

SWRTC Phase II Priorities for Discussion

December 14, 2015

Building to meet Future Capacity Demands

Travel by bicycle is the fastest growing means of transportation in Winnipeg. Wherever new cycling facilities are put in place, people are attracted to the comfort and convenience that they provide. Experience in Winnipeg has shown that the provision of protected bike lanes can vastly increase the number of people biking to and from their destinations. This is especially true of projects that provide connectivity between highly desirable destinations. For instance, since the installation of a protected cycling facility on Assiniboine Avenue, the number of people choosing to bike down that road has increased by over 225%.

The pedestrian and bicycle facilities being built as part of the Southwest Rapid Transit Corridor (SWRTC) will link together some of the city’s densest neighbourhoods (Osborne Village, Lord Roberts, South Osborne, Earl Grey) and most visited destinations (University of Manitoba, The Forks, Downtown). We should expect that the new pedestrian and bicycle facilities associated with the SWRTC will encourage a large number of people currently driving to destinations on or near the route of the SWRTC to choose to travel to their destinations by bike once the projects have been completed. As we build up the bicycle network around the SWRTC AT Pathway, the number of people biking down the route will continue to grow. The new bicycle facilities being built as part of the SWRTC/Pembina Highway Underpass need to be planned with that much higher level of demand in mind.



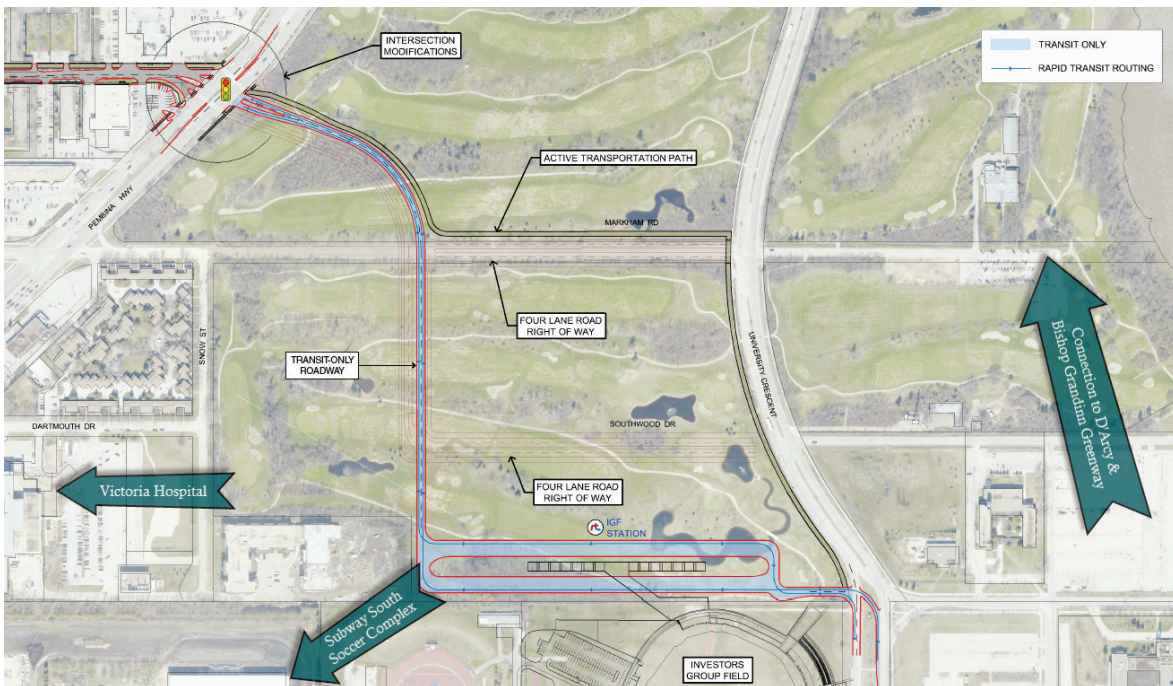
Source: MassDOT Separated Bike Lane Planning & Design Guide

In addition to expected growth in ridership along the bike lanes and pathways along the SWRTC and through the U of M Fort Garry campus, planning should also consider the need to accommodate a substantial increase in the number of people biking to events at Investors Group Field. We feel that present bike parking in the northeast corner of the stadium will be overwhelmed by this additional capacity, requiring new bicycle valet stations to be located in the southwest corner of the stadium. The natural route into this location for a person biking in from the SWRTC AT Pathway would be Ken Pleon Way, accessed via Snow or protected bike lanes on Southwood Drive.

Maximize Connectivity

To maximize use along the AT pathways being completed as part of the Southwest Rapid Transit Corridor, it is critical to maximize the number of connections into/out of the existing bicycle and street network (especially low volume residential streets that can act as low stress bikeways). Wherever possible, it is best to provide people with multiple routes to their destinations.

Planning for the bicycle and pedestrian components of the SWRTC needs to be focused on connections to both existing and planned destinations along the route as well as design of the main AT pathway. For instance, the current plans lack direct connections into Victoria Hospital, a major employment centre, and U of M indoor soccer complex, a major recreational centre.



A number of opportunities have been missed with the development in the Fort Rouge Yards TOD (the Berwick and Walker extensions lack pathway connections to the SWRTC AT Pathway). Phase II development and subsequent TOD development (where the Berwick and Walker links were missed) must strive to avoid these shortcomings.

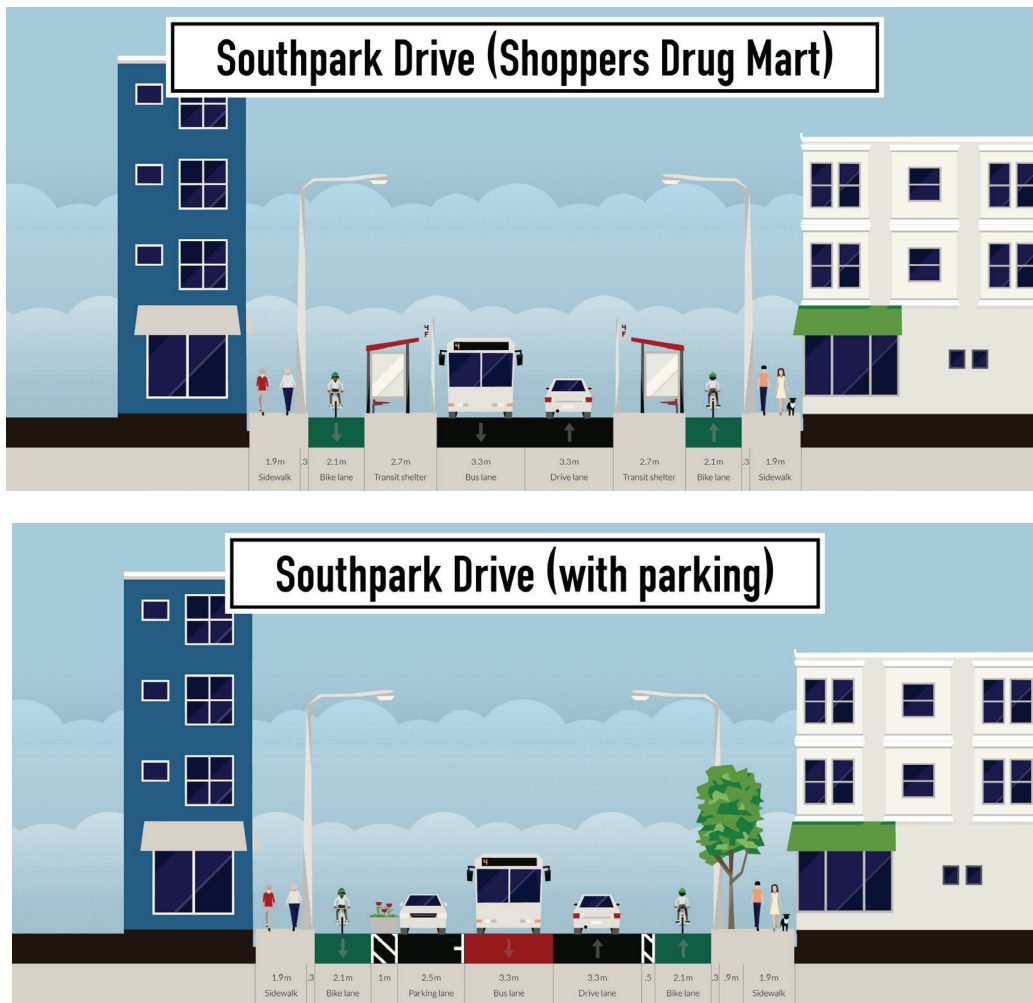
Berwick Ct. and Walker Ct., in the heart of a Transit Oriented Development, have been built without access to the AT pathway running parallel to the SWRTC.

Southpark Drive Facilities

The current design with a two way multi-use path on the north side of Southpark Drive with no differentiation between the bus platform and the bicycle lane is problematic. The design fails to mitigate conflicts between people getting on or off of buses and those riding their bikes into the U of M. As this site should be expected to have both a high volume of bicycle traffic and frequent bus stops, a design that will separate people on bikes from those getting on or off of the buses is required.

Additional challenges include the high number of driveways on the north side of Southpark Drive, and the inevitable challenge of managing conflicts of a two way pathway at intersections.

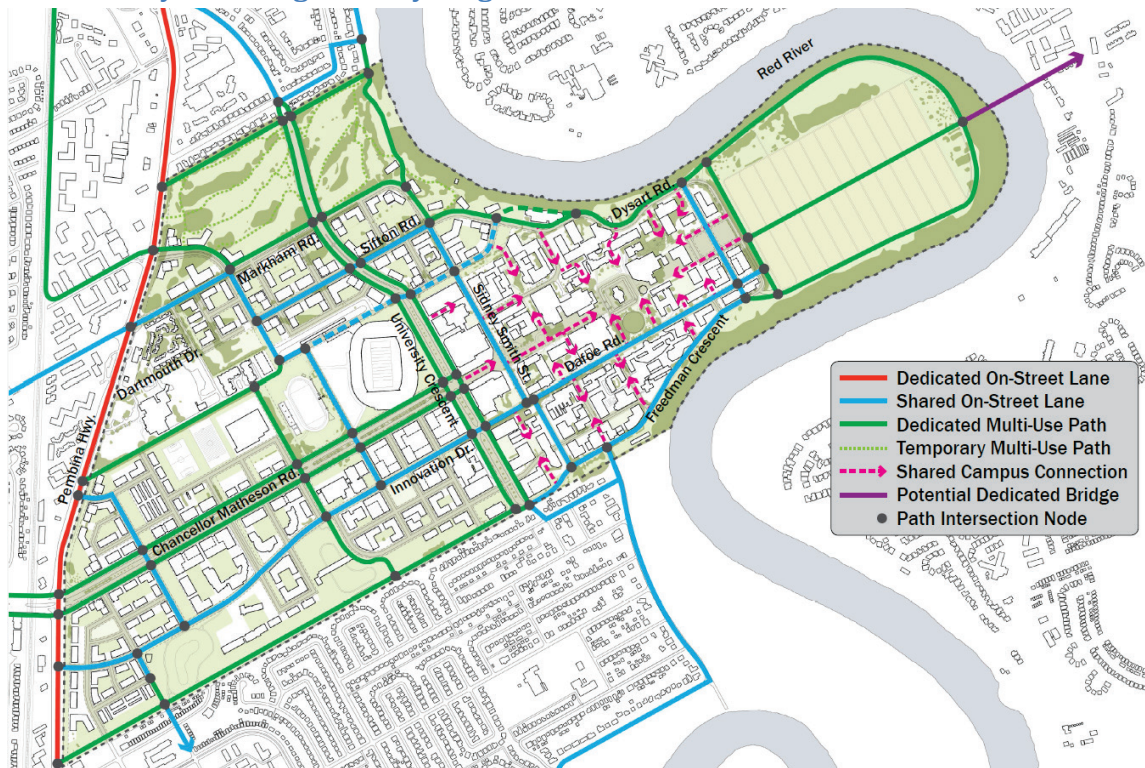
We think a better solution would be to install one way protected bike lanes along Southpark Drive, as seen in the cross sections shown below.



Right of way constraints require widths for the travel lanes, bike lanes, sidewalks and bus platforms to be minimized. An alternative solution may be to move the bicycle route into the University south to Markham Road. Parking is prohibited between the transit corridor and Pembina Highway, and there should be more space to accommodate the bus stops at the intersection with Pembina.

Alignment of SWRTC plans with U of M Visionary (re)Generation Plan

Connectivity into Long Term Cycling Network



In the long term planning, there will be an AT corridor running between the northern boundary of the U of M and the southern boundary of Victoria Hospital, running from Pembina Highway to the western end of the IGF transit drop off/pick up loop.

This greenway along the northern boundary of the campus is to be connected to a north/south greenway running between the soccer complex and Bison Stadium that will run through the Smart Park and connect to the southern boundary of the campus. The SWRTC AT pathway needs to provide a more direct low stress (i.e. separated or very low traffic) connection to this greenway than is currently being proposed.

Connectivity into Investors Group Field

Planning of bikeways around Investors Group Field will need to include multiple routes to the stadium in anticipation of additional bike parking and bicycle valet stations that will be needed to accommodate a substantial increase in the number of people biking to events at Investors Group Field. We feel that present bike parking in the northeast corner of the stadium will be overwhelmed by additional capacity demands in the short to medium term, requiring new bicycle valet stations to be located in the southwest corner of the stadium. The natural route to this location for a person biking in from the SWRTC AT Pathway would be Ken Pleon Way, which would be accessed via Snow Street, protected bike lanes on Southwood Drive, or via the pathways on Chancellor Matheson Drive. For that reason, we think it is important to amend plans to include these routes in the long term planning of the University's bicycle network.

Connectivity into Mixed Use Streets

Sifton Road

As a future four lane mixed residential/retail corridor, we would like to see protected bike lanes included on this street to ensure it remains accessible to people on bikes.

Innovation Way/Dafoe

As with Sifton Road, Innovation Way and Dafoe Road should be redeveloped with protected bike lanes in the future so that access to the destinations along these roadways is accessible to people on bikes as a low stress bikeway.

In the event that a more southerly alignment for the planned Red River/U of M AT Bridge is selected, this road would also serve as a connection into that bridge for people biking to or from Fort Richmond.

Markham Road

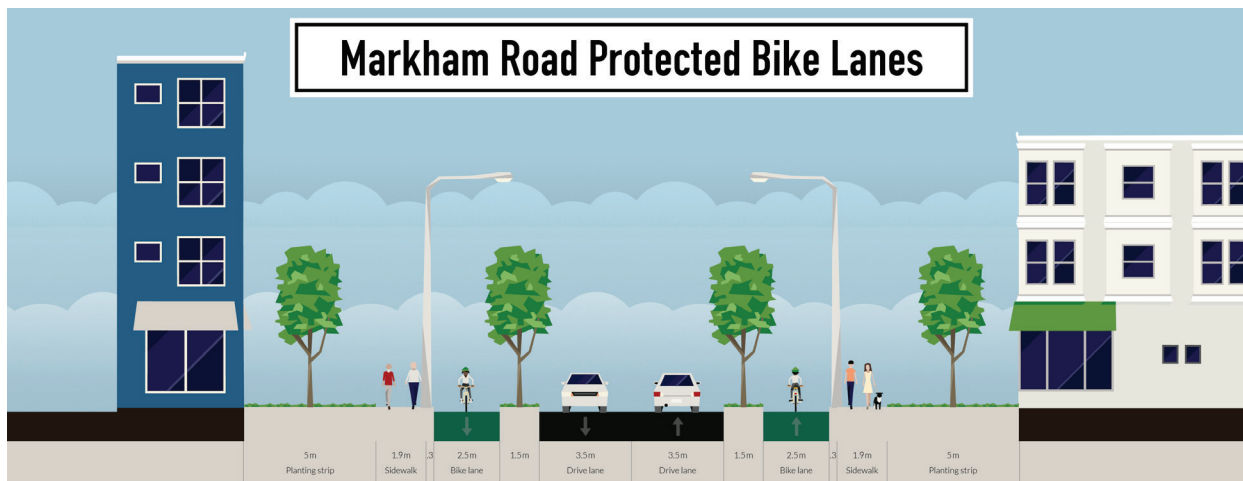
The plans shown in May of 2015 show the AT pathway continuing south to Markham Road where it would connect with facilities to be installed onto Markham Road. This will create a link between the existing protected bike lanes on Pembina Highway and Chancellor Drive. By providing this additional link along Markham Road, the SWRTC project will benefit by providing a direct low stress connection to Arthur A. Leach Junior High and the Waverley Heights Community Centre, as well as a low stress connection to the south along Chancellor Drive (which narrows into a residential street south of Markham Road) that connects into the Superstore and Fairfield Park neighbourhood.

East of Pembina Highway, Markham Road could be upgraded to provide a low stress route into Victoria Hospital and the indoor soccer complex in the U of M campus via Snow Street. Connecting directly into the existing pathway leading in from D'Arcy Drive, protected bike lanes along Markham Road would provide a connection to the Bishop Grandin Greenway and St. Vital Park for people biking north from South Waverley Heights and Fairfield Park until a grade separated crossing can be constructed at the intersection of Pembina Highway and Bishop Grandin. Similarly, when the U of M Red River AT Bridge is built, Markham Road will also be part of the connection through to this facility, making it an important part of the city's bicycle network.

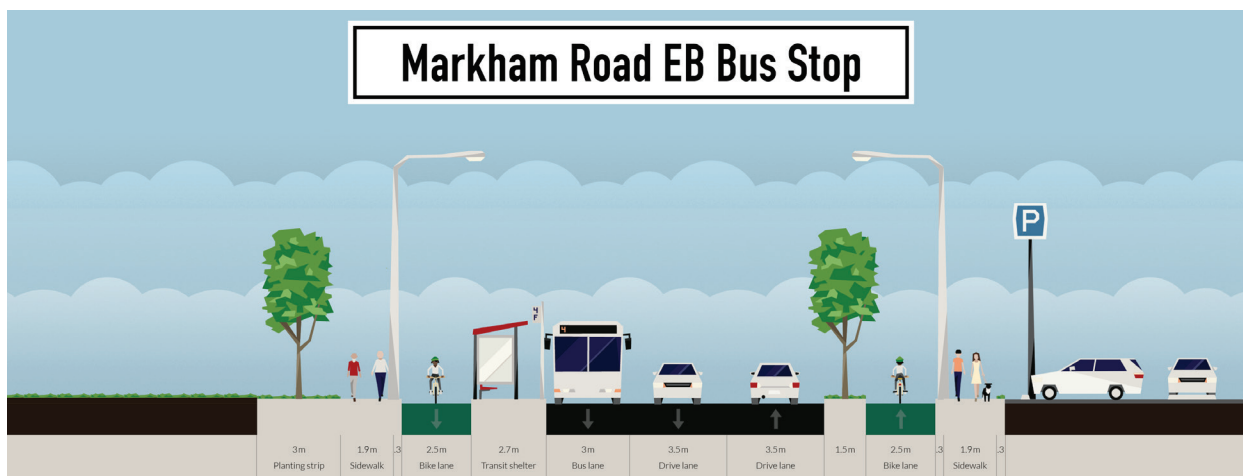
While the plan release in May do not provide a level of detail for the bike facilities along Markham Road, we feel that a pair on one way protected bike lanes would provide the best functionality for Markham Road. Benefits of one way protected bike lanes include capacity, reduced conflict points at driveways and intersections, and better transitions on and off of the protected bike lanes.



Bike Winnipeg has developed the following cross sections to illustrate our recommended design for the bike and walking facilities along Markham Road.

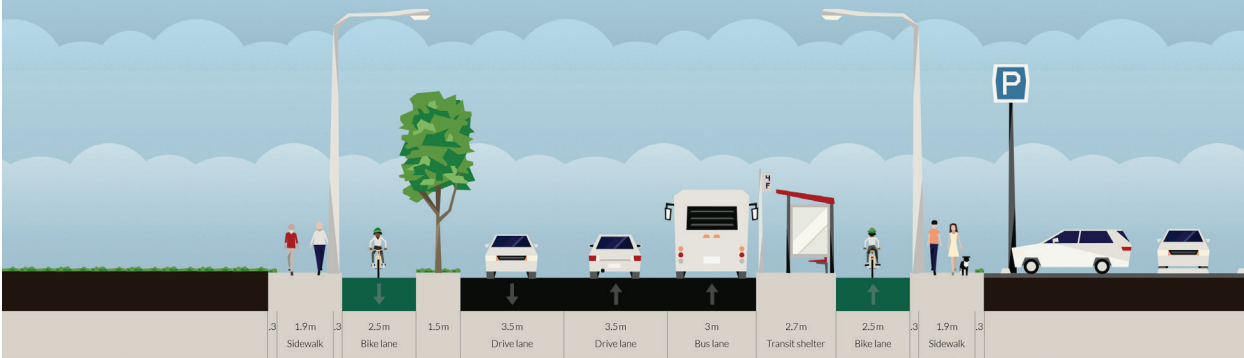


The above cross section should be manageable within the existing right of way along Markham Road. Snow storage may encroach on the bike lanes and sidewalks during winter, but not to the degree that mobility would be sacrificed.



Accommodation of bus stops at the intersection of Pembina and Markham would require acquisition of some property to allow for a bus pullout and platform with a full wrap around for the protected bike lanes. On the south side of Markham, the property desired is currently green space. On the north side of Markham, the property is currently used for off street parking, but this parking could be replaced by expanding parking into an adjacent green space.

Markham Road WB Bus Stop



Properties needed to provide space for bus pull outs and bus platforms that would allow the protected bike lanes to wrap around the bus stops at Markham and Pembina Highway.



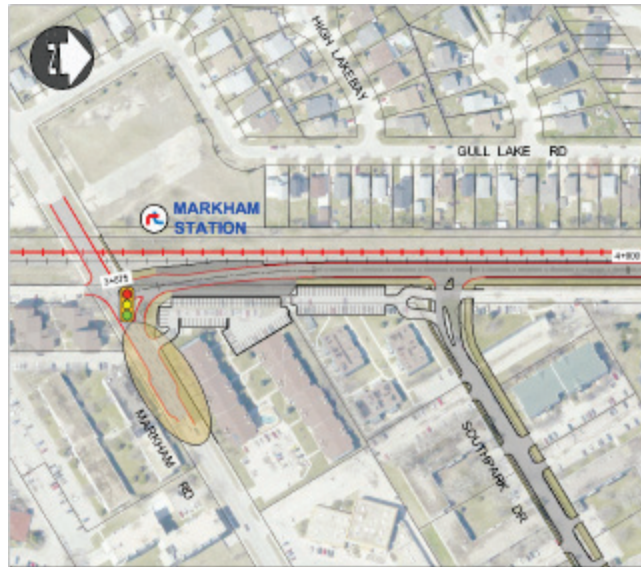
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More People Biking More Often

Markham Road “Kiss & Ride” Location

The suggested location of the “Kiss & Ride” drop offs just east of the transitway will be in conflict with any planned bicycle facilities on Markham Road. As the right of way along Markham Road seems to widen west of the transitway, and since it is also reasonable to assume that there will be substantially more people biking on Markham Road east of the transitway, we recommend moving the Kiss & Ride sites west of the transitway where potential conflicts can be reduced.



As Alternate Entrance to U of M for People on Bikes

Given the space constraints of the South Park entrance into the U of M’s Fort Garry Campus, it seems like it would be worth considering utilizing Markham Road as the main route into the campus from the SWRTC AT pathway. Aside from the benefit of installing protected bike lanes in a less constrained right of way, moving the main bicycle connection south to Markham Road would also provide better access to destinations such as the Victoria Hospital, the Winnipeg Soccer Federations Subway South Indoor Soccer Complex, SmartPark, and Investors Group Field via Snow Street and a future east/west pathway planned within the Fort Garry Campus.

The planned Southwood Drive into the U of M campus should still include protected bike lanes to service future developments along this roadway, but the existing protected bike lanes along Pembina Highway should be able to provide an acceptable level of connectivity into the bike network.

As Connection into South St. Vital

The bicycle facilities being developed as part of the second phase of the SWRTC are more than just a bike route between the U of M and downtown. They will also become integral parts of Winnipeg's developing bicycle network. An important future link in the city's cycling strategy will be a new active transportation bridge connecting the U of M's Fort Garry Campus over the Red River into the South St. Vital neighbourhood.

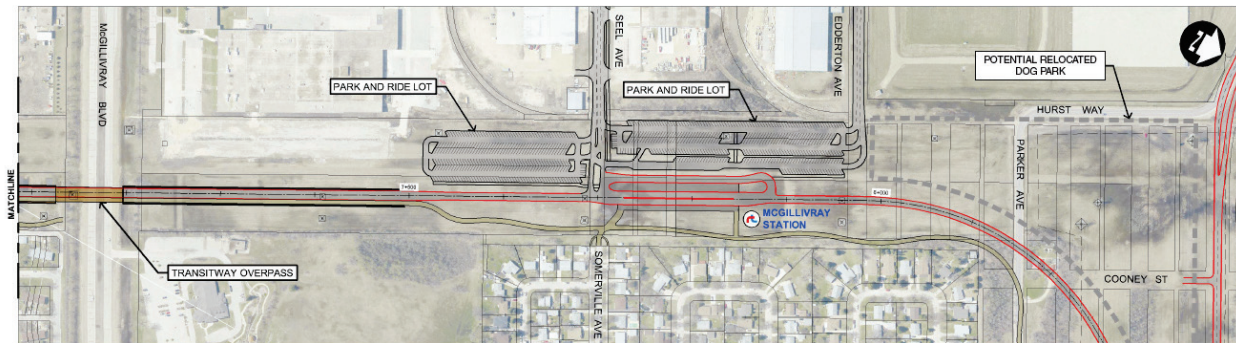


While the location of that bridge still has to be determined, it's certain that wherever it gets built it will draw a significant number of people biking between it and the SWRTC AT pathway. Markham Road would provide a near direct route between the Red River AT Bridge and the SWRTC, adding more reasons to that Markham Road is provided with high quality cycling facilities that can meet future demand.

McGillivray Station Connectivity Concerns

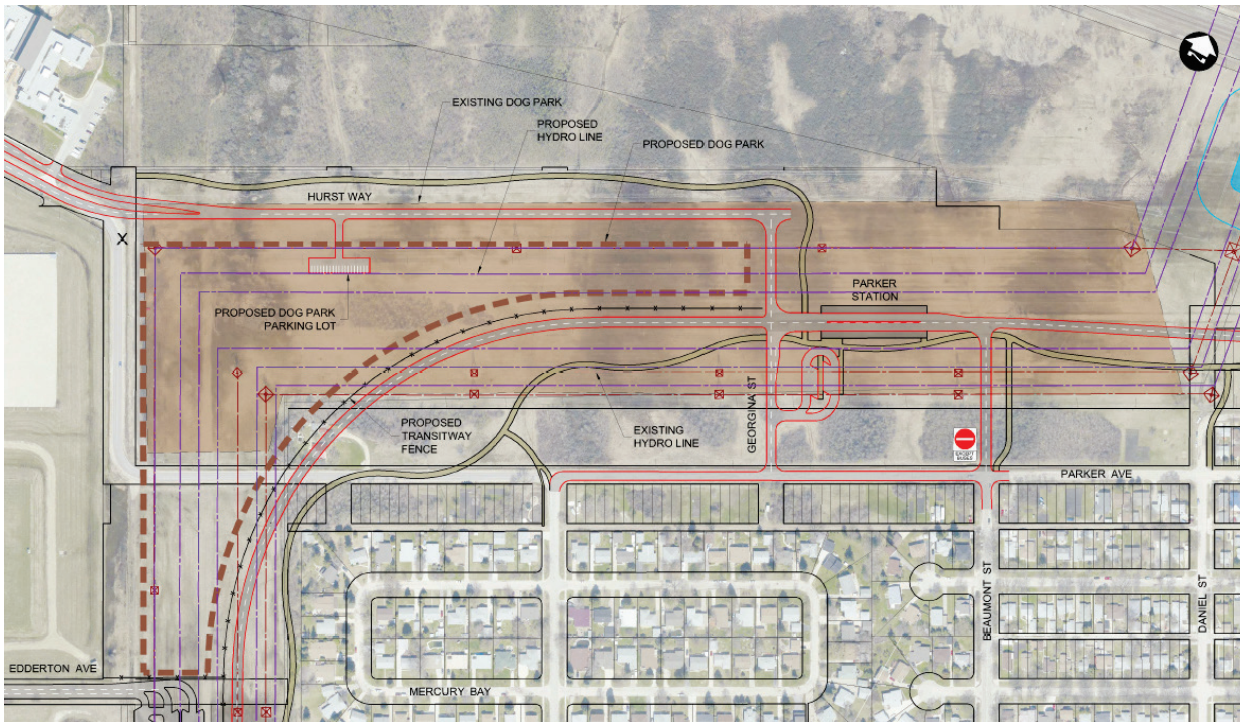
Sommerville/Seel Connection

The existing Sommerville/Seel connection seems to be absent in the station plan shown at the May 2015 open houses. This is an important connection between East Fort Garry, the Buffalo Industrial Park, and the Linenwoods neighbourhood that needs to be preserved.



Connections to Hurst Way, Edderton & Waverley Pathways

The addition short AT pathway from Edderton to Hurst Way along the west side of the proposed dog park on the Hurst Way right of way could vastly expand the catchment area of the McGillivray Station. If this connection is included in the plan, a five minute bike ride would extend the catchment area for McGillivray Station to Waverley & Taylor, Lindenwoods Village, as well as the churches and retirement/independent living/personal care homes located to the northwest of the Sterling Lyon/Waverley intersection. A secondary benefit of this link is that it will provide additional access from the Parker Lands TOD into the Buffalo Industrial Park.



Connectivity into South Waverly Heights Neighbourhood

Assuming that the AT pathway extends south to Markham Road along with the transitway, we feel that this would best be served by providing protected bike lanes along Markham Road from the Red River through to Chancellor Drive. Please see the section on Markham Road for detailed recommendations and rationale.

Connectivity into Fairfield Park Neighbourhood

In the long term, the addition of a grade separated bridge that crossed both Bison Drive/Chancellor Matheson Road and Pembina Highway would be the ideal solution to connect the existing and planned pathways that meet at the Pembina/Bison/Chancellor Matheson intersection. Such a structure would overcome the need for people on bikes or foot to cross numerous high traffic streets and merge lanes, and would likely lead to better traffic flow for people driving through the intersection as well.

In the meantime, people on foot or bike will likely have to use the Pembina Highway/Bison Drive intersection crosswalks to cross Bison Drive. In addition, efforts should be undertaken to upgrade the sidewalk linking Shore Drive to the Bison Drive bicycle path to make it more suitable for people on bikes.

Connectivity into East Fort Garry

Riverside

One of the major benefits of the SWRTC/Pembina Underpass project will be the addition of new bicycle connections across Pembina Highway and underneath the CNR mainline tracks. For residents of East Fort Garry (or anyone wanting to bike to East Fort Garry) Riverside will be their main connection to the SWRTC AT pathway. Planning is currently underway for the development of a neighbourhood greenway along Riverside. It is our understanding that the SWRTC plans currently under review include an extension of the Jubilee pathway west to the pedestrian corridor. The current pathway ends just east of the corridor. We would like to see the plans to extend the Jubilee Pathway confirmed in any plans moving forward.

In addition to these changes, we think it might be beneficial to modify the intersection of Jubilee and Riverside by bending the Jubilee Pathway back to allow space for vehicles turning off of Jubilee to get out of traffic before yielding to people biking along the Jubilee Pathway. An additional benefit of bending the pathway out from Jubilee would be that people turning their vehicles onto Riverside would approach the pathway at a right angle, giving them better sight lines to identify people biking or walking along the path.

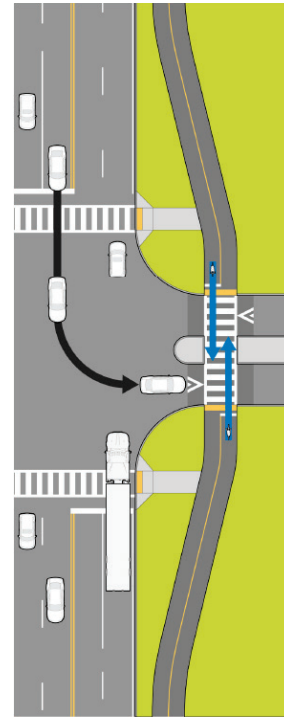


EXHIBIT 4U: Recessed Crossing at Shared Use Path Intersection

Source: MassDOT Separated Bike Lane Planning & Design Guide

Chevrier Avenue Bicycle Facilities

For people biking to or along the SWRTC (either along the AT path or by utilizing bike racks on RT buses), Chevrier Avenue will be a critical connection between the Chevrier RT Station, the buffered bike lanes on Pembina (providing access to shopping along a regional mixed use corridor), the Crescent Park Neighbourhood, and Crescent Drive Golf Course & Park.

We are happy to see that the proposed plans include a link for people on bike between Pembina and transitway AT Path along Chevrier. The provision of quality cycling facilities along Chevrier will go a long way to extend the catchment area for the Chevrier station, putting people living in the southern end of Crescent Park within 5 minutes of the station by bike, and people living in the Wildwood neighbourhood within a 10 minute bike ride of the station. As there are no planned bus routes down Crescent Drive, this expansion of the transit stations catchment area is critical.

However, it is important that the facility chosen for this corridor integrates well with the buffered bike lanes on Pembina (currently running south from Chevrier, but planned on the north as well) and provide a cohesive connection to Crescent Drive on the east side of Pembina.

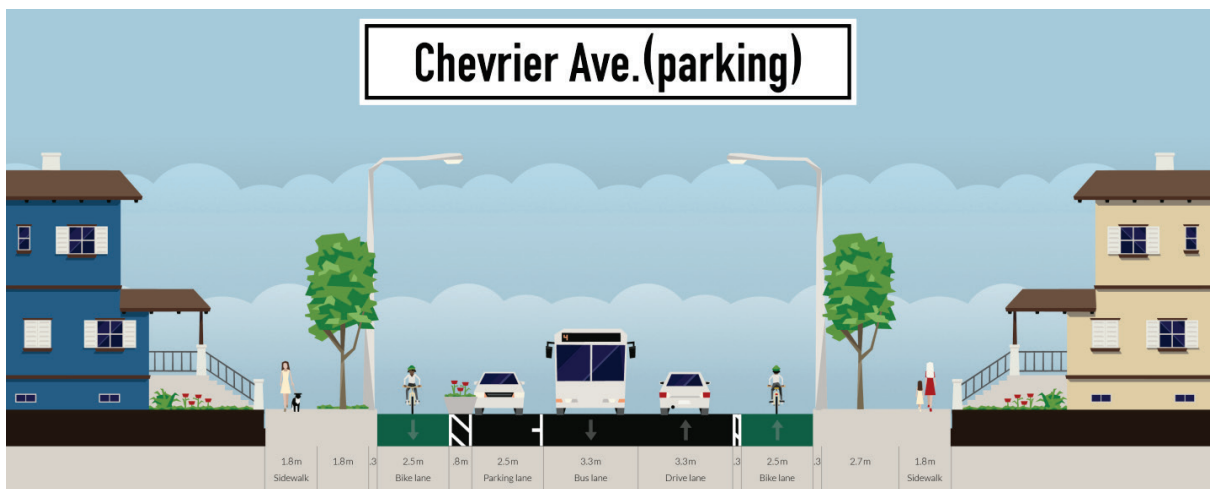
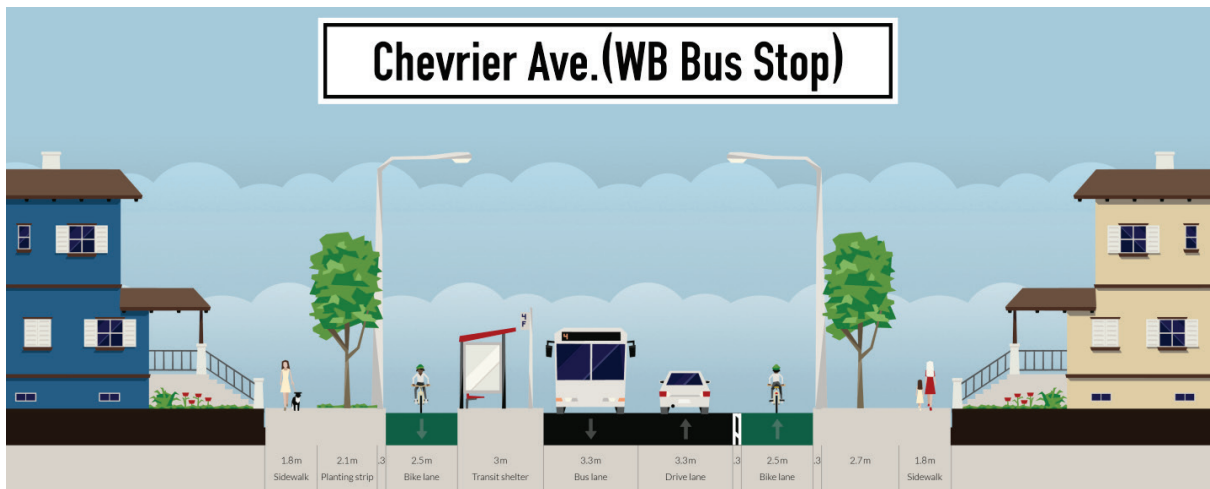
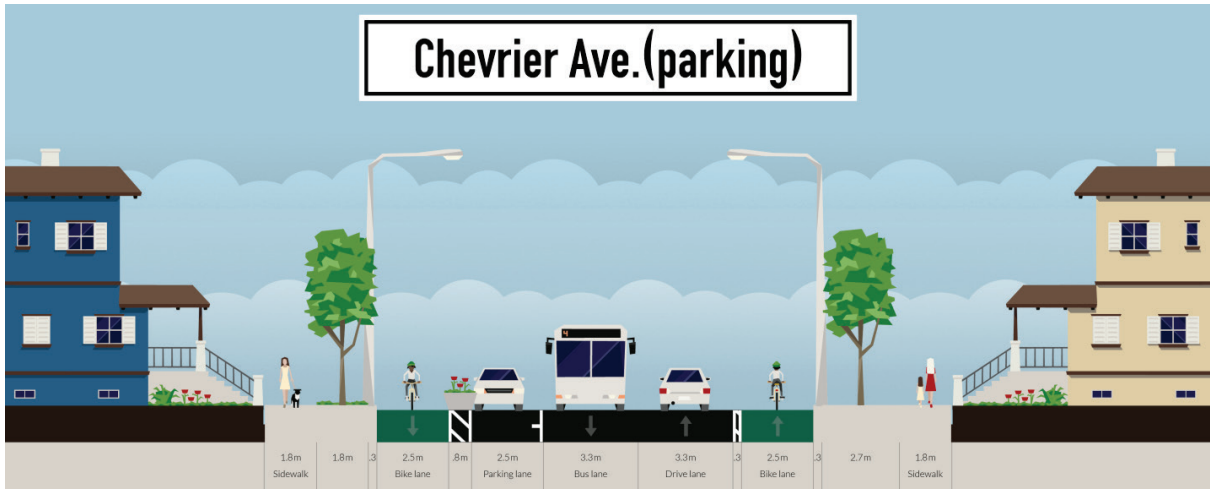
A two way bike path does not meet these criteria.

- Anyone biking westbound on Crescent Drive will be forced to cross Crescent/Chevrier twice to reach the Chevrier Station. Furthermore, it is unlikely that people on bike will be predictable when crossing Crescent/Chevrier to access the pathway. Some will ride against traffic on Crescent Drive to cross in the approach to Pembina, others will cross on the east side of Pembina, while some will cross on the west side of Pembina.
- People biking south on Pembina will have to cross Chevrier twice to reach Chevirer Station.

Bike Winnipeg recommends the installation of two one way protected bike lanes on Chevrier instead of the two way bike path that has been proposed. This will remove the conflict/unpredictability at the Pembina intersection that we describe above (as well as at Hudson). In addition, this approach would also allow for the retention of the tress on the south side of Chevrier Avenue. Chevrier has a wide 24m right of way, so there is plenty of room to include protected bike lanes on both the north and south side of the roadway with enough width to allow for side by side cycling while still leaving room for snow storage. Raised bike lanes would likely be the most cost effective choice as snow clearance would be straight forward and cost effective.



Bike Winnipeg Proposed Cross Sections



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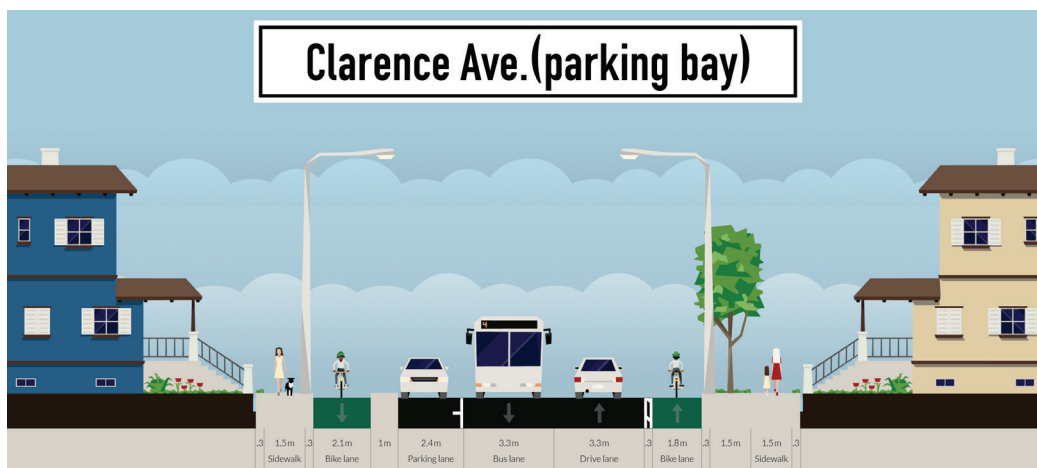
More People Biking More Often

Additional Connectivity into Fort Richmond

Clarence Avenue

At a distance of approximately 800-1000m from Pembina Highway, the proposed Clarence Transit Station will be beyond the range of people walking from the east side of Pembina Highway. However, it is well within the range of people who might choose to bike from their homes to the Clarence Transit Station if safe, low stress access can be provided.

Clarence Avenue has a wide right of way that lends itself toward the inclusion of protected bike lanes (such as shown below). The addition of protected bike lanes can be accommodated within the Clarence Avenue right of way, and would allow for transit service and most parking to be retained. Transitions on and off of a protected bike lane are easily designed, meaning that no special provisions have to be made where improved bike facilities come to an end.



Pembina/Chevrier Intersection

Bike Winnipeg recommends that a pocket bike lane and bike box be painted at the intersection of Crescent Drive and Pembina Highway. Along with the bike box and bike lane, the timing of the traffic signal should also be adjusted to ensure that there is enough time for people on foot or bike to cross Pembina Highway safely. This will:

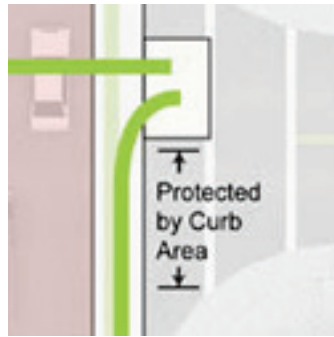
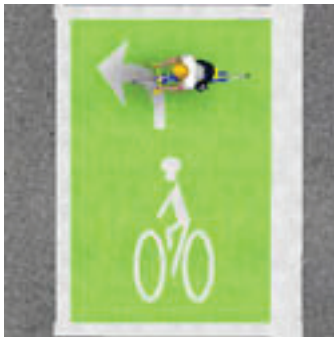
- Make it easier for people on bike to complete a left turn from Crescent Drive onto Pembina Highway.
- Make it easier for people on bike to turn left off of Pembina onto Chevrier by completing a two stage turn by positioning themselves in the bike box while they wait for a green light to continue west across Pembina onto Chevrier.
- Reduce the potential for right hook collisions by placing people on bikes ahead of cars and trucks turning right off of Crescent onto Pembina.



A bike box and approaching bike lane on Crescent Drive would make it far easier for people on bike to negotiate the Pembina/Crescent Drive intersection

Pembina/Plaza Intersection

To help people biking south along Pembina towards the U of M and Investors Group Field recognize and navigate the left turn onto Plaza Drive, we are recommending that two stage turn queue be added to eastbound Plaza Drive. This would provide people on bikes with the space required to wait for a green light before crossing Pembina Highway. Prior to the intersection, signage should be added to provide guidance for people approaching the intersection. A detection loop installed into the bike lane in advance of the intersection that would activate the signal should also be considered.

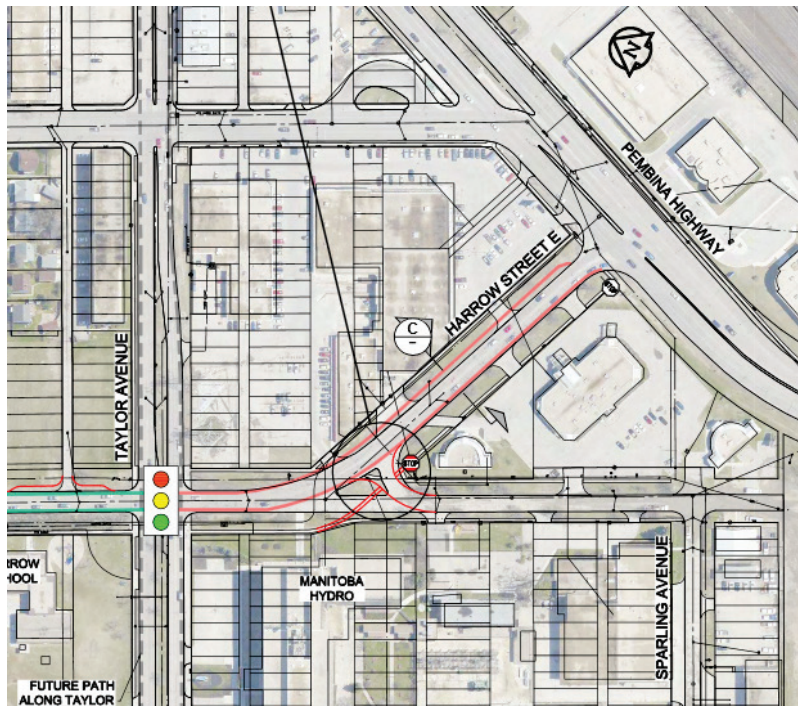


Harrow/Harrow East

Improvements to the Harrow/Harrow East Intersection are needed to remove what is now a confusing situation for people driving or cycling south on Harrow/Harrow East (see photos below). There were plans to realign this intersection as part of the original 2010 stimulus plans that added bike lanes to Harrow Street. These modifications should be included as part of the SWRTC/Pembina Underpass project to improve the safety along a route that will see increasing numbers of people on bike once this project is completed. A sidewalk connection should also be added to connect the sidewalk on the west side of Harrow that does not connect to the sidewalk on the south side of Harrow East.



The current alignment of the Harrow/Harrow East intersection puts southbound cyclists in conflict with vehicles not turning on to Harrow East.



The 2010 plans for the addition of bike lanes on Harrow included realignment of the Harrow/Harrow East intersection, which was never completed.

Bike Parking/Bike Sharing

Given that large many of the stations proposed for the SWRTC will be a significant distance from neighbourhoods that currently have high rates of transit ridership, providing people with plentiful, secure bicycle parking could substantially increase station catchment areas and attract users. 4-8 lockers should be set up at each location on start-up, with room to expand as necessary.

Given that a number of grocery stores will be located beyond easy walking distance of the proposed stations, it might also be worth while exploring a bike share system focused around the U of M Fort Garry campus, Pembina Highway, and the SWRTC.

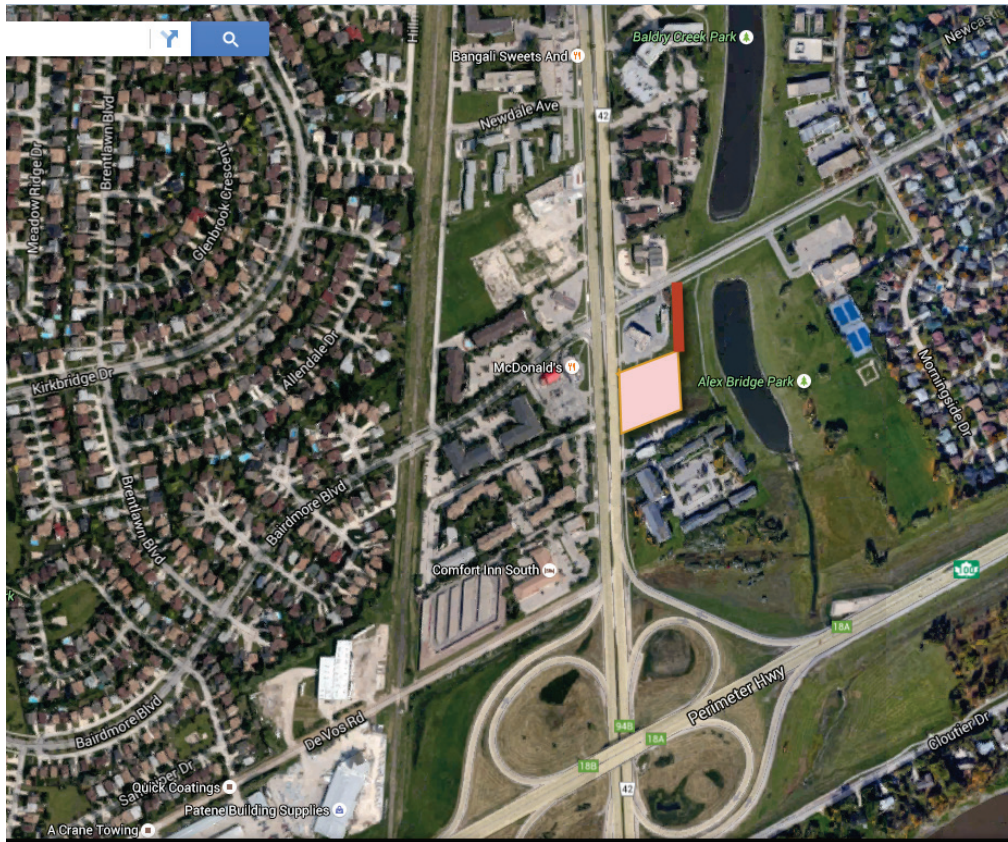
Community Based Transportation Marketing

The completion of the SWRTC Pembina Underpass Rehabilitation will vastly improve conditions for anyone who would like to ride their bike to the U of M's Fort Garry Campus or to numerous locations on or near the SWRTC route. Improvements to transit service will likewise make transit a more appealing option for many people. But getting people to change their travel habits is not simply a matter of building the infrastructure and waiting for people to change their ways. They need to be informed of the changes and persuaded that the new infrastructure can benefit them personally. Bike Winnipeg recommends that the City of Winnipeg complement its investment in the new SWRTC with a community based travel marketing plan similar to the successful pilot project run by the Green Action Centre (then known as Resource Conservation Manitoba) as part of the WinSmart program.



Potential Park & Ride/Park & Pedal Site

A Park & Ride/Park & Pedal site located close to the Perimeter Highway might be a good way to encourage people to park their cars and continue their journey into the city via bus or bike. One potential site could be just south of the Dalhousie/Pembina intersection. Access would be restricted to northbound Pembina and Dalhousie.



Potential Park & Ride/Park & Pedal site for SWRTC shown in pink near Alex Bridge Park

Access could be off of NB Pembina Highway and Dalhousie. A neighbourhood commuter bus could run a route such as:

- Bairdmore
- Keslar
- Lee
- Barnes
- Markham
- Pembina
- Dalhousie (maybe with a detour up Silverstone)
- Park & Ride Lot
- Pembina