Neurodiversity Planning and Accommodation: The Responsibilities of Urban Planners

By

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Abstract:

One of the key questions in modern planning corresponds to what the responsibilities are for planners. Are planners responsible for accommodating for the neurodiverse in the built form? In this paper, I aim to answer this question with extensive research into neurodiversity, its interactions with the built form, and how they can be accommodated for. I will express this through the use of walkabout interviews with neurodivergent participants regarding how their neurodiversity is influenced by the built form, as well as an interview with a planning professional regarding the existing state of accessibility in planning practice. From these interviews, I will compare them together, and contrast it with additional research into neurodiversity and planning as a means of exploring the connection between neurodiversity and the built form, and ultimately exploring different methods for how the neurodiverse can be accommodated. Finally, I hope to encourage the incorporation of Neurodiversity Planning into the broader planning world, as a key driver behind developments moving forward.

Foreword:

I believe that my study more than meets the requirements for an MES degree, both in terms of the content of the paper itself, and also with consideration to the overarching themes associated with the Faculty of Urban and Environmental Change. The Faculty of Environment and Urban Change is a department which incorporates urban planning as a key school of learning, and as my research is directly related to the urban form, I believe it meets the criteria necessary to be an applicable study for the faculty. Additionally, one of the core principles of EUC is its emphasis on diversity and inclusivity in both the students in sources for its programs, and also in what is taught at the school, to which my study into the neurodiverse more than meets these requirements. I believe that the data and research conducted for this paper are more than sufficient for the requirements for an MES degree, as the research I conducted aims to progress the inclusion of Neurodiversity Planning as a principle theme of planning overall.

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Introduction:

Despite the influence that planners have over the built form to which neurodivergent individuals reside within, planners do not believe themselves to be responsible for their accommodation, to which I believe is in complete contradiction to planning in its entirety. For this study, I seek to address the responsibilities of planners with regards to urban development and the neurodiverse, what responsibilities planners have, and how planning as a whole can be better improved to ensure that Neurodiversity Planning becomes a key facet of planning in its entirety. To begin, this introduction section will serve both as a means to breakdown the structure of the paper, and as a literature review for the research I conducted over the course of my masters. After, I will explain the methodology behind the study I conducted, specifically through explanations of the two primary research acquisition methods used, those being 1 on 1 interviews with neurodivergent individuals, and an interview with a planning professional. In addition to explanations of the specific methods I used to acquire the data I needed, I will also explain my personal attachment to this research, what research methodology I used as the groundwork for my study, and what I hoped to achieve. Following the methodology, I will detail the 1 on 1 interviews with neurodivergent individuals. This part of the study will be a detailed summary of the findings of the interviews, what questions were asked, and what was said by the participants. Following this will be the interviews with planning professionals, and our discussions regarding Neurodiversity Planning, and its relationship with planning overall. After my summaries of the data from the study will be a Discussion/Data Synthesis, in which I review the data, compare the two interview types together, and contrast the results with the literature I had already analyzed.

Ever since the first foundations of a house were established thousands of years ago, humanity has sought to manipulate the Earth to suit its needs. From the building of cities to house enormous populations, to the planting of crops and the digging of wells to sustain them, and even the construction of great palaces replete with sprawling gardens and grand ballrooms for the wealthy to enjoy and the masses to look at in envy. Humanity has always sought to tame nature, to mitigate its inherent chaos and enjoy the comforts that such alterations enable, so much so that our efforts to accomplish this have only evolved over the course of history. While it is true that the criteria which defines this comfort and safety has shifted over time, it has and likely always will remain a key aspect of how humans exist, and as we have entered the technological and societal futures of the 21st century, our efforts should only continue to improve.

At least that is what I would have thought considering how much western society proclaims its overcoming of the struggles of the past. Despite this belief however, I have unfortunately seen much to

the contrary, both in terms of how we have altered the land in which we live, but also in how we treat those to whom live alongside us. The strides made in improving the spaces people live in have been significant, like air conditioning allowing us to control the temperature of our houses, or trains, planes, cars, streets and sidewalks, which enable us to move about unimpeded by natural barriers. These improvements have come with numerous caveats however, many of which being their impact on the environment, but also in how the designs of these spaces and technologies are not always done with all peoples in mind, including those who do not adhere to the perceived conventions of normality, either physically or mentally.

There are innumerable examples of individuals being unable to make use of spaces or services they otherwise should be able to, the most common being those who cannot physically access a given space due to a disability they possess. For example, a person relegated to a wheelchair being unable to reach another floor of a building due to it only being accessible via stairs, or a crosswalk failing to auditorily signal to blind pedestrians that they are safe to cross the road. There are significant examples of modern society failing to accommodate for those to whom are differently abled. While the inadequacies of modern society to accommodate for physical disabilities are immensely significant, they are not the only minority population who have been affected. I posit that the neurodivergent population, those with mental or neurological disabilities, are just as susceptible to the built environment as those with physical disabilities, albeit in different and highly varying ways.

Neurodivergence is generally viewed as an umbrella term, one which is applied to individuals to whom possess unique brain functions that differ from the neurotypical population, manifesting itself as a plethora of mental conditions such as Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorder (ASD), Bipolar Disorder, and many others (Doyle & McDowall, 2022). Each of these individual disabilities has been the subject of much investigation from many scholars across the world, and yet the relationship between neurodiversity and its interactions with the built form has been severely limited. Much of the inherent stimuli originating within urban spaces can be triggering to neurodivergent individuals, such as loud, varying and sudden noises which can be triggering for those with hypersensitivities to sound (Morgan, 2019). Urban spaces can trigger any hypersensitivity a neurodivergent individual may possess, with little recourse feasible for them to make it more tolerable (Davidson & Henderson, 2016). For many neurodiverse individuals, the simple act of walking down a sidewalk can be an exhaustive and anxiety-inducing process, as many stimulating factors common to urban spaces, such as loud car sounds, strong smells, overcrowding on sidewalks, among others, can

trigger negative responses in many neurodiverse people (Jones et al., 2003). While overstimulation is a primary concern in adapting urban spaces to neurodiverse populations, neurodiversity is an umbrella term which accounts for a wide range of conditions, all of which will have their own unique issues with urban spaces which need to be included in any accommodative efforts (Kenna, 2023). While the neurodivergent are not solely unique in possessing some sensitivity to urban stimuli, what sensitivities they do possess tend to be more severe than those experienced by the neurotypical population.

While hypersensitivity tends to be the more prevalent example of neurodivergent caused inaccessibility, there are instances where certain cognitive impairments can have just as significant of an impact (McAllister et al., 2022). These conditions tend to manifest in a difficulty to navigate urban spaces, understand and make use of public transportation routes, or anxiety caused by the unpredictability associated with urban transit (Irish, 2022). As a result, there are many neurodivergent individuals who find themselves unable to navigate many urban spaces, sometimes being reliant on others to assist them, or simply being relegated to the locations with which they are already familiar. Some designs and services do exist which have shown to help with navigational issues, such as wayfinding, or the use of colours, symbols and signage which when properly designed, can help to make urban spaces more navigable (Irish, 2022). Although, most of the research conducted regarding wayfinding has been done with children and dependants, as opposed to independent adults (Irish, 2022), meaning the results are not necessarily fully applicable to all neurodivergent peoples.

As the impact of the built form on the neurodiverse is significant, it becomes all the more important that these connections be expressed to those which possess the most influence over urban development, those being professional planners. Despite this need for recognition by planners, this topic is rarely discussed, and as such, accessibility considerations for the neurodiverse are practically non-existent. Though this need for accommodation should not be viewed as simply requiring a passive approach to resolve, simply adding some extra notes to existing accommodation legislation will not be effective. It is necessary for neurodiversity planning to be viewed as distinct from physical accessibility, as its own form of accommodation work related to its predecessor, but requiring its own unique considerations and philosophy.

As my paper intends to cover the importance of establishing neurodiversity accommodation in the built form as an important aspect of urban planning, I believe it important to designate it as a wholly unique form of accommodation, with its own unique terminology. The term 'Neurodiversity Planning' will serve as an overarching term to describe all matters related to neurodiversity, and its relationship with

planning. In accordance with the wide range of conditions which can be categorized by the term neurodiversity (Autism, ADHD, Bipolar Disorder, etc.) Neurodiversity Planning will be presented more as a fluid approach to accommodation, not limited by the strict guidelines generally utilized in physical accommodation. 'Neurodiversity Planning' is a field that will examine the psychological influence of urban planning and the built form, how it influences the neurodivergent, and how planning can be better altered to suit their needs. My hope is that my paper will help to illustrate the need for planners to more carefully examine their projects, how their work may affect the neurodiverse, and how they can make said projects more accessible to the neurodivergent.

I believe it to be important to establish why neurodiversity accommodation is so important to urban planners. A common series of questions are likely to be broached in response to my claim, such as: Why is it the responsibility of planning to provide neurodiversity accommodation? Should neurodiverse people not learn to accommodate for themselves? While I disagree with the assertions these questions imply, that being a lack of responsibility on the shoulders of planners to accommodate for the neurodiverse, I do believe it important to explain why this responsibility belongs to planners. Planners, alongside other government officials, are the ones who develop the designs of most urban spaces, and directly influence the millions of people around the world who live within urban areas. Even smaller, rural townships require planners to decide how their spaces should be allocated, and in turn directly influence how said townships residents will live within. As a city is built, the manner by which it is designed will dictate how the space is used, traversed, and lived within, and will segregate those who can and cannot utilize that space (Stafford et al., 2022). Planning is directly influenced by the personal perspectives and beliefs of the planners themselves, despite claimed adherence to logical consistency (Mack & Herzfeld, 2020). Regardless of intention, planning will, for better or for worse, dictate how many individuals will live their lives, and as such, the responsibility falls on the planner to ensure that these spaces are accessible to everyone, regardless of personal circumstance.

Despite this clear indication of the responsibilities planners have over the accessibility of the spaces they design, I think accommodation is rarely considered an imperative component of urban development, and generally only considered as far as regulations mandate. This goes for both physical as well as neurodiverse accommodation, but the neurodivergent are even less likely to receive any kind of assistance. Thusly do I believe that the concept of Ableism, an ever-present myopia on the practice of planning, must be a direct focus for the work that Neurodiversity Planning will need to resolve. Ableism is deeply ingrained in the fabric of planning as a practice, and will be a significant barrier in how

Neurodiversity Planning can approach accommodative provision. Stafford et al. (2022, p. 107) argue that planning has served as a means for the adoption and perpetuation of ableism in urban design, only ever really catering to the needs of the broadest and most influential majority. Many attempts at inclusivity in urban form are generally dismissed by politicians and planners, as too much of a challenge to undertake, or more frankly, too expensive (Stafford et al., 2022). This dismissal is further exemplified by the lack of policies for ensuring better accessibility for neurodiverse individuals, an American example being that physical accommodation for neurodivergence is not mandated in the Standards for Accessible Design (Toronyi, 2018). Several calls to action have been made by planning academics to request further incorporation of neurodiversity in both theory and practice, but these have yet to have a significant impact (Kenna, 2022).

The prevalence of ableism in planning, especially in regards to how it impacts the neurodiverse, is ironically a result of the legacy of the psychiatric profession itself. According to Ramos (2022), psychology as a profession has had a direct, and long-lasting negative affect on the neurodivergent, mostly due to the beliefs of the inherent inferiority of the neurodiverse, and psychologists efforts to 'cure' neurodiversity. A continuing legacy of the history of psychology has been the fixation of psychologists in attempting to determine the biological causes of neurodiversity, or more specifically, the parts of the brain that cause individuals to become non-neurotypical (Ramos, 2022). This belief in a need to fix the neurodiverse led to many of the neurodiverse being mistreated harshly, with extremely unethical experiments being conducted to the detriment of the neurodivergent (Ramos, 2022). Ultimately, the efforts of psychologists would see the development and perpetuation of stigmas against the neurodivergent for decades, with said stigmas being integrated into the common values of modern society. Society as of the modern day tends to view neurodiversity as a condition in need of 'fixing', instead of a divergence in mental development, which should be accommodated instead of cured (Hansen et al., 2023). These stigmas directly influence the Ableism prevalent within much of modern society, with planning theory and practice being no exception.

As a practical example, ableism as influenced by psychologists of the past, has entrenched itself into municipal planning practice. The inequities thrust upon neurodiverse peoples are best exemplified by how municipalities treat those who need the most support. A prime example of Ableism and mistreatment by municipalities is the lack of mental health supports that are provided for some of their most vulnerable minorities, those being homeless youth. In the book *Mental Health & Addiction Interventions for Youth Experiencing Homelessness: Practical Strategies for Frontline Providers* by Kidd et al. (2018), the authors

argue that the mental health supports provided by the City of Toronto tend to severely underserve the homeless youth population in the city. Examples of such include the lack of regular access for homeless youth to mental health support due to youth being forced to move between shelters, and improperly trained staff, who are unable to adequately help youth in mental distress (Kidd et al., 2018). Kidd et al. (2018), argues that there is a significant need for the shelter system to better serve the homeless youth that the city possesses. As a direct impact of the aforementioned argument, municipal mismanagement for homeless youth means that neurodiverse homeless youth are even more vulnerable in conjunction. I posit a query: If municipalities are so unwilling, or unable to provide adequate services for the most vulnerable populations they are responsible for, can we trust them to provide accommodations for the neurodiverse without significant change? This is not meant to be interpreted as a total correlation between lacking homeless youth supports and neurodiversity accommodation, but I believe that it is indicative of the prevailing impacts of ableism within planning practice. For as long as planners, and society in general, continue to view neurodiversity as a condition in need of fixing, as opposed to a unique population in need of as much consideration as everyone else, it is unlikely that any significant action towards neurodiverse accommodation will be taken.

Among the accessibility legislation I had investigated during my study, I have noticed how Ableism is prevalent throughout the documents designs. The existing state of accommodation policies in Ontario has only further contributed to the ableist reality, with most policies only focusing on accommodations for physical disabilities, and a distinct lack of mention towards neurodiversity or neurodiverse accommodation, as can be seen in the City of Toronto's *Accessibility Design Guidelines* (2021). The conclusions I reached from my research is that Ableism is deeply entrenched in planning practice, and if Neurodiversity Planning is to succeed in accommodating the neurodiverse, it is imperative that Ableism be combatted as much as possible.

I believe that due to the aforementioned issues with neurodiversity accommodation and its limitations due to ableism, as well as a general disinterest held by much of society regarding the neurodivergent population's needs, there is a distinct lack of research regarding Neurodiversity Planning, as was made very clear to me throughout my study. Terashima and Clark (2021) noticed that in planning academia, accessibility tends to be poorly represented, and when papers are written on the topic, the focus is almost solely on design, and researchers fail to account for each unique facet of planning. A consequence of the lacking research on the neurodiverse and their interactions with the built form is that there exists few actual attempts at guidelines for how accommodate them. What few examples of

accommodative guidelines for the neurodiverse that do exist are unfortunately unproven in their effectiveness, due to their having never been tested, according to my conversations with Dr. Kenna. While some guidelines do exist, such as the "Autism Planning and Design Guidelines 1.0" (Ezell, Korniyenko & Stein, 2018), and "Autism Friendly Cities: How to Develop an Inclusive Community" (Percival, 2022), and they are still a valuable resource in attempting to identify approaches to neurodiversity accommodation, they are just suggestions, which have not seen evidence of wider utilization in planning practice. The lack of any practical attempts at applying the guidelines means that while I value their insights, I do not view them as anything more than theoretical examples of how to approach neurodivergent accommodation. In an interview I conducted with Dr. Kenna, an expert in neurodiversity planning and one of the few published authors who have discussed this topic, she further corroborated this view with a warning to be careful about any recommendations made, at the very least until more research can be conducted (Kenna, 2024). I believe this careful approach to utilizing guidelines and recommendations for addressing neurodiversity accommodation will allow me to still learn from what currently exists, while not to make any concrete statements as to their efficacy. As an added benefit, the research expressed in my paper should help to contribute to Neurodiversity Planning, and hopefully lead to proven guidelines being developed.

Methodology:

In this section of my paper, I establish my research methodology, the groundwork I used for my study, the methods I used for data collection, and my personal reasons for wanting to conduct this research in the first place. To begin, I believe it is important that I clearly state my personal relationship with neurodiversity, mental disabilities, and the reason for why I am as passionate as I am about Neurodiversity Planning. One of the biggest influences for my research focus was my mother, who as a Speech Language Pathologist, works closely with children who possess more severe mental disabilities, which severely limit their ability to interact with the world around them. Thanks to her specialization, I have had the opportunity to meet many neurodivergent individuals, and have learned just how different neurodivergent people are from one another. Her work in helping those in need, as well as statements on the inefficacy of accommodations regarding individuals with disabilities inspired me to undertake this study, as I hope to help improve the lives of the neurodiverse as much as possible, in a manner related to my area of focus, that being planning.

As a neurodivergent individual myself, I have personally experienced in my interactions with urban spaces many of the problems which I have discussed in the introduction of my paper. As an individual who possesses a severe sensitivity to certain sounds, I have frequently struggled with overstimulation caused

by interacting with the urban form. Sudden loud noises, loud chewing, and heavy breathing/snoring are some sounds which make navigating cities is difficult for me. I generally tend to wear headphones at all times while outside, as a means of controlling the stimulation around me. Additionally, I have also experienced challenges in utilizing public transit networks, especially complicated bus networks, and as a result, I have consistently made my trips throughout Toronto in a way to avoid having to keep track of too many variables. While my personal experiences will not directly correspond with the experiences of every other member of the neurodiverse community, I do know that there are many other neurodivergent individuals who share my perspective, and that my personal experiences helped me better empathize with the neurodiverse participants of my study.

Following my personal experiences, it is imperative that I explain the methodology I used when deciding how to undertake my study. The theoretical framework I used in the creation of my study is a variable version of "Grounded Theory" or as defined by Oktay (2012), a method of research which does not seek to validate any preconceptions, but instead seeks to be guided by the data and information gathered during the study. As Neurodiversity Planning is such a young concept in planning theory, it would be to the detriment of my study if I utilized a framework with extremely strict requirements how a study should be undertaken. I believe that any study regarding Neurodivergent individuals cannot rely upon strict and limiting frameworks for the best results, as the neurodiverse are all unique in their own struggles. Any data I would acquire with a strict framework would fail to capture this malleable nature of studying the neurodiverse, so I chose variable Grounded Theory to better ensure its accuracy. Which is not to say that implicit direction will not be applied to the study itself, I still intend to express a need to accommodate for the neurodiverse community and planning's role in this undertaking, so I have adjusted where necessary to ensure that I do not adhere to strictly to any one idea or perspective which I may currently possess.

To begin with a statement on the specifics of how I acquired the data for my study, I will be explaining what is probably the most important component, that being my 1 on 1 interviews with the neurodivergent community. When considering the methodology I adopted for my study, that being a variable version of Grounded Theory, I considered a wide variety of options for how I would involve the neurodivergent community in the acquisition of data. As Dr. Kenna had previously specified, if I was to conduct a study regarding the neurodiverse, I had to ensure that I directly involved the community in question, so that I would not be making assertions on behalf of them (Kenna, 2024). While I am a neurodivergent individual myself, and I believe that my experiences would help to ensure the accuracy of my conclusions, I should not presume to speak on behalf of all neurodivergent individuals. I had considered

several different options in terms of sourcing the opinions of the neurodiverse, some of which included surveys, online forms, and virtual interviews, but I ultimately decided on in-person, 1 on 1 interviews as the most effective method. Neurodiversity as a mental condition varies significantly from person to person, as stated by Doyle & McDowall (2022), and in order to capture this variability in the data collected, I needed to gather data in a non-regimental manner.

For obtaining participants for my study, I primarily relied on one method as my main recruitment strategy, that being group emails sent out to specific populations. The first and most valuable service I utilized to send out my email was the EUC mass-post system for sending announcements to all student members of the Faculty of Environmental and Urban Change in York University. This would prove to be the most successful method I relied upon, as it yielded the highest volume of participants in comparison to the other methods utilized. The next email method was to reach out to various neurodiversity support organizations based around the GTA to see if they would be willing to send out a mass email to their current or potential future neurodiverse clients. Unfortunately, most of my attempts to use this method were limited due to lack of response from these organizations, and refusal from others. I also sourced some participants via direct or indirect contact with the individuals themselves. I would either ask specific people if they wanted to participate themselves, and if they could think of anyone else who may be willing to participate themselves. This method also yielded some limited results, and I was able to source a participant via this method.

Before the interviews were conducted, I initially contacted each participant personally to discuss what would be expected of them, and what they would require so I could ensure their safety and comfort. The location was also discussed at this time, with the priority being areas that were most convenient for each participant, so long as it was accessible by public transit. From the meeting location, we would have a walkabout around the urban streetscape of Toronto, discussing their personal lives, what form of neurodiversity they possessed, what aspects of the built form influenced their neurodivergence, other relevant details about their background, and a slew of other topics related to my study. Following the interview, I would collect my personal notes, save the video and audio recordings to be referenced in the future, and then move on to the next participant.

I chose to utilize a less conventional format for conducting the interviews, by way of the walkabout component, as I believed it would enable each participant to better understand and express their relationship with the built form. While the actual focus of their studies was different to my own, both Veitch et al. (2020), and Rivera et al. (2021), were significant inspirations for how I wanted my own

walkabout interviews to be undertaken. In both studies, the researchers used walking interviews to acquire qualitative data on the utilization of parks and public spaces between adolescents and youth of a range of ages. Veitch et al. (2020) sought to determine how parks could be better designed to suit the needs of children, so as to better foster their development with the social, mental, and physical health benefits associated with regular open-space use. The walking-interviews had the interviewee and the participant walking through an open space, with the participant being prompted to examine the park visually, notingwhat aspects they did or did not appreciate, and what recommendations they may have for how said park could be improved, generally with an emphasis on physical additions akin to sports equipment, jungle gyms, additional natural features, etc. (Veitch et al., 2020).

Rivera et al. (2021) studied the connections between adolescent use of parks and open-spaces as locations for socialization, as well as physical activity. The walking-interviews were conducted in a similar manner to how Veitch et al. (2020) handled their study, with the main difference being how as the participants were older, they had different interests in these spaces outside of just play, with many recommendations including additions which would better foster social interaction, such as benches or picnic tables, shade and shelter, areas for hosting events, and more (Rivera et al., 2021). Upon review of the articles as mentioned, I found that the concept of the walking-interviews to be perfect for the data I had sought myself. Both Veitch et al. (2020) and Rivera et al. (2021) used their studies to ascertain the opinions of youth and adolescents on public spaces while traversing said public spaces, and with the aim of learning how to improve spaces both for physical and social use. As I intend to learn how best to provide accommodation for neurodivergent individuals in the built form, I combined the aims of both studies into my research, meaning I would be using the walkabouts to learn about how public spaces could be improved physically and socially for the neurodiverse.

I conducted each interview within the Greater Toronto Area, mostly localized within downtown Toronto around its major public transit networks. The specific locations ranged from within Union Station, to a smaller commercial district within Toronto, to suburbs still within municipal limits. Each interview was done in-person, with one exception wherein it was done via telephone. The telephone interview was still a walkabout, just the participant was the one walking while I listened in on the phone. Each interview took approximately 60 minutes to complete, with some variability based on length of the conversation, location, and if there were any pressing commitments the participants may have had before or after the interview period. Each interview was recorded, both visually and auditorily via my smartphone, which served as the primary method for data acquisition and retention to later be incorporated into my study.

The interviews were not individually transcribed, outside of the audio gathered during the walkabout. I decided early on that I wanted each participant to be anonymous in my study, primarily because I felt it was important to protect each individual from identification in case it could be used against them in the future.

The second area of focus for my data gathering was on planning professionals, or private or public workers currently employed in a planning, or planning adjacent role. Similarly to how I gathered data on the neurodivergent participants for my study, I also utilized interviews for the planning professionals, with the key difference between the two being that the planner interviews were done virtually, and not utilizing the walkabout method. I chose not to use the walkabout method for the professional planner interviews because the information I sought from the two participant groups was different in scope. I needed interpersonal, specific and opinion-based information from the neurodivergent populations, but for the planners, I required their professional expertise, and to contrast it with the data I had already collected from the neurodiverse. During the professional planner interviews, I asked them questions about their work, their understanding of planning and its responsibilities, their experience with accommodation and overarching urban design, and to learn their opinions on the concept of Neurodiversity Planning and the experiences of the neurodiverse participants I had already interviewed.

Research Summary:

Now that the methodology for my research has been explained, this section will be utilized to detail the actual results of the interviews that had been conducted. It will begin with an analysis of the 3 neurodivergent participants who were the subject of the 1 on 1 walkabout interviews. Each individual participant will be referred to with aliases so as to protect their identities. The following will be the names used for each individual: Participant 1: Anne, Participant 2: Bella, Participant 3: Claire. All names have been chosen in conjunction with the genders each participants original names corresponded to, and should be the only identifiable aspect of the naming convention. For the professional planner interview, I will designate the sole participant as John, also in conjunction with the gender the participant identified as.

1 on 1 Walkabout Interviews:

Participant 1: Anne

One of the most interesting aspects of my interview with Anne that I immediately picked up on is that the topic of conversation shifted quickly between different areas of focus, tending to remain on one

specific topic only for a short period, before the natural flow of the conversation led us on to the next. I would like to emphasize that I do not believe this is a negative aspect of the interview, and I do not intend to criticize Anne in any way by pointing this out. I instead seek to bring attention to this because it was one of the defining traits of this interview, and while I will do my utmost to focus the content as much as possible to the convenience of the reader, I do not want to compromise the meaning behind what we discussed. I intend to summarize the interview that this account remains as similar as possible to the original, with some repeated remarks or unfinished thoughts omitted for the sake of ensuring the main points are properly articulated.

Anne and I initially met at the exterior of a coffee shop close to where she lived, inside a lower-density commercial area within Toronto proper. We would spend about 10 minutes talking at the coffee shop before walking down the street, around the area she was familiar with. The main path took us along a busy main street abutting numerous mixed-use commercial/residential buildings, before turning off towards quieter suburban streets. From there we walked through some alleyways between a few houses, and then looped back around to the coffee shop where we began. I initiated the interview by asking some general questions about herself, her background, and her neurodiversity and what conditions she possessed. Anne's neurodivergence took the form of a few different conditions which she was kind enough to share with me, those conditions being Autism Spectrum Disorder, ADHD, Binocular Vision Dysfunction, and another undiagnosed headache/migraine disorder. As a neurodivergent individual, Anne expressed the struggle she has with urban navigation, how despite there being numerous methods of transport she can use to move from one location to the other, there are negative externalities to each one which makes every trip a struggle. Driving for instance was one mode of transit which Anne did not prefer if it could be avoided, as the awareness and quick thinking required to drive safely in a major metropolitan area creates a very stressful experience for her. Despite owning a car, Anne does her best to avoid using it whenever possible, and instead prefers to walk where she needs to go, which she finds to be more manageable than driving. As a direct result of her sensitivity to driving, Anne also mentioned how she had chosen the area she currently lived in because it was as walkable as it was. Most of the locations she would need to go to on a regular basis (pharmacy, craft store, doctor's' office, grocery store, etc.) were all within walking distance to her house, and most other destinations which were not accessible by walking could be accessed with public transit, further reducing the number of driving trips.

Anne mentioned how certain auditory and visual stimuli would potentially trigger different aspects of her neurodiversity, causing undue distress as a direct result. In conjunction with some of her

sensitivities, Anne mentioned how she had preset walking paths which enabled her to avoid or at least anticipate and then mitigate some of the stimuli which she found the most distressing. Some of the stimuli she referenced as particularity triggering included the sounds of cars honking, loud motors or exhausts, construction, and having the sun in her eyes. To avoid the triggering effects of her auditory sensitivities, Anne utilizes two different sets of sound-cancelling headphones worn together: one pair being inner ear, and another being around the ear. Both headsets help to regulate the sounds she is exposed to when walking, but these strategies alone cannot eliminate the stimuli completely. Despite her proclivity to walking, while we were discussing her main modes of transit, we were interrupted by the loud sounds of construction taking place down the road from where we had been seated. Regarding her sensitivity to the sun, this is a direct result of one of the conditions she had specified earlier in the interview, that being her Binocular Vision Dysfunction, in which one of the effects is a severe sensitivity to bright lights, such as the sun on a cloudless day. One of the limitations of her walking paths is that she needs to be careful at what times she chooses to make her trips, as her sensitivity is most commonly triggered by the sun being directly in her line of vision, such as when it is dawn or dusk. Some of the strategies she has employed to mitigate sun exposure was to always wear sunglasses while outdoors on a sunny day. In addition to this, she would specifically route her travel paths to aim for shaded areas which help to mitigate exposure.

Around the end of our conversation together, I asked Anne her thoughts on what accommodations could be made to the area we had just traveled through to make it more accessible for her, and other neurodivergent individuals. One of the strategies she mentioned which would greatly help to improve walkability and mitigate auditory stimuli would be to make the main street we were travelling through inaccessible to cars. Specifically, she wanted the busy stretch of road with the largest density of commercial buildings to be reserved for pedestrian travel only, as this street was especially busy with pedestrian traffic. She also mentioned the possibility of at least reserving specific days of the week where vehicle travel was banned to allow for pedestrians to better enjoy patios and other external areas close to the street. As a more general response to my question, she also mentioned how urban legislation should take more care to always consider the neurodiverse in any new policies, as any legislation which does not make certain to consider the disabled in its application will always be inherently exclusionary.

Participant 2: Bella

Before the walkabout began, Bella and I met just inside of Union Station in downtown Toronto, from which we took the subway down to Queen's Park station. From there, we would walk around the

area before settling back at Queen's Park station at the end of the walkabout. To begin the interview proper, I asked Bella to recount her experience in a public transit trip which she takes on a regular basis, that being the GO Train from Clarkson to Union Station. She specified that her experience tends to vary depending on the time of day she chooses to take the train, with peak hours being the least comfortable due to overcrowding. Bella states that, aside from during peak hours, she prefers using the GO Train to get to downtown Toronto over driving, as it is more comfortable, expedient and cost-effective in comparison. Bella feels that using the GO Train also makes her feel more in control of her transportation than she does when driving, as she does not need to contend with heavy traffic and attempting to find parking. While she does prefer to use the GO Train whenever possible, Bella does drive fairly regularly, specifically to locations where it would take longer to use public transit instead, such as when she commutes to school. I also sought to ask about her thoughts on driving in general, to which Bella responded that should conditions be perfect (or at least better than the standards as they exist in Toronto) she generally enjoys driving as an activity, outside even of just a means of transit.

In heavy contrast to our earlier conversation on transit options, when asked about her experiences using the subway, Bella had a more negative opinion of needing to rely upon the subway. The first and most pressing negative externality she cited was the proclivity for the subway to have prevalent and unavoidable strong smells, as well as its general lack of cleanliness in contrast to its GO Train counterpart. This is not to say that the triggering stimuli does not exist on the GO Train, just that in comparison, Bella feels the same stimuli are more likely to be present when using the subway. When asked to extrapolate on the specific stimuli that causes her duress when using public transit, Bella would cite strong smells and odours as the most pressing issue she struggles to contend with. As a sufferer of regular migraines, Bella cites the general symptoms as debilitating head pain and a visual aura, as well as other ocular impacts such as light sensitivity and visual difficulties, as well as an increased sensitivity to noise. This does not mean that all smells are likely to trigger a migraine, as the smell of more natural sources such as food or drinks generally does not influence Bella's condition. It is instead synthetic or artificial smells like perfumes/body sprays, or construction odours like tar or gasoline that are the most likely to trigger a migraine. Additionally, albeit to a lesser extent, loud noises can also be a trigger for Bella's conditions, though these tend to be relegated to certain times of day such as the early morning.

Bella recounted a number of examples of her being prevented from utilizing various spaces due to her sensitivity to strong smells, such as having to leave a lecture early or leaving work to head home because someone chose to wear a strong-smelling perfume and triggered a migraine. She has also had

instances wherein a migraine is triggered, and the impact of which is so severe that she has had to leave her car behind and take an Uber home, due to the danger of attempting to drive while enduring a migraine. This in turn means that her ability to exist outside of environments where she has greater control over the smells she is exposed to, such as her home, is severely limited. As strong smells are the most impactful on Bella's daily life, I asked her if she has any strategies that she uses to attempt to combat the stimuli. Unfortunately, Bella struggles to find meaningful ways to combat the triggering smells in her daily life, and has come to terms with the fact that there is very little she can do to protect herself exposure to these stimuli. The most Bella hopes to do to combat her ultra-sensitivity is to submit to some form of exposure therapy to attempt to reduce the impact of these smells, and mitigate the migraines that they cause. She states that the exposure therapy would be a gradual increase in the strength of smells she is exposed to on a regular basis, such as replacing the non-scented products she uses at home, such as laundry detergent or soaps, with lighter smelling ones to gradually develop a tolerance and hopefully make urban-navigation more bearable.

Another more neurological stressor that Bella mentioned while we were leaving Queen's Park Station was the uncomfortable feeling she experiences when needing to navigate liminal spaces in urban areas. By liminal spaces, Bella is specifically referring to areas which are designed as intermediary spaces between primary locations, such as the hallways between a subway station and the rest of the city. There is a generally held expectation when in these liminal spaces that you are not meant to linger within them, but instead move as quickly as you can to exit them so as to not inconvenience the people around you. She specifies it was a combination of the over-crowdedness and the speed at which everyone is expected to move that creates a sense of anxiety. This influences her ability to utilize public transit because it encourages her to minimize the number of transfers that she needs to take, so as to limit the amount of time she spends using these liminal spaces.

Following our discussion of triggering stimuli in public transit, I then asked Bella to describe any diagnosed conditions she may possess that would correlate with the increased sensitivities we had talked about. Bella states that she has been diagnosed with ADHD, and comes from a lineage of neurodiversity prevalent in much of her familial history. Additionally, Bella has had allergy testing conducted to determine if her smell-induced migraines are a result to any allergies she may possess, although the results of this testing had not yet been completed as of the time of this interview. Additionally, Bella had been looking into being diagnosed with ASD due to her familial history and symptoms she has expressed prior, though similarly to her allergy testing these results have yet to be finalized.

I then asked Bella about some of her experiences with the built form, more specifically, considering the proclivity for urban areas to trigger her sensitivities, have there been any urban areas that she has found have been helpful in protecting her from having any migraines triggered. Unfortunately, despite the prevalence of certain enforcement protocols (signage indicating scent free zones) there have been no specific instances of any urban spaces actually being capable of protecting her. She has been forced as a result to take precautions herself to prevent exposure to triggering stimuli, having no assistance from the built form or the enforcement of rules or bylaws as provided currently in urban Toronto. Bella would go on to express her dissatisfaction in how the modern Toronto handles protecting neurodivergent individuals from the stimuli that can trigger them, and has been extremely upset on a number of occasions with the general unwillingness of many urban residents to at least give the barest of consideration for the neurodiverse. Bella mentioned how there is simply no effort by cities to provide spaces which are comfortable for neurodiverse individuals.

An interesting phenomenon I noticed while talking with Bella was an almost subconscious need on her part to defend, or justify the complaints she had for how her disabilities were being ignored in the urban form. On a number of occasions Bella would almost subconsciously undermine her own arguments to the legitimacy of the problems she suffered from as though she were being judged in that moment as being too 'emotional' or 'unreasonable' with her complaints. Despite the severe physical impact of her sensitivity to strong smells, and the anxiety caused by liminal spaces, Bella would stop herself from being too critical of the existing built form by claiming that her experiences were not that important, going as far at times to doubt if her difficulties even constitute a disability. When I asked her about this, Bella said that there are a lot of close-minded individuals who are generally unwilling to consider the legitimacy of her disabilities, mentioning some personal examples of people who confronted her on whether or not the migraines were even sufficient to merit needing to return home, or if she could have been faking it entirely. In some instances, she said there have been cases where her gender had been used against her when she explains her disability, with her sensitivities being misogynistically attributed to her emotionality as a woman.

Participant 3: Claire

One important distinction to note for Claire is that due to distance and timing issues, she was interviewed via phone call instead of in-person as with the other participants. While we would still do the walkabout portion of the regular interviews, Claire was walking alone, while talking with me via a phone

call. Before starting the discussion portion of the interview, Claire described the route she would be walking. Claire's home is situated in a small suburban neighbourhood, away from the busier portions of Toronto located between two major thoroughfares, though isolated enough from the traffic that it is fairly quiet. The path Claire chose to take begins from her home, goes left to the end of the block where a walking trail begins, wraps around the suburb she lives in, passes through a park and an alley between two properties, and then ends back at the front of her house. The interview was primarily a conversation between Claire and myself, with her occasionally chiming in about the walk and what she was currently seeing.

When asked about her specific neurodiverse conditions, Claire specified that while she was undiagnosed. However, due to her daughter's neurodiversity, and her own self-reflection and research, Claire believes she at least has ADHD, with the potential for other conditions though she is less confident in those assertions. Some of the examples she cited for her neurodiversity included how she thinks purely in images, her issues with certain forms of physical contact (hugging primarily) and some particularities such as having colored straws designated for specific uses. To a more impactful degree, Claire also mentioned how she has significant social anxieties, especially regarding large social gatherings with lots of people, where depending on the size, can cause her to panic and retract in on herself. This can be further exacerbated by loud noises and flickering lights, which both causes further anxiety, and can trigger migraines.

The overstimulation brought on by overcrowding and loud noises is not limited to social gatherings, as simply walking down a busy street, or using public transit can illicit the same response. An example Claire provided was of her visit to Quebec City, where she struggled with the overcrowding of the sidewalks, triggering her anxiety, and ending in her needing to recover in her hotel room for a day of her vacation. Claire also told me about the time where while taking a wine tour via bus, the tour steadily turned into a mobile party as each member grew more intoxicated. When the noise and crowding became too much to bear, she spent the remainder of the trip covering her ears and isolating in her seat.

Professional Planner Interview:

In accordance with the unique nature of the neurodiversity interviews, the professional planner interview will be broken down by question to organize the responses and the data collected. This is necessary because unlike the more flexible and conversation-based approach taken for the neurodiversity walkabouts, the professional planner interview was more regimented, focused on specific questions I had

prepared in advance. I did still allow for some flexibility in our interview, but to a much lesser degree than was done during the neurodiversity interviews.

Professional Experience and Background:

John has been working as an urban planner for approximately seven years as of the time the interview was conducted, having moved from a number of positions until his more permanent stay at his current consultation firm. Some of Johns other positions includes three years at a local municipality, in a planning and economic development role, before moving to the consultation firm he currently works at. Generally, his work is focused on larger scale urban planning projects, focusing more on overarching designs between distinct developments. He mainly provided consultation work for various clients from both the public and private sectors, such as private developers or municipalities depending on the project. John and the firm he works for mostly develop major urban design guidelines to ensure consistency among disparate developments over larger areas of growth across the GTA. Their clients range from developers, architects, transportation consultants, urban planners and elected officials, and other consultation firms when requested.

Is your workplace a consultation or development firm?

When asked about the specifics of what services the firm John works for provides, he mentioned how the firm works with a lot of architects and other experts in the field of planning. John's firm is an urban design consultation firm which thinks more big picture in how it provides services for its clients. Some of their duties includes the development of master plans and cooperating with architects who develop the specifics to go along with the large-scale guidelines developed. They also work with other firms which prioritize public consultations, so that the master-plans and guidelines can be adequately expressed to landowners and developers, ensuring their involvement and satisfaction in what is being developed.

Is accessibility present in your work?

The first question beyond background information I chose to ask John was about the prevalence of accessibility as an aspect of his work. He would specify that accessibility is present, but due to the nature of his work mostly being high-level, there is little discussion of the particulars regarding how accessibility should be implemented, with the focus being on ensuring that overarching accessibility design guidelines are being adhered to. Mostly, work regarding accessibility is handled by landscape architects and design planners. While John's work does sometimes involve accessibility consultation for his clients, most developers are uninterested in accessibility outside of the requirements established in pre-existing policies

and legislation. It mostly falls to the municipalities to deal with accessibility, though their efforts are also limited by lacking interest.

Have attempts been made to make accessibility a more significant part of their projects?

When asked about any attempts made by himself or his firm to improve accessibility accommodation in the projects they work on, his answer was mixed, both that they had worked on some accessibility projects in the past, but accessibility remains to be not as important as other factors in their consultations. While not a major focus for John's consultation firm, they have created a few design guidelines for accessibility. Generally senior or affordable housing projects have stricter requirements regarding accessibility, in accordance with the vulnerable populations to whom would be making use of those spaces. Additionally, John's firm did create a design guideline for aging in place, wherein they expressed the design philosophies necessary to make locations accessible both for the very young and very elderly.

Any criticisms on modern urban design and development?

I decided to ask John a more generic question about his thoughts on how planning is handled currently, to which he expressed some criticisms in the approaches taken on modern urban design and development. John specified that he had a number of complaints, though most of them were large-scale and not oriented around specifics as would have been more applicable to this study. Some criticisms he expressed is a lack of interest in developing a sufficient and accessible public realm within urban spaces, which is largely ignored in modern urban design in favour of car-centric or non-pedestrian development. He believes there is a significant need for planners to create multimodal cities, allowing citizens to utilize a wide variety of transportation modes, all well maintained and extensive enough to prevent overreliance on the personal vehicle. More specifically, he expressed a need for cities to invest more heavily in infrastructure for pedestrians and cyclists, and to think of streets not purely as transit corridors, but instead as tangible public spaces free for all residents to use to their hearts content. The last complaint he mentioned was the severe discourse regarding current development trends throughout the GTA. As everyone has their own opinions on the direction for how Toronto should be developed, conflict is inevitable, and said conflicts always limit the ability for progress to occur.

Do you know about neurodiversity planning? Thoughts?

Going into this question, I was aware that it was unlikely he would be particularly aware of neurodiversity planning specifically, but what we did discuss was extremely illuminating, nonetheless.

While John was unfamiliar with neurodiversity planning as a field in and of itself, he did believe it to be an interesting topic worth looking into, and he further expressed interest in seeing how it would develop into the future. He also mentioned how some current planning trends pushing for more accessible and inclusive cities can help to give traction, some trends including planning for mobility and generous pedestrian spaces which can help to mitigate overstimulation. He additionally expressed interest in learning about what specific design trends will be needed to make locations more accessible to all individuals, including how adequate transit and walkability/cycling infrastructure could help. He also expressed a wish for all cities to take accessibility more seriously in their projects, as accessibility is not currently a major factor in most major municipal developments, unless a development is done specifically with accessibility in mind. An example of this inaccessibility in modern planning design John referenced includes his frustrations with most neighbourhoods being difficult to navigate, with sidewalks being uncleared or too narrow, a lack of curb ramps or other necessary infrastructure to make urban spaces traversable for those with mobility impairments.

Does your firm utilize any public consultation strategies?

While John's firm may outsource most of its public consultation to other firms specializing in those processes, there are a number of public consultation strategies with which they employ when needed. Some of those design strategies include public meetings involving stakeholders, wherein they are shown design concepts and makes time for the public to ask questions to learn their opinions, and how best to satisfy their desires. While less common, John's firm also utilizes online surveys and design charrettes where applicable. An example of an alternative public consultation method used by the firm John works for would be a Kitchener project, wherein the public was specifically asked to design their own perfect neighbourhood. This project was intended to learn the opinions of the public, as well as what their priorities are when it comes to the neighbourhoods they live within, which helps to develop and entrench some of the overarching guidelines utilized in overarching design guidelines.

Has your firm done any public consultation which focuses on certain populations?

While not the norm, as most public consultations are intended to learn from the general public, there are instances wherein John's firm looked to communicate with specific groups and not just the regular populace, usually in correspondence with projects intended for specific populations. He references a few projects wherein they contacted very specific landowners for their opinions, as well as others involving Indigenous populations. These focused consultations tend to be geographically focused, with consultations taking place with populations in proximity to the project itself. A specific example he cited

was their work on a Somali community center, in which the entire development process, from drafting designs and determining priorities for amenities, to the construction of the building itself, the local community was heavily involved in the entire process.

Do you believe that urban design can truly accommodate for the neurodiverse and individuals with disabilities while maintaining the status quo?

This question was intended as a more wholistic desire to learn of his opinions of the pursuit of accessibility, largely in contrast with the overarching desires of current professional planners. John believes that the provision of accessibility infrastructure is not dramatic enough to be rendered impossible with wider implementation. It is completely possible for cities to provide these accommodations; the problem instead lies in the lack of will to put the work in to provide for these disparate groups. Is there a public will to provide accommodation? If so, then who will be paying for it? Generally, these are the challenges which most cities struggle with when discussing infrastructure development for the sake of goodwill alone. It is evident that most cities are in dire need of improved infrastructure and community services, and many guidelines for design exist, it is instead a struggle to determine how to get the capital to make them a reality. There is currently not a political or social will to invest the necessary capital into making these changes, and unless major societal changes occur, this status quo is unlikely to change. Thusly does John express a need for these issues to be highlighted and for the populace to be educated to promote understanding, elevating neurodiversity accommodation and accessibility in general to a more significant topic in the eyes of the public. Until substantial changes to the public will are made, John expresses his frustrations at how despite the prevalence of adequate capital to afford it, many publicly oriented projects will continue to struggle to get financed.

Discussion:

Now that the summaries of the collected data have been finished, the following will serve as a means to both synthesise the collected data, and to extrapolate on my findings and what they represent for Neurodiversity Planning, and the responsibilities of urban planners. By contrasting the qualitative data gathered from both sources, I intend express why urban planners are responsible for the accommodation of neurodivergent individuals, and how best some of this accommodation should be approached. I will not be offering concrete design recommendations, as those few that exist are still limited in actual research on their efficacy, and thus I do not feel comfortable making any recommendations in this manner. This does not mean that I won't be recommending some potential guidelines or strategies which can help with

neurodiversity accommodation. I have found a number of accommodative guidelines which, despite the lack of evidence behind their efficacy, are still immensely useful resources which I feel it would be immensely unfortunate to exclude them from the conclusions of my research.

To begin the discussion section, I would like to draw attention to one of the most unifying negative aspects of urban life that each of the interviewed neurodivergent participants referenced as impacting their ability to make use of city spaces, that being the abundance of overstimulating factors found within the bounds of urban cities. These injustices of the built form are the result of ableist design philosophies, which only benefit the masses at the expense of the few (Stafford et al., 2022). There are numerous cities across the world which suffer from ableist, or at least poor design practices, which in turn results in urban spaces which are intrinsically inaccessible too many who live within them. One such example is Prince George, British Columbia, a small city built initially to accommodate the new employees of its growing forestry sector (Blewett & Hanlon, 2016). As a result of its sudden and inconsistent growth trends, the city would see sudden development spikes in accordance with the rapid arrival of new residents, as well as periods of stagnation in direct accordance with the rise and fall of the prices of forestry products (Blewett & Hanlon, 2016). The result of these inconsistent periods of growth and decline, Prince George is regarded as one of the most poorly designed cities in Canada, and one of the least accessible (Blewett & Hanlon, 2016).

The failure of accommodation results in a sense of inequality for disabled residents of Prince George, who are now intrinsically disadvantaged anytime they attempt to navigate the city. The result is foundational inequities built into the very structure of the city, and a design philosophy which outright excludes the disabled, further exacerbating prevailing feelings of inadequacy with which many individuals with disabilities struggle (Hamraie, 2022). It is in this manner that Prince George serves as a prime example of how ableism pervades urban planning, how it directly impacts the lives of disabled residents, and how this ultimately leads to the neurodiverse being similarly disadvantaged in modern planning practice. Bella in particular referenced her frustrations with how modern Toronto has handled the protection of neurodivergent individuals, and with how despite the overwhelming impact her sensitivities have on her daily life, little consideration is given for her personal plights. John in turn also described how accessibility in general is viewed by planners and developers as something to consider only as far as is mandated by the government.

One of the key takeaways from my personal research and the statements made by the participants in my study, is that ableism must in and of itself be mitigated as much as possible if any form of effective

neurodiversity planning is to ever be fully embraced. Stafford (2020) specifically identifies a need for more inclusive approaches which ensures equitability in how designs cater to residents. Planners in and of themselves need to make efforts to challenge existing preconceptions, encourage accommodative approaches to planning amongst their peers, and work to develop alternatives to the ableist precedents as currently exists (Stafford, 2020). Planners are homemakers, our job is to create spaces which fosters community, connections and comfort for all individuals to whom live within the spaces which they develop, and neurodiversity accommodation, as well as accommodation in general, should always be front and centre in all urban planning processes.

For much of the neurotypical population, the idea that neurodiversity is an issue worth specifically accommodating is difficult to understand, particularly when so many neurodiverse people are able to so significantly obscure their condition. It is easy for most to comprehend physical accommodation, people who use a wheelchair need ramps/elevators to navigate height disparities, the blind need auditory crossing signals for safety when crossing the road, all observable infrastructural changes for tangible disabilities, and far easier for the common person to comprehend. In addition to this, public goodwill towards individuals with disabilities is already limited, with this reality being further exacerbated when the neurodiverse are considered. Baglieri & Lalvani (2020) discuss how privilege blinds the privileged to the struggles of their disabled peers, and showcase some instances where these disparities are manifested into prejudice and ignorance:

1. *"A nondisabled person can assume that when they go to their workplace, a community event, or a classroom they will be able to physically access the building. They will not need to think in advance about the width of the doors or the bathroom stalls in the space; they can simply assume that information and texts will be accessible; they will not wonder whether a sign language interpreter will be available or whether they will be able to communicate with people there.*
2. *Nondisabled persons can reasonably expect that people will not consider them "brave" for simply living their lives. They can also expect that people will not be made uncomfortable by their physical presence or bodily movements.*
3. *Nondisabled people can assume that nobody will question their desire (or ability) to be in an intimate or sexual relationship.*
4. *Nondisabled people can expect that cars, homes, stores, and the like will be built to "fit" their kinds of bodies; media and entertainment will be available in a format that*

they can access." (Baglieri & Lalvani, 2020, p. 73)

The above highlights just some of the aspects of life that many non-disabled take for granted, and while their examples are written with physical disabilities in mind, these examples are still applicable to the neurodiverse experience. Neurotypical people generally don't need to worry about if the space they are using is scent free, whether the lighting is not too bright, or whether the room is too loud or overcrowded so as to make using said spaces impossible. Neurotypical people aren't pitied for their neurodivergence, or patronized simply for living their lives while coping with their disability. A neurotypical person won't have their ability to form relationships limited by their inability to 'fit in' socially with the rest of society. Neurotypical people also don't have to worry about whether or not the world is built for them, and if certain parts of human society are even accessible to them due to limitations caused by their disability. In each example, the neurotypical are unable to see how much privilege they have in a world built exactly for them, and thusly lack the perspective necessary to acknowledge the need to provide accommodation, and this remains especially true for those in positions of power, namely planners and politicians.

From his personal experience, John specifically discussed how the prevailing attitude surrounding accessibility in planning practice is that it serves as a mere regulatory checkbox, a compliance issue of low priority. The developers he works with, for instance, are seen to only meet the absolute minimum requirements necessary under the law, relying on established accessibility developments such as elevators ramps or widened doorways to meet the criteria as established in accessibility guidelines. In this fashion, accessibility is an afterthought for planners, instead of an intrinsic aspect of urban design, as it should be regarded. Generally, any attempt to exceed the bare minimum is seen as an unnecessary, or luxury expense which doesn't justify the cost in capital. Universal design is mostly overlooked in importance, up until it actually affects the masses, and only then is it taken seriously. Combatting ableism requires major societal changes as to how neurodiversity is regarded, and more specifically, requires that we heavily question the legitimacy of what is believed to constitute normality.

It is my belief that planning must be adapted in both education and practice in order for neurodiversity planning to thrive, and for accommodative actions to be realized. Goodley (2014) argues against the preconceptions of normativity, and instead advocates for a need to celebrate the potential for abnormality. Normality, at least as it is currently realized in modern society, is a restrictive facet of how we define ourselves as humans, in contrast to the naturally varied way humans tend to develop, especially those with disabilities (Goodley, 2014). Despite planning being intended to serve as a means to engaging entire communities with the utilization of public spaces, oftentimes it is generally used a means to

perpetuate the interests of the masses, and always at the expense of the few, or in the case of my study, the disabled. Rarely are the neurodivergent given apt opportunity to express themselves and their interests, often relying upon family carers and advocates to make efforts on their behalf (Ee et al., 2022). Neurodiverse individuals are at a greater vulnerability towards obtaining more severe mental health problems, and often public services are insufficient to meet their needs (Ee et al., 2022). Planners need to be more mindful of the neurodiverse as a potential stakeholder in planning processes, and they should always be included wherever possible in the planning process to better ensure their voice is heard.

Bella and Anne both mentioned individually how their neurodiversity is influenced by urban stimuli, much of which is supposed to be mitigated by existing bylaws, but in practice, tends to be poorly enforced. Bella mentions the lax rules surrounding scent free zones, and how despite laws existing to prohibit the excessive use of perfumes and body sprays, oftentimes these laws are rarely properly enforced, and she is frequently forced to endure the scents herself despite the severe negative impact they can have on her mental health. Ableism is a key factor behind the reason that Bella is forced to endure the stimuli which influences both her migraines and other sensitivities, as the overvaluation of normalcy which intrinsically devalues exceptions to the norm, making any proclamations to a need for specific accommodation difficult to justify to those influenced by ableism (Campbell, 2009).

With all that I have discovered in my time researching neurodiversity planning, and its limitations to implementation in modern planning, I will be utilizing the following section to discuss the following question: Where do we go from here? In terms of Neurodiversity Planning and accommodation, what are planners supposed to do specifically in order to best benefit them? Ultimately, should any of the issues I have already identified be properly addressed, I do need to give some advice as to how best this can be achieved, albeit with a very important caveat. As Neurodiversity Planning is such a new concept, and any guidelines which currently exist are unproven, I intend for these recommendations to be more open-ended than strictly enforceable. These will not be absolute guides for how Neurodiversity Planning should be properly accommodated for, but instead it will serve as a means to direct planners towards proper neurodiversity accommodation, and integration into planning as a whole.

Neurodiversity Planning and Physical Disability Planning are both similar in terms of their seeking to accommodate for disadvantaged individuals, but should not be misconstrued as replacements for one another. The accommodations required to meet the needs of one disadvantaged group may not be the same as what is needed for another, and while urban planning has traditionally been centered on physical accessibility, this does not necessary translate to an inclusive environment for neurodivergent individuals.

A building to contain all of the necessary ramps, elevators, and tactile flooring necessary to meet common accessibility guidelines, but this does not mean that it is properly accommodative towards neurodivergent individuals, and sometimes these accessibility strategies can work against neurodiversity comfort. Take for instance a need for all indoor public spaces to be properly lighted to ensure visibility among all users of said space, these lights, while useful in their own right, could trigger light sensitivities in neurodivergent individuals. Additionally, many of these physical improvements does not necessarily make a given space easier to navigate, as the layout and existing wayfinding materials may not be sufficient enough for a neurodivergent individual to use. Bichard & Ramster (2025) argue towards the importance of considering the sensory experiences when incorporating inclusive designs into public spaces, albeit with a focus on public restrooms. In a similar manner to most other public spaces, restrooms have the potential to contribute to overstimulation from a variety of sources, such as sudden and loud sounds, visual noise from light glare, spatial and layout issues, and unwanted sensory feedback from smell, touch, temperature or other factors (Bichard & Ramster, 2025).

Traditional consultation models for involving stakeholders and the public already tend to exclude a number of minority populations, this being true for the neurodiverse as well. Typically, it is community groups, neighbourhood associations, business owners, and planners/politicians who are most capable of voicing their concerns when involved in the planning process, largely due to personal wealth and the merits of their work. The personal interests of these groups are constantly in conflict with the needs of the other minority populations to whom are also considered stakeholders, though their voice struggles to be recognized in contrast to the other major stakeholder groups. Neurodivergent populations are even more susceptible to having their voice drowned out due to their imperceptibility by the neurotypical. In addition to their struggles in receiving recognition, many neurodivergent individuals find that traditional consultation processes can be overwhelming, with the need to speak out in front of a large, and often unsympathetic crowd. This tends to result in a feedback loop where neurodivergent people are simultaneously unnoticed, and unable to represent themselves due largely to their neurodiversity. Xiao et al. (2025) identifies how many neurodiverse individuals struggle with understanding tone and subjective meaning in computer-mediated communication, requiring additional support systems to make this communication method more viable.

It is evident that action needs to be taken to improve how planners engage with the neurodiverse, both in planning education and in practice. To begin, if neurodiversity is to be properly accounted for by planners, then neurodiversity planning should be better incorporated into planning curricula. This could be

achieved via dedicated courses on inclusive design, exploring the correlation between cognitive and sensory effects of urban spaces on the neurodiverse, how it can lead to sensory overload, wayfinding difficulties, and teach students how we can work to improve urban spaces to mitigate these potential negative externalities. In addition to dedicated courses, regular planning programs could include neurodivergent in their teaching curriculum, better including neurodivergent voices in planning education, and incorporating case studies and examples which demonstrate how neurodiversity accommodation has been undertaken in the past. Halder & Squires (2023) argue that when attempting to address behavioural issues in individuals with ASD, said issues should be contrasted with the interests and strengths of the neurodiverse individual themselves. Considering this, planners should be looking to provide neurodiversity accessibility in a manner which promotes the strengths of the neurodiverse, while accommodating for their weaknesses.

In both planning education and practice, and in correlation with my own understanding of how neurodiversity accommodation should work, we need to include neurodiverse voices when working to improve neurodiverse understanding in planning. As stated by Dr. Kenna, you cannot create any guidelines for accommodating the neurodiverse, without including the neurodiverse themselves in its conception. This is additionally true for any efforts to incorporate neurodiversity planning into planning education and practice. Collaboration with neurodivergent individuals, as well as advocacy groups and other similar organizations would help to develop neurodiversity planning. Planning practitioners should consult neurodivergent individuals when working on developments, using various public consultation methods such as focus groups, surveys, or workshops, each of which actually involving the neurodiverse in the planning process. Planners can also be pushing for self-advocacy for neurodiverse individuals, enabling the neurodiverse to advocate for themselves while working with planners to get the accommodations and recognition they require (van den Bosch et al., 2019). These consultation methods should additionally be designed with the neurodiverse in mind. As an example, they should provide sensory-friendly spaces for meetings, the offering of written materials in clear, easy to understand language, and offering multiple means to provide feedback can help to further include the neurodiverse in the planning process.

While I have had some reservations about offering guidelines for how to approach neurodiversity accommodation, I do believe that the development of guidelines by planners, whether in actual efforts to provide benefits, or as an exercise in education, can help to further the efforts of developing neurodiversity planning. Any such guidelines should provide planners with a framework for designing spaces which takes into account sensory processing needs, cognitive diversity, and other neurodiversity related

considerations. Any guidelines regarding neurodiversity accommodation must promote the use of a number of integral neurodiversity support strategies, should they hope to provide tangible benefits to the neurodiverse. Sensory-friendly spaces are one such example, helping to minimize sensory overload with a number of alternative development methods (Dimmable lighting, noise-reduction walls and dividers, simple color schemes, etc.) (British Standards Institution, 2022). Clear signage and intuitive navigation systems would also be of a significant benefit to individuals with cognitive impairments (British Standards Institution, 2022). Certain public spaces could also be designed in a more flexible manner, which allows for adjustments to be made to better accommodate for different sensory needs (movable chairs/dividers/tables, sound-reducing enclosures in large public spaces, etc.). Social spaces themselves could be reworked to be less overwhelming for individuals with neurodiversity, enabling the neurodiverse to still engage socially without the overwhelming aspects typically associated with them.

Considering these methods for better incorporating Neurodiversity Planning into broader planning education and practice helps to improve the standing of neurodiversity-friendly design, away from being a simple afterthought to consider only to what is absolutely required, and instead towards making it a core component of planning practice. All of the aforementioned methods for better expanding Neurodiversity Planning should be helpful, but even greater steps can be taken to potentially improve the standing of the neurodiverse in greater society. Planners themselves can become advocates for neurodiversity inclusion and consideration not just in the planning profession, but in larger society as a whole. Planners can work to raise awareness amongst colleagues, clients and stakeholders regarding the importance of considering neurodivergent needs in all development projects. Planners can also be more vocal about the benefits of inclusive design, pushing for broader adoption of neurodiversity-friendly features across all sectors of urban development. Planners can be the frontrunners towards a more just society, one which seeks to benefit the disenfranchised, and improve the daily lives of the neurodiverse.

Another way to look at why planners should work to better the lives of the neurodiverse originates from the benefits to which the diversification of perspectives can come forward. Baker (2011) argues that the differences in brains caused by neurodiversity is a key aspect of how diversification can benefit the development and application of public policy, as the more minds involved in the development of future policy, the more likely it is for said policy to be successful. Enforcing the inclusion of neurodiverse voices in planning and policy development can help to promote all forms of diversity in conjunction, ultimately benefitting all marginalized populations (Baker, 2011). In addition to this, more tangible legislation can help to better ensure equitability for neurodiverse individuals in their efforts to promote themselves as

contributing members of society. Wappett & Arnett (2013) argue in favour of promoting protective legislation which ensures equitability in hiring processes, as well as protections for disabled employees which allows flexibility in and out of the job market without compromising their employment future. By encouraging the adoption of neurodiversity accommodative designs, making workplaces more neurodiverse friendly, and advocating for the neurodiverse can help to create opportunities for neurodiverse incorporation into planning practice.

In continuation of the promotion of tangible legislation for accommodating the neurodiverse, it is possible that said legislation could be used to assist in this endeavour. Municipalities or regions could introduce legislation requiring that neurodivergent stakeholders are involved in the planning process, at least in developments regarding public spaces or common areas. Improved accessibility standards could help as well in this manner, such as in zoning bylaws, building codes or environmental regulations, which can create built environments designed to be neurodivergent-friendly from the development's conception.

In terms of proper incorporation of Neurodiversity Planning into the urban framework, there are some examples of attempts to promote neurodiversity research with regard to urban planning. Sarraf (2025) argues that as a result of neurodiversity's continued struggle for justice, there is a distinct need for a framework to be developed so as to properly realize the neurodiverse right to the city. Sarraf (2025) believes that planning theory has a significant role to play in promoting the neurodivergent individuals right to use urban space, seeking empowerment by directly involving itself in spatial planning processes, instead of just relying on pre-existing guidelines. If accommodation is to be reached, planners must work to not just create vague guidelines to which developers are encouraged to follow, but instead practical action should be taken. The argument that Sarraf (2025) makes clearly articulates yet another call to action for planners to acknowledge their responsibilities over the neurodiverse experience in urban spaces, and further exemplifies how necessary it is for these planning processes to be more inclusive of populations to which differ from the norm.

Conclusion:

From the beginning of my paper, I have only continued to express the overwhelming importance of Neurodiversity Planning, and its incorporation into the overarching urban planning fabric. I began my paper with a personal account of what I feel are the responsibilities of planners with regard to how they approach urban development, notably how due to their direct influence on the lives of all residents of the cities they build, they have a responsibility to provide the utmost in quality, care, and comfort to those to

whom use the spaces they create. It is as a result of my expectations that I noticed the hypocrisy in how many urban spaces are designed, in that while said spaces are generally made to be of maximum use to the general public, this often comes in contrast to the needs of minority populations, and with reference to the focus of this paper, the neurodiverse. Early on, I defined neurodiversity and discussed how neurodiverse individuals possess extra sensitivities to the stimuli created in urban spaces, impacting their contentment and limiting their ability to utilize many urban areas (Jones et al., 2003). I also mentioned how despite these sensitivities, and largely as a result of the perpetuation of ableism in planning practice, as well as general disinterest by way of planners and policy makers, little is being done to accommodate for the neurodiverse and their needs in current planning practice (Stafford et al., 2022). It was in this early stage of the composition of my paper, that I established how the neurodiverse are influenced by the built form, how planners are responsible for ensuring the spaces they design are accessible to neurodivergent individuals, and proclaimed a need for planning practice to adjust itself accordingly, away from the ableist structures as currently established.

In the methodology section, I initially started with a discussion of my personal life and experiences, relating to my neurodiversity, my association with the neurodiverse as a result of my mother, and my personal relationship with the content I have discussed throughout this paper. I went on to discuss my use of Grounded Theory as the framework for my research, and how the variable version I used enabled me to gather the data I needed for my study in a manner which I believe was beneficial for my study overall. I went on to describe how specifically I gathered the data for my study, that being the walkabout interviews and virtual interviews for my two primary participant populations, those being the neurodiverse, and planning professionals. I also discussed the methods I used for the sourcing of my participants, what did and did not work, and discussions of the work which went into the preparation for each interview. I also discussed the inspiration for the walkabout components of my study, that being the studies conducted by Veitch et al. (2020) and Rivera et al. (2021).

After the methodology section, I went on to provide the actual gathered data I obtained via the interview methods already discussed. In this section, I included the summarized personal accounts of three neurodiverse individuals who were the main focus for my study, those individuals being Anne, Bella, and Claire respectively. I also summarized the results from my interview with John, a professional planner based in the Greater Toronto Area, working for a local consultation firm. In the neurodiverse interviews, the participants and myself discussed a wide range of topics related to their neurodiversity and the built form, what neurodiverse conditions they may have, to describe their backgrounds and personal history,

what parts of the built form affects their neurodiversity, what they noticed during the walkabout portion, and what they believe could be done to help them manage in urban areas. For the professional planner interviews, I asked John about his work as a planner, his knowledge on accessibility, his awareness of Neurodiversity Planning, how accessibility is currently manifested in modern planning practice, what complaints he has of modern planning, and what he thinks may need to happen for Neurodiversity Planning to be properly incorporated into planning practice.

After the summaries of the results of the data collection component, I then began the discussion section, where the data obtained via the walkabouts is synthesized and compared with information obtained through journals and my research over the course of my degree. I discussed how inaccessible much of the built form is to the neurodiverse, and provided an example of a municipality which embodied many of the ableist design philosophies which restricts neurodiversity accommodation, that being Prince George, British Columbia (Blewett & Hanlon, 2016). From the example and the conclusions reached by the interviews, I was able to determine that ableism must be combatted in order for neurodiversity accommodation to be properly integrated into planning practice. I also learned that neurodiversity accommodation needs to be justified to much of society in order for it to be taken seriously, with public goodwill and planner sentiment not being geared towards helping minorities with accommodation. Accessibility in general is considered as little more than a checkbox to be filled in during any given development, and unless greater public sentiment is to shift drastically, this reality is unlikely to change.

I then went on to discuss what planners could do to improve neurodiversity accommodation in planning, while still keeping in mind the lack of evidence to support any concrete suggestions. I discussed a variety of ways in which planners can help promote Neurodiversity Planning, such as improvements to existing consultation methods, the inclusion of neurodiversity in planning education, advocating for neurodiverse voices in the planning process, and the creation of new guidelines to steer neurodiversity accommodation are all methods for promoting Neurodiversity Planning. Additionally, I also discussed how planners can become advocates for neurodiversity acceptance in wider society, as well as how the inclusion of neurodiverse voices can improve planning as a whole through the diversification of perspectives, and ease of incorporation of the neurodiverse into becoming working members of the populace.

Upon the conclusion of my paper, I was able to learn a lot about neurodiversity, its relationship with planning, and what is important to consider whenever conducting a study regarding neurodiverse peoples. Of my learnings, I also was made aware of some mistakes I made along the way regarding my study, and

learned some ways to which future studies could be improved. One of the most prevailing self-criticisms I have identified is in my participant sourcing methods, in which I feel could have been significantly improved. As I only relied on email communications for sourcing participants, I believe there are a number of alternative methods I could have used, such as posters, social media posts, or even in-person recruitment methods which could have helped to improve the total number of participants. Additionally, regarding the email method I did use, I could have tried to reach out to a greater number of potential participants outside of York University and the neurodiversity organizations I did reach out to. Also, it would have been nice to have had some participants of other genders involved as well, as all of my neurodiverse participants would up being woman. All in all, I would like to be able to get a lot more than 3 total interviewees for the neurodiversity section, preferably around 10 in total of a wide range of races and genders to ensure a diversified range of perspectives.

I would have also liked to have been able to give more concrete recommendations in light of the results of my research. Throughout my study, I constantly kept in mind that any recommendations for how to approach neurodiversity accommodation I may make cannot be given in a concrete manner because there is too little evidence as to the efficacy of these designs as of the writing of this paper. Of the various guidelines and papers I reviewed over the course of my study, few of them have been properly tested, and the ones which have were done so in such limited supply that it would be extremely foolish to present them as absolute solutions to the extremely complicated problem of neurodiversity accommodation. I would hope that, in addition to my paper, any future studies would better have the evidence required to make recommendations without having to worry about advocating for accommodation strategies, which when applied, end up failing to achieve their intended benefits. Perhaps any future studies I or other create could be the evidence necessary to achieve this end.

Ultimately, regardless of any criticisms I have for how I ended up handling this study, I believe that I have helped to contribute to the burgeoning field of Neurodiversity Planning, and its incorporation into planning practice. I believe that the data I gathered, the papers I studied, the professionals I spoke to, and all the other work I was able to conduct over the course of my time in my Masters has allowed me to attain a far deeper knowledge on neurodiversity, its relationship with the built form, the responsibilities of planners, and what steps need to be taken to introduce neurodiversity accommodation into planning as a whole. I hope that my paper will inspire other academics to also research this field, contributing their own expertise and expand the currently lacking number of academic papers on this subject. I also hope it will

help to spread awareness of this issue to broader society, and help to eliminate barriers to progress which continue to perpetuate to this day.

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