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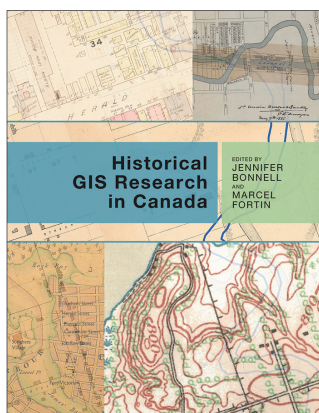

HISTORICAL GIS RESEARCH IN CANADA

Edited by Jennifer Bonnell and Marcel Fortin

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The Best Seat in the House: Using Historical GIS to Explore Religion and Ethnicity in Late-Nineteenth-Century Toronto

Andrew Hinson, Jennifer Marvin, and Cameron Metcalf

In 1881 Toronto's Knox Presbyterian Church underwent major renovations to the inside of the building. The pulpit was lowered, the gallery front changed to iron, the pews comfortably upholstered, the entire floor carpeted, and the ceiling repainted and decorated. Most significantly, the seating arrangement was changed from the traditional straight-benched pews in formal order to a modified amphitheatrical layout with semi-circles forming around the pulpit. The realignment of the church's pews necessitated a reshuffling of where congregants were seated. Yet if contemporary reports were true that the refurbished auditorium was "virtually a new room" and in terms of artistic arrangement and taste "second … to no church in Toronto,"[1] this congregant reshuffling was only a minor inconvenience.

In choosing a new pew, church members had to decide not only where they wished to be seated but also how much they were willing to pay for the privilege. Pew rents were a long-established mechanism for generating church income and enabled parishioners to contribute an amount in keeping with their means. From 1881 Knox had five levels of rental, the amount reflective of the pew's proximity to the pulpit. With the exception of those at its side, which were rented at $1 per

quarter, all seats within the body of the church were $1.25. In the gallery all front rows were also $1.25, with the second, third, and fourth tiers along the length of the church being 80¢, 60¢ and 50¢, respectively, and those facing the front $1. Where everyone opted to sit was recorded in the Knox Presbyterian Church Pew Rent Book, 1882–1887.[2]

While surviving pew rent books are relatively rare, the value of documents that provide insight into the lives of "ordinary" people have long been recognized by social historians, including those focusing on religious history who since the 1980s have been primarily concerned with the "view from the pew" rather than a top-down history.[3] Organized by pew number, the book clearly shows who sat next to whom, how much rent each entrant paid, and the duration in which they remained in that place. Arrivals to and departures from the church can easily be determined, as can movement within the church, the pew rent book recording when and where a change in pew occurred. Also preserved are details of those who paid the rent, which in most cases would be the head of family, including their name, occupation, and address. For example, throughout 1882 sitting in pew 44 (a $1.25 seat in the body of the church) was George Noble, a merchant residing at 701 Yonge Street, who sat next to John Ritchie, a plumber living at 189 Jarvis Street. Both paid for three sittings at a cost of $3.75 per quarter, meaning each was accompanied by two companions, possibly a wife and child, or an elder dependant. Although the disappearance of historical blueprints of the church interior make it impossible to determine the exact layout of the church, it can be surmised that both men were surrounded in some fashion by Alexander Cameron, a barrister at pew 42, John Sinclair, another merchant at 43, James Fleming, a seedsman and florist at 45, and A. M. Smith, a wholesale grocer at pew 46. As such, the data from the pew rent book can be used to shed considerable light on the Knox congregation, fitting alongside the work of other historians and social scientists in Canada who have used church memberships and similar types of records.[4]

Yet as well as being located within a few seats of each other, these men shared something else in common. Although ethnicity was not recorded in the pew rent book, by linking them to the 1881 Canadian census we discover that they were each Scottish, a finding consistent with another study, which showed a high proportion of Scots among church elders and managers from Toronto Presbyterian churches.[5] This is not particularly surprising considering Presbyterianism originated primarily in Scotland, and Knox Church itself was established after members broke away from Toronto's St. Andrew's Church following a major schism in the Church of Scotland in 1843. The church also had a connection with the city's Scottish Gaelic community, playing host to the Toronto Gaelic Society's bible classes and holding occasional Gaelic sermons. Although not all Scots were Presbyterian, and not all Presbyterians living in Toronto were Scottish, Knox, along with most Presbyterian churches in the city, did maintain a strong Scottish character and, as with the relationship between other ethnic groups and their religious buildings, there is much evidence to suggest that these churches formed the core of Toronto's Scottish community.[6] Indeed the correlation between the Scots and the Presbyterian Church is arguably of greater significance than similar connections with other groups owing to the fact that,

in almost every other respect, Scots blended into the wider Toronto population.[7] This was particularly so regarding their geographic concentration. Whereas Little Italies and Chinatowns were readily identifiable ethnic enclaves, there was no such common equivalent among Scots in Toronto. While ethnic trappings such as cafes, grocery stores and restaurants, travel agencies, and other services were apparent in other ethnic neighbourhoods, the same does not appear to have existed in any one particular area for the Scots.[8] Although there were Scottish clubs and societies throughout the city, none enjoyed the same level of membership nor were any as pivotal to Scottish identity as the Presbyterian Church.

The pew rent book is therefore of value to both religious and ethnic history and, by using traditional historical methods, could help to inform in both these areas. It is, however, by combing the data from the pew rent book with GIS technology that genuinely significant steps can be taken in providing new insights into previously unexplored relationships between where congregants lived and their place of worship. With the use of GIS, residential patterns can be examined, which not only inform about the geographic dynamics of Toronto's decentralized Scottish community but enable spatial questions of a Canadian church congregation that otherwise could not be answered. Whereas the drive for a "bottom-up" history of religion in Canada has led to considerable advances in our understanding of church demographics, the role of family and gender in worship, and the cultural history of religion, to date there are few detailed geographic analyses. Even where studies of religion and ethnicity intertwine, these have yet to take advantage of the potential of GIS.

The research in this chapter shows how GIS can make a significant contribution to religious and ethnic history. In presenting our findings, we have two aims. The first is to provide a general spatial analysis of the Knox congregation using the address data for the period between 1882 and 1887. What we find is a church that drew its congregants from across the city. Congregants demonstrated considerable loyalty to the Knox community, choosing Knox over other Presbyterian churches closer to home. This study also reveals a dynamic social space, both within the church, where congregants changed pews regularly, and outside it, as a large number of congregants moved house, some more than once, within the period of study. The second objective is more specific and pertains to the unusual insight offered by the pew rent book into where congregants in the church were seated. Recall the merchant George Noble, who was seated next to John Ritchie, a plumber. On the one hand, it may be surprising to find two individuals from different socioeconomic classes seated next to each other; on the other, the church was a setting where, at least in theory, social divisions did not matter. Using GIS, we explore the socioeconomic dynamics within Knox and show how they manifested themselves outside the church building.

METHODOLOGY

Detailing all quarterly payments for seats occupied between 1882 and 1887 along with those who made them, the pew rent book provides a fascinating insight into a church community in this period. What is not given are the

names and details of family members for whom payments were made. In order to capture this information, Communion Rolls were used as a second, complementary data source. Published in the church's annual reports, these lists include the name of each church member, their address, the church district in which they lived, and whether or not they were receiving communion. As well as providing details of the excluded family members, the primary advantage of introducing this second source is the inclusion of addresses for all church members throughout the six-year period, which unlike those in the pew rent book, appear to have been kept up-to-date.

The data from both sources were entered into spreadsheets and then imported into a relational database, which was required to link the two datasets. Having the data stored in a database also enabled anomalies to be corrected, including variations in first names, where, for example, "Wm" and "William" might both appear as separate entries for the same individual. The completed database contains a total of 785 persons in the pew rent data set, 2,736 in the Communion Rolls, with 389 linkages being made between the two sources, a valuable analytical tool in its own right. It also provided a secure repository for the data, protecting the investment of time and effort associated with data collection, revision, and consolidation for the project. Finally, it ensured compatibility with GIS software, enabling the creation of tables that could in turn be imported into a GIS environment.

To accurately reflect Toronto in the late nineteenth century, a modern street network dataset was backdated to 1884 using contemporary fire insurance plans as a reference, by altering the physical road layout, street names, and address ranges. The addresses from the database were then geocoded, a process by which addresses are plotted onto a map surface, with a match rate of 87 per cent (7,383) matched, 7 per cent (594) tied or possible match, and only 6 per cent (509) unmatched. While the database administration and the historic roads layer preparation were both time-consuming pursuits, the high match rate meant that any results produced through spatial analysis could be regarded with considerable confidence. Throughout the project various GIS techniques were used. All the maps were generated using GIS and several different tools were employed to analyze the spatial data that contribute to our findings. The project utilized a diverse range of skill sets brought to it by a project team that consisted of a database administrator, a GIS librarian, and a historian.

A COMMUNITY OF THE MIND

Having grown steadily since its establishment in 1843, from the 1880s Knox underwent unprecedented growth. These changes reflected Toronto's dramatic rise in population in the last decades of the nineteenth century. From 86,000 residents in 1881, Toronto's population more than doubled to 181,000 by 1891. Although this was in part due to annexations of some of the city's neighbouring districts, the onset of industrialization precipitated the arrival of many newcomers in search of employment opportunities. An increasing number of Toronto residents, new and established, chose Knox Presbyterian Church as their place of worship.

During the six-year period covered by the pew rent book, the church's population climbed from 1,093 in 1882 to 1,624 by 1887. That so many new members could be physically accommodated was due to the increased seating capacity brought about by the church's timely renovations. Certain administrative changes did, however, have to be made. Most notably the number of church elders and deacons who were responsible for the care and oversight of the congregation had to be increased. All congregants were assigned to a church district, each with their own elder and deacon. The boundaries of these districts were printed alongside the Communion Rolls and can be recreated in a GIS to visualize how these administrative units changed over time (Fig. 4.1). As well as revealing the creation of three new districts over the six years, the map can also be used to show the proportion of congregants living in each district. Comparisons of the before (1882) and after (1887) images demonstrate that in redrawing the boundaries and establishing new districts, the church's administrators sought a more equal distribution of population among them. This is clearly illustrated by examining district 12, which in 1882 contained an above-average proportion of the church's population (between 9 and 12 per cent) but was subsequently split in two (with the creation of district 17), both of which by 1887 contained less than 6 per cent of church members. What is also evident is that, along with a growth in congregation size, there was a considerable increase in the church's geographical catchment area. Whereas, in 1882, the districts' northern boundaries stopped at Bloor Street and did not go much east of Berkeley Street, within five years they incorporated parts of the Rosedale and Yorkville neighbourhoods

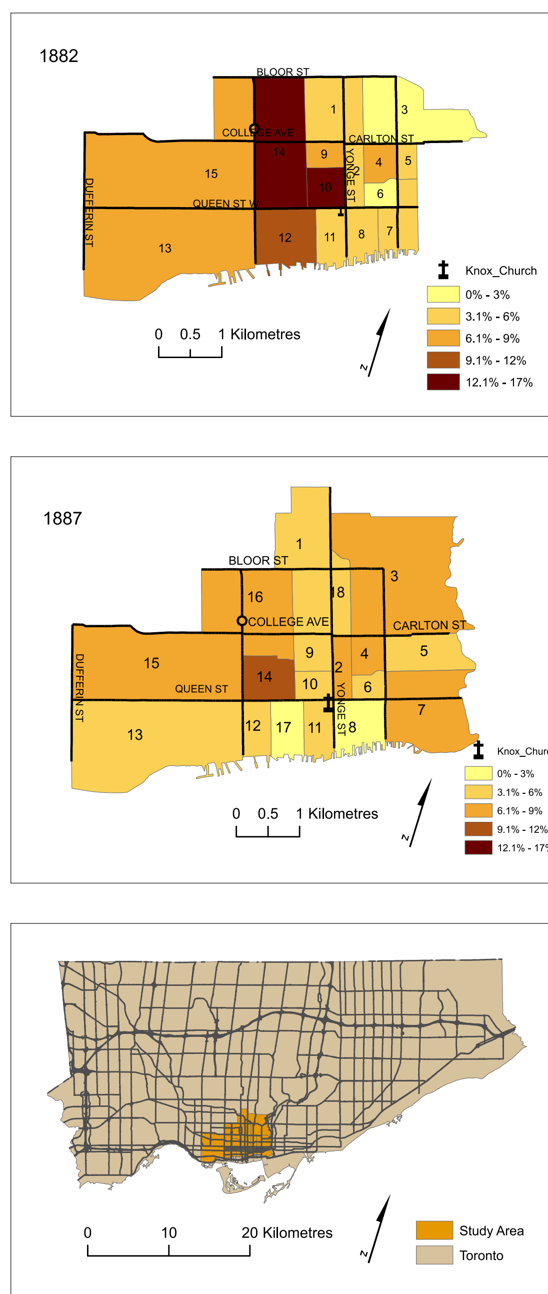

Fig. 4.1. Percentage of Knox congregants by church district. (Sources: 1882 and 1887 Church Districts: created using description of districts in Knox Presbyterian Congregation Rolls 1882–1887; Knox Presbyterian Church Congregants: Knox Presbyterian Congregation Rolls 1882–1887.)

in the north, and stretched to the Don River in the east. In total the church districts went from covering an area of fifteen square kilometres to twenty.

The specific whereabouts of the congregation by 1887, as detailed in the Communion Rolls, is shown in Figure 4.2. Confirming the extent to which the membership was dispersed across the city, it is apparent that Knox cannot be considered a neighbourhood church. This is contrary to what may be assumed in an age when the primary means of getting to church was on foot. Although some may have relied on private carriages or hired hacks (taxi drivers), streetcars were the city's primary form of transport and were utilized by all classes of the population but would not be introduced on Sundays for at least another decade.[9] GIS can be used to measure distances, and by doing so it can be calculated that on average parishioners travelled 2.4 kilometres to and from church, and for those living in the city's outer limits, it could involve a round trip of up to ten kilometres.

In other respects, however, it is not unexpected that the Knox congregation mostly came from outside the church's immediate proximity. When the eighty-three members broke away from St. Andrew's to form Knox Presbyterian Church, it was because of differences they had with its parent body, the Church of Scotland. As the city's only representative of the Free Church of Scotland, its congregation was probably never confined to its immediate geographic locality. The significance of this, however, should have lessened after 1861 when the Free Church Synod in Canada and the United Presbyterian Church (formed following an earlier Church of Scotland schism) merged to form the Canadian Presbyterian Church, and even more so after 1875, when the Church of Scotland in Canada was brought into the fold to form the Presbyterian Church in Canada. In theory these changes eliminated any of the denominational differences that had previously existed, leaving no theological reason to prevent Toronto's Presbyterians from attending their local branch. Yet this appears not to have happened. Within its historical records, the only real reference to Knox's immediate surroundings around this time pertains to its missionary activities. In a sermon to the Knox congregation to mark the Rev. H. M. Parsons' tenth anniversary at the pulpit, the minister made an appeal for a greater voluntary effort from his parishioners, stating: "The field around this church building is more needy than ever.… The city between Queen Street and the Bay, from Sherbourne to York, is our field with no one else to till it."[10] He made reference to the good work being carried out by the church's mission on Duchess Street but appealed for another on York Street, where a special effort was needed within what he described as a "leprous portion of the city." While the church may have accepted responsibility for this part of the city, few of the church's congregants actually lived there.

As well as displaying the distances congregants lived from the church, Figure 4.2 shows that, in making their way to Knox, many had to pass other Presbyterian churches on route. By using GIS to calculate which Presbyterian church parishioners resided nearest, it is found that only 145 members (14 per cent) lived closer to Knox than another Presbyterian church. Considering the close proximity of some of the churches, a degree of membership crossover would be expected, but the extent to which this occurred reaffirms that any relationship

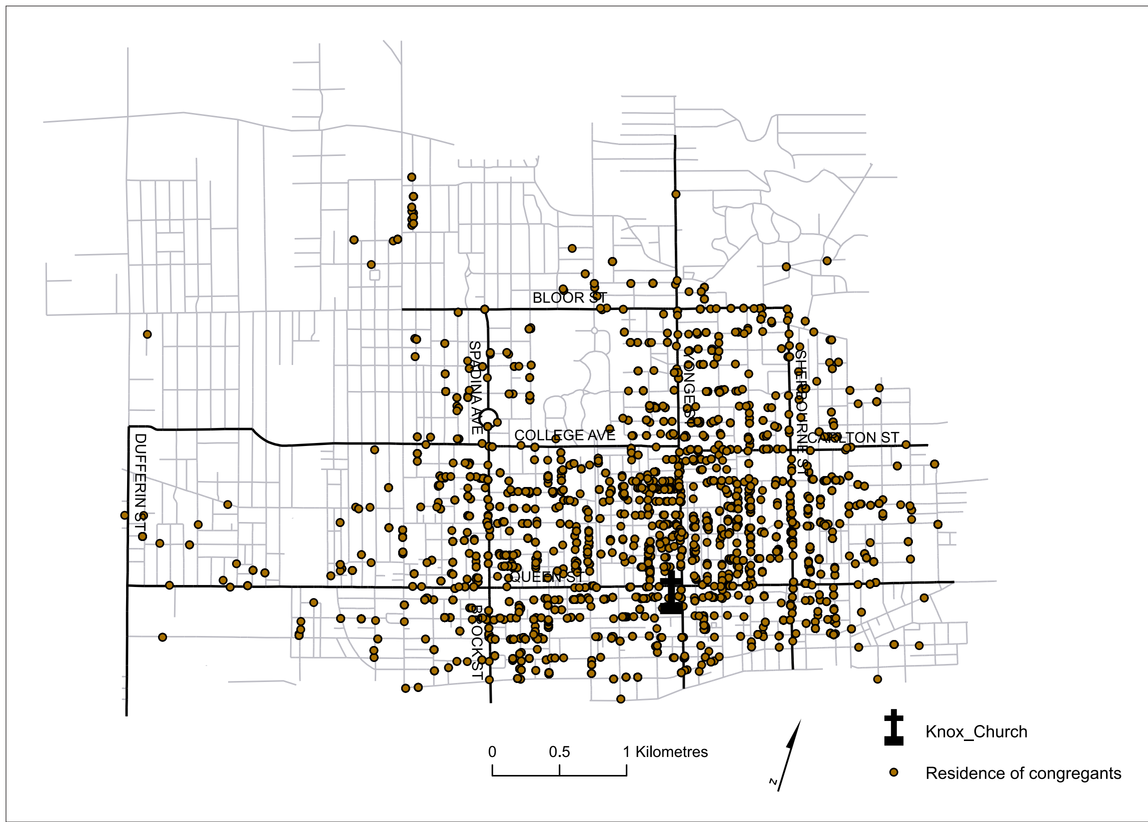

Fig. 4.2. Residential distribution of Knox congregants, 1887. (Sources: 1884 Toronto Streets: Adaptation of DMTI rte 2010; Knox Presbyterian Church Congregant Addresses: Knox Presbyterian Congregation Rolls 1882–1887.)

between Knox and its immediate geographical community was minimal.

In *Streets of Glory: Church and Community in a Black Urban Neighbourhood*, American sociologist Omar McRoberts has shown a similar lack of attachment between parishioners and the surrounding area of their church building in Boston at the turn of the twenty-first century.[11] Rather than being connected through geography, he argues congregants shared something else in common, such as ethnicity, class, lifestyle, or political orientation. This helps to explain another recent observation by religious commentators, that of "shopping for Faith," where worshippers find where they are most comfortable by trying out not only different branches of the same denomination but different religions altogether.[12] While this may be recognized among social scientists as a current trend, this study indicates that it is not a new one. Hannah Lane's demographic analysis of small-town New Brunswick in the mid-nineteenth century shows that there was a high degree of religious fluidity with worshippers moving frequently among the major and minor Protestant denominations, but what we see here is that churches of the same Protestant denomination were also theoretically in competition with each other for members.[13]

The question that arises is what specifically attracted worshippers to Knox.

Of the possible commonalities between church members listed by McRoberts, several may have been applicable to Knox. Ethnicity was undoubtedly one factor, and in the case of Knox's nearest Presbyterian neighbour, Cooke's Church, it can be used to explain why one church was chosen over the other. Cooke's was established in 1851 after a group of Irish members left Knox to form their own congregation. What led to this break remains a mystery, but, from the outset, ethnicity was an important part of the breakaway church's identity, its name being taken from a key figure in the development of Irish Protestantism, and the membership and ministers being mostly of Irish origin.[14] But while Cooke's may have been the city's only Irish Presbyterian Church, Knox was certainly not alone in being of Scottish character. Regionalism offers another possibility. With Knox playing host to city's Gaelic Society bible classes and occasional Gaelic sermons, there could have been a link to Scotland's Highland community, but beyond the Gaelic connection there is little evidence to support this.

Although there are no data to support an analysis of political orientation (another possible commonality), John Moir, author of the most authoritative history of Presbyterianism in Canada, argues that members of the Established Church of Scotland were more likely to support the Conservative party in politics, whereas the Free Church Secession groups usually could be counted as Liberals.[15] Separate denominations within the Presbyterian Church in Canada no longer existed, but it is quite possible that erstwhile traditions lived on.

The inclusion of occupational data in the pew rent book makes it possible to analyze the socioeconomic characteristics of the church. Occupations are given in the pew rent book for 270 congregants, which have subsequently been divided into occupational classifications.[16] As Table 4.1 demonstrates, occupations that fell into the skilled non-manual category were greatest in number, followed by skilled manual, and then professional. Although there were members in the unskilled and semi-skilled categories, these groups were underrepresented with a combined proportion of only 12 per cent. There are several possibilities as to why this was. First, only 34 per cent of entrants in the pew rent book have their occupation listed next to them, and it is probable that those with higher status occupations would be more inclined to share this information than those at the opposite end. In Scotland, where lower attendance has also been found among the poorer classes, several explanations have been offered, including alienation through the implementation of church discipline based on middle-class values, or simply being too poor to attend.[17] As well as not possessing "Sunday best" attire, the demand for pew rents was given by the urban poor as a reason for not attending church. A Royal Commission into Religious Instruction in Scotland carried out in 1836 stated:

> The dislike of the people to occupy low priced or gratuitous sittings, avowedly set apart for the poor, which in general such as to make those who occupy them marked and distinguished from the rest of the Congregation, and the inferior nature of the accommodation provided for them, operate in preventing attendance.... [W]hile it may

> not be difficult to supply himself with a sitting, a poor man is frequently unable to pay for adequate accommodation for himself and his family.[18]

While exceptions exist, such as the case of Mrs. Adams of 18 Ord Street whose fees were waived because of her inability to pay, Knox did not assign general free seats. The church did of course have variations in pew rents, and it is possible that there was a stigma attached to sitting in the cheaper seats. Rosalyn Trigger's study of Protestant churches in Montreal discusses moves to abolish pew rents at certain churches in the late nineteenth century specifically because they made distinctions on the basis of wealth, and, at Knox, some of the movements between pews that took place from 1882 to 1887 suggest that ability to pay did influence where people sat.[19] Mrs. Hunter of 149 Sherbourne Street, for example, started out at a $1.25 seat (pew 123) but moved to a $1 pew (pew 183) when the number of sittings she was paying for increased from one to three. William McFarlane, on the other hand, when paying for three sittings, was located at a $1 pew (pew 11) but moved to a $1.25 seat (pew 107) when the number of sittings he was paying for reduced to two. Money does not however appear to have been the only factor influencing why people moved seats. One of the most striking features of the original pew rent book is the extent of transiency between pews. Overall, 132 separate rent payers changed pew between 1882 and 1887, many of whom moved more than once. A clerk named James Donaldson was recorded as moving pew no fewer than five times, shifting inconsistently between the $1 and $1.25 seats. With a skilled non-manual occupation and no apparent dependents, it is unlikely that cost was an influencing factor in where he sat.

Table 4.1: Occupational Categorization of Knox Congregants, 1882–87.

	No.	%
Professional	59	21.9
Skilled non-manual	95	35.2
Skilled manual	84	31.1
Semi-skilled	20	7.4
Unskilled	12	4.4
Total	270	100

Table 4.1: Occupational Categorization of Knox Congregants, 1882–87. (Sources: occupation: Knox Pew Rent Books 1882–1887.)

Just as it would involve little more than guesswork to provide a reason as to what prompted James Donaldson to move around the church with such regularity, explanations of what brought the Knox community together are equally speculative. Individuals may have preferred the church for reasons previously mentioned; they may, too, have made their choices based on much less quantifiable reasons, such as a shared preference for the Rev. Parsons' preaching style or the comforts of sitting on a cushioned as opposed to a hardback wooden pew. Indeed, one of the purposes behind the Knox renovations was to boost church membership, an acknowledgment that, even in 1882, aesthetics (and comfort) mattered.[20] Another localized issue that may have affected membership was the use of organ music. A hotly debated topic among the Presbyterian Church in Canada's General Assembly, the issue was passed down to individual congregations to decide for themselves. At Knox, the

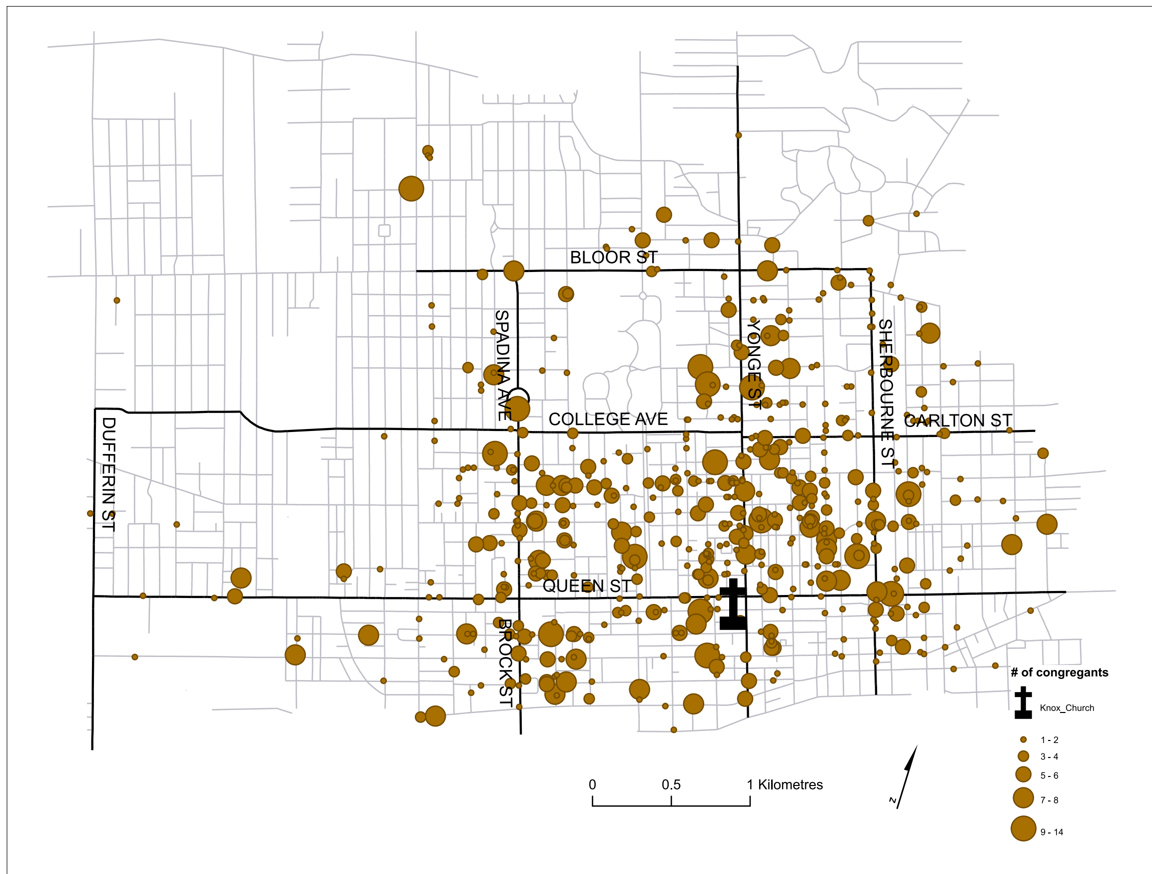

Fig. 4.3. Number of Knox congregants by address, 1887. (Sources: 1884 Toronto Streets: Adaptation of DMTI rte 2010; Knox Presbyterian Church Congregant Addresses: Knox Presbyterian Congregation Rolls 1882–1887.)

use of organ music was first raised in 1873 but was consistently voted against until 1878, after which a further three years passed before an organ was finally installed. That the controversy was long to abate is suggested by a *Telegram* reporter who, after recounting the offering being taken after the service "in silence," commented: "no doubt this unusual custom is a concession to those who yet, *in spite*, oppose the use of the organ."[21] While some clearly opposed the bringing of music into the church, for others it may have been what enticed them to Knox over other places of worship.

Finally, one of the most likely reasons that people chose Knox over other places of worship was because of family. Although neither the pew rent book or Communion Rolls indicate family relationships, Figure 4.3 gives an indication of the multiple-person households among the congregation. Not all, but probably most, of these households were made up of families. Furthermore, not all family members lived in the same household. Scottish households in Toronto consisted of mostly nuclear families, and it is quite possible that many of the congregants were part of extended families

who attended the church. More than just a place of Sunday worship, church for Scottish Presbyterians formed an important part of their lives. As such it makes sense that families attended the same church and more generally that, in picking where to become a member, parishioners did not simply choose the church closest to home.

A TRANSIENT COMMUNITY

In spite of the considerable growth Knox experienced between 1882 and 1887, the church also lost many members during this time. The fluidity of church membership can be seen in the statistical tables included in most of its annual reports. In 1883, for example, although 138 new communicants were added to the roll during the year, the net increase was only 56.[22] That it was not higher was due to nine deaths, thirty-one members being placed on the retired list due to absence, and forty-two being removed by certificate to other churches. Over the entire period between 1882 and 1887, of the 311 heads of household recorded in the pew rent books at the beginning, less than half (189) were still there in 1887. According to the Communion Rolls, 433 joined the church in this period, and 250 left. The destinations of those who left the church are largely unknown. An 1885 annual report for Knox, however, grants us a small insight in stating the destinations of those parishioners who were granted certificates to join another church. Some were leaving the city, such as Alice Brodie, who was destined for Edinburgh, Scotland; a further seven were headed to the United States and four to other parts of Canada. Most, however, (twenty-four) were to remain in Toronto, splitting themselves between Charles Street, West, Cooke's, Leslieville, St. Andrew's, Old St. Andrew's, Parkdale, College Street, and Central Churches. In at least three cases, the moves seem to have been the result of a marriage; for others, the reasons for leaving are as debatable as those that brought congregants to Knox in the first place. That no one church was favoured would suggest that individuals considered a range of factors in making their decisions. This level of transiency was not unique to Toronto and, as Peter Hillis' study of church membership in Glasgow would suggest, was part of a much wider phenomenon. Of the 2,481 members recorded on the Barony of Glasgow Communion Roll between 1879 and 1883, 668 people joined the church in this period while 713 left.[23] As with Knox, some of the members who left did so for destinations far afield while others moved on a more local scale, remaining within Glasgow.

Those who remained in Glasgow, Hillis argues, left the church because they moved house. While this may account for some of the membership turnover at Knox, as has been shown, close geographical proximity to the church building was not of great priority to its members. Furthermore, it can be seen from the Knox Communion Rolls that many congregants who did move house continued to worship at Knox. In total 759 parishioners (28 per cent) moved house and remained at Knox, and many did so several times in the period of study. This high level of mobility is consistent with other North American studies of urban centres. Howard Chudacoff's examination of residential mobility in Omaha found that, between 1880 and 1920, only 3 per cent of his case

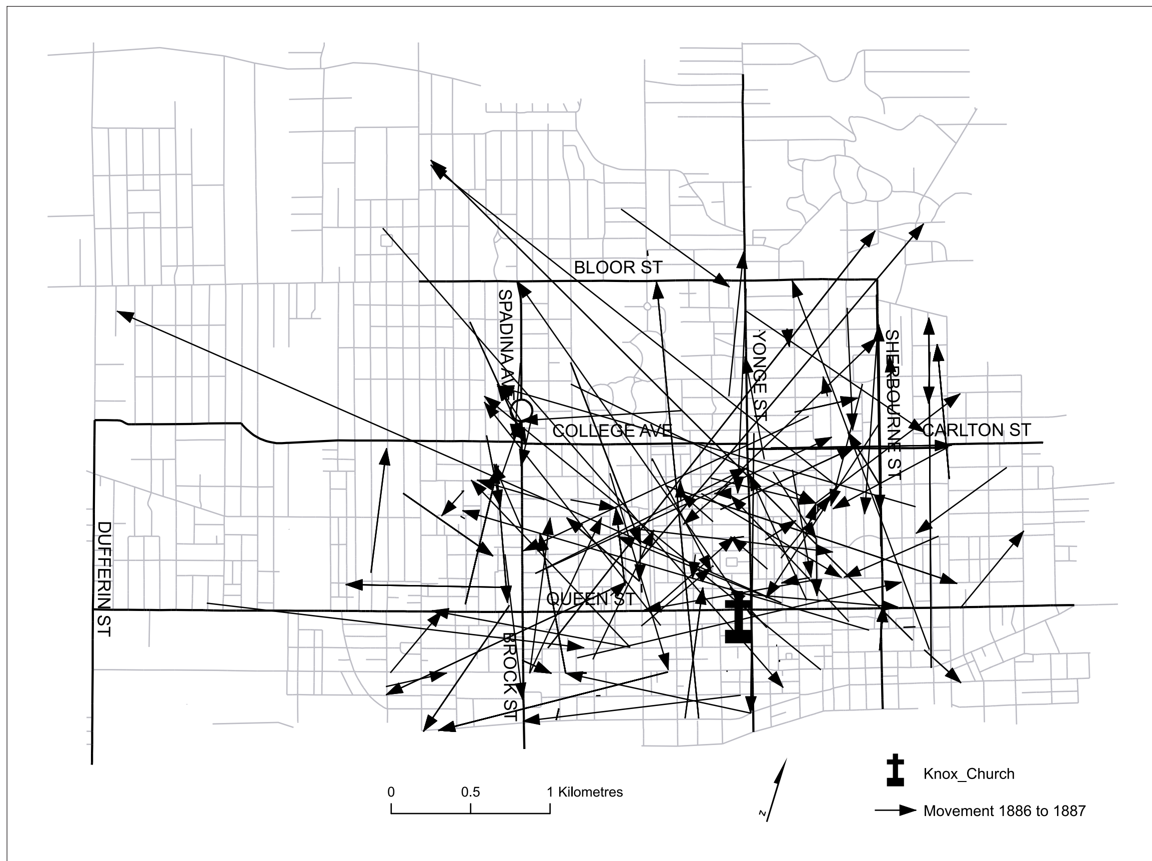

Fig. 4.4. Tracking residential movement of Knox congregants, 1886–87. (Sources: 1884 Toronto Streets: Adaptation of DMTI rte 2010; Knox Presbyterian Church Congregant Addresses: Knox Presbyterian Congregation Rolls 1882–1887.)

study lived in the same place for as long as two decades. Slightly under half moved away from the city within five years and over two-thirds left within twenty. Of those who remained in Omaha for twenty years, the overwhelming majority occupied three or more homes.[24] Closer to Toronto, Michael Katz's study of Hamilton, Ontario, has shown a similarly high turnover in population. Looking at the decades between 1851 and 1871 in his study, only 6 per cent of those living in Hamilton at the end of this period had been there twenty years earlier. Of those who were there at the beginning of each decade, about two-thirds of the entire population and over one-half of household heads left Hamilton in the ten years that followed.[25] What Katz's study does not take into consideration, however, is the levels of transiency amongst those living within the city.

By separately plotting the addresses from each of the annual Communion Rolls, GIS makes it possible to track the movements of parishioners who changed residences from year to year. Figure 4.4 shows the relocations between 1886 and 1887, the year in which there was greatest movement. Not only does this reinforce the extent of transiency, but the map gives a sense of where people were moving.

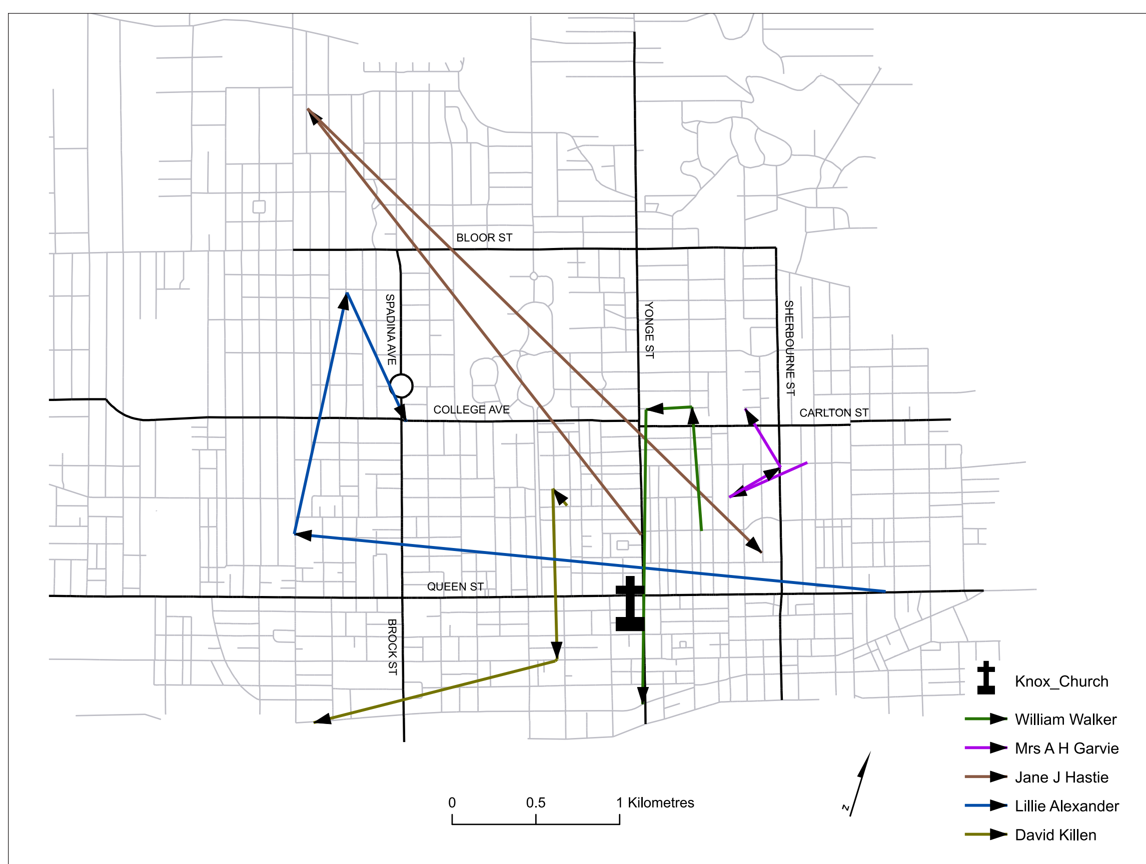

Fig. 4.5. Residential movement of selected Knox congregants, 1882–87. (Sources: 1884 Toronto Streets: Adaptation of DMTI rte 2010; Knox Presbyterian Church Congregant Addresses: Knox Presbyterian Congregation Rolls 1882–1887.)

What is striking is the lack of discernible pattern, there being no consistency to the direction or distances moved. This is not unique to this year, and when the movements for each consecutive year are compared (not shown), the only notable trends are the general increase in people moving, which is most likely a reflection of the congregation's growth, and a greater average distance being moved each year.

Even more intriguing are those congregants who moved more than once. Chudacoff's study of Omaha recognizes that multiple moves took place over two decades. Some Knox congregants had different addresses for each of the six years under examination, suggesting that the levels of transiency within Toronto may have been even greater. This should be of particular interest to urban historians and is a good illustration of how the findings of a narrowly focussed case study such as this can inform more widely. Focussing on the individual movements of several of those parishioners who relocated more than once between 1882 and 1887, Figure 4.5 gives a sense of their contrasting relocation patterns. Of those shown, the shortest overall distance moved was by Mrs. A. H. Garvie: although she relocated on three occasions over those six years, the

accumulated distance between houses was little over 1.2 kilometres. Clearly in moving house, Mrs. Garvie made a conscious effort to remain in the same area. Elizabeth Platt, on the other hand, moved a total of seven kilometres in only two moves. As can be seen though, having moved to the outskirts of the city, where she stayed for two years, she subsequently returned to within a few hundred metres of where she originally resided. Both David Killan and William Walker can be seen making two relatively localized moves before a more significant shift, in the case of Killan considerably to the east of the downtown core. Conversely Lillie Alexander begins with a significant move across the city, before two further localized moves.

Why were people moving in these ways? Michael Katz warned that "the search for tidy reasons to explain why some men moved and others did not will never succeed." Even still, economic reasons are generally seen as being at the heart of the decision to move.[26] On the one hand, this could involve moving to be nearer a place of work, or as a recent study by William Jenkins on the Irish in Buffalo argues, it could reflect a change in occupational status.[27] Using a sample of Irish heads of household, Jenkins traces them at five-year intervals from 1881 to 1911 using city directories. Consistent with the two previously mentioned studies, half of these were not traceable in 1881, and by 1911 there were details for only seventy-four households. For those who could be traced, however, Jenkins's analysis shows a spreading out of families from a distinctively Irish and working-class area of the city to those with mixed class and ethnicity. Although he cautions against overdrawn conclusions of a blooming Irish American "middle class," he does suggest that Buffalo's west side emerged as the "choice destination" for the city's Irish working class.[28] While the overall inconsistency of the movement among the Knox parishioners makes it difficult to identify a similar pattern, it is possible to explore movement among those living in one of the city's poorer areas. We tracked the movement of sixty-one parishioners who either moved to, from, or within Knox's missionary area. Of these, only seven moved from one part of the zone to another, while a total of sixteen moved in and thirty-eight moved out. As can be seen in Figure 4.6, although there is no consistent destination, most made significant moves away from the city's downtown core. While this could be an indication of upward social mobility, the apparent randomness of their destinations suggests that other factors were at work. In his study of Omaha, Chudacoff found that the most important factors affecting the decision to move were household and environmental needs. As a family passed through its lifecycle, those needs changed, and the inflexibility of any one home in meeting these needs produced residential turnover. Pointing to a mid-twentieth-century survey of American urban dwellers, Chudacoff notes that the prime complaint against a former residence was lack of closets and lack of open space. "In other words, when a man made the decision to move, he had in mind a series of optimal specifications concerning the quality of and amount of space in his new and still unchosen residence."[29] The inconsistency in the pattern of residential mobility among Knox parishioners would suggest that the decision to move was an independent choice based on factors pertinent to each individual.

More research is required to determine the specific reasons as to why people moved when and where they did. While GIS cannot alone

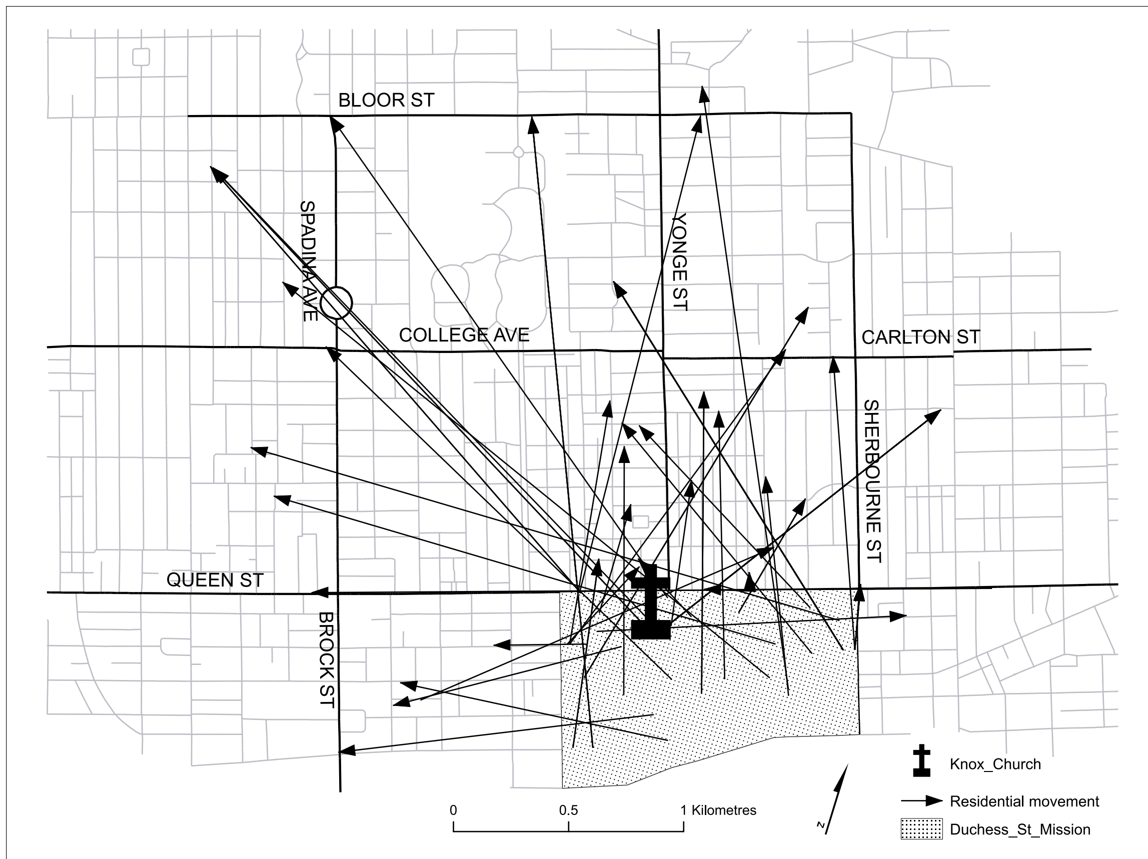

Fig. 4.6. Residential movement from Knox missionary zone, 1882–87. (Sources: 1884 Toronto Streets: Adaptation of DMTI rte 2010; Knox Presbyterian Church Congregant Addresses: Knox Presbyterian Congregation Rolls 1882 –1887.)

answer these questions, it is because of GIS that our understanding of transiency among the Knox congregation is considerably greater than simply knowing its extent. By being able to project onto a map the destinations to which individuals moved, we have gained a significant insight into, not only the Knox community in the late nineteenth century, but Toronto urban history more generally.

AN EGALITARIAN COMMUNITY?

Although upward social mobility does not appear to have been the primary factor behind moving, it does return us to the issue of social status. As we have shown, one of the values of the pew rent book is its insight into the seating arrangements of the church, which, paired with its accompanying occupational information, gives the potential for examining how the socioeconomic dynamics of the congregation manifested themselves within the church

Table 4.2: Occupational Categorization Cross-tabulated with Quarterly Pew Amount, 1882–87.

	Quarterly pew amount					Total
	50¢	60¢	80¢	$1	$1.25	
Professional	0	2	0	8	115	125
Skilled non-manual	4	3	3	22	91	123
Skilled manual	3	7	18	61	84	172
Semi-skilled	0	0	0	8	19	27
Unskilled	0	0	0	3	9	12
Total	6	12	21	102	318	459

Table 4.2: Occupational Categorization Cross-tabulated with Quarterly Pew Amount, 1882–87. (Sources: Pew rent amount and occupation: Knox Pew Rent Books 1882–1887.)

walls. It has already been shown that there were socioeconomic differences among parishioners, but as our example of the plumber seated next to the merchant suggests, these may have mattered little. Further scrutiny using the pew rent data (Table 4.2) reveals that, while those in the top occupational category (professional) were predominantly seated in $1.25 seats, the converse was not true for those in the lower levels. Most congregants with skilled non-manual occupations were also in $1.25 value pews, as were almost half of those in the skilled manual category. Clearly socioeconomic status had some bearing on where one sat but not to the extent that it could be considered a barrier to being seated next to a higher socioeconomic grouped parishioner, and certainly not to enjoying a good view of the alter. Before concluding that Knox Presbyterian Church was a place where socioeconomic realities could be left outside, however, it is important to determine if this was something that occurred only inside the church or if it was part of a more general phenomenon. That professionals and manual workers sat alongside each other could in fact be a reflection of Toronto's Scottish community or Toronto as a whole. It must therefore be ascertained if there was any evidence of class "segregation" outside the church.

Unlike Buffalo, Toronto did not have a clear frontier dividing social classes, but as with all Victorian cities the extremes of rich and poor were all too evident. Charles Pelham Mulvany's *Toronto: Past and Present*, published in 1884, describes some of the city's main arteries. Among the most elite addresses were the "sumptuous private residences" of Rosedale, closely followed by Jarvis and Sherboure Streets, both of which were lined on either side "by the mansions of the upper ten." In contrast were Elizabeth Street with its "unsavoury appearance and repute," Centre Street, "another slum," and worse still York Street, which according to Mulvany was "occupied by dingy and rotten wooden shanties."[30] By mapping the pew rent payers based on their occupational groups, it is possible to determine the extent to which these correlate to Mulvany's evaluation.

The GIS techniques used so far have mostly involved producing maps that can

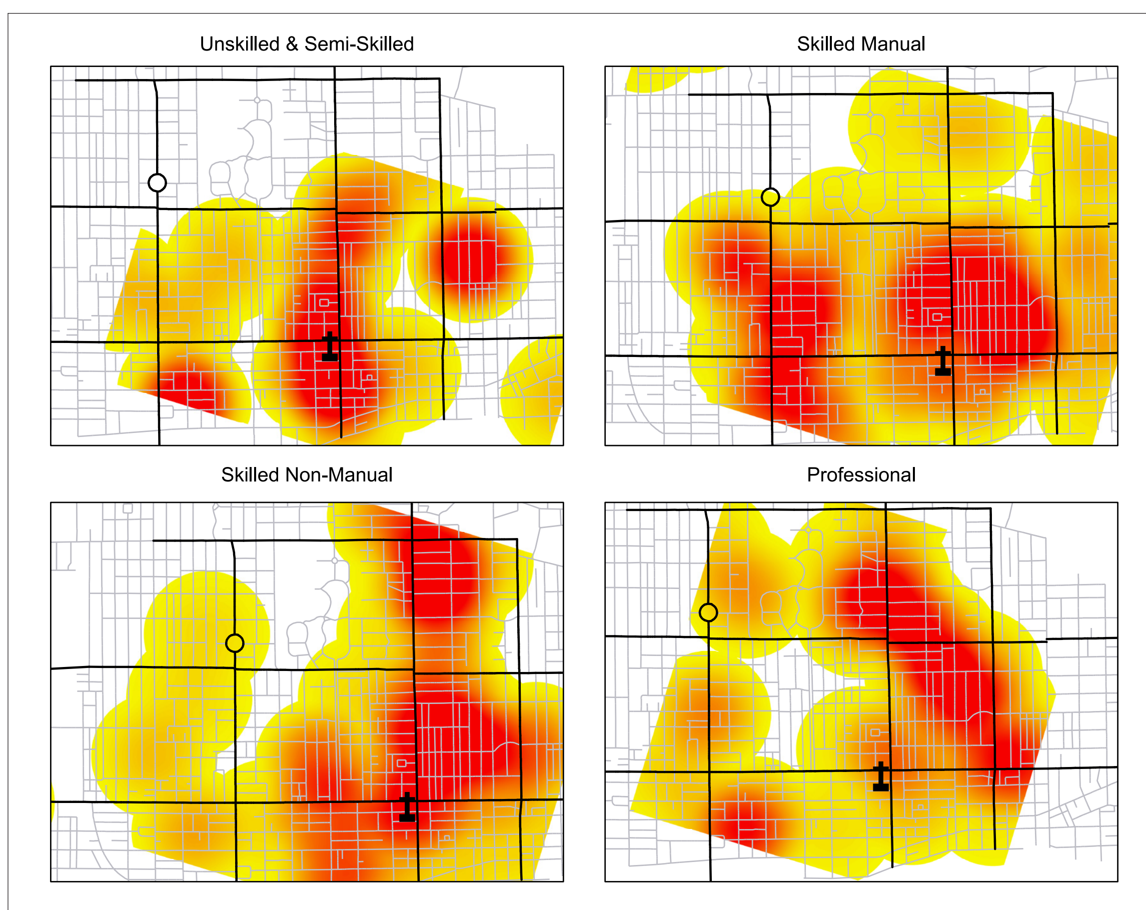

Fig. 4.7. Residential density of Knox congregants by occupational categorization, 1882–87. (Sources: 1884 Toronto Streets: Adaptation of DMTI rte 2010; Knox Presbyterian Church Congregant Addresses: Knox Presbyterian Congregation Rolls 1882–1887; Pew rent amount and occupation: Knox Pew Rent Books 1882–1887.)

subsequently be analyzed through observation. While the GIS maps allow us to visually compare the household locations of parishioners of different occupational levels, spatial statistics enable heavily populated areas to be more easily compared, and with greater accuracy. We used a kernel density technique, which aggregates address points together within a specified search radius and creates a smooth, continuous surface representing the density of members from a particular group. In Figure 4.7, the parameters have been adjusted to show clearly defined hotspots which are useful for comparative purposes but statistically less reliable than using a smaller search radius. As can be seen, the greatest concentration of unskilled and semi-skilled congregants resided within a few blocks west of Yonge, between College Avenue and Lake Ontario. Skilled manual category members were concentrated between Yonge and Sherbourne, and College and Queen, as well as several blocks either side of Spadina and Brock, between College Avenue and the lake. Many of the skilled non-manual congregants lived between Yonge and Sherbourne and College and Queen, but also to the east of Yonge,

several blocks north of College Avenue. The professional category members overlap both of the skilled non-manual areas of concentration but also the area in between. While there was clearly some crossover in where those classified in different occupational levels lived, there is a definite contrast in where the lowest and highest level congregants lived, which roughly corresponds with Mulvaney's observations.

The confirmation that late-nineteenth-century Toronto can be divided into areas in which congregants of different socioeconomic status lived is not in itself a major research finding. It is not surprising that doctors are found living separately from labourers; factory workers from clerks; or merchants from plumbers. Yet taken in the context of what we have previously established about the seating arrangements of Knox Church, it is highly significant. Knox was evidently a place where congregants could come where socioeconomic status was of little consequence. The absence of more unskilled and semi-skilled workers should caution us against making sweeping claims of a truly egalitarian community, but that the class divisions so evident outside the church walls were even somewhat reduced is a significant breakthrough in our understanding of this religious and ethnic community.

CONCLUSION

GIS has the potential to answer specific research questions or to be used as a general investigative tool. It offers a valuable complement to traditional methods, which, as has been demonstrated, can lead to significant and in some cases unexpected findings. In this project GIS was used most fundamentally to plot onto a contemporary map where the parishioners of Knox Presbyterian Church lived. In doing this, we found that Knox cannot be considered a neighbourhood church, and, while the factors that drew the congregation together remain open to speculation, GIS methods allowed us to look for reasons beyond geography. Furthermore, we know that these factors were strong enough to keep people worshipping at Knox, even when most worshippers lived closer to another church of the same denomination. One of the most striking aspects of the pew rent book was the extent of transiency, both inside and outside the church. For those who moved house, GIS can be used to track their movements and determine patterns that could not be detected from the written records alone. Regarding the Knox congregants, it is the lack of consistency to these movements that is interesting, which, together with the exceptionally high levels of transiency, make this a clear area of future research. Another area that has wider implications for urban historians is the identification of distinct residential areas in relation to socioeconomic backgrounds. With further investigation, this could lead to a much deeper understanding of class dynamics in Toronto. Here, it is enough to confirm that, among the Knox congregation, unlike inside the church, socioeconomic differences did manifest themselves quite clearly. By incorporating HGIS methods into our study, we came to see Knox as a place where people from, not only different parts of town, but also from very different backgrounds, could comfortably mix. The question that arises, and which will only be answered when data from similar sources are analyzed in a GIS, is whether or not our findings extend to other houses of religious worship beyond Knox.

NOTES

1 J. Ross Robertson, *Robertson's Landmarks of Toronto: A Collection of Historical Sketches of York from 1793 to 1837 and of Toronto from 1834 to 1904* (Toronto: J. R. Robertson, 1904), 215.

2 Deacon's Court and Board of Managers Seat Rents, 1882–1887, Knox Presbyterian Church Toronto collection, Presbyterian Church in Canada Archives.

3 Mark McGowan, "Coming Out of the Cloister: Some Reflections on the Developments in the Study of Religion in Canada, 1980–1990," *International Journal of Canadian Studies* 1–2 (1990): 175–202.

4 See for example Hannah M. Lane, who uses church census records in "Tribalism, Proselytism, and Pluralism: Protestant, Family, and Denominational Identity in Mid-Nineteenth-Century St Stephen, New Brunswick," in Nancy Christie, ed., *Households of Faith: Family, Gender, and Community in Canada, 1760–1969* (Montreal and Kingston: McGill-Queen's University Press, 2002); Rosalyn Trigger, "God's Mobile Mansions: Protestant Church Relocation and Extension in Montreal, 1850–1914," PhD thesis, McGill University, 2004; and Jordan Stanger-Ross, who uses marriage records in "An Inviting Parish: Community without Locality in Postwar Italian Toronto," *Canadian Historical Review* 87, no. 3 (2006): 381–407.

5 Andrew Hinson, "A Hub of Community: The Presbyterian Church in Toronto and its Role among the City's Scots," in Tanja Bueltmann, Andrew Hinson, and Graeme Morton, eds., *Ties of Bluid Kin and Countrie: Scottish Associational Culture in the Diaspora* (Guelph, ON: Centre for Scottish Studies, 2009).

6 Several examples of the importance of religious buildings to ethnic communities in Toronto are given in Robert Harney, ed., *Gathering Place: Peoples and Neighbourhoods of Toronto, 1834–1945* (Toronto: Multicultural History Society of Ontario, 1985).

7 Andrew Hinson, "Migrant Scots in a British City: Toronto's Scottish Community, 1881–1911," PhD thesis, University of Guelph, 2010.

8 John Zucchi, *A History of Ethnic Enclaves in Canada* (Ottawa: Canadian Historical Association, 2007), 2.

9 Christopher Armstrong and H. V. Nelles, *Revenge of the Methodist Streetcar Company: Sunday Streetcars and Municipal Reform, 1888–1897* (Toronto: P. Martin Associated, 1977), 32.

10 Rev. H. M. Parsons, sermon preached in Knox Church, 20 April 1890, reprinted in H. M. Parsons, *Biographical Sketches and Review, First Presbyterian Church in Toronto and Knox Church, 1820–1890* (Toronto: Oxford Press, 1890).

11 Omar M. McRoberts, *Streets of Glory: Church and Community in a Black Urban Neighbourhood* (Chicago: University of Chicago Press, 2003).

12 Richard Cimino and Don Lattin, *Shopping for Faith: American Religion in the New Millennium* (San Francisco: Jossey-Bass, 1998).

13 Lane, "Tribalism, Proselytism, and Pluralism."

14 Hinson, "A Hub of Community," 123.

15 John Moir, *Enduring Witness: A History of the Presbyterian Church in Canada* (Toronto: Presbyterian Publications, 1974), 136.

16 The occupational classification scheme used is the Social Power (SOCPO) scheme. The scheme distinguishes five levels of social class. Lower-class subgroups are SP (social power) level 1 (mainly unskilled workers), SP level 2 (mainly semiskilled workers), and SP level 3 (mainly skilled manual workers). SP level 4 is mainly composed of skilled non-manual workers and SP level 5 comprises white-collar and/or professional specialists (e.g., lawyers), wholesale dealers, factory owners and the like. Full details are available in Bart Van de Putte and Andrew Miles, "A Social Classification Scheme for Historical Occupational Data," *Historical Methods* 38, no. 2 (2005): 61–92.

17 Allan A. McLaren, *Religion and Social Class: The Disruption Years in Aberdeen* (London: Routledge and Kegan Paul, 1974) and Peter Hillis, *The Barony of Glasgow: A Window into Church and People in Nineteenth-Century Scotland* (Edinburgh: Dunedin Academic Press, 2007).

18 Hillis, *The Barony of Glasgow*, 143.

19 Trigger, "God's Mobile Mansions," 87.

20 Deacon's Court Minute Book, The Presbyterian Church in Canada Archive.

21 William Fitch, *Knox Church Toronto: Avant-garde Evangelical Advancing* (Toronto: John Deyell, 1971), 28.

22 *Annual Report of the Trustees and Deacons Court of Knox Church for Congregational Year 1883* (Toronto: Globe Printing, 1884).

23 Hillis, *The Barony of Glasgow*, 109.

24 Howard Chudacoff, *Mobile Americans: Residential and Social Mobility in Omaha, 1880–1920* (New York: Oxford University Press, 1972), 150, 151.

25 Michael B. Katz, Michael J. Doucet, and Mark J. Stern, "Population Persistence and Early Industrialization in a Canadian City: Hamilton, Ontario, 1851–1871," *Social Science History* 2, no. 2 (1978): 220.

26 Michale Katz, *The People of Hamilton, Canada West: Family and Class in a Mid-Nineteenth-Century City* (Cambridge, MA: Harvard University Press, 1975), 104.

27 William Jenkins, "In Search of the Lace Curtain: Residential Mobility, Class Transformation, and Everyday Practise among Buffalo's Irish, 1880–1910," *Journal of Urban History* 35, no. 7 (2009): 970–97.

28 Jenkins, "In Search of the Lace Curtain," 982.

29 Chudacoff, *Mobile Americans*, 158.

30 Charles Pelham Mulvany, *Toronto: Past and Present* (Toronto: W. E. Caiger, 1884), 43.