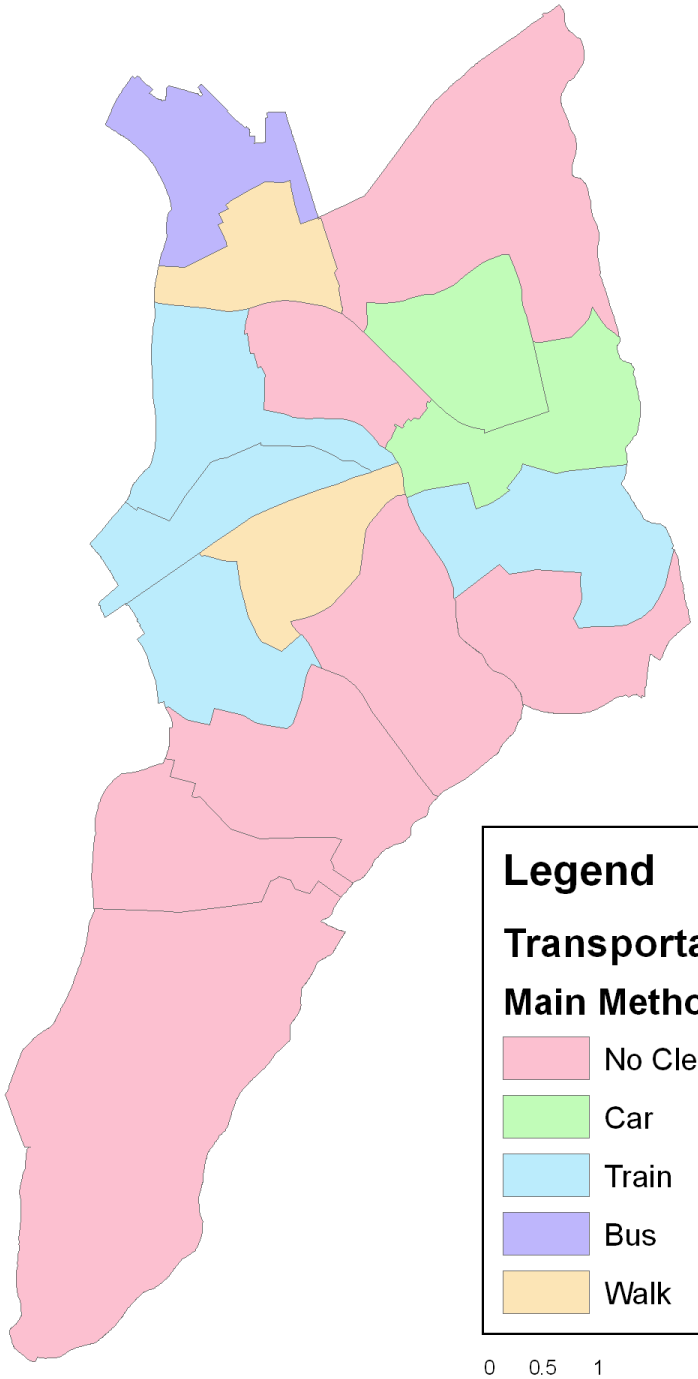
Transportation Methods



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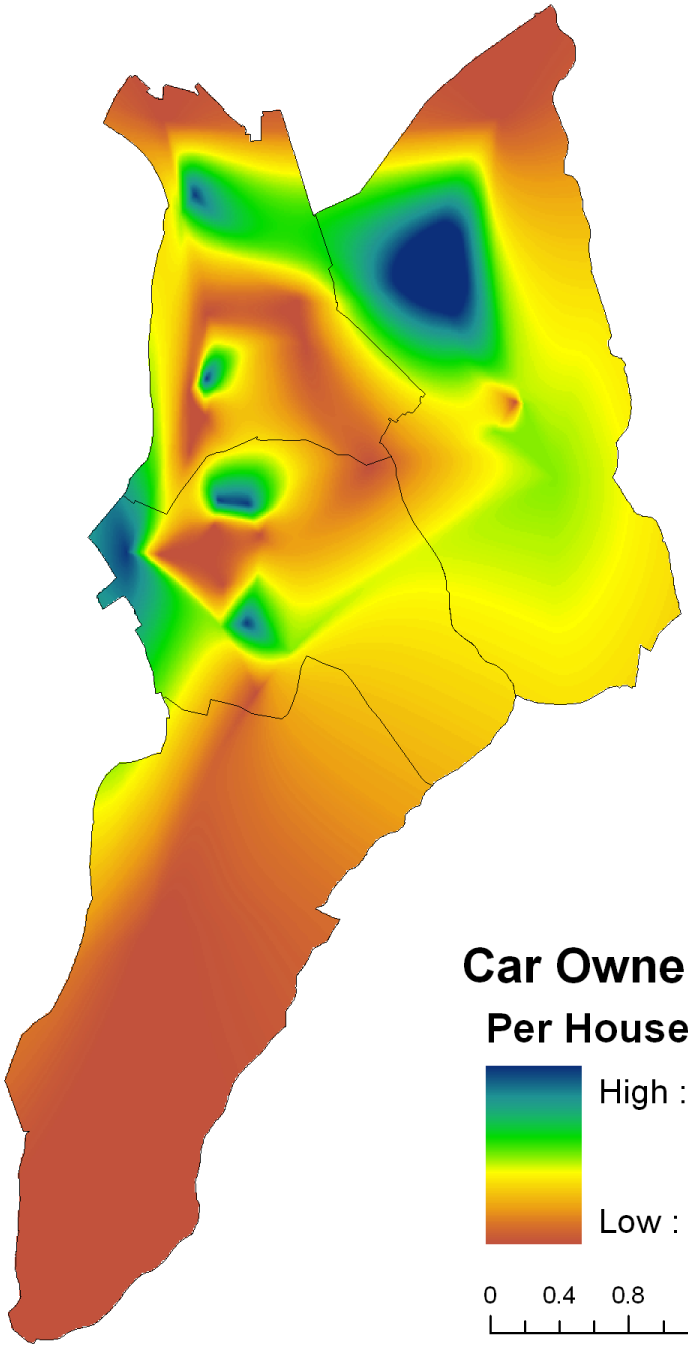
Car Ownership



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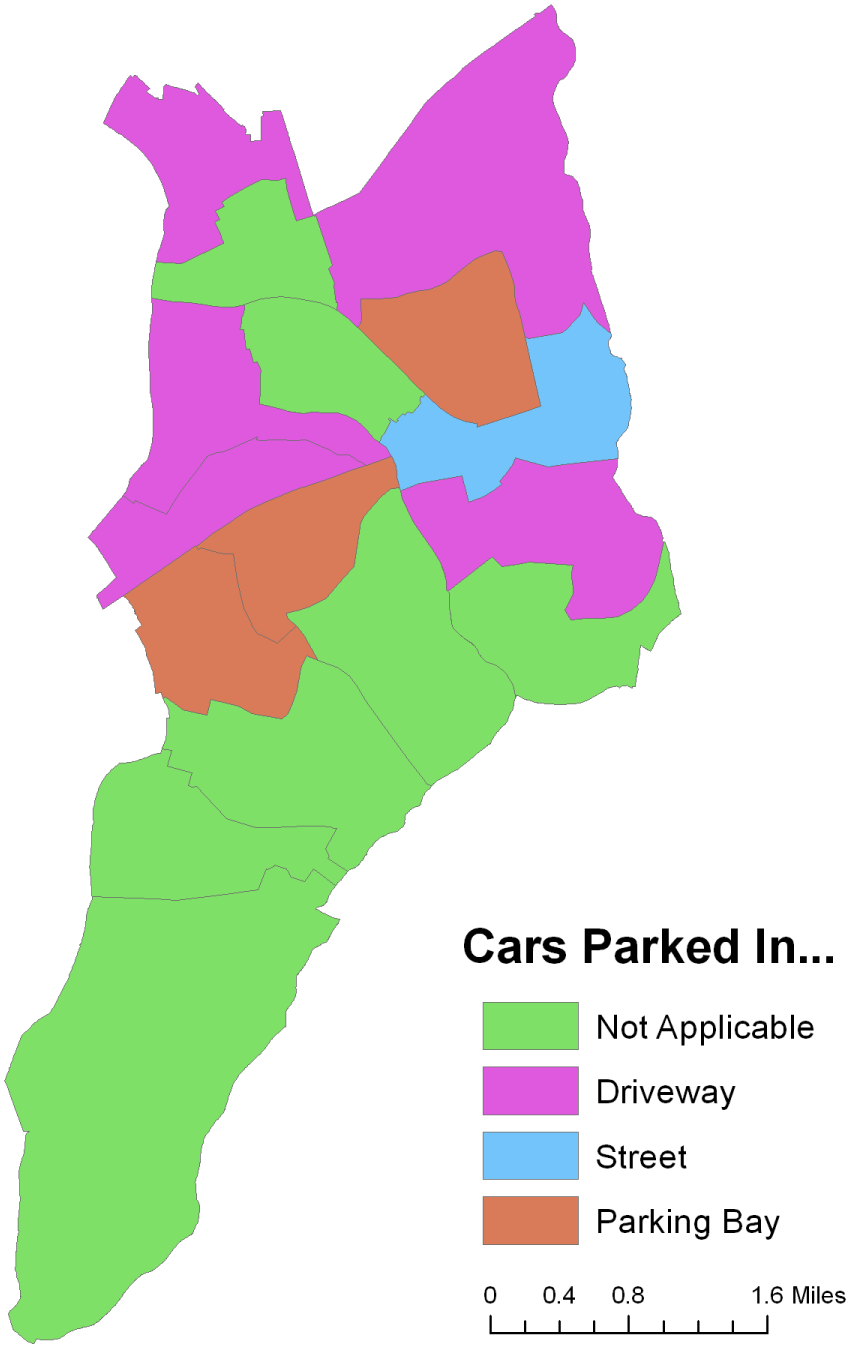
Parking Methods



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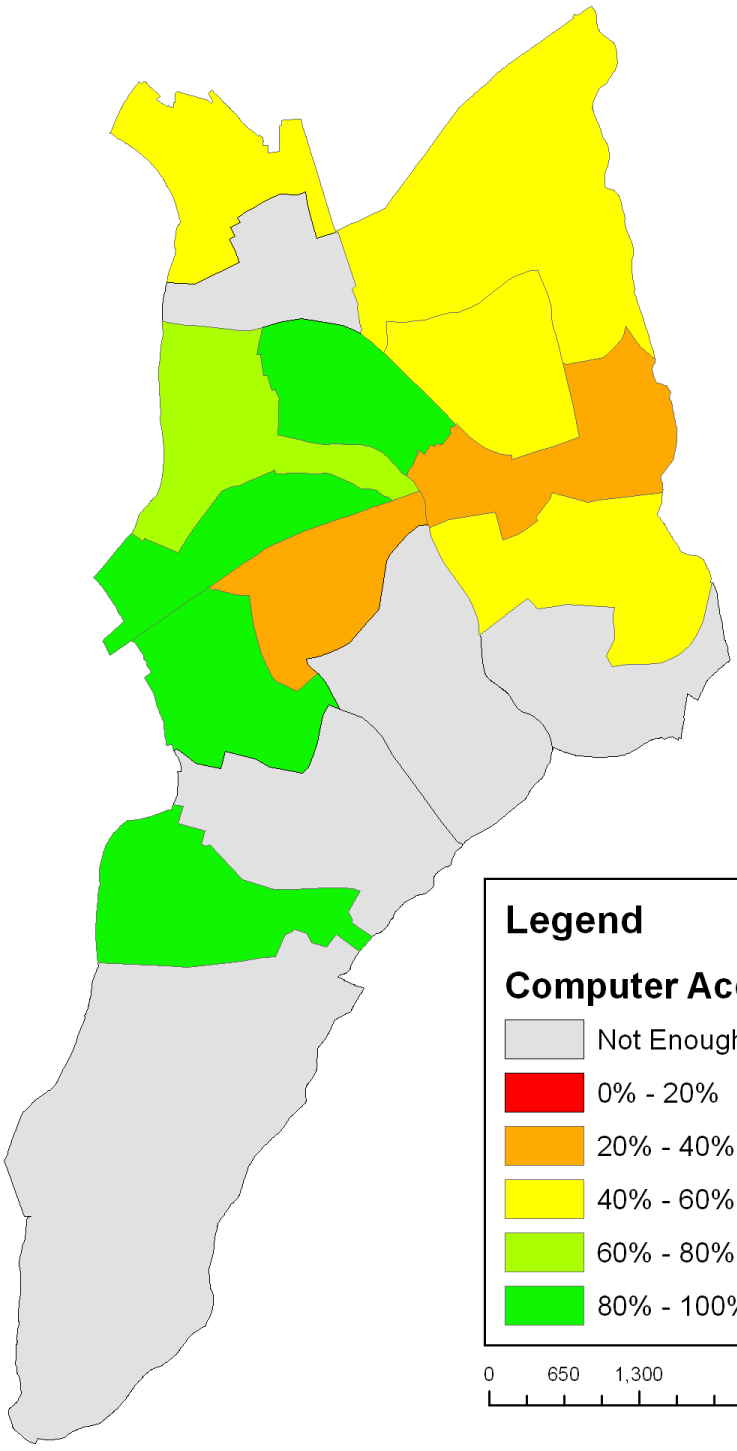
Computer Access



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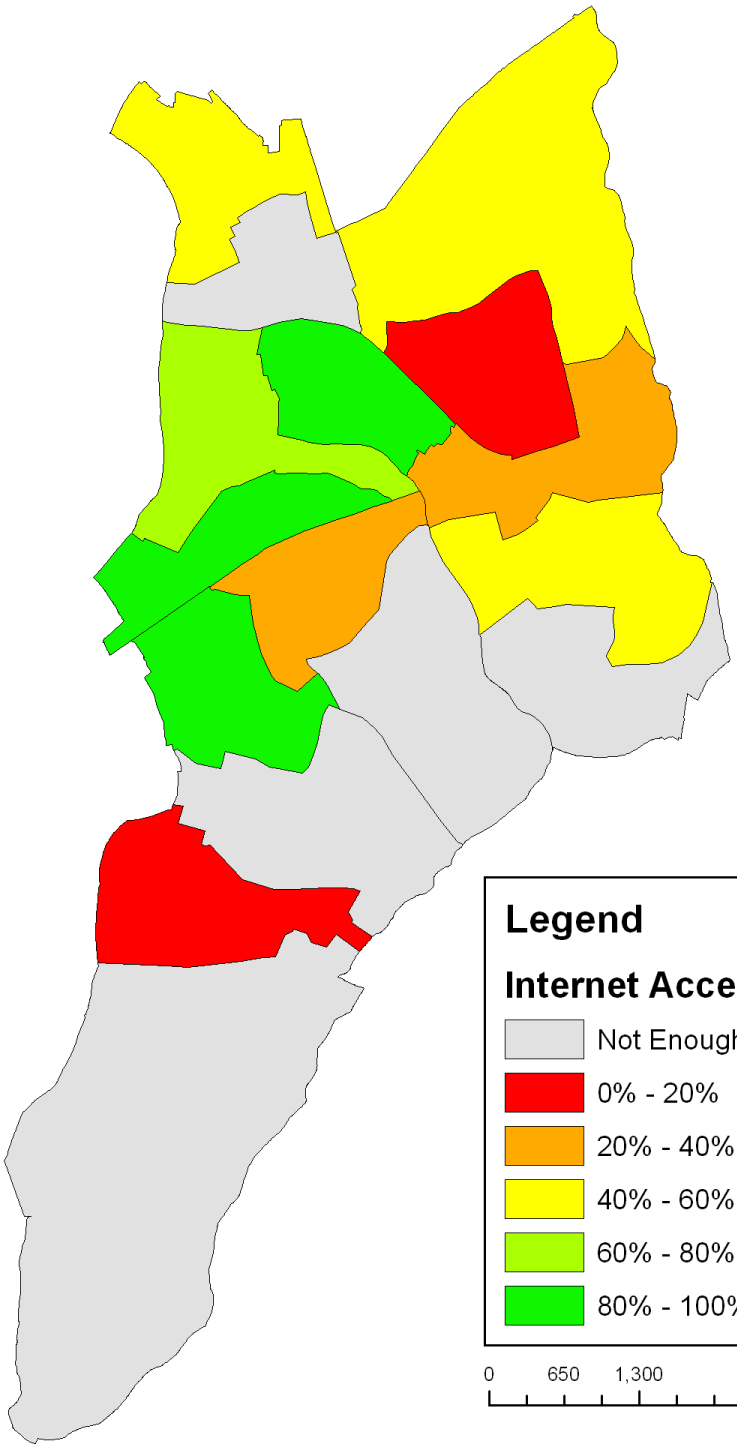
Internet Access



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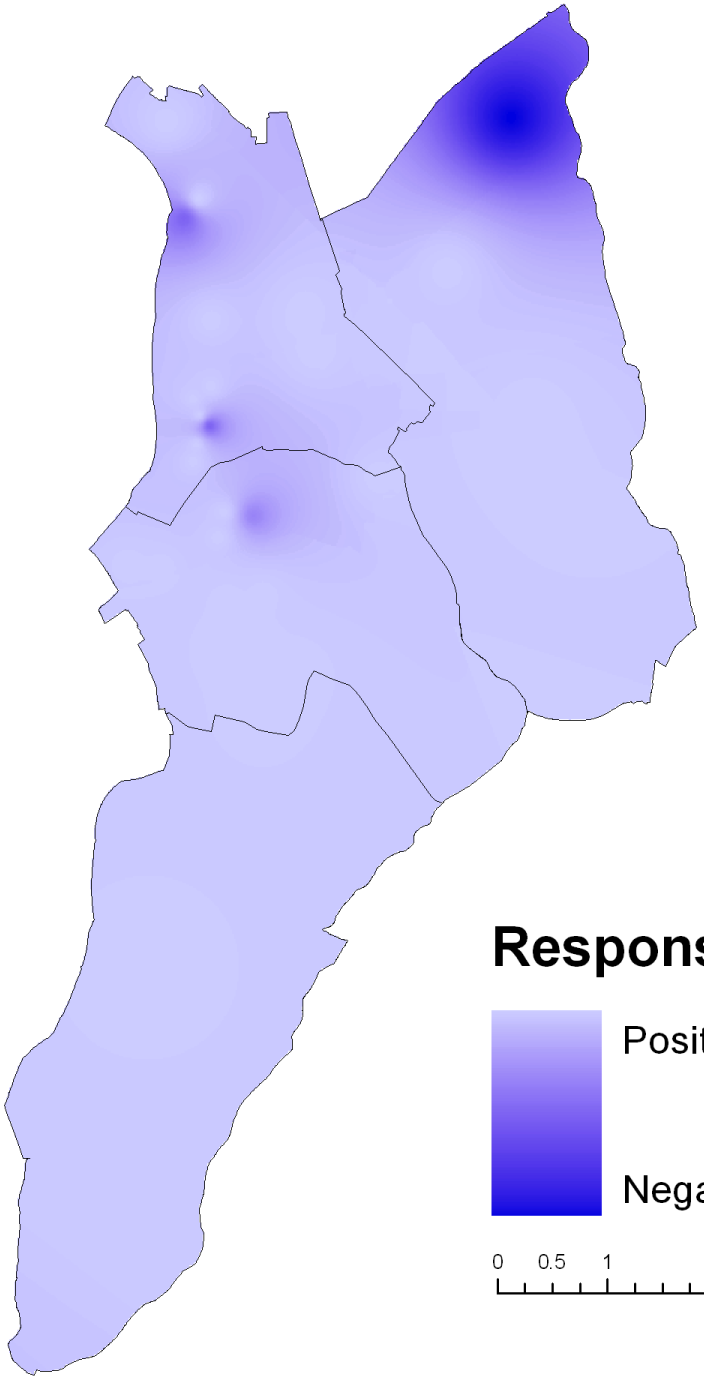
Ease of Access to Health Services



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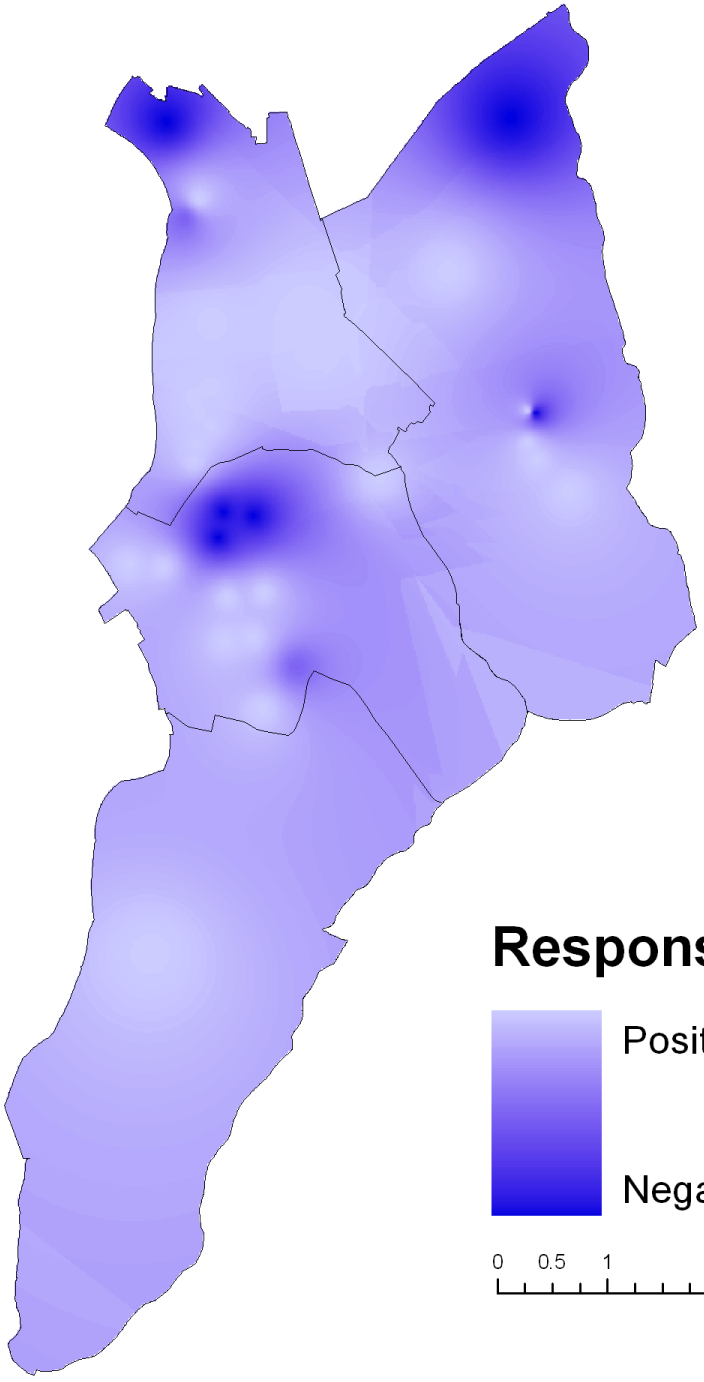
Ease of Access to Community Facilities



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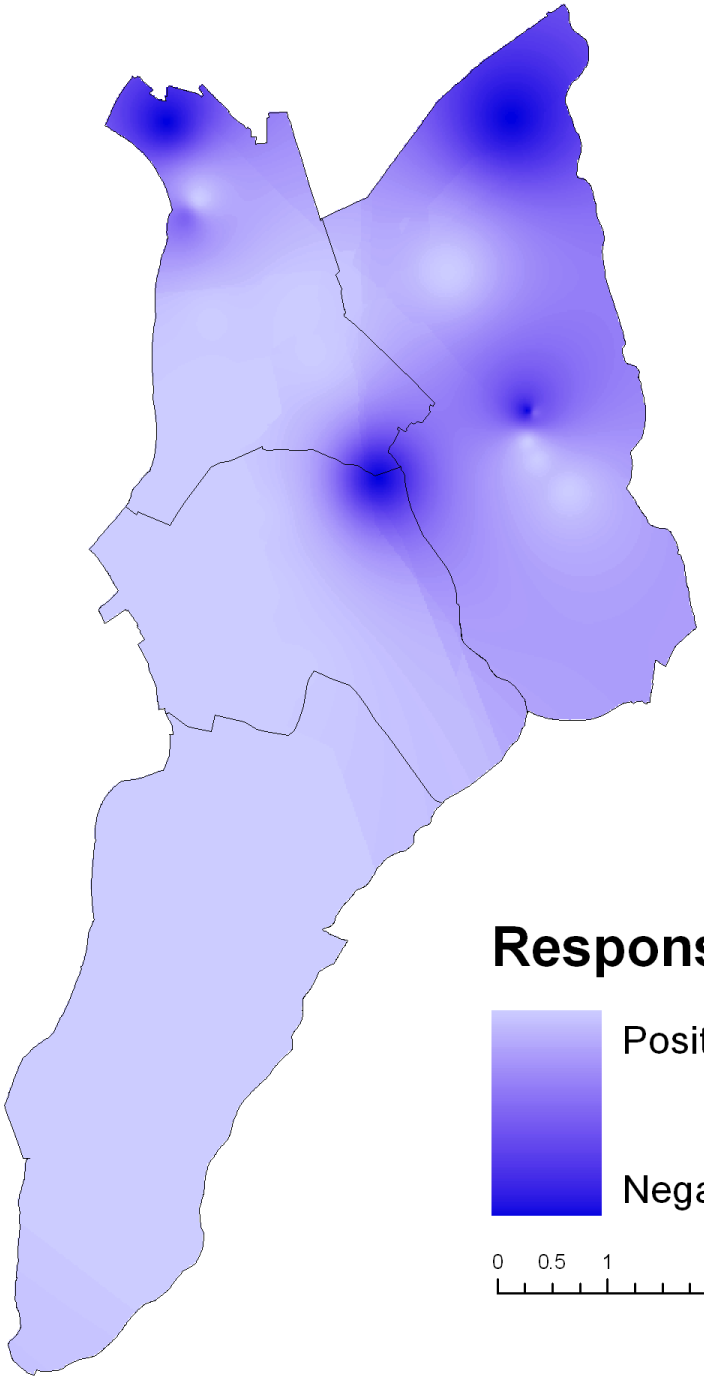
Ease of Access to Shops and Services



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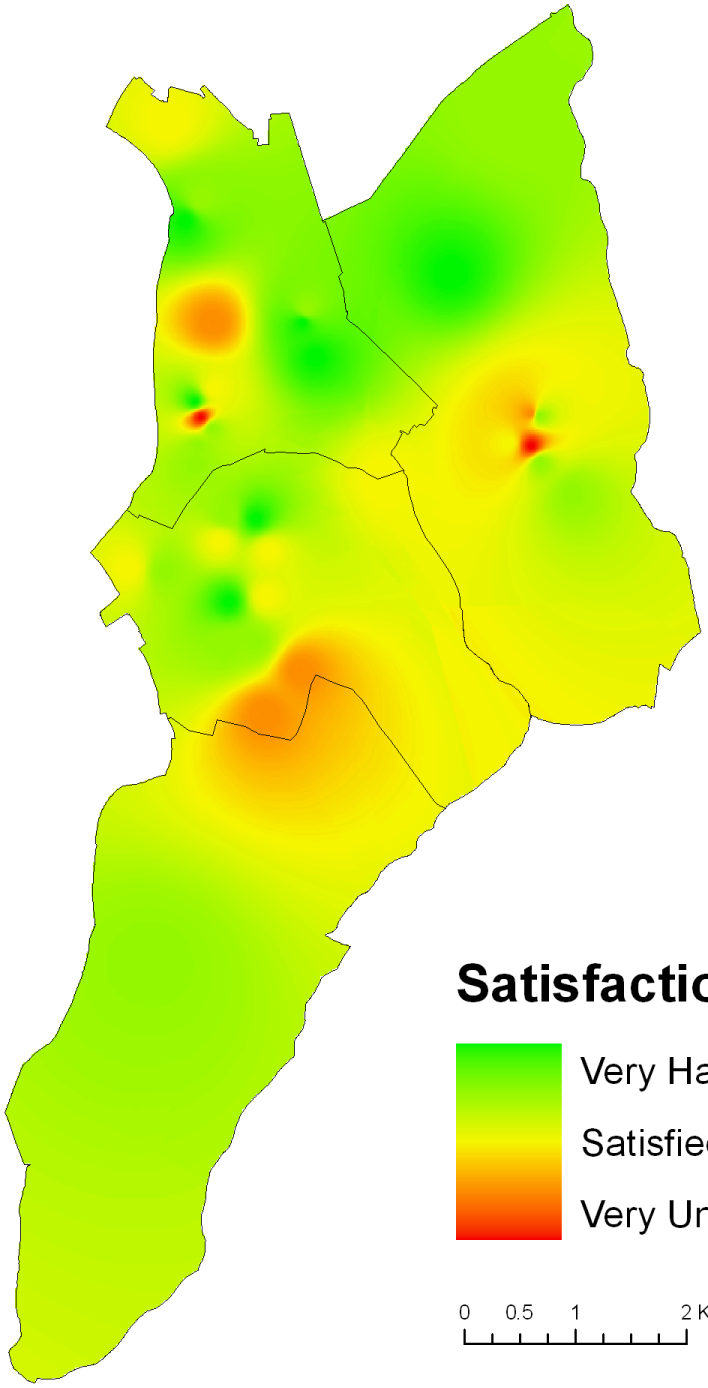
Satisfaction with Design of Property



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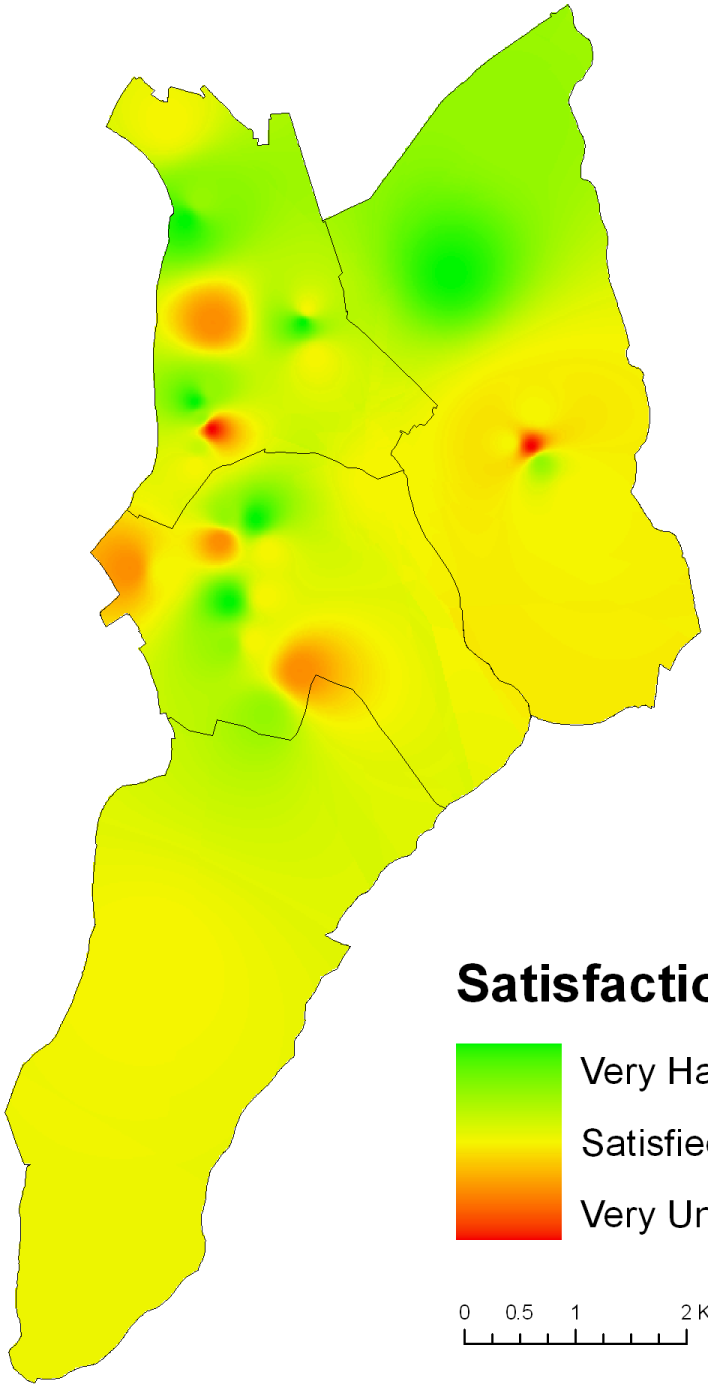
Satisfaction with Size of Property



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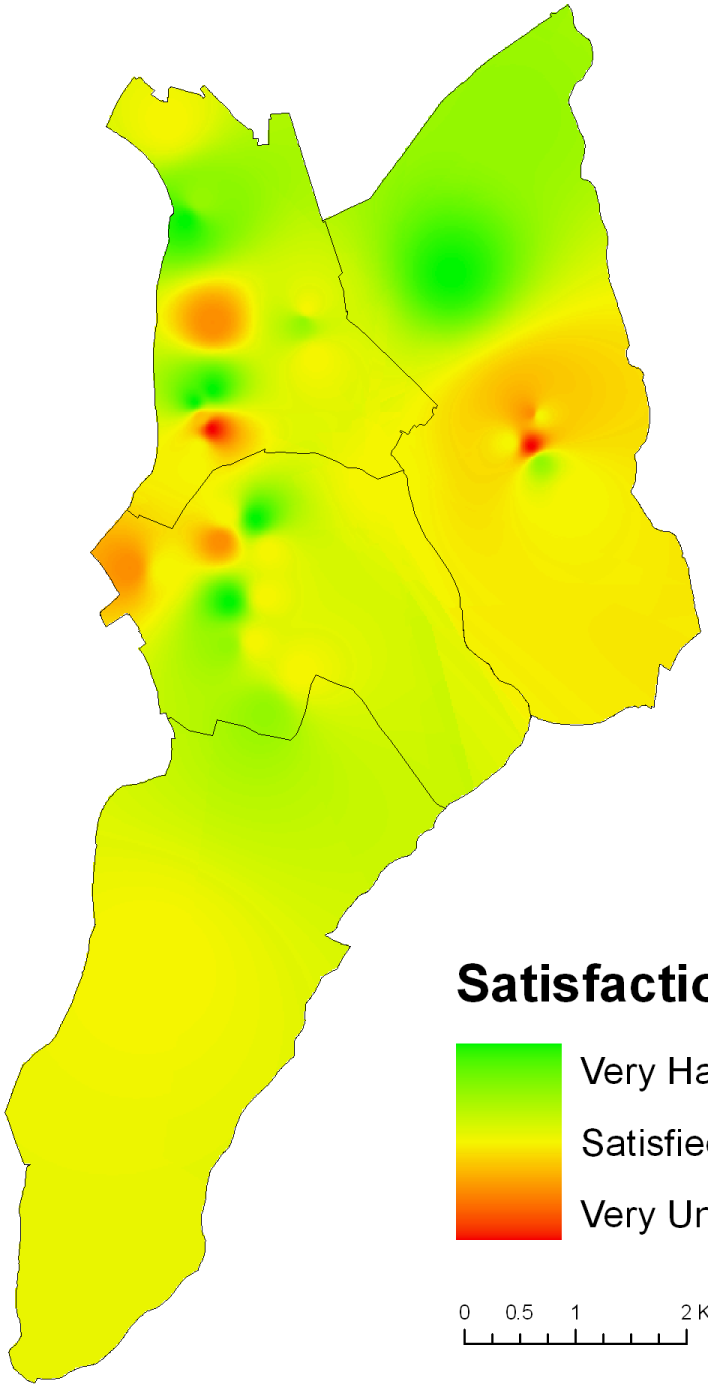
Satisfaction with Room Size



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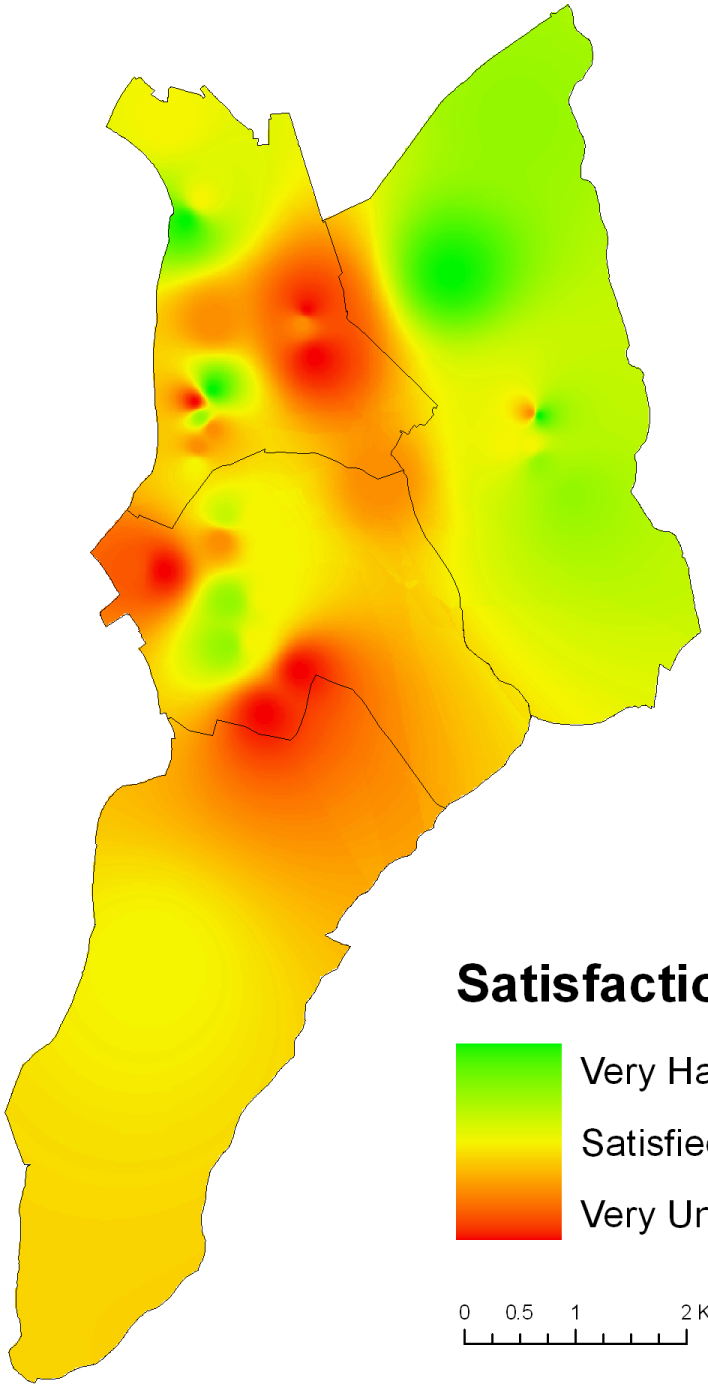
Satisfaction with Access to Outdoor Space



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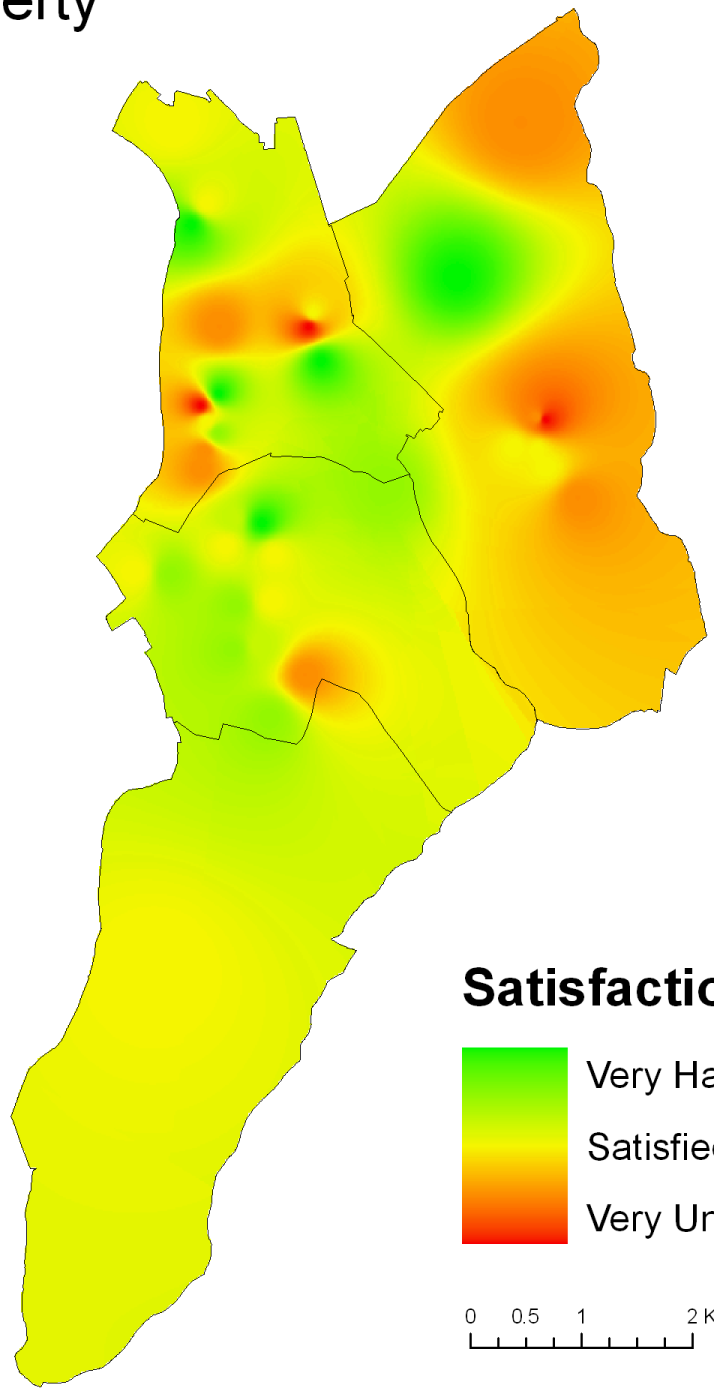
Satisfaction with Safety and Security of Property



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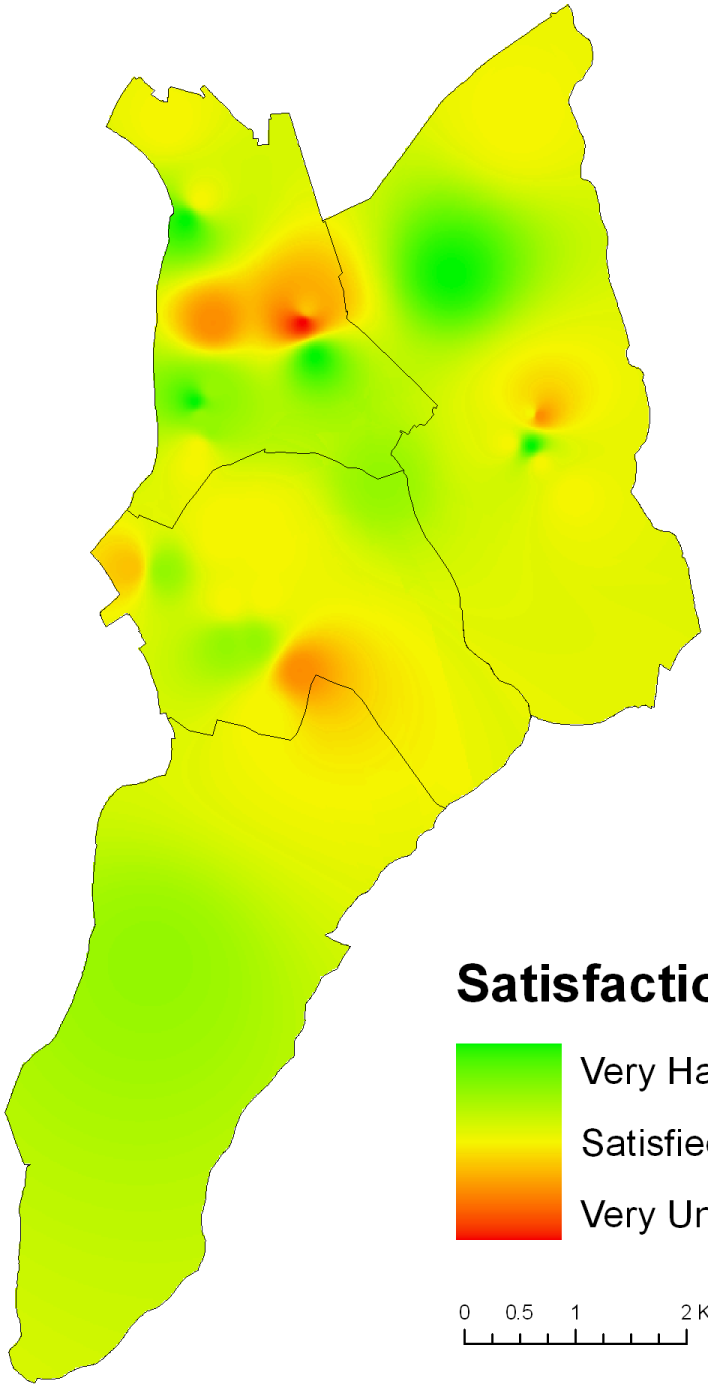
Satisfaction with Safety and Security of Area



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Appendix E: Wandsworth Questionnaire

The following questionnaire comes from the 2008 Wandsworth Housing Survey, which the initial questions of the Kingston Housing Survey were based on. The format of the Kingston Housing Survey was also heavily based on the format of the Wandsworth New Housing Questionnaire.

New Housing Questionnaire

[ ][ ][ ][ ]

Q1 What type of property do you live in?

	Tick
House	☐
Flat or apartment	☐

Q2 How many rooms do you have?

	No.
Bedrooms	☐
Combined bedroom/living room (studio)	☐
Lounge/living/dining rooms	☐
Combined kitchen/living room	☐
Large kitchens (e.g. with dining area)	☐
Small kitchens	☐
Bathrooms	☐
Studies	☐
Conservatories	☐
Other rooms *(please specify)*	☐
Total rooms	☐

Q3 How would you describe your household?

	Tick
Single person	☐
Lone parent with dependent children	☐
Couple with no dependent children	☐
Couple with dependent children	☐
Other household with no dependent children	☐
Other household with dependent children	☐

Q4 Is this your?

	Tick
Only residence	☐
Main residence (e.g. weekend home elsewhere)	☐
Second residence (e.g. main home elsewhere)	☐
Company's property	☐

Q5 Overall, how happy are you with your property?

	Tick
Very happy	☐
Happy	☐
Neither happy nor unhappy	☐
Unhappy	☐
Very unhappy	☐

Q6 Are you satisfied with the following aspects of your property/housing development?

	Tick	YES	NO	n/a	*If you are <u>not</u> satisfied, why not?*
Overall location of development		☐	☐	☐	
Overall size of accommodation		☐	☐	☐	
Size of rooms		☐	☐	☐	
Internal layout		☐	☐	☐	
Amount of car parking space for members of your household		☐	☐	☐	
Location of your car parking spaces		☐	☐	☐	
Amount of car parking space for visitors		☐	☐	☐	
Provision of bicycle parking facilities		☐	☐	☐	
Your privacy (e.g. distance from neighbours overlooking you)		☐	☐	☐	
Natural daylight in your living rooms		☐	☐	☐	
Access to your property (e.g. level access to your front door)		☐	☐	☐	
Width of your front door and corridor to allow easy access (for pushchairs or wheelchairs)		☐	☐	☐	
Density/intensity of development		☐	☐	☐	
Appearance and design of your development		☐	☐	☐	
Safety and security aspects of your development (e.g. layout, lighting, boundaries between public & private space)		☐	☐	☐	
Provision of private amenity space (e.g. garden, balcony, terrace)		☐	☐	☐	
Provision of communal amenity space (e.g. shared gardens)		☐	☐	☐	
Distance to nearest open space/playgrounds		☐	☐	☐	
Adequacy of facilities for refuse disposal		☐	☐	☐	
Adequacy of facilities for recycling		☐	☐	☐	
External noise levels (e.g. from roads, railways, aircraft)		☐	☐	☐	
Internal noise levels (e.g. between neighbouring properties)		☐	☐	☐	
Energy efficiency (e.g. insulation, energy saving glazing)		☐	☐	☐	

Q7 How long have you lived at your current address?

	Tick
Less than 1 year	☐
1 to 3 years	☐
3 to 5 years	☐
5 to 10 years	☐
Over 10 years	☐

Q8 Where did you live previously?

	Tick
Wandsworth borough	☐
Elsewhere in Greater London	☐
Outside Greater London but within UK	☐
Outside UK *(please specify)*	☐

_____

Q9 What was your previous postal district (e.g. SW18)? ☐

Q10 From today, how long do you plan to live:

	At your current address? Tick	In Wandsworth borough? Tick
Less than 1 year	☐	☐
1 to 3 years	☐	☐
3 to 5 years	☐	☐
5 to 10 years	☐	☐
Over 10 years	☐	☐
Don't know	☐	☐

Q11 If you intend to move from your current address, please rank your main 3 reasons in order:

Please rank reasons in order of priority (1=most important)	No.
To move to a larger property	☐
To move to a property with garden/larger garden	☐
Relocation outside of London	☐
Relocation overseas	☐
Relocation to rural area	☐
School choices	☐
Change in personal circumstances	☐
Level of crime	☐
Traffic congestion	☐
Air pollution	☐
Noise	☐
High house prices	☐
High cost of living	☐
To move closer to family/friends	☐
To move closer to work	☐
Career move	☐
Retirement	☐
Other *(please specify)*	☐

_____

Q12 Do you?

	Tick
Own your own home outright	☐
Own your own home with mortgage/loan	☐
Part own/part rent (including shared equity)	☐
Rent your home from a private landlord	☐
Rent your home from a housing association	☐
Other *(please specify)*	☐

_____

Q13 At your previous address did you?

	Tick
Own your own home outright	☐
Own your own home with mortgage/loan	☐
Part own/part rent (including shared equity)	☐
Rent your home from a private landlord	☐
Rent your home from a housing association	☐
Rent your home from a council	☐
Lived with parents/family	☐
Other *(please specify)*	☐

_____

Q14 Please indicate your household's combined gross (before tax) annual income (including any benefits, pension etc)

	Tick
Less than £5,000	☐
£5,000 to less than £10,000	☐
£10,000 to less than £20,000	☐
£20,000 to less than £30,000	☐
£30,000 to less than £40,000	☐
£40,000 to less than £50,000	☐
£50,000 to less than £75,000	☐
£75,000 to less than £100,000	☐
£100,000 to less than £125,000	☐
£125,000 to less than £150,000	☐
£150,000 and over	☐

Q15 Approximately what proportion of the total net income (after tax) of your household is spent on rent/mortgage/house loan?

	Tick
Less than a quarter	☐
A quarter to less than a half	☐
A half to less than three quarters	☐
Three quarters or more	☐
No rent/mortgage/house loan	☐

Q16 In total, how many people usually live in your household (include children & babies)? ☐

Please complete the following questions for all members of the household (include children & babies)
Tick <u>one box only</u> per person for each question.

Q17 What is your gender?	Person 1	Person 2	Person 3	Person 4	Person 5	Person 6	Person 7
Male	☐	☐	☐	☐	☐	☐	☐
Female	☐	☐	☐	☐	☐	☐	☐

Q18 What is your age?	Person 1	Person 2	Person 3	Person 4	Person 5	Person 6	Person 7
0-2	☐	☐	☐	☐	☐	☐	☐
3-4	☐	☐	☐	☐	☐	☐	☐
5-10	☐	☐	☐	☐	☐	☐	☐
11-15	☐	☐	☐	☐	☐	☐	☐
16-19	☐	☐	☐	☐	☐	☐	☐
20-29	☐	☐	☐	☐	☐	☐	☐
30-39	☐	☐	☐	☐	☐	☐	☐
40-59	☐	☐	☐	☐	☐	☐	☐
60-79	☐	☐	☐	☐	☐	☐	☐
80+	☐	☐	☐	☐	☐	☐	☐

Q19 Are you?	Person 1	Person 2	Person 3	Person 4	Person 5	Person 6	Person 7
A full-time worker	☐	☐	☐	☐	☐	☐	☐
A part-time worker	☐	☐	☐	☐	☐	☐	☐
State school or nursery pupil	☐	☐	☐	☐	☐	☐	☐
Private school or nursery pupil	☐	☐	☐	☐	☐	☐	☐
College/university student	☐	☐	☐	☐	☐	☐	☐
A home-maker	☐	☐	☐	☐	☐	☐	☐
A full-time child carer	☐	☐	☐	☐	☐	☐	☐
A full-time carer of elderly/disabled	☐	☐	☐	☐	☐	☐	☐
Under school age & intend to enrol at a state school in Wandsworth	☐	☐	☐	☐	☐	☐	☐
Under school age & intend to enrol at a private school in Wandsworth	☐	☐	☐	☐	☐	☐	☐
Under school age & intend to enrol at a school outside Wandsworth borough	☐	☐	☐	☐	☐	☐	☐
Retired	☐	☐	☐	☐	☐	☐	☐
Unemployed	☐	☐	☐	☐	☐	☐	☐
Permanently sick or disabled	☐	☐	☐	☐	☐	☐	☐
Other *(please specify)*	☐	☐	☐	☐	☐	☐	☐

Q20 What is the postal district of your main place of work/school/ nursery/college/university? e.g. SW18	Person 1	Person 2	Person 3	Person 4	Person 5	Person 6	Person 7

*If you work/study from home, please state " **H** ". If you have no fixed place of work/study, please state " **M** ".*

Q21 How do you <u>usually</u> get there?	Person 1	Person 2	Person 3	Person 4	Person 5	Person 6	Person 7
If you use several modes of transport, please choose the one that accounts for the main part or majority of your journey(s).							
Car	☐	☐	☐	☐	☐	☐	☐
Motorbike	☐	☐	☐	☐	☐	☐	☐
Tube	☐	☐	☐	☐	☐	☐	☐
Train	☐	☐	☐	☐	☐	☐	☐
Bus	☐	☐	☐	☐	☐	☐	☐
Taxi	☐	☐	☐	☐	☐	☐	☐
Bicycle	☐	☐	☐	☐	☐	☐	☐
Walk	☐	☐	☐	☐	☐	☐	☐
Work/study at home	☐	☐	☐	☐	☐	☐	☐
Other	☐	☐	☐	☐	☐	☐	☐
Does not apply	☐	☐	☐	☐	☐	☐	☐

Please complete the following questions for all members of the household (include children & babies)
Tick <u>one box only</u> per person for each question.

Q22 Are you registered with a doctor?	Person 1	Person 2	Person 3	Person 4	Person 5	Person 6	Person 7
Yes, at a local GP surgery	☐	☐	☐	☐	☐	☐	☐
Yes, at my previous address	☐	☐	☐	☐	☐	☐	☐
No	☐	☐	☐	☐	☐	☐	☐

Q23 If you <u>are</u> registered with a doctor at a <u>local</u> GP surgery, have you experienced any problems with:	Person 1		Person 2		Person 3		Person 4		Person 5		Person 6		Person 7	
	Yes	*No*	*Yes*	*No*	*Yes*	*No*	*Yes*	*No*	*Yes*	*No*	*Yes*	*No*	*Yes*	*No*
a) Booking an appointment in advance	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
b) Booking an appointment at short notice	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
c) Booking for early morning or evening	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Q24 If you <u>are</u> registered with a doctor at a <u>local</u> GP surgery, was it possible for you to?	Person 1		Person 2		Person 3		Person 4		Person 5		Person 6		Person 7	
	Yes	*No*	*Yes*	*No*	*Yes*	*No*	*Yes*	*No*	*Yes*	*No*	*Yes*	*No*	*Yes*	*No*
a) Locate a surgery within 15 mins walk	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
b) Register at surgery within 15 mins walk	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
c) Register at the surgery of your choice	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Q25 If you <u>are not registered</u> with a doctor at a <u>local</u> GP surgery, why not?	Person 1	Person 2	Person 3	Person 4	Person 5	Person 6	Person 7
I have not had time/not got around to it	☐	☐	☐	☐	☐	☐	☐
I prefer to visit my previous GP	☐	☐	☐	☐	☐	☐	☐
I have not been ill	☐	☐	☐	☐	☐	☐	☐
I will be moving to another area soon	☐	☐	☐	☐	☐	☐	☐
I prefer to seek private treatment	☐	☐	☐	☐	☐	☐	☐
Difficulties registering at a local surgery	☐	☐	☐	☐	☐	☐	☐
Lack of appointments at local surgery	☐	☐	☐	☐	☐	☐	☐
Inconvenient surgery times	☐	☐	☐	☐	☐	☐	☐
Other *(please specify)* _____	☐	☐	☐	☐	☐	☐	☐

Q26 What is your ethnic group?	Person 1	Person 2	Person 3	Person 4	Person 5	Person 6	Person 7
White British	☐	☐	☐	☐	☐	☐	☐
White Irish	☐	☐	☐	☐	☐	☐	☐
Other White *(specify)* _____	☐	☐	☐	☐	☐	☐	☐
Mixed White & Black Caribbean	☐	☐	☐	☐	☐	☐	☐
Mixed White & Black African	☐	☐	☐	☐	☐	☐	☐
Mixed White & Asian	☐	☐	☐	☐	☐	☐	☐
Other Mixed *(specify)* _____	☐	☐	☐	☐	☐	☐	☐
Asian or Asian British - Indian	☐	☐	☐	☐	☐	☐	☐
Asian or Asian British - Pakistani	☐	☐	☐	☐	☐	☐	☐
Asian or Asian British - Bangladeshi	☐	☐	☐	☐	☐	☐	☐
Other Asian *(specify)* _____	☐	☐	☐	☐	☐	☐	☐
Black or Black British - Caribbean	☐	☐	☐	☐	☐	☐	☐
Black or Black British - African	☐	☐	☐	☐	☐	☐	☐
Other Black *(specify)* _____	☐	☐	☐	☐	☐	☐	☐
Chinese	☐	☐	☐	☐	☐	☐	☐
Other *(specify)* _____	☐	☐	☐	☐	☐	☐	☐

Q27 Where were you born?	Person 1	Person 2	Person 3	Person 4	Person 5	Person 6	Person 7
United Kingdom	☐	☐	☐	☐	☐	☐	☐
Outside United Kingdom *(please specify)* _____	☐	☐	☐	☐	☐	☐	☐

Q28 Would you like to receive a copy of the survey results?	Yes please	☐	No thanks	☐

Thank you for your help.

Please return your completed questionnaire in the pre-paid envelope provided to: Borough Planner's Service, Wandsworth Council, Town Hall, Wandsworth High Street, SW18 2PU.

Appendix F: Summative Team Assessment

At the end of the term, each team will submit a summative team assessment to the advisors identifying one to three key contributions from each member, including him or herself, that are not evident from the authorship page. Each team member will also comment the extent to which each individual, including him or herself, followed through on the actions identified in the formative assessments. The team will write a critique of how successful it was implementing the team actions that were identified in the formative assessments.

Michael Judelson's Final Assessment

Michael Judelson

- Entered most of the data in the database
- Was able to help set up Residence Association meeting and other meetings with GIS department
- Asked questions when it seemed important
- Improvement: Led two weekly meetings and got better at presenting which increased my self-confidence a little bit

David Kent

- Made the ArcGIS maps and did most of the work with GIS mapping
- Entered some of the data into the database
- Edited the survey and made sure it went in logical order
- Improvement: Was able to write things on his own and able to discuss it better instead of just getting frustrated with Mickey

John Manero

- Did all the work with the data on Access database
- Wrote programs to make sure all the data and address where in one place
- Wrote the manual for future use of the Access database
- Improvement: Made an effort to write down everything needed to be done by showing us more what was going on in the computer side of things

David Kent's Final Assessment

Michael Judelson

- Contributions

  - Mickey brought a different perspective to the group and often thought outside of the way John and I did things, which helped us to approach any problems with the project from many different angles.
  - He was always happy to enter any new survey responses into the database.
  - He got in contact with members of other departments within the Council when we needed something from them.
- Follow Through on Formative Team Assessment Actions
  - Mickey has improved considerably in his presentation skills, and by the final presentation he was excellent.
  - His self-confidence has improved in terms of leading weekly meetings.

John Manero

- Contributions
  - John worked tirelessly on the Access project, making it as complete and user-friendly as possible, and formatting all of the outputs to be in keeping with the Council's high professional standards.
  - He wrote weekly or daily (depending on how much work we had) to-do lists that kept the team focused and allowed us to evaluate our progress at the end of each week.
  - He set a good example of how to work in a professional environment.
- Follow Through on Formative Team Assessment Actions
  - John has improved at communicating his ideas of what he wants to do with the project to the group as a whole.
  - He did not lose focus when the project was coming to an end.

David Kent

- Contributions
  - I delegated writing tasks to the group to make sure we met all of our deadlines in terms of the paper.
  - I researched ArcGIS considerably to figure out how to make the kind of maps we needed, worked to get the extension for ArcGIS 9.3 that we needed, and made the maps for the project.
  - I helped Mickey work on his writing for the paper.
- Follow Through on Formative Team Assessment Actions

- I have improved my writing with Mickey present, and get less annoyed while reviewing his writing with him.
- I spent some time learning about Microsoft Access so John wouldn't have to everything data-related alone

John Manero's Final Assessment

Michael Judelson

In addition to his writing, Mickey has contributed to the project by leading a number of presentations and coordinating our data entry. Mickey has improved his self-confidence dramatically in the past weeks, which has been evidenced by his contributions.

David Kent

Dave has contributed heavily in his research, especially regarding ArcGIS. He is responsible for the production of all of the map graphics in the report. Dave has improved in his communication within the group.

John Manero

I designed the Microsoft© Access data base used to store survey responses and generate cross tabulation data. In addition, I developed and amended the procedures used to generate and print the survey questionnaire. I have improved my ability to communicate technical aspects of the project without overwhelming listeners with overly technical details.

Team Critique

The action that most needed to be taken was to improve communication within the group. Originally, we suggested having short team meetings on Monday, Wednesday, and Friday, to report on progress and plan what we would do next. This suggestion soon became irrelevant, because we improved our communication anyway, so we were already all on the same page before holding these meetings. The other action that needed to be taken was practicing more for presentations, which we followed through on and, as a result, our presentations went more smoothly.