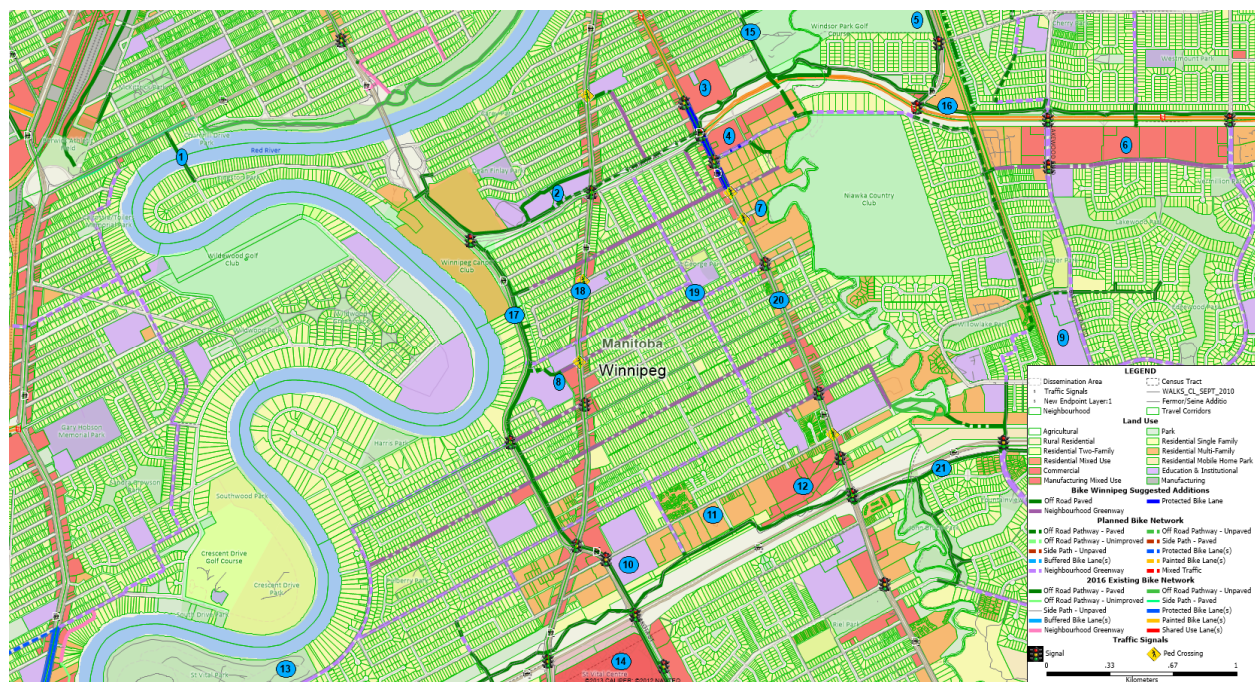


Comments on Proposed Fermor/Seine River Bridge Rehabilitation

Key Destinations and Corridors

The following map shows key destinations and corridors in the vicinity of the Fermor Avenue Seine River Bridge Rehabilitation Study area that we think need to be considered in the planning process (also attached as an appendix).



- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Elm Park Bridge 2. Glenlawn Collegiate/YMCA 3. Real Canadian Superstore/St. Vital Curling Club 4. Safeway/Travelodge 5. Bonivital Pool/Windsor Park Library and Archibald Pathway 6. Southdale Centre Mall/Vermillion Road 7. High-Density Housing between St. Anne's and Seine River 8. Louis Riel School Division/Norberry Glen Lee Community Centre 9. J. H. Bruns Collegiate/Southdale Community Centre | <ol style="list-style-type: none"> 10. Dakota Collegiate/IGA 11. High-Density Housing along Beliveau 12. Home Depot Commercial Centre 13. St. Vital Park 14. St. Vital Centre 15. Des Meurons/Eggerton Bikeway (under study) 16. Niakwa Trail 17. Dakota/Dunkirk Pathway 18. St. Mary's Corridor 19. St. George Neighbourhood Greenway (under study) 20. St. Anne's Mixed Use Corridor 21. Bishop Grandin Greenway |
|--|--|

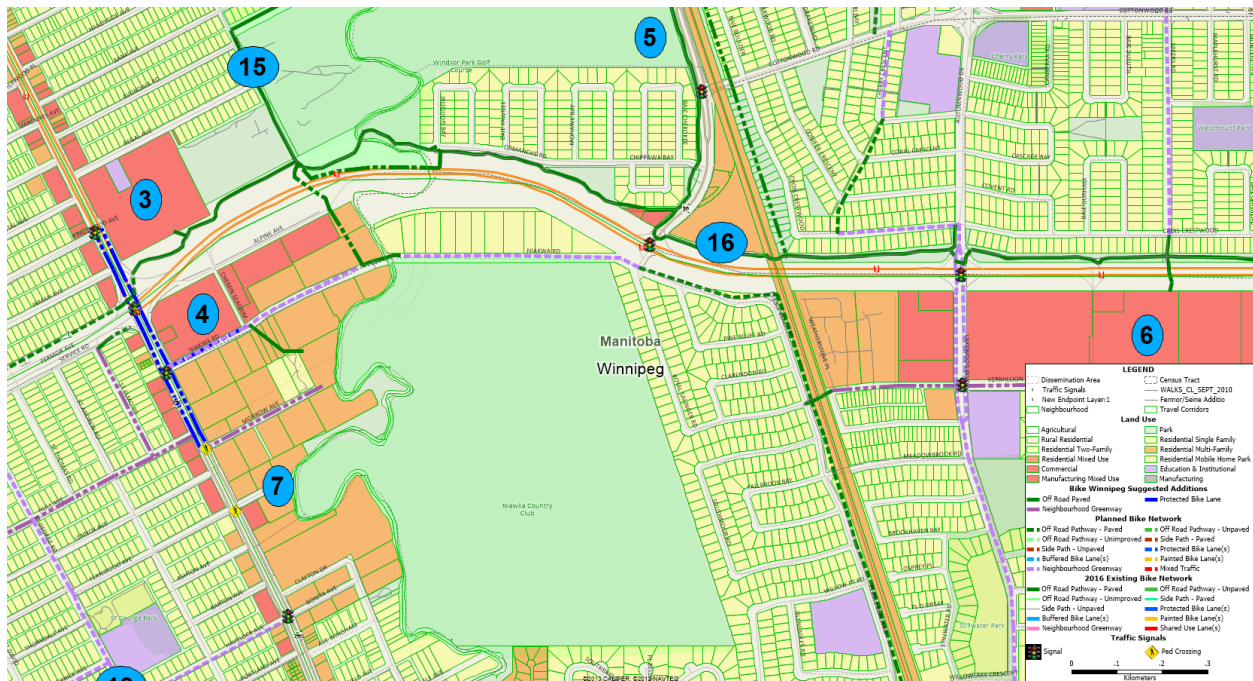
Recommendations

Seine River Bridge

This will be an excellent improvement providing year-round access between Windsor Park and Des Meurons and the Elm Park Bridge, critical connections in the area. Flooding of the AT Bridge over the Seine River is a frequent problem in the area, and should be addressed by the inclusion of the proposed pathway along the northern side of the bridge. Our only recommendations here are to ensure that the chosen design allows for snow clearance and considers the tendency for drifting in this area and stays high enough to detour spring flooding.

Tunnel Connecting Niakwa Trail to Niakwa Road

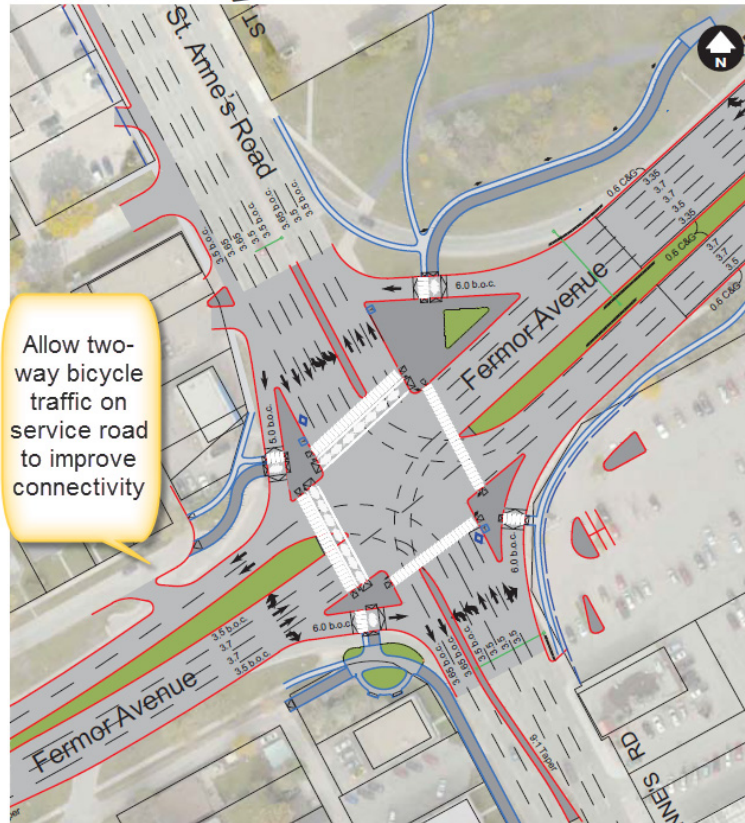
We think that this is also an important connection for the neighbourhood and support the inclusion of this tunnel in plans for the rehabilitation project. It creates an important and direct connection between Des Meurons and the important commercial and residential developments along Niakwa Road west of the Seine River (Safeway, Travelodge), to Southdale Centre to the east along Vermillion Road, and the proposed multiuse pathway along Pebble Beach leading to J H Bruns Collegiate, The Southdale Community Centre and the Bishop Grandin Greenway (and many other destinations).



The proposed tunnel beneath Fermor Avenue will provide key connections between destinations in Alpine Place and access north of Fermor Avenue such as the Real Canadian Superstore and the Des Meurons/Eggerton Corridor.

Glenlawn Collegiate/YMCA/Elm Park Bridge Connectivity

Fermor Avenue Access Road (North Side)



Fermor and St. Anne's Improvements

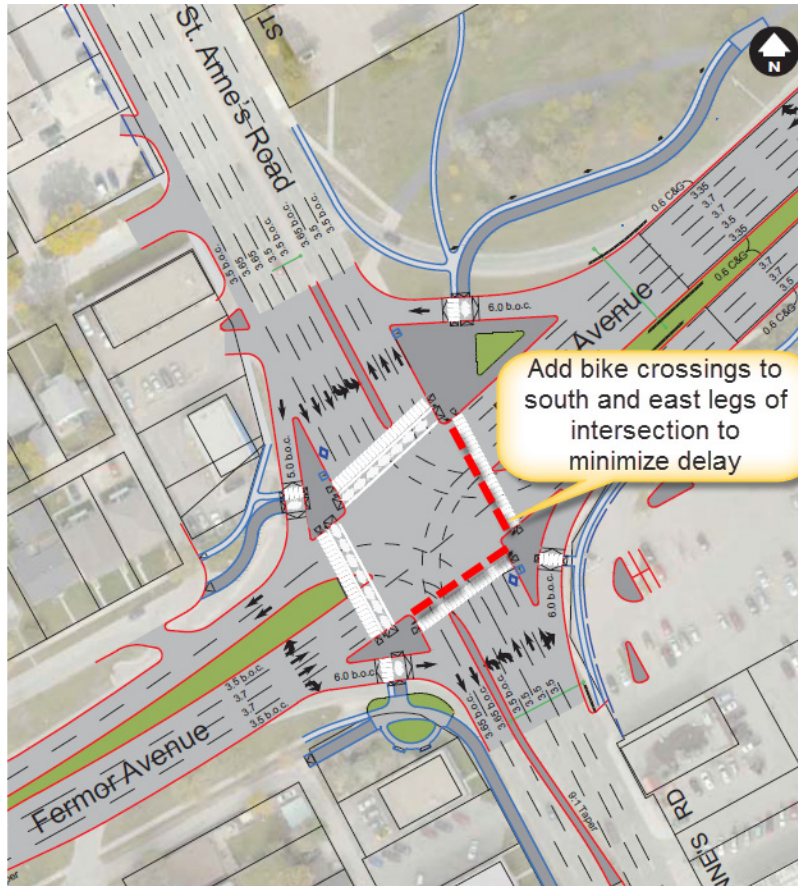
The service road on the North side of Fermor has potential to provide a connection west to St. Thomas and St. Mary's (Glenlawn Collegiate/YMCA/Elm Park Bridge) if two way traffic were allowed for people on bikes (the existing one-way travel for motorized vehicles could be maintained). This is a type of facility common in Germany that has been shown to be quite safe and comfortable for people on bicycles.

There would be no requirement to change parking, as parking is already prohibited in the counter flow direction. A speed reduction to 30 km/hr would be required, as would changes to the geometry of the access points to Fermor.

Safety Research

- [Original German Paper](http://john-s-allen.com/reports/Artikel_Einbahnstrassen_mit_gegengerichtetem_Radverkehr.pdf) (http://john-s-allen.com/reports/Artikel_Einbahnstrassen_mit_gegengerichtetem_Radverkehr.pdf)
- [English Translation](http://www.bikexpert.com/research/contraflow/gegengerichtet.htm) (<http://www.bikexpert.com/research/contraflow/gegengerichtet.htm>).

Fermor/St. Anne's Intersection



Fermor and St. Anne's Improvements

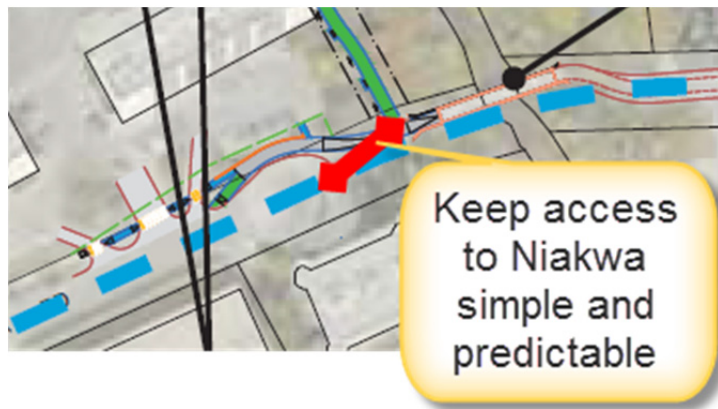
We are happy to see the smart channelization and raised crossings for people on foot and bike, but feel that bicycle crossings should be added to the southern and eastern legs of the intersection to minimize delay times for people on bikes. Doing so should ensure that a person arriving at one of the separation islands of the intersection (beyond the channelization) on bicycle would be able to precede either north/south or east/west without delay. With the current plan (bicycle crossings on just the east and north legs of the intersection) a person arriving at one of the separator islands would have a 50% chance of arriving during a stoppage in traffic. As pedestrians are already allowed access across all four legs of the proposed intersection, allowing people on bikes to have access across all four legs of the intersection will not add any complexity to the traffic signal cycles. If only the north and western legs of the intersection allow for bicycle crossings, an unnecessary delay would be introduced for people on bikes as it would take at least a full signal cycle to make the crossing, whereas that same person might get across the intersection in half the time if our recommendation were followed.

Fermor/Archibald Intersection

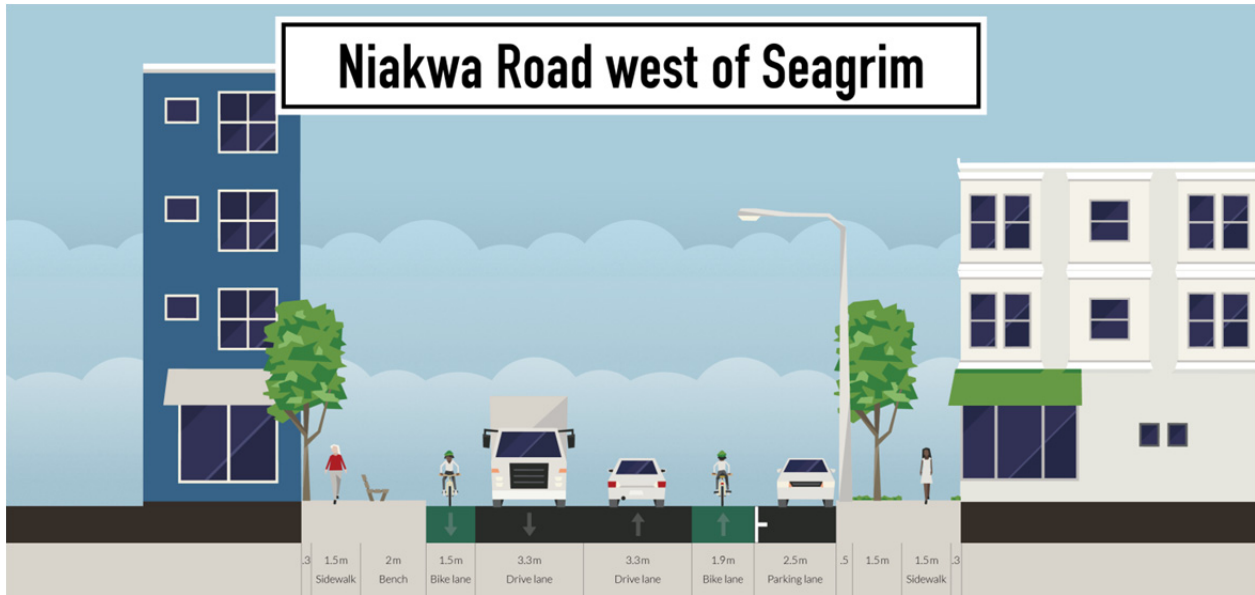
As with the intersection of St. Anne's with Fermor, we would like to see bicycle crossings on all four legs of the intersection to help minimize delays caused by traffic signals. If no changes to the intersection are implemented during this phase of the project, we would at least like to see push buttons installed on the northwest and southeast legs of the intersections as the traffic signal to cross Fermor cannot currently be activated by a person biking on Archibald across Fermor.

Niakwa Road

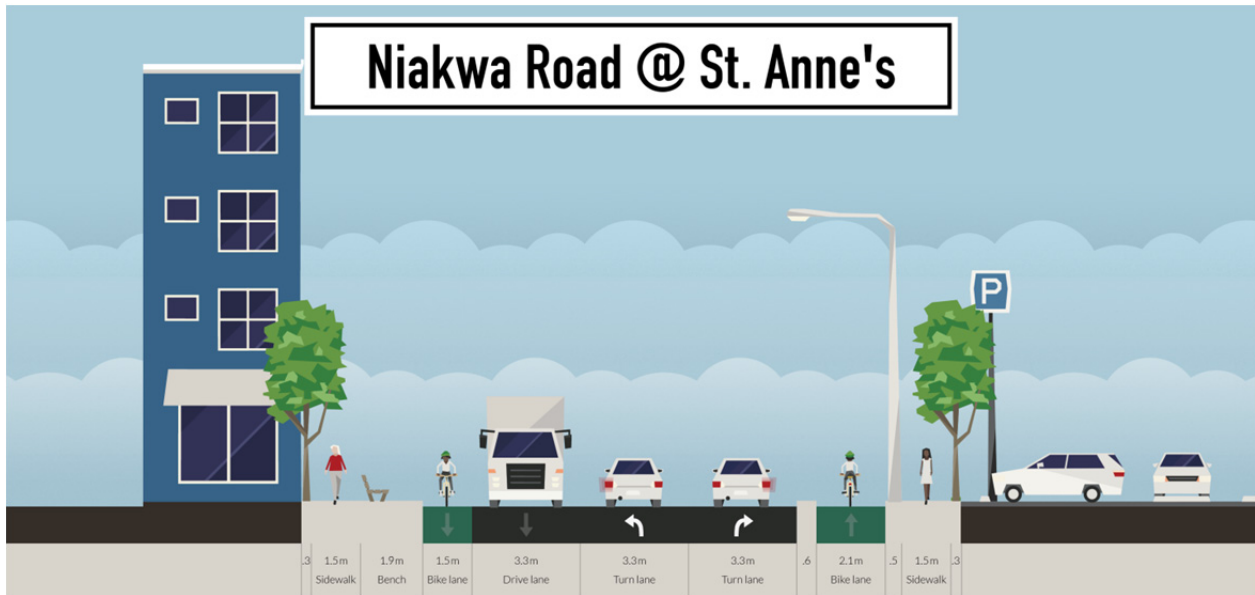
We recommend keeping the connection to AT Bridge over the Seine River as simple as possible. Rather than bending bicycle traffic around the northern edge of the roadway terminus we recommend that bicycle traffic should be integrated into the mixed use roadway as far west as possible.



For people biking east on Niakwa Road, we advise installation of a painted bike from St. Anne's to Seagrim transitioning to mixed traffic east of Seagrim. For people cycling westbound, we advise a painted bike lane along the curb from Seagrim to the start of parking on the north side of Niakwa. This bicycle lane would continue outside the parking lane until it reaches the westernmost entrance into the Safeway parking lot.



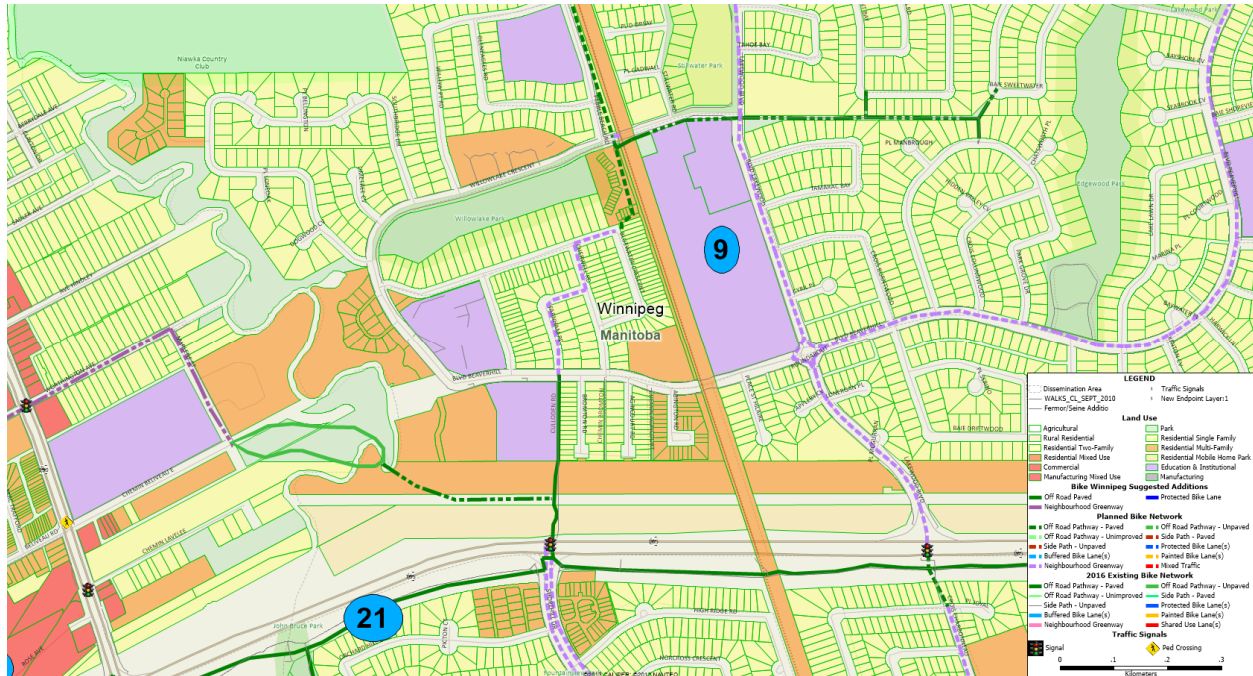
West of this westernmost parking lot entrance, we would like to see the bike lane transition into a curb protected bike lane until it reaches St. Anne’s, where traffic would be regulated by traffic signalization could be used to eliminate any potential conflicts between right turning traffic and people crossing St. Anne’s on bicycle.



It is expected that buses would pull across the bike lane and press up against the curb to load/alight passengers.

Pebble Beach/Bishop Grandin Greenway Connection

We feel that this would be an excellent addition to the project, but strongly recommend that the pathway be extended south to Bluewater Crescent (a sidewalk and right of way exists) to provide access to Ecole Guyot School and the Bishop Grandin Greenway via the spur connecting to Beaverhill Drive. An eastern spur should also be considered along the south side of Willowlake Crescent where it would provide access to JH Bruns Collegiate and the Southdale Community Centre as well as a potential future bikeway along the sidewalk right of way leading east from Lakewood Boulevard to Cormorant Bay, Park Grove Drive, and Sweetwater Bay.



Altogether, these extensions amount to about 0.5km of extra pathway (saving the sidewalk pathway upgrades east of Lakewood until a later date).

St. Anne's Road

We are concerned that no improvements to the bicycle facilities on St. Anne's are being considered at present. For people trying to make a northwest to southeast connection (i.e. Glenlwan Collegiate to Safeway) and vice versa, this lack of connectivity will introduce a significant detour for anyone unwilling to take on St. Anne's Road. Similarly, lack of connectivity from Alpine Place to the St. George Bikeway will introduce a significant detour for residents of Alpine Place and Niakwa Place. It's worth noting that the two census dissemination areas bordering Niakwa Road west of the Seine River are home to more than 1,500 people.

In addition, we feel that the future plans for the installation of a two-way cycle track between Fermor and Niakwa as shown at the open house will limit any potential for extension of such a facility beyond this short segment of roadway.

It is important to remember that St. Anne's Road is defined as a regional mixed use corridor in the city's Complete Communities planning document. As stated in Complete Communities, regional mixed use corridors are meant to act as important destinations that will "afford you the opportunity to buy groceries, enjoy a meal, or do some window shopping". Corridors "should be designed to maximize transportation options" ¹by providing "safe convenient options for active transportation"². The city should develop corridors with a "high level of accessibility through multiple modes of transportation"³.

As intensity along the St. Anne's corridor increases through development, it will become even more important to ensure access to destinations fronting onto St. Anne's for people walking, cycling, or making use of transit.

The 2015 Pedestrian & Cycling Strategies provide strong evidence that a sizable population of "Interested but Concerned" citizens (36% of those surveyed) exists in the city that would like to ride their bicycles more often but are not comfortable riding on any type of busy roadway without bicycle facilities⁴. Another important finding of the studies was that 47% of people surveyed for the study stated that the provision of separated bicycle lanes on major roads would encourage them to cycle more or much more often.⁵

Clearly, St. Anne's Road is and will remain a barrier to people wanting to bicycle unless it is redesigned to include separated bike lanes. As work is being done on St. Anne's as part of this project, we feel that the time to make these improvements is now, not at some undefined point in the future.

While the suggested two-way bike path on the west side of St Anne's between Fermor and Nialwa would serve to connect Niakwa Drive to the proposed St. George Neighbourhood Greenway, better solutions exist that will serve current and future network needs of people biking on St. Anne's. In particular, we feel that a two-way cycle track would have the following weaknesses:

- It introduces an indirect detour for anyone biking south (for instance to the U of M)
- It would be difficult to extend north or south as a person biking on St. Anne's cannot transition onto or off of the two way path.
 - Two way cycle tracks have a poorer safety record on roadways such as St. Anne's with frequent intersections.
- It fails to provide connectivity into the high density housing between St. Anne's and the Seine River south of Niakwa.
- It makes it harder to accommodate transit

¹ Pg. 39, Complete Communities, City of Winnipeg 2011

² Pg. 39, Complete Communities, City of Winnipeg 2011

³ Page 36, Complete Communities, City of Winnipeg, 2011

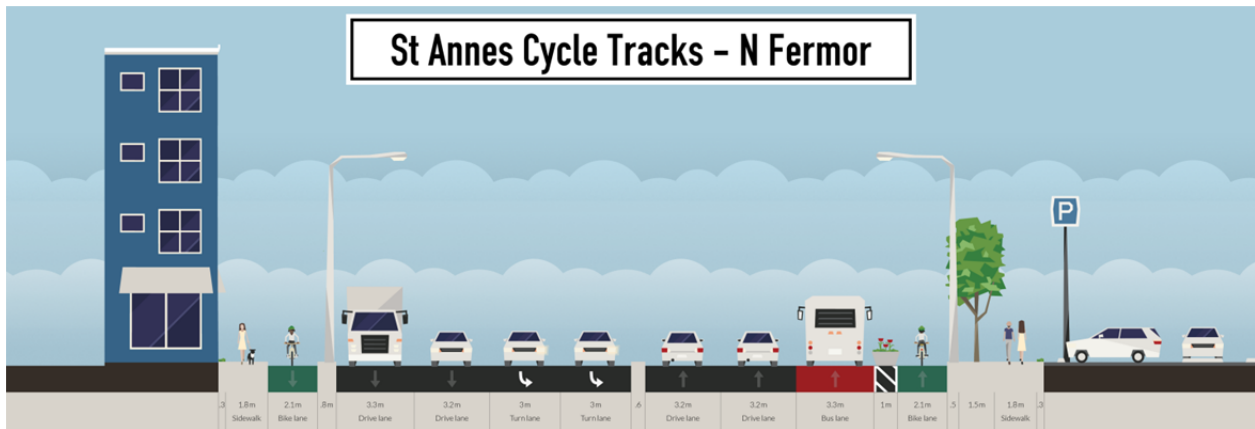
⁴ Page 45, 2015 Winnipeg Pedestrian and Cycling Strategies

⁵ Page 50-51, 2015 Winnipeg Pedestrian and Cycling Strategies

In contrast, two one way cycle tracks installed between Morrow and Kingswood would offer the following advantages:

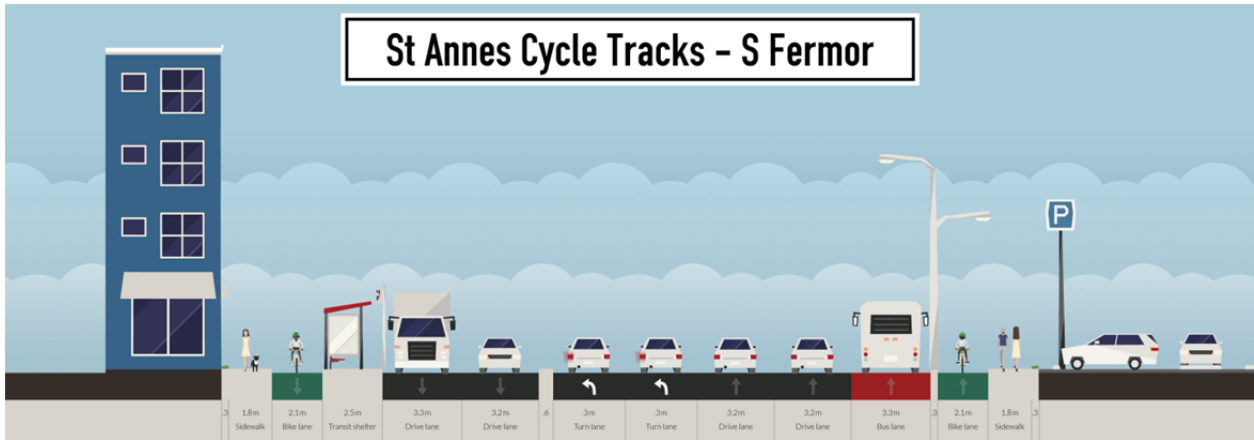
- Improved safety over a two-way cycle track – fewer conflicts, more predictable positioning.
- Simplifies wayfinding – all needed turns are in the direction you are travelling
- Provides an extendable solution that provides people on bikes with access to the St. Anne’s mixed use corridor (a goal of the cycling strategy)⁶.
- Provides access to high density housing island along the east side of St. Anne’s using a facility that can gradually be extended south to provide access to all residential areas east of St. Anne’s.
- Provides a direct connection into areas of high cycling potential between Fermor and Hull/Fernwood (with a slight detour to Morrow if the Pedestrian crossing is needed for travel south).
- The smaller width required for a one way path makes it easier to manage bus stops and doesn’t require a restrictions on parking.
- Takes advantage of planned rehabilitation work on St. Anne’s between Fermor and Kingswood scheduled for 2018.
- 2.3m wide protected bike lanes provide enough space for winter snow clearance as well as for storage lanes for turning movements.

Suggested Cross Sections for St. Anne’s Road

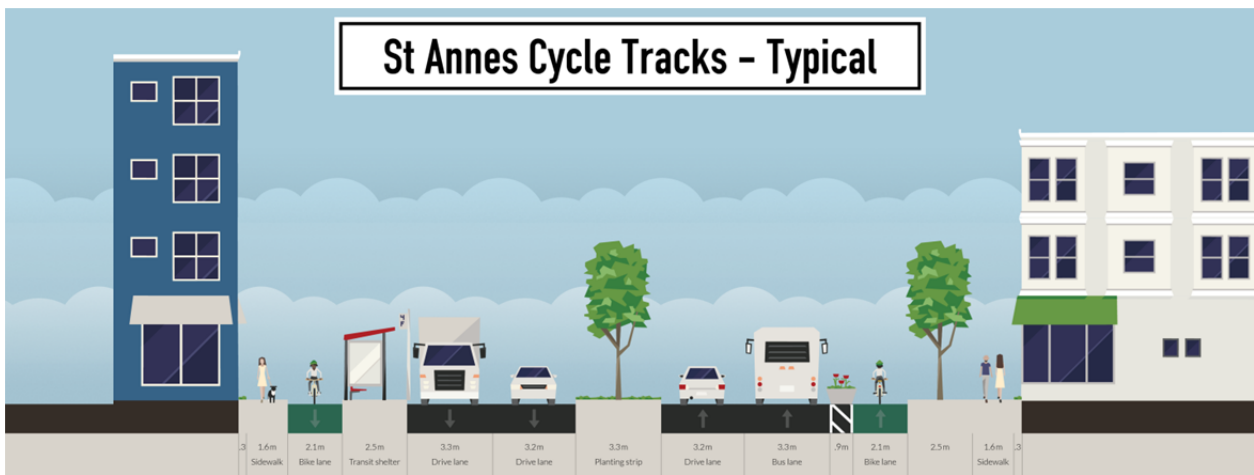


Suggested cross section for St. Anne’s Road north of Fermor Avenue up to Kingswood Avenue

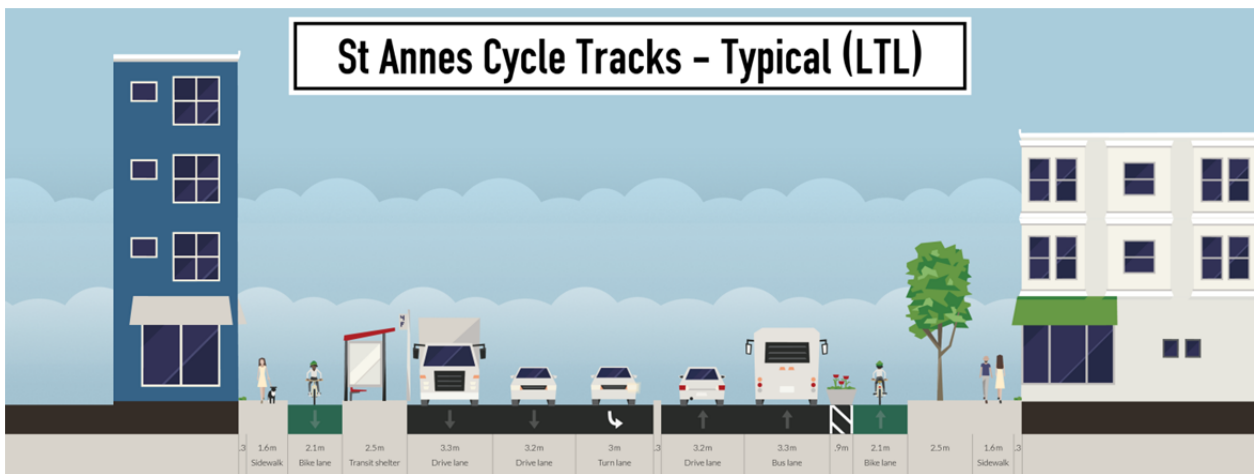
⁶ Pg. 137 - A Well Connected Network



Suggested cross section for St. Anne's Road south of Fermor Avenue to Niakwa Road



Suggested typical cross section for St. Anne's Road south of Niakwa Road, including provision for a bus stop.

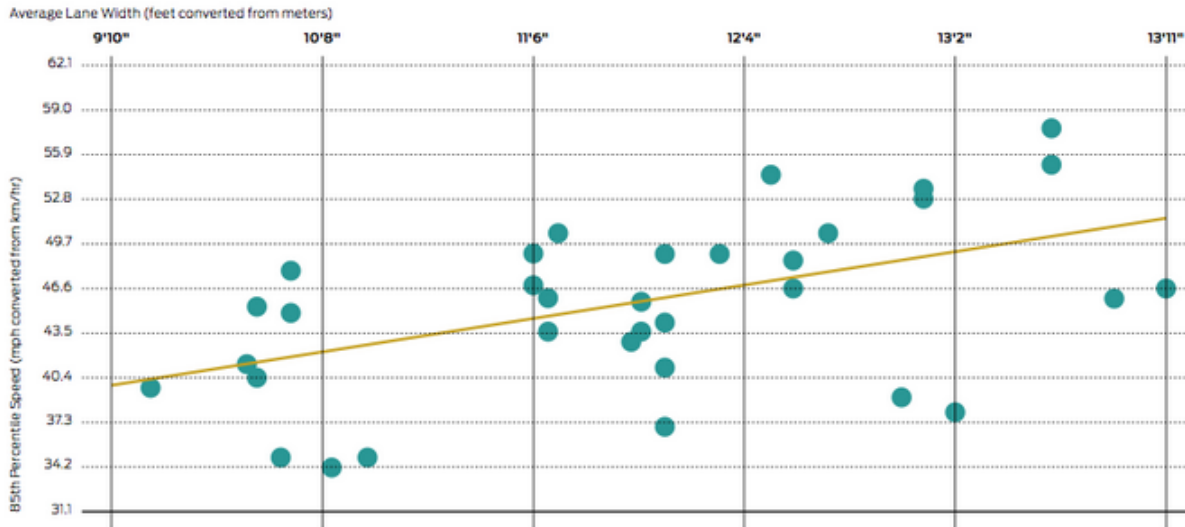


Suggested typical cross section for St. Anne's Road south of Niakwa Road showing a left turn lane.

Comments on Lane Widths

The cross sections we have suggested for St. Anne’s Road and Niakwa Road will require narrower lane widths than have been proposed, and while typically narrower than proposed for most projects in Winnipeg, there are many roads in Winnipeg having similar lane widths (for instance, Main Street). St. Anne’s Road and Niakwa Road are urban streets, and we feel strongly that their design must reflect this urban context. It is widely recognized that wider travel lanes are correlated with higher vehicle speeds⁷.

Wider travel lanes are correlated with higher vehicle speeds.



"As the width of the lane increased, the speed on the roadway increased... When lane widths are 1 m (3.3 ft) greater, speeds are predicted to be 15 km/h (9.4 mph) faster."

Chart source: Fitzpatrick, Kay, Paul Carlson, Marcus Brewer, and Mark Wooldridge. 2000. "Design Factors That Affect Driver Speed on Suburban Streets." *Transportation Research Record* 175: 18-25.

— Regression Line
● 85th Percentile Speed of Traffic

Wider travel lanes are correlated with higher vehicle speeds.

The need for wider lane widths is often attributed to the need for improved safety or for capacity, with frequent reference to the AASHTO Green Book on Geometric Design. None of these arguments holds water.

Research has also shown that narrower lane widths such as those being suggested in this document do not result in reduced roadway safety. In fact, a 2007 study by Potts, Harwood and Richard found that “a

⁷ Fitzpatrick, Carlson, Wooldridge, Brewer ; 2000; Design Factors that Affect Driver Speed on Suburban Arterials; *Transportation Research Record* 175, pg. 18-25. Available online at <http://d2dtl5nnlpfr0r.cloudfront.net/tti.tamu.edu/documents/1769-S.pdf>

safety evaluation of lane widths for arterial roadway segments found no indication, except in limited cases, that the use of narrower lanes increases crash frequencies.”⁸ The exceptions were for:

- Lane width of 3.0m (10 ft.) or less on four-lane undivided arterials.
- Lane width of 2.7 m(9 ft.) or less on four-lane divided arterials
- Lane width of 3.0 m (10 ft.) or less on approaches to four-leg STOP-controlled arterial intersections.

As for roadway and intersection capacity, research conducted for the Florida Department of Transportation found that “The measured saturation flow rates are similar for lane widths between 10 feet and 12 feet. For lane widths below 10 feet, there is a measurable decrease in saturation flow rate. Thus, so long as all other geometric and traffic signalization conditions remain constant, there is no measurable decrease in urban street capacity when through lane widths are narrowed from 12 feet to 10 feet”⁹

The AASHTO Green Book offers substantial flexibility regarding lane widths, allowing a range of between 9 and 12 feet depending on desired speed, capacity, and context of a roadway (2011, p. 4-7). While 12-foot lanes have been used historically as motor vehicle travel lanes, the AASHTO Green Book allows 10-foot travel lanes in low speed environments (45 mi/h or less) (2011, pp. 4-7–4-8).

We feel that this flexibility needs to be used in the design of roads in Winnipeg so that benefits such as shorter crossing distances, space for bike lanes and increased buffer space between roadways and sidewalks/stores, etc.

Further Reading:

[Design Criteria and Lane Width](#) – US Department of Transportation Federal Highway Administration

Provides a strong case for the use of narrower lanes with multiple references to various design guides and a number of case studies.

[Urban Street Design Guide – Lane Width](#) - National Association of City Transportation Officials

This guide presents lane width recommendations and rationale from a well-respected national agency encompassing roadway and urban designers from across North America.

“Lane widths of 10 feet are appropriate in urban areas and have a positive impact on a street’s safety without impacting traffic operations.”

[Vehicle Travel Lane Width Guidelines](#) – City of Toronto

Roadway design engineers in Canada have historically relied on the Transportation Association of Canada's (TAC) Geometric Design Guide for Canadian Roads (GDGCR) (1999) as the basis for engineering roadway designs. However, most guidelines within this document were developed decades ago, have not been substantially revisited, and have not always fully considered all modes of travel.

⁸ Potts, Harwood, Richard; 2007; Relationship of Lane Width to Safety for Urban and Suburban Arterials.pg. 25

⁹ Sprinkle Consulting, Conserve By Bike Program Study Final Report, FDOT, Tallahassee, FL, 2007.

U of M Connectivity

We believe that there will be substantial demand for people to bike to the University of Manitoba (U of M) from areas in and around this project. In fact, an August 2016 study of current and desired travel habits of U of M students, faculty and staff has shown a very strong desire exists to bike to the University¹⁰.

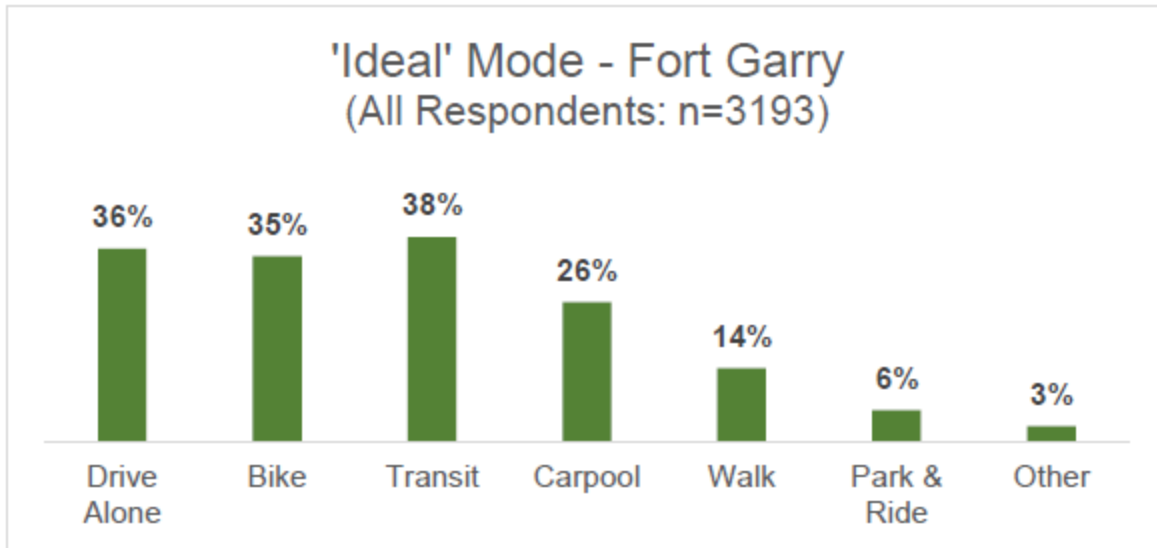


FIGURE 11: FORT GARRY RESPONDENTS' IDEAL COMMUTING MODE

Fully 14.8% of those surveyed in the study indicated that they currently travel to the U of M's Fort Garry Campus in the summer months (May-August), with 5.1% travelling by bike in the fall and winter months (September-April). While those numbers are impressive, they fall far short of the potential number of people who would choose to bike to the university if they were provided with the kind of safe, direct, connected routes championed by the Pedestrian and Cycling Strategies. When respondents were asked to select the two ideal modes of transportation that they would like to use to get to the University, 35% selected bike as one of their two ideal travel modes.

¹⁰ University of Manitoba; Transportation Survey Results and Recommendations Final Report; Green Action Centre, August 2016

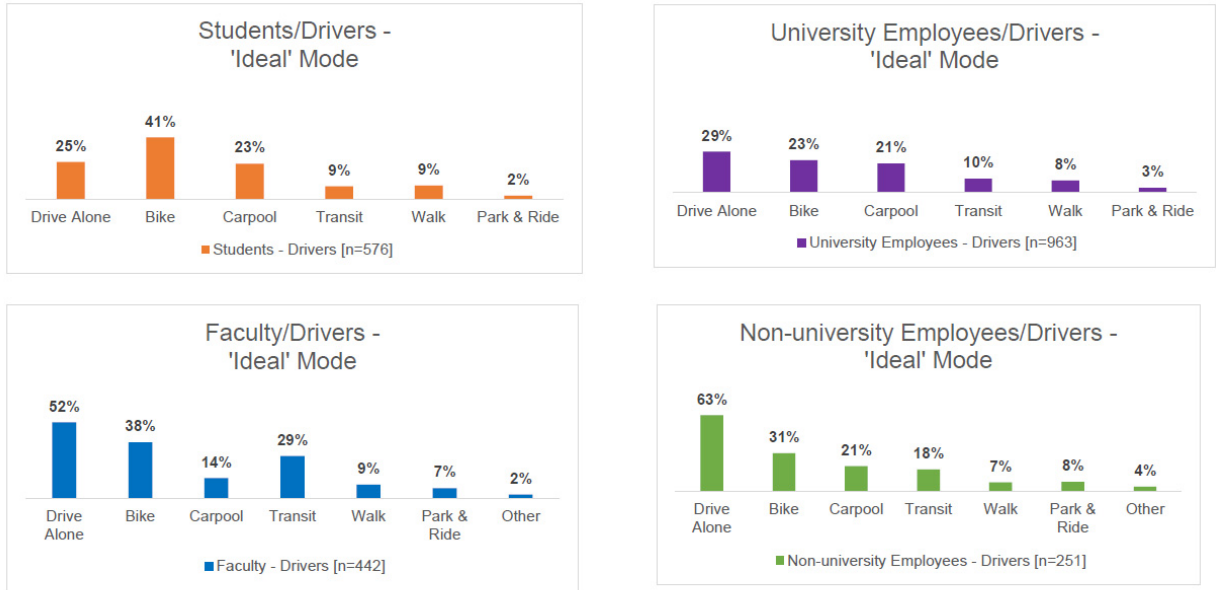


FIGURE 13: IDEAL MODE OF STUDENTS, EMPLOYEES, FACULTY AND NON-UNIVERSITY EMPLOYEES WHO DRIVE 20-100% OF TRIPS

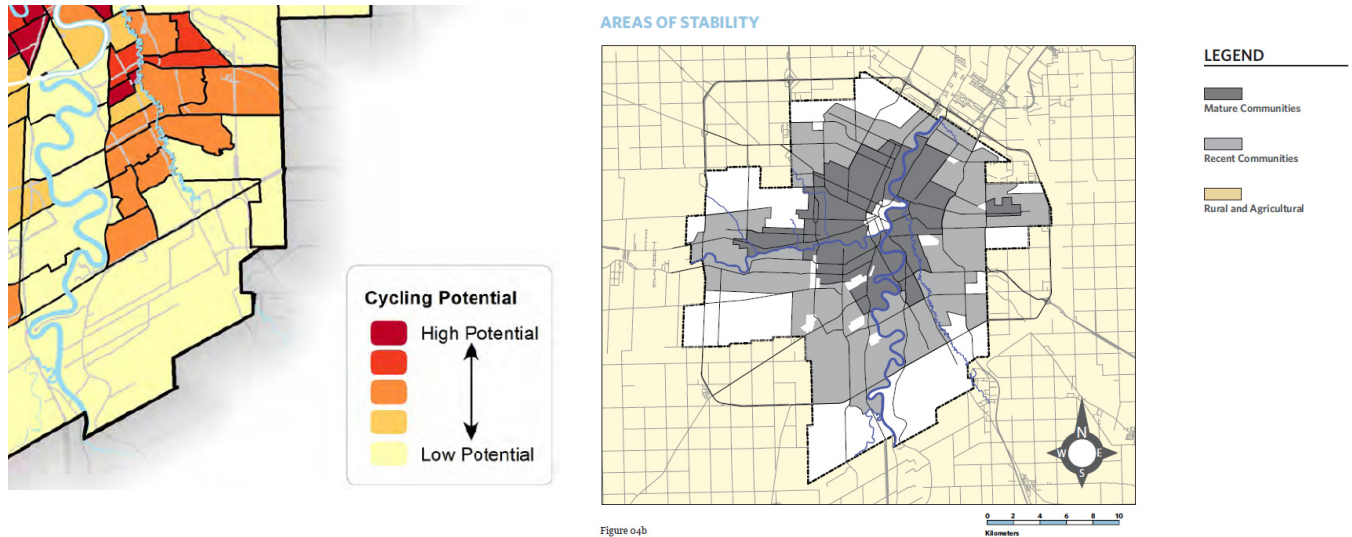
Among those who stated that they drove alone to campus between 20 and 100% of the time, the openness to biking as a means of transportation was the clear first choice amongst students, far more desirable than driving alone. Amongst faculty, university employees, and non-university staff commuting to the university there is also a significant potential to encourage more people to choose their bikes over their cars, indicating that better cycling facilities could have the greatest potential to change people’s habits and thus reduce greenhouse gas emissions related to travel to and from the university.

At a distance of approximately 9km from the Fort Garry campus, the intersection of Archibald and Fermor (part of this study) lies within a 30 minute ride of the U of M, well within commuting distance. As such, we recommend that planning for this project and the Des Meurons/St. George bikeway should look into the potential to develop a direct route along Hull/Glenview/Dunkirk/St. Vital/River (which is approximately 900m or 10% shorter than a less direct route via St. George/Eric/Bishop Grandin Greenway), with emphasis placed on improvements to the major intersections, especially Hull/Glenview @ St. Mary’s and Dunkirk @ St. vital Road.

See below for recommendations we feel would provide affordable access to the U of M from neighbourhoods located between Fermor and Bishop Grandin and in between the Seine and Red Rivers.

Connecting to Neighbourhoods South of Fermor

The neighbourhood between Fermor Avenue and roughly Hull/Fernwood is identified in the Pedestrian and Cycling Strategy as having a high cycling potential (pg. 85).¹¹ As stated in the Pedestrian and Cycling strategies, “Providing direct routes that connect to key destinations will ensure that bicycle travel times are competitive with automobiles.”¹² Waiting times for stops, crossings and traffic signals are an important component when determining directness.



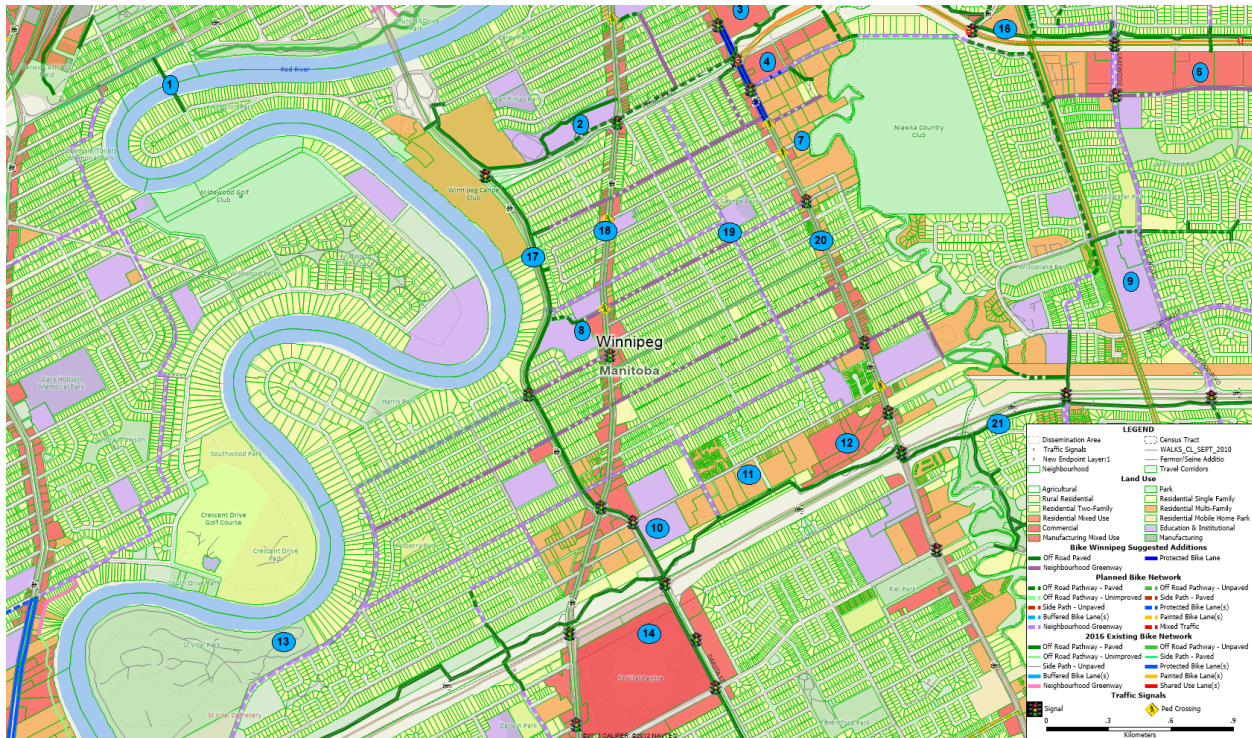
To the southwest of the Seine River Bridge, critical connections will be St. Vital Centre, St. Vital Park, and the University of Manitoba. To the northwest, critical connections will be the Real Canadian Superstore, Glenlawn Collegiate/YMCA, the Des Meurons/Eggerton bikeway, and the Elm Park Bridge.

Connections to and from this neighbourhood need to be included in plans for the rehabilitation of Fermor Avenue and the Seine River Bridge. With design of a neighbourhood greenway along St. George planned for 2017, it makes sense to consider the needs for east/west connections along St. George during this planning process. While decisions related to the St. George Neighbourhood Greenway will ultimately be decided through that process, we think it is important to highlight the potential for connectivity that this bikeway will produce as much of the traffic flowing along this bikeway will ultimately flow through areas included in this study.

Hull could be a potential east/west neighbourhood greenway through an area identified as having a high potential for cycling. An existing pedestrian corridor at St. Anne’s and Morrow could provide a safe crossing of St. Anne’s for such a greenway. This could be matched with a new half signal at St. Mary’s providing a safe crossing to Glenview from where a person biking along the greenway would have direct access to the existing Dunkirk/Dakota pathway.

¹¹ Pg. 85 city of Winnipeg Pedestrian and Cycling Strategies, 2015

¹² Pg. 137 City of Winnipeg Pedestrian and Cycling Strategies, 2015



There is plenty of potential to create a well-connected network of neighbourhood Greenway between Fermor Avenue and Bishop Grandin.

East /west neighbourhood greenways could be developed over the next few years along Havelock, Moore/Sadler and Worthington with little more than half signals and curb bulbouts where the greenways cross St. Anne’s, St. Mary’s or Dunkirk (although it might not be feasible to allow the Worthington greenway to cross Dakota/St. Mary’s). Such a network would complement one-way cycle tracks extended south along St. Anne’s and provide connectivity through the St. George, Worthington, Alpine Place, Norberry, Pulberry and Lavalee neighbourhoods,

This suggested east/west network would not place any new signals within 200m of an existing signal, would provide a network of bikeways spaced roughly 400m apart (as recommended for mature neighbourhoods in the Pedestrian and Cycling Strategies¹³). Regular spacing of signaled crossing of St. Anne’s would add to the corridor’s walkability as well, providing better access to transit.

A similar network of east/west routes should be considered north of Fermor Avenue, although offsets of these roads at St Anne’s and St. Mary’s make it somewhat more difficult to plan the network north of Fermor than south of Fermor. This awkward road alignment might necessitate considering paired roads (one to facilitate westward travel by bike and one for eastward travel) to provide an east/west bicycle network north of Fermor.

¹³ Pg 135, City of Winnipeg Pedestrian and Cycling Strategies. City of Winnipeg, 2015