

**Urban Hydro Corridors: Advancing Sustainability Strategies in Urban
Settings
A Finch Hydro Corridor Recreational Trail Case Study**

by

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Abstract

The area surrounding the Finch Hydro Corridor Recreational Trail located in the northern edges of the Greater Toronto Area, is poised to see extensive urban development due to significant transit and infrastructural developments. Hydro corridor's present a multitude of opportunities to enhance sustainability strategies in urban settings. The rate of transit and infrastructural investment in the area must accompany and balance community and ecologically centred design. Overlooked and underappreciated spaces, such as the Finch Hydro Corridor Recreational Trail site is well-positioned to provide high-performing greenspaces that provide amenities and activities for everyone to enjoy. This research proposes the best design approaches for multi-use hydro corridor revitalization with a focus on a specific transect of the extensive Finch Hydro Corridor Recreational Trail. This research employs an in-depth review of various planning studies, policy documents, urban design strategies, design guidelines, parks and recreation documentation, along with a series of site visits to accompany my research findings. This research is intended to inspire thought around urban environmental design strategies centered around underutilized industrial greenspaces. Greenspaces have become integral in shaping and benefiting civic and community life and can be credited with acting as places of refuge and respite in a bustling metropolis. Landscape performance can be defined as a measure of the effectiveness with which landscape solutions fulfil their intended purpose. This study proposes, that if leveraged well, the Finch Hydro Corridor Recreational Trail study site can be a successful area to implement multifunctional landscape design elements that enhance social, environmental, and economic realms.

Keywords: Urban design, landscape ecology, planning, parks and recreation.

Foreword

This Major Paper fulfils the requirements set forth by the Environmental and Urban Change (EUC) Master's Program. Through this major research, I set out to further strengthen my knowledge in environmental planning practices and design strategies for urban greenspaces, in support of biodiversity and community health and well-being. The focus on urban design strategies for the Finch Hydro Corridor Recreational Trail contributes to my interests in the planning field as set out in my learning components, objectives, and strategies in my Plan of Study (POS). This research paper compliments my components in my area of concentration (environmental planning, and contemporary urban planning, design, and natural areas). This research explores the experience of urban hydro corridor revitalization in an urban setting that has the potential to enhance landscape performance. A general discussion is presented first on the Finch Hydro Corridor Recreational Trail site, and this information is followed with a review of conceptual approaches to landscape ecology and design, and a policy and planning documentation analysis. The case study is then introduced highlighting the site's history, and current trail features and then concluding with proposed design recommendations and future considerations for the study site.

“Hydro corridors” are large swaths of land with tall (80 ft) transmission lines, used primarily for the transmission and distribution of electrical energy.

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As my academic journey comes to an end, I reflect on my intellectual growth, my insatiable curiosity, and my resilience that served me like a trusted companion during some of the most volatile times. I am looking forward to my continued progress in this field as a planning practitioner and as I go on to pursue meaningful and engaging opportunities and embark on a brand-new chapter in my life.

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Section 1: Introduction

The City of Toronto is home to an extensive outdoor multi-use greenspace situated along and parallel to Finch Avenue, the Finch Hydro Corridor Recreational Trail nestled along the northern edges of the city. Hydro corridors are often vast open space networks and have the potential to create opportunities for community connectivity and support recreational activities. The City of Toronto and other cities across Ontario have revitalized former industrial hydro corridor lands and rail lines, such as the Scarborough Meadoway, Guelph, Toronto's Green Line, and Gatineau Hydro Corridor. For instance, Toronto's proposed Green Line project is situated alongside a former rail line in mid-Toronto, now a 5-kilometre long provincially owned electric transmission (hydro) corridor, and it offers opportunities for a lush natural space in the heart of the city while offering a mostly uninterrupted path for exercise and recreation. The project will revitalize this underdeveloped hydro corridor running east-west, into a trail and linear park system. According to Urban Toronto (2019), "Looking to connect roughly 45 separate land parcels (most of which are already government-owned properties), the linear park would run from the St. Clair West and Caledonia Road intersection in the north, diagonally to Dupont and Dovercourt Road, and then eastward along the CP Rail corridor to Davenport Road" (Debergh, 2019). The focus of the Green Line project is connecting existing spaces and implementing streetscape improvements and creating a cohesive design.

The Finch Hydro Corridor Recreational Trail is a large trail network spanning approximately 38 kilometres; therefore, this research will offer insights into a portion of the trail, beginning at York University from Sentinel Road and Murray Ross Parkway, extending towards Dufferin Street. This specific land parcel of the transect is fascinating and worthy of analysis in that it is an overlooked and unmanaged site with immense potential for ecologically centred revitalization. This research will spotlight design dynamics and the regulatory framework that guides the revitalization of the Finch Hydro Corridor Recreational Trail as a whole, which applies to this paper's specific transect study site.

According to the trail classification system, the Finch Hydro Corridor Trail is considered a primary trail with secondary trails that act as feeder or tributary routes for the larger trail (Toronto Multi-Use Trail Design Guidelines, p. 3). The Finch Hydro Corridor Recreational Trail is an opportunity to create a nexus for achieving active transportation and environmental goals and mandates and an opportunity to make the most of city assets. This

research will additionally look at the state of Finch Hydro Corridor Trail network, assessing its current multi-modal design features and measuring it against the *City of Toronto's Multi-use Trail Guidelines* (2015), which is a joint project of the City of Toronto's Transportation Services and Parks, Forestry and Recreation Divisions. The consultants for Toronto's *Multi-Use Trail Design Guidelines* are Victor Ford and Associates Inc., landscape architects. According to Victor Ford and Associates Inc., special care was taken to "balance transportation needs against natural environmental values, to protect one of the main features of Toronto's trails that makes them so attractive to users" (Victor Ford, n.d.). Secondly, this research will explore the issues identified by the city's *Park Plan* that relate to managing the natural environment around the trail; specifically pertaining to the public realm policies outlined in the *Official Plan* (OP) that support accessible parks, natural areas, and open spaces to meet needs for recreation, nature, and heritage.

The trail is also an opportunity to explore design improvements and what's possible at the site, given its unique location in Toronto. Exploration and assessment of the challenges in managing the natural areas of the trail will also be highlighted, while identifying opportunities for improvement. What are the current design features that support environmental protection and stewardship in the Finch Hydro Corridor Trail? What are the best design practices to improve connectivity between multi-use and natural environments (ravines and valleys) around the corridor? What are the best design approaches for multi-modal urban hydro corridor revitalization? What is the experience of hydro corridor revitalization across urban centres in Ontario? How does the current existing design features of the Finch Hydro Corridor Trail reflect the supporting plans, documents, and mandates intended for the multi-use trail? What do assessment and observation of the multi-modal design features and elements of the Finch Hydro Corridor Trail reveal about supporting pedestrian and cycling mobility? What are the most prominent design features and where are they located? How do they advance community access, mobility, and ecological integrity? Can they be enhanced and improved? The queries are the core questions that are explored in this paper. This study's methods include site observations and analysis, reviewing and consulting media documents, municipal documents, policy documents, parks and recreation-centred trends and case studies, provincial policy documents, planning documents, design guidelines and standards, and scholarly literature. To aid in this research, the analysis also references a series of notable multi-kilometre long urban mobility and natural environment

trails and paths, with a view to understanding key design features that make them appealing and useful to their communities.

The corridor transect pertinent to this research, is also located within one of the City of Toronto's designated Neighbourhood Improvement Areas (NIAs). Those living in high density areas, those underserved by other outdoor recreation amenities and trails, and those living in NIAs (See Figure 4-1) would likely see the highest and most valued increase in trail use (Trail Strategy, 2013, p. 123). There are several advantages and opportunities in sustaining and managing a multi-use trail system for the community and neighbourhoods at the micro-level and the region at large. The transect currently upholds a minimum standard of stewardship with respect to the conservation of heritage and archaeological features within the York University portion of the trail, as well as the city of Toronto-run farm allotment in the corridor's right of way (ROW). However, more can be done to further honour the Indigenous community that settled in the area for several years in the area pre-colonization. The multi-use trail site along the Finch Hydro Corridor trail transect should be planned as a high-performance public space (HPPS) that generates multiple economic, social, and environmental benefits (Barth, 2020). Additional design interventions are needed along the corridor that prioritizes naturalization and habitat and species protection, ecological literacy components, community engagement, safety features, and programming for the community. The future growth poised for the surrounding community and neighbourhoods will create opportunities to enhance public spaces to support the overall well-being and health of the community and non-human species. This study offers insight into the planning and design process, and some of the opportunities available in sustaining and managing multi-use trail systems and greenspaces within a dynamic urban context.

Section 2: Conceptual Approach

The environment is shifting in the future of parks and recreation systems planning. From its humbler beginnings, The National Recreation and Park Association (NRPA), a non-for-profit organization published its *Park, Recreation, Open Space and Greenway Guidelines* in 1996. Since those simpler times, parks and recreation agencies are now involved in more complex matters including, socio-economic issues, such as the COVID-19 pandemic, wildfires, urbanization, social equity and services, habitat restoration and economic development (Barth, 2020). Barth goes on to explain that it's time for a new approach to parks and recreation system planning that not only addresses traditional parks and recreation

challenges but is also robust and comprehensive enough to address broader community wide issues. Building from this awareness, the Finch Corridor serves as an ideal candidate to incorporate meaningful design elements to respond to societal shifts and expectations. Barth suggests that the traditionally linear and narrowly defined parks and recreation system master plan (PRSMP) must be replaced with a cyclical, open-ended process that is constantly updated and integrated with other foundational public realm plans, such as long-range transportation plans, stormwater master plans, habitat conservation plans and future land-use plans (Barth, 2020).

Theoretical perspectives on park spaces, landscape ecology, and landscape design are diverse and range in applicable approaches. Urban ecology principles developed since the 1970s, around the time of the field's origins. Since the 1990s, the landscape field has reinvented itself in different guises including, but not limited to: landscape-as-art, landscape urbanism and landscape infrastructure. Each of these frameworks combines new ways of thinking about the city as an environmental system with varying emphasis on form, performance, and program. New perspectives that combine ecology and design are fundamental to develop insights that work to progress and enhance design features and positively influence the revitalization of urban hydro corridor landscapes. "The concept of landscape ecology, as focusing on spatial relationships, fluxes and changes in energy, materials and species across large land mosaics, apparently had its first major impact on five American participants at a 1981 meeting of the 600-member Netherlands Society Landscape Ecology in Veldhoven" (Forman, p. 26, 1990). According to Grose (2014), the shifting fields of interest in both design and ecological science, we are on the cusp of very exciting opportunities to close the gaps between the two disciplines (p. 73). Renowned researcher and urban quality consultant Jan Gehl wrote, "I'm a strong believer in planning based on the human body – what we can see, how we move, and what speed we naturally move. That speed we move affects the way we see the details and understand the surroundings" (Stubbs, 2020). This insight resonates with the design perspective for public spaces where sustainable and human-scaled planning approaches are being increasingly favoured. The principle of human-scaled urban design is a favoured approach in New Urbanism, which is a planning and development approach based on how cities and towns had been built for the last several centuries (Congress for New Urbanism, 2021).

Greenway networks are one of the most fundamental elements of enlightened town planning, as postulated by Randall Arendt, an American landscape planner, site designer,

author, lecturer, and advocate of “conservation planning” with 45 years of professional practice. He goes on to state, “Simply put, greenways and the parklands they connect with neighbourhoods, schools, and mixed-use centres unify everything to produce a superior community form, enhancing marketing, increasing property values, providing for stormwater infiltration, and improving the quality of residents’ lives” (Arendt, 2019). According to York University’s Secondary Plan,

“Greenways are public corridors for pedestrians and cyclists that connect parks, natural heritage features, historic sites, cultural landscape features, neighbourhoods and other areas. They can be waterfront promenades, urban walks, environmental demonstration trails, heritage walks and nature trails. Greenways expand opportunities for urban recreation, provide alternate ways to move through a city and enhance the experience of nature, community and city life” (p. 24).

According to the *Keele Finch Secondary Plan* (2020), parks without borders is a design approach to help unify parks spaces with surrounding neighbourhoods. This is achieved through “configuring” and designing parks in a way that makes them more accessible, visible and welcoming through improved entrances, edges and park-adjacent spaces” (p. 18). The transect study site creates a spine that could perform advanced social and environmental functions for the community in support of their livelihood’s. The concept of unification within communities is seldom explored and could see benefits within the context of the Finch Hydro Corridor Recreational Trail study site, as it is perfectly positioned to incorporate design elements that support resident’s ability to live happy and healthy lives.

Some scholars (such as Trammel et al., 2018) suggest six actionable opportunities for further integrating landscape ecology concepts into landscape planning efforts: 1) use landscape sustainability as an overarching goal, 2) adopt a broad ecosystem services framework, 3) explore the role of landscape history more comprehensively, 4) regularly consider and accommodate potential effects of climate change, 5) use landscape models to support plan decisions, and 6) promote a greater presence of landscape ecologists within agencies that manage large land bases and encourage active involvement in agency planning efforts. Landscape ecology can be more effective in achieving the underlying goal of the planning and design of sustainable landscapes. These sets of actionable landscape ecology concepts were developed in response to the lack of acknowledgement of pattern-process relationships, connectivity and fragmentation, ecosystem services, landscape history, and

climate change in 295 reviewed North American planning decisions. The authors argue that these actions may improve the durability, defensibility, and sustainability of landscape plan decisions. Including a landscape perspective in resource management decisions must be common practice as managers and responsible parties have a stewardship responsibility to understand and manage impacts when designing a space (McGarigal, 2010). Reduced or threatened positive experiences of nature interactions seem to be important factors in the emergence of civic participation in stewardship of urban ecosystems (Andersson, et. al., 2014, p. 3). Understanding the relationships between patterns and processes and understanding how landscape mosaics interact to affect ecosystem processes is fundamentally a lesson in holistic planning processes.

The concept of multifunctional elements throughout a landscape is documented as highly informative in designing a landscape for performance (Lovell and Johnston, 2009). Landscape performance can be defined as a measure of the effectiveness with which

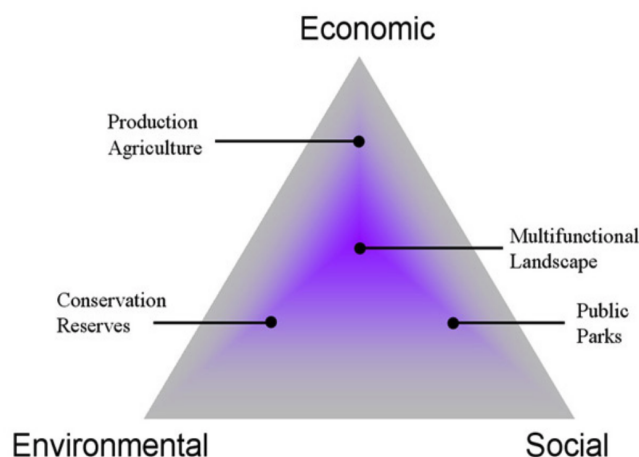


FIGURE 1-1: CONCEPTUAL DIAGRAM OF MULTIFUNCTIONAL LANDSCAPE FRAMEWORK WITH SOCIAL, ENVIRONMENTAL, AND ECONOMIC BENEFITS. SOURCE: LOVELL AND JOHNSTON, 2009.

landscape solutions fulfil their intended purpose and contribute to sustainability (Landscape Architecture Foundation, 2021). According to the Landscape Architecture Foundation, research has shown that well-designed landscapes provide an array of benefits from flood protection to increased revenues to mental wellness.

Anthropogenic landscapes too often serve a single function, such as cropland for food

production or parks and recreation, according to Lovell and Johnston (2009). Ecologists are increasingly turning their efforts toward the interactions between humans and ecological processes in anthropogenic landscapes. Linear urban spaces like the Finch Hydro Corridor Recreational Trail can serve multiple functions rather than just a single use. Figure 1-1 above illustrates a conceptual diagram of multifunctional landscape framework with opportunities to benefit the environment, social, and economic arena. As biodiversity and ecological

heterogeneity are lost with land-use intensification, Johnston and Lovell explain that biodiversity conservation as a specific goal has important implications for ecosystem function. The Finch Hydro Corridor Recreational Trail study site sits in between two ravine systems that encompass the space. The City of Toronto has one of the most extensive ravine systems in the world and is known as a ‘City within a Park.’ Covering 11,000 hectares or 17 per cent of the city’s land area, this system spills into the city’s parks, neighbourhoods, and urban landscape (City of Toronto, 2019). The city has recognized biodiversity as a key component worth preserving in urban landscapes. Studies suggest that vegetative buffers provide habitats for wildlife and increase the biodiversity of flora and fauna which are indirect environmental benefits (Lovell and Johnston, 2009).

With the estimated increase in population and growth, many will look for places of respite from the crowded and strenuous streets and bustling places. Population projections produced by the Ontario Ministry of Finance (2020), estimate that the Greater Toronto area (GTA) is projected to be the fastest growing region in the province, with its population increasing by 2.6 million, or 36.7%. The population is expected to grow from 7.0 million in 2019 to 9.5 million by 2046 (Ontario Ministry of Finance, 2020). Urban greenspace networks will need extra attention and action, as the GTA sees an increase in population. The quality of community health and proximity to greenspaces has been extensively studied in the urban planning scholarship, therefore moving forward, the city and stakeholders must act on providing public spaces that meet the standards and principles identified in policies and strategies, while exceeding urban design expectations. The Finch Hydro Corridor Recreational Trail is a hidden and underappreciated space between two major arterial roads, and two extensive ravine systems, that deserves attention and recognition, and could potentially become the standard for Corridor revitalization in the city. As the city continues to grow, greenspaces will become rare and essential spaces especially in dense and built-up areas. City patrons and wildlife deserve spaces of respite in industrial, commercial, and residential zoned areas therefore we need to make the best use of overlooked urban greenspaces in the city.

Based on ecological principles, the Finch Hydro Corridor Recreational Trail presents opportunities to enhance the offerings of the landscape to serve multifunctional purposes. Creating interactive landscape design is beneficial considering the recent global pandemic, where more are seeking alternatives to being indoors and seeking interaction with the environment. Multifunctional design could help bridge the gap between the research of

landscape ecology and its application in the design of landscapes based on ecological principles (Lovell and Johnston, 2009), and help as a response and conceptual basis for the revitalization of the Finch Hydro Corridor Trail transect.

The ability to capture the various ways that people interact with and benefit the ecosystem within the design process is a challenge in cities. There are more pronounced tensions between high concentrations of people with diverse demands and limited access to different ecosystem services (ES). According to Andersson et al. (2014), supporting urban sustainability is to ensure cities contain heterogenous, multifunctional and accessible blue and green infrastructure throughout our cities to deliver urban ES. Quality of life in cities depends on ES produced locally, despite global trade and large ecological support areas (Andersson et al., 2014, p. 1). According to Esroy (2016), the concept of connectivity stems from the relationships between the spatial structure and functioning of landscape and means “the degree to which a landscape facilitates or impedes movement of organisms among habitat patches.” Sustainability cannot be achieved without considering connections at the landscape scale (Landscape Architecture Foundation, 2021), and the Finch Hydro Corridor Recreational Trail is a window of opportunity to incorporate design principles that are flexible, adaptable, and responsive to a wide range of both human and non-human needs.

The term ‘sustainable urbanism’ (2015) encompasses topics of sustainability related to the entire process of city development and management. Sustainable urban design fits within sustainable urbanism as a subset and can be thought of as a focus area concentrated around issues of design while still maintaining strong links to the other realms such as planning, engineering, real estate, and policy (p. 1). According to Wheeler (2000), the objectives of urban sustainability include improved social equity (Larco, 2015, p. 5). Most attempts to define sustainable development include the goals of minimizing energy use and greenhouse house gas (GHG) production. This may also include the desire to enhance social equity as well as protecting and creating areas that have a strong identity or ‘sense of place’ (Larco, 2015, p. 4). Endlicher et al. (2011), state that the social and cultural dimensions of urban ecology are problems that should be discussed aside from the natural dimensions of the discipline. Social and cultural dimensions include urban planning, residence and recreation, traffic and mobility and economic values. According to Pineo (2020), the concept of healthy urban development needs to be reframed to encompass the connected lenses of sustainability, equity, and inclusion and the consideration of health impacts and multiple spatial and temporal dimensions.

There is a diverse set of literature in the landscape design and landscape planning scholarship that report on multiple facets of the planning process. A report by Parks People, an organization that helps people activate the power of parks to improve the quality of life in cities across Canada noted that the potential of parks to impact many of the challenges of urban life makes them more relevant now than ever. Parks People (2021) found that 94% of cities reported greater use of parks in the last year with 82% of Canadians reporting an increased use of parks during the pandemic. Toronto's parks system is over 8,000 hectares and parks are critical to the development of new neighbourhoods. The COVID-19 pandemic has increased attention on parks as public health infrastructure. Canadian parks data (2021) also revealed that 85% of Canadians want to see more public funding go towards improving parks and greenspaces, including maintenance (43%), amenities and higher quality designs (27%) and community programming (23%). Prioritizing community design so that parks and public spaces are their spines (Parks People, 2019, p. 9) is a key facet in thriving communities.

In a report highlighting the Jane and Finch neighbourhood's consultation history (2020), it was revealed that youth in the community expressed a desire for the creation of a conclusive list of area programs and services available to them (p. 3). A consultation in 2006 revealed that public outdoor space is highly valued among young area residents, specifically youths living in apartment type housing. Community spaces that provide programs and services play an integral role in supporting health and well-being of city patrons. In a consultation report, residents identified a lack of non-programmed, non-regulated public space within the area, contributing to the over-policing of young, racialized community members in Jane-Finch (p. 3). The report also noted that women avoid using spaces within the community such as the basketball court and pool due to fear of assault. This research revealed a lack of community spaces viewed as safe for women (Antwi, 2020, p. 4). The area surrounding the intersection of Keele, and Finch has recently been the subject of multiple planning studies as the area is expecting significant future growth. Due to investments in the subway and light rail transit (LRT), the City of Toronto is spearheading a Council directed Planning Study known as the Keele Finch Plus (KFP) (City of Toronto, 2016). The intersection of Keele and Finch Avenue West has been identified as a "mobility hub" (Metrolinx) and a "major transit station area" (in the Province's Growth Plan for the Greater Golden Horseshoe), with potential for increased residential and employment densities (City of Toronto, 2016).

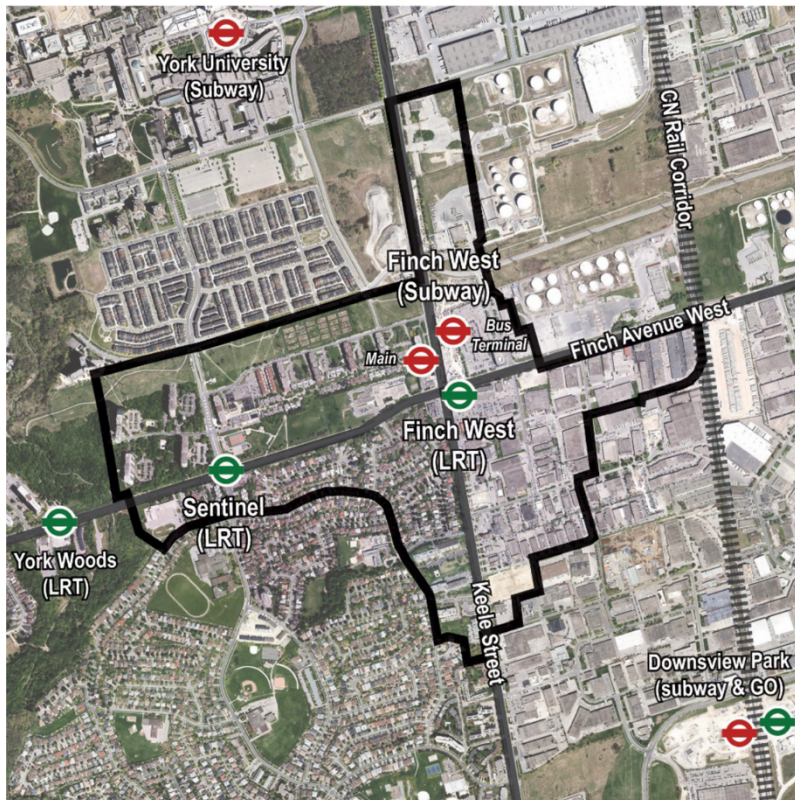


FIGURE 2-1: AERIAL IMAGE OF THE EXISTING KEELE STREET AND FINCH AVENUE WEST AREA SHOWING EXISTING AND FUTURE RAPID TRANSIT STOPS. SOURCE: CITY OF TORONTO, KEELE FINCH PLUS: INTERIM REPORT.

According to a KFP Study information sheet, the area surrounding the Finch Hydro Corridor is an area of higher social need based on the city’s NIAs work, and “there is an opportunity to leverage investment in transit for the benefit of current and future residents and businesses” (KPS Information Sheet, 2017). Goals for the study encompass encouraging the right kinds of growth and investment in the area, and direct investments into broader community

developments. Several studies were conducted to demonstrate the best ways from an urban design perspective, to support intensification, enhance the public realm, and plan for the future of the area (DTAH, 2019).

Urban equity in landscape design is an issue that is insubstantially discussed in scholarly literature, however urban equity has recently garnered much attention concerning the use of greenspaces during the pandemic. An online survey of 32 cities revealed that 40% said COVID-19 prompted a greater focus on systemic inequalities in parks, such as access to parks in different neighbourhoods, and levels of investment (Parks People, 2021). The study of city staff also revealed that park use during the pandemic has increased significantly in cities all over Canada. This has highlighted how parks have become a lifeline that supports community resilience and provides a place of refuge to de-stress and connect with others. The report noted:

“Our survey of Canadians found that people who identified as Black, Indigenous or a person of colour were more likely to report experiencing barriers to park use, including concerns about ticketing,

social judgement, and harassment. Additionally, 90% of cities reported homelessness in parks as a challenge, a significant rise from last year. Addressing these inequities is essential in moving towards parks where more people feel safe and see themselves reflected.”

Community-led programming centred around collective land stewardship, building relationships across cultures to facilitate mutual learning of the history of the land was presented as a takeaway of the inclusion facet of the parks report. Equity issues must be addressed in the design of greenspaces and for the future revitalization of the Finch Corridor transect. Future planning of the Finch Hydro Corridor transect must consider voices of marginalized groups that have been historically and presently left out of the planning processes but can positively shape their own communities. Post-pandemic, there is an opportunity to alter and influence the conventional approaches to parks and landscape design.

The Finch Hydro Corridor before colonization was home to an Iroquois and Huron-Wendat aboriginal community, and the design today should honour how this community was integral to shaping the space. Many reports centred around trails, parks, and public realm projects acknowledge traditional territories of Indigenous peoples, but I believe there is a fundamental lack of vision in implementing meaningful design features that support and honour these communities. In practice acknowledging Indigenous people should go beyond mere written words in a report and into high-level, on the ground interactive design elements. The Finch Hydro Corridor is rich with cultural history and is an ideal setting to think about strengthening community relationships and honour these communities in spatially just ways on the land they once occupied. Andersson et al. (2014), argues that cultural ecosystem services (CES) may serve as a useful entry point for managing nature in cities for multifunctionality. Since its inception and acknowledgement in 2003 by the Millennium Ecosystem Assessment (2003) as being directly connected to human health, CES have been described as including dimensions such as recreational activities, sense of place, spiritual connections, health, and aesthetic values (p. 1). CES could potentially build awareness on a broader suite of ES and on an already existing appreciation of nature, and “help embed multifunctional ecosystems, and the services they generate, in urban landscapes and the minds of urbanites, planners, managers, and educators (Andersson, et al., 2014, p.1).

In the City of Toronto's *Downtown Parks and Public Realm Plan: Public Space Public Life Study* (2018), the acknowledgement at the beginning of the report was stated as follows:

“The City of Toronto is located on the traditional territory of the Huron-Wendat Confederacy, the Haudenosaunee Confederacy, the Mississauga's of New Credit First Nation, and the Métis people, and is home to many diverse Indigenous peoples. We acknowledge them and others who care for the land as its past, present and future stewards.”

This report highlights life in Downtown Toronto through thematic studies. Indications of Indigenous community engagement were evident after reviewing the report. This report surveyed Riverdale Park West in Toronto, where qualitative findings were reported and where volunteers mapped stationary activity. The findings at Riverdale Park West, convey the significance of public initiatives in drawing the public to enjoy the park and making the space a city-wide destination. This might be accomplished through “celebrating Indigenous cultures and histories of the Don River Valley with a focus on creative placemaking and interpretation” (p. 64). Additional findings recommended developing partnerships with Indigenous communities to explore meaningful, appropriate placemaking in the park, as a gateway to the broader Don River Valley System. The entirety of the report including Indigenous people in the design process was seldom mentioned, which should influence a stronger case for the Finch Hydro Corridor to re-imagine the space as a sacred Indigenous place in the Toronto area, that focuses on human and ecological connection.

Modern urban planning and urbanization must be re-imagined. Orthodox planning practices should be challenged and arguments for the inclusion of conceptual approaches to imagine new techniques with respect to the profession should be further investigated to support the conversation. In the context of urban lifestyles, spirituality must be seen as an integral part of human connectedness (Ersahin and Boz, 2018). According to the findings of a journal article, *Urban Spirituality: Need for Connectedness and Communication*, spirituality not only encompasses human connectedness but also reveals such human needs as belonging, safety, transcendence, and communication, which by nature are intertwined (2018). The authors suggest that urban spirituality is mediated through several innate needs, and challenged in the urban context via materialistic, relational, moral, and transcendental means. Campbell and Svendsen (2014) suggest that sacredness is imbued throughout the landscape,

in the ways we remember the dead, honour the living, and connect to the spiritual plane. The direct benefits of nature and ecosystem interaction can often even go beyond the tangible aspects, where benefits can be understood through the human cognitive perception (Andersson et.al., 2014, p.1), “...by examining the use and stewardship of urban natural resources, we can see the active role of humans in making things sacred, even in our ordinary, everyday landscapes” (Campbell and Svendsen, 2014). The urge to use nature in ritual acts of designation remains powerful even in our contemporary, urbanized lifestyles, as Campbell and Svendsen’s work in studying environmental stewardship has suggested. In their research they have found hundreds of landscape-based memorials in honour of September 11, 2001, across the United States ranging from tree plantings to commemorative parks and plazas, to forest restoration sites. Different cultures bring their unique understandings of the sacred to how they interact with urban greenspace (Campbell and Svendsen, 2014). These narratives support the need for further evidence regarding greenspaces and the unique ways that they can be sources for health and well-being.

Section 3.0: Case Study Profile

The focus of this study is a portion of the Finch Hydro Corridor Recreational Trail which is a 37.8-kilometre walking and bike path that runs east to west parallel to Finch Avenue. Figure 3-1 below is an eastward aerial view of the transect study site and Figure 3-2 is a closer look of the study site in the context of the broader urban landscape. The Finch Corridor Recreational Trail consists of over 19 km of paved trail which travels from Norfinch Drive in North York to G. Lord Ross Reservoir and then connects to the hydro corridor that extends to Middlefield Road in Scarborough.

There is a range of housing types concentrated along Finch Avenue east of Jane Street, including high-rise and low-rise apartment buildings and townhouses (City of Toronto, 2021). The trail has intermittent breaks in between but these usually continue through the city streets to allow for a continuous connection. It is in the high voltage towers right of way that travels along the northern end of the city (City of Toronto, 2020). To increase the city's bikeway network, the City of Toronto proposed a Bikeway Trails Implementation Plan, and consulted with Transportation Services, Toronto and Region Conservation Authority (TRCA), Toronto Parks, Forestry and Recreation (PF&R), Hydro One, Toronto Water and a number of other stakeholders. Subsequently, the city organized a public open house to receive input from cycling groups and individual cyclists, to identify opportunities for new bikeway trail connections to expand and enhance Toronto's bikeway network. A feasibility assessment was undertaken by staff that included a review of technical and design considerations, network connectivity, property implications, approval requirements and preliminary estimated cost (City of Toronto, 2012). The site is also nestled in between the Humber River and the Don River, which are significant natural heritage features that provide important ecological functions that contribute to the health of ecosystems beyond their boundaries (City of Toronto, n.d.).

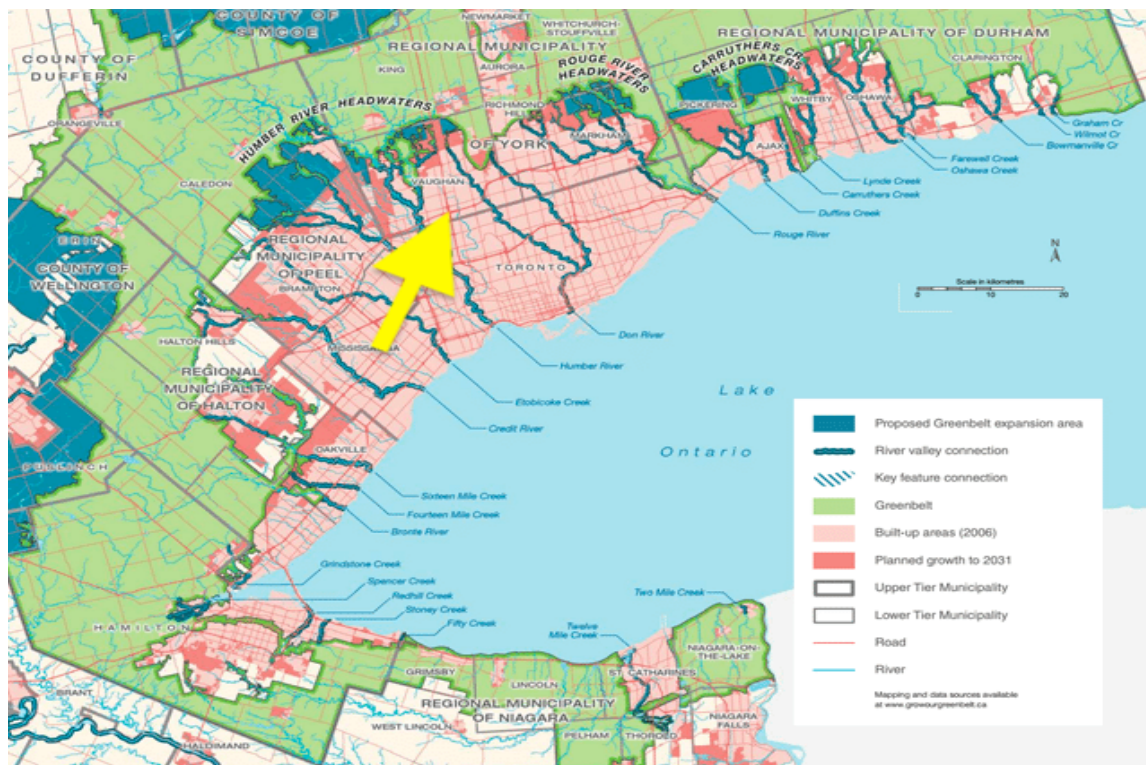


FIGURE 3-3: SITE IDENTIFIED BY YELLOW ARROW, IN THE CONTEXT OF TWO MAJOR HYDROLOGICAL FEATURES WITHIN THE LANDSCAPE. SOURCE: ONTARIO GREENBELT MAP.

The Finch Hydro Corridor Before Colonization

Before urban development and pre-colonization, the settlement area dates to between 1450-1550 AD (and may well predate this time). Around the Sentinel and Murray Ross Parkway intersection remains a significant archaeological site known as the Parson's Site. The Parson's site was an Iroquois/Huron Wendat village where evidence of several longhouses date back between 1400 and onwards. Excavations at the site near York University's campus revealed that the space was home to over 2,000 people for over 20 years. Between 1650-1701, the Mississauga conquered much of the southern Ontario region, dispersing, and displacing the Iroquois. Negotiations between the Wendat, Algonquin, the French, the Iroquois, and the British led to treaties of "assistance and cooperation." There is a strong need to understand Indigenous relationships with this portion of land that precede colonization of the Toronto region, and to communicate these inhabitations in ways that are grounded in the specific places that are meaningful for Indigenous people today.

Colonization of the Landscape

The British colonial administration gradually appropriated land from the Mississauga through treaty signage, eventually gaining total control of this important trade region (Peake, 51). In the 1800s the area became home to German and Dutch settlers arriving from Pennsylvania in the community known as Kaiserville, later called Elia. After remaining a small farming community for decades, the township of North York was created in 1922 the township of North York and it wasn't until the 1950s that the land was sold to developers which marked the end of rural zoning.



FIGURE 3-4: JANE AND FINCH INTERSECTION IN THE 1960S. A GLIMPSE INTO THE SURROUNDING AREA BEFORE SIGNIFICANT DEVELOPMENT. SOURCE: BLOG T.O, 2021.

The Finch Hydro Corridor Today

The area is a product of the 1950s, 1960s, and 1970s when most of the urban built form was planned and constructed (City of Toronto, Jane-Finch Initiative, 2021, p. 8). The area became part of District 10 on the Metro Planning Board's map and by 1962 a plan had been prepared for the area that laid out the streets, blocks, and land uses, including a mix of high and low density housing, that continue to define the area's urban structure (City of Toronto, Jane-Finch Initiative, 2021, p. 9).

The Finch Hydro Corridor Recreational Trail study site is characterized by diverse urban features which make it a fascinating area to study, including: York University campus, which is the third largest University in Canada, a fuel storage facility housing a variety of fuel types (gas, crude, jet fuel, and other types), an urban garden allotment plot, multi-use trail network, hydroelectric power lines, commercial plazas, residential housing, busy arterial roads, Finch West subway station, and an ecological corridor. The area is buzzing with activity, making it an excellent site to monitor and study. Within the York University portion

of the transect, there is a lot of thorough traffic, pedestrians, cyclists, and commuters travelling in and out of the campus. The study site is also situated within two Wards – Ward 7, Humber River-Black Creek and Ward 6, York Centre.

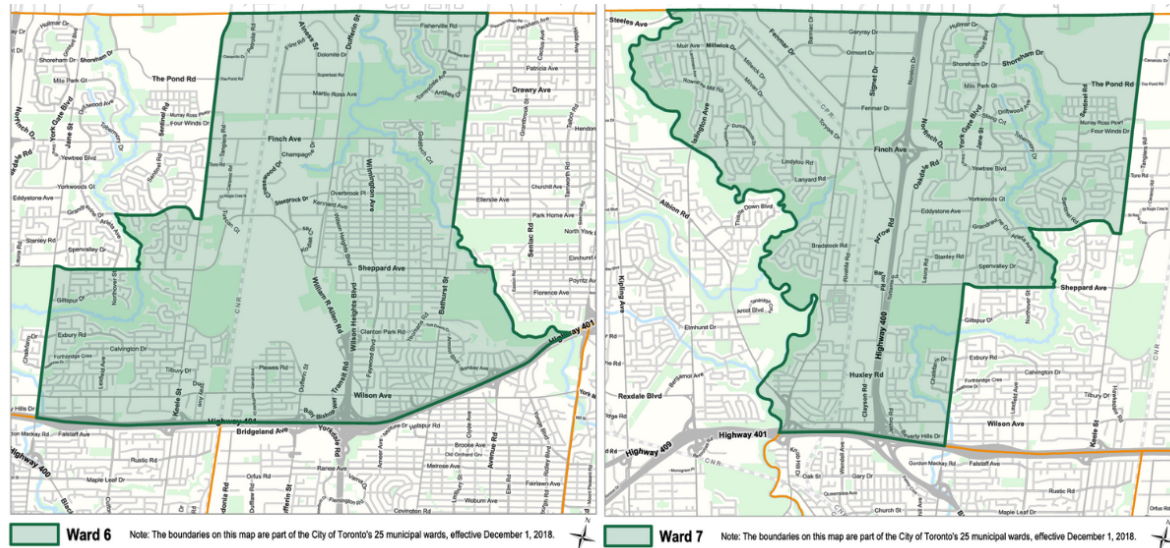


FIGURE 3-5: WARD 6 – HUMBER RIVER-BLACK CREEK AND WARD 7 – YORK CENTRE. SOURCE: CITY OF TORONTO, 2018.

Toronto's Fuel Tank Farm

One fascinating landscape component of the multi-use trail transect is that it is situated in between a fuel tank farm, identified by large white cylindrical fuel storage tanks (see Figure 3-6). This tank farm is a vast fuel storage facility, fuel terminal and is also home to a network of pipelines, called Line 9. Enbridge. It is North America's largest natural gas utility by volume and is headquartered in Calgary, Canada. The pipeline runs through Ward 6 and 7 and extends further southwest towards Sarnia, Ontario and along much of Western Canada (Figure 3-7). Four major oil companies, Imperial Oil, Esso, Shell, and Suncor - maintain tank farms where refined oil is piped from as far away as Sarnia (Nickle, 2010) and distributed to power the city and ensure movement of goods and services. As recently as May

2021, Imperial Oil, one of the major companies that maintains the tank farm along the study site, has undergone a construction project to replace around 63-kilometres of the pipeline.



FIGURE 3-6: STUDY SITE IS SIGNIFICANTLY INDUSTRIALIZED AND CHARACTERIZED BY LARGE WHITE CYLINDRICAL OIL STORAGE TANKS. SOURCE: APPLE MAPS, 2021.

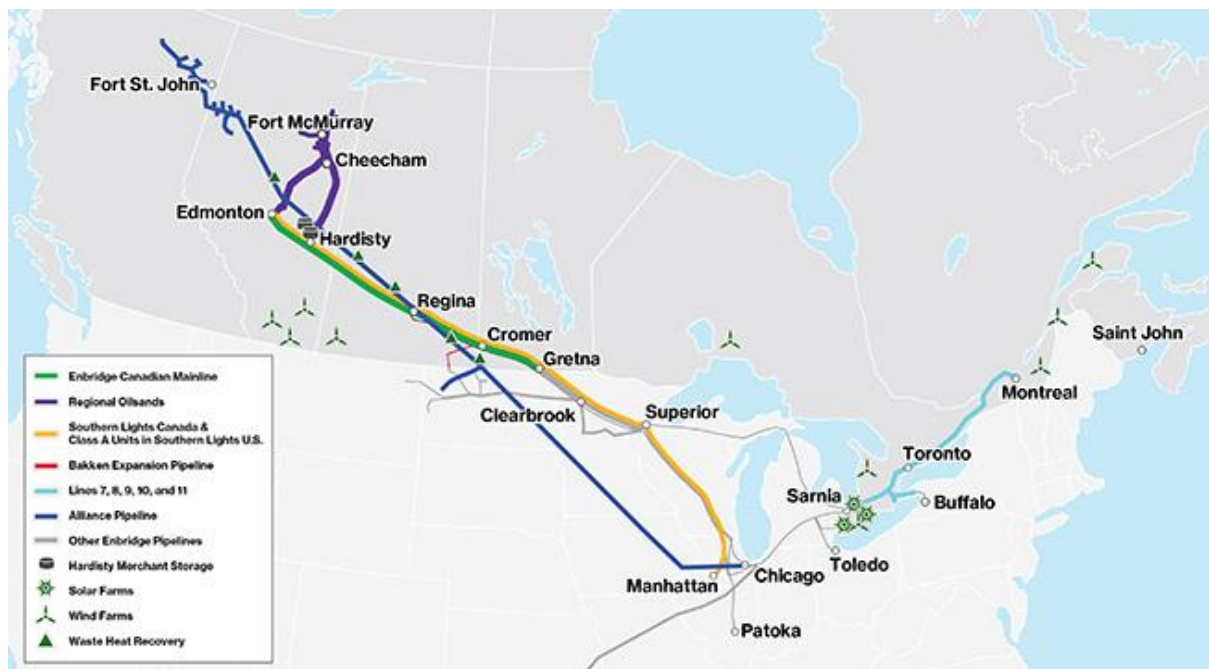


FIGURE 3-7: ENBRIDGE'S MAIN LINE MAP. SOURCE: WWW.ENERGI.MEDIA/

According to Imperial Oil’s website, the Waterdown to Finch Project is a proactive measure to ensure continued safe and reliable fuels supply by replacing 63-kilometres of the pipeline, from the Waterdown pump station in rural Hamilton (Waterdown Station) to the terminal storage facility in Toronto’s North York area (Finch Terminal) (See Figure 3-8). The company also states on its website that it is “working closely with regulatory agencies and complying with all environmental requirements.” According to Imperial Oil’s Environmental Report (2019) for the project, the Sarnia Products Pipeline (SPPL) is important infrastructure that provides refined products used by households and businesses across the Greater Toronto and Hamilton Area.



FIGURE 3-8: WATERDOWN TO FINCH PROJECT PIPELINE REPLACEMENT.
SOURCE: IMPERIAL OIL, [HTTPS://WWW.IMPERIALOIL.CA/EN-CA/COMPANY/WATERDOWN-TO-FINCH](https://www.imperialoil.ca/en-ca/company/waterdown-to-finch)

A Phase 1 Environmental Site Assessment (ESA) and a review of the Environmental Risk Information Service (ERIS) regulatory database reports identified three sites of known hydrocarbon product contamination to soil and groundwater resources (Imperial Oil, 2019). The ERIS database report identified previous reportable spills at Imperial's Finch terminal storage facility. Based on available data, no known active remedial activities have been conducted. Therefore, soils and groundwater may be currently impacted in the Project footprint. Potential adverse effects on the soil were also identified and predicted to be soil erosion, poor re-vegetation, and mixing of topsoil and subsoil (Imperial Oil, p. 5-3). Imperial Oil details its commitment to safety, health and the environment and an article on ExxonMobil's website where Imperial states:

“Imperial Oil continues to make progress toward the safety objective of “Nobody Gets Hurt,” and in 2012, Imperial Oil's safety performance continued to be one of the best in the industry. Imperial Oil also continued to strengthen spill prevention through training, effective operations integrity management and comprehensive inspection and surveillance programs. In 2012, Imperial Oil achieved continued strong environmental performance. In the upstream, Imperial Oil continues to have the lowest flaring and venting intensity of all major operators in Canada. The Kearl oil sands site was certified by the Wildlife Habitat Council in late 2012. It is the first oil sands mining development to receive this recognition.”

This part of the transect is an in-between space in the city that is overlooked, and it is essential to understand the effect on the quality of life for users. The oil tank feature of the site creates increasing complexity in identifying the appropriate interventions for the space. Along the trail transect I inferred what looked like a contaminated area with eroding vegetation (see Figure 3-9 below). From the perspective of a trail user, these contaminated areas are hidden from view and speak to the competing uses and conditions of the transect. An article discussing the potential golden opportunities for Toronto's brownfield sites such as the Port Lands situated along the east bayfront, states, “...the redevelopment of brownfields would remediate the land [Port Lands] and eliminate the risks that they pose to both human health and the environment. There are also numerous economic benefits that will result from the revitalization of unproductive land” (Chen, 2018). With respect to the Finch Hydro Corridor Trail, there is a significant opportunity to remediate potentially contaminated land through naturalization, although it currently remains a challenge. This site is a fascinating

historical space with respect to its rich urban past, and the presence of the tank farm within the same space. As the surrounding area continues to develop and intensify, the need for an expanded and improved parks and open space system grows. This entails enhancing overlooked and unexpected places, such as the Finch Hydro Corridor.



FIGURE 3-9: SITE OBSERVATIONS OF AN ERODED VEGETATED AREA ALONG THE PERIPHERY OF THE OIL TANK FARM. SOURCE: ORIANA NANO, 2021.

Section 4.0: Analysis of Policy and Planning Documents

Hydro corridors offer interesting landscape-scale infrastructure features that could help to foreground environmental sustainability and provide the City of Toronto an opportunity to connect people and communities. Chapter 2 of the OP recognizes that emphasis is placed on maintenance and enhancement of assets to manage change in Toronto's neighbourhoods and greenspace system (OP, 2-3). For this reason, Toronto has invested billions into managing and enhancing existing capital assets. According to the City of Toronto's assets fact sheet, a total of around 14 billion is invested in parks and other lands, and transportation infrastructure (City of Toronto, 2016). The City of Toronto *Corporate Asset Management Policy* adopted by city council in 2019, justifies a systematic approach to total lifecycle asset management due to the scale and criticality of the city's asset portfolio. The policy reads, "The Corporate Asset Management Policy provides the framework to develop a whole of government asset management approach that will ensure long-term asset sustainability; demonstrate a commitment to good stewardship of the City's infrastructure assets; and support improved accountability and transparency to the community through the adoption of appropriate asset management practices" (City of Toronto, 2019, p. 1). The policy's purpose is intended to promote a consistent and integrated approach to asset management across the organization; facilitate logical and evidence-based decision-making for the management of infrastructure assets and support the delivery of sustainable community services now and in the future. The city's asset management vision and goals are consistent with council's emphasis on effective stewardship of the city resources and assets and fiscal sustainability. The vision is, "to ensure the sustainability of municipal services through the effective stewardship of assets and the management of risk, while optimizing asset value" (City of Toronto, 2019, p. 4). Stakeholder engagement is an integral part of the asset management approach and states that wherever and whenever feasible, opportunities be provided for residents and other stakeholders to have input in asset management planning (p. 9). The policy additionally states that asset management plans will also be consistent with the City's OP and reflect how and where the city is growing.

According to the outlined definitions in the policy, Green Infrastructure Assets are "an infrastructure asset consisting of natural or human-made elements that provide ecological and hydrological functions and processes and includes natural heritage features and systems, parklands, storm-water management systems, street trees, urban forests, natural channels,

permeable surfaces and green roofs” (City of Toronto, 2019). The Finch Hydro Corridor transect may benefit from incorporating human-made and natural elements that support and provide ecological functions. The tank farm portion of the case study site presents a significant opportunity for revitalization and enhancement of the ecological features already present. With respect to the pathway network along the transect, there is an opportunity to build on that asset to make it permeable. Infrastructure Ontario does not permit buildings and structures on the hydro corridors, which is a limitation for the design process.

The City of Toronto’s *Natural Environment Trail Strategy* states that ideally all of Toronto’s communities should be well served by trails within an easy walking or biking distance. Those living in Neighbourhood Investment Areas (NIAs, Figure 1-1) would likely see the highest and most valued increase in trail use (Trail Strategy, 2013, p. 123). Through analyzing the Finch Hydro Corridor Trail maps against the NIAs map, the NIAs are in the top west end corner of the GTA, and a portion of the multi-use trail travels through NIA neighbourhoods.

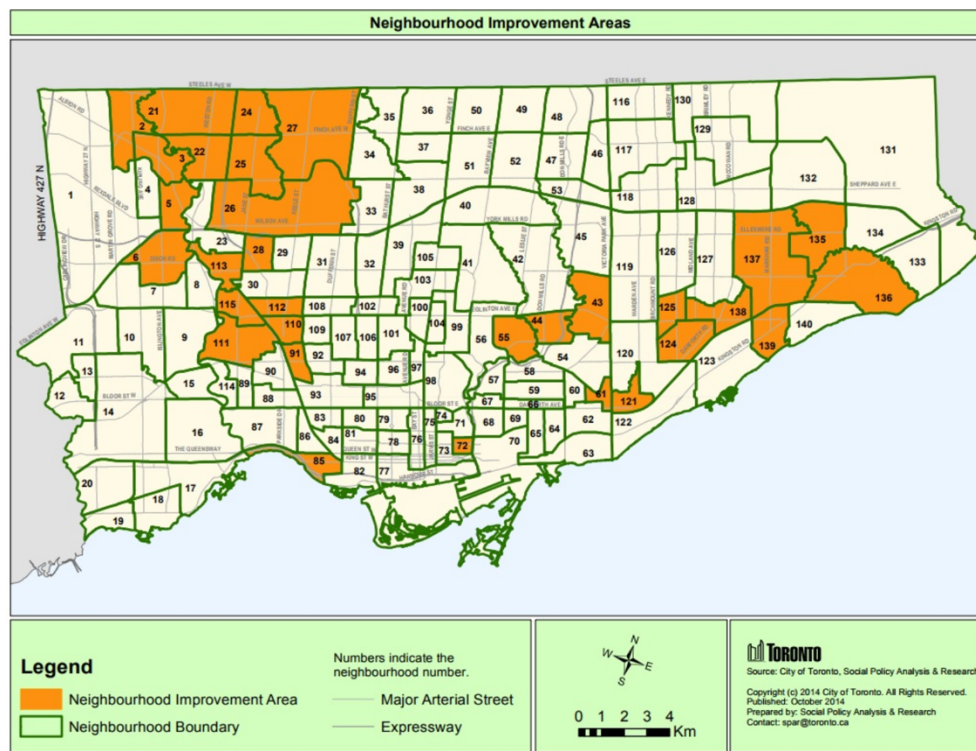
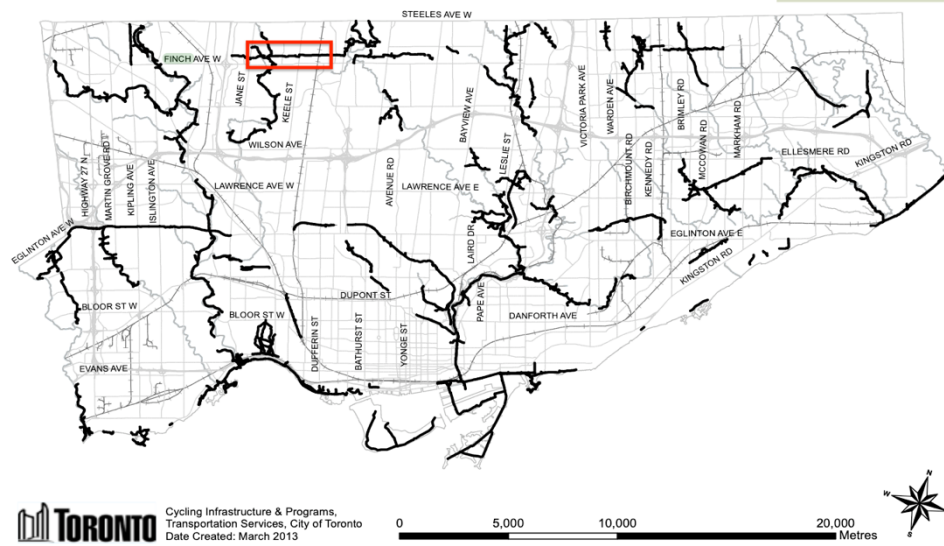


FIGURE 4.1: NEIGHBOURHOOD IMPROVEMENT AREAS. SOURCE: CITY OF TORONTO, SOCIAL POLICY ANALYSIS & RESEARCH, 2014.

Map 5: City of Toronto major multi-use trails (2013)



Some major multi-use trails intersect with or cross through natural areas, creating connections with the natural environment trail system.

FIGURE 4.2: FINCH HYDRO CORRIDOR TRAIL TRANSECT STUDY SITE MARKED IN RED, DEMONSTRATED ALONGSIDE THE NIAS. SOURCE: TRANSPORTATION SERVICES, CITY OF TORONTO, 2013.

Exploring case examples of how these areas might have been repurposed successfully is useful for this study. This requires understanding what makes a great multi-use trail system. Trails in themselves are not all created equal and must conform to the surroundings (Barnett-Woods, 2017). The mark of a great trail is that it has a diversity of uses and functions and is welcoming to everyone. The Capital Trails Coalition based in Washington, DC set out a set of criteria to determine what factors make a good trail. The coalition is a result of a collaboration of public and private organizations, agencies, and citizen volunteers working to advance completion of an interconnection network of multi-use trails in Washington, DC (Capital Trails Coalition, 2017). The vision of the coalition stands out, in that their work seeks to bring stakeholders together with trail users themselves, to “create an equitable, connected and low-stress trail network that will transform public life by providing access to open space and reliable transportation for people of all ages and abilities” (Capital Trails Coalition, 2021). One criterion related to great trails presented by the coalition that could be applied to the Finch Hydro Corridor transect, is the connection of the trail to other destinations. A mark of a good trail is its connection to other trails or destinations, and prominent connection to York University is missing within a portion of the trail network fragmented by Keele Street, a major arterial road.

I believe recreation companies that work on the ground, installing and designing multi-use trail systems are well positioned to provide valuable insight into what constitutes a good trail system. According to the Dirt Artisans (2020), a company that builds world-class, natural surface trails recently provided insight into what makes multi-use trail systems good. These include:

1. Make it Inviting
2. Feel the Flow
3. Add A Variety of Features
4. Consider The Overall Experience
5. Make the Most of Your Local Terrain
6. Pay Attention to Details
7. Cater To Multiple Levels

The city has spearheaded several projects as part of their Cycling Network Plan. Improving access to trails can encourage people to participate in healthy activities and make the city a better place to live, work and play (City of Toronto, 2018). Some of the benefits of multi-use trails are that they can:

- Create pedestrian-cyclist links between neighbourhoods separated from motor vehicle traffic that are comfortable for users of all ages and abilities.
- Provide connections to existing amenities and services such as transit stops, community facilities and amenities.
- Transform industrial greenspaces into public spaces for use by residents and visitors.

Multi-use trails add tangible value to a city or town. Hydro One's transmission corridors operate under the Provincial Secondary Land Use Program (PSLUP) and are planned through a series of public use principles which give priority to public uses over private ones. Public bodies may apply to use hydro corridor lands for secondary use through the PSLUP that allows for the use of transmission corridor lands, while giving consideration for the primary purpose of the land for electricity transmission distribution (Infrastructure Ontario, n.d.). This requires assurance that all land uses are compatible with Hydro One's existing and planned transmission and distribution installations from a safety and operations/technical perspective. Public uses then have a priority consideration for secondary use for the corridor lands,

provided the requirements are achieved. The hierarchy of secondary uses is as follows (Infrastructure Ontario, n.d.):

- New linear public uses have top priority.
 - Examples of linear public uses include roadways, bus ways, walking and bike trails or water/sewer lines.
 - Linear uses are those that run parallel to the transmission corridors. Examples include roadways, bus ways, walking and biking trails and pipelines, subject to Hydro One technical review.
 - Non-linear uses are those that use only part of the transmission corridor. Examples include road crossings, commuter parking, water and sewage mains, garden plots, parks and playing fields.
- New provincial/inter-regional linear public uses have priority over local uses
- New non-linear public infrastructure uses have priority over private uses
- Non-linear recreational uses have priority over private uses
- Multi-use corridors are preferred

The city has approximately 465 acres of park and recreation hydro corridor land under city occupation. A Toronto City Council document (2003) stated that the transfer of the hydro corridor ownership from Hydro One to the Province of Ontario took place December 31, 2002. The document states “the primary purpose of the hydro corridors is for transmitting electricity, the province will continue to allow access for secondary uses including parks and trails, road crossings, water and sewer pipelines and parking lots for transit and commercial facilities” (p. 2). The PSLUP is open to proposals from public bodies or private landowners. If Hydro One gives the proposal technical clearance, Infrastructure Ontario is responsible for executing the appropriate agreement to facilitate the proposed secondary use (e.g., easement/licence). The secondary use application process is highlighted in the flowchart below. This could pose a potential hindrance, in terms of bureaucratic timelines that are lengthy but necessary for the planning process in Toronto.

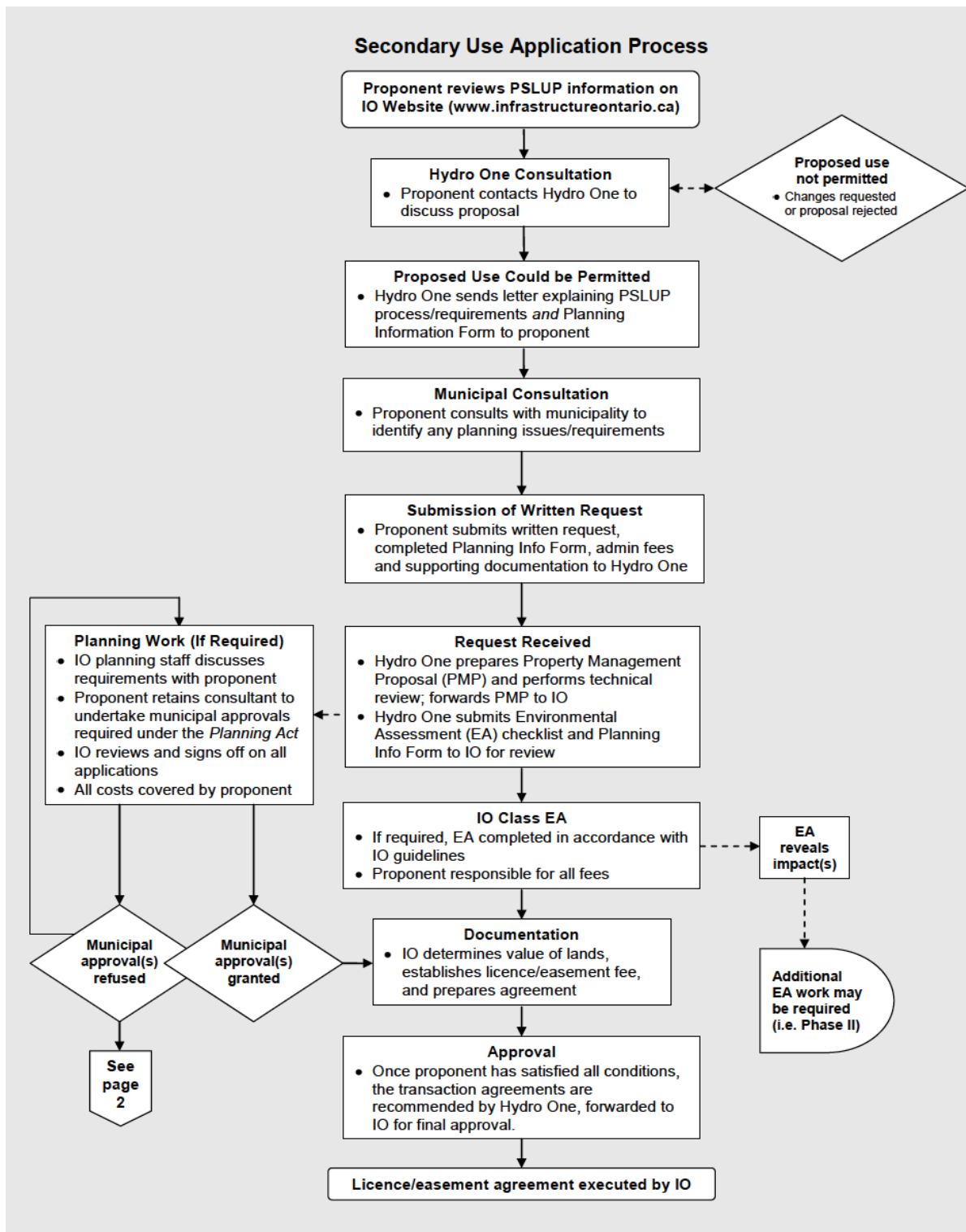


FIGURE 4-3: HYDRO ONE PSLUP PROCESS FLOW CHART. SOURCE: INFRASTRUCTURE ONTARIO.

One of the *Park Plan*'s actions is to “Develop and implement a program to plan, design, manage and maintain natural environment trails on parkland and in ravines to ensure the protection, restoration and enhancement of natural areas” (p. 40). Communicating and connecting with users is a key theme outlined in the City of Toronto Parks Plan, and 6% of public comments from the Parks Plan consultation were about improving communication about parks (Parks Plan, p. 23). The City of Toronto also developed their first Biodiversity Strategy in 2019 (City of Toronto, 2019), which aims to support healthier, more robust biodiversity and increase awareness of nature in Toronto. In addition to a commitment in recognizing the importance of preserving and conserving biodiversity, the city also recognizes the importance of nature in urban environments. According to a resolution designating the City of Toronto a Biophilic City, the city seeks to enhance this recognition of nature in urban environments through “innovative policies, regulations and strategies such as the Ravine and Natural Feature Protection Bylaw, the Toronto Green Standards, the Ravine Strategy, the Biodiversity Strategy, and the Pollinator Protection Strategy” (2019).

Existing and Proposed Multi-use Trails in Toronto

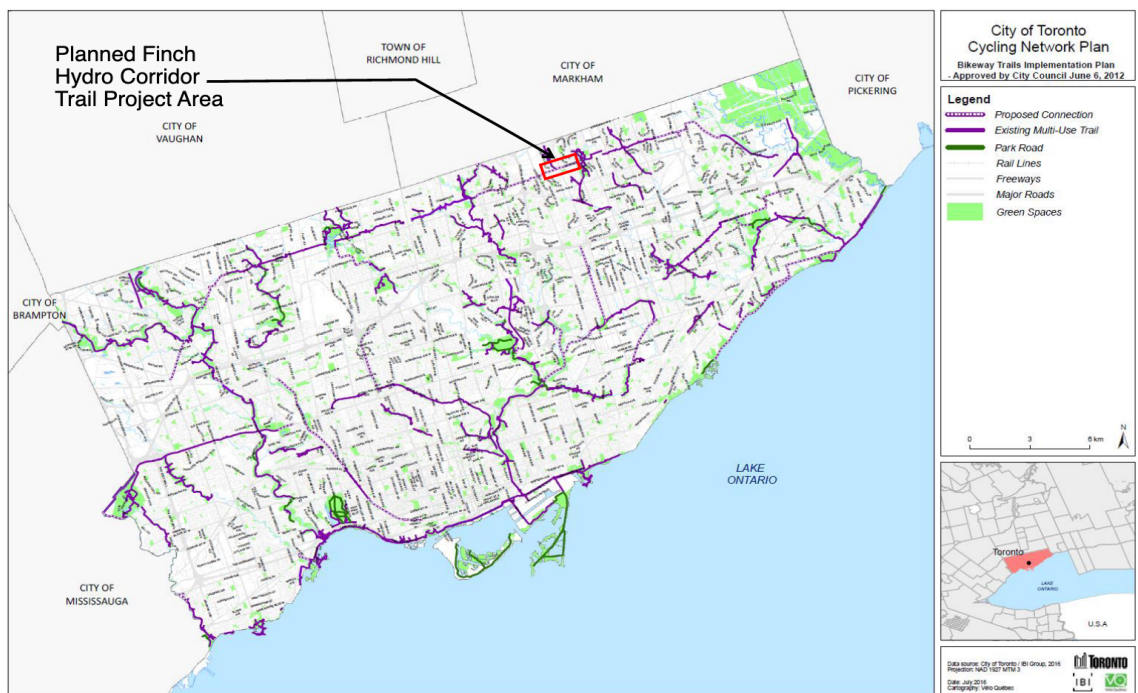


FIGURE 4-4: EXISTING AND PROPOSED MULTI-USE TRAILS IN TORONTO. SOURCE: CITY OF TORONTO, CYCLING NETWORK PLAN, 2012.

The Bikeways Implementation Plan (2012) is a planning document that is the basis for moving forward with new multi-use trail development within the city. The Plan provides a program that supports future trail building, and one element of that program is the development of the *Multi-Use Trail Design Guidelines* (2015). The OP recognizes that the city-wide bike network, which includes the multi-use trail system, is a key element of the city's transportation network. The relevant OP references to this study include: 2.2 Structuring Growth in the City: Integrating Land Use and Transportation; and 2.4 Bringing the City Together: A Progressive Agenda of Transportation Change, Policy 7(a). *The City of Toronto Parks Plan 2013-2107* identifies four key themes which include:

1. Communicate and connect with users
2. Preserve and promote nature
3. Maintain quality parks
4. Improve system planning

Provincial policy gives public uses priority over private uses in corridor lands. The prioritization of public uses includes those that rely on contiguous land, such as road, busways, and trails.

A Place to Grow: Growth plan for the Greater Golden Horseshoe (2020) places importance on maximizing existing and future investments in infrastructure so that communities are well-positioned to leverage economic change. Community centred revitalization is therefore critical to support current and forecasted population growth in the GTA, which will undoubtedly put pressure on existing aging infrastructure in the city. Public and open space policy directions outlined in the Growth Plan encourages municipalities, conservation authorities, non-governmental organizations, and other interested parties to develop a system of publicly accessible parkland, open space, and trails (p. 45). A coordinated approach to trail planning and development, and approaches that are based on good land stewardship practices for public and private lands. Additional policy directions in the Greater Golden Horseshoe include the encouragement of municipalities to establish an open space system within settlement areas, which may include opportunities for urban agriculture, rooftop gardens, communal courtyards, and public parks (p. 46).

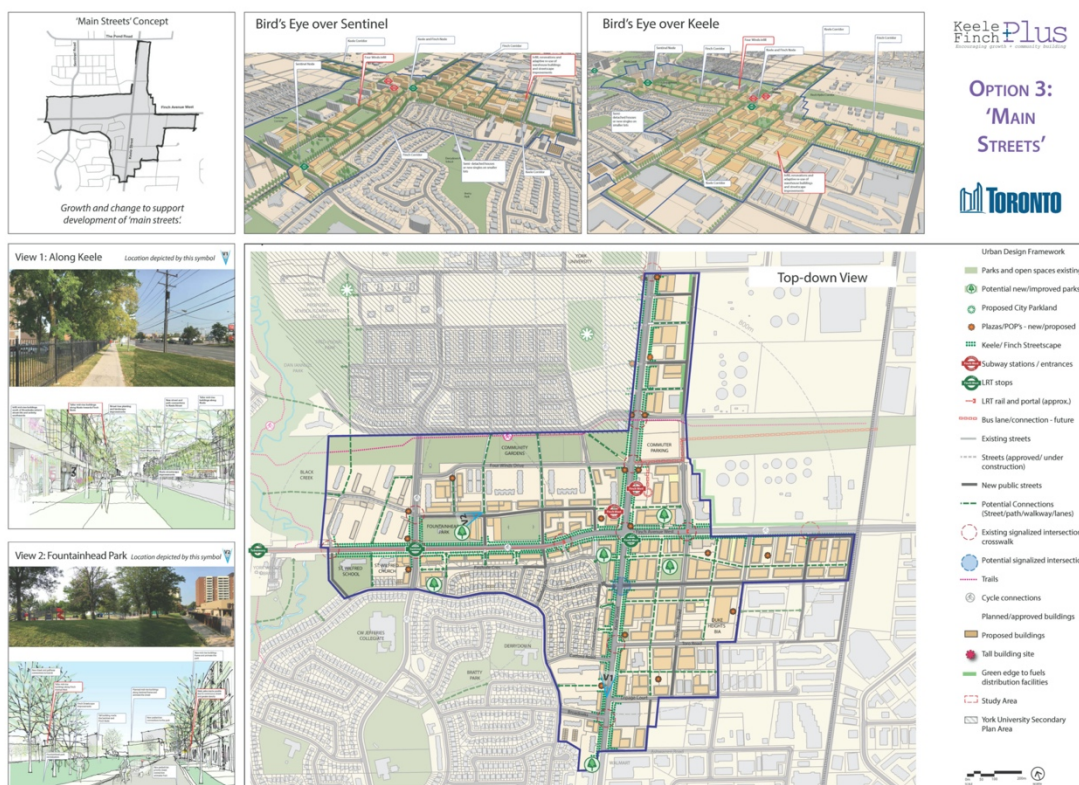


FIGURE 4-5: MAIN STREET DESIGN CONCEPT OPTION AS PART OF THE KFP PLANNING STUDY.
SOURCE: CITY OF TORONTO.

Within the Finch Hydro Corridor transect, there is an opportunity to identify the transect as a *Strategic Growth Area*, as highlighted in the Growth Plan (2020). Strategic growth areas include brownfield sites as well as “lands along major roads, arterials, or other areas with existing or planned frequent transit service or higher order transit corridors may also be identified as strategic growth areas” (p. 85). The Finch Hydro Corridor is naturally placed in an area that is ripe for growth. The expansion of transportation and mobility options with the introduction of the Finch West Light Rail Transit (LRT), coupled with the transformation of the surrounding community as a result, puts the Finch Corridor transect at an advantageous position for spearheading revitalization efforts.

The KFP Planning Study comprised of comprehensive plans for the surrounding area around Keele and Finch that will support development and new investments. The study was conducted in phases and included consultations with the public, and one of the most consistent messages heard from the public was the need to transform the area immediately around the Finch West subway station into a destination (KFP Interim Report, 2018, p. 8). Public consultation also ignited enthusiasm from attendees in the potential for the new development and supporting community infrastructure enhancements and improvements in

the area (KFP Interim Report, 2018, p. 6). Consultation participants wanted improvements to parks and community facilities and wanted the new development to be walkable and include retail on the ground floor, at the nodes of Keele Street and Finch Avenue West. Figure 4-5 above is an example of a built form option prepared for the area, which included area-wide transformation with the most intensive development and a goal of creating sufficient density to support more than one retail ‘main street’ (KFP Interim Report, 2018, p. 7). Among the participants of the consultation, a significant portion of this paper’s study site was not identified as an area of development focus. Figure 4-6 below represents a consolidation of all areas identified by participants as part of the area of development focus exercise.’ This research’s study site is identified by a yellow frame, the darker colours on the figure represent areas where there was more consensus for change, while lighter colours represent the opposite (KFP Interim Report, 2018, p. 6). The Finch Hydro Corridor Trail study site was not identified as areas where there was more consensus for change.

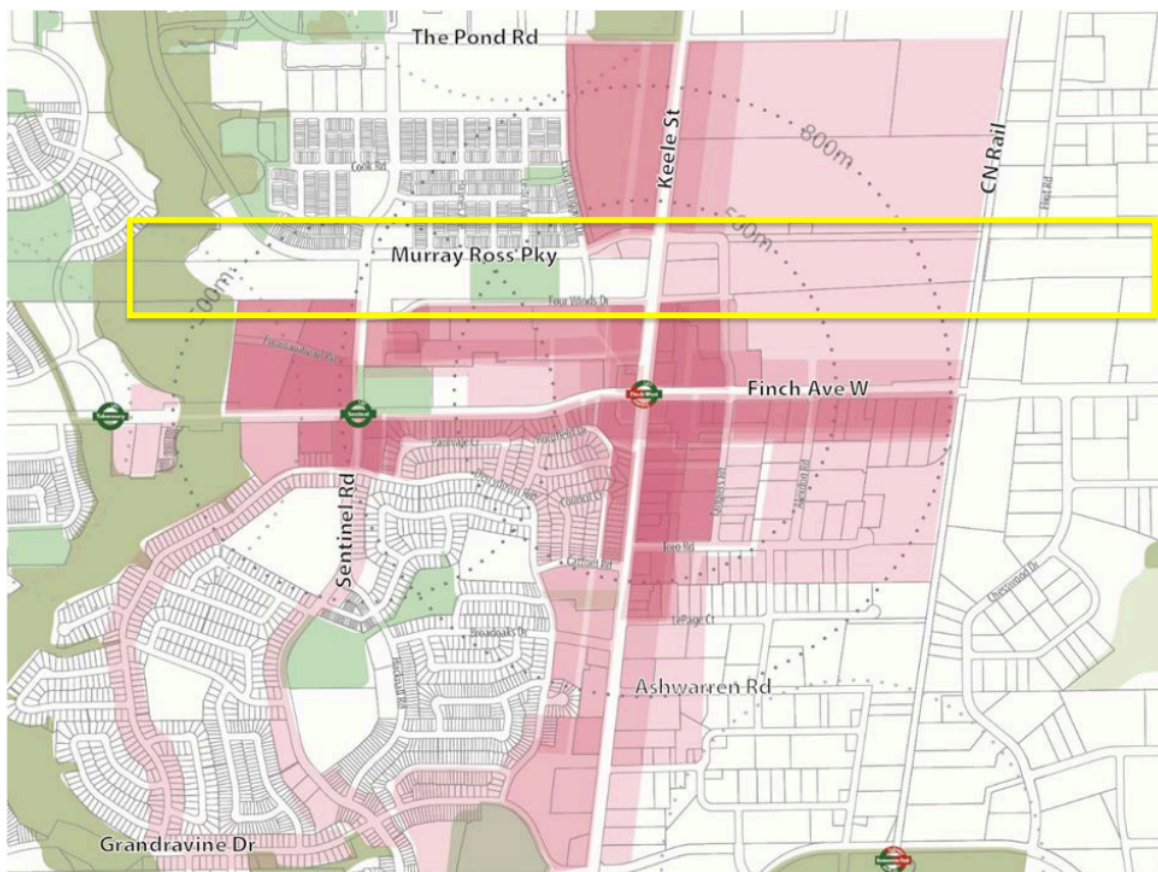


FIGURE 4-6: CONSOLIDATION OF AREAS IDENTIFIED AS AN ‘AREA OF DEVELOPMENT FOCUS’ DURING KFP PUBLIC CONSULTATIONS. CASE STUDY SITE HIGHLIGHTED IN YELLOW. SOURCE: KEELE FINCH PLAN INTERIM REPORT, 2018.

The *Keel Finch Secondary Plan*, complements and builds on the city's OP, which applies and provides direction for key aspects such as cultural heritage and archaeology, and protecting the natural environment. Thematic objectives that will guide development in the Secondary Plan area include Growing with Transit, Identity, Livability, Connectivity and Resilience (Keele Finch Secondary Plan, 2020, p. 2). Policies proposed for the 'Identity' thematic area, includes recognizing the unique topography and cultural heritage of the area, as well as it being at one of the highest elevations in Toronto and its proximity to the river valley (p. 3). The study site may also benefit through policies that recognize the multi-use trails proximity to York University. Additional policies outline retaining and enhancing the area's distinctive features and assets which include natural, park and cultural heritage features.

Policies that align with the 'Connectivity' thematic area include attention to formalizing existing connections that are currently used by people, and that represent key desire lines (see Figure 5-2). Greening and public realm improvements were emphasized to make walking and cycling more of a pleasant experience. Safe cycling infrastructure was also referenced for improvement, in connection to the broader system. A key policy that could greatly enhance the transect study site includes providing new public parks that link to the broader public realm system and vary in size (p. 4). 'Resilience' policies support the beautification of the area through the provision of green infrastructure. Increasing tree canopy and increasing biodiversity was also noted. Using sustainable building materials, and ensuring buildings are designed with adaptive re-use in mind.

The Finch Hydro Corridor Recreational Trail offers a variety of landscapes and there is something for everyone to enjoy, including lush green forests, playgrounds, vegetable plots, grassy meadows, places to relax and engage in sports and recreation (Keele Finch Secondary Plan, 2020, p. 16). According to the Parks and Open Space policy in the Secondary Plan, the design and development of new and improved parks in the area will be guided by the following principles (p. 18):

- accommodate people of all ages and abilities year round;
- encourage public life through site-specific placemaking and pedestrian amenities that foster social interaction, including but not limited to seating, landscaping, active uses at grade, way-finding public art and programming;

- develop attractive parks as focal points which can provide opportunities for community and special events, cultural expression and recreational opportunities;
- use high-quality and durable materials that reduces maintenance costs and efforts;
- create a seamless relationship between streets, parks and other elements of the public realm;
- include green infrastructure that enhances the ecological function of the public realm, supports storm water management and promotes biodiversity, in accordance with best practices and standards; and
- support a community-based planning and design process

The study site also falls into the Duke Heights Business Improvement Area (DHBIA), east of Keele Street. DHBIA is designated as an “employment area” in the City of Toronto Official Plan and was an entity that was consulted during the KFP Planning Study. DHBIA was formed in 2013 in response to the considerable investment in public transportation infrastructure in the area. The *Duke Heights Public Realm Design Report* (2016), outlines streetscape improvements with respect to the public realm and provided guidance on how to achieve the intentions of the BIA. Duke Heights acknowledges the importance of developing a state-of-the-art public realm in response to the significant transit growth. The Plan’s study area includes the study site and realizes the potential of the space to not only act as an important circulatory route but as an important linear green corridor with seasonal plants. The Plan also states that the greenway can connect parks, streets, and neighbourhoods, and can serve wildlife habitat (Duke Heights Public Realm Design Report, 2016, p. 31).

The Finch Hydro Corridor Trail study presents an excellent opportunity to analyze the current uses and design elements that support user focused mobility, while also assessing the natural environment around the trail corridor that solicits protection, management, and integration into the community. A key observation to take away for planners and designers is that decisions around design must evolve with the community, and this presents an inherent challenge due to the changing nature of spaces and the communities within them. Designers and urban planners must adopt a visionary approach and intend to re-imagine what the city can look like and evolve into. This requires a keen observation of community dynamics, needs and awareness.

The York University Development Corporation (YUDC) is an entity that provides property advisory, development, and management expertise to York University. Many key sites at the Keele Campus have been developed by YUDC and York since the late 1980s

(yudc.ca). YUDC's governance structure is comprised of members of the University's administration and prominent private sector business leaders. The group includes a team of experienced real estate development professionals, a president, directors of transportation and master planning, commercial land use development and finance and administration, an operations manager for York Lanes, a project director, a project coordinator, and an executive assistant.

Urban Strategic Inc. is part of the consulting team for YUDC. According to the Urban Strategies website, "York University is one of the leading universities in the GTA. Continued student growth and the construction of the Spadina Subway extension represent opportunities to transform the campus of York University, improve its relationship with the rest of the city and help attract and retain more students. Urban Strategies was selected as the Vendor of Record for planning services for the university's development arm, leading the planning for the many undeveloped sites at the periphery of campus for both university and partnership uses. The area surrounding York University has undergone significant development in recent years, given the recent transit improvements in the area. Since the approval of York University's first Secondary Plan in 1991, the area has undergone eminent development. York University's Secondary Plan (2009) states that "development within the area will be in the form of well-designed, environmentally sustainable, compact communities surrounding the University that embraces proximity to valuable natural heritage resources and open spaces" (p. 1). The Secondary Plan guides development in the area, ensuring the ongoing vitality of the University and "accommodating its evolving needs, creating a sense of place, reinforcing the natural and cultural heritage of the area, and making the area a destination for people to live, work, learn and play" (p. 2). With the improvements in transit in the area, the potential for higher density development with a wider mix of uses around transit stations is possible (p. 1). With the steady development of the campus growth in the surrounding area, the population growth expected in Toronto will require attention to and the value of greenspaces in the city.

Section 5.0: Research Findings

The research conducted at the Finch Hydro Corridor Trail transect seeks to understand the current uses and functions of the multi-use trail within the context of connecting both human and ecological communities. Based on



analysis of policy and planning documents, municipal records and site analysis, significant investments into park infrastructure are urgently needed to enhance community health and well-being. The City's Corporate Asset Management Policy emphasizes a commitment to good stewardship of infrastructure assets. The Finch Hydro Corridor trail is an asset and would significantly improve with purposeful stewardship practices, especially with engagement with the Indigenous community. The image above is the Parson's Site, representing the former archaeological settlement that existed in the area, pre-colonization.

The portion of the trail should include more significant heritage features and design elements that honour the community. This heritage feature is a part of a core precinct outlined in *York University's Secondary Plan (2009)*.

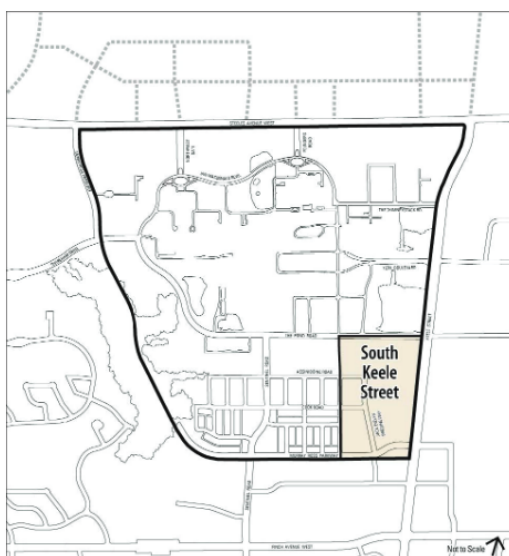


FIGURE 5-1: MAP OF THE SOUTH KEELE PRECINCT. YORK UNIVERSITY SECONDARY PLAN, 2009.

The Secondary Plan acknowledges the heritage feature of the transect and details that the Keele Street frontage will develop as a high-density, mixed-use corridor. Within the interior of the South Keele Street Precinct, the medium-density urban village and greenway created along the Pond Road will be continued. A linear north-south natural heritage feature will connect the Boynton Woodlot to the hydro corridor to provide wildlife

and habitat linkages. A local park, community facility and school may be in this precinct (p. 10). The South Keele Street Precinct, which is a 2.78-hectare site, has also been identified as a potential site for a community facility/elementary school (p. 57). Currently, the experience of the trail is fragmented, with a lack of cohesiveness. Some sections of the trail are lined with tall grass species, some sections make up eroded pathways where users take shortcuts to their desired destination (see below for desire lines on the periphery of the trail), and some areas have significant naturalized features.



FIGURE 5-2: DESIRE LINES LEADING TOWARDS A COMMERCIAL AND RESIDENTIAL PLAZA CREATED BY FREQUENT PEDESTRIAN USAGE. SOURCE: ORIANA NANO, 2021.





FIGURE 5-3: FIRST IMAGE: BIRD FEEDERS INSTALLED ALONG THE TRAIL. SECOND IMAGE: DOG BOWLS FOR TRAIL USERS WITH PETS. SOURCE: ORIANA NANOA, 2021.



**FIGURE 5-4: FIRST IMAGE:
LACK OF GARBAGE
RECEPTICALS WITHIN THE
DUKE HEIGHTS BIA. SECOND
IMAGE: BUTTERFLY ART ON A
TREE HIGHLIGHTING THE
PRESENCE OF BUTTERFLIES IN
THE CORRIDOR TRAIL.
SOURCE: ORIANA NANO, 2021.**



Along the trail study side in the industrial portion of the trail, there are bird feeders and several ecological elements that support species along the corridor (see Figure 5-4). There is also a section designated for sustenance for trail patrons' pets and a there is a mix of vegetation that supports wildlife habitat. There is a lack of garbage receptacles in the space as well and people have placed temporary garbage bags to recycle and collect waste (see Figure 5-4). An observation made while utilizing the trail is identification of deer tracks and an area

within the tall grass vegetation, where a deer either foraged or rested (See Figure 5-5). The trail is also home to varying landscape elements that serve multiple purposes for human and ecological visitors. The trail experience is quite bleak, in the sense that it is lacking visual and immersive components such as signage to animate the trail transect. Every element in the landscape can offer an experience for trail users to immerse themselves in the surrounding environment. Incorporating elements that are fun and interactive such as signage alerting users to count the number of fuel storage tanks could be an attractive design feature for children. Design features that animate a space as essential in inviting human learning to an otherwise overlooked space.



FIGURE 5-5: OBSERVATION OF VEGETATION ALONG THE CORRIDOR AND POTENTIAL RESTING PLACE FOR URBAN WILDLIFE (DEER) AS INDICATED BY THE DISTURBANCE OF THE TALL GRASS VEGETATION. SOURCE: ORIANA NANO, 2021.



Natural corridors are spaces where wildlife inhabit and migrate between urban forests and constant human interaction can interfere with that. Urban wildlife needs should also be prioritized in shared spaces. Evidently, the greenway acts as migratory route and the ecology supports a variety of urban wildlife such as migratory birds, pollinator species (bees, butterflies and birds), and deer. The addition of the dog bowl is a great feature for trail users with pets.



FIGURE 5-6: APPROACHING THE INDUSTRIAL SECTION OF THE TRAIL WITH VISIBLE TANK FARMS.
SOURCE: ORIANA NANOA, 2021.

Approaching the trail transect offers a view of all trail elements converging into a singular vantage point (see image above). The electrical lines, the tank farm, the paved trail with the vegetation alongside it. Continuing the journey eastbound on the trail, just off Finch Avenue West – presents several open spaces that could potentially be transformed into habitat islands. The trail has a pipeline system that is fenced off with surrounding tall grass vegetation and multiple signs alerting users to pipelines below. There is a lack of connectivity with surrounding spaces, as well as signage and wayfinding that could support user experience. There are no maps that explain where you are in relation to the trail, and these could greatly enhance safety and navigation experience for users while also supporting trail branding. This portion of the trail (Figure 5-6) could benefit from signage demonstrating the

name of the trail to enhance the user's sense of place, as well as streetscape improvements. The trail's heritage and history experience are significantly lacking. It did not evoke or sufficiently communicate the destination's sense of place. Place interpretation highlights cultural themes and uniquely connects the past present to visitors and trail users. Using narratives and stories would help to communicate the history and culture of the space and help reveal the trail's heritage attributes (Thorne Consulting, 2013). Policymakers and decision-makers increasingly think of parks as "green infrastructure" and must not forget that these places have layered social and historic meanings (Campbell and Svendsen, 2014). Nature is sacred and so is the human connection to nature is sacred and design rationales should go beyond the material ecosystem services approach and consider cognitive benefits of nature and ecosystem interaction.





FIGURE 5-7: BOTH OPEN SPACE SITES (ABOVE AND BELOW) OF THE TRAIL COULD BENEFIT FROM NATURALIZATION TO SUPPORT POLLINATOR SPECIES. SOURCE: ORIANA NANOA, 2021.

This open space area (Figure 5-7) just off the trail transect in the industrialized portion of the trail could be prioritized to include naturalization features, such as a wildflower garden to attract pollinator species. Upon further analysis of the transect, the plants and vegetation along the margins enclose the paved trail in some sections, apart from several manicured fields and open space areas. This space could potentially best function as a preserve which is part of the *City of Toronto Parks Plan*'s mandate, while also accommodating pedestrian and public usage. As the trail is an active mobility feature in the city, designing the space so that it is a home and refuge for urban wildlife while also a refuge for humans is an excellent opportunity to maximize on already available space. This will also help support wildlife species through the additions of naturalized features. The once fragmented corridor could support travelling species between the two significant parkland corridors on the periphery of the transect study site.



The site has already incorporated edible gardening features into the design of the landscape which is a unique example of enhanced trail performance. What is missing is signage indicating that this is a City of Toronto-run allotment, which could act as educational or programming opportunities. Current signage and trail features appear elementary and although support minimum standards in trail design. The allotment could be further improved through implementing elements that reference the area's original settlement and agricultural roots. With the urban farm allotment as a unique and key element of the trail transect, the design enhancements should also align with the character of this element of the trail. This farm allotment could introduce seating and enhanced planting where possible with consideration of the necessary clearance around the hydro towers.

According to the City of Toronto's *Multi-Use Trail Design Guidelines*, wayfinding signs are shown for trail users approaching and leaving from each branch of the crossing. The guidelines state that discretion can be used where added visibility or improved aesthetics are desirable. Various patterns or solid considerations may be considered when designing crossrides. Crossride is the term used for markings that carry trail or cycling facilities across roadways and through intersections and there are four basic options: mixed crossride, combined crossride, separated crossride, and asymmetrical separated crossride (p. 41). There are a few crossing roads at intersections along the transect that work well in terms of guiding pedestrians and cyclists, however further aesthetic measures could be taken to further animate these elements and enhance visibility and continuity along the trail and alert users of its placement within the area. Different elements related to crossing should be explored to further enhance visibility such as signs, signals, painted lines and symbols, and crossrides (p.

43). Enhanced options for the mixed crossride are recommended for sections where additional visibility or aesthetic enhancement is desired.



FIGURE 5-8: EXAMPLE OF SIGNALIZED CROSSING AT THE FINCH HYDRO CORRIDOR TRAIL. SOURCE: ORIANA NANO, 2021.

FIGURE 5-9: DIRECTIONAL ARROWS AT THE FINCH HYDRO CORRIDOR TRAIL (WESTERN PORTION OF TRAIL). SOURCE: ORIANA NANO, 2021.



These arrows are placed here specifically near curves to help prevent conflicts by reminding trail users of their correct positions (Toronto Multi-Use Trail Design Guidelines, p. 81). They may also be used at trail entrances or along the trail and the colour should be white according to the design guidelines. The guidelines emphasize that each trail is unique and may require new solutions, and the guidance contained in the report attempts to provide a limited set of templates that can be applied to most situations. Designs proposed that do not comply with these guidelines, require a more rigorous justification of design decisions and robust mitigation measures should be included (p. 13).

Section 6.0: Recommendations

These figures below (Figure 6-1) demonstrate some of the design improvements I envisioned for the space. This section will also demonstrate enhanced design features and what that might look like in more detail. The table below illustrates my proposed recommendations categorized into short, medium, and long-term time frames.

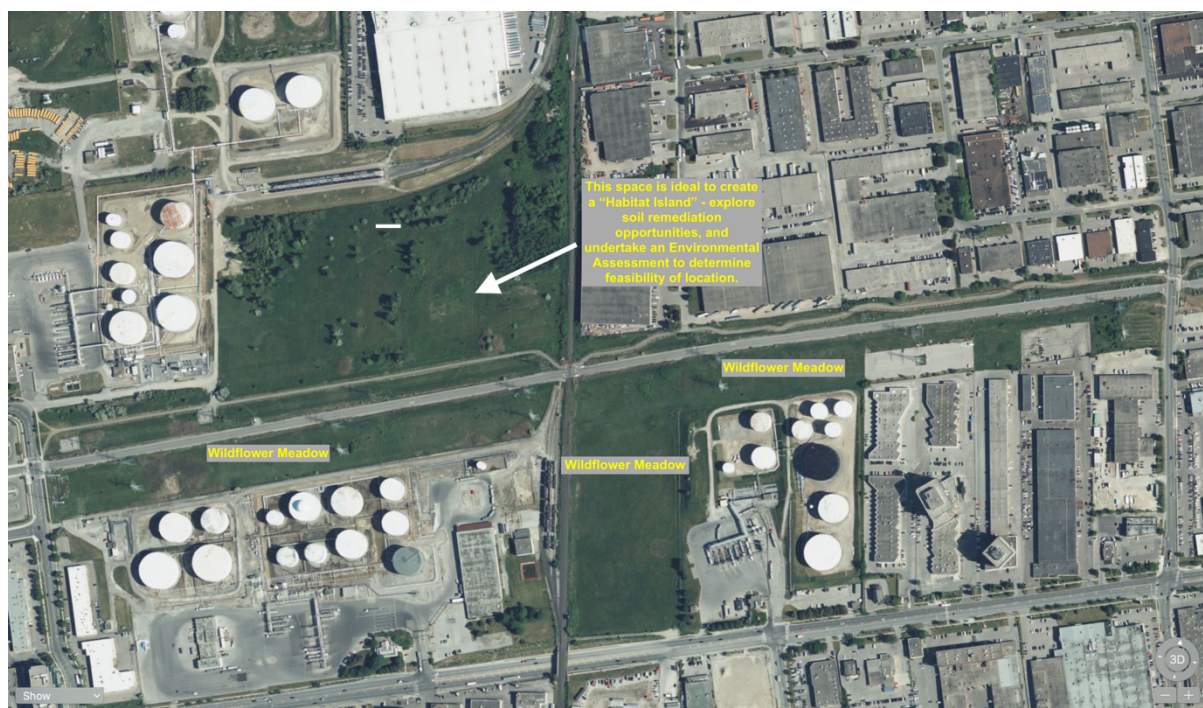
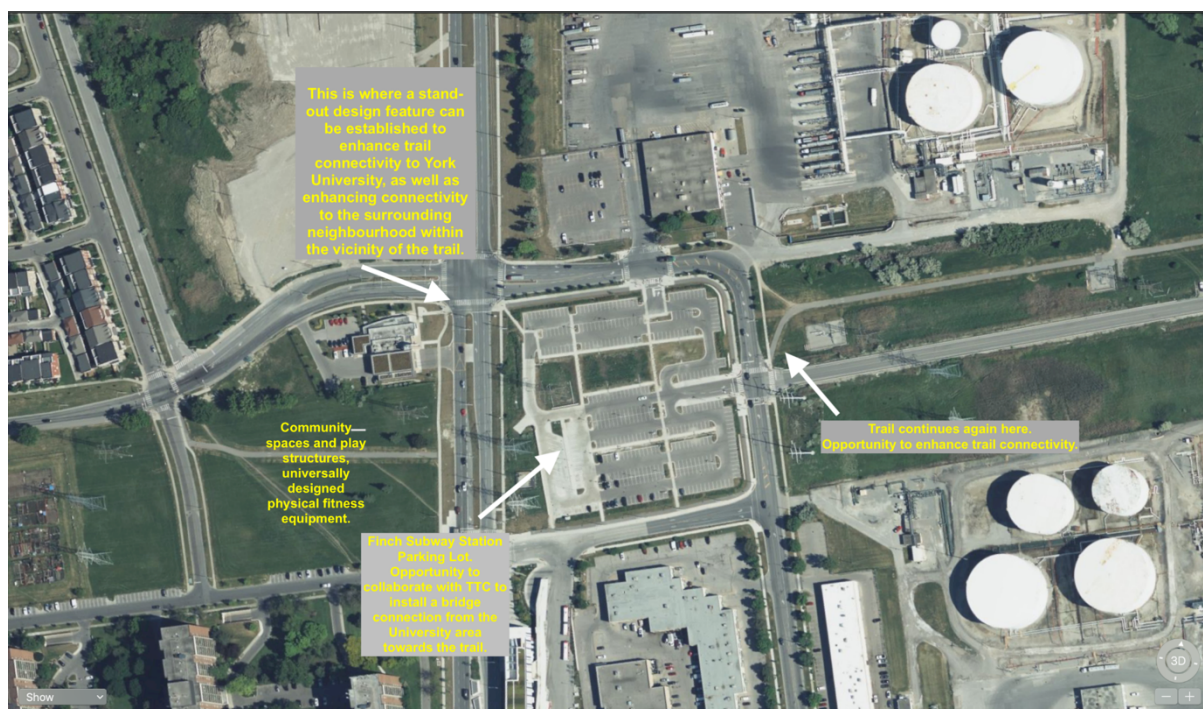


FIGURE 6.1: VISUALIZATION OF DESIGN IMPROVEMENTS WITHIN THE HYDRO CORRIDOR STUDY SITE.
SOURCE: APPLE MAPS, 2021.

TABLE 1: TABLE DEMONSTRATING DESIGN IMPROVEMENTS ENVISIONED FOR THE TRIAL TRANSECT, INCLUDING A RATIONALE, AND ASSOCIATED SHORT-TERM, MEDIUM-TERM, AND LONG-TERM IMPLEMENTATION.

	Improvements	Rationale	Short-Term, Mid-Term, Long-Term
Infrastructure and Trail Furniture Features	Implement rest stops with more seating along the trail and child-friendly water fountains.	Enhance streetscape and civic space. Encourage users to take breaks while using the trail and stay hydrated.	Short-term
	Install universally accessible outdoor physical fitness equipment. (Youth, adults, and seniors).	Funded by the municipality, this is a fascinating strategy to promote health and well-being, physical fitness, universal accessibility, and community building through unique urban designs.	Medium-term
	Pop-up parks in vacant subway station parking lots on a seasonal basis.	During the summer months this may be an opportunity to help kids in the surrounding community, while making use of empty spaces.	Short-term
	Implement bike repair stations and bike parking at the designated rest stops along the trail.	Cyclists can repair and store their bicycles when utilizing trail.	Medium-term
	Low impact lighting along the trail.	Increase visibility for trail users.	Short-term
	Incorporate play equipment for children in the open space areas of the trail.	The trail could use play equipment for toddlers and children aged 0-12. This would be an opportunity to enhance trail inclusivity and offer a place for kids to play in the summer months.	Long-term – contingent on remediation opportunities for the contaminate site.

	Increase signage and wayfinding.	Improve trail navigation and visibility for trail users.	Short-term
	Improve and reinforce accessible trail connections from Finch Avenue and Saywell Drive further east towards the tank farm transects of the trail. Opportunity to incorporate a bridge connection and extension.	Currently, there is no indication of the eastward connection of the trail transect from the university grounds – as it abruptly stops and then begins again once you cross over the intersection. Inputting a bridge to connect users would create a seamless trail connection and flow, improving trail visibility.	Long-term
	Install picnic benches around the garden allotment. Opportunity for the city to spearhead a program for youth and children in the area near the city-run garden plot.	Opportunity for youth to take up urban farming while enhancing skills and interests and creating employment and volunteer opportunities.	Medium-term
Heritage and History Features	Opportunity to incorporate local arts features along the trail that highlights the origin of the area. Implement commemoration and stewardship projects in partnership with Indigenous people.	Incorporating design features of the history and heritage of the site would be an excellent opportunity to honour the agricultural and indigenous origins of the area. As well as emphasize the cultural importance of the area.	Short-term
	Add interpretive signage, markers and features that recognizes Indigenous people. Including plaques, symbols, imagery, public art, landscaping, or historic	Recognition of the history of the space, while enhancing open space features.	Short-term

	interpretations (Keele Finch Secondary Plan, 2020, p. 17).		
Community Engagement	Implement a community, stakeholder, and university committee/ task force dedicated to overseeing activity and usage along the specific transect of the trail.	Committee could consist of hydro one stakeholders, municipal staff, community residents collaborating with university students in the environmental studies, science, or geography faculties. They would be responsible for overseeing trail activity and maintenance. It would help give community members a sense of purpose and stewardship to their community, while helping manage and maintain a public asset for all to enjoy. While ensuring community-driven decision making, where future recommendations would be best suited for the area within the context of the community.	Medium-term
	Mapping system for the trail inputted at York University grounds and at Finch West Subway Station.	Inputting a trail map in higher traffic areas makes the trail system more visible to users and encourages visitation. It would let new visitors or current residents know that there is something they could do in the area related to physical health and recreation.	Short-term
	Enhance ecological literacy and consciousness through incorporating interactive signage along the trail (input a QR code).	Signage that incorporates ecological information would be an interactive design addition to the trail, where users can simply read and identify plant species along the trail and use their mobile devices to scan a code to find further information about	Short-term

Passive Recreation Features		specific species. Further assessment of suitable material for the signs may be needed for safety purposes along the hydro corridor transect site.	
	Designated habitat island with a designated lookout for users, complete with interpretive signage.	Offers an excellent vantage point for users to observe wildlife. Acts as a buffer to mitigate visual impact of the area's industrial uses. Contributes to environmental literacy.	Short-term
Naturalization and Greening Features	Prioritize naturalization of the trail and plant and maintain native species plantings and wildflower meadow.	Prioritizing trail naturalization and incorporating a wildflower meadow to support pollinator species along the ecological corridor. This will also act as a visual buffer from the fuel distribution facilities. It will also enhance the ecology of the Black Creek and Don River Parkland bordering the transect, while supporting regeneration efforts.	Medium-term
	Opportunity to support outdoor nature programming and passive learning education programs.	Outdoor classrooms or a pop-up amphitheatre for instance, for youth in the community would be a great engagement opportunity and help enhance ecological literacy and recreation.	Medium-term
	Expand garden allotment.	Will help to improve and expand the open space function that is highly valued and utilized by the community.	Short-term

6.1: Infrastructure and Trail Furniture Features

Trail furniture features could be implemented in the short-term to enhance the streetscape and create an improved setting for civic and community life. Case study site design improvements include benches, child-friendly water fountains, and rest stops at trail nodes which will invite users to stay longer and enjoy the surroundings. The bridge installment along Keele Street would be painted and themed to align with the site's Indigenous history, taking inspiration from the Key Gardner Beltline Trail. The bridge installation could be a longer-term investment which aligns with plans and policies associated



FIGURE 6-2: KAY GARDNER BRIDGE INSPIRATION FOR THE FINCH CORRIDOR. SOURCE: TORONTO STAR.

with the surrounding area and would see improved connectivity from the western to the eastern portions of the trail transect. The feasibility of materials and the location of the bridge would have to be further explored. Maximizing amenities could greatly benefit the community, within constraints.

This includes respecting the current ownership, primary users, clearance and setbacks (Green Line

Implementation Plan, p. 8). Implementing amenities to the full advantage is an excellent way to support community well-being and connects to the 'Connectivity' policy in the Keele Finch Secondary Plan. Designs could also enhance existing parks to include upgrades like universally accessible fitness equipment for all ages funded by the municipality. This will help promote health and well-being, universal accessibility, and community building through unique designs. Bike repair stations and designated parking will also improve the trail experience and could explore the potential for collaborations with future bike share programming. Low impact lighting will improve safety and visibility for trail users in the evening. It is essential that the site incorporates signage and wayfinding to improve navigation and this could be accomplished in the short-term. Enhancing streetscape and civic space could positively impact the study site and the experience of its users.

6.2: Heritage and History Features

Enhancing the open space function and features of the trail could include the incorporation of interpretive signage and markers that recognize Indigenous people and the agricultural origins of the area. This includes but is not limited to, plaques, imagery, murals, historic interpretations, symbols, and landscaping (Keele Finch Secondary Plan, 2020, p. 17). Commemoration and stewardship should be a significant element of the trail, that also seek to develop collaborative partnership to see these ideas to fruition.

History and heritage features are integral to formulate a sense of belonging, history, and cultural and social connection to a space. Respect for cultural heritage landscapes is integral as a component for the enhancement and

revitalization of the trail network. Short-term enhancements include Inukshuk art installations along the trail and painted crosswalks honouring the former Indigenous settlements. Themed crosswalks would serve multiple functions, it would streamline trail connectivity while being aesthetically pleasing and supporting unique local artists. Additional heritage and history enhancements include exploring creative programming opportunities through collaborating with Black Creek Pioneer Village to bring Indigenous history and perspectives to the Huron-Wendat Trail. It's imperative to explore the erasure of Indigenous people within the context of the trail and question why colonial historical narratives take precedence over Indigenous ones.

The Black Creek Pioneer Village within the York University campus is an example of how colonial historical narratives are prioritized over Indigenous ones. This is worthy of consideration and brings into question why one history receives recognition in the form of a dedicated museum, and the Indigenous history receives meagre signage. The inclusion of low-cost approaches such as painted crosswalks and public art projects improve safety and corridor connectivity



FIGURE 6-3: MINIMAL SIGNAGE AT SENTINEL AND MURRAY ROSS PARKWAY AT THE STUDY SITE. SOURCE: ORIANA NANO, 2021.

and visions and principles for the revitalization and improvement of the corridor should be shared with stakeholders and community members at the start of the planning process

6.3: Community Engagement

The study site has seen various community and public consultations that have aided in the direction of the area's future development. The site lacks a stable governance model and community engagement would grant multiple stakeholders and parties the opportunity to participate in the planning and design process. Toronto's Community Stewardship Program (CSP) engages between 50-130 people per year for the on-going maintenance and monitoring activities in various natural areas. With the revitalization of the Finch Hydro Corridor Trail, the stewardship program would be helpful in providing additional volunteers for its ongoing maintenance. In 2015, the CSP worked with volunteers around the city to plant 800 native trees, shrubs, wildflowers; remove hundreds of pounds of invasive plants; maintain natural surface trails; and conduct a photo monitoring program that tracks improvements to the site (Toronto Ravine Strategy, 2017). With the growth of the area, there will likely present a need to maintain these spaces that could benefit the local population through a democratic design process, volunteer efforts and potentially employment opportunities.

Moving forward, the site should further develop community-driven design recommendations since the space will be enjoyed and utilized by the public daily and for many years. A mapping system and signage should be inputted at the York University grounds and at the Finch West subway station, as well as at visible trail nodes. Higher traffic areas benefit from having visible signage, which could potentially encourage visitation, support community safety through public advisory information, and highlight programs and events happening in the area. Map information also helps improve safety as trail users can view and take a photo of the map on their smart devices to navigate their journey.

6.4: Naturalization and Greening Features

Naturalization is a significant feature for trails that provides refuge and a place of respite for trail users. Design improvements with respect to this theme includes, prioritizing naturalization of the trail through planting and maintaining native plant species, and a wildflower and garden meadow to support pollinator species. Prioritizing naturalization along

the trail will help act as a buffer from the vast fuel tank facilities. Incorporating interactive signage along the trail may be effective as a short-term, as well as a designated habitat island with a lookout for users to support ecological connections and beautification functions. According to the Toronto and Region Conservation Authority (TRCA), meadow habitats have been in decline throughout Ontario due to the expansion of urban areas, the intensification of agriculture, and the suppression of natural disturbances such as fire. Additions of a meadow treatment for the corridor will enhance and improve ecological features of the trail while beautifying it. The loss of meadow habitat has led, in turn, to the loss of food sources, migratory staging areas, and overwintering or nesting areas for several bird and butterfly species and is the reason why a number of plant and animals' species have been listed under the *Endangered Species Act*, 2007 (TRCA, n.d.). The Meadoway, which is a hydro corridor project underway in Scarborough, spanning 16 kilometres has transformed a once underutilized and overlooked space into a vast urban greenspace and meadowlands habitat (The Meadoway, n.d.).

Prioritizing naturalization through incorporating a thriving meadoway habitat with native wildflowers and grass species, along the Finch Hydro Corridor trail transect is an excellent opportunity to restore fragmented ecological habitats to better serve non-human species; while favourably serving the cyclists, pedestrians, and a variety of trail users in providing a pleasurable viewing experience to observe nature and animal life in the area. The meadow habitat could potentially be planted in the open space below the hydro towers like The Meadoway project in Scarborough (see Figure 6-4), which is slated for completion in the fall of 2024.



FIGURE 6-4: MEADOWWAY PROJECT VISUALIZATION OF NATIVE WILDFLOWERS AND GRASS SPECIES MEADOW ALONG THE GATINEAU HYDRO CORRIDOR IN SCARBOROUGH. SOURCE: MEADOWWAY.COM.

The planting of the wildflower meadow may also benefit from maintenance from community groups, and volunteer groups managed by conservation agencies or the City of Toronto. Groups could participate as part of restoration efforts and wildflower planting initiatives along the corridor and document the growth and transformation over time. An environmental assessment must be undertaken to determine the contamination levels of soils along the corridor transect and implement remediation opportunities to be able to move forward with the project. Moreover, the implementation of a habitat island is an excellent opportunity to prioritize and support wildlife conservation and preservation efforts in the City of Toronto. It will also be an opportunity to support ecological literacy through implementing educational signage for trail user viewership. The implementation of signage as a prominent feature of trails, is essential in contributing to an effort to improve the performance of the landscape while animating the landscape, and engaging users in a fun and educational way. Non-traditional services that could be offered by the landscape must be explored that could optimize the value of these spaces. Figure 6-5 below is a visualization of the Don Mouth Renaturalization and illustrates what naturalization at the Finch Corridor could look like.



FIGURE 6-5: DON MOUTH NATURALIZATION AS INSPIRATION FOR THE FINCH CORRIDOR'S HABITAT ISLAND DESIGN RECOMMENDATION. SOURCE: TRCA.

6.5: Signage Visualization Features

A significant design component absent at the site is an emphasis on human learning. The site can benefit from engaging with trail users and inviting engagement with local trail users, whether they are walking, cycling, hiking, walking their dog, or skateboarding. Inviting curiosity in this space could enhance users' connection to the natural environment around them. The Humber Bay Recreational Trail located in South Etobicoke situated along Lake Ontario, is an excellent example of inviting learning within the trail space where they support a host of attractions and features such as the Humber Bay Butterfly Habitat (HBBH). The goal of the HBBH is to establish a self-sustaining native plant community which will support a variety of butterfly species, while engaging and educating park users about the value of urban wildlife habitat. HBBH is approximately four acres and includes: a short grass prairie component – which is a drought tolerant vegetation characteristic which provides a variety of host and nectar plants for caterpillars and butterflies (City of Toronto, n.d.). Mapping features could also enhance the user experience, as this was a significant missing component. It would help alert users of where they are in relation to their trail journey and enhance safety through additions of public advisories. Additional benefits of a map feature include enhancing ecological literacy through incorporating common and endangered plant and wildlife species found in the area and protection measures, and alert community

members of programs in the vicinity. An example can be referenced from the Town of Orangeville's Island Lake Conservation Area (Figure 6-6).

The site is also an opportunity to incorporate weatherproof nature guidebooks along the trail, showcasing the different wildlife that inhabit the area. Creative design approaches that are passive, will help maintain and preserve the ecosystem as it is low impact, with little human disturbance. The Finch Corridor Recreational Trail has many access points, whether you are cycling, biking, or walking but lacks any indication that you could do those activities. The suggested signage addition below includes different activities you could engage in (through incorporating trail furniture elements such as benches and rest stations) as a user and would prepare trail users before entering the space. The activities you could engage in as a user would no longer be undetected, as is currently the experience of the trail transect.



FIGURE 6-6: TRAIL HEAD SIGNAGE AND MAPPING FEATURES AT ORANGVILLE ISLAND LAKE CONSERVATION AREA. SOURCE: ORIANA NANO, 2021.

The following is what I envision as interactive signage features for the Finch Hydro Corridor Recreational Trail.



FIGURE 6-7: FINCH HYDRO CORRIDOR RECREATIONAL TRAIL BRANDING SIGNAGE VISUALIZATION. SOURCE: ORIANA NANOA, 2021.



FIGURE 6-8: SIGNAGE VISALUZATION INDICATING TO USERS TO RELAX, INTERACT, AND OBSERVE WHILE ENJOYING THE TRAIL. SOURCE: ORIANA NANOA, 2021.



FIGURE 6-9: FUN TRAIL ANIMATION FEATURES FOR ALL AGES, INCORPORATING THE OIL TANKERS FOR ENGAGEMENT. SOURCE: ORIANA NANOA, 2021.

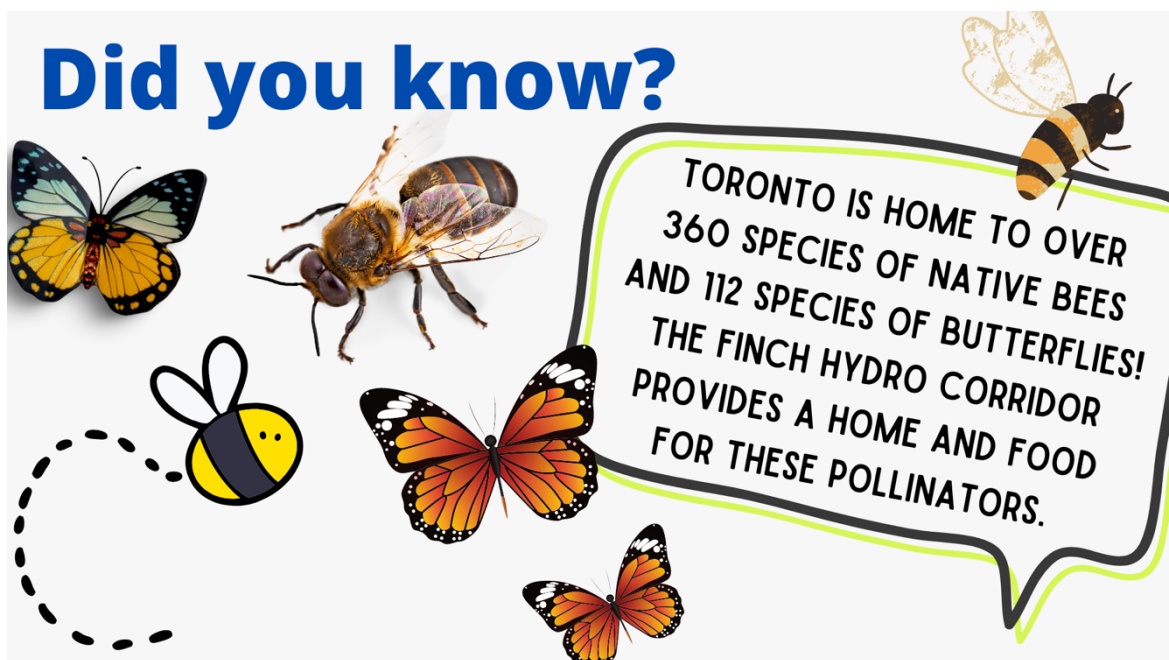


FIGURE 7.0: ECOLOGICAL LITERACY SIGNAGE DESIGN RECOMMENDATION. SOURCE: ORIANA NANOA, 2021.

7.0: Conclusion

The Finch Hydro Corridor Recreational Trail is an excellent opportunity to reinforce the area's sense of identity through incorporating design improvements that enliven the space. While the trail study site currently functions at its minimum intended use, it lacks a sense of identity and cohesive design that ties it all together to create an enriching user experience. The elements at the site currently reflect policy standards and the minimum requirements as per the City of Toronto Multi-Use Trail Guidelines. New perspectives that combine ecology and design are fundamental in developing new insights that work to progress and positively guide the revitalization of the urban hydro corridor landscapes. The study site could benefit from multiple design improvements that all work in conjunction to enhance civic and community space, while being inclusive to non-human species that inhabit the trail. In the context of recreational opportunities, trail design should be open for all to experience through inclusive and universal design elements. Equity discussions within the landscape ecology and planning context have been unsubstantial and shallow and require further studies.

Upon observation of the chosen study site, it is currently seeing its most significant uses regarding walking, cycling, and running. The convergence of land uses in the study site alone is fascinating, especially given the location of the fuel storage facility along the transect. The facility helps fuel our lifestyle and pushes the movement of goods and services. The Finch Hydro Corridor Recreational Trail transect itself would function in juxtaposition through incorporating human-scaled design approaches. Given the intended scale of the transit development in the surrounding area, the human-scale design approach would be favourable to help capture the various ways that people interact with their environment and move through the city.

The tank farm functions as a driver of fast-paced consumerism, but the corridor trail resonates as a form of refuge and spiritual connection to nature – functioning in opposition to what the fuel facility represents. Regardless of the future decisions made at the site, safety implications will likely surface. The fuel tank farm has not been accounted for in the various planning studies regarding surrounding future growth of the public realm due to significant investments in transit. This is potentially cause for serious concern and should be recognized in studies that concern the areas future development. The study site's environmental uses have yet to be implemented and with expected growth set to take place, it is imperative that

future studies are undertaken to assess the environmental feasibility of improving the industrialized land along the study site. The oil tank facilities function as a symbol of natural resource extraction and it remains to be seen what will become of the facilities considering the surrounding area's evolution. With most of the space functioning mainly to serve industrial uses, the study site needs ecologically sound spaces that simultaneously serve the human and non-human species with respect to health and well-being, the community's health, and cognitive and physical well-being.

While the public has included its input in consultations concerning the surrounding developments, reports have indicated a need to support greenspace and recreational and community space for public use. The trail currently, serves cyclists and pedestrians well in terms of the trails multi-modal design features, but it could be better served through enhancing the trail space and performance of the landscape. This includes, incorporating animated design features, and focusing on the naturalization of the space and beautification. In the context of recreational opportunities, trail design should be open for all to experience through inclusive and universal design elements. These conversations around these spaces do not come without challenges and limitations, such as financial upkeep, political buy-in, changing community needs, and ongoing physical and material maintenance. With special care and attention to all facets of the planning process, this space could realize its full potential while remaining adaptable should changes arise. It would be a shame to not have the space fully utilized or realized to its best potential considering the growth expected in the coming years.

Moving forward for the future of the city we live, work and play, our spaces must reflect our values as a society. They must be able to accommodate growth while offering something unique and dynamic as a place of rejuvenation, relaxation, and spiritual renewal. The new transit infrastructure is an exciting opportunity to foster growth, place-making, and community building. There is a need to expand on opportunities to engage people outdoors and make these spaces inviting, lively, environmentally sound, and culturally rich places to be in. Greenways act as a prime opportunity to support various user experiences, where there is something for everyone, no matter your age or interests and help deliver key city building objectives. The plethora of design opportunities offered by the Finch Hydro Corridor Recreational Trail study site could likely be further explored and applied to other similar spaces. This site will indefinitely see future upgrades, and will hopefully provide spaces that support social, environmental, and economic needs.

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