City of Darebin Inspired Climate Change Solutions

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Abstract

The goal of this project was to assist Act on Climate volunteers with empowering communities in the city of Darebin (Victoria, Australia) to be able to voice their concerns and solutions towards climate change. To achieve this goal, we assessed constituents' knowledge and perceptions on climate change through the distribution of a climate survey and identified concerns and solutions related to climate change with a separate sorting survey. We generated recommendations for the Friends of the Earth campaign Act on Climate and the Darebin City Council based on the results of both surveys and the effectiveness of the methodology used to conduct and distribute them. These recommendations included methods for improved communication with constituents and improved promotion of the Darebin Climate Emergency Plan.

Executive Summary

Our Project

Friends of the Earth (FoE) is a grassroots environmental NGO, relying primarily on volunteers and community support, with the goal of securing social and environmental justice to promote a sustainable and peaceful world. Since 1971, FoE has gained a worldwide presence with member groups now located in 75 countries. Each member group holds jurisdiction over a single country and acts as the governing body for all FoE local activist groups within that country. As of November 2017, FoE has over two million individual members internationally, uniting some 5,000 local groups located throughout the world (Friends of the Earth - Member Groups, 2017). Each FoE local group hosts a variety of campaigns that address relevant environmental and social issues for their respective areas. These campaigns can be unique to any one local group and are used for promoting public awareness to "increase enthusiasm and support, stimulate self-mobilization and action, and mobilize local knowledge and resources" (Awareness Campaigns for Behavioural Change, 2015).

The members of the FoE Melbourne local group have recently decided to address the issue of climate change through their new campaign, Act on Climate (AoC). The Act on Climate campaign began in January 2017 when a member of Parliament approached FoE Melbourne members with a need to increase support for the Victoria Climate Change Act of 2017. Led by FoE member and campaign coordinator Leigh Ewbank, the AoC campaign developed a base of volunteers from FoE membership and the general public. AoC campaign volunteers have also played important roles in passing environmental legislation, including the passing of the 2017 Victoria Renewable Energy Target (VRET), which holds the Victorian government to an ambitious goal of 40% renewable energy generation by 2025 (L. Ewbank, Personal Communication, 2017).

AoC was envisioned as a means to engage communities with targeted information about climate change policy and adaptation strategies. The goal of the AoC campaign is to increase public action against climate change through community engagement and awareness. To help increase their outreach, the AoC campaign has partnered with groups including #StopAdani, Yes2Renewables, and most recently the city of Darebin. Despite previously having a legislative focus by targeting climate policy and members of Parliament, AoC campaigners are now looking for ways to better understand individuals' perceptions and impacts of climate change.
Current efforts by the AoC campaign focus on residents living within the ten suburbs of Darebin. The Darebin City Council has recently released their Climate Emergency Plan, the first plan in Australia to label the current state of the climate as an emergency. The Climate Emergency Plan was created to raise awareness of climate change effects currently taking place in Darebin and the goals, targets and directions that the city agrees to accomplish. The plan outlines nine major

objectives ranging from increased energy efficiency to waste minimization (Darebin City Council - A, 2017).

The Darebin City Council is looking to better understand the knowledge and concerns regarding climate change of the Darebin community, and AoC volunteers hope to use this information to assist in the creation of a climate action budget. Unfortunately, Darebin constituents may be unaware of their vulnerability to climate change and the measures they can take to mitigate it (Awareness Campaigns for Behavioural Change, 2015). With the Climate Emergency Plan, the Council hopes to instill a sense of urgency and spark community involvement in efforts to immediately and dramatically reverse the effects of climate change.

Methodology

The goal of this project was to assist AoC volunteers with empowering communities in the city of Darebin to be able to voice their concerns and solutions towards climate change. To accomplish this goal, we identified three objectives as shown in Figure A.

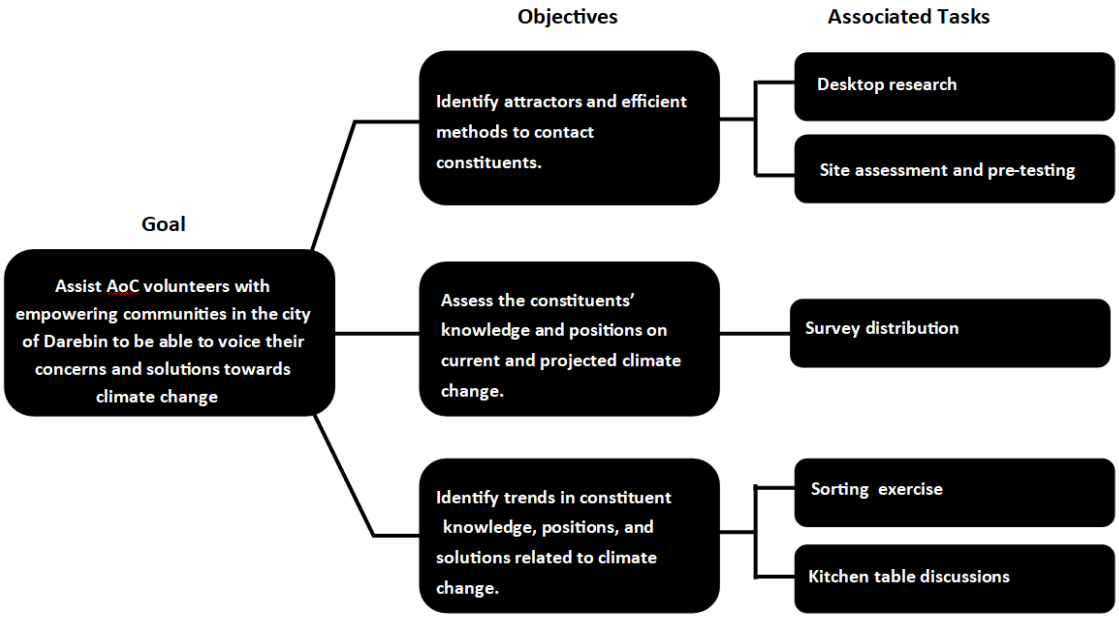

Figure A Methodology Flowchart

Objective 1: Identify Attractors and Efficient Methods to Contact Constituents

We identified attractors through desktop research and during a site assessment. We chose these attractors based on our convenience sampling to accurately represent the Darebin population in order to obtain a diverse set of data. On our way to and from these attractors we also found other locations in the city of Darebin that had high numbers of visitors.
Along with the site assessment, we were able to pretest our survey, titled Darebin Climate Survey, on FoE members and residents of the city of Darebin. We conducted a trial run on residents by posting a small number of QR codes in stores and handing out a limited number of physical copies of the Darebin Climate survey in person. FoE members provided insight on specific aspects of the survey wording and readability for the target groups. Survey questions were then modified as needed, before being distributed on-site again. After several modifications, we reached a consensus that the survey questions were worded properly, and we posted flyers in all locations that allowed us to display the flyer.

We contacted stakeholders in community groups through email to distribute our survey link. Along with contacting stakeholders in these community groups, FoE provided access to their database of supporters and public social media accounts for us to utilize during the survey distribution. We also attended local community events to further distribute the survey in person.

Objective 2: Assess Constituent Knowledge and Positions on Current and Projected Climate Change

Constituent knowledge was obtained via surveying of the Darebin area. The Darebin Climate survey consisted of 18 questions to learn more about the participant's basic knowledge and positions of climate change including three optional demographics questions. Samples of convenience were used when conducting surveys face-to-face as physical copies and online. Additionally, a QR code that links directly to our survey online was displayed on flyers throughout the city of Darebin. We incentivized this survey by raffling off Croxton Bandroom concert tickets, double passes for Palace Westgarth Cinemas, artwork by a local artist and free plates of food from the Friends of the Earth Co-op.

Objective 3: Identify Trends in Constituent Knowledge, Positions, and Solutions Related to Climate Change for the Darebin City Council

After the identification of all climate change effects listed by participants in the Darebin Climate survey, we asked the residents of Darebin to participate in a sorting exercise. The sorting exercise included a list of all climate change effects that were identified by community members in the prior survey. The exercise asked participants to select and rank their top five climate change effects in order of how concerned they were about the effect. We were unable to hold any kitchen table discussions due to lack of participation. As a result, to distribute the sorting

activity, we created a three-question survey, which we titled the Darebin Sorting survey. After respondents completed the sorting activity, we asked for their solutions regarding climate change. The survey was distributed via FoE social media and email blasts to the database. Additionally, we attended two events, a Friends of Merri Creek Waterway Monitoring training event and the La Trobe Wildlife Sanctuary Tour, to further distribute the survey in person.

We coded the data and identified trends of the highest concerns. To quantify how much each effect concerned the Darebin residents, we created a "Concern Points" system based on how people ranked each effect. If a concern was ranked as "Concern one," ten points were added to the effect's total score. Concern Point values dropped by two points for each concern after the first, in example, a ranking of "Concern two" was worth eight points and so forth. With these data, we were able to generalize trends and focus on which effects are of greatest concern to the residents and communicate these concerns to FoE and the Darebin Council.

Results

We were able to display our Darebin Climate survey flyer at a total of 52 locations. Of the 53 organizations we contacted via email, nine agreed to forward our survey information along to their members and three invited us to speak at their organization meeting or event. We posted the survey link on the Act on Climate public Facebook page, the Act on Climate Twitter account, and shared it on our sponsor Leigh Ewbank's personal Twitter and Facebook accounts. We also sent an email blast using the FoE database to approximately 140 members of FoE living in the Northcote or Preston electoral districts. There were 58 surveys started on the day of the email and social media posts (November 13th) and 57 surveys within the following 48 hours. We collected a total of 219 responses to the Darebin Climate survey. After removing the responses with postcodes that are not in Darebin's jurisdiction and the responses that were recorded as being taken from geolocations over 45 minutes away from Darebin, we were left with 140 responses. We coded the data in these two groups separately, designating them as general responses and Darebin specific responses.

We emailed the same 53 groups we had previously contacted to ask about completing the Darebin Sorting survey. Of the 53 groups contacted, five were willing to assist in distributing either our survey or our survey flyer. We collected six Darebin Sorting survey responses from online outreach and 46 responses from attendance at events, which brought our total number of responses for the Darebin Sorting survey to 52.

From the 219 general responses we received, our first notable trend was the general understanding of climate change in the general community. Five possible responses (when asked how well the participant felt they understood climate change) represented a spectrum of climate

change comprehension. Answering “extremely well” implied the best understanding and “not well at all” implied the least understanding about climate change.

Overall, 93% of survey participants indicated that they understand climate change at least moderately well. Survey participants felt climate change most affects the young, the poor, the elderly, and those living in coastal communities. Some participants also listed that either “everyone” or “no-one” is affected by climate change.

Similarly to the general community responses, 94% of Darebin residents indicated that they understand climate change at least moderately well, and 63% of these individuals responded that they would like to learn more about climate change. Regardless of how long residents have lived in Darebin, the majority responded that they have seen the effects of climate change in Darebin. When asked about the Darebin Council’s Climate Emergency Plan, 53% of respondents had not heard of it, and 56% of respondents stated that they would like to learn more about the Climate Emergency Plan. However, we found that 90% of Darebin residents agreed with the Climate Emergency Plan’s use of the term “climate emergency.”

We collected 52 responses to the Darebin Sorting survey. After calculating the total Concern Points for each climate change effect, it was revealed that survey respondents were most concerned about increased extreme weather and natural disasters. Decreased biodiversity was the effect with the second most points. Increased temperatures, extinction of animals, and ocean acidification received the third, fourth, and fifth most points. Forty-four survey participants also provided climate change solutions. The most frequently listed solutions revolved around renewable energy, including increased use of solar, wind, geothermal, and hydro energy. Residents also frequently listed they would like to see increased planting of indigenous plants and improved public transport among their solutions. Ultimately, we found almost all of the solutions participants listed are already being implemented by the Darebin City Council through the Climate Emergency Plan. This trend, as well as the trends in general community knowledge were used to create recommendations for the Darebin City Council and Friends of the Earth.

Recommendations

The following two recommendations are designed to help the Darebin City Council better promote their Climate Emergency Plan through social media and news outlets. First, to distribute information on the Climate Emergency Plan, we have drafted a ten-week video series that describes the Climate Emergency Plan to be uploaded weekly to the City of Darebin YouTube channel. The first video should be an introduction to the Climate Emergency Plan and the following nine videos should each focus on a key direction that the Council identifies in the Climate Emergency Plan. The individual videos can easily be shared onto the Darebin City Council's other social media accounts.

We also recommend that the Council start to promote the Climate Emergency Plan on general news outlets, primarily in local newspapers. We recommend they complete this through ten short articles that would be released weekly and contain the same information as the YouTube video released the same week. The Council can also choose to summarize the weekly articles into one longer article and release this article the same week as the introductory video.

We are recommending that Act on Climate conduct this project on a larger scale to gather more data to present to the Victorian Parliament as evidence of the need for a climate change budget. We are providing AoC with a booklet outlining a generalized version of our methodology, the reasoning behind our methodology, and any successes and challenges we faced.

We also recommend that AoC create an Instagram account that centers on community engagement and involvement. An AoC volunteer would need to be willing to take on this task and the Instagram could be passed around to other volunteers so several people get a chance to run the social media campaign, much how the current social media is run. We are recommending a 12-month social media calendar that contains an Act on Climate hashtag #IActOnClimateChange, photo contests revolving around a different theme each month, "Feature Fridays" where a member of the community that submitted a photo using the hashtag is featured on the Instagram account, and a weekly announcement for the campaign's collective meeting on Mondays. The purpose of varying monthly themes is to highlight the numerous ways in which the community can get involved with sustainable living. These Instagram posts could also be shared to the AoC Facebook and Twitter accounts, as well as re-posted to the FoE Melbourne Instagram account.

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Chapter 1: Introduction

Friends of the Earth (FoE) is a grassroots environmental NGO, relying primarily on volunteers and community support, with the goal of securing social and environmental justice to promote a sustainable and peaceful world. Since 1971, FoE has gained a worldwide presence with member groups now located in 75 countries. Each member group holds jurisdiction over a single country and acts as the governing body for all FoE local activist groups within that country. As of November 2017, FoE has over two million individual members internationally, uniting some 5,000 local groups located throughout the world (Friends of the Earth - Member Groups, 2017). Each FoE local group hosts a variety of campaigns that address relevant environmental and social issues for their respective areas. These campaigns can be unique to any one local group and are used for promoting public awareness to "increase enthusiasm and support, stimulate self-mobilization and action, and mobilize local knowledge and resources" (Awareness Campaigns for Behavioural Change, 2015).

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in Darebin and the goals, targets and directions that the city agrees to accomplish. The plan outlines nine major objectives ranging from increased energy efficiency to waste minimization (Darebin City Council - A, 2017).

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The goal of this project was to assist AoC volunteers with empowering communities in the city of Darebin to be able to voice their concerns and solutions towards climate change. To accomplish this goal, we identified three objectives:

1. Identify attractors and efficient methods to contact constituents.
2. Assess the constituents' knowledge and positions on current and projected climate change.
3. Identify trends in constituent knowledge, positions, and solutions related to climate change.

Upon completion of these specified objectives, we gained a thorough understanding of the Darebin community's perceptions on climate change. This included a knowledge and understanding of the positions of Darebin residents on the current state of the climate, a comprehensive list of individuals' concerns with respect to climate change in the City of Darebin, and an associated list of residents' desired actions to be taken by the City Council to address these concerns. The lists of concerns and solutions were then presented to the Darebin City Council for use in adapting City policy and efforts to better address the needs of their community. Other recorded metrics were provided to Friends of the Earth Melbourne for use in understanding the perceptions of Darebin residents so that education and activism efforts could be adapted to better align with current mentalities of varying demographics.

Chapter 2: Literature Review

This chapter will present the background research necessary for a better understanding of climate change effects, perceptions, and community engagement. First, we profile our stakeholders, including our sponsor Friends of the Earth, their campaign Act on Climate, and the city of Darebin. Then, we delve into the effects of climate change currently affecting the city of Darebin. In the third section we examine factors that influence perceptions of climate change. Next, we address climate adaptation and its purpose for mitigating current and future impacts of climate change and lastly, we evaluate data collection methods for analyzation of climate perceptions.

2.1 Stakeholder Profile

2.1.1 Friends of the Earth

Friends of the Earth was first established in San Francisco in 1969 by David Brower. Brower, an ex-director of the Sierra Club, decided to part ways due to "ideological and leadership style differences" and create what is now known as Friends of the Earth (FoE). As the new FoE President, Brower brought his sense of leadership and conviction to Friends of the Earth, giving them an organizational approach to activism previously unseen at the time. Unlike other organizations, in FoE, "from the board of directors to Brower to the volunteers, there was a pervasive culture of decentralization, autonomy, and personal commitment". This "new breed of environmentalists" were characterized as "young, hard nosed, and undiplomatic" who would often "make up with concern for what they lack in scientific training" (Thomson, 2017). This mentality established in the beginning of FoE persisted, even after forming an international coalition in 1971 with branches in France, Sweden, the US, and England. In the years since, FoE has become the world's largest grassroots, environmental network, with an emphasis on anti-hierarchical structuring that insists on democratic decision making at all levels (Friends of the Earth International- Criteria for Membership, 2017; Friends of the Earth Australia, 2017).

This independent mentality remains prevalent as the FoE organization catalyzes the empowerment of local partners to create their own local campaigns. The FoE Melbourne local group, one of 12 local groups currently in the FoE Australia member group, embodies this empowerment theme with campaign initiatives ranging from "Yes2Renewables" to "River Country", and campaign objectives including koala management and halting expansion of coal industries in Melbourne (About Friends of the Earth Melbourne, 2017). These campaigns range in scope but stay true to their vision of a peaceful and sustainable world based around society living in harmony with nature. With this in mind, FoE focuses on supporting strategic and

effective community action by keeping a low public profile while simultaneously building community presence.

One of FoE Melbourne's newest campaigns, created in January 2017, is entitled "Act on Climate". Act on Climate (AoC) is a citizen driven campaign that hopes to increase climate change education and awareness in order to pass legislation that will improve the state of the environment. An educational tool leveraged by AoC is their weekly collective meeting. These meetings, which usually have between eight and fifteen people in attendance, are open to the public and are used to update the local residents about the AoC campaign and how they can get involved. The collective also allows for AoC members to stay up to date with the campaign, as well as to strategize for the upcoming week.

Along with the collective meetings, AoC uses social media to update those who cannot attend these meetings, as well as to reach a broader audience. Between successful Facebook (Act on Climate Vic) and Twitter (@ActOnClimateVic) pages, AoC is able to distribute information to nearly 2,000 people. Unfortunately, despite extensive outreach in the community, AoC is still unable to identify the gap between community climate change awareness and actual climate change effects impacting residents in Melbourne (About Friends of the Earth Melbourne, 2017). Consequently, the campaign seeks to better understand the perceptions and motivations of residents so that AoC can implement targeted community engagement models tailored to the needs of Melbourne communities.

2.1.2 Residents of the City of Darebin

The current focus area of the AoC campaign is the city of Darebin, which includes approximately 150,000 people living in over 60,000 dwellings across ten official suburbs. A list of these suburbs and their respective postcodes can be found in Appendix A. Over 35% of the Darebin population is within the age range 20 to 39 years old and about one third of the population was born overseas (Australian Bureau of Statistics, Darebin North, Darebin South, 2016).

2.1.3 Darebin City Council

The Darebin City Council has an Executive Management Team comprised of the Chief Executive Officer and four Directors. This team is in charge of planning, coordinating, and monitoring the progress of the Council's goals. The city of Darebin is divided into three wards, with three Councillors representing each ward. Councillors are local representatives elected every four years, are advocates for the residents, and are responsible for managing the city's assets and ensuring the finances are allocated in the best interest of the community (Darebin City

Council, 2016). Figure 1 shows the boundaries of the three wards and the boundaries of the 10 suburbs.

The process for resource allocation and creation of the annual budget is made by the City Council after a consultation with the community to consider the views of the public. More than 1,200 local residents from all parts of Darebin provided input to help develop the 2017/2018 budget. The budget will maintain all current services and infrastructure as well as contribute to new projects and services valued by the community.

The Council Plan is developed in a similar process as the annual budget, but with input from local businesses as well. The Council Plan includes the missions and goals for the four-year Council term (Darebin City Council, 2016). The Council creates a number of strategies to help achieve the Council Plan goals. One strategy of particular interest described in a later section is the Climate Emergency Plan 2017-2022 which was adopted in August 2017.

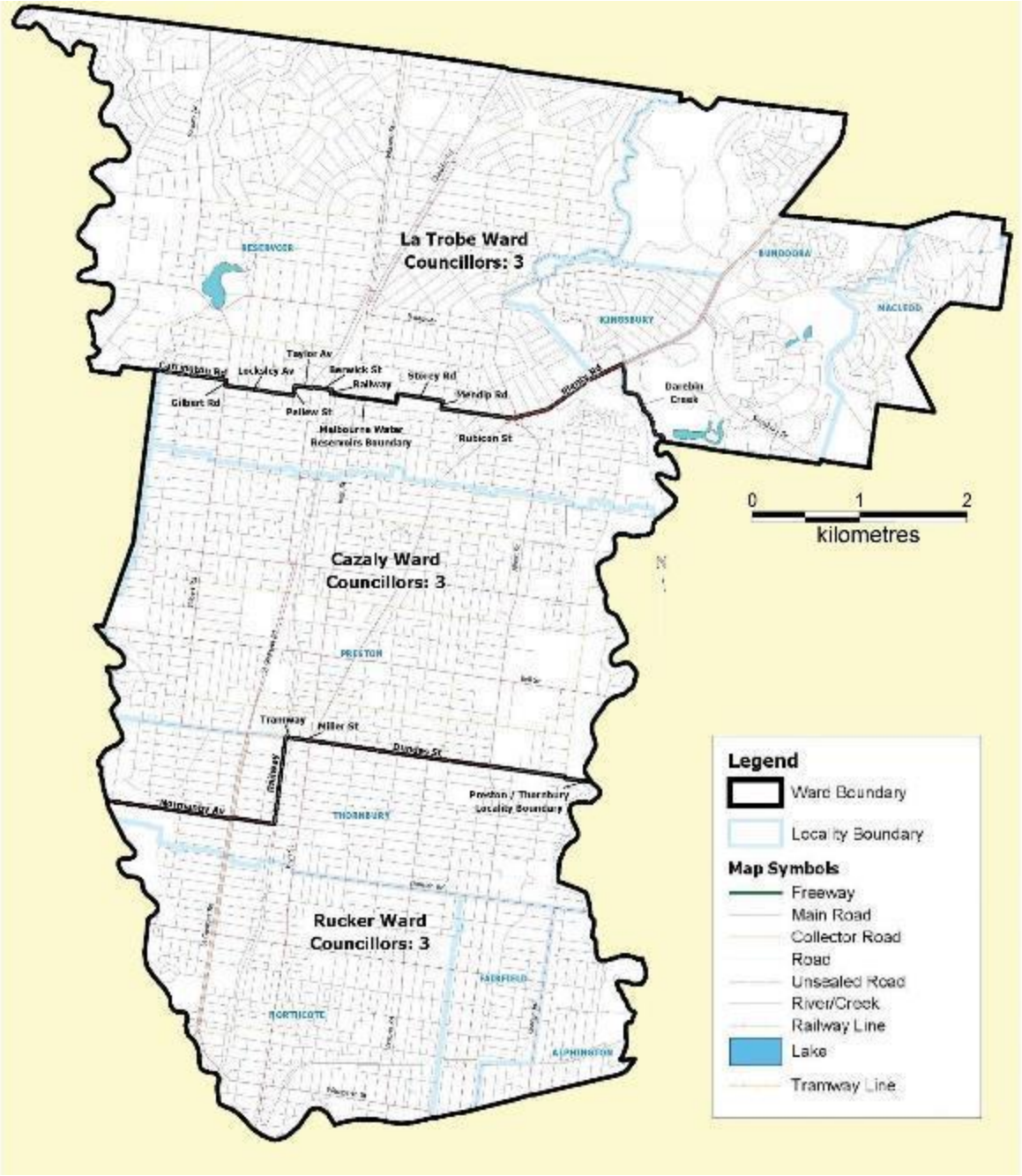

Figure 1 Darebin City divided by Electoral Wards and Suburbs (Darebin City Council, 2017b).

2.2 Climate Change Effects and Legislation

2.2.1 Victoria

To better understand climate change perceptions and awareness, it is important to first understand the vulnerability that the state of Victoria has to the effects of climate change. With semi-arid plains at the west end of the state, the coast along the southern edge, and snowy alpine regions in the north, there are many different ways in which climate change is affecting and will continue to affect Victoria (Climate Change Impacts in Victoria, 2016). Climate change has already caused the state of Victoria to become warmer and drier. If the trend continues as projected, Victoria will see a greater number of storm surges and heatwaves, increased fire weather and temperature, and decreased rainfall.

Climate projections are already turning into reality in some areas with sea levels having already risen between 2.6 and 2.8 millimeters per year since the 1990s around the coast of Victoria. The sea level rise will eventually affect local coastal businesses and residential beachside neighborhoods (Climate Change Impacts in Victoria, 2016). As seen in Figure 2, there are between 31,000 (low range) and 48,000 (high range) residential buildings, with a value of $11 billion AUD, that may be at risk of flooding from a sea level rise of 1.1 meters in Victoria. Therefore, sea level rise also has a direct effect on the future growth of Victoria, as residents will be forced to move and create a congested inner state as a result (Climate Change Risks to Australia's Coasts, 2009).

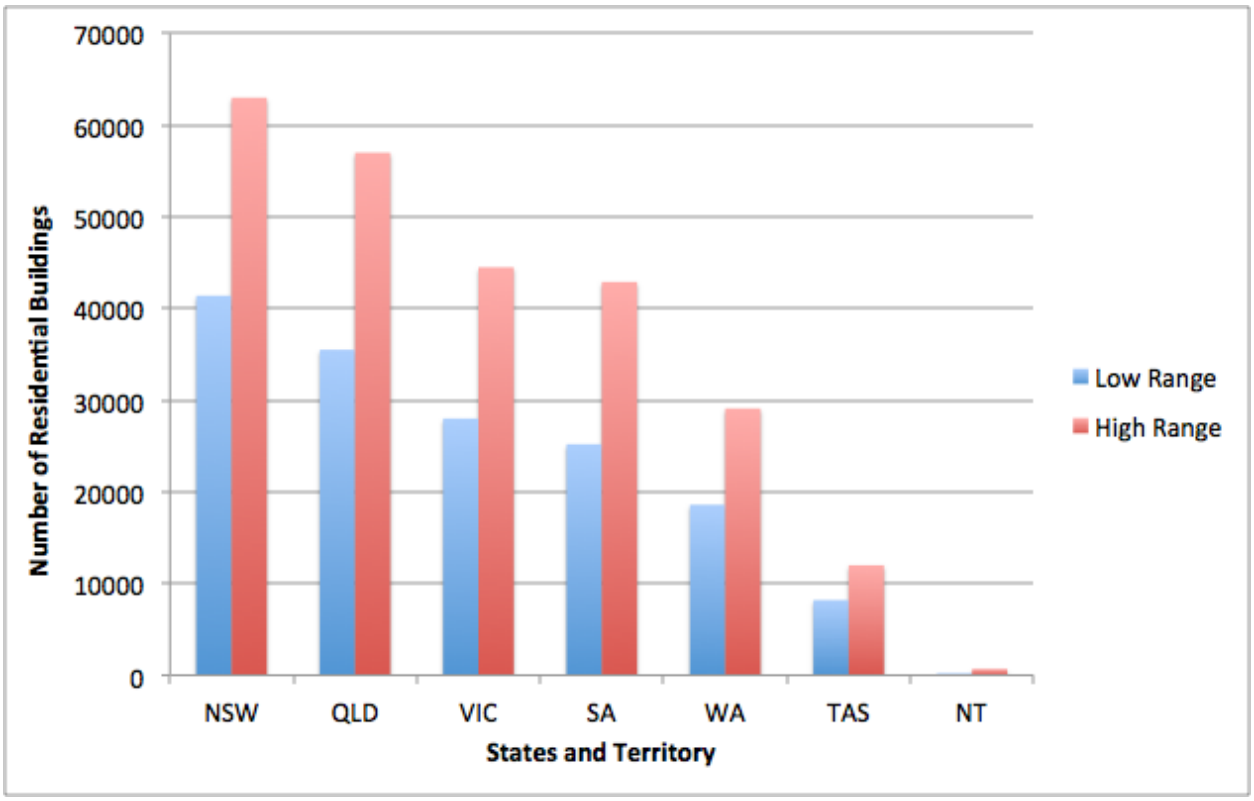

Figure 2 Residential Buildings per Australian State/Territory at Risk of Flooding due to a 1.1 Meter Rise in Sea Level (Climate Change Risks to Australia's Coasts, 2009)

Victoria is one of the most bushfire-prone areas in Australia and bushfires are expected to increase as a result of overcrowding along urban fringes. The severity of bushfires has already heavily impacted Victoria, with the Black Saturday bushfire in 2009 causing 173 deaths, the destruction of over 2,000 homes and the loss of more than 400,000 hectares of forest. This bushfire was caused by a decade-long drought, a record-breaking heat wave, and hot gusty winds. An increase in bushfires similar to Black Saturday is expected in consequence of climate change projections already listing an increase in drought, heat waves, and hot, dry days in Victoria (León, J. & March, A., 2017).

Extreme weather patterns have raised human health concerns in terms of heat-related deaths and illnesses, which will have a greater impact on densely populated cities in Victoria, including Melbourne (Climate-Ready Victoria, 2015). In addition, agricultural productivity and food security are also expected to be heavily impacted as a direct result of bushfires, heatwaves, droughts, and floods. With a predicted decline in production for most of Victoria's agricultural practices, a 13.4% decline in production of wheat by 2030 is also expected. The effects of this agricultural decline will eventually reach the consumers, causing distress when food sources begin to run low and therefore prices will begin to rise.

The State of Victoria Department of Environment, Land, Water, and Planning states "Getting climate-ready is an ongoing process" (Climate-Ready Victoria, 2015). Part of the process includes the passing of climate legislation. Victoria recently passed the Climate Change Act of 2017, which stays consistent with the goals Australia put forth for the Paris Climate Agreement. This includes keeping global temperature rise below two degrees Celsius from pre-industrial levels and a long-term emissions reduction target of net zero greenhouse gas emissions by the year 2050. In addition to meeting the emissions reductions long-term and interim goals, the Climate Change Act set forth new information reporting systems, as well as pledges, objectives, and guiding principles to assist local governments in integrating climate change into policy decisions (Victoria State Government, 2017). Local governments within Victoria are also working diligently to mitigate the effects of climate change felt in their suburbs, including the cities of Melbourne and Darebin.

2.2.2 Melbourne/Darebin

The effects from climate change projected at the state level align with projections for communities at the local levels as well. The City of Melbourne Climate Change Adaptation Strategy identifies four extreme scenarios of climate change that are projected to affect Melbourne and encompass a wide range of climate change risks. It lists reduced rainfall and drought, extreme heatwaves and bushfires, intense rainfall and windstorms, and sea level rise among its concerns (The City of Melbourne Climate Change Adaptation Strategy, 2009). These climate change projections threaten sectors of everyday life including the economy, mental health and wellbeing, infrastructure, and agricultural productivity.

The Australian Government predicts that the average number of days in which Melbourne reaches temperatures over 35°C will increase from nine per year, to up to 26 per year by 2070 if emissions are not reduced. The impacts of temperature rise include increased prices of food and utilities, water restrictions, poorer air quality, and unfortunately even more consequences. For example, Darebin and the surrounding areas are home to several endangered and threatened species that become even more vulnerable when exposed to these extreme weather events (Climate Change Impacts in Victoria, 2016). In response, the Darebin City Council has begun to take initiative to combat climate change and the effects that will harm its community, wildlife, and environment.

2.2.3 The Darebin Climate Emergency Plan

The Darebin Climate Emergency Plan is the first document in Australia to address the state of the climate as an emergency. The plan outlines actions taken so far, overarching goals, targets, timelines, and nine key directions to take action in response to the present climate

emergency. The key directions are outlined in both the Emergency Plan and the summary document.

The plan states that the Council will achieve each direction through a series of steps in order to ensure a better future for the city of Darebin (Darebin City Council, 2017a). The nine key directions include:

1. Climate emergency mobilization and leadership
2. Energy efficiency
3. Renewable energy and fuel switching
4. Zero emissions transport
5. Consumption and waste minimization
6. Fossil fuel divestment
7. Adaptation and resilience
8. Engaging the community
9. Darebin Energy Foundation

Despite the great amount of work that went into the creation of the Climate Emergency Plan, there has been significantly less work put into promoting the plan. The Darebin Council remains unsure of exactly how its constituents feel towards climate change, however they hope that the use of the term "Climate Emergency" will resonate with community members and increase their motivation to take action (S. MacAdams, Personal Communication, 30 Oct 2017).

2.3 Factors in Perceptions of Climate Change in Melbourne

This section will present results of our background research on factors that most affect perceptions of climate change in individuals. Since climate change is a complex, multi-dimensional issue, measuring perceptions can be somewhat difficult. The strong interplay of factors including socio-economic standing, education attainment, emotion, and social norms contribute to people having certain perceptions of climate change (Hopkins, 2015). Included in the next sections is a brief review of information from the extensive literature surrounding the influence of personal experience and age on the perceptions of climate change effects.

2.3.1 Personal Experience Influences

In many work environments, learning through first-hand experience is the most effective method of education. This principle also applies to a community's understanding of the harmful effects of climate change. According to climate and communication scientists of the Yale Project on Climate Change Communication, "as more people begin to experience more pronounced and atypical changes in local weather patterns, awareness of climate change and perceptions of climate change as a serious threat are likely to increase worldwide" (Lee, Markowitz, Howe, Ko

& Leiserowitz, 2015). This study suggests that people who experience extreme daily local weather patterns, called "local warming," tend to believe more in global climate change. They perceive these extreme weather patterns to be direct effects of climate change. Conversely, those who experience weather that is considered average for their area locally tend to be more skeptical of climate change (Lee et. al, 2015). Thus, opinions on this matter vary with whatever the current weather patterns of their area support, even when long-term trends provide a more consistent result.

Individuals are also influenced by those around them. According to the Climate Science Research Encyclopedia of Oxford, "the greater the extent to which climate change is viewed as a serious risk by influential social referents, such as friends and family, the more it amplifies and intensifies an individual's own risk perception" (Linden, 2016). That is to say, an individual's perception of the information seems to be influenced by the perceptions of family and peers and the political affiliations of their community.

2.3.2 Age Influences

Perceptions held on climate change are also influenced by age. According to the Australian Bureau of Statistics, the average Melbourne resident is 27 years old with 62% of residents being ages 20 to 34 years old (Australian Bureau of Statistics - B, 2017). The Climate Institute's Climate of the Nation 2013 report states that younger Australians (aged 18 to 34), while they are much more likely than older Australians (aged 35 to 54) to think that their daily actions contribute to climate change, they are also least likely to believe that their daily actions can help mitigate climate change (Stefanova, 2013). This can be a potential issue when trying to conduct surveys and qualitative research on climate change perceptions and solutions in an area with a majority of younger citizens.

Recent studies by the Clinton Global Initiative, Microsoft, and the Climate Outreach and Information Network (COIN) indicate that individuals of this age range tend to acknowledge climate change and be more ecologically conscious in life. In particular, COIN's findings show that the younger generation responds better to a narrative that frames climate change as an immediate issue as opposed to a concern affecting the future. COIN also concludes that linking climate change directly to one's personal life and education through experiential engagement are preferable methods for getting young people to care and take action. This would indicate that a strategy centralized around direct public involvement might work best. An interactive program that engages the community to further raise climate change awareness and participation is one possibility. These recommended strategies do not, however, account for how different cultural groups or neighborhoods may respond to climate change, a topic that merits additional consideration (Corner, et. al., 2015).

2.4 Climate Adaptation

Neighborhood residents of all ages and backgrounds may be motivated and feel a sense of community empowerment when given a chance to engage in their community to diminish effects of climate change in an area that is threatening their health and safety (Adger, W. N., Barnett, J., Brown, K., Marshall, N., & O'Brien, K., 2012). Climate adaptation is an action taken to mitigate or prevent the current and future impacts of climate change. Adaptation is important to consider when trying to get a community involved in reducing the effects of climate change that are happening in their own backyard.

There are four main adaptation response measures taken by citizens when it comes to preventing climate change: loss prevention, loss sharing, behavior modification, and relocation. Loss prevention includes measures taken to decrease vulnerability to climate change. For example, if a person rations the amount of water used for watering plants during the summer months, then there is a decreased chance of drought. Loss sharing is the act of spreading the loss amid a large population. An example of this could be insurance that covers a widespread natural disaster such as damage from hurricane winds. Behavior modification is the elimination of behaviors and habits that can facilitate climate change (The City of Melbourne Climate Change Adaptation Strategy, 2009). Many behaviors can be linked to traditions, habits, and cultural beliefs, which makes it more difficult to change them. For instance, fishing communities in India are unlikely to reduce fishing for marine ecosystem conservation because their responses come from their cultural practices within the ethnic group (Adger et al., 2012). Lastly, relocation of a population from a hazard generated from climate change is an option. This adaptation response is disruptive and unpopular, as the purpose of adaptation is to face climate change and mitigate the causes rather than avoid them (The City of Melbourne Climate Change Adaptation Strategy, 2009).

2.5 Data Collection for Evaluating Climate Perceptions

Data collection for evaluating climate perceptions can be framed in terms of an open forum discussion, a survey, or interviews. Each method has both pros and cons, and it is at the discretion of the collection team to determine which methods best suit their needs. Here, we outline two common approaches for collection: surveys and kitchen table discussions.

2.5.1 Surveys

Surveys can be sent out to large portions of the community, either physically or electronically, and allow participants to remain entirely anonymous if they choose to do so. An often-forgotten section of surveys is the preamble, a short description that provides the participant with the context needed for the survey question as well as how to respond to the

question (for example: check one or list all). Ultimately, preambles can help prevent misunderstanding by the respondents (Schaeffer, Dykema, Elver, Stevenson, & Thayer-Hart, 2010, p.7).

The proper method of answering a question depends on the type: open or closed. Open-ended questions allow the participant to respond with their own words and little to no instructions. Closed questions, such as multiple choice, true/false, and attitude scale questions, provide the respondent with acceptable responses provided by the survey creators (Schaeffer et al., 2010, p.9). In either case, survey questions themselves should be simple, easily understood, and void of jargon. Questions should always be framed in a positive manner to keep the participant engaged and comfortable. Failure to follow these key points could result in lower response rates.

The University of Wisconsin survey center found that about 60-70% of hard copy surveys received a response, while electronic surveys only have about a 30-40% response rate (Schaeffer et al., 2010, p.14). However, certain demographics may prefer to take a survey online, as opposed to other demographics which may prefer a physical copy of the survey. The journal entitled Assessment and Evaluation of Higher Education published an article on online and paper survey response rates and how to increase response rates for online surveys. Research suggests that when emailing out to a targeted audience, it is helpful to make the survey link easily accessible and to send follow-up emails with warnings about when the survey will close. It is also important to encourage the audience that their voices will be heard and their responses will be useful for a specific group, such as the Darebin City Council. Lastly, a major key in getting an increase in survey responses is to provide incentives for those who participate in the survey (Nulty, 2008).

Two different types of surveys, altruistic and egoistic, can benefit from offering an incentive. Incentives do not have to be monetary or tangible. Altruistic appeals suggest benefits for a large number of people, such as attempts to pass legislation raising minimum wage, while egoistic appeals suggest benefits only for the respondent, such as a monetary incentive. Either way, an incentive will significantly increase response rates for both types of surveys. Possible respondents are more likely to take a survey when the benefits outweigh the cost and time to take the survey itself. Therefore, the incentive should be strategically chosen in order to grasp the attention of the targeted audience and to make it worthwhile for them to participate in the survey (Singer, E & Ye, C., 2013).

Another method of increasing response rate is to distribute the survey at and through attractors. Attractors are any business, building, or groups that have a large amount of visitors or members. Attractors can range from local cafes or restaurants, to churches and community

groups such as hiking or walking groups (L. Ewbank, personal communication, 2017). Attractors provide an excellent place to distribute surveys because they have a high number of people either located at them (if a business or building) or associated with them (if a group or organization) that can be targeted to participate in the survey. Flyers that have information about the survey, such as a QR code or direct link to the survey, can be left in or with attractors as well. If the attractor, whether a business or a group, agrees to display the flyer, patrons who attend or associate with said attractor will then have access to the survey without the survey authors actually needing to be present.

2.5.2 Kitchen Table Discussions

Kitchen table discussions, a small, informal meeting to discuss a broad topic, are similar to an open forum discussion. Act on Climate holds this type of meeting on Monday evenings at the FoE office, where community members are free to come and participate (Volunteer, 2017). While this style of meeting allows individuals to have their voices heard at a predetermined place and time, there are several elements for a successful kitchen table discussion to consider. First, the topic of the specific meeting is decided in advance. It is important to discuss a topic of community importance to ensure a variety of community members will attend. A facilitator is needed to ensure the discussion stays on topic, thoughts and opinions are being respected, and to act as a liaison between the meeting participants and other groups affected by or interested in the topic of conversation (Rajic, 2014, p. 4). The facilitator is also responsible for initiating the discussion and presenting the questions, which should be open ended to allow participants to voice their opinions. It is important to maintain a safe environment, free from peer pressure (Rajic, 2014, pp. 6-8). Additionally, it is important that a note taker be present to record notes in a way that is relevant to the topic, whether that be through quotes, charts, graphs, and so forth (Rajic, 2014, p. 9). Accurate and detailed notes from kitchen table discussions are essential, as they serve as a record of the conversation as well as a means to distribute accurate information to the community.

2.6 Summary

After thorough research of climate change impacts, it became evident that inaction will only lead to worse outcomes for the city of Darebin. Analyzing the demographics of Darebin revealed insight into how the community may perceive climate change effects and how their perceptions may be influenced by age and personal experience. On the local level, surveys and kitchen table discussions are effective means of data collection and can be useful for facilitating community discussion. Our next step was to develop methodologies based on our literature review findings to identify and evaluate public perceptions of climate change and to assist Act on Climate and the Darebin City Council with voicing the concerns of their constituents.

Chapter 3: Methodology

The goal of this project was to assist the FoE campaign, Act on Climate, with empowering communities in the city of Darebin to be able to voice their concerns and solutions towards climate change. To reach our goal we identified three objectives:

1. Identify attractors and efficient methods to contact constituents.
2. Assess the constituents' knowledge and positions on current and projected climate change.
3. Identify trends in constituent knowledge, positions, and solutions related to climate change.

Below we describe methodological strategies used to accomplish these objectives including site assessments, pretests, surveys, kitchen table discussions, and sorting exercises. The results generated from these methods were presented to both FoE and the Darebin City Council. A summarized flowchart of our goal, objectives, and associated tasks can be found in Appendix B.

3.1 Identify Attractors and Efficient Methods to Contact Constituents

3.1.1 Identification of Attractors

We identified attractors through desktop research and during our site assessment described in this section. Various businesses, churches, city buildings, and parks we identified during desktop research were targeted on a map of the city of Darebin. These locations were chosen strictly based on the projected number of daily visitors without consideration of the visitors' position on climate change. We chose these sites based on our convenience sampling to accurately represent the Darebin population by obtaining a diverse set of data.

We contacted stakeholders in community groups through email to distribute our survey link. Similar to how the physical attractors were selected, we chose the community groups in an attempt to have variability in the respondents' knowledge and positions on climate change. Along with contacting stakeholders in these community groups, FoE provided access to their database of supporters and public social media accounts for us to utilize during the survey distribution. We also distributed flyers at local events with predicted high community attendance.

3.1.2 Site Assessment

Upon arrival in Melbourne, we conducted a site assessment in the electoral districts of Northcote and Preston by visiting the locations we had identified as potential attractors. We mapped these on a Darebin City map in Figure 3. After visiting each potential attractor, we were able to identify which attractors would allow us to advertise our surveys to the most

stakeholders, and which attractors we should not focus on. On our way to and from these locations we also found other locations in the city of Darebin that had high numbers of visitors. In an attempt to have the most visitors take our survey, we developed a flyer to promote the survey, which we then distributed at the selected attractors and on lamp posts along the streets. A copy of the flyer can be found in Appendix C, and a list of the potential flyer locations can be found in Appendix D.

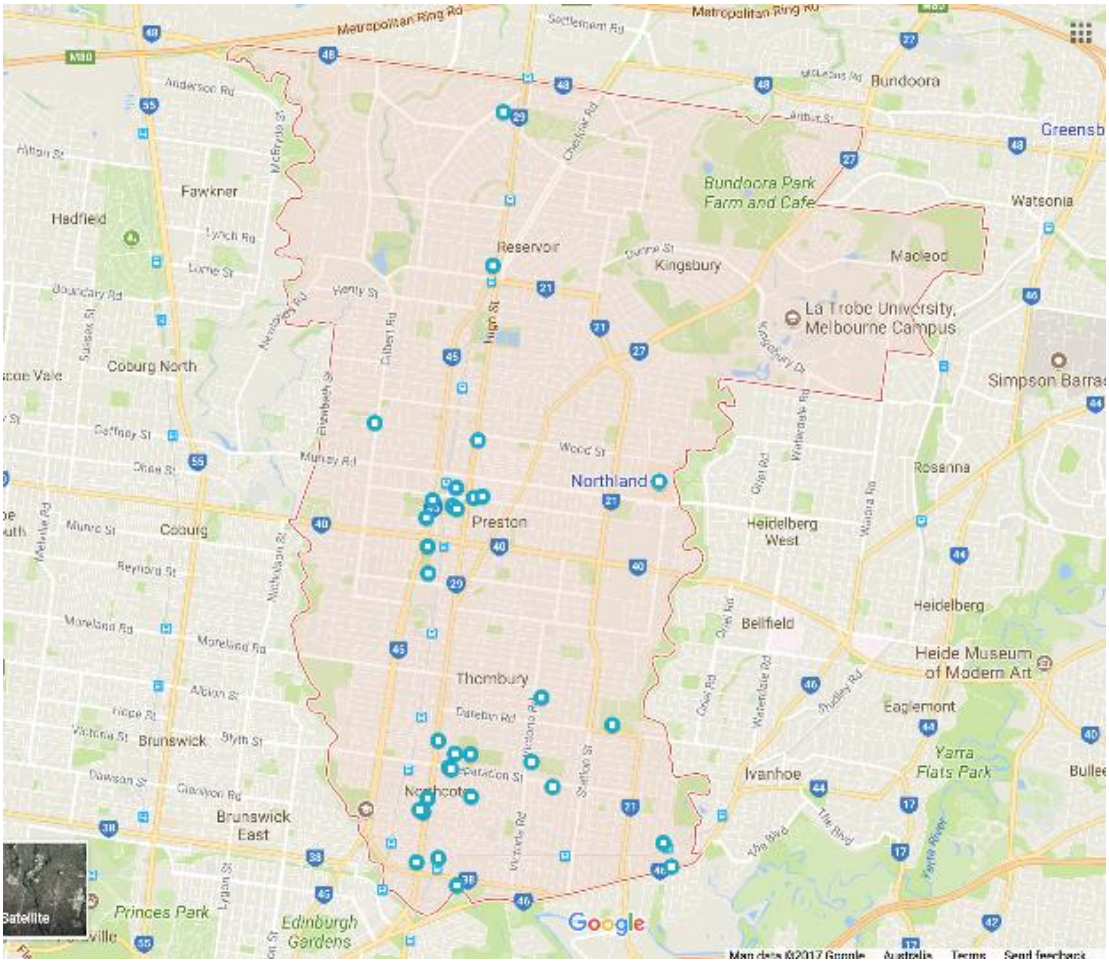

Figure 3 Preliminary Mapping of Potential Attractors (Google Maps)

3.1.3 Survey Pre-testing

Along with the site assessment, we were able to pretest our survey on FoE members and residents of the city of Darebin. Since the FoE members have experience with environmental campaigning, we elected to send them our survey for review. The FoE team members provided insight on specific aspects of the survey wording and readability for the target groups. We also spoke to Sally MacAdams, a member of the Darebin City Council Operations and Environment sector. The meeting gave us excellent insight regarding what information the council was looking for, as well as how to word it. We conducted a trial run on residents by posting a small

number of QR codes in stores and handing out a limited number of physical copies in person. Survey questions were then modified as needed, before being distributed on-site again. After several modifications, the team reached a consensus that the survey questions were worded properly and we posted flyers in all locations that allowed us to display our flyer.

3.2 Assess the Constituents' Knowledge and Positions on Current and Projected Climate Change.

To assess the knowledge of residents in Darebin regarding current and projected climate change, we conducted a survey using samples of convenience. Upon completion of our site assessment, we found multiple attractors that served as convenient sites for distributing and conducting our surveys. This form of canvassing the area provided us with a broad snapshot of the knowledge and positions throughout the entirety of Darebin.

3.2.1 Surveys

According to the Office of Quality Improvement at the University of Wisconsin, surveys are "often the best way to get information and feedback to us in planning and program improvement" (Schaeffer et al, 2010). Samples of convenience were used when conducting surveys face-to-face as physical copies and online (via FoE Melbourne social media and email distributions). Additionally, a QR code that links directly to our survey online was displayed on flyers throughout the city of Darebin in locations identified during the site assessment. When possible, staff members from the identified attractors were personally asked to participate in the survey.

Our survey, which we titled the Darebin Climate Survey, consisted of 18 questions to learn more about the participant's basic knowledge and perceptions of climate change including three optional demographics questions. The full survey can be found in Appendix E. After gathering data from Darebin constituents, we coded these data and assessed their concerns regarding climate change and the impact of climate change in their city.

To analyze which groups residents felt were most affected by climate change, a word cloud was generated from all responses provided. This word cloud displayed all words used in the responses, with words that are used more often appearing larger than words used less often. For simplification and readability, all answers provided were analyzed and adjusted to guarantee consistent language. For example, if respondents answered that the elderly were most affected, but others answered old people or the aged, then all the responses would be noted and replaced by a single term, elderly. This was repeated for all groups identified on the survey. The word cloud was then created from all responses using the adjusted language.

3.3 Identify Trends in Constituent Knowledge, Positions, and Solutions Related to Climate Change.

After we developed an understanding of the range of knowledge and perceptions of climate change through the Darebin Climate survey, we determined the areas of highest concern among local citizens of Darebin. We did so by facilitating interactive activities such as sorting, ranking, and kitchen table discussions. Qualtrics analytical software was used to identify multivariate data trends.

3.3.1 Sorting Exercises

After the identification of all climate change effects listed by participants in the Darebin Climate survey, we asked the residents of Darebin to participate in a sorting exercise. The sorting exercise included a list of all climate change effects that were identified by community members in the prior survey. The exercise asked participants to select and rank their top five climate change effects in order of how concerned they were about the effect. To distribute the sorting activity, we created a three-question survey, which we titled the Darebin Sorting survey. To incentivize the survey, we dedicated one pair of movie tickets to the Palace Westgarth to be raffled off to someone who completes the sorting activity survey. They were asked to leave contact information (if they would like to be considered for the raffle), rank their top five concerns, and list any suggestions regarding climate change solutions. The survey was distributed via FoE social media and email blasts to the database, similar to how the Climate survey was also distributed. We then created and distributed flyers to various locations to promote the sorting activity. The Darebin Sorting survey flyer can be found in Appendix F.

We printed only 15 of these flyers, which we decided to leave at the Palace Westgarth and the Croxton Bandroom. We left five flyers at the Palace Westgarth, where they had to be checked by a manager before they could be hung up. We intended on posting flyers along the windows at the Croxton, however the Croxton was closed at the time. We instead left two to three survey flyers posted along the three lamp posts located in front of the Croxton. Additionally, we attended two events, a Friends of Merri Creek Waterway Monitoring training event and the La Trobe Wildlife Sanctuary tour to further distribute the survey in person.

We then collected these data and coded the trends of the highest to lowest concerns. To quantify how much each effect concerned the Darebin residents, we created a “Concern Points” system based on how people ranked each effect. If a concern was ranked as “Concern one,” ten points were added to the effect’s total score. Concern Point values dropped by two points for each concern after the first, in example, a ranking of “Concern two” was worth eight points and so forth. A word cloud was again generated for the provided solutions where the size of each word became larger as that frequency of the word increased. Solutions were often given in

paragraphs and complete sentences; therefore, they could not be simplified into more consistent language. The resulting word cloud thus represents the frequency of all words provided.

The identified trends were reported to the Darebin City Council and FoE Melbourne. The format of the sorting exercise can be found in Appendix G. With this data, we were able to generalize trends and focus on which effects are of greatest concern to the residents and communicate these concerns to FoE and the Darebin Council.

3.3.2 Kitchen Table Discussions

Kitchen table discussions allowed the participants to have their voices heard and for our team to gather multiple opinions in a single setting. We used kitchen table discussions for residents to express their concerns about climate change and to generate ideas for climate change mitigation and adaptation strategies. These strategies along with their concerns were presented to the Darebin City Council. Kitchen table discussions are good "if one is interested in why some group is interested in a particular activity … or even their beliefs about these activities or those involved in such behavior" (Berg and Lune, 2014, p. 113).

A total of five kitchen table discussions were scheduled at publicly accessible locations throughout Darebin including the Northcote Library, Preston Library, and the Bundoora Northeast Community Center. These locations were selected to enable residents in the southern, central, and northern areas of Darebin respectively to participate in the group discussions while requiring minimal travel. Each discussion could accommodate up to ten participants. Participants were recruited in several ways, including but not limited to: email, phone calls, and interactions on the street. An online sign-up page was created to allow potential participants to register quickly and easily and to assist in managing bookings at times. Each member of our team was assigned a role for each discussion: facilitator, recorder, or equipment manager. The facilitator asked the topic questions and made sure the discussion remained on topic and that everyone's opinions were heard. Two team members were designated as recorders who were tasked with recording key points from the speaker. The remaining team member was designated as the equipment manager, who was responsible for the set-up and maintenance of any audio or visual equipment utilized during the discussion. The suggestions that we received from the discussions were analyzed, discussed, and then presented to FoE and the Darebin City Council as evidence to demonstrate whether or not there is a need for a climate change budget.

Chapter 4: Results and Discussion

4.1 Identify Attractors and Efficient Methods to Contact Stakeholders.

4.1.1 Darebin Climate Survey Distribution

For maximized survey responses, it was important to identify the best means to distribute the survey to the target audience. From simple desktop research, we identified 33 potential attractors in Darebin ranging from local parks to movie theaters and cafes. Out of the 33 potential attractors, 12 agreed to display the Darebin Climate survey flyer (Appendix C). We posted flyers at 40 additional locations in Darebin not previously identified through desktop research of potential attractors. The total list of all 52 locations where flyers were posted can be found in Appendix H.

From October 31 through November 15, we emailed 53 organizations with members potentially living in Darebin. A full list of the organizations emailed can be found in Appendix I. Of the 53 groups contacted, nine were willing to assist in distributing either our survey or our survey flyer. Three of the 53 organizations, the Northcote Uniting Church, the Melbourne Anarchist Club, and Friends of Merri Creek, invited us to come and speak at their group meetings about the Darebin Climate survey, which provided a total of 30 responses.

We also attended the Northcote Candidates' Forum at the Northcote Town Hall on November 9, 2017. We left flyers on each of 250 attendee seats and we distributed 30 physical copies to those interested. A total of 14 physical surveys were returned and 18 online surveys were started by the end of the night. In the 48 hours following the forum, we saw a significant rise in survey responses, where individuals started 34 surveys November 10th and 11th, in comparison to the 15 responses we had prior to the forum. While not as significant, an increase in response rate on November 12th can also be seen after attending the Northcote Uniting Church service and the Melbourne Anarchist Club meeting.

Figure 4 shows how each Darebin Climate survey was accessed, as well as the date on which the survey was started.

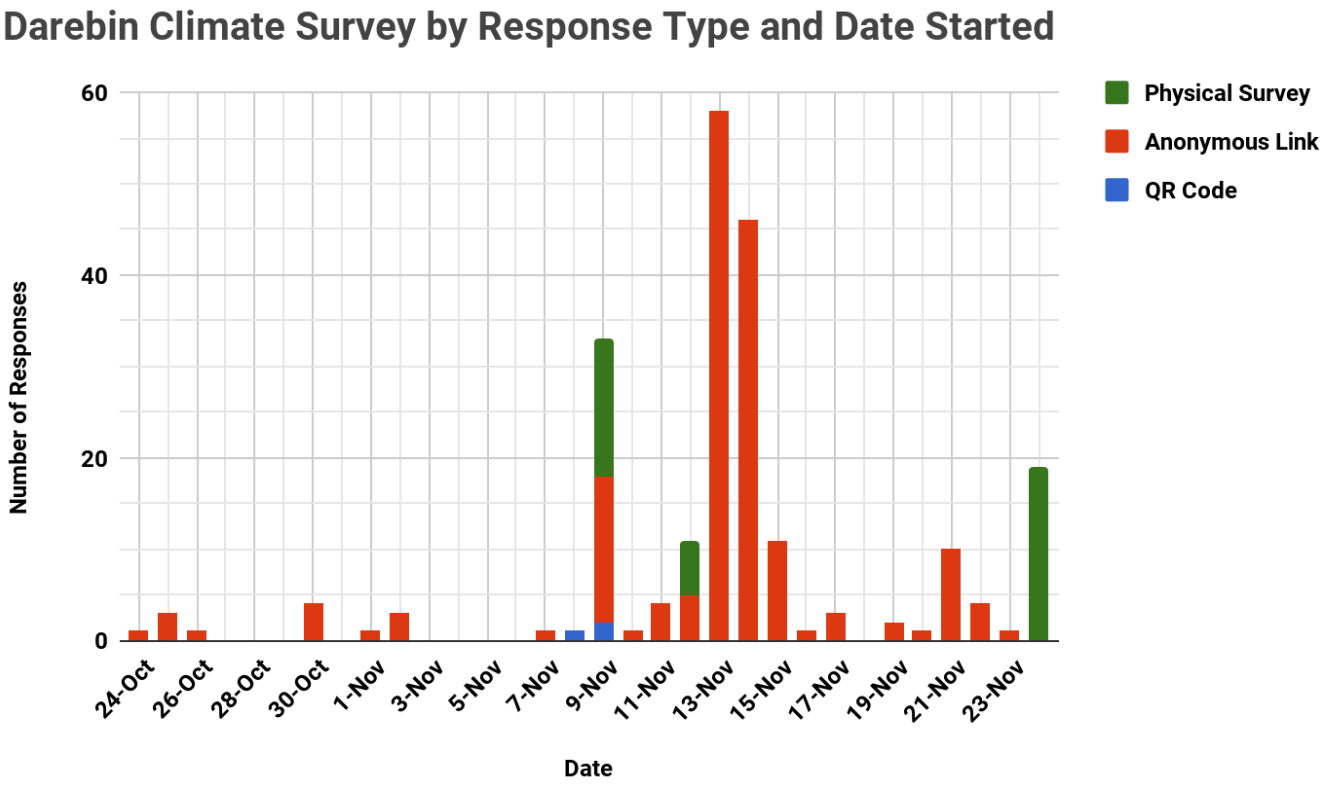

Figure 4 Darebin Climate Survey Responses and Type of Response by Date, N = 219

On November 13th, we posted the survey link on the Act on Climate public Facebook page, the Act on Climate Twitter account, and shared it on our sponsor Leigh Ewbank's personal Twitter and Facebook accounts. We also sent an email blast using the FoE database to approximately 140 members of FoE living in the Northcote or Preston electoral districts, two of the Darebin suburbs. There were 58 surveys started on the day of the email and social media posts (November 13th), 46 surveys on November 14th, and 11 on November 15th. Between October 24th and November 24th, we collected a total of 219 responses to the Darebin Climate survey.

4.1.2 Darebin Sorting Survey Distribution

We posted flyers promoting the Darebin Sorting survey outside two attractors, the Croxton Bandroom and Palace Westgarth Cinema. The flyer can be found in Appendix F.

From November 14 through November 20, we emailed the same 53 groups found in Appendix I about the Darebin Sorting survey. Of the 53 groups contacted, five were willing to assist in distributing either our survey or our survey flyer. Two of the 53 groups, Friends of

Merri Creek and The La Trobe Wildlife Sanctuary, invited us to come and speak at their group meetings about the Darebin Sorting survey, which provided a total of 46 responses. This brought our total number of responses to 52. Figure 5 below shows how each Darebin Sorting survey was accessed, as well as the date on which the survey was started.

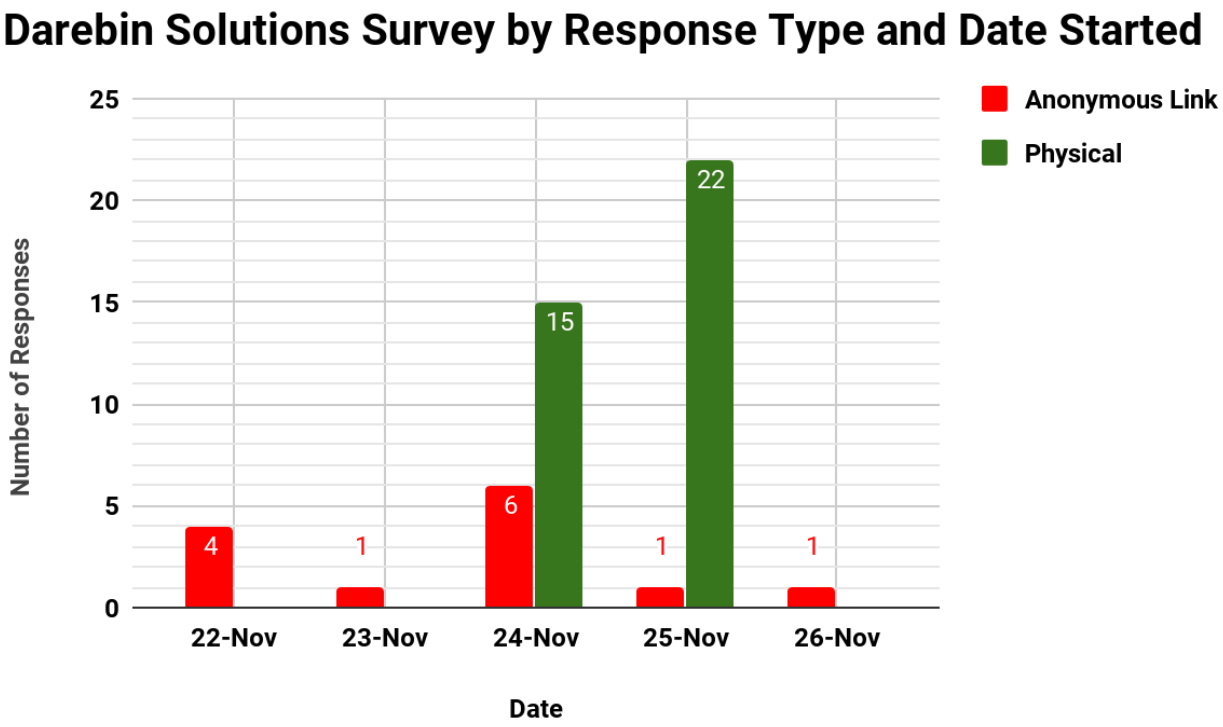

Figure 5 Darebin Sorting Survey Responses and Type of Response by Date, N = 52

4.1.3 Discussion of Distribution Methods

Overall, we found that targeting the general population was quite unsuccessful. Although we were able to collect 219 responses from the Darebin Climate survey and 52 from the Darebin Sorting survey, we initially found it difficult to gain community support among both businesses and individuals. Despite efforts to post the Darebin Climate flyer and distribute it online, we received only 13 survey responses within the first ten days of the survey being open.

In an attempt to increase the general Darebin public response rate of the survey, we incentivized participation by raffling off prizes from local businesses. The Croxton Bandroom and Palace Westgarth both donated tickets to their respective venues, local artist Anthony de Silva donated one of his unique paintings, and the FoE Food Co-op donated three free meals to

raffle off. Despite redistributing the updated flyer that included the prizes, virtually no new surveys were started as a result of postering.

There were also issues with some of the attractors since they did not wish to post the flyer. Some saw it as taking a stance on a controversial topic while others had a policy of not hanging any advertisements from outside sources. Other attractors, such as the parks, did not have any physical structures, such as a bulletin board, for us to leave our flyer on. This left us with the option to either distribute a smaller copy of the flyer to individuals in the park, or to conduct physical surveys. However, to ensure a complete survey response, physical surveys were the choice method to engage community members in the parks. We asked four community members at a park to take the physical version of the Darebin Climate survey, however only two responses were collected, and each survey took around 20 to 25 minutes for the respondent to complete.

Conducting physical surveys proved to be extremely inefficient when attempting to engage the general public. The survey participant would often ask questions about the survey, such as "What kind of effects [regarding climate change] do you mean?" It was difficult for us as a team to be able to answer their question without leading their thoughts, as one survey participant wrote down the examples given to them by the surveyor. Physical surveys also produced an uncomfortable scenario, as the surveyor had to watch and then wait for the participant to complete the survey.

Physical surveys did prove useful when attending events. Direct communication with community members at events was evidently our second-best method of distribution. It allowed us to better explain our purpose and our goal of the survey, as well as explicitly describe the prizes to survey participants. Due to the success of the candidates' forum, we began to look for other events in the city to attend. Unfortunately, due to timing constraints and other scheduling conflicts, we were only able to attend five events to distribute our surveys: the Northcote Candidates' Forum, a service at the Northcote Uniting Church, a meeting of the Anarchist's Club, a citizen science event with Friends of Merri Creek and a La Trobe Wildlife Sanctuary tour.

Although at these events we offered both the online and physical versions of our surveys, the majority of our survey participants at events chose to take the physical survey. While we initially thought that the QR code would be successful at attracting a wide range of survey takers since QR codes are easy to scan with apps such as Snapchat, it became evident through discussion with FoE members that QR codes are simply not as widespread in Australia as we originally thought. This led us to omit the QR code from the Darebin Sorting survey flyer.

The distribution method which returned the most responses was online outreach distributed by FoE. The online outreach collected us over 125 responses. However, while we

were able to collect the majority of the responses in this way, we also began having difficulties with the quality of the responses. In particular, we had been informed that there are many anti-climate change groups that track what FoE posts. After posting to the Facebook and Twitter pages, we quickly had an increasing number of responses who were strongly against the Darebin Council's use of the term "climate emergency" and refused to acknowledge the presence of climate change. By contrast, prior to Leigh posting the Darebin Climate survey on social media, the survey responses unanimously agreed with the Darebin City Council's use of the term "climate emergency". When we observed a large number of negative responses in such a short period, we decided to look for trends among those responses. It was first noticed that all of the negative responses had listed the postcode 3072 as their home postcode. However, Qualtrics tracks the GPS coordinates of where the survey was taken, so it did not take long for us to realize the negative surveys were coming from outside Northcote. The majority of the negative survey responses were submitted from Brisbane, Sydney, Perth, Adelaide, and even one from the state of Oregon (US). Since the response rate was so large with the participants located in these outside areas, it is likely that our survey was circulated among an anti-climate change network who used our survey as a chance to voice their opinions against climate change. We are unsure if the opposition's only intent was to voice their opinion, or if they had more malicious intentions such as skewing our data.

4.2 Assess the Basic Knowledge of Current and Projected Climate Change of Residents in the City of Darebin.

After removing the responses with postcodes that are not in Darebin's jurisdiction and the responses that were recorded as being taken from a geolocation over 45 minutes away from Darebin, we were left with 140 responses. We coded the data in these two groups separately, designating them as general responses and Darebin specific responses, respectively.

4.2.1 Results from the Darebin Climate Survey General Responses

From the 219 general responses we received, our first notable trend was the gender identification ratio. As shown in Figure 6, 53.1% of respondents identify as female while 32.3% identify as male, and 5.7% identify as a non-binary gender.

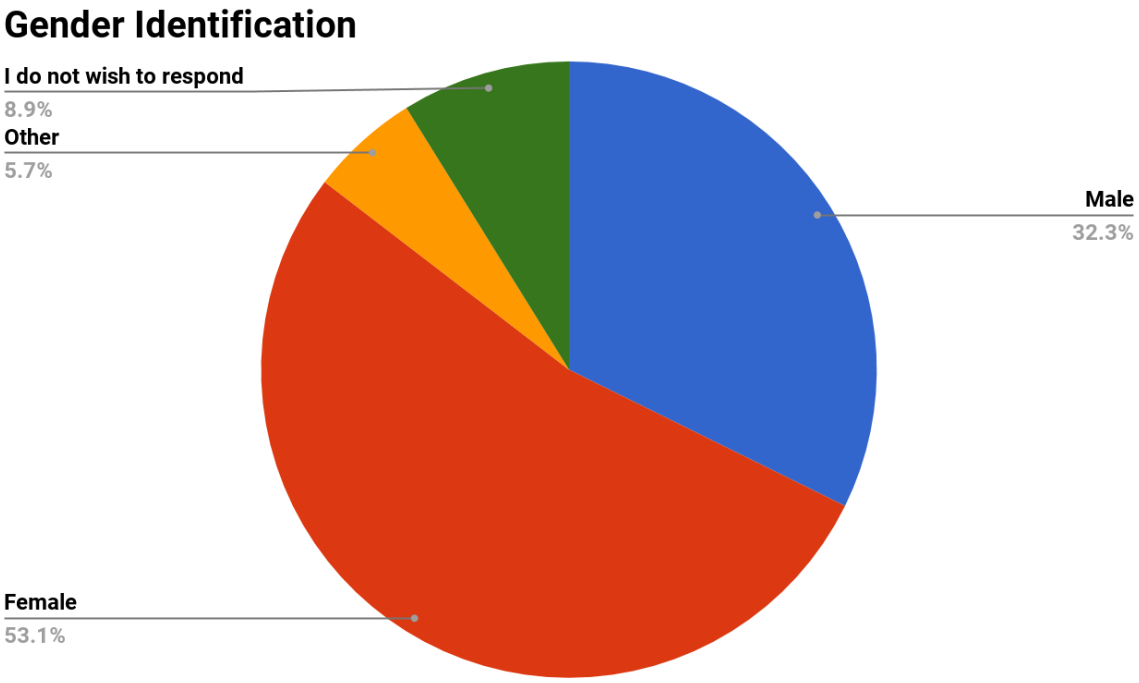

Figure 6 Gender Identification Distribution in General Responses, N=192

We also looked at how well the general community felt they understood climate change. Figure 7 shows the trend of how respondents answered the question, “How well do you feel that you understand climate change?”. Five possible responses represented a spectrum of climate change comprehension. Answering “extremely well” implied the best understanding and “not well at all” implied the least understanding about climate change.

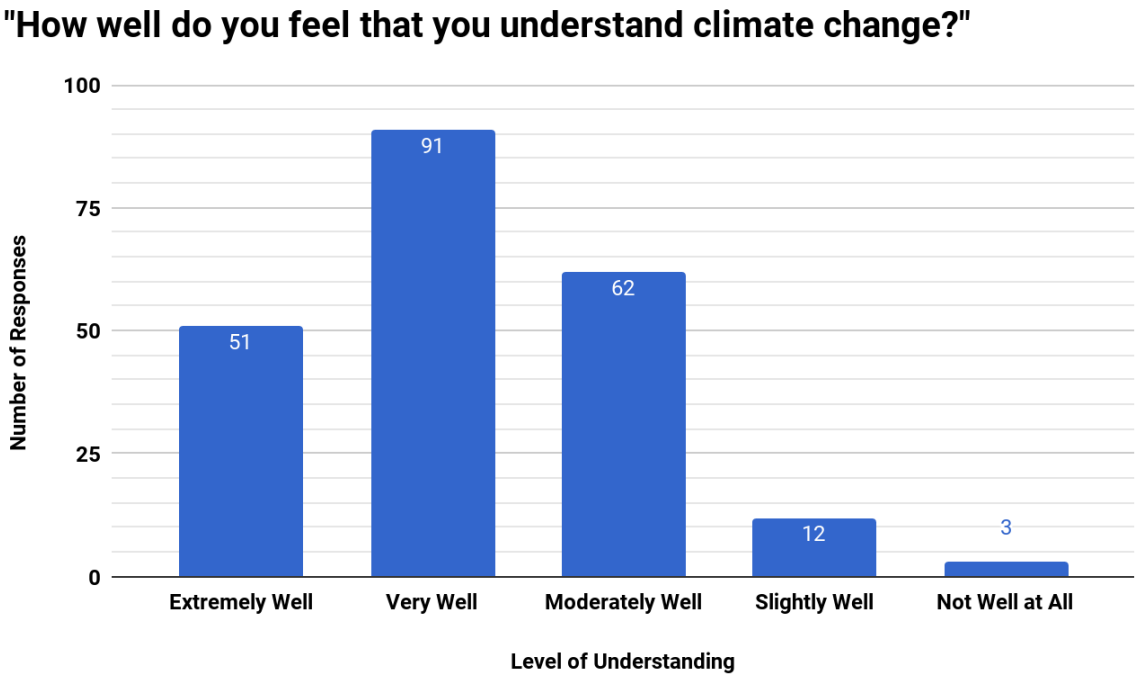

Figure 7 Visualization of How Well the General Community Understands Climate Change, N=219

A total of 64.8% (142) of survey participants identified as understanding climate change either very or extremely well. Only 6.8% (15) of participants were not confident in their climate change understanding and responded with either “slightly well” or “not well at all.”

Figure 8 shows a cross tabulation generated by Qualtrics comparing the climate change comprehension to the participants age. The cross tabulation shows the age demographics across the top of Figure 8 and the climate change understanding scale along the left side of the figure. This allowed us to begin to look for trends in age, and if any age demographic tends to have a greater understanding of climate change. In each age group, a majority of participants responded that they understood climate change “very well” or “extremely well.” It is important to note that the sample size of the cross tabulation is only 192, which is 27 responses less than 219, the total number of responses collected for level of understanding. The survey previously allowed participants to skip through the demographics section, which is why the two sample sizes are not equivalent.

		What is your age?										
		Under 18	18 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 - 74	75 - 84	85 or older	I do not wish to respond.	Total
How well do you feel that you understand climate change?	Extremely Well	1	2	13	2	11	2	9	0	0	8	48
	Very Well	1	9	18	17	8	13	9	1	0	3	79
	Moderately Well	0	4	12	11	10	8	6	0	1	1	53
	Slightly Well	0	1	2	4	3	0	0	0	0	0	10
	Not Well at All	0	1	0	0	0	0	0	0	0	1	2
	Total	2	17	45	34	32	23	24	1	1	13	192

Figure 8 Cross Tabulation of Climate Change Understanding and Age, N = 192

Next, we looked for correlations between age and if survey respondents wanted to learn more about climate change. Figure 9 shows that, although it is split almost evenly (53% say yes), respondents aged 18 to 24 and 35 to 44 have a majority of people interested in learning more about climate change.

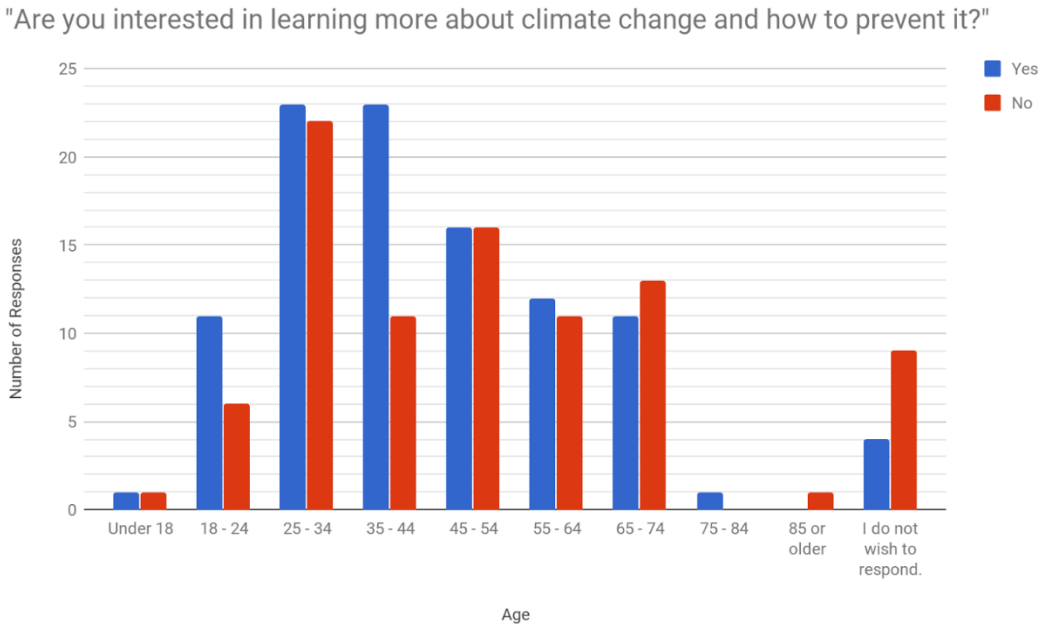

Figure 9 Number of Respondents Interested in Learning More About Climate Change by Age, N = 192

Figure 10 shows a word cloud generated from how participants responded when asked what groups they felt are affected by climate change the most. Large phrases within the word cloud refer to more frequently stated responses from the survey. This word cloud shows that the participants felt climate change most affects the young, the poor, the elderly, and those living in coastal communities. Some participants also listed that either “everyone” or “no-one” is affected

by climate change. These responses came from a total of 208 participants, many of whom identified multiple groups vulnerable to the effects of climate change.

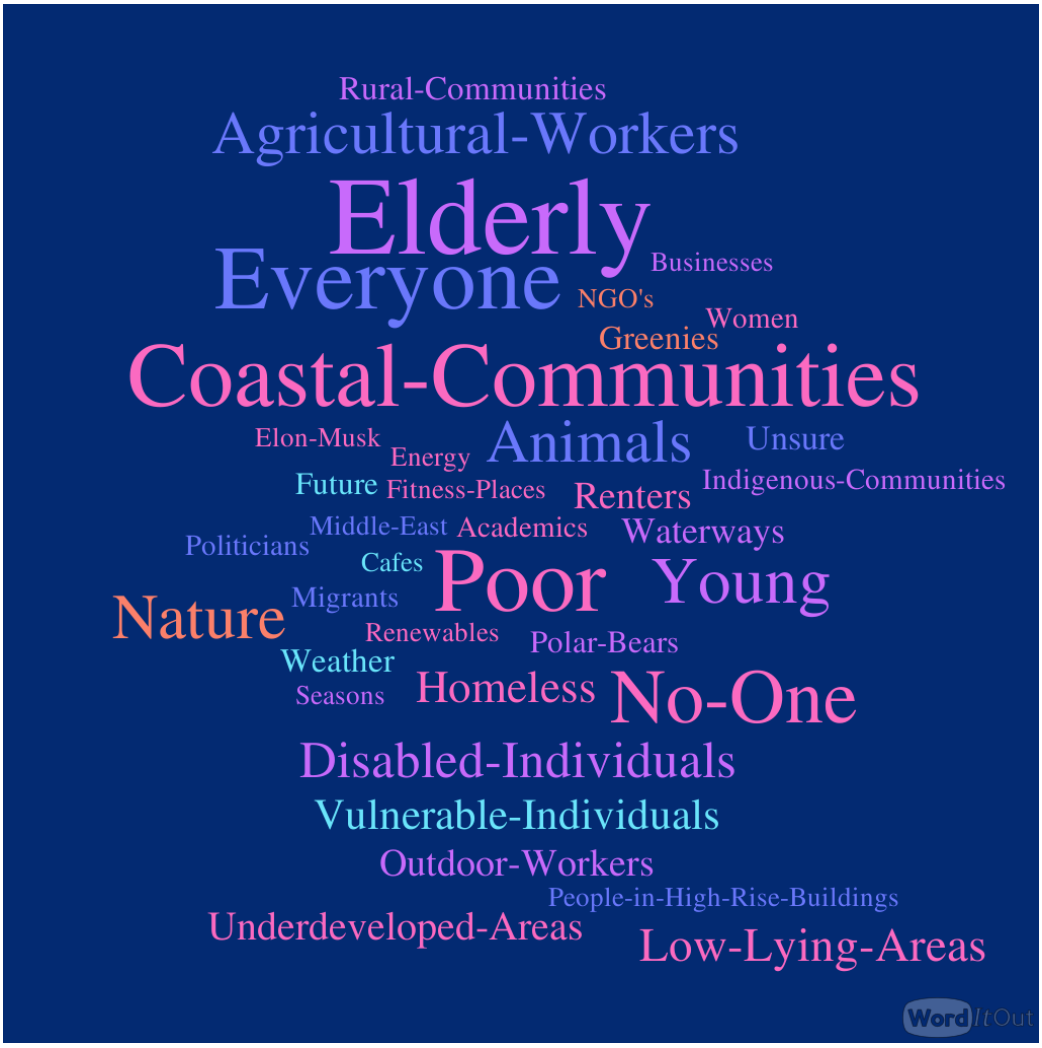

Figure 10 Word-Cloud of Groups the General Community Feel are Being Affected by Climate Change

The data illustrated in this section is only a portion of the questions asked in the survey. The questions we highlighted show the trends from the general responses collected. We believe this data accurately represents the general public's basic knowledge and perceptions of climate change. A full copy of the Qualtrics generated report can be distributed upon email request to b17fote@wpi.edu.

4.2.2 Results from the Darebin Climate Survey (Darebin Specific Responses)

Although we collected 219 responses to the Darebin climate survey, only 192 of these surveys listed a postcode that correlates to a Darebin suburb. After comparing the postcodes to the geolocation of where the survey was taken, we narrowed the survey responses down to those

who listed a Darebin postcode and took the survey within latitudes -36.5 S to -39 S and within longitudes 144 E to 146 E, which center on Darebin. After this sorting, 140 surveys from Darebin residents remained. The breakdown of responses by postcode can be seen in Figure 11.

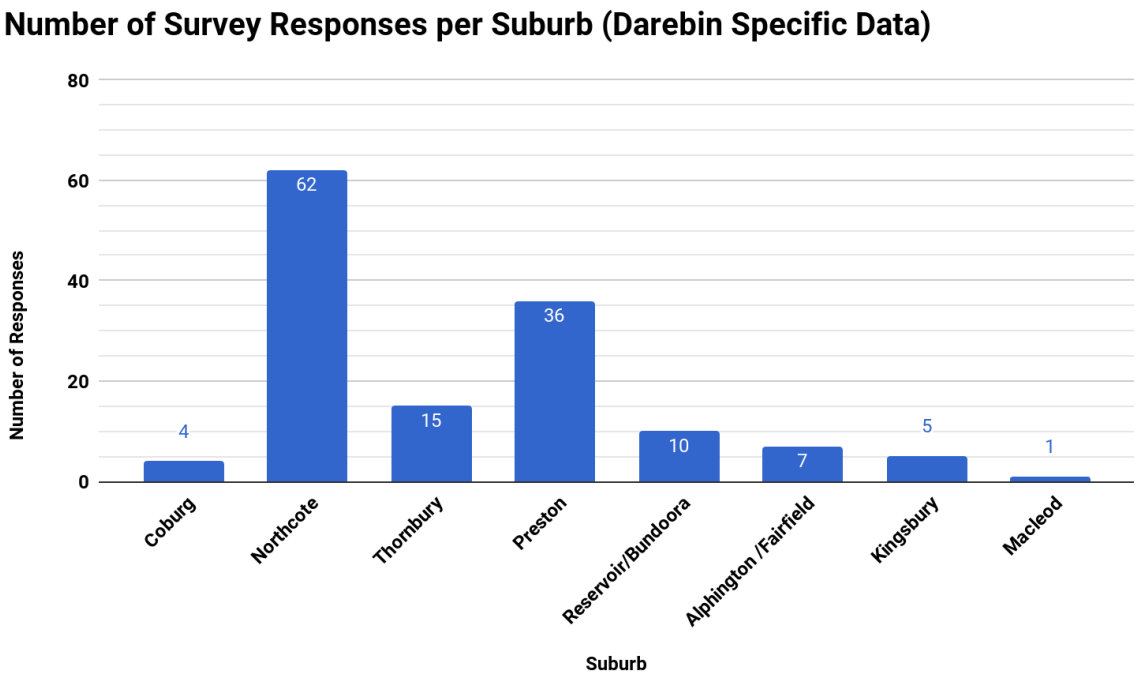

Figure 11 Number of Survey Responses per Suburb, N=140

After removing any surveys that were not attributed to Darebin residents, Northcote (3070) residents provided the most responses, with 62 responses. Preston (3072) provided 36 responses, followed by Thornbury (3071) at 15 responses. Bundoora/Reservoir (3073), Alphington/Fairfield (3078), Kingsbury (3083), Coburg (3058), and Macleod (3085) all provided ten or less responses each.

We then decided to see how well Darebin residents felt they understood climate change. Figure 12 shows the distribution of how Darebin residents responded when asked how well they understood climate change.

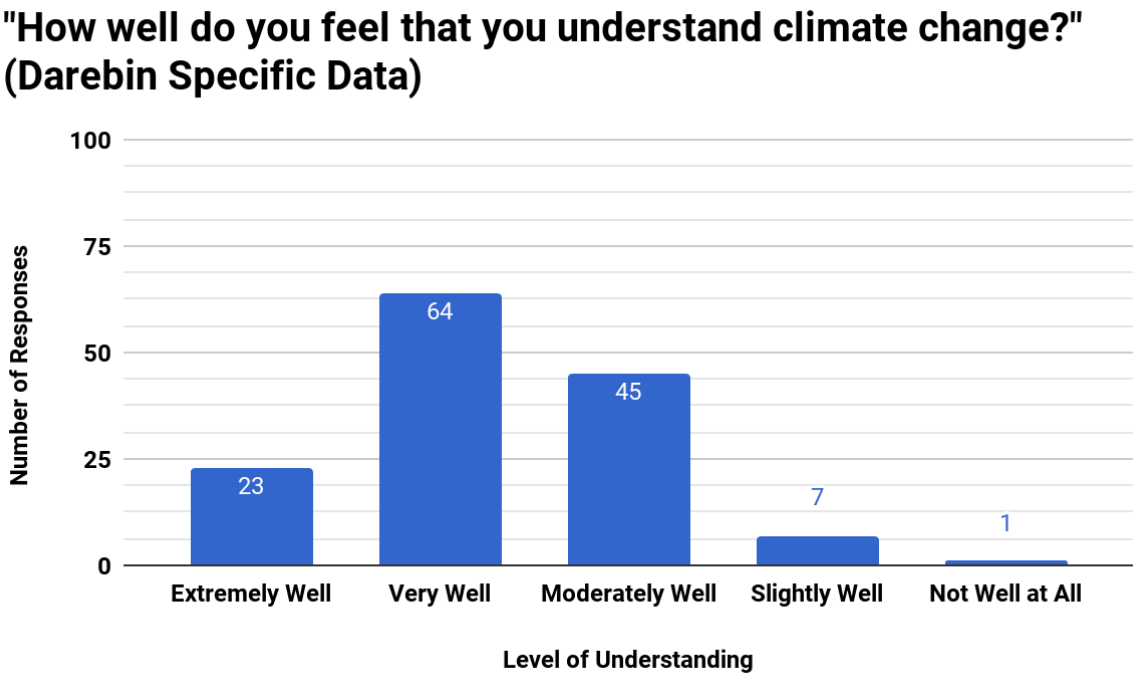

Figure 12 Darebin Residents and How Well They Feel They Understand Climate Change, N=140

Out of 140 responses, 62% (87) of survey respondents felt that they understood climate change either very well or extremely well, and an additional 32% (45) felt that they understand climate change moderately well. This is slightly more than the general data, where 93% (204) of respondents felt they understand climate change at least moderately well. Figure 13 shows the same information cross tabulated with respondents' postcodes. It should be noted that in Reservoir/Bundoora there was a majority that felt they only understood climate change moderately or slightly well, whereas in Northcote and Preston most people felt that they understood climate change very well.

			How well do you feel that you understand climate change?				
		Extremely well	Very well	Moderately well	Slightly well	Not well at all	Total
Suburb	Coburg	0	3	0	1	0	4
	Northcote	11	30	15	5	1	62
	Thornbury	3	7	5	0	0	15
	Preston	7	17	12	0	0	36
	Reservoir/Bundoora	0	4	5	1	0	10
	Alphington/Fairfield	2	2	3	0	0	7
	Kingsbury	0	1	4	0	0	5
	Macleod	0	0	1	0	0	1
	Total	23	64	45	7	1	140

Figure 13 Cross Tabulation of How Well Respondents Feel They Understand Climate Change per Suburb, N = 140

Although Darebin residents report that they understand climate change well, more than half of the respondents (53%, 64) had never heard of the City Council's Climate Emergency Plan. A majority of those respondents that had not heard of the Emergency Plan recorded Northcote (3070) or Preston (3072) as their postcodes, as seen in Figure 14.

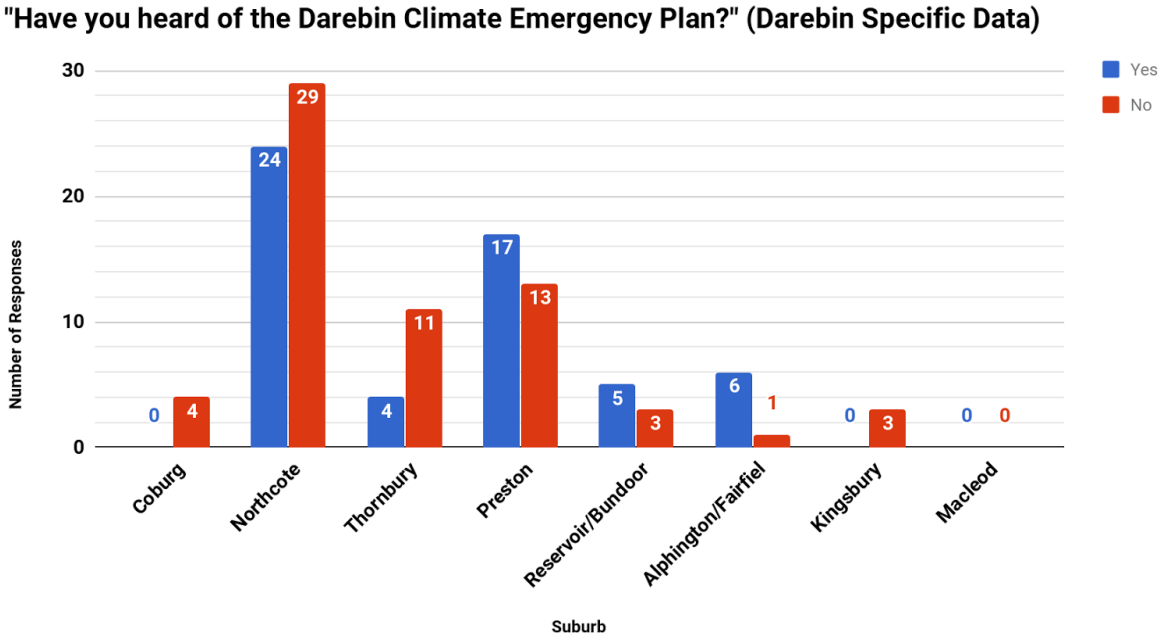

Figure 14 "Have you heard of the Darebin Climate Emergency Plan?" (Darebin Specific Data), N = 120

As a follow up question on our survey after asking if they had heard of the Climate Emergency Plan, we asked whether they agreed with the term "climate emergency" as it was used in the Climate Emergency Plan. The quote we provided to frame this question came directly from the Emergency Plan, "The Council recognizes that we are in a state of climate emergency. Unless we restore a safe climate at emergency speed, dramatic and negative changes will impact our community". After reading the quote, we asked our respondent whether the they agreed or disagreed with the statement, using a scale from strongly agree to strongly disagree. As shown in Figure 15, 90% (105) of Darebin residents either strongly or moderately agree with the Council's use of the term "climate emergency" in the Emergency Plan.

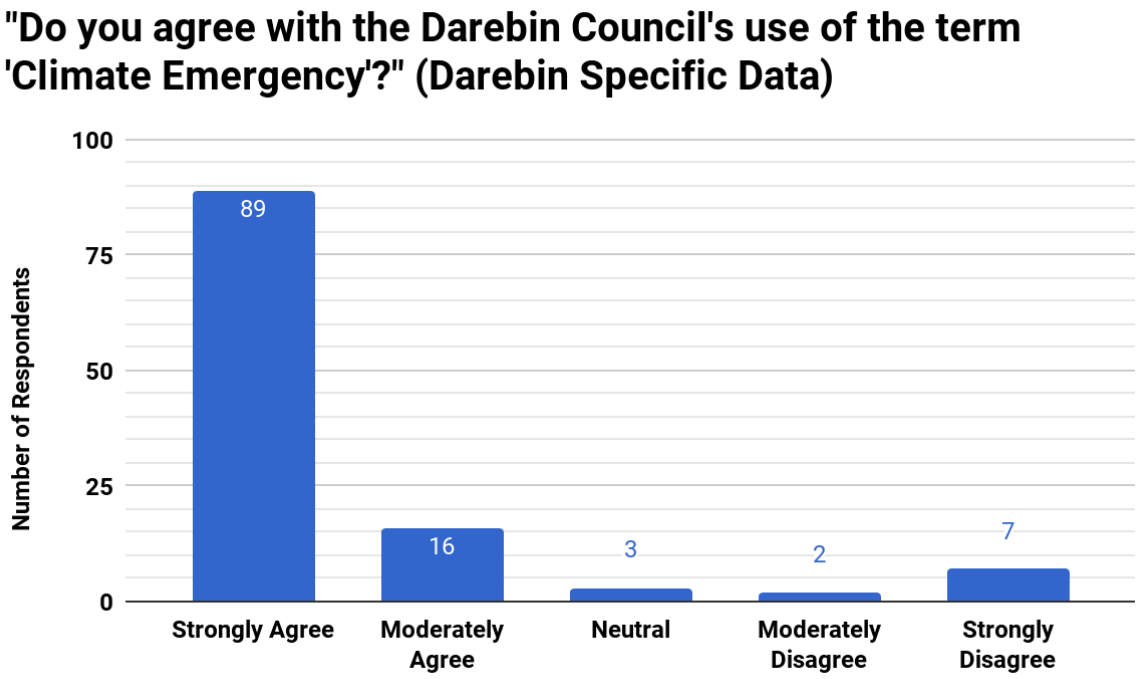

Figure 15 Whether Darebin Residents Agree with the Use of the Term "Climate Emergency", N=117

We divided these responses based on a respondent's suburb and created a cross tabulation, as found in Figure 16. Although most responses came from Northcote and Preston, the majority of each suburb strongly agreed with the Council's use of the "climate emergency" term.

		Do you agree with the Darebin Council's use of the term 'climate emergency'?					
		Strongly agree	Moderately agree	Neutral	Moderately disagree	Strongly disagree	Total
Suburb	Coburg	3	0	0	0	0	3
	Northcote	37	10	2	0	2	51
	Thornbury	13	1	0	0	1	15
	Preston	23	2	0	1	4	30
	Reservoir/Bundoora	5	1	1	1	0	8
	Alphington/Fairfield	6	1	0	0	0	7
	Kingsbury	2	1	0	0	0	3
	Macleod	0	0	0	0	0	0
	Total	89	16	3	2	7	117

Figure 16 Cross Tabulation of if Whether or not Respondents Agree With "Climate Emergency" by Suburb, N = 117

Figure 17 shows how many respondents per suburb wished to learn more about the Darebin Climate Emergency Plan. It can be seen that there were more respondents from each suburb who wanted to learn more about the Emergency Plan than those who did not want to learn more, with the exception of Preston. Northcote respondents in particular showed a strong interest in learning more about the plan when compared to the other suburbs. One must use caution when viewing this data however because of the relatively low response rates in most of the suburbs.

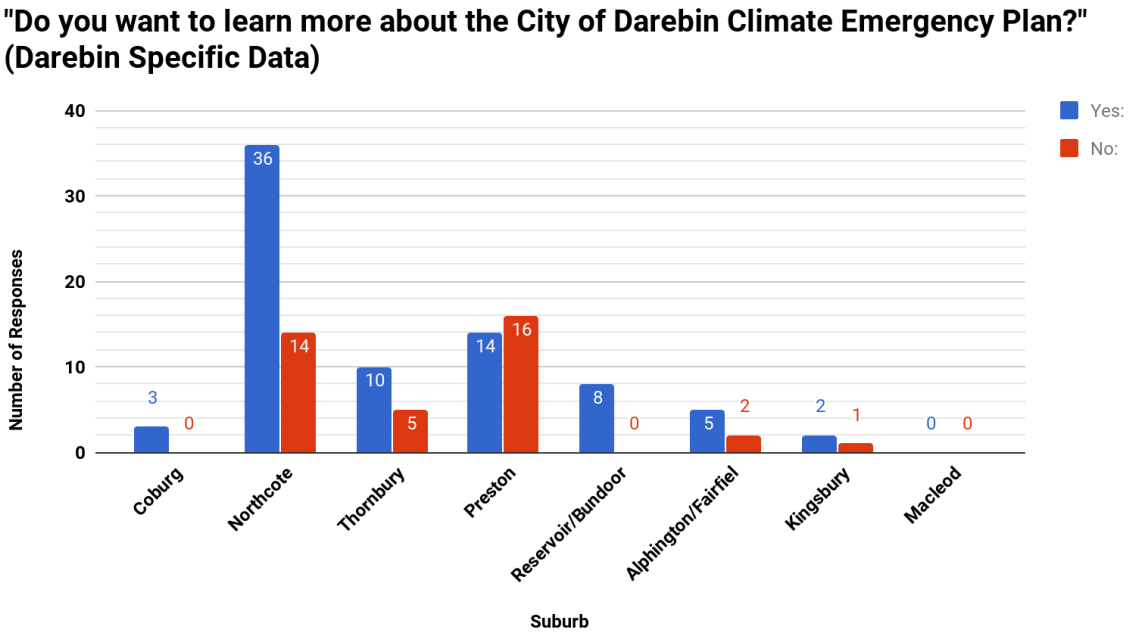

Figure 17 Whether Darebin Residents Want to Learn More About the Climate Emergency Plan, N=140

We also compared participants' levels of climate change understanding with their desire to learn more about climate change as seen in Figure 18. Overall, it can be seen that 62% (75) of the Darebin Climate survey participants were interested in learning more about climate change. We found that 63% (72) of Darebin Climate survey participants who identified as understanding climate change at least moderately well were interested in learning more. Specifically, only 33% (7) of respondents who felt they understood climate change extremely well were still interested in learning more.

		How well do you feel that you understand climate change?					
		Extremely Well	Very Well	Moderately Well	Slightly Well	Not Well at All	Total
Are you interested in learning more about climate change and how to prevent it?	Yes	7	40	25	3	0	75
	No	14	17	11	4	0	46
	Total	21	57	36	7	0	121

Figure 18 Cross-tabulation of Whether Darebin Residents Want to Learn More About Climate Change by Level of Understanding, N = 121

To identify trends in the data, we made a cross tabulation of how long people have lived in Darebin and whether they see effects of climate change occurring in Darebin. As shown in Figure 19, most age groups tended to respond ‘yes’ to observing climate change effects in the Darebin area with the exception of those having lived in the area for 16 to 25 years.

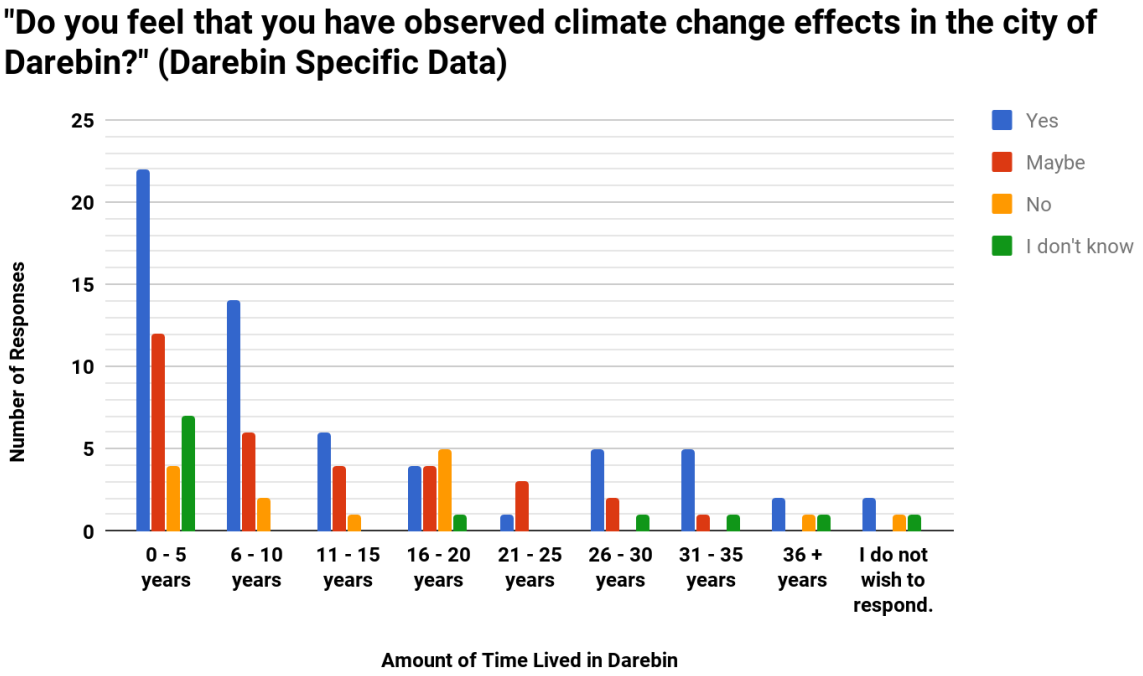

Figure 19 Darebin Residents and Their Awareness of Local Climate Change Effects, N=119

We then analyzed how residents from different demographics responded when asked to identify groups being affected by climate change. Figure 20 shows the 11 most frequently listed affected groups cross tabulated with the respondent’s age. The three most commonly mentioned groups were the poor, which received 33 mentions, “everyone” which received 30 mentions, and the poor, which received 28 mentions. This is noticeably more often than the fourth most frequently listed groups, coastal communities and the young, which each were mentioned by 17 participants.

Out of the 184 responses collected for this survey question, individuals between the ages of 25 and 54 provided the majority of responses, accounting for 124 (67%) responses. The elderly, poor, and “everyone” appeared to be the most common responses largely because survey participants aged 25 to 54 mentioned these three responses a total of 65 times.

		Groups Identified as Most Affected by Climate Change											
		Everyone	The Elderly	Agricultural Workers	Plants/ Nature	Animals	The Young	The Poor	The Homeless	Coastal Communities	The Future	No One	Total
Age	Under 18	2	0	0	0	0	0	0	0	0	0	0	2
	18 - 24	2	3	3	3	1	2	1	0	0	0	0	15
	25 - 34	8	6	3	4	4	6	7	2	4	2	3	49
	35 - 44	4	9	3	1	1	5	8	4	3	1	1	40
	45 - 54	8	4	2	2	2	2	9	1	4	1	0	35
	55 - 64	1	3	1	1	0	1	4	4	4	0	0	19
	65 - 74	3	3	1	1	1	1	2	1	1	1	0	15
	85 +	1	0	2	0	1	0	2	0	1	0	0	7
	I do not wish to respond	1	0	0	0	1	0	0	0	0	0	0	2
	Total	30	28	15	12	11	17	33	12	17	5	4	184

Figure 20 Groups Identified by Darebin Residents of Varying Ages as Being the Most Affected by Climate Change, N = 120

Additionally, Figure 21 shows the same 11 groups cross tabulated with respondents' home suburbs. Northcote (3070) residents most frequently identified the poor as being affected, with a total of 16 responses mentioning the poor. Other groups frequently listed were "everyone" with 13 responses, coastal communities and the elderly with 12 responses, and the young with 11 responses. These five groups were mentioned more often than other groups, with the sixth most frequently mentioned group being "the homeless" which received only six mentions. Preston (3072) survey participants responded relatively similarly to their colleagues in Northcote. In Preston, "everyone" had the highest number of mentions, with a total of 11. The elderly and the poor were each mentioned eight times across Preston survey responses. The largest difference between Northcote and Preston responses is that six Preston residents said they felt "no-one" is being affected by climate change, whereas only one Northcote resident felt this way.

Thornbury (3071) survey participants tended to identify the elderly, poor, and "everyone" most frequently, each of which were mentioned by six participants. Unlike Northcote and Preston, participants from Thornbury did not mention the young or coastal communities as often, which only received a total of three responses between the two groups. Coastal communities and the young were actually mentioned less than non-human groups including plants and animals. While this analysis of Thornbury is based on a smaller data set, it is still an interesting result to observe.

Reservoir (3073) appears to be the most broadly empathetic suburb, having identified 9 of the 11 most common groups equally, each being mentioned once. While this comes from a small number of responses, it is still an interesting result to note. It is also important to note that Figure 21 has a larger response total than Figure 20. Figure 20 was cross-tabulated with age, a

question that was optional on the Darebin Climate Survey, whereas postcode (cross-tabulated in Figure 21) was a required question.

		Groups Identified as Most Affected by Climate Change											
		Everyone	Elderly	Agricultural Workers	Plants/ Nature	Animals	The Young	The Poor	Homeless	Coastal Communities	No One	Future	Total
Suburb	3058	2	1	1	1	1	0	0	0	0	0	0	6
	3070	13	12	6	6	5	11	16	6	12	1	5	93
	3071	6	6	3	3	3	1	6	2	2	1	0	33
	3072	11	8	4	2	3	5	8	4	5	6	1	57
	3073	1	1	1	1	1	1	1	1	1	0	0	9
	3078	1	1	1	1	0	0	2	1	0	0	1	8
	3083	2	0	0	1	0	0	1	1	0	0	0	5
	3085	0	0	0	0	1	0	0	0	0	0	0	1
	Total	36	29	16	15	14	18	34	15	20	8	7	212

Figure 21 Groups Identified by Darebin Residents of Varying Suburbs as Being the Most Affected by Climate Change, N = 130

A similar analysis was then performed between Darebin resident demographics and their identified climate change effects. Figure 22 shows the 10 most frequently listed climate change effects cross tabulated with the respondent's age. Overall, respondents predominantly listed increased temperature, rising sea levels, and more extreme weather, noticeably more often than any other effects. While having far less responses, residents ages 18 to 24 years old appear to have a broader sense of climate change effects.

		Identified Climate Change Effects										
		Increased Temperatures	More Intense Droughts	Rising Sea Levels	More Intense Heat Waves	More Intense Weather	Animal Extinction/ Harm	Melting Ice Caps	Food Availability/ Prices	Increased Fire Risk	Disrupted Ecosystems	Total
Age	Under 18	2	1	0	0	2	0	0	0	0	0	5
	18 - 24	5	3	4	1	3	3	2	1	2	0	24
	25 - 34	21	14	13	5	17	6	8	6	2	3	95
	35 - 44	19	9	15	1	18	11	5	2	3	2	85
	45 - 54	11	9	11	3	15	9	5	5	1	2	71
	55 - 64	11	1	9	1	11	2	6	2	3	3	49
	65 - 74	10	5	6	3	10	2	4	2	3	3	48
	85 +	0	1	0	0	2	0	0	0	1	1	5
	I do not wish to respond	1	1	0	0	0	0	0	0	0	0	2
	Total	80	44	58	14	78	33	30	18	15	14	384

Figure 22 Climate Change Effects Identified by Darebin Residents of Varying Ages,

Figure 23 shows the same 10 climate change effects cross tabulated with the respondent's home suburb. In Northcote (3070), increased temperatures, mentioned 39 times, and more extreme weather, mentioned 42 times, were the two most frequently listed effects. The same trend can be seen for Thornbury (3071), Preston (3072), Reservoir (3073) and Fairfield/Alphington (3078). Participants from Coburg (3058), in contrast, listed rising sea levels and more extreme weather events most frequently, though this is based on a much smaller set of data.

		Identified Climate Change Effects										
		Increased Temperatures	More Intense Droughts	Rising Sea Levels	More Intense Heat Waves	More Intense Weather	Animal Extinction /Harm	Melting Ice Caps	Food Availability /Prices	Increased Fire Risk	Disrupted Ecosystems	Total
Suburb	3058	1	1	4	0	3	0	3	1	1	1	15
	3070	39	20	27	10	42	16	15	9	11	8	197
	3071	11	8	8	2	12	5	5	4	2	2	59
	3072	21	11	17	3	20	10	5	1	1	3	92
	3073	6	2	2	0	7	3	3	2	1	1	27
	3078	5	3	3	0	4	1	2	1	1	2	22
	3083	2	0	1	0	0	1	0	0	0	1	5
	3085	0	0	0	0	0	0	0	0	0	0	0
	Total	85	45	62	15	88	36	33	18	17	18	417

Figure 23 Climate Change Effects Identified by Darebin Residents of Varying Suburbs, N = 130

The data described in this section is only a portion of what we collected for the Darebin Climate survey. We chose these questions to highlight the general trends of the responses from the Darebin area. This data best represents the Darebin community's basic knowledge and perceptions of climate change based on our survey.

4.2.3 Discussion

The general responses that we received are from people that live both in and outside of Darebin (N = 219). From the data we collected, we were able to identify various trends. The first noticeable trend was that of the gender identification ratio. It was shown that over half of all of our respondents identified as female, which could mean a number of things for future community engagement or research. It is possible that people who identify as female are more likely to take a survey, be engaged in their communities as a whole, or care more about the City Council hearing their ideas on climate change. There are a number of ways in which this trend could be interpreted, but it is an important trend to consider.

Even though over half of respondents said they understand climate change either extremely or very well, it is important to also consider what facts they believe to be true. It is

possible that someone who believes they understand climate change very well is actually under the impression of false information. After comparing the responses of who felt they understood climate change well to what they listed as causes and effects, the majority of people did have correct information listed. However, in future research it will be important to continue to check for the correctness of people's responses.

Looking at the Darebin specific responses, the two postcodes with the largest number of responses were Northcote (3070) and Preston (3072). This result was expected since we did attend the Northcote Candidate's Forum and a service at the Northcote Uniting Church which were both held in Northcote. These two events assisted us in receiving approximately 40 responses from Northcote residents. Although distributing flyers was the least efficient method of collecting responses, we left the most flyers in Thornbury and it is the most likely reason for it being the third most listed postcode by respondents.

We asked about the Darebin constituents' knowledge regarding the Darebin City Council and the Darebin Climate Emergency Plan. We found that although almost all of respondents strongly or moderately agree with the use of the term "climate emergency" in the Darebin Climate Emergency Plan, only 56 of 120 respondents were aware of the plan. In Coburg, Northcote, Thornbury, and Kingsbury, there were more respondents unaware of the plan than those who were aware.

Throughout the entire month (October 23 to November 24) that the Darebin Climate Survey was open, we intermittently looked at the trends the data provided. It was not until after the email and social media blast that we had received any data that did not follow previous trends. As we stated in our Objective 1 discussion, there is a possibility that our survey was distributed by an anti-climate change network that caused the general responses to vary slightly from the Darebin specific responses. A good example is when asked whether or not respondents agree with the term "climate emergency" as it is used in the Emergency Plan, 22% of the general respondents strongly disagree (N=188) while only 6% of Darebin specific respondents strongly disagree (N=117). If we had not sorted the responses based on geolocation or postcode, our data would have been skewed and may not have been relevant for use by the Darebin Council.

4.3 Identify Trends in Constituent Knowledge, Positions, and Solutions Related to Climate Change for the Darebin City Council.

4.3.1 Results from the Darebin Sorting Survey

The Darebin Sorting survey focused on the concerns and solutions regarding climate change of Darebin residents. We collected 52 responses when asking residents to rank which climate change effects they are most concerned about, and then calculated the point totals for each effect. Figure 24 shows the total number of points for the ten effects in the Darebin Sorting

Survey that received the most points. The climate change effect that is of greatest concern to the residents of Darebin is an increase in extreme weather and natural disasters, which received a total score of 220 points. Decreased biodiversity was the effect with the second most points, receiving 170 points. Increased temperatures, extinction of animals, and ocean acidification received 142, 128, and 96 points respectively. Of the 28 effects listed in the Darebin Solutions survey, the five effects shown to have least overall concern were Erosion, Deindustrialization, Increased Cost of Electricity, Increased Taxes, and Depleted Economy receiving 6, 4, 4, 0, and 0 points respectively.

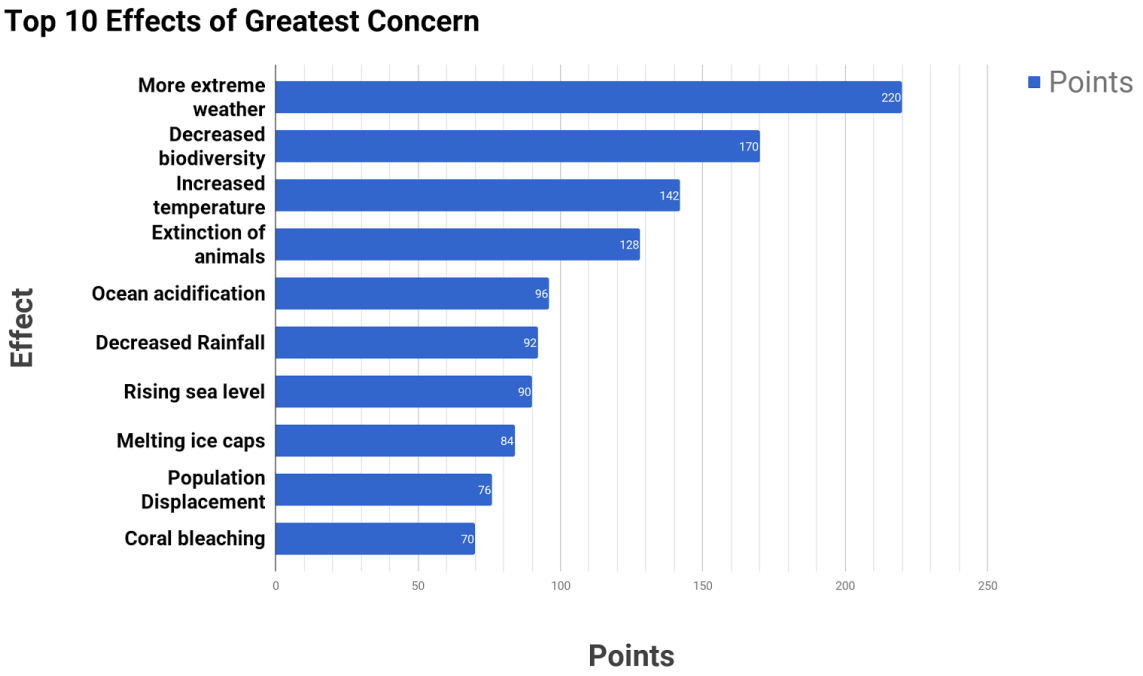

Figure 24 Top Ten Climate Change Effects of Greatest Concern to Darebin Residents

Out of the 52 responses we collected for the question about concerns, 44 of those respondents also answered our question about any solutions they may have. Figure 25 shows a word cloud created from a compiled list of solutions taken from the survey. The size of the word represents the frequency of the word in the list of solutions, with more common words being larger in size.

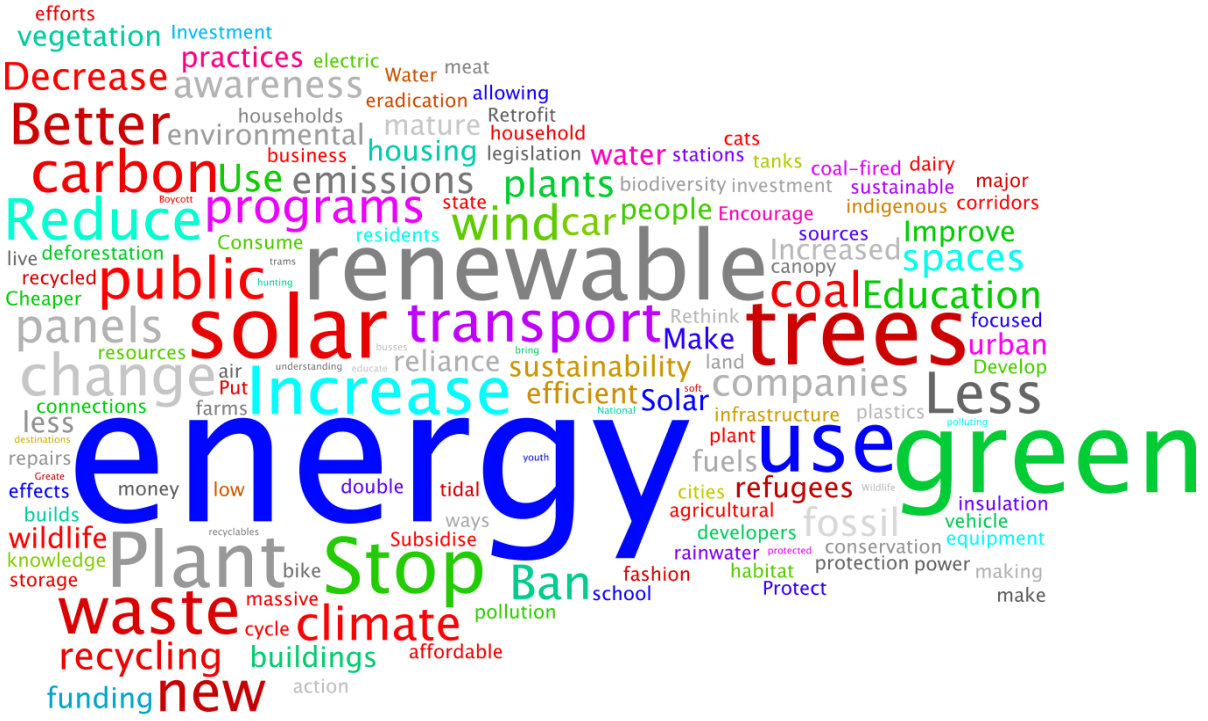

Figure 25 Word Cloud of Darebin Resident Climate Change Solutions

Residents most frequently listed practices they would like to see an increase of, including solar energy for both residential and business (including Darebin Council) buildings, and also an increase in funding for solar energy and other renewable energy sources. Some residents explicitly mentioned the Darebin Council Solar Savers program that is already in place, but the majority of residents discussed the use of solar energy in more general terms. Renewable energy was a common theme among responses. General renewable energy, solar, wind, geothermal, and hydro energy were listed over a total of 35 times as possible solutions residents would like to see. With an increase in renewable energy, residents also would like to see better methods of storing energy created from renewable sources. Renewable energy appeared to be the most desired climate change solution by Darebin residents, who are open-minded to which renewable energy methods are implemented in their community.

Alongside renewable energy, another highly desired climate change solution was to plant more indigenous vegetation throughout Darebin, specifically trees. Residents went on to list two reasons why they would like more trees: trees help remove carbon dioxide from the atmosphere and trees help provide shade. Of the residents who suggested planting trees, many of them had increased temperature, decreased biodiversity, or increased carbon dioxide in the air listed as some of their top concerns. While that may seem like a small change, the planting of trees and

other indigenous plants will help protect the atmosphere, biodiversity, and individuals from dangerous temperatures or UV rays.

When asked to list solutions that can combat climate change, some respondents showed interest in environmental education and community sustainability programs. Responses ranged from increased education in school and media to specific education about the damage that non-indigenous plants make. Multiple responses focused on the younger, school-aged population, suggesting programs such as a Green Army for youth.

4.3.2 Discussion

Darebin residents had a wide variety of concerns and solutions to combat climate change. It should be noted that the La Trobe Wildlife Sanctuary Tour, where approximately half of our sorting survey responses were obtained, included a presentation on how to promote biodiversity in local gardening. Many participants took the survey during this presentation, which may explain why decreased biodiversity was such a frequently chosen concern. There were a few other climate change effects that clearly stood out as concerning to the community, including increased extreme weather and increased temperatures. Many other effects had similar point totals to one another, which shows that Darebin residents have many different concerns about climate change and most likely recognize the widespread impacts it could have on their community.

Just as residents had many different climate change concerns, residents also presented many solutions to the climate change effects they listed. Out of the 44 responses we received when asking participants to identify climate change solutions 100% of them listed a minimum of three solutions each without the survey specifying a number of solutions to be listed. Although the Darebin residents seem passionate about finding climate change solutions, it became evident that the lack of knowledge about the Climate Emergency Plan was playing a role in their thoughts. We quickly noticed that many of the solutions people had listed in the Darebin sorting survey were actually solutions that have already been implemented through the Climate Emergency Plan. For example, many residents stated that they would like to see increased use of solar energy across Darebin and increased funding for solar technology. Under key direction three, “Renewable energy and fuel switching,” the Council promises to offer a no-cost-up-front solar program and a bulk solar program for homes and businesses. Key direction four addresses the resident’s solutions of improving public transport and cycling pathways by stating that the Council will improve infrastructure for walking, cycling, and have better access to public transport. Other solutions commonly mentioned were planting more trees and providing “safe spaces” for people to retreat in case of a heatwave. These solutions are also addressed in the Climate Emergency Plan under key direction seven, “Adaptation and resilience”, where the

council has agreed to plant thousands of trees per year increasing the canopy by 25% and to run education programs on measures that can be taken by residents and businesses to protect vulnerable community members from heatwaves and extreme weather.

The Climate Emergency Plan is comprehensive and addresses all of the most common solutions provided by respondents. While it is unfortunate that not many people are aware of the measures that the Climate Emergency Plan implements in their own community, it is reassuring that they are eager to see the same solutions that the Council has put forward. The Council and the residents have similar thoughts, which will make proceeding with climate change action even easier.

The concerns and solutions identified by respondents can be used by the AoC campaign as evidence for the Victorian Parliament on why a climate budget is necessary. The top three concerns of Darebin residents are climate change effects that are widespread and not only affecting this one city. It has also been mentioned in the Darebin Climate Emergency Plan that one city council will not be able to tackle the complex and universal crisis that is climate change. The top solutions that were provided by residents cannot be accomplished without a budget implemented at the state level. These solutions and concerns, as well as additional data from this report, could be presented and synthesized to be used in a presentation as evidence for the need of a climate budget.

Chapter 5 Recommendations

5.1 Recommendations for the Darebin City Council

After receiving our responses to our initial Darebin Climate Survey, it was clear that just over half (53%) of people had not heard of the Darebin Climate Emergency Plan. This was made even more clear when reading the solutions provided by respondents to our Darebin Sorting survey. The majority of the solutions listed were already listed as actions in the Climate Emergency Plan that the Council will be implementing over the next five years. It became evident that the Climate Emergency Plan is not known or understood well by Darebin residents. The following recommendations are designed to help the Darebin City Council better promote their Climate Emergency Plan through social media and general news outlets.

5.1.1 Social Media Promotional Program for the Darebin Climate Emergency Plan

Social media played a large role in our collection of survey responses. We were able to collect over 120 responses after the Act on Climate social media accounts posted our survey link. With our success in using social media, we recommend that the Darebin City Council use their social media presence to promote the Climate Emergency Plan.

The Darebin City Council currently has four social media accounts: a Facebook page and Twitter, Instagram, and YouTube accounts. The Council's largest social media presence is their Facebook page, which has over 13,000 likes. Because of this, we feel that Facebook will be the best platform for Climate Emergency Plan promotion.

To distribute the information, we have drafted a ten-week video series that describes the Climate Emergency Plan. The series should consist of ten videos with one released each week. The first video should be an introduction to the Climate Emergency Plan. This video should give background into the construction of the Climate Emergency Plan, the overall goals of the Darebin Council, and the actions that are already being taken by the Darebin Council to mitigate and adapt to climate change. The following nine videos should each focus on a key direction that the Council identifies in the Climate Emergency Plan. In the videos, the content should include the goal of the key direction, what actions the Council will be implementing through the Climate Emergency Plan, and what actions the community members can also take in their own homes to also help achieve the goal of the key direction. It is important that while these videos contain the key information listed above, each video should only be about three minutes in length in order to keep viewers engaged.

To keep the videos easy to navigate, we recommend that the Council initially uploads these videos to their YouTube account, where they can be aggregated into a playlist specific to the Climate Emergency Plan. The individual videos can easily be shared onto the Darebin City

Council Facebook and Twitter accounts, where they will have the potential to reach a broader audience.

5.1.2 General News Outlets Promotional Program for the Darebin Climate Emergency Plan

As of December 2017, the promotion of the Darebin Climate Emergency Plan has been limited to very specific outlets, such as the Darebin Sustainability Newsletter. Therefore, we recommend that the Council begins to promote the Emergency Plan through more general sources, such as local newspapers or news broadcasts on TV. These articles should be used as a supplement to the Climate Emergency Plan video series. By displaying information in a source that provides general news and information, there is a greater chance that there will be a larger audience than if the same information is posted in more specific sources, including the Darebin Sustainability newsletter.

One possible news source to include information about the Climate Emergency Plan is the Preston Leader. Although it has useful information, we feel that the frequent use of images and charts are what make the Preston Leader an excellent source for distributing information about the Climate Emergency Plan. The Council could distribute the information in two ways. The first way would be to distribute the information in a manner that coincides with the videos that we have recommended they also create. Each week, the Council could submit an article to the Preston Leader that describes the same information presented in the video that is released in the same way; for example, the same week that the introductory video is published to the Council YouTube account should be the same week that an introductory article is published in the Preston Leader. The article should contain the same information that the associated video contains and should be used as a parallel to reach audience members who may not be connected with the Darebin City Council on social media. The benefits of releasing weekly articles is that the Council may speak more in depth about each key direction in a shorter article. However, it is possible that readers may not read an article one week and miss critical information.

Another option for the Council is to release a single, large article describing the Climate Emergency Plan in its entirety. The article would contain information about the background of the plan and all nine key directions the plan describes. The article should not be as intensive as if the Council were to release weekly videos. The Council should release the article the same week that the Climate Emergency Plan introduction video is released, to promote the video series in case readers would like to learn more. While a longer article would allow readers to get all of the relevant information needed in a shorter period of time, it is important to note that a longer article may deter readers from reading the article completely. When possible, the Council should insert charts or pictures that are relevant to the topic, for example a residential or commercial

building that has solar panels installed through one of the current Council programs. Appendix J shows an example of a possible article that could be submitted to the Preston Leader.

5.2 Recommendations for Friends of the Earth

5.2.1 Successful Methodology for Climate Change Data Collection across Victoria

After careful review of our results and methodology, and discussing what FoE will be able to accomplish with our results and methodology, we are recommending that FoE complete this project on a larger scale. We are providing improvements to, while also generalizing, the methodology to be able to implement it on a large scale and to other districts or cities. These improvements along with challenges and a careful step by step overview will be combined in a helpful booklet form for FoE to reference, identified in Appendix K. The purpose of this booklet is to assist FoE with gathering more data from around the state of Victoria, much like how we did in the city of Darebin, to present to the Victorian Parliament as evidence for the argument for a climate change budget.

The booklet has a problem statement and goal to outline the purpose of the generalized methodology. The booklet is organized by modifications of our objectives and then broken down into steps for each objective. Each step includes a "why" and "how" section. We ended each of the three objectives with what went well and what challenges we faced.

5.2.2 Creation of the Act on Climate Instagram

After evaluating all methods to contact stakeholders, we found social media blasts to be the most effective method. Social media is a great way to reach out to communities and get them involved. Act on Climate's Facebook page has 1,030 likes and its Twitter account has 1,281 followers.

Although the Act on Climate campaign for Friends of the Earth has a popular Facebook page and Twitter account, it does not have an Instagram account. Since Friends of the Earth Melbourne already has an Instagram account and the organization has members that are already familiar with this type of social media platform, we feel an Act on Climate Instagram account would be a great addition to their social media. While the Facebook and Twitter accounts primarily focus on policy, politics, and relaying information, the Instagram account would be mainly centered on community engagement and involvement. An AoC volunteer would need to be willing to take on this task and the Instagram could be passed around to other volunteers, so several people get a chance to run the social media campaign, much how the current social media is run.

We are recommending a 12-month social media calendar that contains an Act on Climate hashtag **#IActOnClimateChange**, photo contests revolving around a different theme each month, "Feature Fridays" where a member of the community that submitted a photo using the

hashtag is featured on the Instagram account, and a weekly announcement for the campaign's collective meeting on Mondays.

The purpose of varying monthly themes is to highlight the numerous ways in which the community can get involved with sustainable living. The hashtag **#IActOnClimateChange** will allow anyone to search the hashtag and find the pictures being posted by community members participating in that month's photo challenge. This hashtag will help keep people feeling involved with the organization while showing them examples of what their neighbors are doing, which will hopefully inspire those neighbors to follow suit. These Instagram posts could also be shared to the AoC Facebook and Twitter accounts, as well as re-posted to the FoE Melbourne Instagram account. Instagram also has the "explore page" feature, where users that follow FoE Melbourne, users that used the AoC hashtag, or other similar Instagram accounts will be able to find posts by AoC on the discover page.

We have created an outline for the 12-month social media plan to be started at the beginning of 2018. Appendix L includes a calendar for 2018 with a different theme labeled for each month. Appendix M shows an example of what an individual month would look like, including the Instagram release of a theme on the first of the month, along with two weekly posts for the Act on Climate collective meeting on Saturdays and Mondays, a post for Feature Fridays, and a photo contest reminder on Wednesdays. We recommend that the AoC volunteer posting for the Instagram post as often as possible, promoting local environmental or climate events as well as FoE campaign meetings and rallies.

5.3 General Recommendations

The recommendations in this section were derived from the trends identified from data collected and should be considered by both Friends of the Earth Melbourne and the Darebin City Council. As discussed previously in our results discussion section, there are suburbs from which we did not collect many responses. Whether that was a consequence of where we decided to promote the survey, where we attended events, or where the FoE database email blast was sent out to, we are not sure of but this fact should be kept in mind throughout these recommendations.

We recommend that FoE and the Darebin Council perform more outreach and engagement in the suburbs of Reservoir/Bundoora, Coburg, Alphington/Fairfield, Kingsbury, and Macleod. These are the suburbs that we received 10 or less responses from to our Darebin Climate survey which shows a need for climate outreach and engagement. In terms of general climate change education, the suburbs of Reservoir/Bundoora and Kingsbury were the only two suburbs where a majority of respondents claimed that they felt they only knew climate change moderately well or less, while the rest of the suburbs had a majority of respondents that felt they knew climate change very or extremely well. We recommend that FoE and the Council focus on

general climate change knowledge and information in those two suburbs. The demographics that should be targeted in those suburbs, according to the data, are people ages 18 to 44 and 55 to 64. Those age groups answered ‘yes’ to wanting to learn more about climate change and ways to help the environment.

In the cross tabulations found in Figures 22 and 23, we were able to find distributions that led us to recommendations for particular climate change effects to focus on when informing or educating constituents in Darebin. We recommend that the climate change effects that should be most focused on for promotion and mitigation by the Council and FoE be more extreme weather, increased temperatures, and sea level rise. Those three effects were the most commonly listed by every suburb and every age demographic, so in terms of targeting any specific person or place, we recommend that the Council and FoE focus their efforts on the entirety of the city. Data from the Darebin Sorting survey strengthens our recommendations since the three effects that were the most concerning were more extreme weather, decreased biodiversity, and increased temperature. Two of those three effects, more extreme weather and increased temperatures, also being the most listed effects in the Darebin Climate Survey.

Chapter 6 Conclusion

The goal of this project was to assist Act on Climate volunteers with empowering communities in the city of Darebin to be able to voice their concerns and solutions towards climate change. By completing this project, we have learned that residents in the City of Darebin not only have a good understanding of climate change, but are also willing to learn more about it. Our results show that the concerns and solutions identified by survey respondents are all addressed in the Darebin City Council's Climate Emergency Plan. However, the Climate Emergency Plan is not known or understood very well by the residents of the City of Darebin. In order to promote this plan, it is important to utilize social media and community engagement programs along with local environmental organizations. Looking forward, the Darebin City Council can promote the Climate Emergency Plan with more confidence that they have taken appropriate actions to satisfy their constituents.

Friends of Earth Melbourne's campaign Act on Climate engages the community with climate change policy and information, and is attempting to secure a climate change budget within the Victorian State Parliament. AoC can use the concerns and solutions listed by survey respondents along with the Climate Emergency Plan as evidence to help advocate for the establishment of a statewide climate change budget.

The project team has gained valuable practice in creating and distributing a survey, and data analysis. The project also provided the team with additional skills in working cooperatively as a team.

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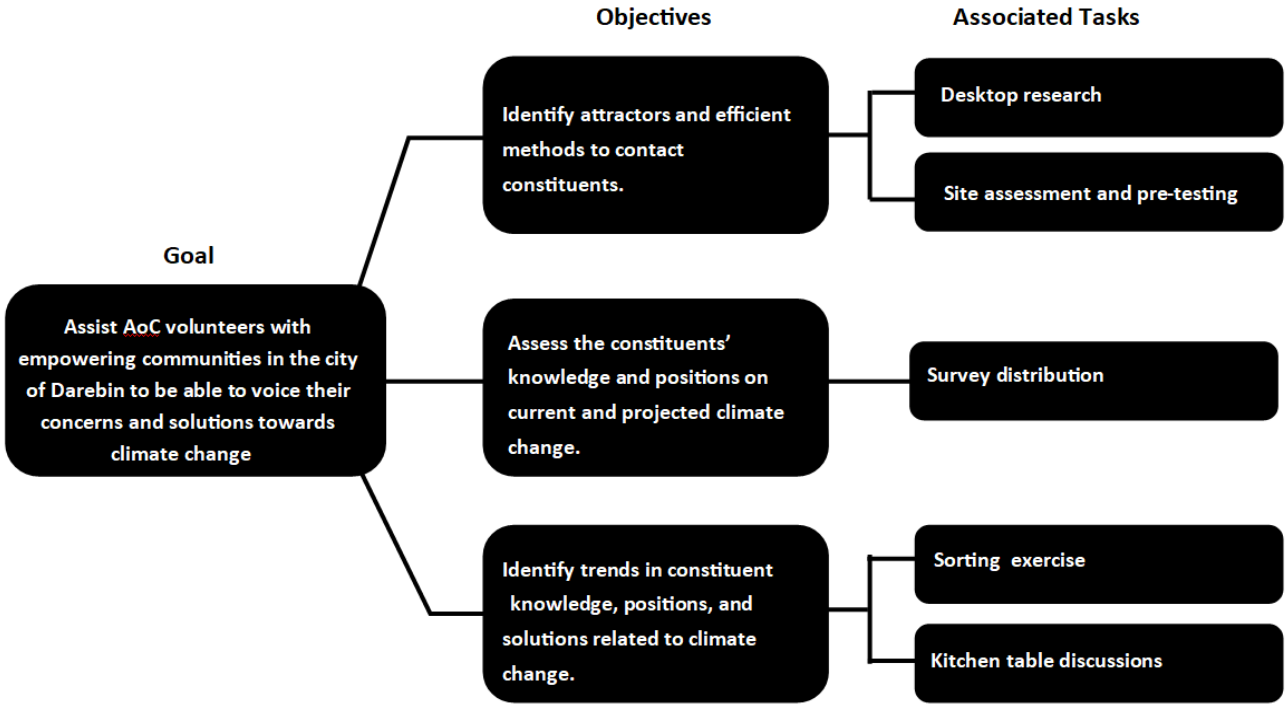
Appendix A - Darebin Suburbs and Postcodes

Suburb	**Postcode**
Alphington	3078*
Bundoora	3073*
Coburg	3058*
Fairfield	3078
Kingsbury	3083
Macleod	3085*
Northcote	3070
Preston	3072
Reservoir	3073
Thornbury	3071
* Note: These suburbs are shared across more than one municipality as part of these suburbs are outside of Darebin's jurisdiction.	

Appendix B – Flowchart of Methodology



Appendix C - Darebin Climate Survey Poster

Appendix D - Initial List of Potential Attractors

1. Red Door Corner Store
2. All Nations Park
3. Palace Westgarth Cinema
4. Northcote Aquatic & Recreation Centre
5. Rubie Thompson Reserve
6. Australian Youth Climate Coalition
7. Darebin Arts and Entertainment Center
8. Alphington Community Center
9. SPAN Community House Inc.
10. Jika Jika Community Centre
11. Kildonan Uniting Care
12. PRACE (Preston Reservoir Adult Community Education)
13. Northcote Town Hall
14. Solace EMC Non-Denominational Church
15. Northcote Library
16. Victorian Aboriginal Education Association
17. The Food Truck Park
18. Melbourne Polytechnic - Preston Campus
19. Preston Market
20. Preston City Oval
21. 3KND Kool N Deadly
22. Darebin City Bowls Club
23. Northcote Plaza Shopping Centre
24. Your Community Health
25. Ibleo Social Club
26. Preston Library
27. Preston City Hall
28. Campania Sports and Social Club
29. Northcote Uniting Church - Chalice
30. Northland
31. Jika Jika in the Park - Oldis Gardens
32. NMIT - University and Tertiary Education
33. St Joseph’s Northcote Parish

Appendix E - Final Climate Survey used for Distribution

Community Conversations on Climate Change

Thank you for taking our survey about your basic climate change knowledge and climate change perceptions. The survey should take you about five to ten minutes to complete. Results of this survey will be used to present the Darebin City Council with community-inspired climate change solutions.

Anybody who completes this survey will be automatically entered to our raffle. Current raffle prizes include the following, but may expand:
A pair of tickets to any show at the Croxton Bandroom (Thornbury)
A one of a kind painting from local artist Anthony De Silva
A pair of tickets to the Palace Westgarth

Your information will not be released to anyone, and you will only be contacted if you are a raffle winner or if you ask to be contacted with further information regarding climate change or the Darebin Climate Emergency Plan.

Any questions or concerns with the survey may be emailed to b17fote@wpi.edu.

Thank you again for your participation.

We acknowledge that we meet and work on the land of the Wurundjeri people and that sovereignty of the land of the Kulin Nations was never ceded. We pay respect to their Elders, past and present, and acknowledge the pivotal role that Aboriginal and Torres Strait Islander people continue to play within the Australian community.

Page 1 of 6

Q1 **If you would like to be considered for the raffle, please leave your name and either a phone number, email address, or both. Your information will not be released to anyone, and you will only be contacted if you are a raffle winner or if you ask to be contacted with further information regarding climate change or the Darebin Climate Emergency Plan.**

Name _____

Email Address _____

Phone Number _____

Q2 **What is your home post code?**

_____

Q3 **How well do you feel that you understand climate change?**

- ○ Extremely well
- ○ Very well
- ○ Moderately well
- ○ Slightly well
- ○ Not well at all

Q4 **Have you observed any effects of climate change in the city of Darebin?**

- ○ Yes (Proceed to Question 5, Skip Question 6)
- ○ Maybe (Skip Question 5)
- ○ No (Skip Question 5)
- ○ I don't know (Skip Question 5)

Q5 **What groups do you feel are being affected by climate change the most?**

_____

Q6 **Is climate change affecting anyone or anything? If so, what groups?**

_____

Q7 **List up to three causes of climate change. If you do not know any, please list "I don't know" in Cause 1.**

Cause 1 _____

Cause 2 _____

Cause 3_____

Q8 **List up to five effects of climate change. If you do not know any, please list "I don't know" in Effect 1.**

Effect 1_____

Effect 2 _____

Effect 3 _____

Effect 4 _____

Effect 5 _____

Q9 **Which of these environmentally friendly practices do you perform regularly? Please circle all that apply.**

Conserve energy at home (i.e. turn off lights when leaving a room)

Conserve water (i.e. 3 minute showers)

Walking/Cycling/Carpooling/Using public transportation

Avoid high impact food (i.e. meat and dairy) or be vegan/vegetarian

Renewable Energy (i.e. solar panels)

Reduce, Reuse, Recycle

Other, Please specify _____

None of the above

Q10 **Which of these would you change your habits to include for a more sustainable lifestyle? Please check all that apply.**

- Conserve energy at home (i.e. turn off lights when leaving a room)
- Conserve water (i.e. 3 minute showers)
- Walking/Cycling/Carpooling/Using public transportation
- Avoid high impact food (i.e. meat and dairy) or be vegan/vegetarian
- Renewable energy (i.e. solar panels)
- Reduce, Reuse, Recycle
- Other, Please specify_____
- None of the above

Q11 **Are you aware of any local actions that are being taken to adapt the city of Darebin to climate change effects that are already present, i.e insulation of houses?**

_____

Q12 **Do you have any concerns about climate change you would like to see presented to the Darebin City Council?**

_____

_____

Q13 **Are you interested in learning more about climate change and how to prevent it?**

- ○ Yes
- ○ No

Q14 **Have you heard of the Darebin City Council Climate Emergency Plan?**

- ○ Yes
- ○ No

Q15 **"The Council recognizes that we are in a state of climate emergency. Unless we restore a safe climate at emergency speed, dramatic and negative changes will impact our community". Do you agree or disagree?**

- ○ Strongly Agree
- ○ Moderately Agree
- ○ Neutral
- ○ Moderately Disagree
- ○ Strongly Disagree

Q16 **Do you want to learn more about the City of Darebin's Climate Emergency Plan?**

- ○ Yes
- ○ No

Q17 **Please select which gender you identify as.**

- ○ Male
- ○ Female
- ○ Other
- ○ I do not wish to respond.

Q18 What is your age?

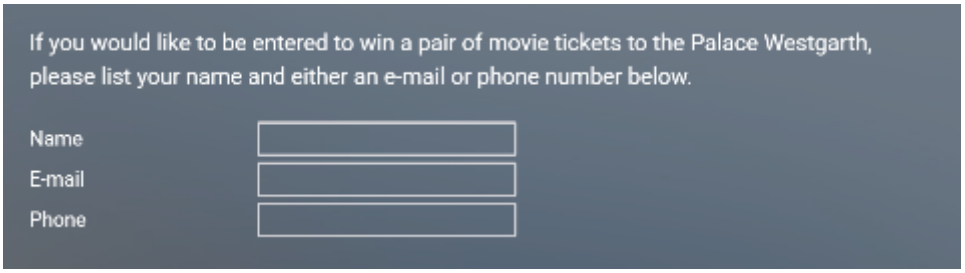
- ○ Under 18
- ○ 18 - 24
- ○ 25 - 34
- ○ 35 - 44
- ○ 45 - 54
- ○ 55 - 64
- ○ 65 - 74
- ○ 75 - 84
- ○ 85 or older
- ○ I do not wish to respond.

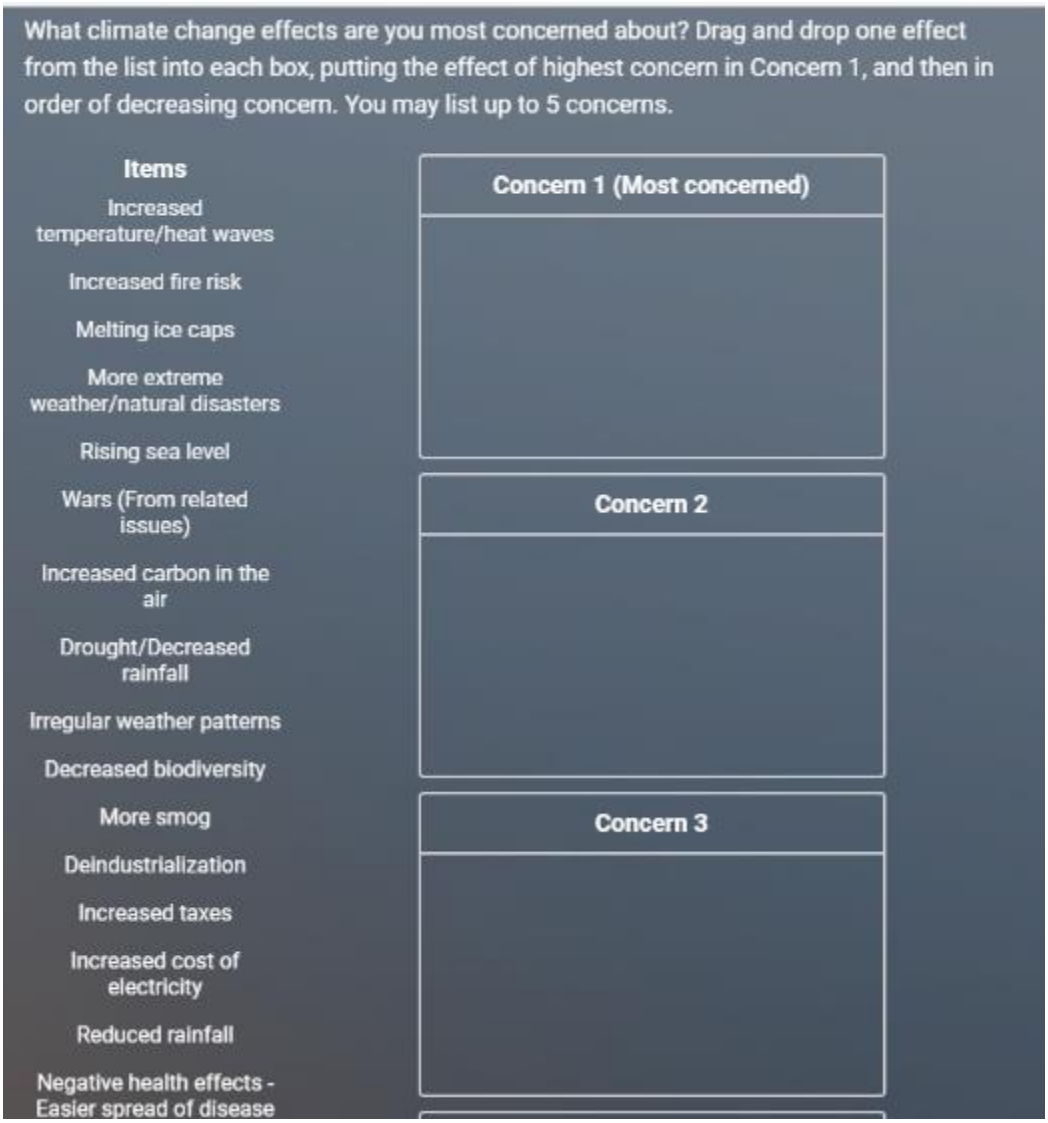
Q19 How long have you lived in the city of Darebin?

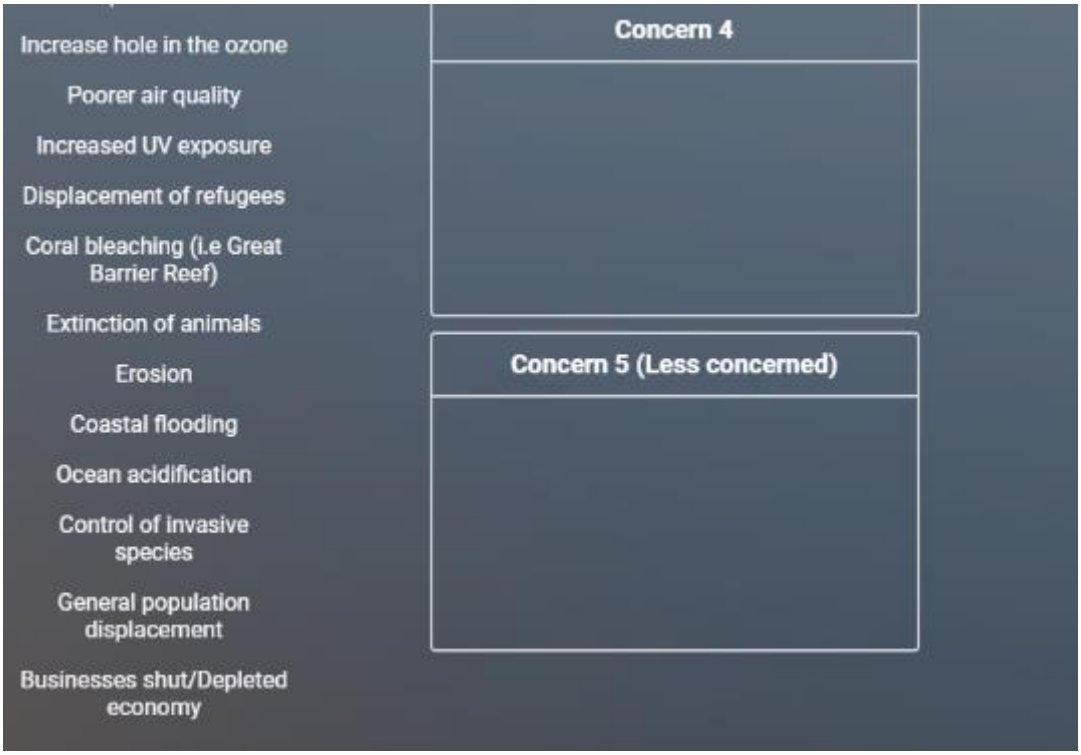
- ○ 0 - 5 years
- ○ 6 - 10 years
- ○ 11 - 15 years
- ○ 16 - 20 years
- ○ 21 – 25 years
- ○ 26 - 30 years
- ○ 31 - 35 years
- ○ 36 + years
- ○ I do not wish to respond.

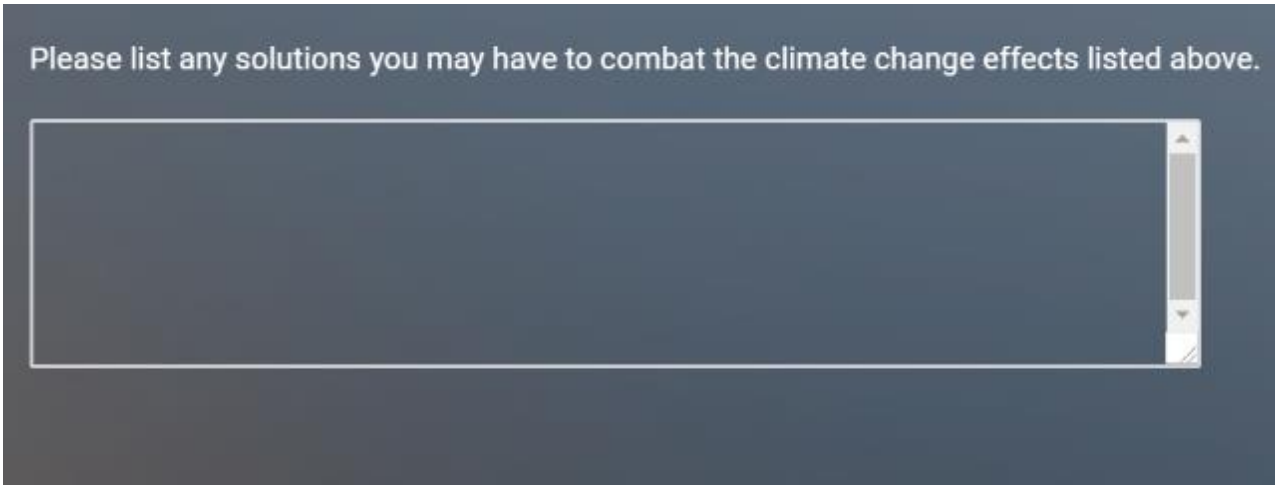
Appendix F - Darebin Sorting Survey Poster

Appendix G – Final Sorting Exercise used for Distribution






Increase hole in the ozone
Poorer air quality
Increased UV exposure
Displacement of refugees
Coral bleaching (i.e Great Barrier Reef)
Extinction of animals
Erosion
Coastal flooding
Ocean acidification
Control of invasive species
General population displacement
Businesses shut/Depleted economy
Concern 4
Concern 5 (Less concerned)


Please list any solutions you may have to combat the climate change effects listed above.

Appendix H – Finalized List of Attractors

Northcote			
Northcote Town Hall	Mail Boxes Along Plant Street	267 High St Apartments	The Phoenix and the Turtle
Lamp Posts Along High Street	Mail Boxes 15 -23 Roberts Street	Northcote Plaza Bathroom Stalls	Crunch
Jika Jika Community Centre	Mail Boxes 15 - 36 Jackson Street	Northcote Library	Fleet Street Barbers
Know Your Product Workshop	Mail Boxes 148 - 203 Clarke Street	Bundoora Park and Farm	Melbourne Anarchist Club
Westgarth Palace Cinema	Northcote Uniting Church	On the 86 Tram	Enviroshop
Preston			
Lamp Posts / Other Street Locations	Street Lamp Posts	Intercultural Centre	Northern Community Church of Christ
The Bridge	Darebin Arts & Entertainment Centre	Preston Library	Housing Choices Australia
Salvation Army Community Centre	Preston Market	Apartment Complex Mailboxes	Bus Stops
Reservoir			
Summerhill Shopping Plaza	Tram Stops		
Bundoora			
Bundoora Park and Farm	La Trobe University		
Thornbury			
Gents of Melbourne	Naturally on High	Phoenix Legal Solutions	Laundrette
Kustom Burgers	Northern Git	Lidia Thorpe, MP Office	Flowers (North St Botanical)
Amperso Cafe	The Grooming Lounge	Lentil as Anything	Free Choice Stores Tobacconist
Nest Coworking	Thornbury Records	Urban Tree Cafe	Secondhand Books
Black Ruby Pastries	Records Electra	Darebin Community Legal Centre	Northern Soul Cafe

Appendix I - List of Groups Contacted Online

Group	Email Address	Date we Emailed
Bundoora Park Farm	bundpark@darebin.vic.gov.au	10/31/2017
Reservoir Leisure Centre	rlc@darebin.vic.gov.au;	10/31/2017
Northcote YMCA	northcote@ymca.org.au	10/31/2017
Fairfield/Northcote Scrabble Club	tryerbrook@gmail.com	11/1/2017
Northern Darts Association	ndadarts@yahoo.com.au	11/1/2017
Life Activities Club Darebin	tonyrwild@bigpond.com	11/1/2017
Preston Photograpy Club	secretary@prestonphotographicclub.net	11/1/2017
BJ Dance	info@bjdance.com.au	11/1/2017
Bootscoot 'n Basics	bootscootnbasics@optusnet.com.au	11/1/2017
Melbourne Writers' Social Group	melbournewriters@gmail.com	11/2/2017
Data Science Melbourne	MeetUp Site Message	11/2/2017
Melbourne Anarchists Club	melbourneanarchistsclub@gmail.com	11/2/2017
Gaia's Garden	tricia@gaiasgarden.com.au	11/2/2017
Victorian Aboriginal Education Association	vaeai@vaeai.org.au	11/2/2017
Northcote Uniting Church	admin@chalice.org.au	11/2/2017
Northcote Cricket Club	northcote@club.cricketvictoria.com.au northcotecc.treasurer@gmail.com	11/2/2017
Friends of Darebin Creek	friendsofdarebincreek@gmail.com	11/2/2017
Darebin City Bowls Club	d.c.b.c@bigpond.com	11/2/2017
Northcote City Football Club	northcotecity@bigpond.com	11/2/2017
Transition Darebin	transitiondarebin@gmail.com	11/2/2017
Bundoora Facebook Page	Facebook messages	11/2/2017
Thronbury Facebook Page	Facebook messages	11/2/2017
Darebin Facebook Page	Facebook messages	11/2/2017
West Preston Baptist Church	wpbc108a@bigpond.com	11/2/2017

Group	Email Address	Date we Emailed
Penguin Club	penguinclub.victoria@gmail.com	11/2/2017
Darebin Parklands Association	info@dpa.org.au	11/2/2017
The Bridge	prestonreception@bridge.org.au	11/2/2017
Darebin Librarys	facebook messages	11/2/2017
Preston City Hall	presthal@darebin.vic.gov.au	11/2/2017
Preston / Reservoir Progress Association	mharper@telstra.easymail.com.au	11/2/2017
Ostara Australia	preston@ostara.org.au	11/2/2017
Northern Community Church of Christ	phil@nccc.org.au	11/2/2017
Inner North Community Foundation	info@innernorthfoundation.org.au brodgers@innernorthfoundation.org.au	11/2/2017
Deep Green Permaculture	deep_green@optusnet.com.au	11/2/2017
Darebin Fruit Squad	fruitsquad@divrs.org.au	11/2/2017
Bunnings	northlandao@bunnings.com.au	11/3/2017
Preston Community Singers	Communitysings@gmail.com	11/3/2017
Your Community Health	media@yourcommunityhealth.org.au	11/3/2017
Local Food Connect	info@localfoodconnect.org.au,	11/3/2017
Darebin Climate Action Now	darebincan@gmail.com	11/3/2017
Reservoir Football Club	reservoirfc@hotmail.com	11/3/2017
Reservoir Neighborhood House	bookings@reservoirnh.org.au	11/3/2017
Darebin Information Volunteer & Resource Services	admin@divrs.org.au	11/3/2017
Northcote Baptist Church	rxli@northcotebaptist.net.au chealey@ northcotebaptist.net.au	11/3/2017
Wildlife Sanctuary Tour / Workshop Participation (Sustainable Homes and Communities Programs events)	info@sustainablecommunties.vic.gov.au	11/12/2017

Group	Email Address	Date we Emailed
Waterway Monitoring Participation (Sustainable Homes and Communities Programs events)	JuliaCirillo@mcmc.org.au	11/12/2017
Maritime Union of Australia	Facebook messages	11/13/2017
National Union of Workers	Website Contact Page	11/13/2017
Aziz Cooper (Darebin Interfaith Council)	aziz.cooper@darebin.vic.gov.au	11/13/2017
University of the Third Age	info@u3adarebin.com.au	11/13/2017
Earth Work Cooperative	laura.williams@foe.org.au	11/13/2017
Darebin Falcons Sports Club	Facebook messages	11/15/2017
Future Futsal	info@futurefutsal.com	11/15/2017

Appendix J -Possible Climate Emergency Plan Article

Volume 1, Issue 1

Darebin Climate Emergency Plan

Darebin City Council

Special points of interest:

- The Council acknowledges that we are in a state of climate emergency
- The Council has already taken action to combat climate change
- The Climate Emergency Plan was adopted in August 2017
- The Climate Emergency Plan includes nine key directions to take action in response to the Climate Emergency
- To learn more visit:

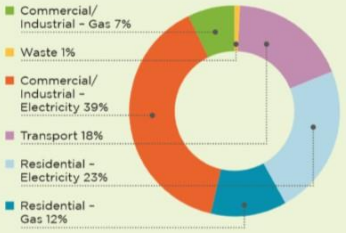
yoursayDarebin.com.au/climateaction

Introduction

The Darebin Council recognizes that we are in a state of climate emergency. Unless we restore a safe climate at emergency speed, there will be dramatic and negative impacts on our community around the world. We are already seeing more intense and frequent heat waves, heavy rainfall and flooding, the bleaching of the Great Barrier Reef, extreme fire weather, and more bushfires.

This is a breakdown of where our carbon emissions in Darebin are coming from:

Darebin Community Emissions 2015/16



The Council has already taken action to combat climate change by providing solar panels to low-income and pensioner community groups and households through the Solar$aver program and by making their our own buildings more energy-efficient. However, if we want to eliminate emissions in the city of Darebin, even more action must be implemented by not only the Council, but the residents as well. Adopted in August of 2017, the Climate Emergency Plan includes actions to help combat the climate emergency. The following article highlights the nine key directions the Council has identified as methods to take action in response to the Climate Emergency.

Key Direction One: Climate Emergency mobilization and leadership

The Darebin community cannot eliminate greenhouse emissions on its own. Therefore, the Council will be partnering with other councils to mobilise State and Federal governments to take action. The Council will also support community groups, build local engagement, and convene a climate emergency conference to bring various levels of the government together with the community to identify strategic action. An organizational review of all Council programs and policies will be completed to ensure alignment with Council's Climate Emergency commitment.

What can I do to help?

- Urge friends and families in other cities to reach out to their councils
- Support local groups who are taking action on the Climate Emergency

Key Direction Two: Energy Efficiency

The Council has identified that the first step in reducing emissions is energy efficiency. This has the added benefit of saving money and making homes and workplaces more comfortable. The Council will increase energy efficiency by switching more street lights to energy-efficient LED lights and ensure that all new Council buildings will be built to a high environmental standard. In addition, the Council will urge governments to help make it easier to make building s more energy efficient

What can I do?

- Install energy efficient appliances wherever possible
- Transition to LED lightbulbs
- Insulate your home

http://www.energyrating.gov.au/

Key Direction Three: Renewable Energy and Fuel Switching

In addition to being energy efficient, it is important that our energy comes from renewable resources that don't produce greenhouse gas emissions. The Council has already provided solar panels for 500 low-income and pensioner households and community groups. This program, Solar$aver, allows the participant to pay the cost of the solar panels back over 10 years through a small extra charge on your quarterly rates payments (Council will pay the cost upfront). Through the Climate Emergency Plan, the Council will make going solar more accessible through a Solar Bulk Buy program, which allows participants to pay up front and have more flexibility in which kind of system they choose. Council buildings will also have more solar panels installed while phasing out natural gas use from Council buildings.

What can I do?

- Visit the Darebin Council website to learn more about solar energy
- Register your interest in solar energy online

Key Direction Four: Zero Emissions Transport

18% of all Darebin's emissions come from transport. To lower these emissions, Council will improve the infrastructure for walking and cycling, and will make accessing public transport easier. Internally, Council will review our own fleet policy to upgrade to low-emissions vehicles. Overall, Council will encourage and facilitate the use of electric vehicles.

What can I do?

- Carpool to work, school, etc.
- Invest in an electric vehicle
- Utilize public transport
- Walk or cycle to work, school, etc.

https://www.premier.vic.gov.au/e-class-trams-set-to-roll-out-on-route-86/

Key Direction Five: Consumption and Waste Minimisation

The rapid depletion of earth's resources as well as our waste problem both contribute to unsustainable consumption. Waste sent to landfill is also a source of greenhouse gases. To combat unsustainable consumption the Council will help the community reduce waste through information, education, and infrastructure.

What can I do?

- Recycle
- Purchase smaller amounts of food at a time so it does not go stale or rot
- Eat less carbon intensive foods (such as meat and dairy)

Key Direction Six: Fossil Fuel Divestment

Fossil fuels are a large culprit of carbon emissions. By taking our investments away from companies that extract and supply fossil fuels (and the Institutions that fund them) we let our money do the talking. The Council will actively invest with fossil-free financial institutions. The Council will also create awareness about divestment and related campaigns. These can then be used to urge government to divest from and phase out extraction and supply of fossil fuels in Australia.

What can I do?

- Assist the Council's awareness efforts by sharing their posts on social media

Key Direction Seven: Adaptation and Resilience

Climate change is already here. While we are doing our best to eliminate and reverse the effects, it is important that we adapt to changes already present. To do so, the Council will increase suitable tree canopy coverage to reduce the urban heat island effect and support urban food production. The Council will also support the community through education programs on retrofitting to adapt to extreme weather and support businesses to become more resilient.

What can I do?

- Retrofit your home to better protect it against extreme weather
- Plant trees and other indigenous plants

Connect with the Darebin Council on our social media!

Want to learn more?

Yoursaydarebin.com.au/climateaction

Key Direction Eight: Engaging the Community

In order to help reduce emissions, the Council and the Darebin community both need to be engaged. The Council has created environmental engagement programs whose aim is to empower the community to take action on the Climate Emergency. The Council will continue to provide information through e-newsletters, workshops, and events. The Council will also help individuals and groups influence the government and inspire change.

What can I do?

- Stay informed through Council events, workshops, and e-newsletters
- Join a climate or environmentally friendly club

Key Direction Nine: Darebin Energy Foundation

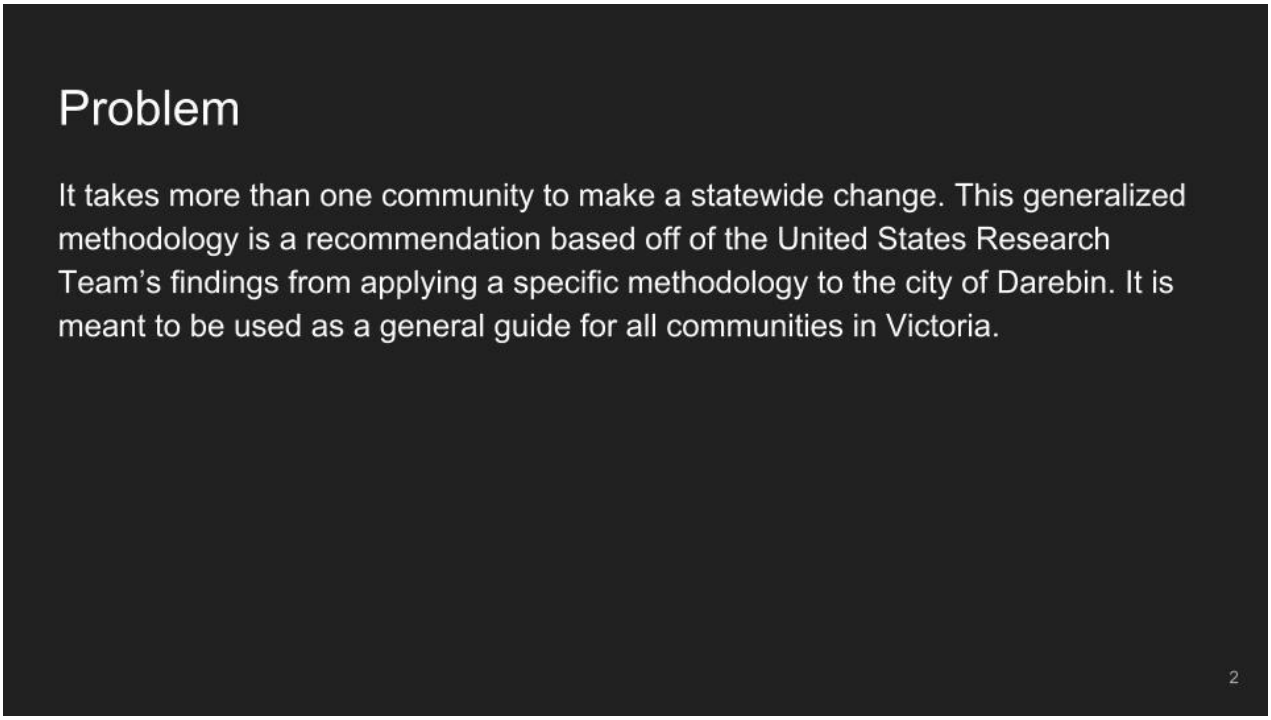
The Council is establishing the Darebin Energy Foundation to accelerate sustained and meaningful action with the community to reduce Darebin's greenhouse emissions. It also intends on embedding community resilience to climate change. The Council has established an interim advisory board to determine the most effective long-term governance model for the Darebin Energy Foundation. The governance model will be considered in February 2018. Council will also look to community members for ideas to combat climate change through the Climate Think Tank.

What can I do?

- Submit an idea to the Climate Think Take
- Provide input on the governance model for the Daerbin Energy Foundation

All information, unless otherwise specified, is an adaptation of the 2017 Darebin Climate Emergency Plan summary. The opinions expressed in this article may not reflect the opinions of individual council members.

Appendix K – Data Collection Presentation for FoE



This booklet includes...

1. Methods to contact constituents.
2. Assess constituent knowledge and positions on current and projected climate change impacts.
3. Ways to identify trends in constituent knowledge, positions, and solutions related to climate change.

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1. Methods to contact constituents.

Get in contact with other climate action groups in Victoria

How:

- Desktop research: http://vcan.net.au/find-a-group/
- Email out to groups explaining the need for a statewide network of climate campaigns in order to make statewide proposals

Why: Uniting with other climate action groups in the state is the first step to creating a statewide presence. Act on Climate should get involved with events and rallies that other climate groups are participating in so that in return, they will gain the same support. A strong network of climate groups across Victoria is more powerful than many individual climate groups.

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1. Methods to contact constituents.

Attend events in other communities in Victoria

How:

- Desktop research: http://vcan.net.au/events/
- Gather AoC volunteers to attend

Why: Attending events in other communities will get AoC noticed and others on board with AoC's goals. This can be an opportunity to gain followers on social media from other climate groups who can then share AoC messages and information to their friends/family in the community. Climate groups in the area may thank AoC publicly and/or on social media for attending their event or rally, making the presence of AoC known by all attendees and/or social media followers.

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1. Methods to contact constituents.

Social media outreach in desired community

How:

- Attend events with other climate groups and have them post your information on their account.
- Use hashtags to trend in areas outside of Melbourne, share posts and news from outside Melbourne.

Why: Reaching out to communities beyond Melbourne can be aided with social media. Social media can reach a larger crowd and is a time-efficient way to become well-known across Victoria.

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1. Methods to contact constituents.

Incentives

How:

- Ask local businesses to support FoE by having them donate an incentive for surveys and kitchen table conversations.
- Allocate AoC funds to a prize.

Why: Sponsored incentives allow local businesses to get advertisement around the area while getting FoE noticed by other community members who support those local businesses. For reaching a broader audience, try asking businesses that are not climate related or ones that target specific age groups.

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1. Methods to contact constituents.

US Research Team Feedback:

What went well

- It is quite feasible to obtain prizes donated by various local businesses.
- Attending events is very effective in getting a response from the community because they feel you care significantly more when going out of your way to ask for their opinion, rather than by asking them via email or a random flyer.

Challenges

- While social media can be a great way to reach all of Victoria, there may be an increase in opposition.
- Posting flyers is not time efficient and will produce little results, whether it be social media followers, survey responses, or kitchen table conversation volunteers.

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2. Assess constituent knowledge and positions on current and projected climate change impacts.

Five minute survey

How:

- Use the recommended survey questions seen in Appendix XXX.
- Appoint an AoC volunteer to create the survey on the survey generator used by AoC. Print physical copies as well. Advertise incentives for survey.
- Apply efficient contact methods to reach constituents.

Why:

A survey is a great way to collect a large amount of data with the only cost being five minutes of the respondents' time (and possibly some paper if physical copies are handed out). Surveys are a good measure of basic knowledge and positions since they consist of mostly multiple choice questions.

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2. Assess constituent knowledge and positions on current and projected climate change impacts.

US Research Team Feedback:

What went well

- Asking age and suburb/postcode was useful for cross tabulation with climate questions.
- Multiple choice and yes/no questions are easy for the respondent to answer and easy to use for cross tabulations.

Challenges

- Asking to specify gender is not as useful for this sort of survey.
- It is difficult to sort hundreds of fill-in questions in a survey; these should be avoided.

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3. Ways to identify trends in constituent knowledge, positions, and solutions related to climate change.

Kitchen Table Conversations

How:

- Prepare several weeks in advance for maximum attendance.
- Email, promote on social media and go to events where there may be community members willing to participate.
- Need: location, facilitator, notetaker, community members, audio recorder (optional)

Why:
Kitchen table conversations are useful for getting multiple community members involved in a discussion about a topic (climate change solutions). These conversations are most efficient in producing identifiable trends in data when multiple discussions are facilitated.

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3. Ways to identify trends in constituent knowledge, positions, and solutions related to climate change.

US Research Team Feedback:

What went well

- Good data and results were received from the kitchen table method.

Challenges

- Only one conversation was conducted due to lack of time and outreach to community.
- All attendees were for climate action; it is important to try to have at least eight community members at the conversation to ensure variety in respondents.

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Appendix L – Suggested Instagram Themes for the 2018 Calendar Year

Month	Theme
January	**AirCon Safe Spaces** (People can identify or promote community centers/public spaces with air conditioning for people to go during a heatwave)
February	**Post your Compost** (Encouraging community members to compost for the month of February and post their pictures)
March	**March (or cycle) to Work** (Encouraging community members to walk or cycle to work/school)
April	**Colder Weather, Veg out Together!** (Promote the food co-op as a good place to get tasty vegan/vegetarian food as well as other local places)
May	**Triple R's** (Reminding people to reduce, reuse, recycle)
June	**How many sustainable buildings can you find this month?** (Have people explore their neighborhoods to find businesses/buildings that are sustainable e.g. solar panels)
July	**Win this Winter by taking Public Transport** (Encourage taking public transport to work)
August	**Winter Waterland** (Conserve water this month! Turn off faucets, reusable water bottles, low flow toilets/showers/faucets)
September	**Spring into Gardening** (Encourage people to start a garden or go to a community/local garden for fresh fruits/veggies/herbs etc.)
October	**Rally for the Climate!** (Encourage people to attend climate/environment rallies hosted by FoE or other organizations)
November	**No Single-use Plastics November** (Give people ways to reuse single-use plastics, encourage them to not use plastics at all)
December	S**hop local for Christmas** (Encourage people to shop local for gifts/food for Christmas)

Appendix M - Sample Month for Act on Climate Instagram

January 2018 - AirCon Safe Spaces!						
Mon	**Tue**	**Wed**	**Thurs**	**Fri**	**Sat**	**Sun**
1 Introduce the theme and photo contest!	**2**	**3** Reminder of photo contest	**4**	**5** Feature Friday	**6** Reminder of collective meeting	**7**
8 Promote collective meeting	**9**	**10** Reminder of photo contest	**11**	**12** Feature Friday	**13** Reminder of collective meeting	**14**
15 Promote collective meeting	**16**	**17** Reminder of photo contest	**18**	**19** Feature Friday	**20** Reminder of collective meeting	**21**
22 Promote collective meeting	**23**	**24** Reminder of photo contest	**25**	**26** Feature Friday	**27** Reminder of collective meeting	**28**
29 Promote collective meeting	**30**	**31** Reminder of photo contest				