

A STUDY OF PUBLIC LIFE IN INNER CITY CHRISTCHURCH

With respect to Gehl Architects' 2009 study, what
is the best approach, over time and space, to
understand pedestrian activity?

GEOG 402 Resilient Cities: Group Research Project

Julie-Ann Buick, Stephanie Fong & Tessa Meyer
Department of Geography, University of Canterbury

Acknowledgements

We would like to thank the Christchurch City Council, specifically Aimee Martin, Hugh Nicholson and David Price for their expertise and knowledge.

Assistance provided by Professor Eric Pawson, Professor Simon Kingham, Dr Rita Dionisio and technical staff of the University of Canterbury Geography Department has been invaluable.

Finally, thank you to our Geography postgraduate peers who have given us feedback and encouragement throughout this process.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	2
EXECUTIVE SUMMARY.....	4
1. INTRODUCTION.....	5
2. METHODOLOGY	6
3. EVALUATION OF SURVEY TECHNIQUES	8
3.1 Pedestrian Counts	8
3.2 Structured questionnaires.....	8
3.3 Behavioural mapping	9
3.4 Direct observation/unstructured observation	9
3.5 Controlled observation/structured observation	9
3.6 Technology	10
4. RESULTS	10
4.1 Selection of Sites	11
4.2 Survey technique.....	11
4.3 Recommendations for future implementation	14
5. DISCUSSION	15
5.1 Limitations.....	16
6. CONCLUSION	17
REFERENCES.....	18
APPENDIX A: OBSERVATIONAL FIELD NOTES AND COUNTS.....	20
APPENDIX B: OBSERVATIONAL ACTIVITY SURVEY.....	22
APPENDIX C: QUESTIONNAIRE	25
APPENDIX D: EXAMPLE OF DATA ANALYSIS.....	28

Executive Summary

The objective of this report is to present a method by which a longitudinal study of public life can be carried out in inner city Christchurch. The result was informed by research into a body of international public life studies as well as foundational public life theories. The method has also been created with local context, resources and the Christchurch City Council's (CCC) needs in mind.

The optimal approach requires teams of three people to conduct a mixed-method survey of selected sites around the city; this includes an observational activity survey, observational field notes and counts, as well as an interview style questionnaire. The report aims to explain the value of this approach, and how it can be replicated in the future, including the survey forms and instruction sheets used in a pilot study completed in May and June 2016.

It is recommended that each site is surveyed four times annually, twice during a week in summer, and twice during a week in winter. During each of these weeks, a weekday and a weekend day will be surveyed between 9am and 9pm to analyse patterns.

It is expected the survey will be adjusted over time with consideration of technological advancements and changing needs. Nevertheless, this method offers a good starting point for the CCC to understand how people use public spaces in the inner-city in the short term.

1. Introduction

“Public space is understood as streets, alleys, buildings, squares, bollards: everything that can be considered part of the built environment” (Gehl & Svarre, 2013, p. 3). Public space is a realm where people can interact with the built environment, however, the rapid tempo of modernism’s large-scale planning ideologies has seen public spaces lose its sense of life and vitality in some cities (Gehl & Svarre, 2013, p. 4).

Public life was first studied by William Whyte who pioneered “*Street Life Project*”, a study of pedestrian behaviour and city dynamics in an objective and measureable way through the use of observation and photography (Project for Public Spaces, 2015c). Another important figure in public life studies is Jane Jacobs, who took a place-based, community-centered approach to urban planning, relying on common sense and observation as to why places work (Project for Public Spaces, 2015b). Jan Gehl focusses on reorienting urban design towards pedestrians through public space public life studies (Gehl Architects, 2016). These studies consist of three stages, evaluation of public spaces, recording public life in the spaces and from these recommendations for improvements (Project for Public spaces, 2015a). Studies of this nature have been done for many cities such as Rotterdam, Cape Town, Brighton and Melbourne (Gehl & Svarre, 2013).

In November 2008, Gehl Architects’ was commissioned by the Christchurch City Council (CCC) (Gehl Architects, 2009) to produce a comprehensive insight into public space and public life in the inner city. Focusing on an area bounded by Kilmore Street, St Asaph Street, Rolleston Avenue and Madras Street, the study investigated how people use spaces and streets (Gehl Architects, 2009). The study was an invaluable addition to the Council’s Long Term Council Community Plan (CCC, 2015). The main objective was to assess spaces in the city and how public spaces in Christchurch could better sustain public life and further enhance a sense of community.

As a result of catastrophic seismic activity in the 2010 and 2011 Canterbury Earthquake Sequence, the cityscape in the present day has taken on a very different urban form and will continue to change throughout the rebuilding process. Significant progress has been made to create plans for the future of the city with the most relevant being the Central City Recovery Plan (CCRP) (CCC, 2012). This plan embraces the opportunity to create a 21st century city that is sustainable and has vitality (CCC, 2012). A key objective is to catalyze development through the creation of anchor projects, whereby activity in and around them will encourage surrounding private investments (CCC, 2012). At the core of this are people – as without people and activity, there will be no viability for development.

Although Christchurch has suffered extensive losses, the opportunity to create an extraordinary inner city remains evident. With a visionary and unique layout that is centred around a historical core, the city is also blessed by its natural setting which includes the Avon River (Otakaro) weaving through its centre (Gehl Architects, 2009). With ample public spaces being redeveloped and energized, it is important to continue to monitor how people interact with these spaces. A significant attempt to consult community needs were sought through the Council's award-winning consultation programme known as Share an Idea. From 100,000 suggestions, five key themes were apparent (CCC, 2012);

- Green city
- Stronger built identity
- Compact CBD
- Live, work, play, learn and visit
- Accessible city

The popularity and variation of activities found in inner city public spaces may reflect the degree to which the 'new' city has incorporated these themes. These themes align with those found in academic literature that are believed to make places more popular. Key themes include the incorporation of greenery (Beatley, 2010), a strong sense of place (Jacobs, 1961), encouragement of movement at the human scale (Gehl & Svarre, 2013), encouragement of mixed uses, safety and accessibility (Healthy Places, 2009).

This research is an invaluable exercise in understanding how and where activity is occurring in the city and by whom. Therefore, this study seeks to not only update our understanding of how spaces are being used in this new urban fabric, but to lay the foundation for the study to continue into the future while the built environment transforms. It aims to develop an appropriate method by which a longitudinal study of public spaces in inner-city Christchurch can be studied, with consideration of capturing variations across different times of day, season, and what activities are going on and by whom. These aims have fed into the following research question; with respect to Gehl Architects 2009 study, what is the best approach, over time and space, to understand pedestrian activity in inner-city Christchurch?

2. Methodology

The strategy of inquiry involved three key stages that are illustrated in *Figure 1* below. The initial phase addressed key research needs; this included a review of the online report '*A City for People*' produced by Gehl Architects (2010) for the CCC, along with a review of the present day urban environment. In assessing the city's current environment, various documents and reports found online were

consulted, such as the CCRP (CCC, 2012), to further understand existing plans for the rebuilding process, as well as drawing on personal experiences as urban geographers in the inner city. In exploring the context of the study area, clear aims were established. Once the aims of the study were established, a review of literature was carried out.

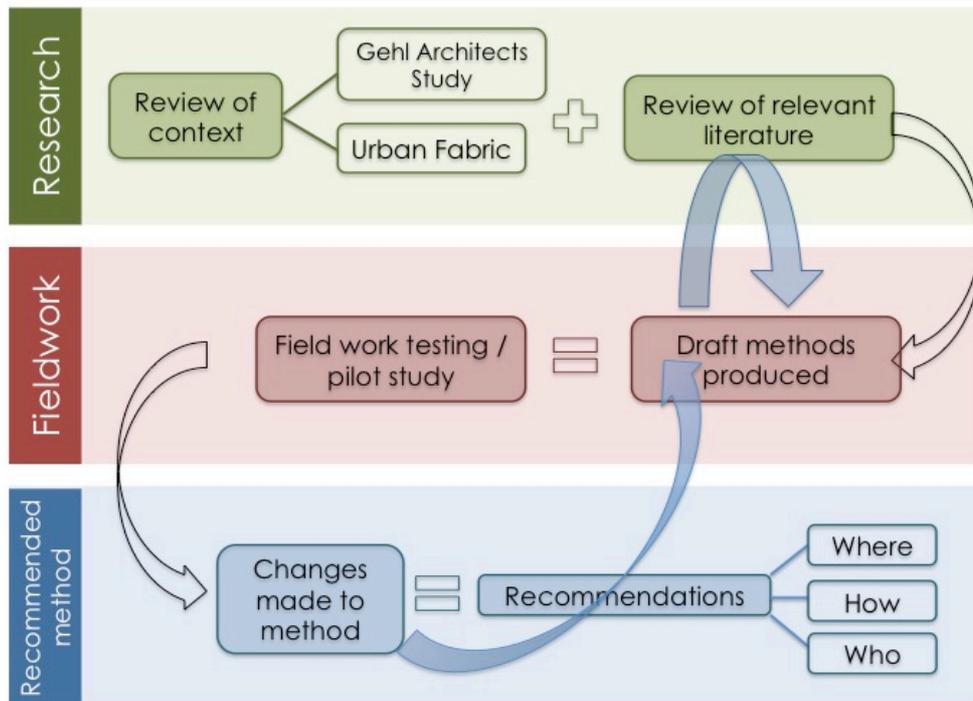


Figure 1: *Three phases of methodology*

This literature review took two focuses; the first was to gain a thorough understanding of notions of public life and key theories that would be foundational for this work. Information from books (such as Jacob’s “*Death and Life of Great American Cities*” (1961) and Gehl & Svarre’s “*Cities for People*” (2013)) along with material that was found through online search engines was analysed. The second element of the review was to collate existing public life and observational studies that have been done by other cities and councils internationally. The information produced from this exercise was organized into a word document whereby each survey method was explained, strengths and weaknesses noted and examples listed. This phase of research was fundamental as it highlighted best practice methods in public life studies.

With research as a foundation and guide, the second phase of this project involved the creation of a draft method. This took the form of various survey and instruction sheets, created manually on Microsoft Word, as well as a map indicating sites of interest. The method was put to the test in four separate fieldwork ‘trials’. These took place in Cathedral Square, Margaret Mahy Playground and the C-Block Lawn at the University of Canterbury over May and June 2016. Each trial highlighted

elements of the method that needed to be refined, producing two feedback loops in the methodology (seen in blue arrows in *Figure 1*, above). The draft method was altered more than five times, requiring repeats of phase two, and with each change to the method, research results from phase one were consulted and drawn upon.

The final phase of the research was the consolidation of a recommended method, enabling each step of the study to be repeated in the future. The chosen method in its final form includes PDF versions of survey sheets, a package of instructions, as well as a map indicating sites that will be included in the study, all of which can be used by the CCC and individual surveyors. This ‘survey package’ is the result of this project, drawing upon findings from stage one research and stage two fieldwork. As will be further explained, the final product is a mixed-method approach that produces observational field notes, quantitative counts as well as qualitative information. Additionally, the package includes results from a micro-study, or pilot, that was carried out in Cathedral Square on two separate mornings.

3. Evaluation of survey techniques

3.1 Pedestrian Counts

Counting pedestrians is a common method used in cities to understand how people interact with the urban environment. Considered basic to public life studies (Gehl & Svarre, 2013), it quantifies foot traffic and may indicate a vibrancy of place. Data can be collected using a handheld counter or having sensors placed around a city at strategic places to capture movement. For example, the CCC has 102 pedestrian sensors placed around the city. While this method helps analyze the ebbs and flows of movement in a city, it is unable to provide information about why these spatial patterns occur.

3.2 Structured questionnaires

Structured questionnaires produce quantitative data through the use of closed questions. Answers are offered in the form of categories determined by the researcher. A significant benefit of using this method is that responses are standardised (Preston, 2009) and all respondents are asked the exact same questions. This means that the responses can easily be analysed and coded (Hay, 2015). A good example of this method being used is found in *‘Impressions of Wollongong Survey’* undertaken by the Wollongong City Council (2015) in NSW, Australia. The disadvantages of this method is the constrained nature of its answers. This limits the depth produced in findings and excludes interesting responses (Bryman, 2012).

3.3 Behavioural mapping

Behavioural mapping, developed by Ittelson, Rivlin and Proshansky (1976), is a form of observational research that records people's behaviour in relation to an environment. This method requires surveyors to observe and record the movements of people in a space (Gehl & Svarre, 2013). It can be in the form of place-centred mapping or individual-centred mapping, whereby behaviour is recorded in a fixed setting and time frame or movement of specific individuals is recorded respectively (Sommer & Sommer, 2011). A benefit of using either method is that behaviour or movement is not changed as there is no direct contact with people in the space. Additionally, it is valuable for longitudinal studies and for intervention studies to show how specific uses of space change over time (Cosco, Moore & Islam, 2010). However, this method can be resource and labour intensive, especially when done over a long timeframe (Sommer & Sommer, 2001). Similarly to aforementioned techniques, it is difficult to understand the motivations behind patterns of behaviour (Voordt & Wegen, 2005).

3.4 Direct observation/unstructured observation

Direct observation is a method for collecting data where a researcher observes subjects in an unaltered environment (Angroision, 2007). The researcher may observe different behaviours, such as activities or conversations, to understand the interaction people have with an environment. A famous example is found in William Whyte's 1969 "*Street Life Project*" behaviour in public spaces in New York was observed (as cited in Project for Public Spaces, 2015c). This method does not require interaction with participants or approval as study subjects. However, as with previous methods, does not allow observers to understand the reasons behind behavioural patterns (Brown, n.d).

3.5 Controlled observation/structured observation

This style of observation is typified by precise decisions on what, how, and what to observe (Frankfort-Nachmaias & Nachmaias, 1992, p. 206), allowing the researcher to control the study environment. This method takes an experimental approach comparable to those found in natural sciences, and are of value because they are resource efficient, reliable and can be replicated easily (Hay, 2015, p. 315). An example of this method's application is found in public transportation studies (Timmermans & Van der Waerden, 2008). However, it can give a restricted view of what is occurring because sensory or experiential findings are not included (Hay, 2015, p. 315) and can therefore limit findings from a human geography perspective.

3.6 Technology

3.6.1 Photographic Record

The use of technologies such as photography and film are able to provide another dimension to studying people in urban public spaces. In addition to direct observation, William Whyte also used time lapse photography to record daily patterns of movement in “*Street Life Project*”, looking at New York City’s parks and plazas to figure out why some urban places were successful and others were not (as cited in Popova, 2013). Time-lapse photography removes the need for multiple researchers in a space, however, it has a high installation cost and would require a substantial amount of time analysing the video footage to retrieve data.

3.6.2 Thermal Cameras

A study in Copenhagen (Nielsen, Gade, Moseund & Skov-Petersen, 2014) used a thermal camera to observe movements and patterns in spaces. This method can operate without light while still detecting movement. Additionally, privacy issues are removed because the camera is unable to identify individuals. Further research is needed to confirm its validity as it is the only study done using a thermal camera.

3.6.3 Unmanned Aerial Vehicle (UAV)

UAVs have not been used to study public life before but could provide many advantages. These include programmable flight paths, which can be flown each time and an aerial view of how space is used, especially for areas where the entire space cannot be monitored or too many people are in one space. However, issues with the use of UAVs include safety concerns of flying over people. Currently the CCC requires the public to apply before flying a UAV over Council property (CCC, 2016). Additionally, UAVs cannot be used on days with adverse weather conditions and they have the potential to draw attention and change behaviour within a space.

4. Results

The method below has been informed by extensive research and has been tested to produce suitable results. The key components that will be described include:

1. Selection of sites
2. An explanation of the survey techniques
3. Recommendations for future implementation

4.1 Selection of Sites

Figure 2 shows 18 sites that have been selected based on their current or future significance. Possible sites were collated from three different sources; those studied by Gehl Architects in 2009 (such as Cathedral Square), those earmarked for future development in the CCRP (CCC, 2012) (such as the Terraces and Margaret Mahy Playground), and finally, sites that have been highlighted in discussions with urban geographers and planners (such as the Botanical Gardens and Washington Skate Park). The final 18 sites were selected based on popularity, cultural significance and historical significance, as well as sites expected to have these qualities upon completion within the next five years. It is expected that beyond a five year period these sites will be reviewed and the list adjusted accordingly.

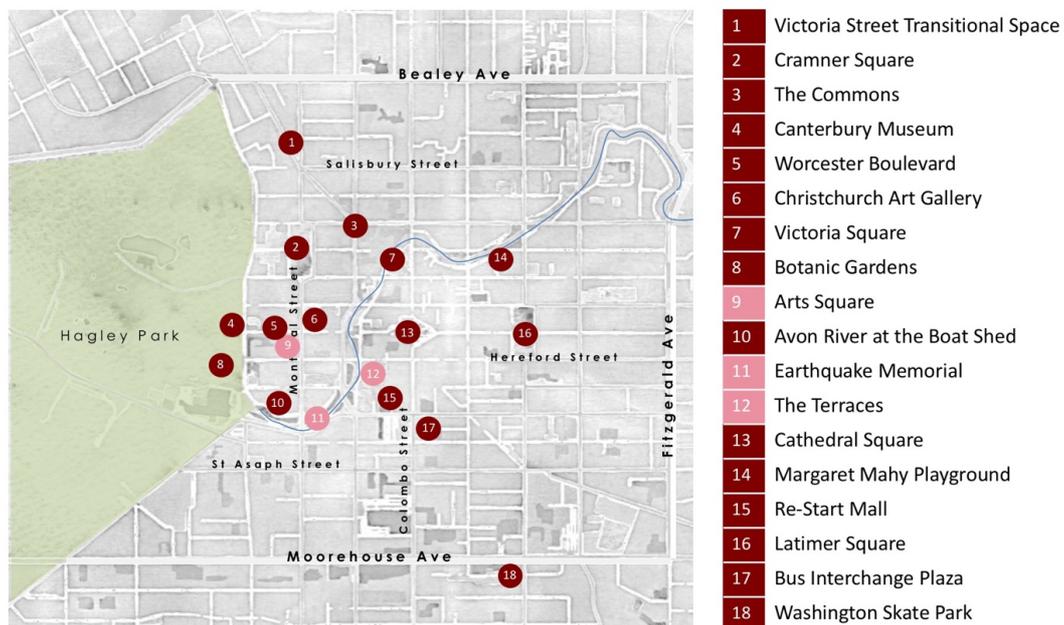


Figure 2: Selected survey sites in inner city Christchurch

4.2 Survey technique

The survey employs a mixed method approach. It requires three surveyors to run tasks simultaneously in the space, using formatted survey sheets with instructions. These sheets and instructions can be found in *Appendix A, B and C*. The following sections will explain each component in detail as well as outlining the value of the data they produce.

4.2.1 Observational Field Notes and Counts

The aim of this method is produce a count of all people in the space, as well as gaining important observational information. The surveyor is given a pedestrian clicker along with an observational ‘field notes’ sheet (see *Appendix A*). Surveyors are given instructions outlining key points to be aware of; for example, the surveyor is asked to describe weather conditions, general patterns such as clustering around a focal point, or the pace of movement. These instructions will enable an unstructured task be relatively similar from person to person. There is space on the sheet to either write notes or scribble down diagrams or drawings. This method produces qualitative data, and contributes a level of contextual detail to the study that the other survey methods cannot.

4.2.2 Observational Activity Survey

The aim of this method is to produce quantifiable data that focuses on the activities people are doing in the space at a given time. The surveyor is given sheets containing instructions and multiple copies of a survey table (see *Appendix B*). An individual table is shown below in *Figure 3*. The table produces information from a sample population of people in a public space, including general demographic information as well as what activity they are carrying out and where they are in the space. It is important to not only gain an understanding of what people are doing but also *where*, as it is valuable to establish the extent to which the built environment may encourage the use of space irrespective of imperfect weather conditions.

New Individual							
Male / Female				Child – Teenager – Young Adult – Adult – Elderly			
Socialising	Observing	Eating/picnic	Taking pictures	Shopping	Recreation	On Mobile	Other? Specify:
							<input type="text"/>
Sitting / Standing				Exposed / Sheletered			
Notes: _____							

Figure 3: Table for an individual from the observational activity survey

4.2.3 Questionnaire

The third component of the survey technique is a structured questionnaire. This method allows the surveyor to interview a small sample of the population to gain qualitative data about the spaces usage and how it is valued. Questions include; (1) what brought them to the space, (2) how often they visit, as well as (3) what they

like, (4) dislike, and (5) what they would change about the space. Some questions ask the participant to select from a list of categories, and some are left open for written answers. A copy of an instruction sheet, information sheet for participants and the questionnaire form is found in *Appendix C*.

4.2.4 Frequency of Surveying

The frequency and timescale with which the aforementioned technique will be implemented is based on the need to compare the use of sites over different times of the day, different days of the week and across different seasons (as outlined in section two). It is suggested that each site highlighted in red in *Figure 2*, is surveyed within the next 12 months. This will establish base data sets to compare to in the future, and will ensure patterns in public spaces are captured before they change throughout the rebuilding process. Based on research findings, it is suggested that on an annual basis these sites should be surveyed across two different weeks; one week during warmer months, and one week during cooler months. *Figure 4* summarizes the suggested timeline using two example weeks. During the selected weeks, surveying should occur during a three hour slot in the morning, afternoon and evening, both on a weekday as well as a weekend day. Because the survey technique should take no more than 30 minutes to complete for each site, it is suggested that three to four sites can be surveyed over a day. This accounts for set-up time, survey time, and time spent moving to the next space. The specified times also allow surveyors to have a one hour break at noon and another break between 4pm and 6pm. This method is created to produce comprehensive data, but it has also been produced with those who will undertake it in mind.

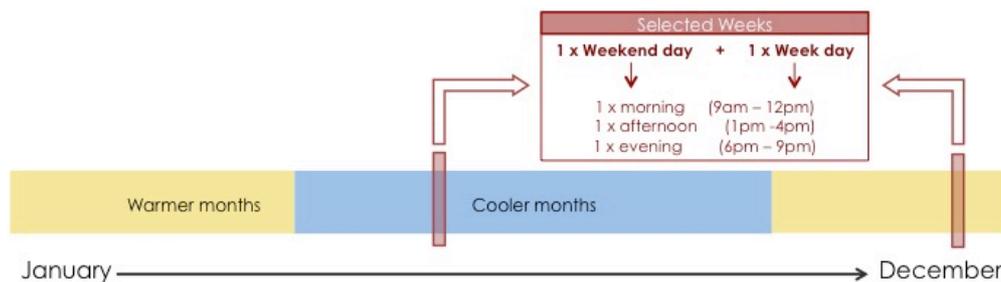


Figure 4: Timeline showing suggested frequency of surveys over a one year period

4.2.5 Analysing Data

The focus of this study is to produce a suitable method to best collect data that can be used by the CCC to understand how public spaces are being used. Therefore, there is no prescribed method to analyse data in this report. The method captures a wide variety of data sets, as a result there are many different ways with which the

data can be analysed and presented. It is expected that data analysis will differ from year to year and will be dictated by what the CCC are seeking to gain knowledge about at a given time. However, the Cathedral Square pilot study, specifically the observational activity survey, provides an example of how the data produced can be assessed and presented. This included the use of a Microsoft Excel coding for survey answers, and examples of how bar graphs can be produced for comparison are shown, as seen in *Appendix D*.

4.3 Recommendations for future implementation

4.3.1 Personnel

It is recommended that management options for the study are employed as it would be useful to have a project manager to overview the surveying. This may take the form of an intern, lecturer at the University of Canterbury or CCC employee. This is to ensure there is continuity across the years as different people may be conducting the study over different years. The survey has been created with students and volunteers in mind, with detailed instructions. The people conducting the survey could be from the university for an internship, geography course project, or as a summer job. Volunteers are also an option instead of coursework for university or employment. Overtime, a combination of all three could be employed as necessary.

4.3.2 Future Considerations

Spaces surveyed should be reviewed as the city is rapidly changing. Spaces may be lost and need to be removed, such as transitional spaces or new spaces may open and need to be included in the study. The frequency of surveys should also be reviewed; this includes the number of surveys within a day as well the number across the the year. This is because it may not be necessary to have as many surveys or it may become apparent more are needed as the city continues to grow and change.

4.3.3 Resources to Explore

The use of technology should be considered as technology is rapidly developing, so has the potential to be incorporated in the future. The use of CCTV cameras should be looked into as they were not seriously considered as a part of this study due to the time restraint as obtaining imagery of this nature can take a long time. There were also concerns over the coverage of CCTV and the angles and clarity of the imagery. Drones are another option to look into for the future. However, there

are too many restrictions on using drones in public spaces, and concerns as to how they may change individual activity in the space.

5. Discussion

The research method employs a mixed-method approach to produce a comprehensive study of how people interact with their environment in public spaces in inner-city Christchurch. The selected method differs from Gehl Architects' (2009) for several reasons. This approach takes into account the opinions of people within the spaces in the form of a questionnaire - rather than solely observing - as well as incorporating a longer term timeline for surveys to be undertaken as opposed to a snapshot. Furthermore, this method is dissimilar to Gehl Architects' (2009) because it does not require fine weather on the day of survey. It is of value to survey during all weather types to allow analysis of how the built environment may mitigate undesirable conditions and may enhance the use of space throughout the year.

As a result, this study is not directly comparable to the Gehl Architects' (2009) public space public life study in Christchurch. The built environment and activities in the city are vastly different to 2009, as such, it is expected this study will produce vastly different results. The study is also longitudinal, therefore, it will be more valuable to compare more frequent and updated data sets that may be produced using this method, as opposed to comparing results to Gehl Architects' original findings (2009). Details within the survey, such as the activity categories selected for the observational activity survey, are also different to those used by Gehl Architects. This was due to a lack of explanation as to what some original categories meant, for example 'Cultural Activities', therefore, a new set of categories has been produced that are less ambiguous. This clarification also ensures the study results will be comparable year to year as it is highly likely different people will collect this data over time.

Furthermore, individuals who walked, ran or cycled through the space without engaging or stopping in the space were not included in the observational activity survey. 'Activities' in the method were regarded as those activities where people engaged with the space, slowed their movement, or remained stationary for some time. Therefore, walkers who were deemed to travel through the space and be unengaged were simply counted. Wider patterns of movement, such as path taken by walkers or cyclists, were noted in the observational field notes as an alternative. Lastly, as mentioned above, the council has pedestrian counters across the city, but these are not in each of the selected locations. Therefore, counting in each space is necessary and valuable, and the surveyor tasked with counting also has the opportunity to use their time to record broad patterns and produce qualitative data.

Finally, photography was not chosen as a main source of data for the survey as it can be unclear as to what activity people are doing in a photo. It is also difficult to identify important elements such as age and patterns of movement. Ethically, there are no problems with taking and publishing photos as there is no expectation of privacy in any of the spaces selected (New Zealand Police, n.d.). Photography is encouraged in this method to accompany field notes, but not for the purpose of analysis. Similarly, the use of CCTV cameras was discussed and due to time restrictions for the study, it was decided against investigating further.

5.1 Limitations

There are a number of limitations to our research that are important to consider. These relate to human error, a degree of ambiguity in the survey content, under-represented samples and the short time frame with which this project was conducted.

Firstly, it is important to consider the degree of sampling error by the surveyor. The observational activity survey and questionnaire aim to collect a representative sample of people, opinions and activities within the space, however, the process of obtaining the sample population is not controlled in any way. This error is reduced by encouraging surveyors to use an “*intercept style*” selection of as many people as possible during a short, 20 minute snapshot, meaning the surveyor cannot afford to be particular in who they select. This limitation may also be reduced by having different people conducting these surveys from year to year, meaning selection bias could be limited in the short-term.

Another form of sampling error is in the form of incorrect observation or the interpretation of results. This has been reduced by making categories very clear for activities, such as ‘observation’ or ‘socialising’. Categories that have been highlighted as being particularly ambiguous throughout the method-trial process have been clearly explained in an annotated table made for surveyors (see *Appendix B, Figure 2*). Age categories have also been given numerical brackets in this annotated table so it is very clear what category each individual belongs to.

A further limitation of the questionnaire is the difficulty in capturing the response of non-English speakers. This is of significance as public spaces in the city, particularly those of cultural significance such as Cathedral Square or the Botanical Gardens, attract a significant number of tourists. While they can be observed and counted, their perspective may not be taken into consideration. While there is no bias against asking tourists, it is expected that those without a good grasp of the English language will be under-represented.

Finally, the time available to complete this project reduced the opportunity to pilot the chosen method in full. Ideally, a full pilot would ideally have been completed, however, the timeframe of the project prevented this from occurring.

6. Conclusion

An in-depth analysis of methods to study public life have been assessed in order to find a best-practice method for a longitudinal study of public life in Christchurch City. This method has been tested and refined to produce an optimal method. This method is comprised of an observational activity survey, observational field notes and pedestrian counts, and an interview style questionnaire. This method requires a team of three people, who may be students or volunteers, to study sites over the course of a year based on a timeline that has been formulated to suggest the best way in which a variety of conditions can be accounted for. The report contains fieldwork forms for future use ensuring the chosen method can be easily repeated as well as a selection of sites that are culturally or historically significant.

Future considerations have also been explored to account for technological developments that could be employed, changing needs and resources, as well as a changing urban environment. However, this method can be readily applied in the short term to produce a comprehensive set of base data. As the urban fabric of the inner-city transforms throughout the rebuilding process, it is of critical importance that the CCC and relevant organizations such as Regenerate Christchurch understand how people are interacting with a new built environment. As Sir Mark Solomon asserts in the CCRP, “To be successful, the rebuild of Christchurch must have people at its heart” (CCC, 2012, p. iv).

References

- Angrosino, M. (2007). *Naturalistic observation*. Walnut Creek, California: Left Coast Press.
- Beatley, T. (2010). *Biophilic cities: integrating nature into urban design and planning*. Washington D.C: Island Press.
- Brown, L. (n.d.). *Observational field research*. Retrieved, from <http://faculty.washington.edu/wpratt/MEBI598/Methods/Collecting%20Data%20Through%20Observation.htm>
- Bryman, A. (2012). *Social research methods 4e*. Oxford, UK: Oxford University Press.
- Christchurch City Council. (2012). *Central city recovery plan*. Retrieved from http://www.andersonlloyd.co.nz/wp-content/uploads/2012/12/Recovery_Plan2012.pdf
- Christchurch City Council. (2015). *Long term plan 2015-2025*. Retrieved from <https://www.ccc.govt.nz/the-council/plans-strategies-policies-and-bylaws/plans/long-term-plan-and-annual-plans/long-term-plan-2015-25/>
- Christchurch City Council. (2016). *Drones and remotely piloted aircraft systems*. Retrieved May 15, 2016, from <http://ccc.govt.nz/parks-and-gardens/photography-and-weddings/drones-and-remotely-piloted-aircraft-systems/>
- Cosco, N. G., Moore, R. C., & Islam, M. Z. (2010). Behavior mapping: a method for linking preschool physical activity and outdoor design. *Medicine & Science in Sports and Exercise*, 42(3), 513-519.
- Frankfort-Nachmias, C., & Nachmias, D. (1992). *Research methods in the social sciences (4th Edition)*. London: Edward Arnold.
- Gehl, J., & Svarre, B. (2013). *How to study public life*. Washington, DC: Island Press.
- Gehl Architects. (2009). *Christchurch 2009: Public space, public life*. Christchurch, New Zealand: Christchurch City Council.
- Gehl Architects. (2010). *A city for people action plan Christchurch 2010*. Retrieved from <https://www.ccc.govt.nz/assets/Documents/The...Plans/JanGehlAction-Plan-web.pdf>
- Gehl Architects. (2016). *Public space public life strategies*. Retrieved June 6, 2016, from <http://gehlarchitects.com/services/public-space-public-life-strategies/>
- Hay, I. (2015). *Qualitative research methods in human geography*. Oxford: Oxford University Press.
- Healthy Places. (2009). *Mixed land use*. Retrieved June 6, 2016, from www.healthyplaces.org.au/userfiles/file/Mixed%20Land%20Use%20June09.pdf
- Ittelson, W. H., Rivlin, L. G. & Proshansky, H. M. (1976). The use of behavioural maps in environmental psychology. In H. M. Proshansky, W. H. Ittelson, & L. G. Rivlin (Eds.), *Environmental psychology: People and their physical settings* (pp. 658-668). Holt, Michigan: Rinehart and Winston.
- Jacobs, J. (1961). *The death and life of great American cities*. New York City, New York: Vintage.
- New Zealand Police. (n.d). *What are the rules around taking photos or filming in a public place?* Retrieved May 15, 2016, from <http://www.police.govt.nz/faq/what-are-the-rules-around-taking-photos-or-filming-in-a-public-place>

- Nielsen, S. Z., Gade, R., Moeslund, T. B., & Skov-Petersen, H. (2014). Taking the temperature of pedestrian movement in public spaces. *Transportation Research Procedia*, 2, 660-668.
- Preston, V. (2009). Questionnaire survey A2 - Kitchin, Rob. In N. Thrift (Ed.), *International encyclopedia of human geography* (pp. 46-52). Oxford: Elsevier.
- Popova, M. (2013). *The social life of small urban spaces*. Retrieved June 6, 2016, from <https://www.brainpickings.org/2013/08/22/the-social-life-of-small-urban-spaces-whyte/>
- Project for Public Spaces. (2015a). *Jan Gehl*. Retrieved June 1, 2016, from <http://www.pps.org/reference/jgehl/>
- Project for Public Spaces. (2015b) *Jane Jacobs*. Retrieved June 1, 2016, from <http://www.pps.org/reference/wwhyte/>
- Project for Public Spaces. (2015c). *William H. Whyte*. Retrieved June 1, 2016, from <http://www.pps.org/reference/wwhyte/>
- Sommer, R., & Sommer, B. B. (1980). *A practical guide to behavioral research: Tools and techniques*. New York: Oxford University Press.
- Timmermans, H., & Van der Waerden, P. (2008). Synchronicity of activity engagement and travel in time and space: descriptors and correlates of field observations. *Transportation Research Record: Journal of the Transportation Research Board*, (2054), 1-9.
- Wollongong City Council. (2015). *Impressions of Wollongong survey*. Retrieved May 20, 2016, from <http://haveyoursaywollongong.com.au/wollongong-public-space-public-life>
- Voordt, D. J. M., & Wegen, H. B. R. (2005). *Architecture in use: An introduction to the programming, design and evaluation of buildings*. Amsterdam, The Netherlands: Architectural Press.

Appendix A: Observational Field Notes and Counts

Study of Public Life: Inner City Christchurch Field Work



Christchurch
City Council



UC
UNIVERSITY OF
CANTERBURY
Te Whare Wānanga o Waitānaki
CHRISTCHURCH NEW ZEALAND

1. Observational field notes and counts

Thank you for undertaking this fieldwork.

Your task is to count each individual in the space using the clicker you have been given. Count and observe the space for 20 minutes. Additionally, you are asked to complete field notes on the following page.

We suggest you situate yourself in a location where you can observe the entire space, if possible. Move around if you need to. You are not required to talk to individuals to complete the task, however you may be asked what you are doing by curious members of the public.

Points to consider for field notes:

- **Begin by filling in the specific questions on the following page**

Pay attention to the time at which you start your survey
Also add detail about what the weather is like in the space. This is important as some sections of the survey table will relate to your description of the weather
- **Identify overall movements of people**

Are they passing through the space, or are they more stationary?
Where are people entering the space from, and are they leaving in a certain direction?
- **Identify the spread of people across the area**

Are people in groups, or are they clustered in specific areas?
Are they clustering in sheltered areas?
Are they clustered around a focal point?
- **Identify who is in the space**

Make an attempt to estimate how many people are in the space
Is there a more predominant age group or gender?

Figure 1: Observational field notes and counts information sheet

Appendix B: Observational Activity Survey

Study of Public Life: Inner City Christchurch	Field Work
	
2. Observational survey of pedestrian activity	
<p>Thank you for undertaking this fieldwork.</p> <p>This is an observational survey whereby you will observe people in public space and record relevant information in the tables below. Each table caters for one individual, and your task is to either (a) circle the appropriate option or (b) to give brief answers in blank spaces. Public spaces can be very busy, so your aim is to gather information from <i>a sample</i> of the population.</p> <p>You are not required to talk to individuals to complete the task, however you may be asked what you are doing by curious members of the public.</p> <p style="text-align: center;"><u>We suggest that you:</u></p> <ul style="list-style-type: none">○ Situate yourself in a location where you can observe the entire space, if possible. Move around if you need to.○ Spend 20 minutes in the space completing as many tables as possible.○ Observe one person at a time. It will typically take 30 seconds to observe the individual and complete the table. Then, move on to the next person.○ Attempt to gain a sample that is representative of the population. Therefore, attempt to observe a variety of people and activities○ Before completing the survey, familiarize yourself with the annotated table you have been given.	

Figure 1: Observational activity survey information sheet

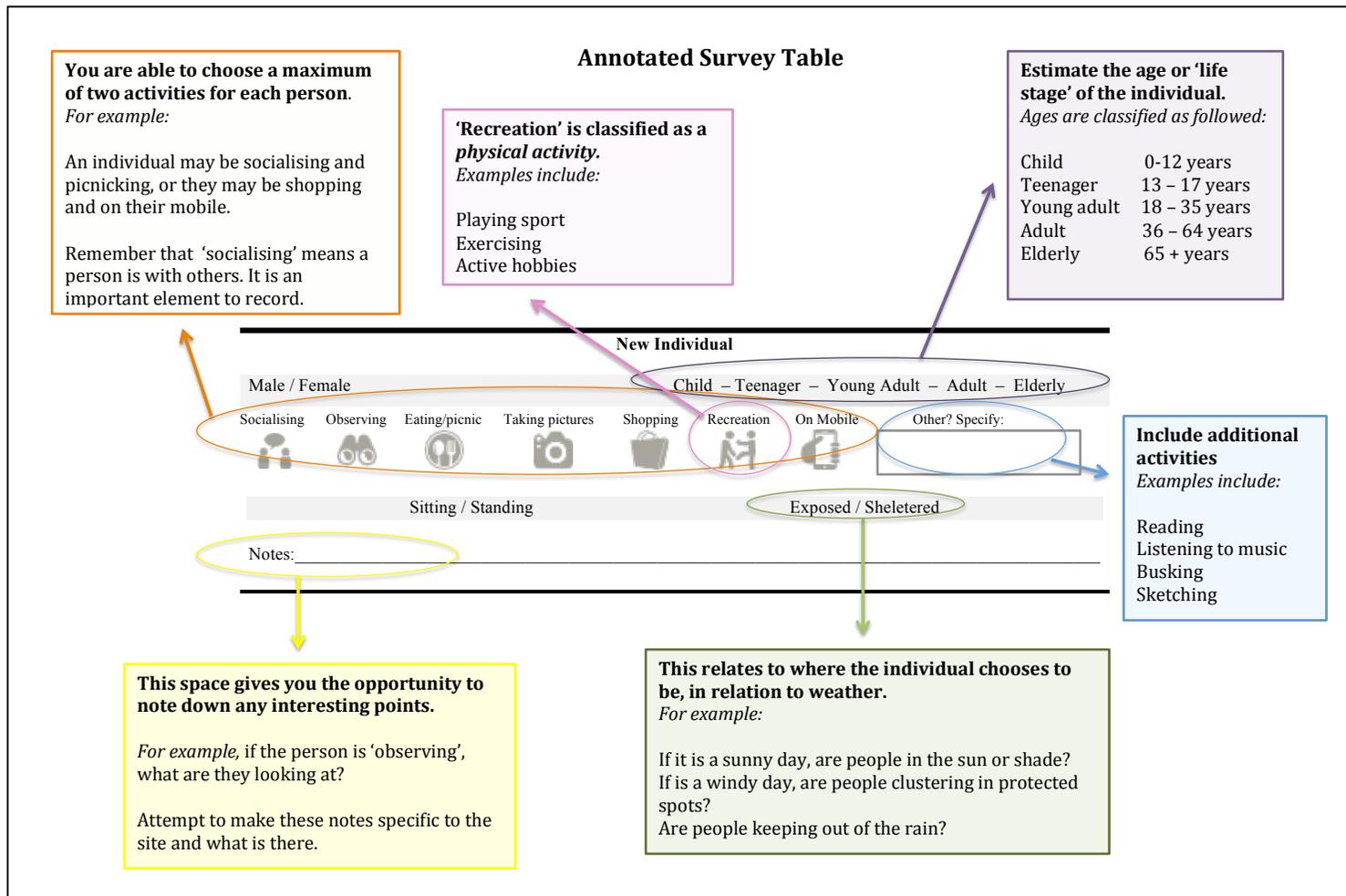


Figure 2: Annotated individual observational activity table

New Individual

Male / Female		Child – Teenager – Young Adult – Adult – Elderly					
Socialising	Observing	Eating/picnic	Taking pictures	Shopping	Recreation	On Mobile	Other? Specify:
							<input type="text"/>
Sitting / Standing				Exposed / Sheletered			
Notes: _____							

New Individual

Male / Female		Child – Teenager – Young Adult – Adult – Elderly					
Socialising	Observing	Eating/picnic	Taking pictures	Shopping	Recreation	On Mobile	Other? Specify:
							<input type="text"/>
Sitting / Standing				Exposed / Sheletered			
Notes: _____							

New Individual

Male / Female		Child – Teenager – Young Adult – Adult – Elderly					
Socialising	Observing	Eating/picnic	Taking pictures	Shopping	Recreation	On Mobile	Other? Specify:
							<input type="text"/>
Sitting / Standing				Exposed / Sheletered			
Notes: _____							

New Individual

Male / Female		Child – Teenager – Young Adult – Adult – Elderly					
Socialising	Observing	Eating/picnic	Taking pictures	Shopping	Recreation	On Mobile	Other? Specify:
							<input type="text"/>
Sitting / Standing				Exposed / Sheletered			
Notes: _____							

Figure 3: Observational activity survey form

Study of Public Life: Inner City Christchurch	Field Work
	
3. Public space questionnaire	
<p>Thank you for undertaking this fieldwork.</p> <p>Your task is to carry out interviews with a sample population in the site using a structured questionnaire form. An information sheet for participants is attached along with several copies of the survey form.</p> <p>You are required to approach individuals and ask whether they would be interested in helping you undertake your research.</p> <p style="text-align: center;"><u>We suggest that you:</u></p> <ul style="list-style-type: none">○ Bring a few pens and clipboards with you – several people can fill in the form simultaneously.○ Approach people politely, tell them your name and a little bit about what you are studying.○ Attempt to gain a sample that is representative of the population. Therefore, attempt to engage with a variety of people.○ Before completing the survey, familiarize yourself with the questionnaire sheet.○ You may end up discussing ideas with people, but try to be efficient with the 20 minutes you have, and politely tell them you must continue your survey. Your goal is to complete a minimum of 5 surveys each visit.	

Figure 1: Questionnaire information sheet for surveyors



Understanding public spaces in Inner City Christchurch – Observational study of pedestrian activity

The study ‘Understanding public spaces in Inner City Christchurch – Observational study of pedestrian activity’ is a collaborative research project between University of Canterbury (UC) Geography Department and the Christchurch City Council (CCC). The course GEOG 402 Resilient Cities requires UC students to conduct research in a group with a community partner, in this case the CCC.

In 2009 the CCC commissioned Gehl Architects to study public life in Christchurch city. This project aims to find a way to continue the work Gehl Architects conducted, by finding the best method to study stationary activity in public spaces.

This survey is part of a pilot study. The survey asks questions relating to how you use the public space you are currently in and how you use the space. By responding to the survey, you are providing consent to participate. The information provided will be placed into a report for an assignment and will be publicly available at <http://www.geog.canterbury.ac.nz/community.shtml> later this year.

If you have any questions, you can email Simon Kingham at simon.kingham@canterbury.ac.nz or Eric Pawson at eric.pawson@canterbury.ac.nz

Thank you for participating in the survey,
Julie-Ann Buick, Stephanie Fong and Tessa Meyer

Figure 2: *Questionnaire consent form*



**Understanding public spaces in Inner City Christchurch –
Observational Study of Pedestrian Activity**

1. What brought you to the space today?

- Proximity to a specific location Habit
 Leisure Out of interest

Other (please specify):

2. How often do you visit this space?

- Daily Weekly
 Fortnightly Monthly
 Annually First time in the space

3. What do you like about the space?

4. What do you dislike about the space?

5. What could be improved to make the space more appealing to you?

Figure 3: Questionnaire form

Appendix D: Example of Data Analysis

The raw data from the observational activity survey was coded into excel, according to *Table 1*, and an example can be seen in *Figure 1* below.

Table 1: Codes used for Excel

Gender	Male	1
	Female	2
Age	Child	1
	Teenager	2
	Young Adult	3
	Adult	4
	Elderly	5
Activity	Socialising	1
	Observing	2
	Eating	3
	Taking Pictures	4
	Shopping	5
	Recreation	6
	Mobile	7
	Other	8
Sitting/Standing	Sitting	1
	Standing	2
Exposed/Sheltered	Exposed	1
	Sheltered	2

	A	B	C	D	E	F	G	H	I	J
1	Date	1/06/16								
2	Time	11.05am								
3	Weather	Fine day, 9C								
4										
5										
6	Participant	Gender	Age	Activity	Secondary Activity	other	Sitting/Standing	Exposed/Sheltered	Notes	
7	1	1	3	2				1	1	
8	2	1	4	2				2	1	
9	3	1	4	2				2	1	
10	4	1	4	2				2	1	
11	5	2	4	2				2	1	
12	6	1	3	1				2	1	in a group with 10 others
13	7	1	3	2				2	1	
14	8	1	4	2				2	1	
15	9	1	4	2				2	1	
16	10	2	5	2				2	1	
17	11	2	5	2				2	1	
18	12	1	4	2				2	1	
19	13	1	4	2				2	1	
20	14	1	4	1				2	1	
21	15	2	4	1				2	1	
22	16	2	3	2				2	1	
23	17	1	3	4				2	1	
24	18	1	3	4				2	1	
25	19	2	4	2				2	1	
26	20	1	4	2				2	1	

Figure 1: Screen capture of data encoded for Cathedral Square, 1 June 2016 survey

This data was then collated into tables as seen in *Table 2* using the COUNTIF function in Excel.

Table 2: Age and Activity counts for Cathedral Square

Age	Wednesday 01/06/2016	Sunday 29/05/2016	Activity	Wednesday 01/06/2016	Sunday 29/05/2016
Child	0	2	Socialising	8	1
Teenager	0	0	Observing	31	6
Young adult	15	6	Eating	1	1
Adult	28	8	Taking pictures	2	4
Elderly	5	0	Shopping	0	0
total	48	16	Recreation	5	0
			Mobile	1	2
			Other	0	2
			total	48	16

From these tables, 100% stacked bar graphs were created as seen in *Figure 2*, and information of the total number of people in the space was added.

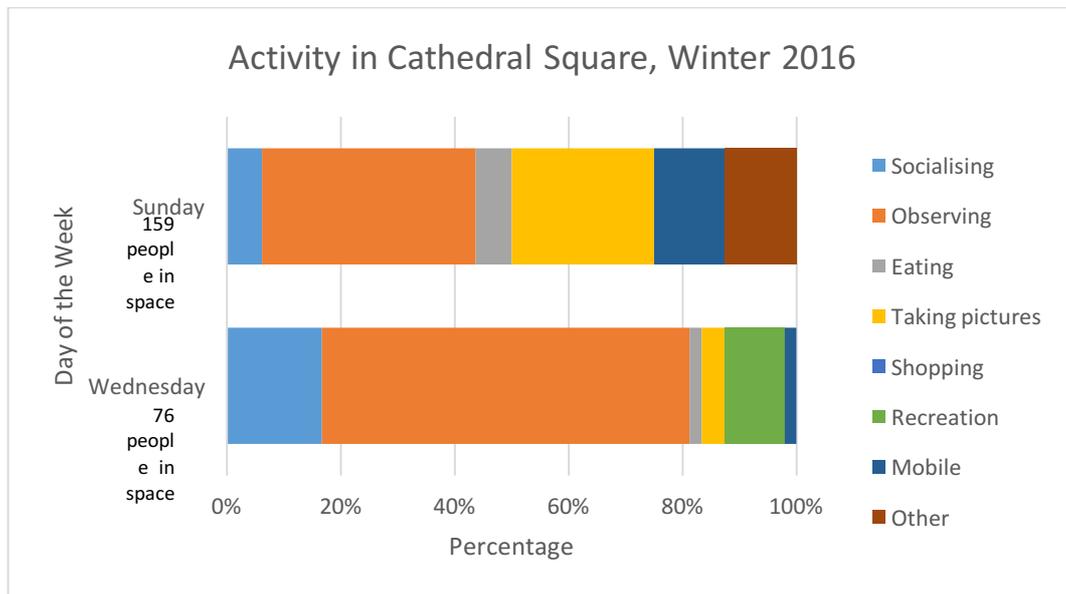


Figure 2: Example of stacked bar graph produced for activity in Cathedral Square, Winter 2016