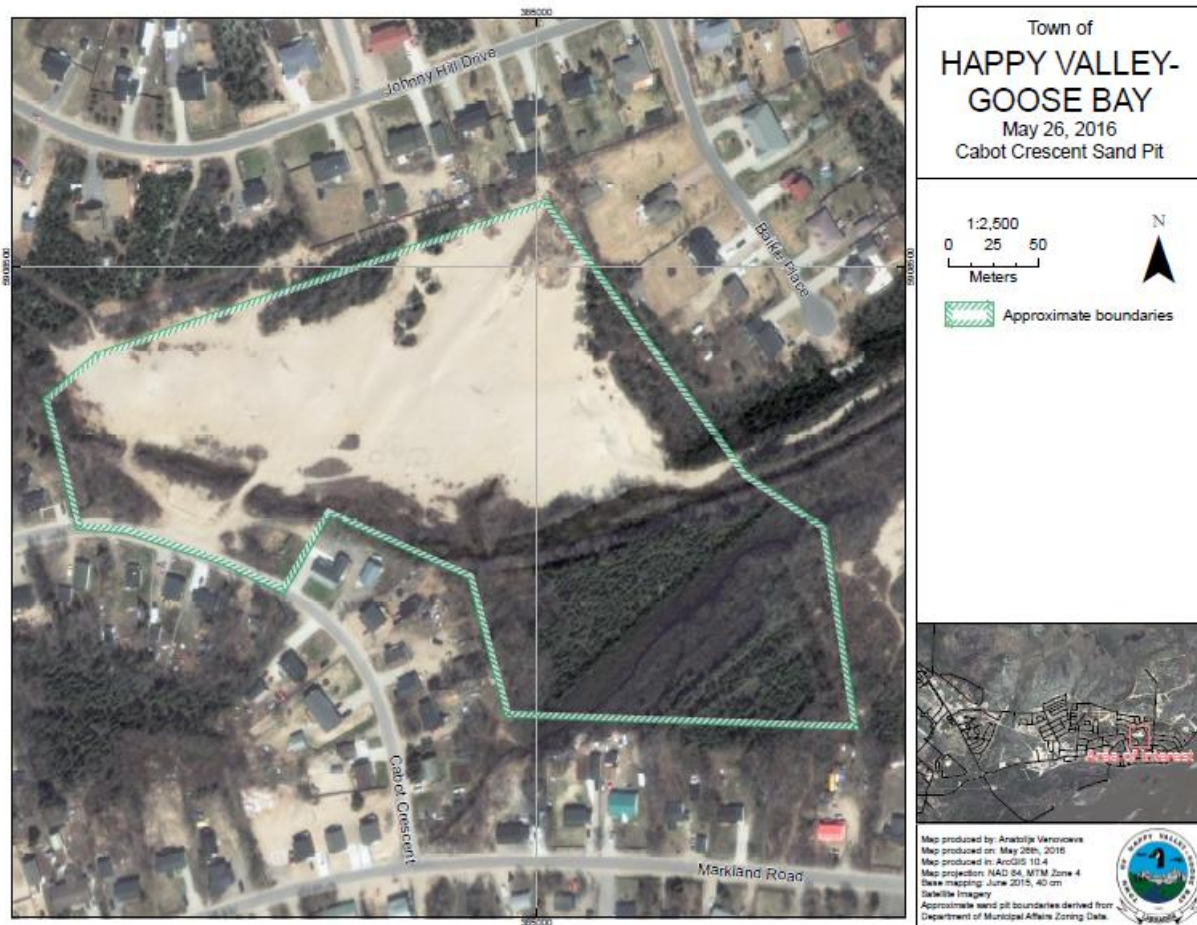




Strategic Plan: Cabot Crescent/Johnny Hill Sand Pit



August 9, 2016
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1.0 Introduction

The Cabot Crescent/Johnny Hill Strategic Plan project began as an interest in the development of a vacant plot of land within a residential area of Happy Valley-Goose Bay. Historically, this land has been used as a sand pit but is currently being used for sledding in the winter as well as a space for recreational vehicle usage. This space has great recreational and environmental potential which can be harnessed to better serve the adjacent neighbourhoods and the community as a whole. Since the goals of this project would be to positively impact the community, it was important to include any community members who wanted to be involved. This was accomplished through an open public consultation session as well as surveys.

As a public health student, my goal was to ensure that this strategic plan would reflect the importance that public spaces have on the health of the community. Therefore, I have included evidence based research to support the findings from the public consultations and survey results. The results of these different community engagement events have shown that the majority of respondents would like to see this space remain open for recreational use. Enhancing the area of interest would attract a broader user group and therefore provide greater opportunity for improvement of physical and mental health within the community.





1.0 Literature Review

This section of the report highlights the importance of parks and green spaces in the context of the built environment. Green spaces have been shown to improve mental and physical health in both children and adults. The importance of having a park or green space within every neighbourhood should not be underestimated as the health impacts are substantial. Some of the current literature will be reviewed in more detail below.

The Built Environment

The built environment is defined as “part of the physical environment that is constructed by human activity” (1). Research surrounding the built environment is becoming much more prevalent due to the increase in urbanization. The Town of Happy Valley – Goose Bay has undergone significant expansion and development in recent years and therefore it is important to consider the influence of development on the health of residents. Research has shown that the ways in which neighbourhoods are designed and developed can significantly impact health and wellbeing outcomes (1). A well designed neighbourhood includes “access to affordable housing, with facilities, services, and social (eg, schools, and child care) infrastructure accessible by public transport, walking, and cycling” (1). These features can promote healthier lifestyles among residents and actually reduce the risk of chronic disease as well as improving social, cognitive and emotional development in children (1).

The following discussion will highlight the effects of the built environment in reference to green spaces, such as parks, and how these spaces can impact the mental and physical health of individuals. This research, along with the support of the community identifies the reasons why developing the Cabot Crescent/Johnny Hill space is so important.

Effects of Green Space on Mental Health

Hospitalizations due to mental health issues are much more common in Labrador when compared with the rest of Canada. Approximately 2000 individuals were hospitalized due to mental health issues within the Labrador Grenfell Health Region in 2011 (2). This is over double the national average (934 individuals hospitalized in 2011). Obviously this means that there are serious issues with mental health here in Happy Valley – Goose Bay and throughout Labrador, therefore, it is important to create an environment which is conducive to good mental health.

There has been increasing amounts of research conducted to determine if green space has a positive impact on mental health. Van den Berg and colleagues (3) conducted a study within four European cities; they found that there was a positive association between visiting green spaces and subsequent self-perceived mental health and vitality. Cohen-Cline and colleagues (4) found similar results in a twin study conducted in the United States. The authors wanted to control for potential genetic and environmental variability which explains the advantage of using identical twins as the participants. Results showed that access to a green space had a significant inverse relationship with depression, although, this relationship was not deemed significant for other



mental health issues such as anxiety and stress. Pope and colleagues (5) also published significant results for a study conducted within the United Kingdom. They found that accessibility and quality of green spaces were associated with a reduced risk of mental health symptoms such as anxiety and stress.

Effects of Green Space on Physical Health

One of the most commonly studied physical health modifiers related to green spaces is that of physical activity. The current recommendations for physical activity in Canada are 150 minutes per week for adults and 60 minutes per day for children (6). Currently, 85% of Canadian adults and 93% of children are not meeting these recommendations (6). Insufficient physical activity can lead to a plethora of health problems including obesity, cardiovascular disease, diabetes and mental health issues (6). Coombes and colleagues (7) studied the effects of accessibility to green spaces and physical activity in the United Kingdom. Their results showed that the further an individual lived from a formal green space, the less likely they were to achieve the recommended daily level of exercise and the more likely they were to be overweight or obese. These results were significant even after controlling for potential confounders such as socioeconomic status. A study by Roemmich and colleagues (8) found similar results when observing whether proximity to green space had any effect on levels of physical activity in children. They discovered that presence of a neighbourhood park was significantly associated with increased physical activity in children, and therefore, these green spaces should be considered an important part of neighbourhood design. Janssen and Rosu (9) studied the impact of undeveloped green space and free-time physical activity in Canadian children ages 11-13. They found that each 5% increase in the proportion of a child's neighbourhood covered by treed areas resulted in a 5% increase in the child's level of physical activity outside of school hours. Based upon these results it is pertinent to consider the importance that natural or undeveloped green space has within the built environment.

While green space has a pleasant impact on the town from an aesthetic point of view, it can provide much more than that. Development of a park within a neighbourhood, such as the Johnny Hill/Cabot Crescent area, that is currently lacking green space can help improve physical and mental health of residents.

2.0 Research Methods

This section will discuss the different steps which were taken to develop this strategic plan. There were many different aspects of community involvement and consultation which were combined to ensure that the voice of the residents of Happy Valley – Goose Bay was being heard. The outline of the research completed is highlighted below, further detailed information can be found in the references appendices and attached data documents.



Stakeholder Engagement

One of the main goals of the strategic plan development was to involve as many different parties as possible and include their knowledge and expertise. Different stakeholders were interviewed and their comments were compiled. The background of each stakeholder was different and included individuals involved in research at the Labrador Institute and Labrador-Grenfell Health professionals within injury prevention and health promotion. Individuals from the arts community within Happy Valley-Goose Bay were also interviewed as well as individuals from various sporting and recreation groups within Happy Valley-Goose Bay. Each stakeholder was asked how they would like to see the Cabot Crescent sand pit developed and all comments were divided into common themes. These themes were then labelled and a proportion calculation was done to determine the popularity of each topic discussed. The results of these interviews are discussed in further detail in Section 4.0. An index of all individuals who were interviewed is listed in Appendix A.

Community Engagement

Residents of Happy Valley – Goose Bay were advised of the project and the effort being made to collect input via many different avenues. The information was posted on the Town of Happy Valley – Goose Bay Facebook page as well as other Facebook pages associated with the Town. Information about the project was also featured in local news and on CBC in order to increase awareness. An effort was made to reach as many people as possible to ensure that any individual who was interested in providing their opinion was aware of how they could do so.

The community engagement portion of the project was comprised of two different segments. Initially, a community consultation session was held and an open invitation was issued to all residents of Happy Valley – Goose Bay. This session was organized as a “World Café” style discussion for residents to voice their opinions and concerns about the project. The participants were broken up into groups and a question concerning the project was asked. The group discussed their thoughts and all comments were recorded. The participants changed tables and were asked another question. The session took approximately one hour to complete. This initial consultation was also used to test the development of a survey which was made available online to all residents of the Town of Happy Valley – Goose Bay. The questions asked and results from the community consultation session are discussed further in Section 4.0 and can be found in detail in the attached excel file. A proportion calculation was done in the same way as with the stakeholder consultation; themes were created and proportions were calculated to determine the popularity of each topic discussed.

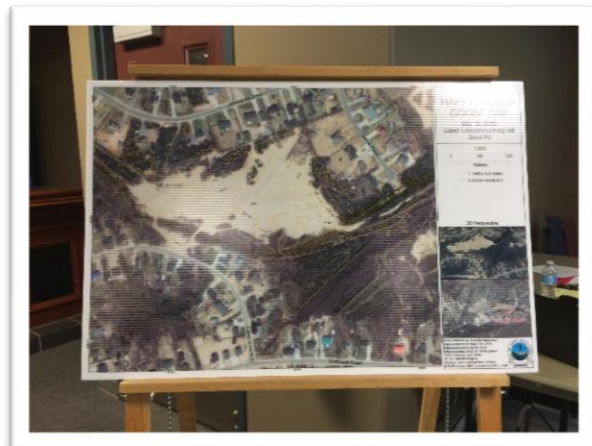
After the community engagement session, there were other community outreach efforts in an attempt to include a broader array of the population. A booth was placed at the CO-OP grocery store, the annual Firefighters Flea Market and the Bike Rodeo in Kinsmen Park. Happy Valley – Goose Bay residents were invited to fill out a survey, place their ideas on a map or discuss their thoughts directly with the booth attendee. All types of input were included when compiling the results.



After these different community outreach sessions had been completed, the second phase of the consultation began. This phase was focused completely on collecting information via survey. A sample of the survey can be found in the attached documents. The survey was used to collect more quantitative data and a focus was placed on ensuring a significant, random sample of HV-GB residents. It was determined that the individuals which would most effected by the development would live within a 400-meter radius of the area of interest (10, 11). This is also the maximum distance that the average person would walk to reach a park or recreation area (10, 11). This area was mapped out and a list of addresses was obtained, although for the purposes of this project, the maximum radius was extended to include all streets within the Johnny Hill subdivision. The list of addresses and map of the impact area can be viewed in the attached documents.

A sample size was calculated (see Appendix B) and randomly selected residents were asked to fill out the survey. Attempts to contact residents was done via door-to-door solicitation as well as telephone surveying. Residents were able to submit the survey from May 30th, 2016 to June 24th, 2016, there were 250 surveys submitted which allowed for a 95% C.I and 6.1% margin of error based upon the town population of 7995. This means that if we conducted the survey with a different group of people, we would receive the same responses 95% of the time with a 6% margin of error (See Section 4.0 for detailed statistical calculation).

The results from both the stakeholder engagement and community engagement and surveying were collected and assessed. From the interview data we were able to determine common themes of interest and the survey data showed what featured residents would like to see in the development. This data is compiled and available in detail in Section 4.0.





Research Limitations

While there was an encouraging level of interest from the community towards this project and the survey, there are some limitations which need to be discussed.

There was inherent bias in this project as town council had a preconceived idea of how they would like to see the area developed. There was an interest in seeing the area be developed into a community space and park, therefore, this bias was passed forward to the research, the survey and the consultation design. As I was the sole researcher on this project and already had a preconceived notion of what the final result should be, this created bias in the way I conducted the study. The survey was based solely upon questions surrounding parks and recreation with only the first question being open-ended to allow individuals to respond how they would like. This first question served as a way to validate the survey and insure that individuals were actually interested in seeing a park space.

Also, one needs to consider that an increased number of respondents for the survey would have reduced the margin of error and potentially allowed for an increase in the confidence interval used. This means that an increase in the number of respondents would have increased the reliability of the data collected.

Another issue with this type of research is volunteer/participant bias. This bias is inherent in this type of data collection due to the fact that individuals self-select to participate. The individuals who participate are more likely to be interested in the project or have a vested interest in the outcome of the development and therefore may not be representative of the opinion of the majority of the population.

These limitations need to be included as they are relevant to the accuracy and reliability of the data in this report.

3.0 Results

This section highlights all of the results collected from each different aspect of public consultation. All results are presented in chart form but are available in full detail within the attached data file.

Stakeholder Consultation

The stakeholder consultation was the first step in the strategic planning process. It allowed for the development of some ideas and potential collaborations as well as helping to build the framework for the public consultation and survey. There were 12 individuals interviewed in total, all of whom had diverse backgrounds and were able to offer unique input. All stakeholders were in agreement that the space should be developed into a space for recreation. Each individual then made suggestions as to how to best accomplish this. All of the stakeholders' comments



during each interview were collected and organized into common themes. Below is the overview of all interviews organized to highlight the most common responses. A list of acknowledgments of all stakeholders which participated in the interview process can be found in Appendix A.

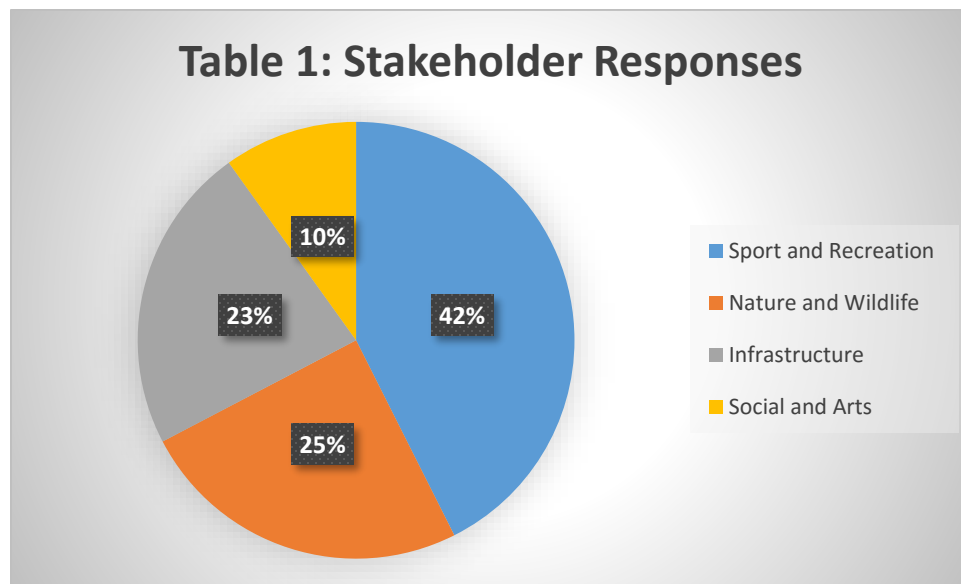


Table I: The most common theme discussed by stakeholders was that of Sport and Recreation. Followed by Nature and Wildlife and Infrastructure with the least common point of discussion being Social and Arts.

The majority of stakeholders were most interested in seeing the Cabot Crescent/Johnny Hill sand pit be used for sport and other physical activity. There were many different suggestions made as to how to incorporate physical activity into the park design. One of the most popular suggestions was the development of a walking and running trail. It was proposed that this trail be designed so that it is accessible to all age groups – with special consideration for seniors with mobility issues. There were also suggestions to include a bicycle trail which could be incorporated into the current bicycle trail system within the town. Other common ideas included playground equipment, improvements to the current sliding hill as well as installation of outdoor exercise equipment.

The second most common theme of discussion was that of nature and wildlife. Many stakeholders were interested in seeing the area become revegetated and the idea of having a green space was mentioned on many different occasions. The idea of a community garden was mentioned multiple times as well as the need for natural, self-sustaining vegetation which would attract local wildlife to the area. There is currently a small creek which runs through the area and many stakeholders, as well as other members of the community, discussed how this creek used to be much larger and a more substantial habitat for fish and other wildlife. This discovery spurred



discussions with one of the stakeholders interviewed for this report, Healthy Waters Labrador (HWL). HWL has expressed a keen interest in the revitalization of the creek as part of their commitment to the health of waterways. Collaboration with this organization would be integral to the success of the rehabilitation of the creek and subsequent revegetation of the surrounding land. Replacing the sand pit with a green, vegetated area would have an immediate impact on the usability of the site and increase the number of individuals wanting to use the area.

Infrastructure was the next most common theme of discussion among stakeholders. The main ideas which were discussed were that of signage – ensuring that users of the park know the rules and regulations. Inclusion of educational signage about native plants and other park features was suggested as well. Stakeholders also discussed the inclusion of an accessible power source that could be used for functions held in the park, additional lighting in the area and an indoor rest stop and washroom facilities.

Lastly, stakeholders had ideas which fell under the context of social events/engagement and arts. The inclusion of a BBQ pit or picnic area was mentioned multiple times as a way to encourage social gatherings in the park. Also, the presence of a gazebo or bandstand structure could serve as a multipurpose structure for community events. Lastly, some stakeholders discussed the potential for the inclusion of sculptures and art made by local talent. Sculptures could be designed with children's play in mind so that they beatified the space as well as serving as a play structure.

Public Consultation

The public consultation was an integral part of this project as it allowed anyone in the community who had an interest in the development of the sand pit to come and express their thoughts and concerns. This consultation was completed in a “World Café” style where participants discussed each question posed with a different group and all comments were recorded. The data collected will be broken down by question below:



Question 1: How would you like to see this area developed?

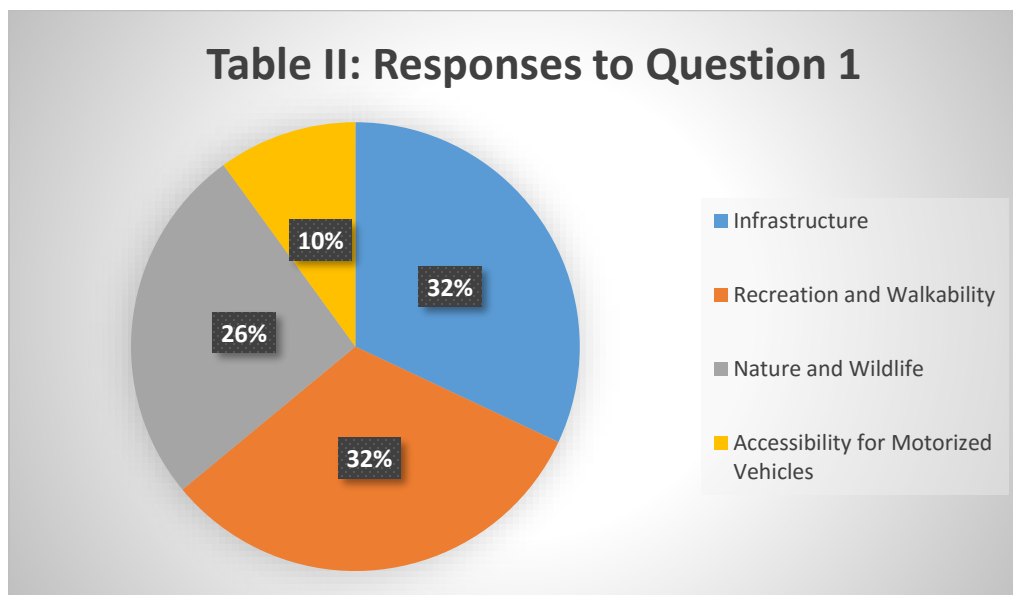


Table II: The most common theme discussed by participants was a tie between Infrastructure and Recreation and Walkability. Nature and Wildlife was the next most popular topic with Accessibility for Motorized Vehicles being the subject least discussed.

The majority of participants were eager to see developments in infrastructure as well as recreation and walkability. These two themes encompassed most of the discussion. In terms of infrastructure, participants discussed things such as a BBQ pit and picnic area. Benches were also mentioned multiple times especially when considering accessibility for the elderly or individuals with mobility issues. A gazebo and improvements in lighting were also ideas brought up during discussion.

Recreation and walkability was also a commonly discussed theme. Participants were very interested in developing trails specifically for walking within the park with the hopes that these trails could connect with others throughout town. Installation of a boardwalk was discussed as a way to improve accessibility. In terms of recreation, there was a lot of discussion around the sliding hill with residents wanting to see the hill improved and better maintained.

Nature and wildlife was also discussed fairly frequently, participants wanted to see more effort made to create a green space in the area by planting grasses and trees. There was also an interest in enhancing the brook which currently runs through the plot of land as it would serve as a pleasant walking area.

Lastly, the topic of accessibility for motorized vehicles was discussed. The area currently serves as a space for a groomed snowmobile trail in the winter and it is used for a variety of motorized



vehicles in the warmer months. Some participants wanted to see access remain open for motorized vehicle users, although some individuals were concerned about the proximity of the trail to the sliding hill. It is important to work with this specific user group in order to resolve the issue of allowing motorized vehicles into the space. The Snowmobile Club is a stakeholder in this report and they are open to working with the town to create a safe environment for all individuals who would like to use the space.

Question 2: What are the benefits of an outdoor space for you?

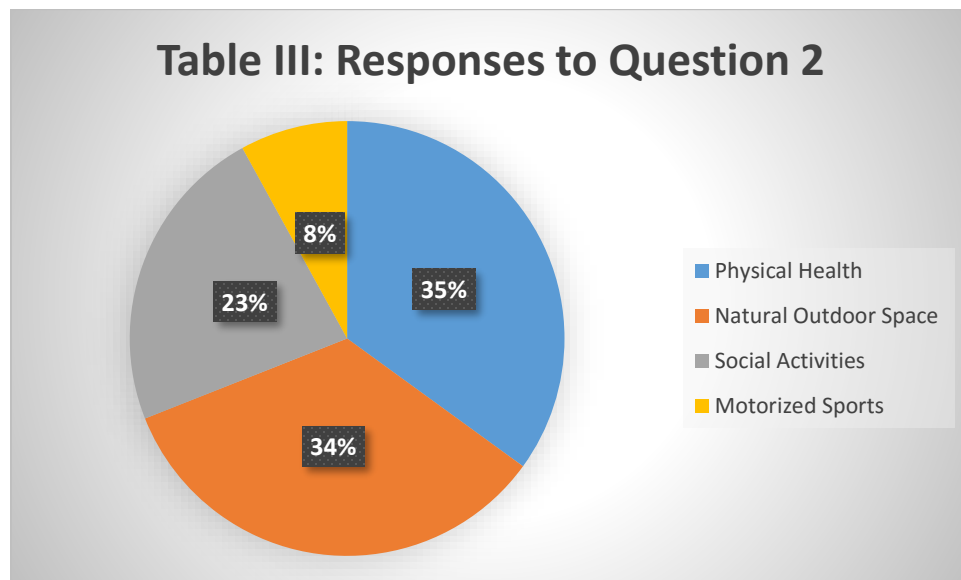


Table III: The most common theme discussed by participants was Natural Outdoor Space, followed by Physical Health. Social Activities was the next most common point of discussion with Motorized Sports being the topic least discussed.

The most common theme of discussion was concerning the presence of a natural outdoor space. The majority of participants considered the inherent value of space of this nature to be most important to them. Many individuals suggested the fact that an outdoor space simply provides an area to “get outside”, “get fresh air” and “it is nice to look at”. Other individuals considered an outdoor space from an environmental point of view in that it provides a habitat for different plants and animals. Participants also discussed how natural outdoor spaces made the community beautiful and creates a space which has no danger of traffic therefore improving safety and accessibility.

Physical health followed closely behind natural outdoor space as a common theme of discussion. Many participants felt that an outdoor space provided the community with a place to take part in



physical activity and an area in which children can play. Individuals also discussed how having an outdoor space within your neighbourhood can be motivating for individuals struggling to be active as it can provide a place to exercise at no cost to the individual. These factors all contribute to a healthier community as a whole.

Social activities were the third most commonly discussed theme. Participants described an outdoor space as important due many different social aspects such as a place to see and meet other families as well as a place to socialize and gather for different events.

Lastly, there were some participants who mentioned an outdoor space being beneficial in that it provides a place to use motorized vehicles. This sentiment was not echoed by many participants and highlights the need for motorized vehicle users to work together with the town to ensure that all user groups can find balance. Some participants discussed how they enjoyed outdoor space because of the lack of vehicle traffic, this directly conflicts with the interests of snowmobilers, ATV users, etc. Working to reconcile this difference is an important consideration when designing this park.

Question 3: What do you not want to see in this area?

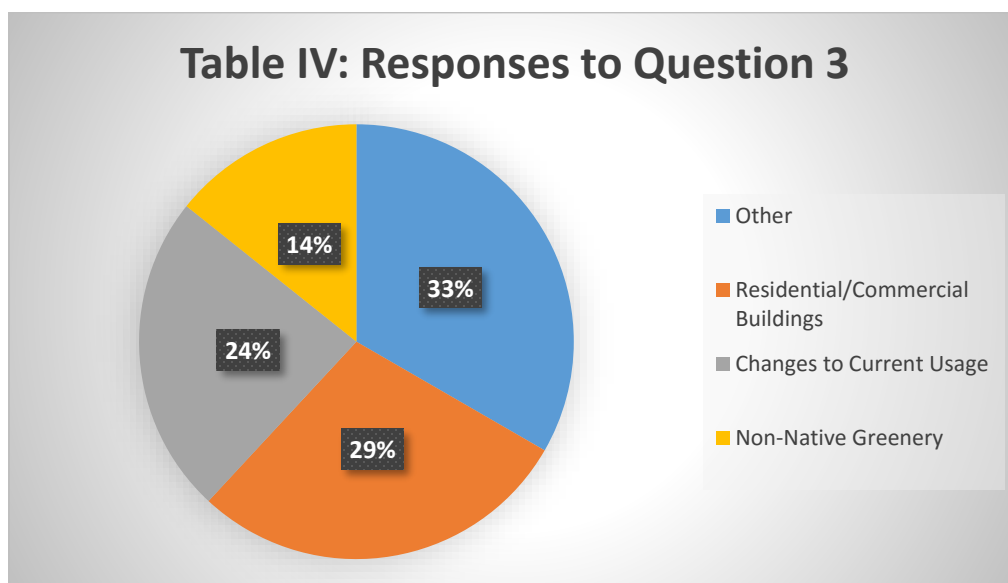


Table IV: The most common theme discussed by participants was Residential and Commercial buildings, followed by Changes to Current Usage and finally Non-Native Greenery. Many of the items discussed could not fit into a strict category, therefore, they were labelled as “Other” and are discussed in further detail below.

For this question, participants discussed features that they would not like to see in this area. The responses to this question differed from the ones before it due to the fact that many responses



could not be grouped into themes or categories. Therefore, the majority of the responses have been labelled as “other”. Responses placed in this category were things such as “a cookie-cutter playground” or “similar to other playgrounds in town”. Also mentioned was the desire to avoid the inclusion any fencing or cement. Participants also discussed not wanting to see an ATV park or motorized vehicles in the area.

Participants were very clear in their opinion that they did not want to see any residential or commercial developments in this area. This topic was brought up by many different participants and there was no one in disagreement over this issue.

There was also discussion concerning changes in current usage of the land. Many participants wanted to see the sliding hill remain intact and this was very important to them. The participants described the sliding hill as one of the only areas which children can slide in town, and therefore, it is important that this is not removed. There were also concerns about changes to the snowmobile trail. Some participants were concerned that they would lose access to the trail if the area was developed into a park.

Lastly, participants discussed their desire to avoid non-native greeneries if possible. They were concerned about the sustainability of plant life which wasn’t local to the region, and therefore, they would rather see local species thrive in the area to reduce maintenance costs.



Question 4: How would you improve the park system?

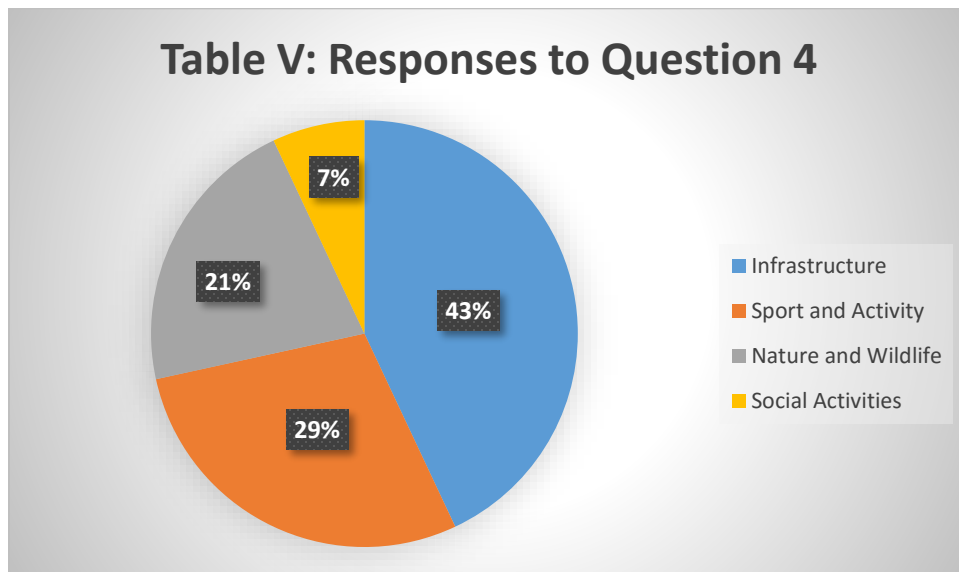


Table V: The most commonly discussed topic was changes in infrastructure elements, followed by improvements in sport and activity. The third most discussed theme was that of improvements in nature and wildlife features and lastly, there was discussion around social activities and the current park system.

This question was more of an appraisal of the current park system and in what areas participants would like to see improvements. Determining what is currently lacking in the park system will help to guide the development of this new park.

The most commonly discussed theme was that of improvements in infrastructure. There were many different specific examples mentioned throughout the discussion. Participants talked about improvements in lighting, installation of bear proof garbage containers, greater number of benches and other seating areas as well as improvements in availability of parking and an update of old playground equipment.

The next theme discussed was sport and activity. Participants talked about the need for interconnectivity of green spaces and trails in order to improve accessibility for walkers/runners and cyclists. There was also discussion around the creation of a specific area for ATV's and dirt bikes in order to reduce traffic within current park areas. "Work out" or recreational equipment and other more adult-centric activities were also discussed as a way to improve the current park system and encourage a broader array of age groups to use these spaces.

Nature and wildlife was another topic discussed by participants. Many individuals suggested revitalization, covering sand and more grass and trees as ways to improve park areas and as a



way to improve the plot of land in question. Participants also discussed the inclusion of water features whether it be fountains, ponds or a splash pad and the rehabilitation of waterways.

Lastly, was discussion around social activities which take place in parks/playgrounds and green spaces. Participants talked about holding events at the park and bringing people together for sports and activities as a way to build social networks and increase the usage of parks. Someone also mentioned the farmers market as a way to improve park usage.

Survey Results

There were a total of 250 surveys received by the closing date of June 24th. Of these surveys, 212 were fully completed and 38 were marked as incomplete because the respondent did not answer all of the questions within the survey. The incomplete surveys were still counted as a valid submission and number of non-responses are noted for each question. The survey had 14 questions in total and asked participants their thoughts on the Cabot Crescent/Johnny Hill land as well as the current park system. There were also demographic questions asked. The survey was opened to all residents of Happy Valley – Goose Bay and it was made available online and as a hard copy.

Question 1: How would you like to see this area developed? What are your ideas about how we can use this space to benefit the community?

This question differed from every other question on the survey in that it was open ended and participants could respond however they liked. This question served as a validation for the rest of the survey to ensure that participants did want to see a park developed. The vast majority of respondents (over 90%) made comments concerning their desire to see a park or green space. Below are some quotes from respondents, a complete list of all responses can be found in the attached data document.

Comments:

"I would like the area to be restored not developed. Vegetation has been eliminated from most of the area. Work with a group like Healthy Waters Labrador to have a natural area with walking trails, interpretive signs, an area to walk your dog on a leash. No access to motorized vehicles i.e. Dirt bikes, side by sides, and ATVs."

"I would like the area to remain a natural space with trail systems for snowmobiles/bikes/ATVs etc, and the existing creek. The hill should be kept as a sliding hill in the winter. It would be nice to see playground equipment back there again and the sand be covered with something like grass. Seating and picnic areas would be nice."

"I think this area would be best developed as a green space with a playground for the kids and a nice seating area for the adults in one area. The unfortunate part of this is that there would need to be lighting and possibly cameras installed to curb vandalism but the Community Enforcement Officer could be used in this capacity. A nice sliding hill with the possibility for a lift to take sledders back up the hill. Also a nice walking trail in the summer which would double as a skidoo or ski trail in the winter."



“Community playground, sliding hill, and use some of it for grassed off area for families who want to picnic or relax outside with family. Safe access trail for ATVs and snowmobiles built in and make sure there is parking!”

Question 2: How often have you used parks, playgrounds and/or outdoor recreation areas within the Town of HV-GB in the past year? The usage may have been for organized sports, play, picnics, walking, etc.

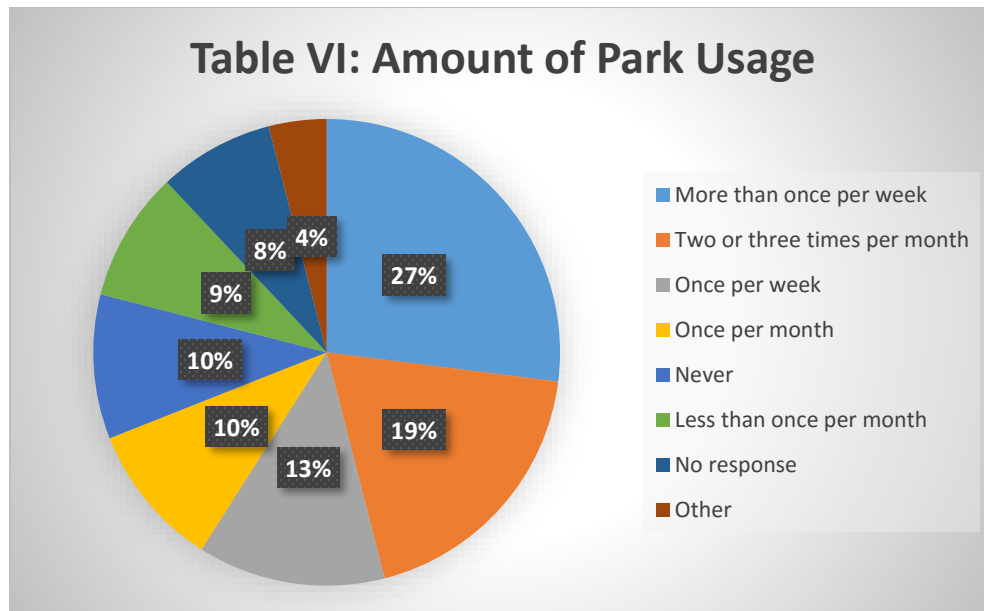


Table VI: The amount of park/recreational area usage of each respondent over the past year.

The majority of respondents used parks/playgrounds or recreational spaces at least once per week with 60% of respondents using recreational spaces at least two or three times per month. Therefore, the majority of respondents do use these spaces on a regular basis.



Question 3: In the past year, what was your most common form of travel when going to a park/playground/recreation area?

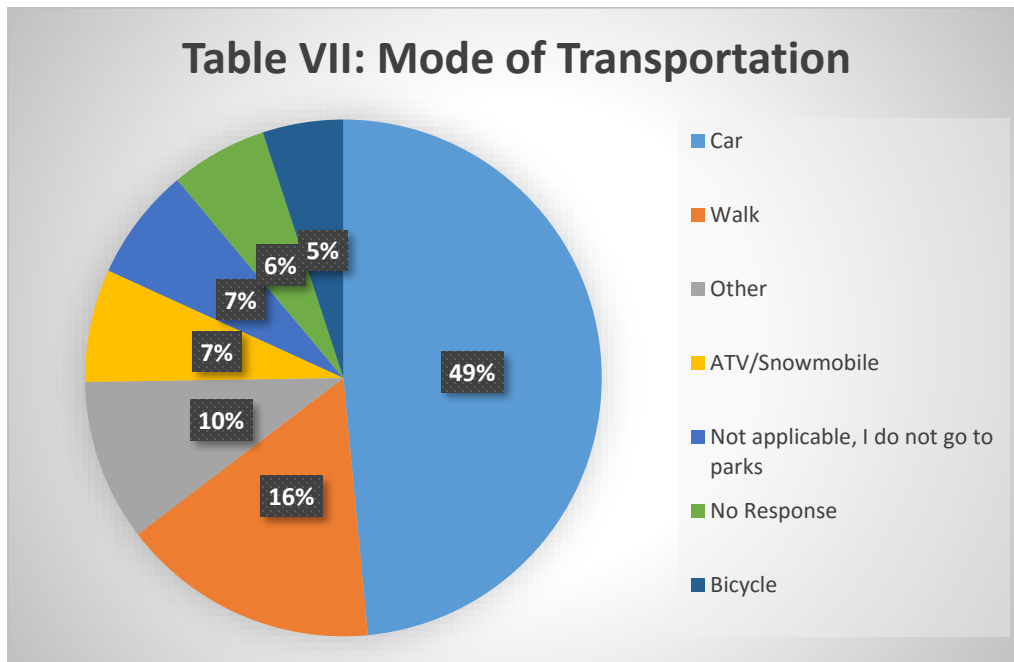


Table VII: Most common mode of transport for respondents over the past year

Almost half of all respondents identified car as their most common form of travel. This identifies a potential lack of recreational spaces in the neighbourhoods in which these individuals live. It may also be an issue of walkability of their area. Unsafe walking areas, such as a lack of sidewalks or an abundance of traffic would reduce an individual's willingness to walk to a park even if it is close by. As mentioned in Section 3.0, it has been determined that the average individual will only walk approximately 400 meters to reach a park, any further and they will either not visit or choose to take some form of transportation (10, 11). Developing this park will ensure that the surrounding neighbourhoods have a park within walking distance to their homes, this will increase physical activity in these neighbourhoods and improve overall health.



Question 4: What are the most important benefits of an outdoor community area for you?

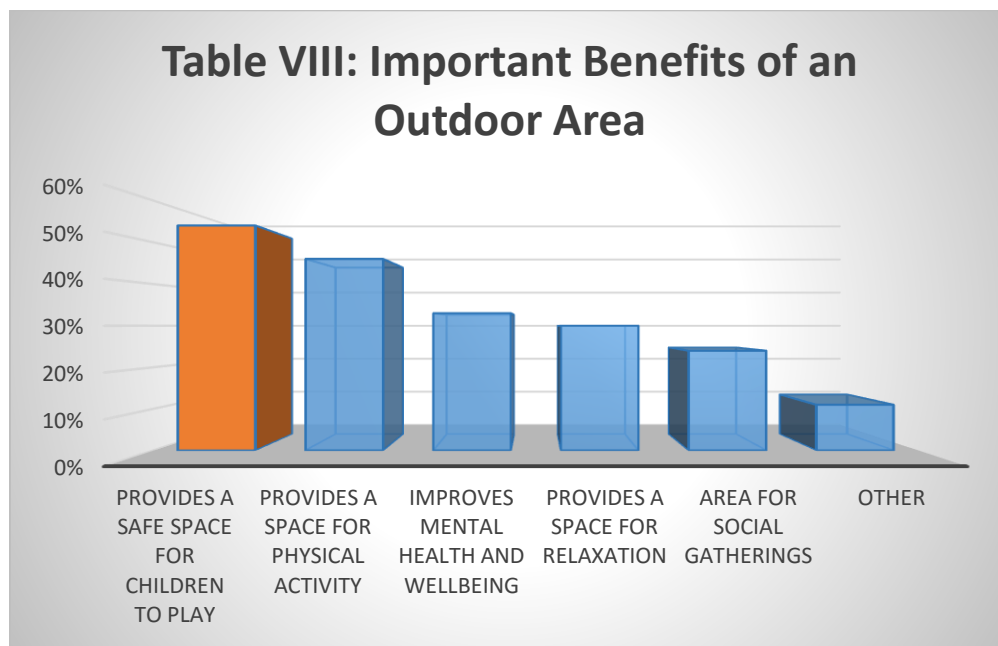


Table VIII: The most important benefits of an outdoor community area in order of the most popular responses to least popular. Respondents were able to select more than one answer.

The most popular response for this question was that an outdoor area provided a safe space for children to play with 54% of individuals choosing this answer. The next most popular response was how an outdoor space provides a space for physical activity (46% of individuals selected this response). These responses highlight the importance which respondents place on recreational areas for children and how these spaces can be a place for physical activity for all age groups. It should also be noted that almost 50% of respondents has youth under the age of 18 living in their household, this may explain why there was an emphasis placed on benefits for children.



Question 5: What are some problems you currently see within the Town of HV-GB park system?

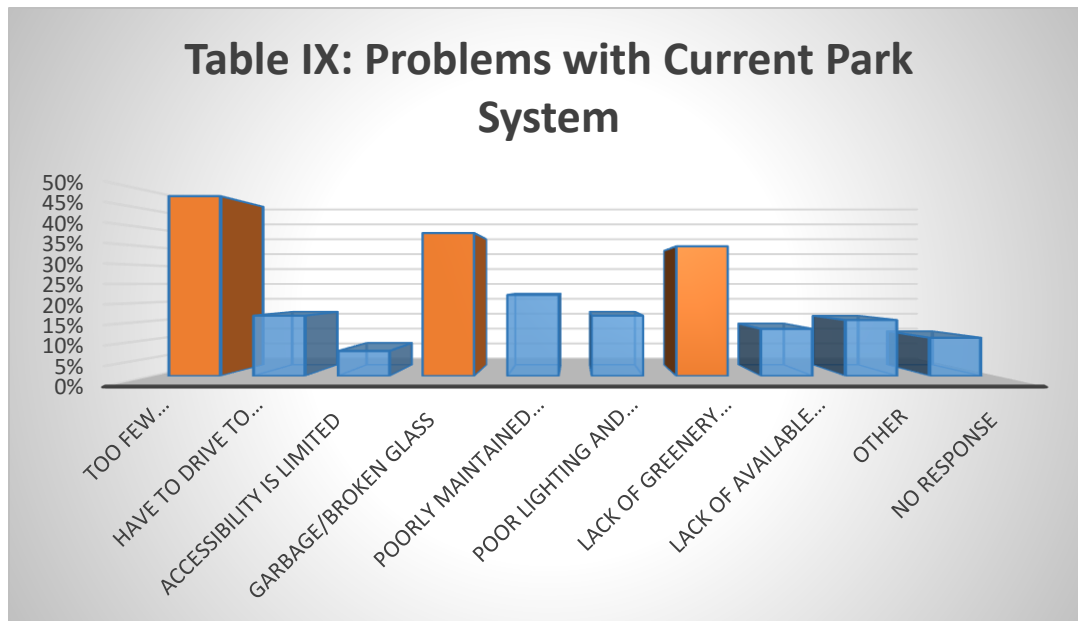


Table IX: Respondents were asked to select the three most common problems or issues they have seen within the current park system. The most popular answers are highlighted orange

This question is meant to evaluate the current park system and issues that respondents see currently in order to guide the development of a new park. Since participants were able to select three options, the top three responses have been highlighted. The most popular response (49% of individuals selected this answer) being that there are too few parks/playgrounds/outdoor recreation areas in Happy Valley – Goose Bay. The second most common response, with 39% of people selecting this answer, is the presence of garbage and broken glass. The third most common response, with 35% of individuals selecting this answer, was a lack of greenery (trees, grasses, native plant species, etc).

Almost half of respondents have identified a lack of parks as being a major issue within the park system, this highlights the need for a park development in the Cabot Crescent/Johnny Hill area. It also offers further explanations as to why 50% of respondents also identified car as their most common form of transport to a park/playground. There aren't enough parks for everyone to be able to live within walking distance which reduces the accessibility of these areas for those who do not have access to vehicles.



Question 6: If you could make one improvement to the Town of HV-GB park system, what would it be?

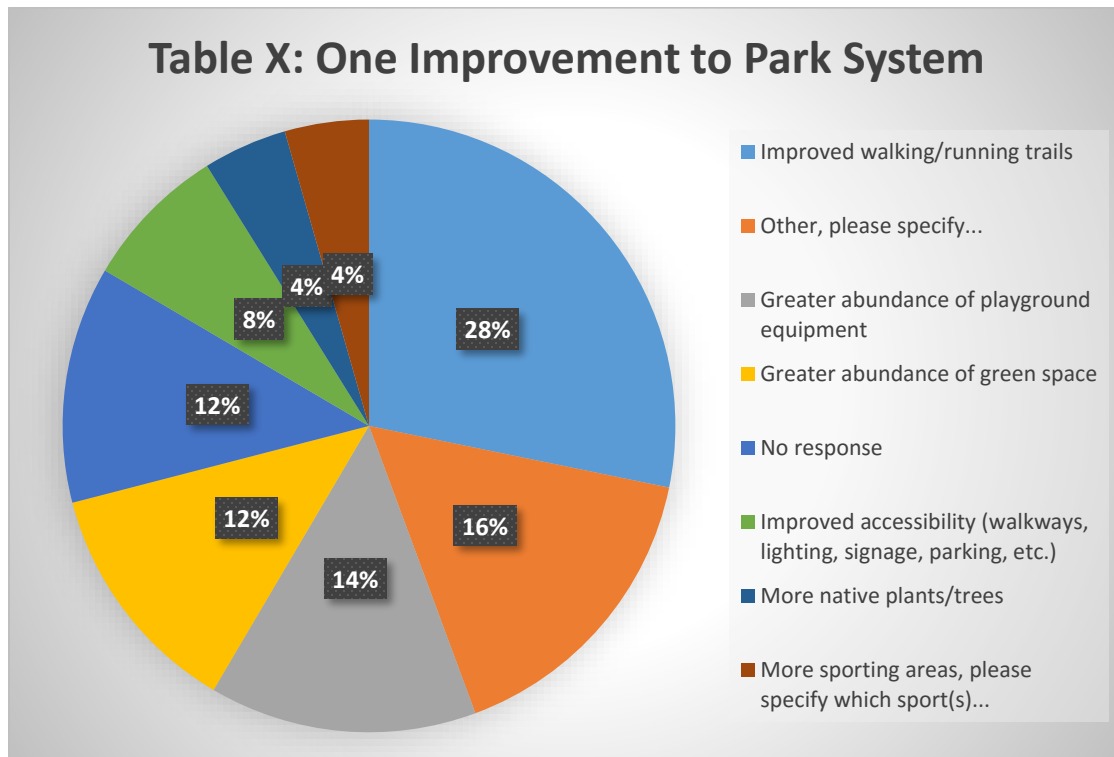


Table X: Respondents were asked to choose the one most important improvement that could be made to the current park system.

This question only allowed respondents to choose one option. The responses were fairly spread out with the most popular response, improved walking and running trails, only being chosen by 28% of respondents. This shows that while the majority of respondents identify common problems with the park system (Question 5), they had difficulty in deciding on the one most important improvement that they would make. Many respondents selected other and wrote multiple comments and almost all respondents were in some semblance of agreement. Some of the comments from individuals who responded “other” are quoted below:

Comments

“Greater abundance of green space, improved walking/running trails and improved accessibility”

“Areas should be networked for walkers and bikers”

“More playground equipment, more green space and improved walking trails”

“Improved walking/running trails and a BBQ/picnic area for family gatherings”

“More green space and plants/trees”



Question 7: If you could design an outdoor community space for use in the summer, what features would you include?

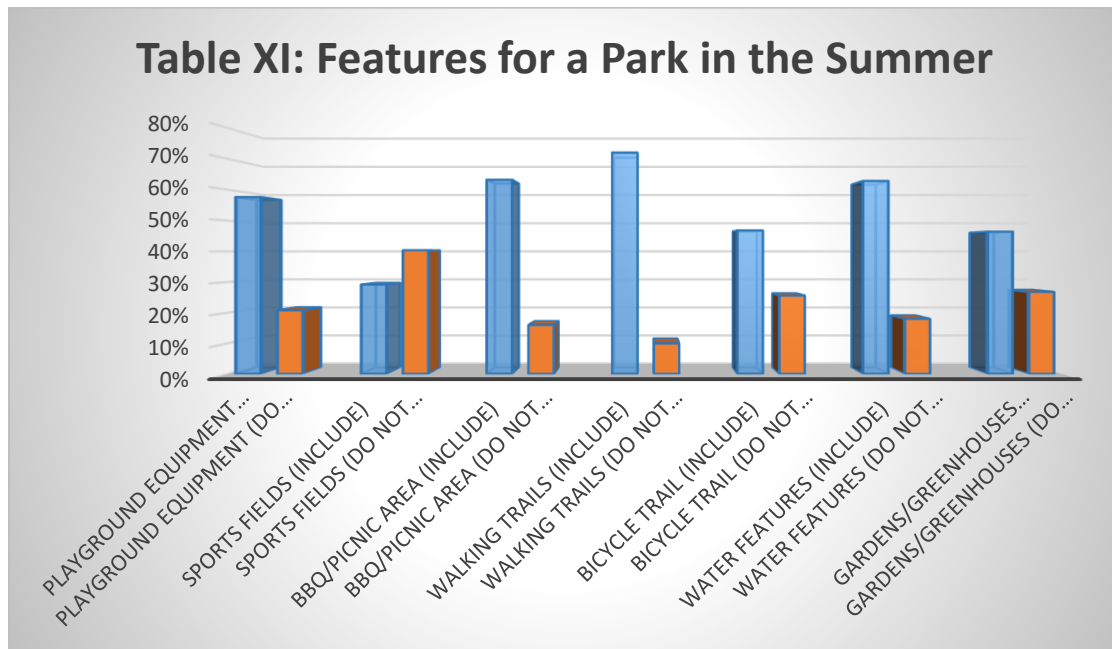


Table XI: This table shows features selected by respondents to include in a park during the summertime. Blue bars indicate that the respondent wanted to include the feature whereas orange bars indicate that they do not want to see that feature included.

For this question, respondents were asked to select either “Include” or “Do not Include” for each feature listed. The most popular item to include (72% of respondents chose to include) was walking trails. This corresponds with the majority selection in the Question 6 which was centered around walking trails as well. BBQ/Picnic area, water features and playground equipment also received the support of over 50% of respondents. The only option which did not receive support was that of sports fields, the majority of respondents would not include this feature in a new park/recreation space. This also corresponds with Question 6 in that only 4% of individuals selected sports fields as a way to improve the park system. Therefore, the assumption can be made that respondents are relatively happy with the selection of sports fields that are currently available.



Question 8: If you could design an outdoor community space for use in the winter, what features would you include?

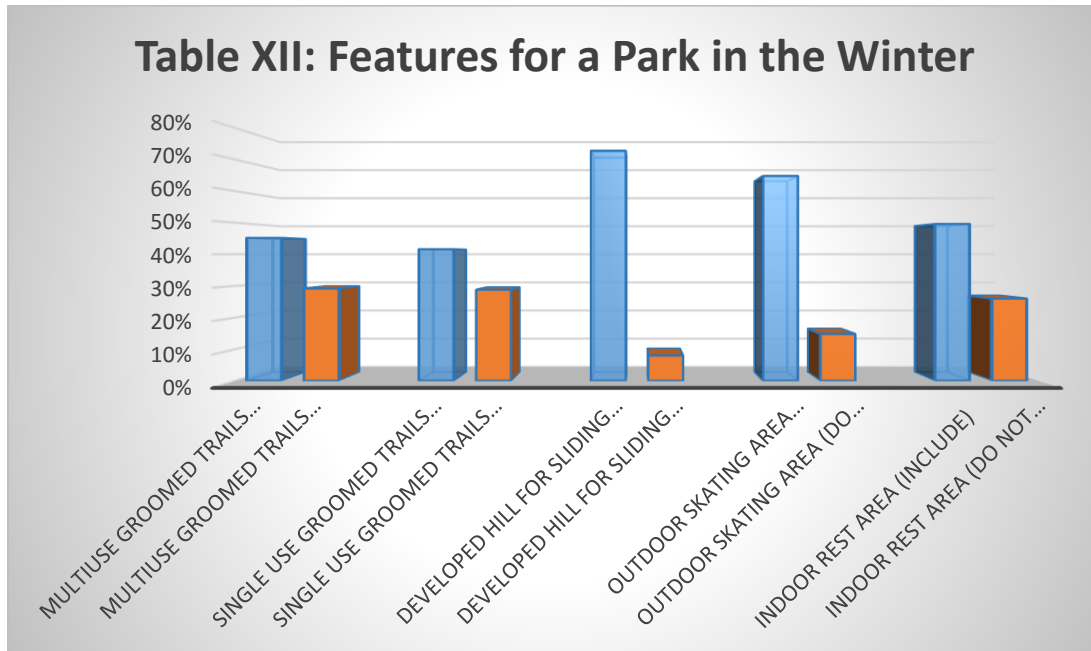


Table XII: This table shows features selected by respondents to include in a park during the winter time. Blue bars indicate that the respondent wanted to include the feature whereas orange bars indicate that they do not want to see that feature included.

For this question, respondents were asked to select either “Include” or “Do not Include” for each feature listed. The most popular item to include (73% of respondents chose to include) was a developed sliding hill. This corresponds with a concern voiced by many respondents which is to keep the current sliding hill on the Cabot Crescent/Johnny Hill space in tact. The other options supported by at least 50% of respondents were an outdoor skating area and an indoor rest stop. The Snowmobile Club has also expressed interest in an indoor rest stop as it would be a nice feature for snowmobilers, therefore there is potential for a collaboration with the Snowmobile Club on this project.



Question 9: In the past year, have you participated in any of the activities listed below?

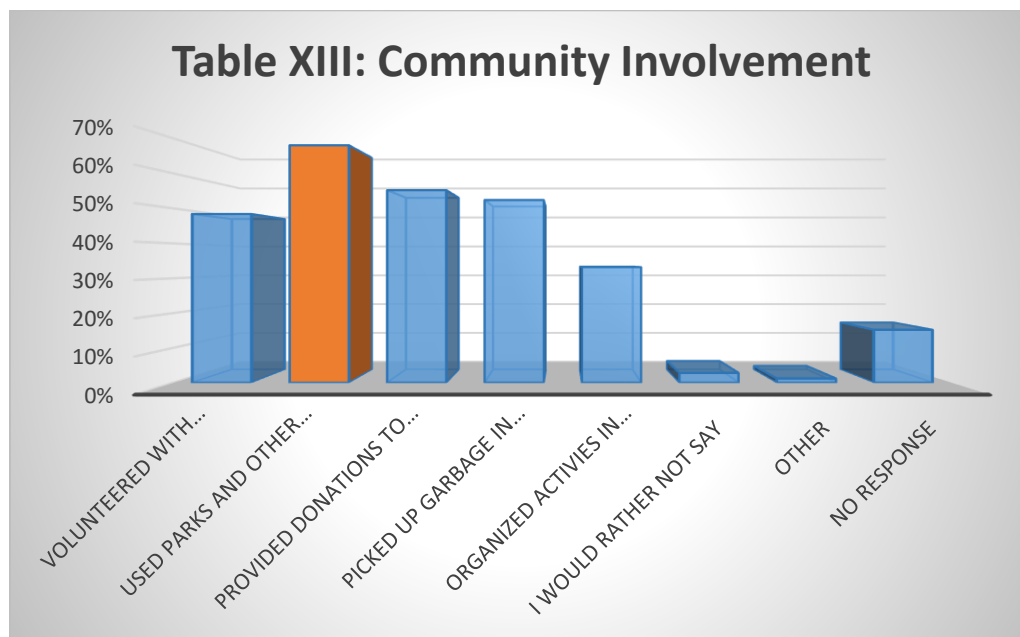


Table XIII: Respondents were asked to identify the activities or contributions they had made to the community within the past year

This question was asked to gauge each respondents' current involvement in community organizations and parks and recreation in general. This will help to determine how willing they would be to become involved with this new project whether it be volunteering to help with the maintenance of the park or simply using the space. For this question, respondents were asked to select all the options that apply to them. The most popular response was that they had used parks and other public spaces for personal activities (68%). 55% of respondents provided donations to community organizations and 52% of respondents said that they had picked up garbage in a community space within the past year.



Question 13: What is the name of the street that you live on?

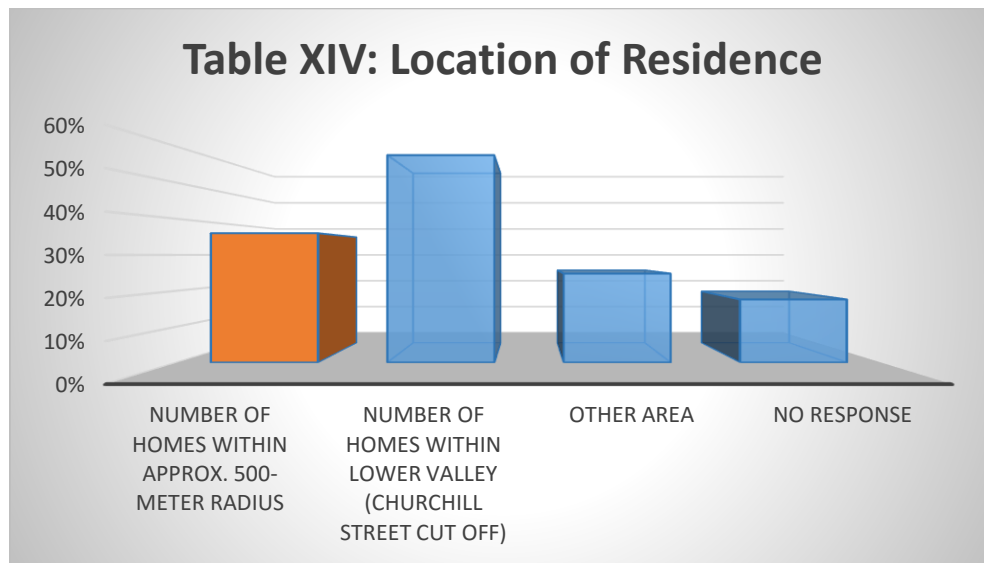
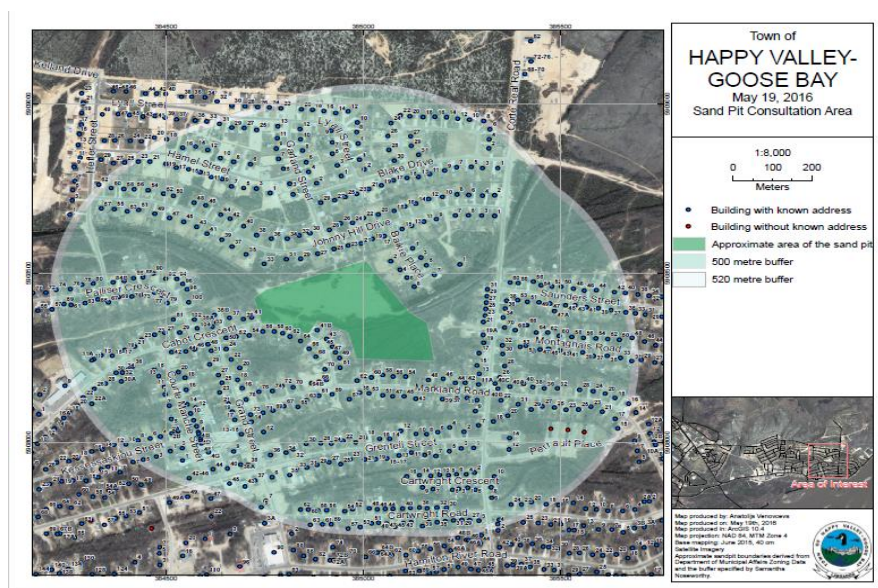


Table XIV: Shows location of residence of each respondent by area of town.

The location of the residents who submitted surveys were more heavily concentrated in the lower valley are between Churchill Street and Montagnais Road. This is important as it shows that the residents who will be most impacted by this development were the most heavily engaged in the consultation process. 32% of residents living on Johnny Hill Drive responded to the survey, this street had the most heavily concentrated involvement in the project compared to all other streets in the vicinity. Detailed mapping of responses by street address can be found in Appendix D.

Map of Impact Area:





5.0 Recommendations

This section focuses on the recommendations concerning the development of the Cabot Crescent/Johnny Hill plot of land, based upon the results that have been found in the previous sections. The recommendations are also based upon a literature reviews of other strategic plans for park areas throughout North America. These recommendations are meant to guide future decisions about this area and help to implement a plan for development which appropriately serves the community. The recommendations have been organized into core values and each core value has sub categories which will explain how each value can be achieved.

Strategic Plan – Core Values

1. Environment and Biodiversity

The land in question has been depleted of much of it's natural greenery and biodiversity due to historical use of the land and modern developments causing strain on the existing waterway. Rehabilitation of the area will create a more pleasant space for the community, reduce the amount blowing sand and dust in the area, increase growth of native plant species and encourage wildlife to inhabit the space.

2. Recreation for All Ages

A lack of parks and recreational areas that serve all age groups has been highlighted during community outreach. Therefore, creating a space which allows for recreation and encourages healthy living is important. There is a lack of green space in the immediate neighbourhoods surrounding the plot of land and transitioning this space into a user friendly park can help to encourage residents to become more active. Focus needs to be placed on diverse equipment and design that encourages not only children to be active, but middle aged and elderly individuals as well.

3. Infrastructure and Design

Infrastructure will also be an important step in the development of the park. Although it is important to maintain natural spaces, the addition of man-made elements will improve the accessibility and amount of use that the park gets. Public access to things such as picnic and barbeque areas, lighting, benches and parking as well as integrated walking trails are all important design elements to include.

4. Community Health

Green spaces and parks help to improve the health of communities. Physical health can be improved through having a space to exercise but mental health, social cohesion and general wellness can also be positively affected. Parks provide a space for relaxation and a connection to nature which improves mental health. They are also a space to socialize and can help to connect individuals within neighborhoods and the community.



1. Environment and Biodiversity

1.1 Waterway Rehabilitation

Consultation with residents of Happy Valley – Goose Bay and stakeholders such as Healthy Waters Labrador has revealed that the waterway flowing through the Cabot Crescent/Johnny Hill plot of land has become diminished over past decades. The waterway was described by many residents as being much more substantial and many individuals even remembered fishing there. Historical maps also reveal a significant riverbed which is not apparent today.

After discussion with Healthy Waters Labrador (HWL) it has become apparent that it is important to attempt to rehabilitate this waterway. HWL has expressed an interest in partnering to help revitalize this waterway and hopefully improve the current water drainage from higher elevations in town in the process. Revitalizing this waterway will have a positive impact on plants and animals which rely on this water source for food and habitat. It can also have a positive impact on the surrounding area by bringing more water to the space and allowing more greenery to flourish.

During the initial discussions with HWL some preliminary field work was done to determine the state of the waterway and attempt to track exactly where the creek flowed. Moving forward, more work needs to be done to determine exactly where the waterway has been cut off by development and based upon this information, decisions can be made on how to address the issue. Fostering a relationship with HWL is integral to the success of this project as they have extensive experience doing this kind of work.

There is interest from the community to see this waterway revitalized as well, many residents expressed an interest in seeing a walkway along the creek and improved water features within green spaces. The creek would provide a pleasant space for residents to visit regardless of the positive impact that the rehabilitation of this creek would have on the environment.

1.2 Native Plants and Greenery

Inclusion of native plants and greenery is another important step in developing the park. Currently, the space is almost entirely sand, with all greenery having been removed decades ago. Both stakeholders and community members have expressed a keen interest in this area being converted into a green space through the use of native species of plants. There is a desire to see some grassed areas but residents do not see this as the only way to green an area. There is also concern around sustainability and



maintenance of greenery and this is known to be an issue when large areas are grassed.

Revegetation of the area is important not only for aesthetics but for many other reasons that will benefit the surrounding neighbourhoods and community as a whole. Vegetation in this area will anchor the soil and sand and reduce air born sand particles as well as providing habitats for local species (12).

The use of local, native plants is preferred as they are already in harmony with the surrounding natural environment, there is a reduction in the amount of fertilizer and maintenance they would need and they provide food to the animals in the area (12).

Restoration can occur slowly or more fast paced depending on the desired timeline and budgetary restraints. A slower rehabilitation is a more natural process where vegetation known as primary colonisers are planted and take root and stabilize the soil so that other, more fragile, vegetation is able to grow. A faster rehabilitation plan would need greater involvement and human interference, the area would be heavily protected and therefore allow for quick growth of plants (12).

Hiring a Green Team via the Conservation Corps can help to increase the speed in which the revegetation occurs. Having a group to help plant and maintain vegetation for a summer as well as providing assistance to Healthy Waters Labrador could speed up the rehabilitation process. Applying for a Green Team for the summer of 2017 should be something to consider.

Reducing access to motorized vehicles is also a way in which to reduce further erosion and encourage natural revegetation of the area. A specific trail identified for motorized vehicle users will help to reduce the area over which they are driving but an agreement has to be made with this user group to ensure that regulations are followed.

2. Recreation for All Ages

2.1 Walking, Running and Cycling

Space for walkers, runners and cyclers was one of the most commonly discussed topics throughout all of the stakeholder interviews, public consultations and survey responses. The community is very adamant that they need more trails to be able to do these activities.

A trail which skirts the perimeter of the space is an option that some residents suggested, whereas others would prefer a more meandering style of trail throughout the entire space. It is important to consider different user groups when designing the



trail to ensure accessibility to as many different individuals as possible. Boardwalk was one suggestion to ensure that the path is usable for elderly individuals or individuals with physical disabilities. Mulch or a soft trail bed is another option which would be less costly but still maintain a high level of accessibility. There were some individuals who expressed concern about the presence of concrete and crushed stone as they are not as pleasant in a natural space and can cause more severe injury if a person were to fall on the surface.

Another consideration when it comes to creating a trail system within the space is to keep it separate and safe from motorized vehicle users. Using large stone or log to line the trail may help to reduce accessibility to motorized vehicles, also it is important to ensure proper signage is posted showing what trails are meant for what user group.

Lastly, the interconnectivity of trails was an important topic that was brought up by stakeholders and the community. They would like to see that the trails connect those already present around town or created with the thought to expand the trails elsewhere. There is the opportunity to connect existing trails throughout town to the new trails which will be created in this space. The end result would be a network of trails for the community to use.

Improving walkability of the town is an important step in improving community health and wellbeing and this can start at this park by creating user friendly walking trails.

2.2 Open Green Space

An undeveloped green space which is open to the community to use as they please is another important feature which should be considered for the park. “Green space” was a term mentioned many times throughout consultations and an open grassed area is a good way to allow for children to participate in free play while also providing adults a space to do whatever activities they wish. There has been increasing amounts of researched published showing the benefits of free play in children and how it is integral to their health and wellbeing (13), therefore, it is important to incorporate an area in the park that encourages free play.

This green space could potentially be located at the top, right hand corner of the area. It is currently relatively flat and could be conducive to grassing and removed from any potential motorized vehicle traffic.



2.3 Structured Play

It is also important to include play structures and playground equipment for children to use. The most common response when discussing the benefits of a park was that “it provides a safe space for children to play” and approximately 50% of respondents had young children and youth living in their households. It is obvious that spaces for children to play is a priority to the community and therefore this park should strive to incorporate this feature.

Children should have a safe place to play within walking distance from their home and ideally it should be an integration of play equipment and natural space (13). Developed correctly, this park could provide these features to enhance wellness of children in the surrounding neighbourhoods. When playground equipment was discussed by community members, it was determined that people did not want to see the same infrastructure that was present throughout other playgrounds in the town. Many people mentioned the word “unique” when discussing playground equipment. Installing new and different equipment in this space will encourage children to use it and it will also encourage families who do not live in the immediate neighbourhoods to travel to the park as there is something there that is not offered at other playgrounds. Some suggestions for unique equipment include a zip line, an obstacle course which can double as a structure for both children and adults and outdoor exercise equipment.

3. Infrastructure and Design

3.1 Accessibility

Encouraging all age groups to use the park is an important aspect of the inclusiveness of this community space. In order to accomplish this, everyone must feel as though they are able to access the park. This includes walkways which are usable for those with physical disabilities and may use a wheelchair or other device to assist with walking. Acquiring an all-terrain wheelchair which would be available to rent should be considered as well. There is an example of this service in Kouchibouguac National Park in New Brunswick and it has been very successful.

Another feature to consider when discussing accessibility is the inclusion of benches and sitting areas at regular intervals. A convenient parking area was also discussed. It is important that people who drive have a place to park their vehicles which is safe for drivers and pedestrians and is not impeding road traffic. Currently there is a space at the bottom of the plot, accessible via Cabot Crescent, which could be used as a parking lot and access point for the park. There is also another space



accessible via Corte Real Road which could serve as a secondary parking lot, this space is indicated on the map in Appendix C. A public path to provide access from the Johnny Hill side of the space would also be an important feature to ensure accessibility from both sides. Clear signage should be implemented at all entry points to ensure that users know about the public entrances and they also understand the rules and regulations of the park.

3.2 Infrastructural Elements

Infrastructural elements allow for a more enjoyable experience for the individual and increases the number of different features that could be present in the park.

There were many different suggestions for infrastructure to be included in the park. One of the most commonly discussed features was the sliding hill. Community members were extremely concerned with keeping the sliding hill intact. Some individuals mentioned grading the hill so that there was more of a slope, there was also discussion around improving the lighting in the area so that it is safe to slide in the evening. Survey results also revealed that individuals were very interested in seeing an outdoor skating area. This was one of the most popular options when community members were asked what they would like to see in a park space in the winter. Developing an outdoor skating area would enhance the space and encourage year round usage, it would attract a wider range of users as this would be another unique feature of this park.

4. Community Health

4.1 Promote Healthy Lifestyle Choices

Finding different ways to promote a healthy lifestyle among community members should be of the utmost importance when designing this space. In an ideal town plan, the design would include a park or green space within walking distance of every household within town. The development of the Johnny Hill/Cabot Crescent land brings Happy Valley – Goose Bay one step closer to this ideal.

According to statistics from 2013/14, approximately 80% of Happy Valley – Goose Bay residents are either overweight or obese (14) and this does not include the statistics for individuals under the age of 18. Action needs to be taken to reduce this number and a way which it can be accomplished is through development of more spaces where people can be active. The development of this park will provide a space for people to go to exercise, in fact, this was what community members identified as one of the most important benefits of a park or green space. Residents identified that



they use parks as a place for physical activity and therefore it is important to increase the abundance of these spaces so that a greater number of people have access. Encompassing things such as outdoor workout equipment designed for adults will help to encourage exercise as well as developing more extensive walking trails as mentioned in a previous section. The benefits of outdoor spaces on physical health have been illustrated and it is integral that the town supports community health through further development of the park system.

Community health is not simply about physical health; one has to consider all aspects of wellness. Parks not only provide a place for individuals to exercise but it also provides a space for people to relax, socialize and enjoy nature – all of which improve mental health and are discussed further in Section 2.0. The benefits of developing this space are multifaceted and should not be underestimated.

4.2 Arts, Education and Events

Creating a space that will allow the incorporation of different facets of community life is very important. While a park has obvious recreational components, there is also a community aspect that has to be considered. It is important to design spaces which allow for social events, whether it be personal, such as a child's birthday party or a larger scale event for a community group or holiday celebration. Many individuals wished to see a gazebo or some sort of covered area to barbecue and have picnics, this space could also double as a gathering place for larger events.

Education is also an aspect of the park that was discussed. This space could be ideal to use as a space for field trips and outdoor learning and further expand the different uses of the park. If this were to be realized it would be important to design a large group seating feature. This seating could also be used during community events.

Lastly, it was important to include the arts community when considering the design of the park. It was suggested that local artists be commissioned to create artwork that could be placed throughout the park to encourage local talent and beautify the park. It was also suggested that a sculpture be commissioned and designed to be multipurpose so that it is a piece of art but could also function as a play structure for children.

Incorporating these different aspects into the park design will help to involve individuals who may not have used the park otherwise, further encouraging community involvement and cohesiveness and promoting community health.



4.3 Volunteering

While it is the goal to have individuals use the park for leisure activities, the park needs to be maintained and a level of community pride needs to be instilled to reduce instances of vandalism and destructive behaviors.

In order to encourage residents to take pride in this park, it has been suggested that portions of the park be maintained by volunteers. Different functions could be organized; such as park clean ups or certain garden patches could be left to community groups to tend to. When individuals completed the survey, they were asked to identify how they contributed to the community and almost 50% of respondents had said that they had volunteered within the past year. Therefore, we can say that the community is very open to volunteering and bettering the town. Harnessing this community pride to help to maintain the park and reduce the potential for destruction is an important step in ensuring the success of the park.

6.0 Proposed Timeline

Considering the different values, suggestion from the community, stakeholder input and survey results, the following timeline has been developed.

Phase 1 – Environmental Rehabilitation

Environmental rehabilitation should be the priority in this space as it makes it easier to further develop the park. A green space is inherently more pleasant and will encourage the community to use the space regardless of the infrastructure present. Promoting vegetation regeneration and waterway rehabilitation will not only benefit the community from an aesthetic point of view, it will also create habitat for wildlife and reduce blowing sand in the area. Improving the flow of the waterway will help with drainage of storm water and further promote plant growth as well.

Promoting growth of native, local species of plant will ensure that the greenery present is low maintenance which will reduce the costs associated with this space. Placing grass over the entire area is not feasible in terms of maintenance and cost nor is it necessary to create a pleasant park.

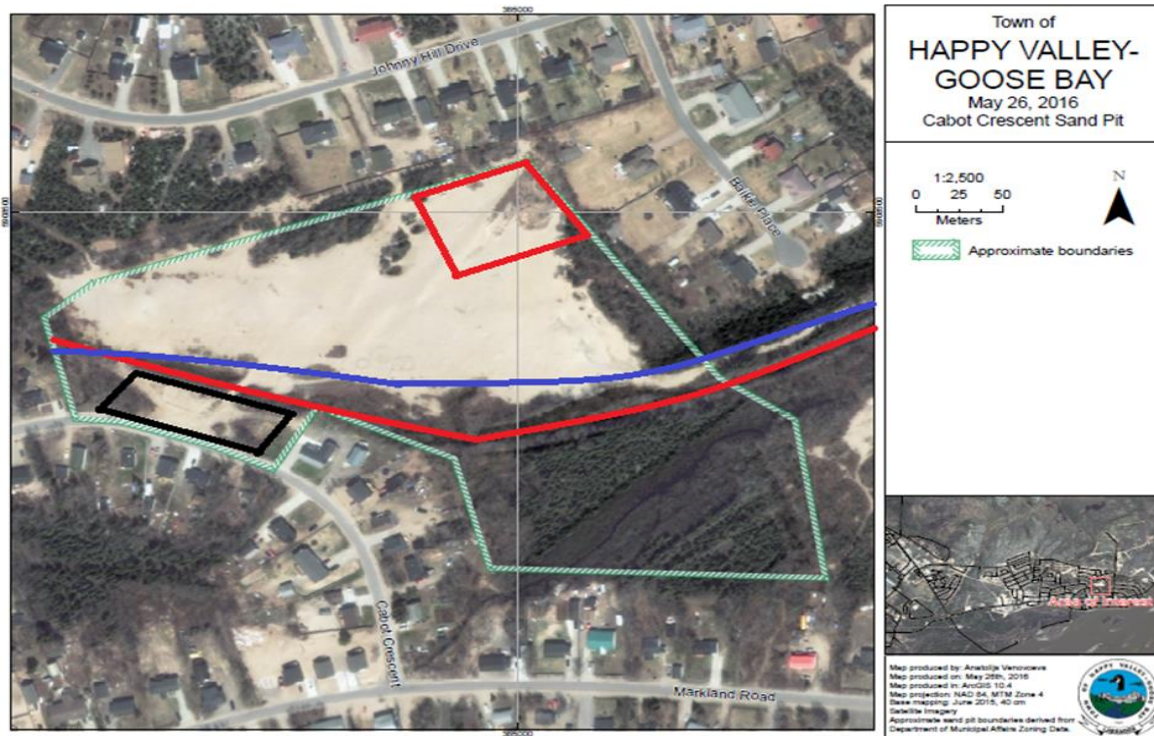
Phase 2 – Pilot Project

Phase two can be conducted in tandem with phase one if desired. Phase two consists of developing a smaller park space as part of the larger area. The proposed space for this area is shown on the map below. Developing a pilot project in an area which is somewhat removed and protected from ATV traffic will help to ensure that the space has a chance to be successful. It will also help to change the mindset of the community concerning this space.

The area proposed for the pilot project is already relatively flat and has a good amount of greenery already present compared to the rest of the space. This would be an ideal area to plant



some grasses, or clover which is more sustainable, for an open field area, as well as installing infrastructure for a BBQ/picnic space and some playground equipment. It is important to really establish this space and have residents begin to understand the value of having this park in their neighbourhood before the development expands to the rest of the area.



Red box: Proposed pilot project space

Black box: Proposed parking lot

Blue line: Snowmobile trail

Red line: Waterway

Phase 3 – Expansion

Phase three is the long term goal of the park. This phase will only be successful once phase one and two are completed. Phase three involved the development of the main sandy area. Installing a trail system throughout the space with lighting and benches, improving the lighting around the sliding hill and including other infrastructural elements suggested by the community are all part of phase three. Interconnecting the trails within this park to the trails around town could also be one of the goals of phase three.



7.0 Opportunities and Challenges

Based upon information collected and knowledge about the space itself, some opportunities and challenges have made themselves apparent. It is important to keep these details in mind during the development process.

Opportunities

Size of the Land: The space available for development is approximately 75466 m². There is enough area to include something for every user group and create a really unique and pleasant park space. Size is not a limiting factor for this development.

Waterway: The space already contains a natural water feature. This is a great asset as many individuals stated that they would like to see more water features included park spaces. Developing the waterway as a pleasant area for people to walk will encourage use of the space as well as having a positive impact on the environment.

Location: The area to be developed is located directly in the middle of a residential zone. There is a great mix of individuals in the area ranging from the elderly to young families. The park will be within walking distance for the neighbourhoods surrounding it and therefore it will provide a space for residents to enjoy without having to drive.

Challenges

ATV Usage: This space is frequented by ATV and other motorized vehicles users. Due to the constant damage inflicted by these vehicles, the greenery in this area has been reduced and it is not a safe space for children to play. Reducing ATV usage in this area or creating a designated space for them will be a challenge moving forward. It should also be mentioned that no stakeholders or community members had any idea as to how to reduce ATV activity, although this question was specifically asked to all stakeholders during their interviews.

Lack of Vegetation: Currently there is very little vegetation in the area, it is almost entirely sand. This makes it more difficult to create a pleasant park space. Therefore, it is important to green the area before actually starting the development of the park. This may prove challenging due to the lack of soil and current ATV usage as mentioned above.

Extended Timeline: Considering all that needs to be done from an environmental stand point and the large space that needs to be developed, the timeline for this project is going to extend over a number of years. This created a challenge in that the focus on the project may be lost or funding available may change. This is something to consider when developing the space, meaning that each step of the project should be manageable with a definite timeline for completion.



8.0 Potential Sources of Funding

Below is a list of organizations whose mandate is in line with the development of the park and therefore could potentially be a source of funding.

Canada Trust Friends of the Environment Foundation: *A non-profit organization established by Canada Trust that provides funding support for initiatives that make a positive impact on the Canadian environment. Application deadline: September 19th, 2016*

EJLB Foundation: *The EJLB Foundation has two main areas of interest: medical and scientific research in all areas of neuroscience that pertain directly or indirectly to schizophrenia and mental diseases; and protection of the environment principally through (i) the acquisition and preservation of natural areas of ecological significance or of importance to the urban fabric; and (ii) environmental scientific research. The Foundation also supports, on a case by case basis, a variety of other environmental endeavors.*

Gainey Foundation: *The Gainey Foundation carefully examines all funding requests submitted by registered charitable organizations that offer environmental and/or arts education programs for youth. Application deadline: open*

Community Foundation of Newfoundland and Labrador: *The aim of the Community Foundation of Newfoundland and Labrador is to promote the well-being of the people of Newfoundland and Labrador and to contribute to the development of healthy communities. Grants are awarded on a semi-annual basis in the spring and fall of each year. Application deadline: September 30th, 2016*

9.0 Future Directions

There has been a plethora of useful data collected throughout this study but there have also been some issues highlighted that could be considered for future projects.

The first issue that has been brought to light is the idea of walkability. The data from the survey showed that approximately 50% of respondents use a car to get to a park or recreational space. This is an extremely high number of individuals driving and it is important to find out why. Is there a lack of suitable green space in their neighbourhood, do they feel unsafe walking, do they have small children and it is too difficult or are there other reasons associated with this statistic? Reducing road traffic and encouraging people to walk can have a positive impact on community health so it is important to determine why people are choosing to drive.

Another potential future project is the development of a community wide trail system. Residents have been quite clear in their desire to see more trails for walking, running and biking throughout the town. There is potential for the interconnectivity of trails and this should be considered one of the future priorities for the town in terms of community health and recreation.



10.0 Conclusion

This project has been very successful in identifying what the community would like to see in the Cabot Crescent/Johnny Hill plot of land. There was a great amount of community involvement and plenty of positive feedback concerning the project. It is encouraging that community members and town council are both moving in a similar direction and would like to see this space become a park. It is clear that there is strong support from the community to see this project succeed.

During the development and planning for this space it is important to reflect back on the core values that have been identified by the community: Environment and Biodiversity, Recreation for All Ages, Landscaping and Infrastructure and Community Health. Allowing these values to guide future plans will ensure that the community is happy with the development and they feel as though their opinions are taken into account. Maintaining a strong relationship with all stakeholders is also important to the success of the park. The stakeholders have a broad range of knowledge and experience and a willingness to collaborate to ensure that the park can reach its full potential. This space has a great amount of potential and a commitment to its development will create a substantial positive impact in the surrounding neighbourhoods and community as a whole.



References

1. Villanueva K, Badland H, Kvalsvig A, O'Connor M, et al. Can the Neighborhood Built Environment Make a Difference in Children's Development? Building the Research Agenda to Create Evidence for Place-Based Children's Policy. *Academic Pediatrics*. 2016. 16(1); 10-19. Doi: 10.1016/j.acap.2015.09.006
2. Labrador – Grenfell Health, Personal Interview, August 2016.
3. van den Berg M, van Poppel M, van Kamp I, Andrusaityte S, Balseviciene B, Cirach M, et al. Visiting green space is associated with mental health and vitality: A cross-sectional study in four European cities. *Health & Place*. 2016 Mar;38:8–15.
4. Cohen-Cline H, Turkheimer E, Duncan GE. Access to green space, physical activity and mental health: a twin study. *J Epidemiol Community Health*. 2015 Jun 1;69(6):523–9.
5. Pope D, Tisdall R, Middleton J, Verma A, Ameijden E van, Birt C, et al. Quality of and access to green space in relation to psychological distress: results from a population-based cross-sectional study as part of the EURO-URHIS 2 project. *The European Journal of Public Health*. 2015 Jul 15;ckv094.
6. Physical Activity, Heart Disease and Stroke - Heart and Stroke Foundation of Canada [Internet]. heartandstroke.ca. [cited 2016 Mar 23]. Available from: http://www.heartandstroke.com/site/c.ikIQLcMWJtE/b.5263145/k.FA7C/Physical_Activity_Heart_Disease_and_Stroke.htm
7. Coombes E, Jones AP, Hillsdon M. The relationship of physical activity and overweight to objectively measured green space accessibility and use. *Social Science & Medicine*. 2010 Mar;70(6):816–22.
8. Roemmich JN, Epstein LH, Raja S, Yin L, Robinson J, Winiewicz D. Association of access to parks and recreational facilities with the physical activity of young children. *Preventive Medicine*. 2006 Dec;43(6):437–41.
9. Janssen I & Rosu A. Undeveloped green space and free-time physical activity in 11 to 13-year-old children. *Int J Behav Nutr Phys Act*. 2015 Feb 21; 12:26. Doi: 10.1186/s12966-015-0187-3
10. Miyake K. K., Maroko A. R., Grady K. L., Maantay J. A., & Arno P. S. (2010). Not Just a Walk in the Park: Methodological Improvements for Determining Environmental Justice Implications of Park Access in New York City for the Promotion of Physical Activity. *Cities and the Environment*, 3(1), 1–17.
11. Wolch J, Wilson J & Fehrenbach J. (2002). Parks and Park Funding in Los Angeles: An Equity Mapping Analysis. Retrieved from: https://lusk.usc.edu/sites/default/files/working_papers/Wolch.parks_.pdf



12. Government of Southern Australia. (2016). Coastal Planning and Management Manual.

Retrieved from: http://www.planning.wa.gov.au/dop_pub_pdf/9_revegetation.pdf

13. Alliance for Childhood. (2016). The Loss of Children's Play: A Public Health Issue.

Retrieved from: http://www.habitot.org/museum/pdf/play_research/Health_brief.pdf

14. Government of Newfoundland and Labrador. (2015). Happy Valley – Goose Bay: Health

Practices. Retrieved from: http://nl.communityaccounts.ca/table.asp?_0bfAjIydpaWrnbSTh5-FvJudurVmhYOHelpsvZyxnrU-aZTJxoxacg



Appendix

Appendix A: Stakeholder Acknowledgments

A special thank you to all the individuals who agreed to be interviewed for this project:

Greg Wheeler – Grand River Snowmobile Club

Morgon Mills – Labrador Institute

Dr. Martha MacDonald – Labrador Institute

Kathleen Hicks – Lawrence O'Brien Arts Centre

Janelle Budgell – Labrador Grenfell Health

Janice White – Labrador Grenfell Health

Denise Cole – Health Promotion

Marina Biasutti – Brown – Healthy Waters Labrador

Tammy Lambourne – Health Waters Labrador

Jamie Jackman – Labrador Friendship Centre

Carly Thomson – Labrador Friendship Centre

Sherilee Harper – University of Guelph

Darlene Wall – Nunatukavut

Travis Ford – Nunatsiavut

Individuals who were contacted but did not respond to the interview request:

Cyril Brennan

Sean Lyall

Trevor Paine

Maria Murphy

Todd Winter

Kelly Jacobs

Robin Cooper

Carla Blake



Appendix B: Sample Size Calculation

$$n = (Nz^2pq)/d^2(N-1) + z^2pq$$

$$n = [(7995)(1.96)^2(0.5)(0.5)]/(0.061)^2(7995-1) + (1.96)^2(0.5)(0.5)$$

$$n = 250$$

Actual n = 250

Therefore, C.I. is 95% with approximately 6.1% margin of error.

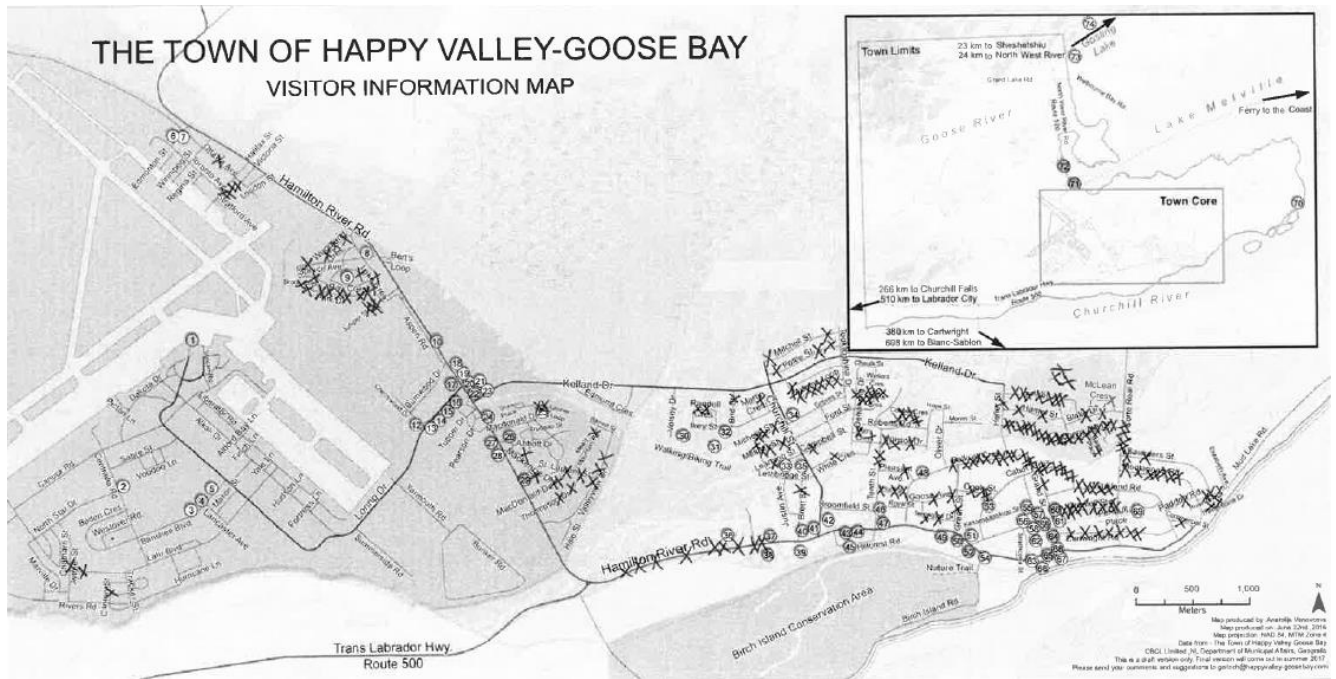
Appendix C: Secondary Parking Site



Red box: Proposed secondary parking location



Appendix D: Survey Responses by Street Address



X – Represents one survey response