The City of Hamilton, in association with Dillon Consulting Limited, is pleased to submit the Keddy Access Trail for the 2021 Sustainable Urban Transportation Award. As detailed in this submission, the Keddy Access Trail is much more than an infrastructure project and is nationally significant in terms of its transformational impact on mobility. Through this submission, we invite you to discover how the project has served to create a new multi-modal connection that bridges a geographical and socio-economic divide within our City, and in doing so serves to create a more equitable transportation system. Not surprisingly, the project is rapidly becoming a regional draw, helping people to meet their daily exercise targets while taking advantage of exceptional views of the City.

The Claremont trail is dedicated to the memory of Jay Keddy, an avid cyclist, parent and respected teacher in the Hamilton community.

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OUTCOMES

Project Details

Completed in December 2020, the Keddy Access Trail is a 2.1 km multi-use facility that connects the Lower City and escarpment neighbourhoods in the heart of Hamilton. Including four side connections, the total length of the project is 2.7 km. The project was completed in combination with a major resurfacing project of the upbound lanes.

In the early days of planning, it was determined that one of the three upbound lanes could be re-purposed to achieve a fully separated 3.0-4.0 m pathway and achieve a long-standing aspiration to create a high quality pedestrian and cycling connection between the lower and upper city. Over the course of five years, the project moved from an idea to a reality.

A key feature of the project is that it is not just a linear connection, but also has multi-modal connections to different neighbourhoods as it traverses between the lower and upper city. Connections comprise multiple parks, enclave

neighbourhoods, the Hamilton Centre GO Rail Station, two regional hospitals, and the famous Bruce Trail. It is estimated that these connections will more than double usage, and some are attractions in their own right.

Connecting a Divided City

The City of Hamilton is unique in that it was created along the Niagara Escarpment, and over time development expanded from what is known as the “Lower City” to the “The Mountain” or “Upper Escarpment”. This geographical feature creates many transportation challenges as there are only a limited number of connections between the upper and lower city. It is also a major elevation change of some 100 m. Prior to the Keddy Access Trail, the only way to traverse the escarpment by active transportation was to use one of three sets of stairs, use the Mountain Climber Pass which allows free access for cyclists between lower city transit stops and upper city transit stops, or ride/walk on a vehicular lane shared with relatively high-speed traffic. Thus, the Keddy Access Trail is to cyclists and pedestrian analogous to a brand-new expressway for motorists.

For those who know Hamilton; however, the divide between the Lower and Upper City is more than just physical geography – it also extends to social perceptions and political leanings. Hamiltonians often make it known which part of the city they are from.

By providing a connection between the Upper and Lower City that can be made by bike in 15 minutes, the Keddy Trail serves to knit together the City. While standing at the top, one starts to realize how interesting and unique the City is.

Ironically, the geographical divide is one of the features that seems to be making the Keddy Access Trail an attraction beyond a transportation corridor.

More Than an Active Transportation Project

From the beginning the Keddy Access Trail was designed as a multi-purpose facility for cyclists, pedestrian and persons using mobility devices. The trail is fully accessible including all side connections.

From a commuter perspective, the trail is a game changer for cyclists. Seasoned and fearless cyclists always had the option of zipping down the escarpment on one of the existing roadways, but the upbound trip was always a challenge. Without the worry of high speed traffic, cyclists can now traverse the escarpment at a relaxed pace. The upbound trip can be made by bike in approximately 15 minutes. Similarly, most people can walk from one end to the other in less than 30 minutes at a relaxed pace, with transit connections to other areas at both the top and the bottom of the trail.

In addition to utilitarian travel, one of the emerging uses of the trail is for daily
exercise. It seems the combination of a round trip cycle time of 30 minutes and walking time of 40-50 minutes, in combination with spectacular views, is a winning formula for people looking for their daily exercise. During the emergency lockdown in January 2021, many people made use of the trail for recreation and posted their satisfaction on social media.

Opening in December 2020, the trail has not yet seen its first summer season. It is expected that its attraction as a health and exercise corridor will increase, and so too will its regional draw.

“This is a signature public space investment in Hamilton’s future that creates new opportunities for walking, jogging and biking and a sense of community where residents can relax and enjoy amazing views and amenities along the mountain brow”. Councillor John-Paul Danko

One unknown for the facility is how it will be used by people with emerging mobility devises such as e-scooters and electric pedal assist bicycles. These devices have the potential to open up the trail to more users, increasing its utility as a transportation corridor.

Relocating Road Space for a Safer and More Equitable Transportation System

The Claremont Access was built for cars. Three lanes down to transport motorists to work in morning and three lanes up to get them home in the evening. For many decades, the “Claremont” as it is locally known, was almost exclusively a motor vehicle thoroughfare. However, as attitudes, demographics and workplaces evolved, the need for so much motor vehicle capacity diminished. Indeed, one down bound lane on the Claremont has been closed since 2016 due to falling rock debris.

After a healthy debate, a decision was made to repurpose one of the upbound lanes for an active transportation facility. With a daily volume of 14,575 vehicles and peak hour peak direction volume of 1,590 - 1,700, it was determined that two lanes would be adequate for most times.

Individuals who previously only had the option of driving downtown or taking what can be up to a 45 minute transit ride, now have the option of cycling 2.1 km and making the same trip in about 10-15 minutes. Thus, this project addresses a significant inequity that existed in the transportation system. This increased equity extends to persons with mobility challenges as the trail is fully wheelchair accessible, which is a major achievement for an escarpment crossing.

A key underlying objective of the project was also to improve safety for cyclists. Other than carrying a bike up 100 m high staircase, with the help of a bike wheel trough, or taking the bus and mountain climber service, prior to the Keddy Access Trail there was really no safe means of continuously traversing the escarpment by bike or foot from the central core of the city.

Issues of safety were highlighted in 2015 when Jay Keddy, a 53-year-old kindergarten teacher, avid cyclist, and father of three, was struck from behind and killed while biking up Claremont Access. The trail is named in honour of Jay Keddy.

From a safety perspective, the most distinctive feature of the Keddy Trail is a 1.4 m high concrete and aluminum barrier which separates users from adjacent motor traffic. This barrier extends the entire 2.1 km of the linear trail section.

Other safety features include a new pedestrian/cyclist signal to provide access to one of the trail connections, extensive signage and pavement markings and guidance to trail users on how to share the space.

In recognition of the potential for high cyclist speeds in the downbound direction due to a 7% grade, extra attention was paid to the design of the multi-use facility. An independent safety review was commissioned to examine different alternatives and offer mitigation measures, which were subsequently adopted. The independent safety review is in itself a useful resource.
During the early tender preparation a decision was made to combine the projects and have one contractor deliver. Under the combined tender, the cycling component was $4.3 million out of a total project budget of $6.3 million. Without the efficiency afforded by combining into a single project, it is doubtful if the active transportation corridor could have been funded. The project was completed on time and on budget by the contractor Dufferin Construction.

A further advantage of combining the projects was that the access could be closed completely, and only once. It is noteworthy that the entire upbound access was closed for construction from July 2020 through to December 2020, an upside of reduced commuting due to COVID-19. But nonetheless a bold gamble by the construction team who took advantage and delivered the project far more efficiently than if a partial closure for traffic (and a lower public reputational risk approach) was adopted.

Managing the Mixing of Cyclists and Pedestrians

From the outset it was recognized that regardless of intent, the Keddy Access Trail would be used by both pedestrians and cyclists. Managing conflicts between these users was therefore a key consideration, particularly considering the potential for cyclists to gain speed on descent.

This risk was managed by firstly providing a generous width trail of >3 m and providing signage to emphasise the multi-use nature of the facility. Consideration was given to providing a centre line to keep pedestrians to right and cyclists to left, but this convention is problematic in that higher speed downbound cyclists to left would conflict with upbound pedestrians. As a result, a “keep right except to pass” convention was adopted.

Leveraging a Routine Resurfacing Project

It is fairly common for a road resurfacing project to be used as an opportunity to create a new bike lane, but not so common for a routing road resurfacing project to be a catalyst for a signature active transportation corridor. In the case of the Claremont Access, the road resurfacing project and AT projects started out on two parallel tracks. Originally, the trail construction was to proceed ahead and separate from the road project bringing in a contractor to mill the lane to be converted, erect the barrier and pave the trail. A year or two later, resurfacing the other two lanes would follow.

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An All-Season Facility

Many municipalities choose to close off-road active transportation facilities in winter months given the difficulty in clearing snow and ice. For the Keddy Access Trail, various options were considered including a full closure from November to April, part time closures and full maintenance throughout all periods. In recognition of the trail’s importance as a commuter connector, a decision was made to strive to keep the facility open as much as possible throughout the winter. This is a non-trivial task, given the slope of the facility and the need for specialised equipment that can fit within the confined space. During major winter events, it takes about 4 hrs to clear the facility from end to end.

In order to manage closures and to ensure safety, gates were installed at each of the trail entrances. As of early 2021, staff were still gathering experience on when to implement closures and how to balance these with public expectations for continual operation.
Using a “Signature Project” to Influence Travel Behaviour

TAC’s Report on Active Transportation – Making it Work in Canadian Communities talks about the value of a “backbone” facility – that is, “a corridor or node that is well-used in practice but also symbolic to elected officials and the general public.

The Keddy Access Trail is, by all accounts, a backbone and “signature facility.” The idea of using a highly visible and impactful signature project to accelerate progress on active transportation is one that a few communities in Canada have been successful at, and this example will serve to add to the research on the impacts of these types of projects. This project also serves as a backbone to the City’s minimum cycling grid, connecting key pieces of cycling and pedestrian infrastructure together to establish continuous and safe pathways.

The project also serves as a reference for other communities facing similar geographical constraints.

Applying a Multi-Modal Level of Service Lens

As noted previously, the Keddy Access Trail was facilitated by the repurposing of one of three existing lanes of traffic. The decision to do so was informed firstly by a traditional traffic capacity analysis, but also a Multi-modal Level of Service Analysis and Complete Streets approach. Under existing conditions, auto LOS was A-B whereas cycling, transit and pedestrian level of service were all at a much lower level of service. Of particular significance was the fact that traffic volumes were also very peaked and planning for an average peak period vs. peak hour completely changed prevailing perceptions about traffic level of service.

Quality Matters

A final aspect of the Keddy Access Trail is the quality of design. From the continuous concrete poured barrier to the visually attractive aluminum barriers, the entire project has the appearance of a high quality design.

While not every project can, or needs to, pursue design excellence, active transportation projects in general are often achieved through limited resources and a “make do” approach. Indeed, for the Keddy Trail the original approach was to utilize temporary jersey barriers to create the separator and not resurface the cycling portion of the roadway. However, through various funding sources from different levels of government, a much higher level of design was achieved. It seems to be paying off as the first reaction from many people that use the trail is “this is really awesome.” We hope that translates into more users and a more connected city over time.

1 Hamilton Mountain Climber Program
https://www.hamilton.ca/streets-transportation/biking-cyclists/integration-transit

2 Media Article on Keddy Access Trail:
https://www.cbc.ca/news/canada/hamilton/keddy-access-trail-1.5832907

3 Road Safety Report:
https://pub-hamilton.escribemeetings.com/filestream.ashx?DocumentId=224768