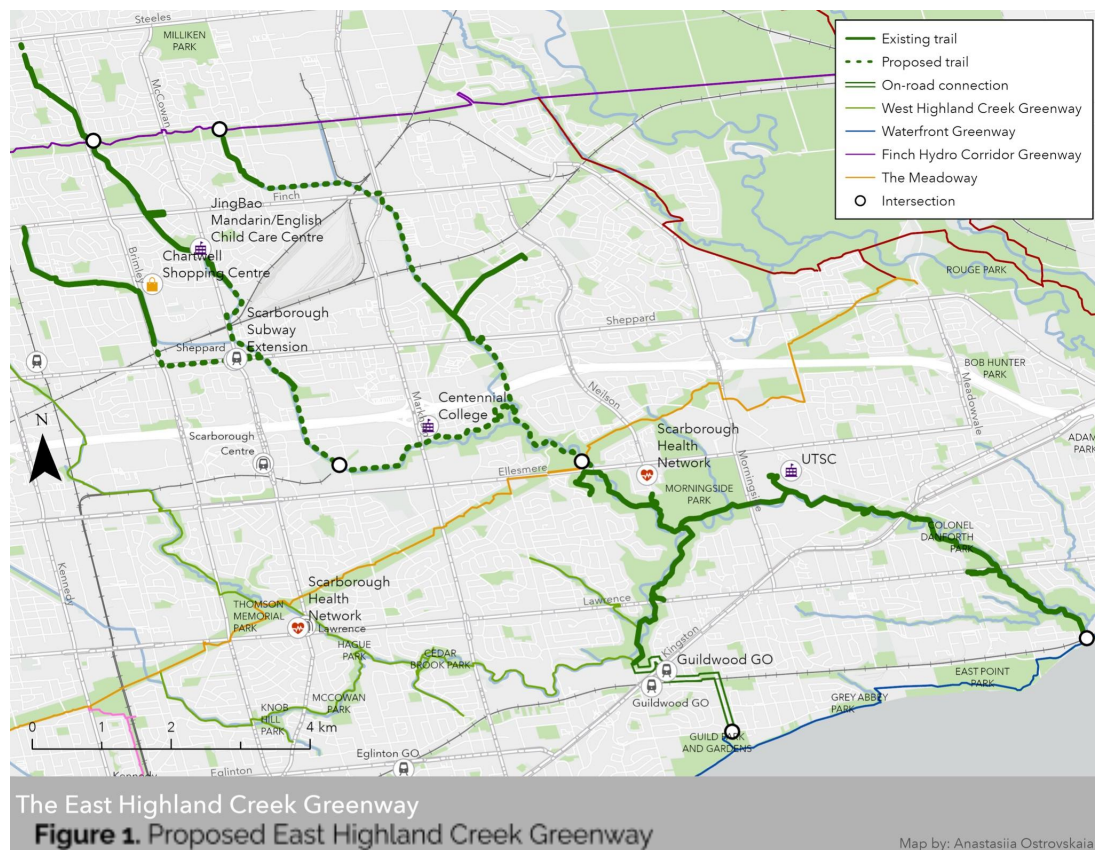


East Highland Creek Greenway

Total Length: 34.8 Km | 56% Existing



We propose to build a 35.2km-long multi-use trail following East Highland Creek. This proposed trail promises to create one of Scarborough's most important, beautiful, and useful off-road trails, one that will take Scarborough's active transportation network to the next level. The creek has three main tributaries, which join together in Morningside Park (see Figure 1). The east tributary begins at Morningside Park and travels north to the Finch hydro corridor, passing through employment lands and existing paths in residential areas. The central tributary begins south of Centennial College (Progress Ave Campus), and travels west and north to Steeles Ave through employment lands and an existing multi-use trail in residential areas. Finally, the west tributary begins at McCowan Rd and Sheppard Ave and goes northwest to Finch Ave through an existing multi-use trail.

Although much of Highland Creek flows through employment areas in concrete-lined drainage ditches, the fact that it is all on the surface and buffered by public rights-of-way means that there are continuous corridors with space to build multi-use trails. And, as mentioned, where the creek flows through residential areas there are often existing paths and trails. The creek also passes through several major ravines and parks that provide beautiful settings for trails. Given its unique location, a continuous, connected trail network along East Highland Creek and its tributaries will connect neighbourhoods throughout northern and southern Scarborough, and will even provide an

opportunity to connect to Markham, our neighbouring city to the north. In fact, 18 neighbourhoods and 210,668 residents are located within 1km of our proposed East Highland Creek Greenway, about 33% of Scarborough's population.

This route will provide Scarborough's residents with an option for safe and efficient active transportation that is nearly entirely off-road and connects to several vital destinations, and it also provides a tranquil and scenic route for a leisurely stroll or bike ride. This route will connect Scarborough's residents to over 10 parks, including 4 interconnected ravine parks that offers breathtaking views of the creek and a chance to get a glimpse of some of the many wildlife species that reside in these parks, such as white-tailed deer, red fox, chipmunks, blue jays, etc., and there's also an option to have a picnic at one of the many open park fields. Also, as previously mentioned, it connects to important destinations, including post-secondary institutions such as University of Toronto Scarborough (UTSC) and Centennial College (Progress Ave Campus), employment lands, Scarborough Health Network (SHN)-Centenary Hospital, and public transit such as the Guildwood GO and Scarborough Subway Extension at McCowan Rd and Sheppard Ave (see figures 2, 3, and 4). It is also within 1km of 84 public schools, 96 places of worship and 6 public libraries. Two of East Highland Creek's tributaries connect to the Meadowway and the Finch hydro corridor, which are high-capacity multi-use trails that run east-west. Therefore, a continuous multi-use trail following East Highland Creek will be both practical and enjoyable, offering many people the opportunity to access amenities, public facilities, education, work, and leisure activities.



Figure 2. A white-tailed deer spotted along the Highland Creek Trail at Morningside Park. (Photo by, Karen Khan)



Figure 3. Open field at Iroquois Park. (Photo by, Karen Khan)



Figure 4. Pedestrian access to the Guildwood GO. (Photo by, Karen Khan)

Currently, there is no continuous multi-use trail throughout the entirety of this route. There are 9 multi-use and unofficial trails and paths are located within different segments of this route, but they do not connect to each other. These existing trails make up approximately 56% of the route. Out of this 56%, approximately 31% of these trails do not meet the City's standards for multi-use trails and are inaccessible for many trail users based on their narrow width, lack of maintenance, uneven surface, and/or poor design. It is now time for East Highland Creek to be given the improvements and infrastructure it needs to connect Scarborough's pedestrians and cyclists. This can be done by following the standards and suggestions for trail widths and conditions found in the Toronto Multi-Use Trail Guidelines.

This section of the report will discuss each segment of the proposed East Highland Creek Greenway, beginning with the south loop, then the east tributary, central tributary, and west tributary. This discussion will include details about the existing infrastructure and the improvements it needs to bring it up to City standards, the proposed connections that will complete the route, and how to deal with the major obstacles of crossing Highway 401 and the Canadian Pacific Railway (CPR) through proposed interim workarounds until permanent crossings of the highway and railway can be built. It will also discuss the opportunity to rehabilitate sections of the creek that have been channelized through concrete-lined drainage ditches. We show that Scarborough's residents have access to several off-road paths or trails that only need minor improvements, and that connecting these paths into a network will provide major mobility benefits for Scarborough residents. In total, approximately 15.4km of new infrastructure is needed to make this route continuous.

South Loop: Lake Ontario to Guild Park & Gardens

Overview

This segment of the route begins at Lake Ontario at the mouth of Highland Creek. Here, the Highland Creek trail system will connect to the existing Waterfront Trail heading east across the bridge towards Port Union Waterfront Park, and the proposed Lake Ontario Waterfront Trail heading west through East Point Park. It then travels northwest through 4 interconnected ravine parks, ending at Greenvale Park where a connection is made to Guild Park & Gardens via local roads and the Guildwood GO Parking lot. This segment also includes a connection to UTSC (see Figure 5).

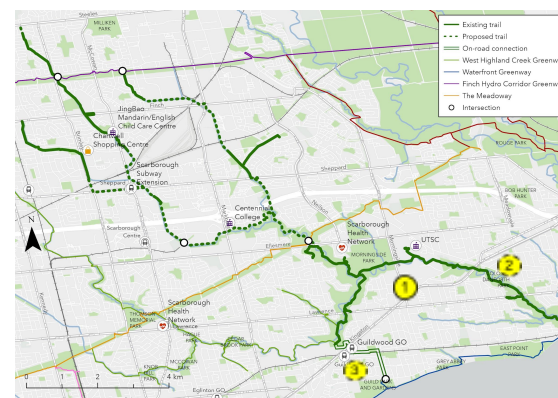




Figure 5. Map of the South Loop.

Existing Infrastructure

Total Length: 8.5 km | Condition: Asphalt, Gravel, Paved.

1 Highland Creek Trail:

For nearly the entirety of this route, there is an existing multi-use trail known as Highland Creek Trail. It begins at Greenvale Park, and it proceeds through Highland Creek Park, where it connects to the proposed West Highland Creek Greenway, Morningside Park, Colonel Danforth Park, and Lower Highland Creek Park before ending at Lake Ontario. From there, users have the option to either head east to the Port Union Waterfront Park, head west to East Point Park, or simply bask in the beauty of Lake Ontario (see Figures 6 and 7). Since it goes through many parks, it provides places to take a

break, have a picnic, and use the restroom (see Figures 8 and 9). The path also connects to UTSC, where there is both a meandering paved ramp and a set of stairs to access campus (see Figure 10).



Figure 6. Access to Port Union Waterfront Park at the end of Highland Creek Trail, currently undergoing repairs. (Photo by, Karen Khan)



Figure 7. View of Lake Ontario, east of East Point Park. (Photo by, Karen Khan)



Figure 8. Accessible bench at Morningside Park. (Photo by, Karen Khan)



Figure 9. Public restrooms at Morningside Park. (Photo by, Karen Khan)



Figure 10. Paved ramp at UTSC leading to Highland Creek Trail. (Photo by, Karen Khan)

Travelling along the trail, it is easy to forget that one is in the city. The entirety of this trail is almost at creek-level and is in a tree-covered ravine, which provides plenty of shade, and leaves no dwelling or vehicle in view (see Figures 11 and 12). This provides the opportunity to enjoy nature in a quiet and shaded environment.



Figure 11. Highland Creek Trail at Morningside Park. (Photo by, Karen Khan)



Figure 12. Highland Creek Trail at Colonel Danforth Park. (Photo by, Karen Khan)



Figure 13. Uneven surface along Highland Creek Trail near UTSC. (Photo by, Karen Khan)



Figure 14. Uneven surface along Highland Creek Trail south of Old Kingston Rd. (Photo by, Karen Khan)

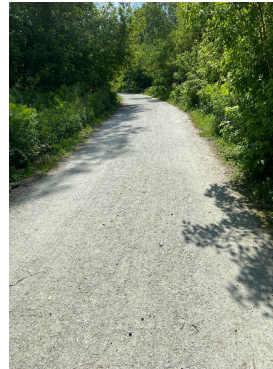


Figure 15. Gravel surface along Highland Creek Trail at Colonel Danforth Park. (Photo by, Karen Khan)

The trail itself is almost entirely asphalt, flat, and has an overall even surface with a width averaging between 3m and 3.5m, which exceeds the minimum width standards for primary trails (see Figure 11). However, there are a few segments of the trail where its conditions do not meet the City's standards for multi-use trails. East of Morningside Park, the path's surface is, on average, less even due to minor bumps and cracks (see Figures 13, 14). Also, within Colonel Danforth Park there is a short segment of gravel paths that were built when the asphalt path eroded due to flooding (see Figure 15).

Proposed Improvements to Existing Infrastructure

It is recommended that the trail be widened to 3.6m. According to the Toronto Multi-Use Trail Guidelines, this is the default width for primary trails to provide cyclists enough space to pass by each other while also allowing space for pedestrians. These widened paths should also have markings to indicate direction of travel to cyclists and pedestrians. Also, the segments of this path that consist of a gravel or uneven surfaces should be resurfaced using asphalt. It is important for cyclists, pedestrians, and wheelchair users to have an even surface to travel on, and it is also suggested in the guidelines that asphalt is the preferred surface for a multi-use trail.

Proposed New Infrastructure

- 2 Currently, all trail users must use Highland Creek Dr and the parking lot at Colonel Danforth Park to continue using the existing multi-use trail. The road and parking lot do not have any markings or indication of a separate right-of-way for pedestrians and cyclists. Therefore, it is recommended to build a 0.68km multi-use trail adjacent to Highland Creek Dr and circle around the Colonel Danforth Park parking lot, on the east side (see Figure 16), with the exception of the trail being partially on-road to cross the bridge. The bridge is over 8m wide, and there is a lot of space adjacent to the road to allow for a 3.6m wide path with a minimum 1m lateral clearance (see Figure 17). This multi-use trail should be separate from the road and parking lot, and should have its own designated lanes on the bridge.



Figure 16. Highland Creek Dr leading to the parking lot, nestled in between plenty of parkland. (Photo by, Karen Khan)



Figure 17. Bridge over East Highland Creek on Highland Creek Dr. (Photo by, Karen Khan)



Figure 18. Pedestrian access to the Guildwood GO Parking lot. (Photo by, Karen Khan)



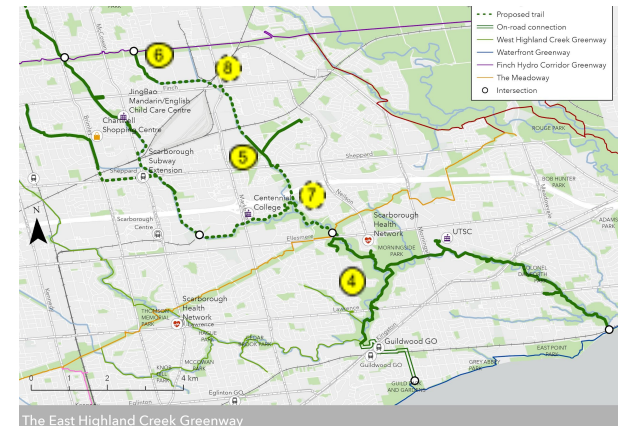
Figure 19. The off-road multi-use trail will replace the existing desire line at Galloway Park. (Photo by, Karen Khan)

3 We also recommend building a new trail to connect Highland Creek Trail to Lake Ontario at the west entrance. This would be a 2.1km connection from Greenvale Park to Guild Park & Gardens via the Guildwood GO parking lot, with 1.8km being on-road. The on-road connection requires an unsignalized midblock crossing at Payzac Ave to safely access the Guildwood GO parking lot (see Figure 18). According to the Toronto Multi-Use Trail Guidelines, if the road has a speed limit of 40km/h or less, has less than 4 traffic lanes, and is a small local road, it is best to implement a non-signalized crossing with markings that differentiate where cyclists and pedestrians should cross. This connection also requires a trail crossing through the length of the parking lot, with a detectable warning strip until the local road is reached, which will take cyclists north of Kingston Rd to Celeste Dr via the existing intersection. This on-road path should consist of a bi-directional trail separated from traffic. The 0.21m off-road connection will go through Galloway Park as a multi-use trail (see Figure 19).

East Tributary: North Central Morningside Park to the Finch hydro corridor

Overview

The east tributary of East Highland Creek begins at Morningside Park, where it connects to the trail discussed above. It can also be accessed from atop the hill at Botany Hill Park. The creek then travels north to the Finch hydro corridor. Along the way, the creek is channelized under the 401 near Centennial College, as well as behind houses north of the 401, in between industrial and employment lands, and under the Canadian Pacific Railway (CPR) (see Figure 20). This segment provides access to the Scarborough Health Network-Centenary Hospital, public parks and schools, employment lands, the Meadoway, and the Finch hydro corridor, where travelling east will provide access to the proposed Rouge Park Greenway.



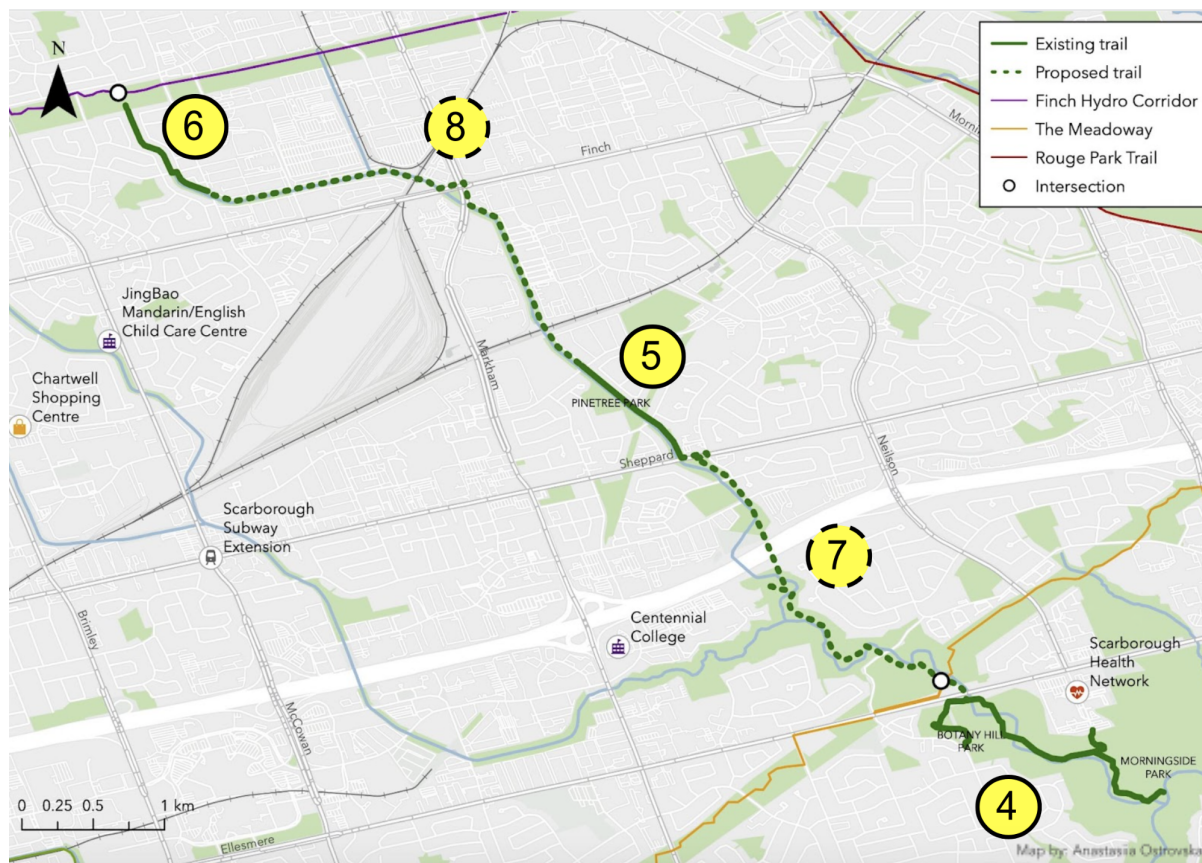


Figure 20. Map of the East Tributary.

Existing Infrastructure

Total Length: 4.4 km | Condition: Asphalt, Gravel, Paved

4 Botany Hill Park to Central Morningside Park:

From atop the hill at Botany Hill Park, a trail descends to the north central area of Morningside Park along a 2.3m-wide meandering gravel path (see Figure 21). At the end of the hill, the trail goes north under Ellesmere Rd to access the Meadoway, and going southeast connects to the newly constructed pedestrian bridges and multi-use trail, which is 3.5m wide and partially gravel with medium-sized rocks at Morningside Park (see Figures 22, and 23). Akin to the south loop, this newly built segment has similar characteristics that provide the “escape from the city” feel, such as being at creek-level and in a tree-covered ravine (see Figure 24). This path also connects to Scarborough Health Network (SHN), but this connection is

provided through a steep asphalt path that is less than 2m wide and leads to a set of steep wooden steps, leaving a vital destination inaccessible (see Figures 25 and 26).



Figure 21. Meandering gravel path seen from atop the hill at Botany Hill Park. (Photo by, Karen Khan)



Figure 22. Newly built pedestrian bridge and multi-use trail at Morningside Park. (Photo by, Karen Khan)



Figure 23. Trail conditions east of the newly built multi-use trail and pedestrian bridges. (Photo by, Karen Khan)



Figure 24. View of East Highland Creek within the newly built segment at Morningside Park. (Photo by, Karen Khan)



Figure 25. Wooden staircase descending from SHN to Highland Creek Trail. (Photo by, Karen Khan)

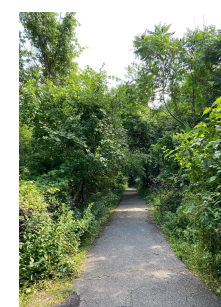


Figure 26. Asphalt path south of the staircase at SHN. (Photo by, Karen Khan)

5

Sheppard Ave to McLevin Ave:

Beginning on the north side of Sheppard Ave, slightly west of Washburn Way, is an 0.8km-long paved path situated adjacent to the slope where East Highland Creek has been channelized (see Figure 27). There is plenty of greenspace, the area is quiet, and this path provides access to Pinetree Park and Malvern Junior Public School. However, while the path has an overall even surface, it is very narrow, averaging under 2m wide (see Figure 27). This makes it difficult for different path users to pass by each other. It is especially challenging along the segments where the trees and bushes have overgrown onto the path (see Figure 28). The path disconnects at Mammoth Hall Trail, requiring users to cross the local road (see Figure 30) to access its continuation until McLevin Ave, where this path abruptly ends.



Figure 27. Path located north of Sheppard Ave. (Photo by, Karen Khan)

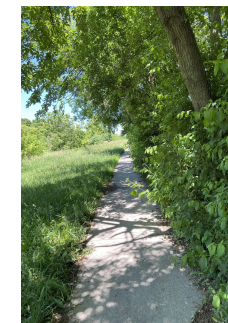


Figure 28. Overgrown trees and bushes obstruct the path. (Photo by, Karen Khan)



Figure 29. Unsafe and inaccessible crossing at Mammoth Hall Trail. (Photo by, Karen Khan)

6

Middlefield Rd to South of the Finch hydro corridor:

This 0.76km asphalt path begins slightly north of Finch Ave on the west side of Middlefield Rd. Nestled behind houses and adjacent to the slope in which the creek is channelized, this path provides a quiet atmosphere to travel through, and there is still some greenery to provide a view of nature. Unfortunately, the condition of this path is poor. The path is very narrow, averaging under 2m wide, and the surface is uneven throughout (see Figure 30). The conditions get worse as you go north of Richmond Park Blvd, where it seems almost impossible to have a smooth bike ride (see Figure 31). Also, to access this segment north of Richmond Park Blvd, there is no crossing or sloped surface to step or wheel down to cross this local road (see

Figure 32). Continuing down this path leads to an abrupt end where a desire-line can be seen through the fields to access the Finch hydro corridor (see Figure 33).



Figure 30. Narrow path adjacent to greenspace west of Middlefield Rd. (Photo by, Karen Khan)



Figure 31. Severe unevenness in the path north of Richmond Park Blvd. (Photo by, Karen Khan)

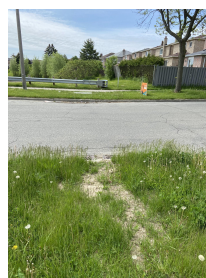


Figure 32. Desire line to cross Richmond Park Blvd, and lack of accessible infrastructure to CROSS. (Photo by, Karen Khan)



Figure 33. Desire line between the Finch hydro corridor & existing path. (Photo by, Karen Khan)

Proposed Improvements to Existing Infrastructure

To improve the existing infrastructure of this segment, there are several recommendations. First, it is recommended that all paths and trails that are below the minimum width for primary trails be widened to the minimum width of 3m, but the default width of 3.6m is preferable as it would provide ample space for different trail users to pass by each other safely. There is a lot of greenspace adjacent to these paths that provides enough space for a wider trail. The paths should also be resurfaced with asphalt where the surface is uneven, unpaved, or gravel, any overgrown grass and trees should be maintained, and the paths and trails should be given bi-directional markings for cyclists and pedestrians. These improvements would particularly be transformative for the path between Middlefield Rd and south of the Finch hydro corridor. Second, it is recommended that an unsignalized midblock crossing with tactile walking surface indicators with a crossride be provided at Mammoth Hall Trail, which, as previously discussed, is what the Toronto Multi-Use Trail Guidelines deem appropriate for a local, and low-speed road that has less than 4 traffic lanes. Third, the intersections of Sheppard Ave and Lapsley Rd, and Finch Ave and Markham Rd, should have a separate marked crossing for cyclists. Fourth, it is recommended that an unsignalized midblock crossing be implemented at Richmond Park Blvd that conforms to the City's standards for unsymmetrical crossing.

Proposed New Infrastructure

7 We recommend a 2.4km connection from the Meadoway to Sheppard Ave, which will be a 3.6m wide multi-use trail. With over 90m of width of parkland (including the creek), there is plenty of space to implement this. There should also be a signalized trail crossing across Milner Ave, since this would be the most appropriate infrastructure for a road that has a speed limit of 50km/h and 4 traffic lanes. This crossing would include on-road markings to differentiate where cyclists and pedestrians should cross, tactile walking surface indicators, and a sloped surface for accessible crossing. Lastly, this connection will include an on-road connection along Lapsley Rd to cross Sheppard Ave at the existing signalized intersection.

8 Creating a connected trail will also require a 2.7km connection between McLevin Ave and Middlefield Rd, and a 0.12km connection between the Finch hydro corridor and the path north of Richmond Park Blvd (see Figure 33). The majority of this space is park land that is over 35m wide, offering enough space to implement this (see Figure 34). There should also be a signalized mid-block crossing over McLevin Ave and Tiffield Rd. While McLevin Ave has a speed limit of 40km/h, it also has 4 traffic lanes, making it busier than a local road. To cross Tiffield Rd, it may be most appropriate to have a controlled midblock crossing, because while there are only 2 traffic lanes, the speed limit is over 40km/h and this street provides access to several places of employment, possibly making this a busier road. A controlled crossing would be the safer and most efficient option.



Figure 34. Flat greenspace adjacent to the creek between Tiffield Rd and Middlefield Rd, allows enough space for a multi-use trail. (Photo by, Karen Khan)

Major Obstacles & Interim workarounds

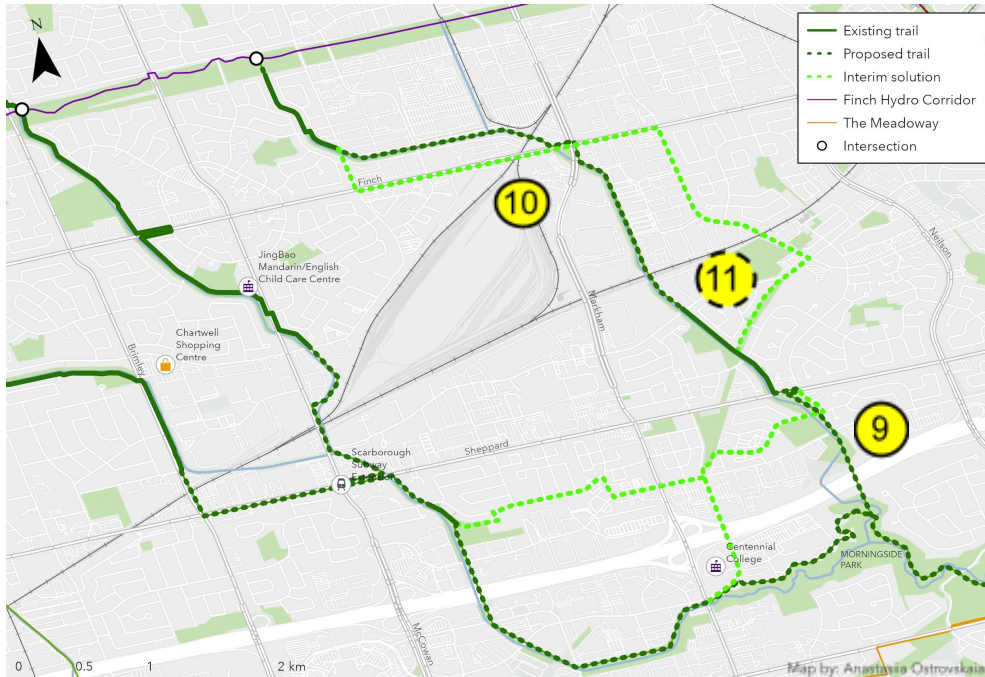
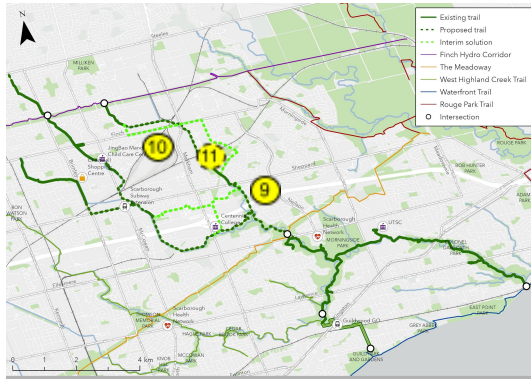


Figure 35. Map of the proposed East Highland Creek Greenway, focusing on the interim workarounds for major obstacles.

9 Crossing the 401:

A major obstacle within this segment is crossing over Highway 401 between Centennial College and Milner Ave (see Figures 35 and 36). This 14-lane segment of the 401 cuts right across the creek and existing park land, thereby making this vital north-south connection challenging to achieve. The long-term solution here is to build a large, open-span tunnel under the highway, since the creek is about 24m below the 401. While there is no current example of a tunnel under the 401 apart from underpasses (see Figure 37), the tunnel should be wide, tall, and arched with good lighting. Until this can be implemented, an interim workaround for this obstacle is an on-road connection using local roads. Specifically, it is suggested to use Progress Ave north to Rosebank Park Trail, then Rosebank Park Trail northeast to Burrows Hall Blvd, and Burrows Hall Blvd east to Lapsley Rd (see Figure 36). Only a short distance of approximately 1km will be on a major arterial road, as most of the travel distance will be spent within a quiet residential area. This interim workaround will also include accessible wayfinding to provide guidance getting back onto the trail.



Figure 36. Aerial view of the 401 north of Centennial College where it cuts across East Highland Creek. (Photo by, Andre Sorensen)

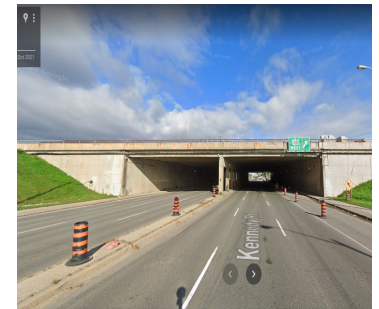


Figure 37. Underpass along Kennedy Rd, heading north. (Photo by, Google Maps)

10 Crossing the Canadian Pacific Railway (CPR):

Another obstacle is crossing the CPR, which cuts across the creek and existing parkland twice (see Figures 38 and 39). It is recommended that either a short pedestrian tunnel or bridge be built to overcome this obstacle. If a bridge is constructed, it would need to be elevated high enough so the trains can pass underneath with enough clearance. This means that a steep incline is required to access the bridge, which is not ideal. If a tunnel were constructed, it should have enough lighting and be wide enough, such as the one seen in Figure 40. Until this can be implemented, an interim workaround for this obstacle is a partial on-road connection. It will begin at and partially travel along a 1.2km **secondary trail** we propose to build using an existing underutilized public corridor and greenspace adjacent to McLevin Ave, which will connect the existing path north of Sheppard Ave northeast towards Malvern Town Centre (see Figure 41). From this point, it is suggested to travel on-road along Tapscott Rd north to Finch Ave, and Finch Ave west to Tiffield Rd (see Figure 35). This interim workaround, like the previous one, will also include accessible wayfinding to help individuals navigate their way back to the trail.



Figure 38. Looking down from Finch Avenwhere East Highland Creek is channelized under the CPR. (Photo by, Karen Khan)



Figure 39. Aerial view of where the CPR cuts across the creek, north of McLevin Ave. (Photo by, Andre Sorensen)

Figure 41. Looking east from the path north of Sheppard Ave, this public corridor has greenspace approximately 27m wide. This provides ample space to build a secondary trail with a default width of 3m to connect to Malvern Town Centre. While entirely off-road, this trail will require separate marked crossings for cyclists to cross Tapscott Rd, and Pinery Tr, which have existing signalized intersections. Also, an unsignalized midblock crossing will be required for Greenspire Rd.



Figure 40. Short pedestrian tunnel, better known as the Rainbow Tunnel, under the GO railway at the East Don Trail. (Photo by, Karen Khan)

Central Tributary: Centennial College to Steeles Ave

Overview

The central tributary of East Highland Creek begins south of Centennial College (Progress Ave campus), and travels west to Corporate Dr, then north to Steeles Ave, providing a connection to the City of Markham. Along the way, the creek is channelized under the 401, in between industrial and employment lands, and in residential areas where a multi-use trail exists (see Figure 42). It also requires the crossing of several local and arterial roads. Most importantly, this segment provides access to the Finch hydro corridor, Scarborough Town Centre, the West Highland Creek Greenway via Scarborough Town Centre, the Scarborough Subway Extension, and public parks and schools.

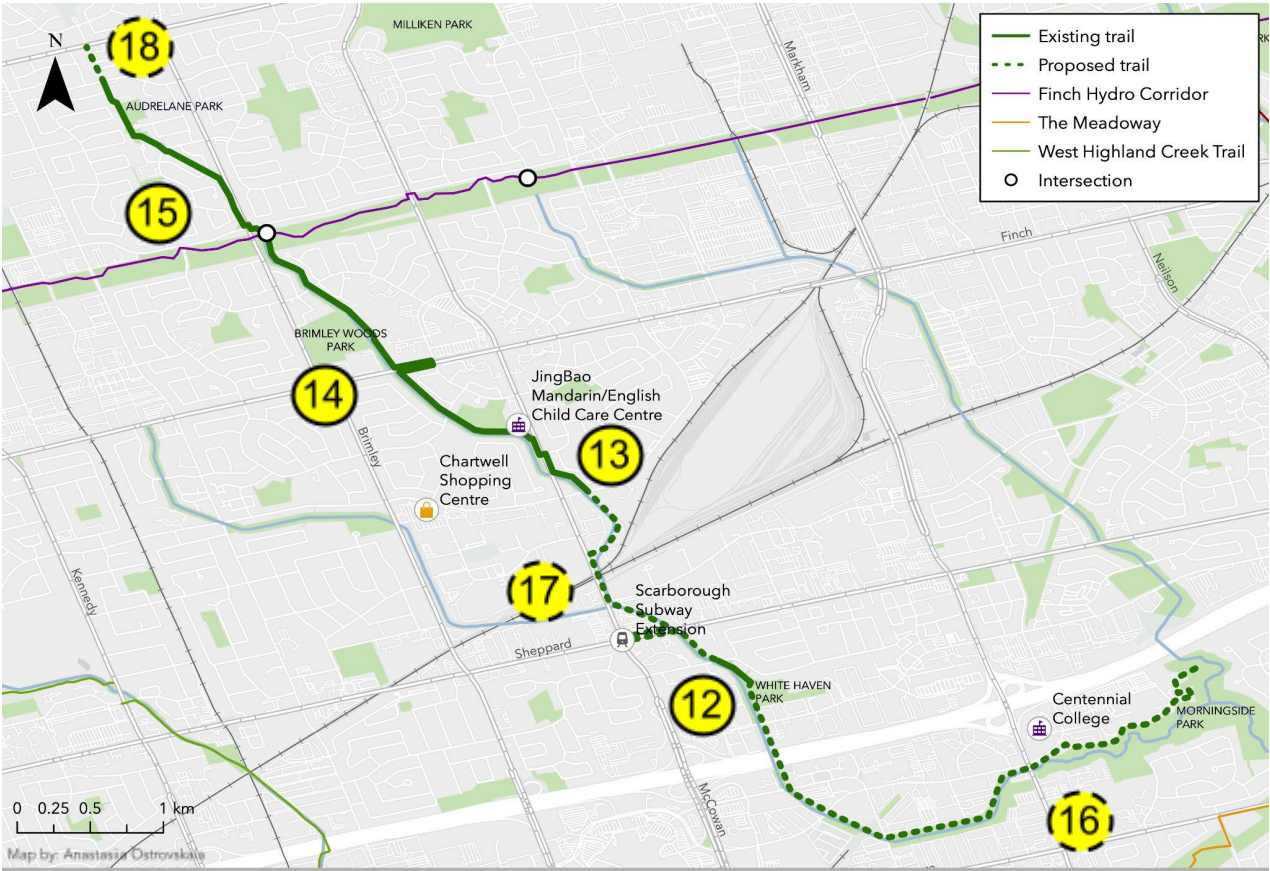
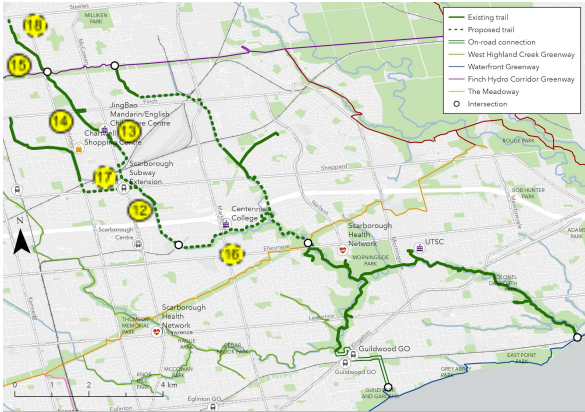


Figure 42. Map of the Central Tributary.

Existing Infrastructure

Total Length: 4.5 km | Condition: Asphalt, Paved

12

White Haven Park Trail:

White Haven Park Trail is a 0.4km-long multi-use asphalt trail located south of Invergordon Ave in a quiet residential area. To access this trail from the road, there is a sloped surface and tactile walking surface indicator (see Figure 43). The trail travels south to access White Haven Park, and then it heads east to White Haven Public School, where the trail comes to an end. Most of the trail is situated adjacent to the slope of the creek and is surrounded with plenty of park land. It is slightly over 3m wide with an overall even surface, which exceeds the minimum standards for primary multi-use trails (see Figure 44).



Figure 43. Tactile walking surface indicator and sloped surface to access White Haven Park Trail, facing north. (Photo by, Karen Khan)



Figure 44. White Haven Park Trail, heading south. (Photo by, Karen Khan)

13

The northeast corner of Middlefield Rd and McCowan Rd:

Beginning on the north side of Middlefield Rd, slightly east from McCowan Rd, is a 0.22km-long asphalt path that is adjacent to East Highland Creek. The path travels north and west, ending abruptly north of Middlefield Rd on the east side of McCowan Rd (see Figure 42). It is narrow, averaging approximately 1m wide, uneven, and lacks maintenance, which complicates moving through this path (see Figure 45).



Figure 45. Path beginning at Middlefield Rd with uneven surface and poor maintenance. (Photo by, Karen Khan)

14

East Highland Creek Trail (Kenhatch Blvd to the Finch hydro corridor):

Beginning on McCowan Rd slightly northwest of Kenhatch Blvd is the East Highland Creek Trail. This 2.36km-long multi-use asphalt trail is nestled within a quiet residential area, adjacent to East Highland Creek where it has been channelized (see Figure 46). It provides access to Iroquois Park, Brimley Woods Park, JingBao Mandarin/English Child Care Centre, and Albert Campbell Collegiate Institute. Along this path there is also lots of greenspace. While it is nothing compared to the "escape from the city" you can experience with the South Loop, this path still provides a quiet, shaded environment with great views to travel through.



Figure 46. East Highland Creek Trail surrounded by parkland. Located in between McCowan Rd and Chartland Blvd. (Photo by, Karen Khan)

While the trail averages 2.5m wide and has an overall even surface with a few uneven areas (see Figure 47), the trail gets narrower north of Chartland Blvd and it requires crossing several roads, although the characteristics of the path and its surrounding area remains the same throughout (see Figure 48). The first road to cross is Chartland Blvd S, where there is no separate sloped surface to cross the road. Second is Finch Ave, which requires you to head east 170m from where the path ends at Finch Ave to cross north at the existing signalized intersection of Sandhurst Cir and Finch Ave, and then head west 170m to access the continuation of this trail (see Figure 49). The last road to cross is Brimwood Blvd, where there is no sloped surface or marked crossing. The segment of the path north of Brimwood Blvd connects directly to the Finch hydro corridor (see Figure 50).

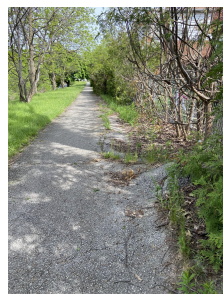


Figure 47. Severe unevenness on the East Highland Creek Trail. (Photo by, Karen Khan)



Figure 48. What this multi-use trail looks like north of Chartland Blvd. (Photo by, Karen Khan)



Figure 49. Desire line at the end of the trail to access its continuation north of Finch Ave. (Photo by, Karen Khan)



Figure 50. East Highland Creek Trail leading to the Finch hydro corridor. (Photo by, Karen Khan)

15

Brimley Rd to Ashcott St:

Beginning at the northwest corner of Brimley Rd and McNicoll Ave is another segment of the East Highland Creek Trail. It travels northwest to connect to the Audrelane Park Trail, which requires crossing over Port Royal Tr without a crosswalk. Together, the existing multi-use asphalt trails total 1.52km in length and provide an efficient connection to Markham that is nearly entirely off-road, and it even connects to Audrelane Park and Port Royal Public School. These paths are located within a quiet residential area, with a small portion of the East Highland Creek Trail adjacent to Brimley Rd. While this path is fairly wide and shaded like the other multi-use trails within the East Highland Creek Greenway, the creek is nowhere to be seen along this entire segment. East Highland Creek is channelized underground, but the open park fields and greenery still provide nature views and a place to stop and have a picnic (see Figures 51 and 52). Interestingly, these are the only trails that provide lighting with lamp posts, and they have the most neighbourhood access points compared to other segments within the East Highland Creek Greenway.



Figure 51. Audrelane Park Trail adjacent to park fields. (Photo by, Karen Khan)



Figure 52. Tree coverage along East Highland Creek Trail. (Photo by, Karen Khan)



Figure 53. Severe unevenness in the surface of East Highland Creek Trail, south of Port Royal Tr. (Photo by, Karen Khan)



Figure 54. Narrow path adjacent to Port Royal Public School's parking lot, facing south. (Photo by, Karen Khan)

As mentioned, the trails are wide, averaging at 2.5m, although this remains below minimum standards, and the surface is even throughout except for a few areas (see Figure 53). However, north of Audrelane Park and adjacent to the parking lot for Port Royal Public School, the trail becomes extremely narrow, averaging less than 1m wide (see Figure 54).

Proposed Improvement for Existing Infrastructure

It is recommended to widen the trails to the default width of 3.6m, even their surface with asphalt where needed, add bi-directional markings, and implement appropriate mid-block crossings following the Toronto Multi-Use Trail Guidelines at Chartland Blvd, Brimwood Blvd, and Port Royal Tr. It should not be a challenge to widen this infrastructure, especially for both branches of the East Highland Creek Trail, and White Haven Park Trail, considering that they are already near, if not already, 3m wide, and have greenspace adjacent to them that provides plenty of space for expansion. Also, if there is reduced clearance between the slope and the segment of the East Highland Creek Trail in between Kenhatch Blvd and the Finch hydro corridor, guardrails should be built for added safety. Finally, the intersections of Sheppard Ave and McCowan Rd, Finch Ave and Sandhurst Cir, and Kenhatch Blvd and McCowan Rd should have separate marked crossings for cyclists.

Proposed New Infrastructure

16 We recommend building a 3.2km connection from Centennial College to White Haven Park Trail, and **17** a 1.42km connection from the north end of White Haven Park Trail to Middlefield Rd and McCowan Rd, except for 0.26km that is on-road to cross under the Canadian Pacific Railway (see Figure 55). The majority of this space is park land with over 45m of width (including the creek), allowing enough space to implement a multi-use trail. There are also desire lines situated between Sheppard Ave and Invergordon Ave and between White Haven Park Trail and Milner Ave, which indicates the desire for these connections (see Figures 56 and 57). This connection will also include a signalized mid-block crossing across Milner Ave, which, once again, is most appropriate for roads with 4 traffic lanes and a speed limit over 40km/h. Simultaneously, this crossing would also serve the needs of transit users because there are existing bus stops on both the north and south sides of Milner Ave in



Figure 55. Location of the on-road connection along McCowan Rd to cross under the CPR. (Photo by, Karen Khan)



Figure 56. Desire line adjacent to the creek in between Invergordon Ave and Sheppard Ave, heading north. (Photo by, Karen Khan)



Figure 57. Desire line to Milner Ave from White Haven Park Trail adjacent to the creek, heading south. (Photo by, Karen Khan)

this area with no way of crossing the street, except at the nearest signalized intersection, which is 500m away.

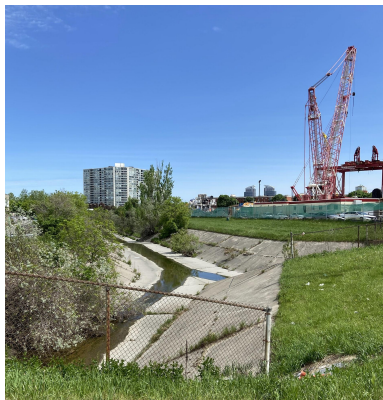


Figure 58. Concrete-lined drainage ditch located at the southeast corner of Nugget Ave and McCowan Rd with adjacent greenspace. (Photo by, Karen Khan)

Of particular value in building a multi-use trail in the segment mentioned above is not only the connections it would provide to employment lands, public parks, and schools, and the Scarborough Subway Extension, but also the opportunity to rehabilitate the creek and convert it into a linear park. Currently, there is a concrete-lined drainage ditch used to channelize most of the creek north of the 401. The concrete walls are most obvious in between the northeast corner of Sheppard Ave and McCowan Rd, and southeast of Kenhatch Blvd on McCowan Rd (see Figure 58). Fortunately, this area will see improvements and possibly the removal of the concrete drainage walls since it is part of the Highland Creek Watershed Greening Strategy. The connection could look like the path seen in Figure 48.

- 18** We also recommend implementing an 0.26km on-road connection along Ashcott Rd to Steeles Ave, following the guidelines for on-street cycling markings on residential roads. This would provide a seamless connection to the City of Markham.

Major Obstacle & Interim Workaround

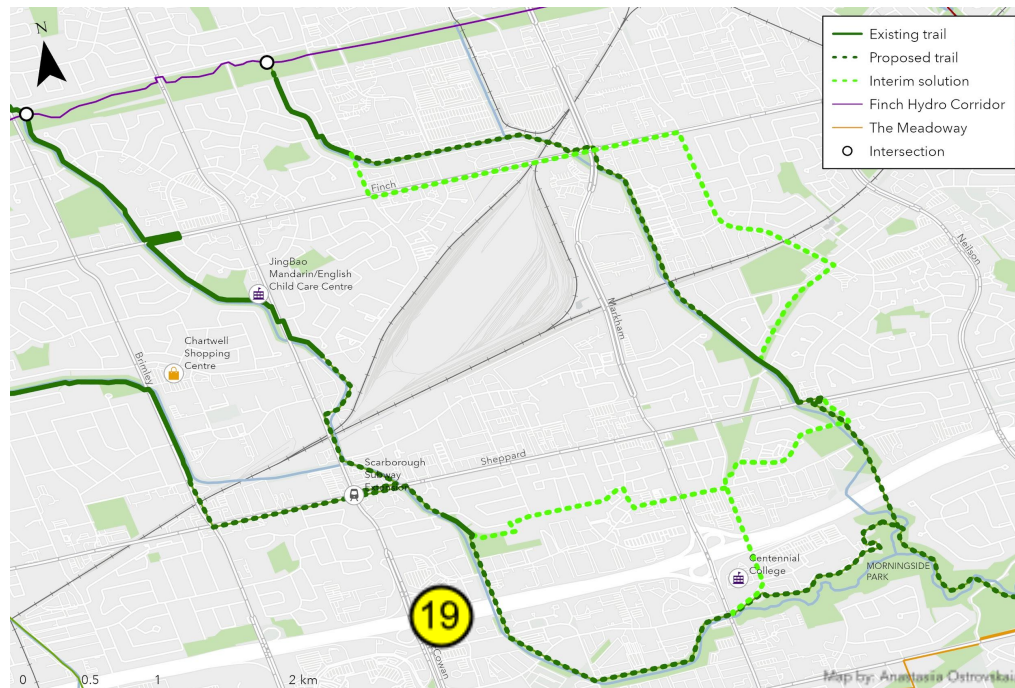
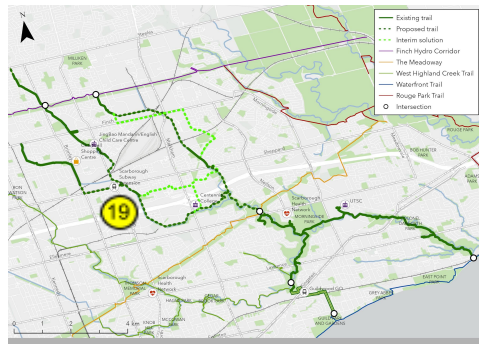


Figure 59. Map of the proposed East Highland Creek Greenway, focusing on the interim workarounds for major obstacles.

19 A major obstacle in this segment is crossing the 18-lane segment of Highway 401 near Scarborough Town Centre, which cuts directly across the creek (see Figures 59 and 60). We propose that a pedestrian bridge be built to cross here, given the low elevation of the 401. A pedestrian bridge already exists over the 401 in the City of Pickering (see Figure 61), which provides a good model for this location. Until this could be implemented, an interim workaround for this obstacle is an on-road connection using Invergordon Ave east to Scunthorpe Rd, Scunthorpe Rd south to Milner Ave, and Milner Ave east to the Rosebank Park Trail. Only a short distance will be on an arterial road, while most of this route takes advantage of quiet local roads, and once again, this interim workaround would need to provide accessible wayfinding for easy navigation back to the trail

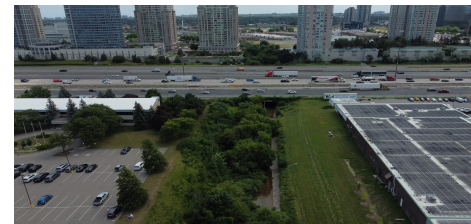


Figure 60. Aerial view of the 401 and East Highland Creek. From Milner Ave, looking south. (Photo by, Andre Sorensen)

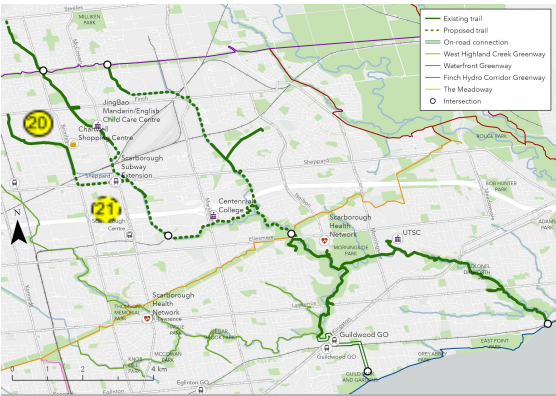


Figure 61. Aerial view of the Pickering GO Pedestrian Bridge over the 401 near Brock Rd.

West Tributary: McCowan Rd & Sheppard Ave to Finch Ave

Overview

The west tributary will serve as a **secondary trail**. It begins at McCowan Rd and Sheppard Ave and travels through an on-road connection that goes west along Sheppard Ave to Brimley Rd. It then goes north following Brimley Rd, and then northwest to Finch Ave within a residential area (see Figure 62). In this segment north of Sheppard Ave, a multi-use trail exists adjacent to the channelized creek. While there is no major destination apart from access to public schools and parks, and Chartwell Shopping Centre, it offers local residents a place to go for a quiet stroll or bike ride. Also, when the other recommended connections are built, it will give these residents access to an expansive off-road multi-use trail network that will connect them to various areas in Scarborough and the other vital destinations that were previously discussed.



Map by: Anastasia Ostrovska

Figure 62. Map of the West Tributary.

Existing Infrastructure

Total Length: 2.6 km | Condition: Paved, Asphalt

20 East Highland Creek Trail:

Beginning on the east side of Brimley Rd north of Sheppard Ave is the west branch of the East Highland Creek Trail. This segment of the trail is adjacent to Brimley Rd and doubles as a sidewalk. It has an even asphalt surface that is about 2.2m wide, which is below the minimum width for secondary trails, and it provides some shade and access to Chartwell Shopping Centre (see Figure 63). Once you reach Chartwell Shopping Centre, to access the continuation of this trail it is required to cross west at the signalized intersection, which currently has no separate markings for cyclists.



Figure 63. East Highland Creek Trail adjacent to Brimley Rd, heading south. (Photo by, Karen Khan)

As a whole, the segment between Brimley Rd near Chartwell Shopping Centre and Finch Ave is like many of the other multi-use trails previously discussed. It is located within a quiet residential area adjacent to the slope of East Highland Creek. There is also greenspace alongside this path, which provides shade and nature views (see Figure 64). This path also provides access to Sir William Osler High School, North Agincourt Junior Public School, and North Agincourt Park. From Brimley Rd to Midland Ave, this path has an even asphalt surface that is over 2m wide (see Figure 64). West of Midland Ave until Finch Ave, the path is paved, averaging 1.2m wide, and overgrown grass has further impeded its width in some areas. It is closer to the slope of the creek (see Figures 65 and 66). Crossings over 2 roads within this segment are also required, beginning with Huntingwood Dr at Midland Ave, which has a signalized intersection without a separate marked crossing for cyclists, and at Baylawn Dr where there is no sloped surface to safely step or wheel down onto the local road.



Figure 64. Wider asphalt trail east of Midland Ave, surrounded by greenspace. (Photo by, Karen Khan)



Figure 65. East Highland Creek Trail, with adjacent greenspace and closer to the slope. Heading east to Midland Ave. (Photo by, Karen Khan)



Figure 66. Overgrown grass along the path, south of Finch ave. (Photo by, Karen Khan)

Proposed Improvements to Existing Infrastructure

To improve the existing infrastructure of this segment, it is recommended that this path be widened to at least the minimum width for secondary trails, which is 2.7m, but the default of 3m is preferable. Since there is greenspace on either side of this trail, there is more than enough space to expand the width to 3m. There should also be bi-directional markings on the trail, and guard rails may be required if clearance is reduced between the slope and the path. There should also be a non-signalized crossing at Baylawn Dr, which is appropriate for a local and low-speed road, and separate marked crossings for cyclists should be added to the existing signalized intersections at Huntingwood Dr and Midland Ave, and Brimley Rd. Overgrown grass should also be maintained.

Proposed New Infrastructure

21 We recommend building a 1.1km on-road connection from McCowan Rd to Brimley Rd via Sheppard Ave. This short on-road connection will allow for the west tributary to connect to the rest of this network, and provide a direct connection to the Scarborough Subway Extension.