

Mobility Analysis:

YONGE-DUNDAS

AP/SOSC 3717 Urban Transportation: Introduction to Critical Issues

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Study Area

The block around Yonge-Dundas Square (over Dundas subway station)

bounded by Gould St, Yonge St, Shuter St, and Church St was observed. This area includes the southern half of Ryerson University, St. Michael's Cathedral Basilica (amongst other religious institutions), part of St. Michael's Hospital, the Ed Mirvish Theatre, some hotels, parking lots, a historic house, and residential areas. The area was found to be divided into northern and southern sections by Dundas St.



Figure 1: Study area, highlighted in yellow.

Mobility Analysis Study Area

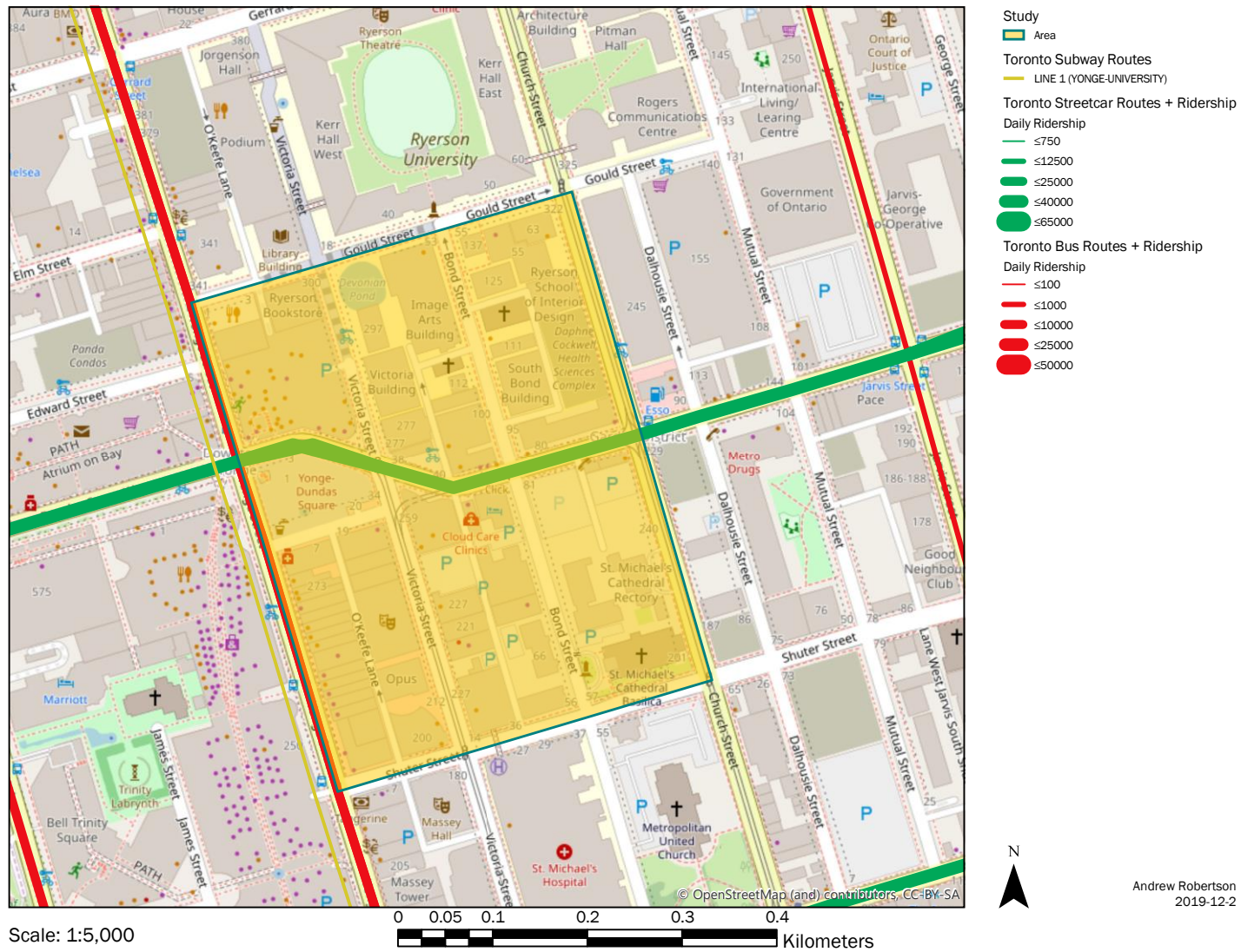


Figure 2: Map showing study area with buildings.

An interactive version of this map is available at <http://yorku.maps.arcgis.com/apps/View/index.html?appid=2709842b2cb74bb6bb2a4070b7ddcf8f> Transit data taken from Esri Canada Education, 2018.

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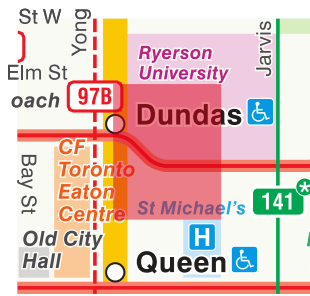


Figure 3: The study area on the TTC system map. Very few transit routes are in the area.

Transportation Inventory

The following systems were found in the study area:

- Vehicular road system
- Pedestrian system
- Bicycling system
- Bus* system
- Subway system

Except for the road (and sometimes the bicycle) systems, these systems exist co-operatively with each other.

It is interesting to note that even on quiet streets (like Gould St, because of the construction), pedestrians normally keep to the sidewalk (Figure 16). This demonstrates how important the physical form of the street is. Even though Gould St is mostly devoid of cars, and is no longer a through street, there was little jaywalking. People crammed onto the sidewalks rather than stepping onto the street. The parked cars could be acting as a barrier to keep people on the sidewalk.

* This is usually a streetcar system, but due to the streetcar shortage, this route was using buses at the time.

System Co-Existence

Bicycles

In the university, for example, bicycles were very popular. But, besides some bike racks, there were no infrastructure considerations for cyclists. The renovation of Gould St does not include provision for bicycles, although a cyclist is shown in the rendering on the construction fence, mixed in with the pedestrians and cafés. This renovation is apparently not intended for high volumes of cyclists.

It was found that in the entire study area, only one bike lane was present: it ran in front of the cathedral and hospital on Shuter St and ended at Yonge St with no consideration for where the cyclists would go (Figure 4). Despite this lack of bike lanes, bike racks were found throughout the area (full during the day), as well as city rental bikes. Where these bikes are intended to go (especially the rental bikes which are partly intended for novice cyclists) is not clear. None of the found bike racks were near the bike lane on Shuter St. As such, bicycles were often in conflict with the other systems, especially on Yonge St.

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Figure 4: Bike lane on Shuter St ends at Yonge. No provisions for bikes are made on Yonge St. Shuter St, looking west to Yonge.

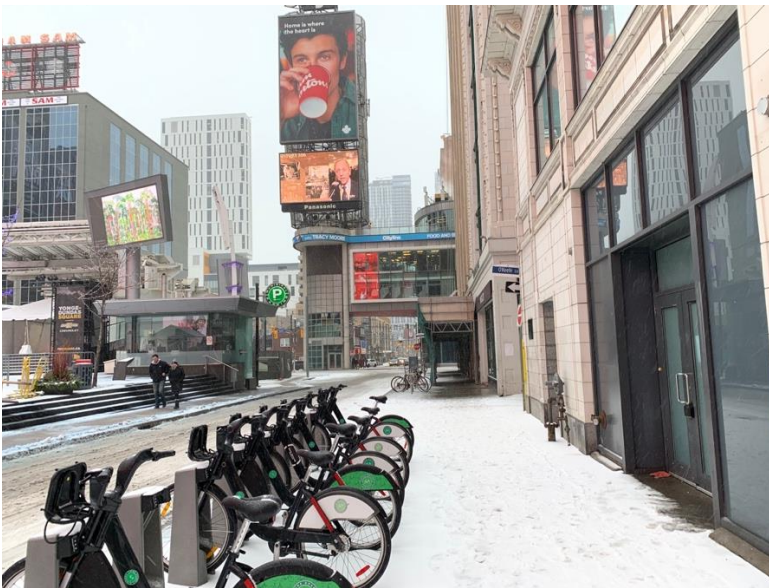


Figure 5: Bikes on a “bike island” surrounded by Dundas Sq, Victoria, Dundas, and Yonge Sts; none of which have bike lanes. Yonge St & Dundas Sq, looking east.

Focus on Pedestrians

Infrastructure

The most obvious manifestation of the pedestrian system are its sidewalks.

Other physical infrastructure is present, as well, such as the “pedestrian zone” signs for pedestrian-only areas at Ryerson, the curb cuts at the intersections, the pedestrian crossovers mid-block, crosswalks, and the pedestrian signals under the traffic signals. Some signage is intended for pedestrians, too, especially in the PATH and subway system underground, which is a major pedestrian thoroughfare.

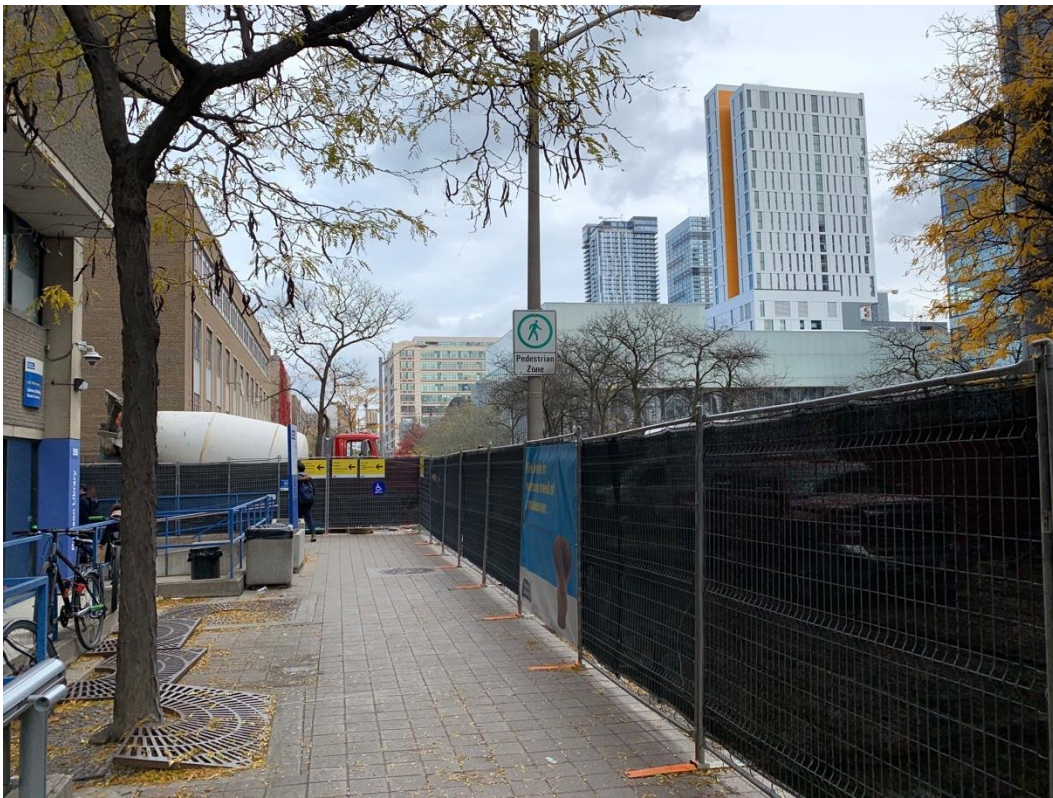


Figure 6: “Pedestrian Zone” on Gould St, looking east from Yonge St. This sign will probably be removed in the construction, as the street design itself will physically restrict cars.

Most able-bodied pedestrians can walk anywhere, too, which means that even things not intended for pedestrian use can be used as pedestrian infrastructure such as quiet streets and alleys.

Equipment

In terms of equipment, pedestrian systems are quite open; generally all that is needed are a pair of shoes and comfortable clothing. However, there is also some fixed equipment provided by the city such as buttons used to activate the pedestrian signals and crossovers.

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Figure 7: Signal, pedestrian signal, crosswalk, pedestrian, and (in background) pedestrian crossover. Dundas St at Victoria St, looking east.

Rules and Regulations

For the most part (perhaps because the system is so accessible) pedestrian rules are simple: cross at the crosswalk, wait for a “walk” signal, stay on the sidewalk. Pedestrians are also required to push the button at signalized crossings to request permission to cross the street.



Figure 8: Pedestrians are expected to push, look, and point to cross this quiet street. Bond St north of Shuter St, looking north.

Operations and Maintenance

Sidewalks and streets are usually maintained by the city, although those that fall on private property are maintained by the property owner. Gould St is interesting in that it appears to be a municipal street (Land Information Ontario, 2019), but is currently under renovation by what appears to be Ryerson University. Ryerson does have an interest in Gould St as it is in their campus, so it would make sense if Ryerson had reached some sort of agreement with the city to improve the street.

Premium Network Space

The most obvious (and yet most invisible) premium network space is the subway, which actually bypasses most of the study area by going under it. The subway station also connects to the PATH, another premium network space (although not in the study area).

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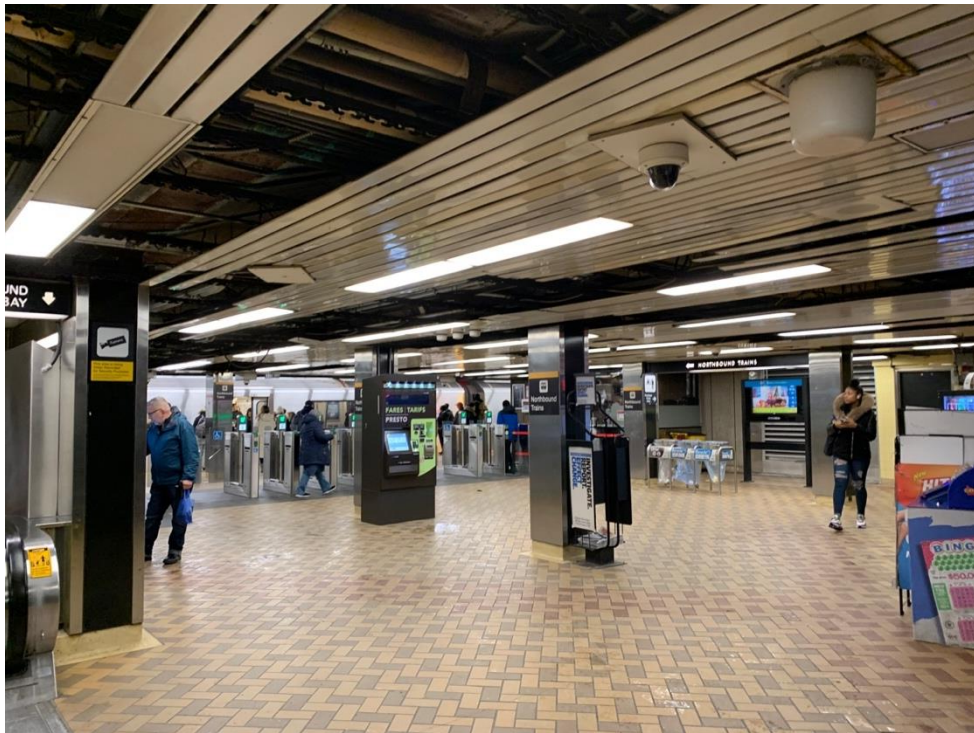


Figure 9: Dundas station showing trains northbound.

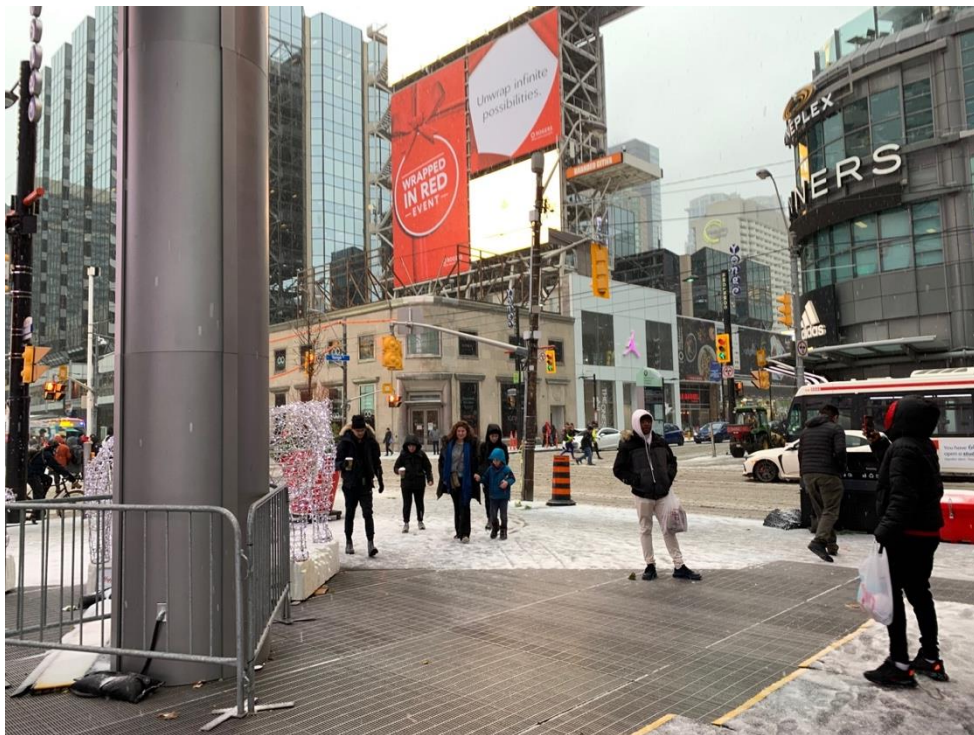


Figure 10: A photo taken in approximately the same location, one level up, showing what the subway bypasses. Yonge St & Dundas St (southeast corner), looking northwest.

Transit equity is almost certainly not a factor in designing these transport systems. Yonge-Dundas Square was created to exclude the “riff-raff”, and the PATH system, being private, can exclude people more-or-less as they please. TTC By-Law № 1 excludes certain travellers at certain times of day in order to keep the system running smoothly for most people (Toronto Transit Commission, 2009) (which is a reasonable sacrifice to make. This could be an example of reasonable and even beneficial transport inequity). The streets and sidewalks are not very considerate in who they include, with most sidewalks being of the standard width and offering nothing but curb cuts to help pedestrians. Most of the street space is given up to cars, even on popular streets like Yonge.

Cars

It can also be argued that the roads with their cars are a premium network space. While shops cater to pedestrians on the street and encourage people to walk in as they pass, road traffic tends to drive by. The sidewalks are open to anyone who can make it to them, whereas the price to using the road is a car (or maybe a bicycle, see above). Cars also get priority at most intersections.



Figure 11: Even on quiet streets, it is expected that cars will get priority, as evidenced by this pedestrian crossover outside a school on Bond St. Note how the pedestrian is not bothering to use it. Bond St north of Shuter, looking north.

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Pedestrians must push a button to request permission to cross the street, and a significant amount of time was spent waiting for the signals to change while walking around the study area. When turning, cars would also tend to “override” pedestrians by cutting them off.



Figure 12: Cars driving through stream of pedestrians to get on to Dundas Sq. Yonge St & Dundas Sq, looking southwest.

The pedestrian scramble at Yonge and Dundas can be considered a concession to the fact that while cars often get priority, this is not always feasible, and so the occasional “hole” needs to be punched through the network.

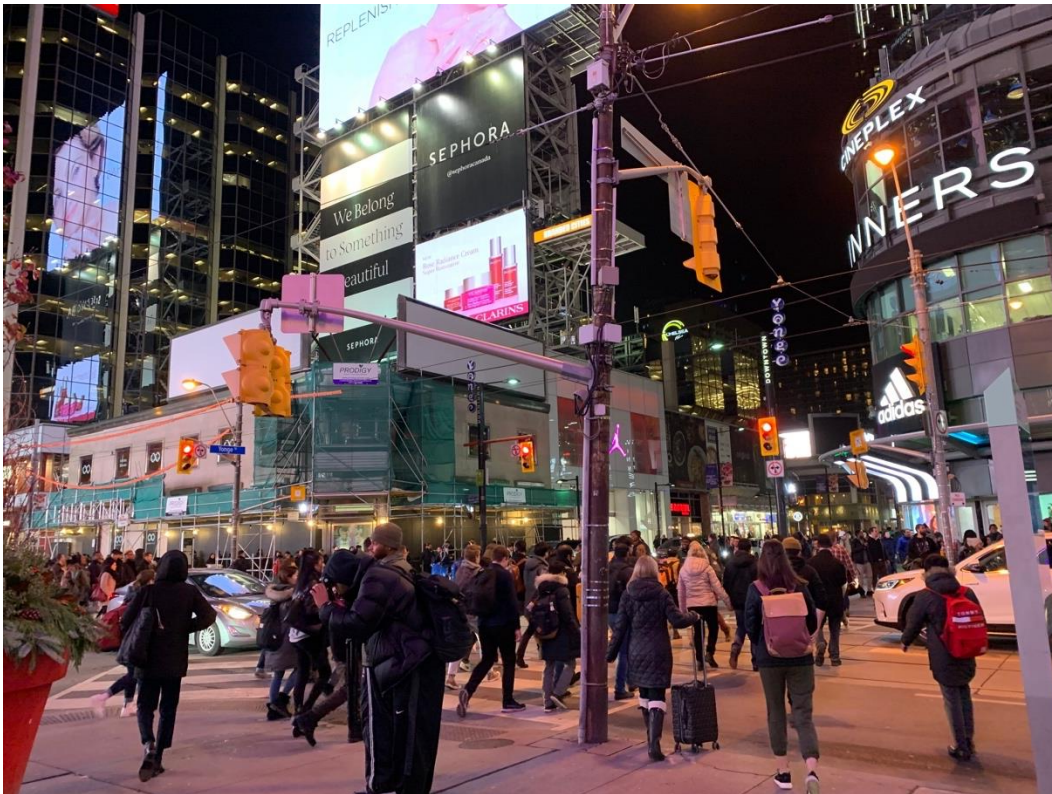


Figure 13: Pedestrian scramble in action. Note how even with this (temporary) pedestrian priority, there is still a car stuck in the intersection. Yonge St & Dundas St from Yonge-Dundas Square, looking northwest.

Lanes

“Basically, what a bike is, is actually a pedestrian with wheels... I mean, it’s no good looking at it like ‘oh look, it’s a car, let’s give it its own lane in the road!’” ~ Graham

Hitchins, *Twenty Twelve*

Toronto appears to agree with this quote from a satirical BBC show about planning for the 2012 Olympics. In the entire study area, only one bike lane was found. Yet, bicycles were common in the study area, especially in the university. Cyclists would often ride down the street like a car, which is acceptable on streets like Bond or Victoria, or even Church, but can be inconvenient

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at best or dangerous at worst on Yonge St. It was surprising how popular cycling was in the study area, as the infrastructure does not suggest so. Food delivery by bicycle was common on Yonge St, with delivery cyclists riding in-between the lanes. Not all delivery has to happen by vehicle. How much more popular would cycling be if the infrastructure was provided?

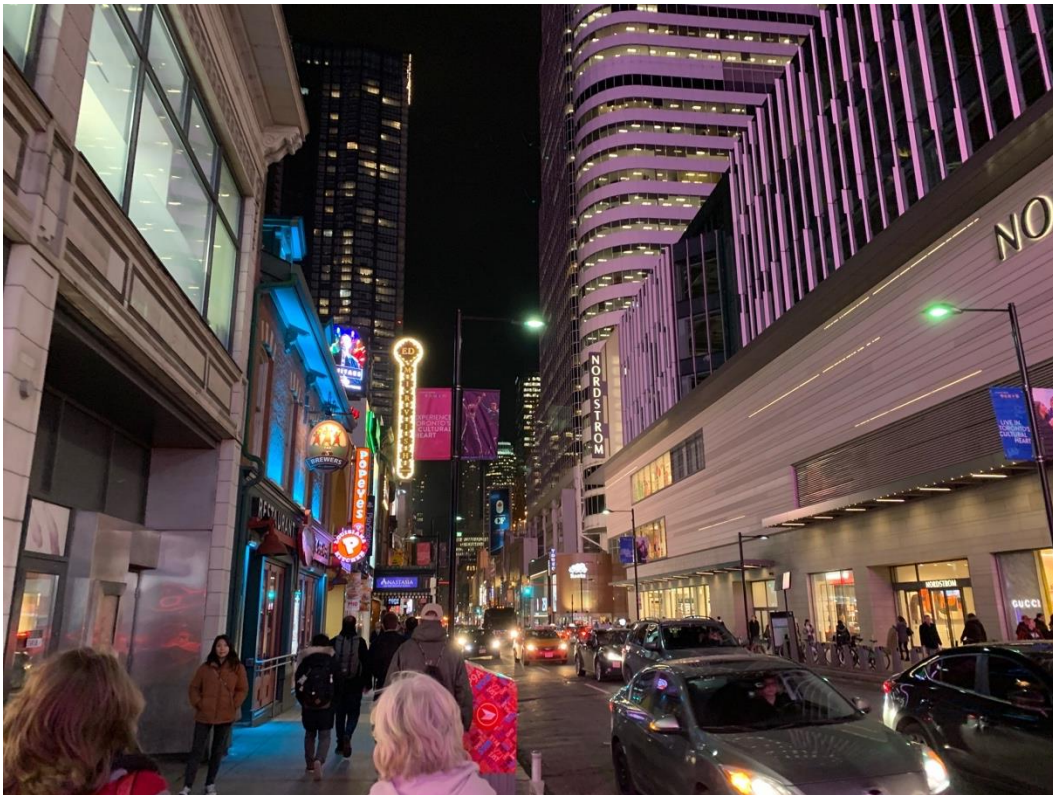


Figure 14: Yonge St full of cars and pedestrians. Yonge St & Dundas Sq, looking south.



Figure 15: Cyclist riding down Yonge St. This was common, as Yonge St does not have any bike lanes, yet bike traffic is common. Yonge St north of Shuter St, looking north.

Movement and Motion

One of the nice things about a university is that it guarantees a certain type of transportation use: in this case, Ryerson creates certain flows of pedestrians at regular times throughout the day. Yonge-Dundas Square, too, draws pedestrians (most of whom then cross the street to the Eaton Centre). Regardless, this special area of the city can be used for experimentation as pedestrians are certainly going to be there and these ones must walk regardless. Despite this “coerced” pedestrianism, it was nice seeing considerations being taken for the university pedestrians, such as the pedestrian-only zones, street furniture, and the new Gould St being built.

But Can We Do Better?

“We have the technology. [...] We [can build it] better than [it] was before.” ~ *The Six Million Dollar Man*

The study area has too many roads. Many of the streets in the area were paved and left to cars long ago and have never really been updated since then, even though the area is not mainly used by cars. Ryerson has the right idea of building a woonerf-style street on Gould Street. Even on the day of visiting, with the construction, Gould St was nicer than the streets around it because of the lack of traffic.



Figure 16: Pedestrians using the street beyond the construction. Gould St & Bond St, looking northeast.



Figure 17: Construction ironically creates a quiet atmosphere. The café was popular and the sidewalks were busy. Gould St & Bond St, looking west.

A café was set up on the street, there was a vegetable market opening later in the day, and the street was quiet. It was quite pleasant. This could be replicated on surrounding streets such as Victoria St and Bond St. Cars could then be relegated to the alleyways, creating a nicer atmosphere for the students, tourists, and hospital patients in the area. Businesses could set up sidewalk sales or cafés to entice customers in. This could also have the side-effect of bringing the community closer together and making the university a more important part of the neighbourhood.

This would also make the area more bike-friendly. Some streets would probably have to remain as they are, for example, Dundas St will remain a

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major thoroughfare (as was originally intended), and Shuter St has to remain open for ambulances. Regardless, the bike lane on Shuter St should not end at Yonge. Yonge St should be modified to reflect how important it is for all forms of traffic, and bike lanes should be added and clearly marked and signalled.



Figure 18: A quiet street outside of a school; a prime candidate for “woonerf-ing”. Looking north on Bond St towards Dundas. Ryerson University is the green roof at the end of the street.

In addition, it was noticed that some pedestrians have difficulty traversing snow. This Canadian city, if it does decide to give the streets back to the people, should consider installing awnings over parts of the streets to make walking easier and to provide a clearer delineation between pedestrian traffic and higher-speed traffic like bicycles, scooters, and cars.



Figure 19: Example awning on Dundas St, looking west from Church. Ideally, the awning would be wider and longer than this.

The transit routes seem adequate, although having the streetcars return to Dundas will be a welcome sight.

History

Dundas Street was established in 1796. Starting in 1911, Dundas St was extended easterly by joining* existing streets to provide better access to the city. This also included joining the corresponding streetcar routes to create the Dundas route (James Bow, 2017). Streetcar service in this area began

* More-or-less: these streets did not always line up, so Dundas St was smoothed out over the years giving it the slightly meandering route it has today.

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in 1881. Service was extended west to Bay St in 1921*, but was still split into east and west sides. By 1923, other routes such as College were sharing the Dundas tracks downtown. By 1968, alternate cars were running through to Dundas West. However, full cross-city service like today did not happen until 1986, with the final discontinuation of the City Hall Loop. By this time, the other routes that used the Dundas St tracks had either been replaced or moved to their own streets (James Bow, 2019).

Dundas station opened in 1954 to serve the now-busy Dundas St with its several streetcar routes. At this time Dundas was the dividing line between downtown and suburbia with no routes terminating nearby, so Dundas station was built modestly†. Since then, Dundas Station itself has not been significantly changed since its opening, except for a tunnel under the tracks connecting to the Eaton Centre, and a Ryerson/private-developer retail/education complex with direct connection to Dundas Station to the northeast (James Bow, 2017).

Planning for Yonge-Dundas Square, the “focal point” of the study area, officially began in 1995 with the intention of transforming the increasingly criminal area into something more upscale. At the centre of this “new” 1995

* The year the TTC was established (Toronto Transit Commission, 2017).

† Dundas Station was and remains the only station where there is no way to cross the tracks within the fare-paid zone. Dundas is built directly into the bedrock under Yonge St and digging deeper than necessary would have been prohibitively expensive, so an extra storey for a concourse was not installed.

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development would be a public square between Yonge, Dundas, and Victoria Streets, and the street already known as Dundas Square. However, the idea of a square on this site is much older than this, starting with Dundas' rerouting to remove a jog at Yonge in 1923. A square was again suggested in 1976 as an example of what a public space in Toronto could look like. The square that was built was designed to be empty to allow for flexible use. It opened in 2003 with the surrounding area sitting mostly empty for the next decade or so while development slowly materialized around the site (Osbaldeston, 2011, Chapter 9).



Figure 20: The author in the approximate centre of the study area by Yonge-Dundas Square.

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Original images with metadata (including location) and field notes are available from the author upon request.

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