Manitoba-Tyndall Avenue Neighbourhood Greenway Discussion Paper

January 2023

Executive Summary

Planned as part of the primary network in the City's bicycle network plan, the Manitoba-Tyndall Avenue Neighbourhood Greenway will serve as a major east-west cycling route connecting destinations located between Selkirk and Burrows avenues, running from King Street to King Edward Street. Extensions proposed in this document extend the reach of the bikeway east from Sinclair Street to the North Winnipeg Parkway (parallelling the existing neighbourhood greenway along Flora Avenue), and northwest to the Inkster Boulevard pathway at Torwood Crescent.

Map 1
Manitoba-Tyndall Neighbourhood Greenway Overview Map

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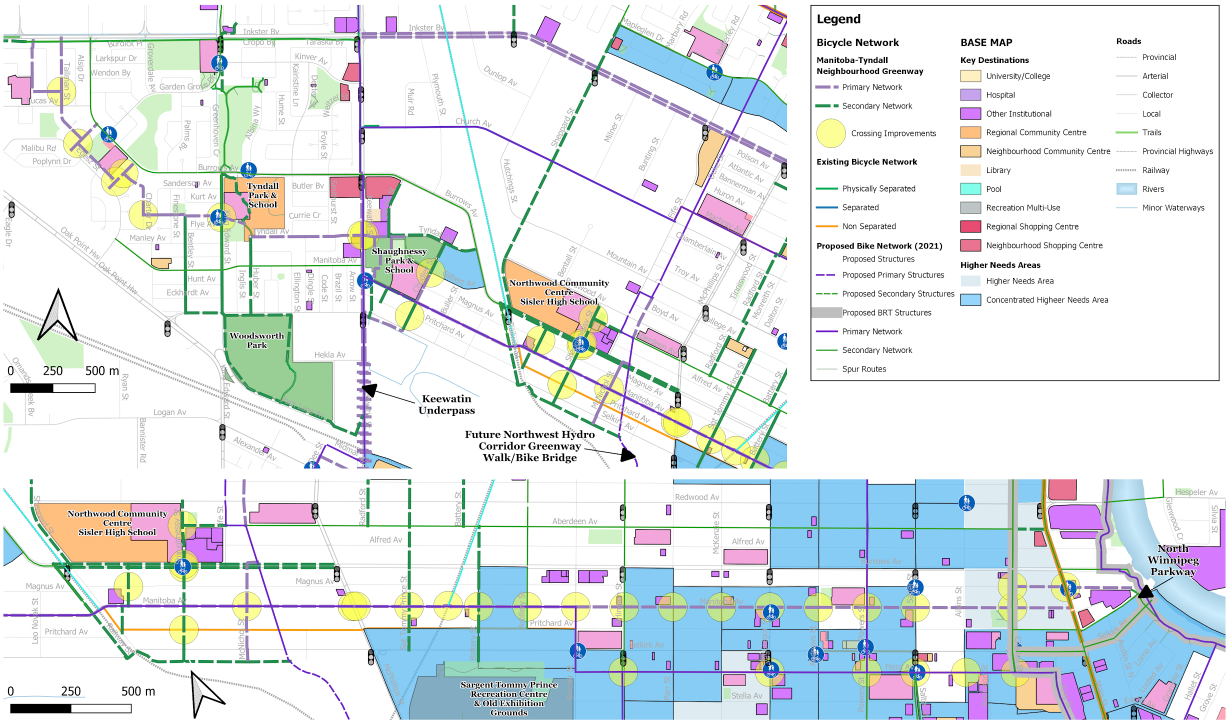

An overview of recommended routes and treatments needed to implement the neighbourhood greenway is provided in this document, along with a listing of key destinations and bikeways that will be served by the recommended route.

Recommendations to extend the Manitoba-Tyndall Ave Neighbourhood Greenway and develop complementary routes connected to it are brought forward for consideration as well. These recommendations help define a denser, more coherent, and much better connected bike network than is currently planned, and will greatly aid in the City's goal of shifting people into sustainable modes of transportation like walking and biking.

The routes described in this document provide critical connections between the major crossings of the CPR mainline. Their development and construction should be given a high priority in the City's planning and budgeting.

Summary of Recommendations

1. Make Extension and Upgrade to Manitoba-Tyndall Ave Neighbourhood Greenway a high priority
2. Make upgrades to Keewatin Underpass a high priority
    a. Include east and west side improvements in preliminary design, as well as option for walk/bike bridge just south of underpass
    b. Design & Construct bicycle path through the west side of the underpass
        i. Develop a protected crossing at the intersection of Selkirk & Keewatin
        ii. Include development of Dee-Oddy Neighbourhood Greenway
        iii. Include development of Lismore-Skinner Neighbourhood Greenway to provide connection to RRC
    c. Perform a preliminary study for a bike path through the east side of the underpass.
        i. Reach out to CPR
3. Extend Manitoba-Tyndall Neighbourhood Greenway north to Inkster
    a. Potentially as a separate phase of construction
4. Tyndall Park Pathways
    a. West to Herman Ave @ King Edward St
    b. North to King Edward St @ Burrows Ave
5. Shaughnessy Park Pathways
6. Dorset St Pathway
7. Woodsworth Park Pathways
8. King Edward Connections
9. Selkirk Ave Pathways
    a. Bentley St to Ellington St or Keewatin St
    b. Keewatin St to Chudley St
10. Railway St Pathway Extension
    a. McNichol to Railway St

Key Destinations Connected

1. Schools
    a. Prairie Rose Elementary School (105 Lucas Ave)
    b. NorWest Early Learning & Child & Care (105 Lucas Ave)
    c. Garden Grove School (2340 Burrows Ave)
    d. Tyndall Park Community School (2221 King Edward St)
    e. Shaughnessy Park School (1641 Manitoba Ave @ Chudley St)
    f. Lord Nelson School (82) McPhillips St)
    g. Sisler High School (1360 Redwood)
    h. King Edward Community School (825 Selkirk Ave)
    i. Murdo Scribe Centre (Indigenous Education) (51 Selkirk Ave)
    j. Inner City Social Work Program (485 Selkirk)
    k. Holy Ghost School (319 Selkirk Ave)
    l. William Whyte School (200 Powers)
    m. Niji Makhwa School (450 Flora Ave)
    n. Children of the Earth High School (100 Salter St)
    o. R.B. Russell Vocational School (almost)(364 Dufferin)
    p. David Livingstone School (270 Flora St)
2. Community & Cultural Centres
    a. Tyndall Park Community Centre (2255 King Edward St)
    b. Philippine Canadian Centre of Manitoba (737 Keewatin St)
    c. Sir William Stevenson Library (765 Keewatin St)
    d. Northwood Community Centre (1415 Burrows Ave @ Lawrence St)
    e. Sergeant Tommy Prince Place (90 Sinclair St)
    f. Ukrainian Canadian Institute Prosvita (777 Pritchard)
    g. Polish Gymnastic Association (717 Manitoba Ave)
    h. Canadian Czechoslovak Benevolent Association (154 McKenzie)
    i. Association of United Ukrainian Canadians - Ukrainian Labour Temple (Pritchard @ McGregor)
    j. German Society of Winnipeg (121 Charles St)
    k. Turtle Island Neighbourhood Centre (510 King St)
    l. Ma Mawi Wi Chi Itata (almost)(445 King)
3. Parks & Recreation
    a. Hadden Park
    b. Finestone Park
    c. George Heska/Albina Park
    d. Tyndall Park
    e. Shaughnessy Park

f. Gilbert Park Gym (35 Gilbert Ave)
g. Billy Mosienko Arena (709 Keewatin St)
h. Northwood Park (Lawrence @ Burrows)
i. Old Exhibition Grounds (80 Sinclair St)
j. Pritchard Playground (Manitoba @ Charles)

4. Core Services & Supports
    a. Garden Grove Child Care Centre (2340 Burrows Ave)
    b. Access Norwest (785 Keewatin - off Dorset)
    c. The Norwest Community Co-op Food Centre (103-61 Tyndall Ave)
    d. Manitoba Housing Regional Office (71 Gilbert Ave)
    e. Manitoba Housing Community Development (Gilbert Ave)
    f. Makoonsag Intergenerational Children's Centre (527 Selkirk Ave)
    g. Urban Circle Training Centre Inc. (519 Selkirk Ave)
    h. Manitoba Employment & Training (510 Selkirk)
    i. The Momentum Centre (508 Selkirk Ave)
    j. Ndinawe Youth Resource Centre (Powers @ Selkirk)
    k. Indigenous Family Centre (Powers @ Selkirk)
    l. Winnipeg Boys & Girls Clubs (415 Stalla Ave))
    m. Community Correctional Service of Canada (1048 Main St)
    n. Manitoba House Drop-in & Resource Centre (289 Manitoba Ave)
    o. FASD Family Support, Education And Counselling Program (254 Stella Walk)
    p. Lord Selkirk Resource Centre (254 Stella Walk)
5. Shopping/Dining/Employment
    a. Tyndall Square (Tyndall Ave @ Keewatin St)
    b. Tyndall Market (Keewatin @ Burrows)
    c. Burrows Crossing (Keewatin @ Burrows)
    d. McPhillips Street Station Casino
6. Residential Neighbourhoods
    a. Tyndall Park
    b. Burrows-Keewatin
    c. Shaughnessy Park
    d. Burrows Central
    e. William Whyte
    f. North Point Douglas

7. Bikeway Connections
    a. King Edward Bikeway
    b. Keewatin Bikeway
    c. Northwest Hydro Corridor Greenway
    d. Winnipeg Beach Rail with Trail
    e. Sinclair St
    f. Arlington Bikeway
    g. Powers St Neighbourhood Greenway
    h. Charles St Neighbourhood Greenway
    i. North Winnipeg Parkway

Existing Facilities

To date, Manitoba Avenue has not been part of the City's proposed bike network east of Burrows Ave, and although Manitoba Ave was identified as part of the bike network between Burrows Ave and Egesz Street, no improvements have been made to this section of the roadway to date.

The bicycle network adopted as part of the 2015 Pedestrian and Cycling Strategies identified a neighbourhood greenway (then termed a bicycle boulevard) running east/west from King St to Egesz along the following roadways:

1. Flora Ave from King St to Sinclair St
2. Sinclair St between Flora and Pritchard Ave
3. Pritchard Ave from Sinclair St to Sheppard St
4. Sheppard St from Pritchard Ave to Manitoba Ave
5. Manitoba Ave from Sheppard St to Egesz St

Some work was done in 2011 to improve cycling conditions on Pritchard Ave and Flora Ave. In particular, the following improvements were installed along Pritchard Ave:

1. A traffic calming circle was installed at the intersection of Pritchard & McNichol
2. A median closure was installed at the intersection of Pritchard & McPhillips
3. A raised intersection was installed at the intersection of Pritchard & Sinclair

As Pritchard Ave is less than 90 metres north of Selkirk Ave, planning a neighbourhood greenway along Pritchard Ave presents challenges where it crosses major roadways such as McPhillips, Arlington, and Salter, as traffic engineers are reluctant to install signals along Pritchard Ave in such close proximity to existing signals along Selkirk Ave.

The draft bike network presented in 2021 as part of the Transportation Master Plan update drops Pritchard Ave and replaces it with Manitoba Ave between Sinclair St to Egesz St.

Discussions held since that draft was released have identified a further alteration of this east-west route to shift travelers north to Tyndall Ave before crossing Keewatin St. This shift north would provide connections to additional destinations in and around Shaughnessy Park while avoiding a crossing of Keewatin St at Manitoba Ave, which dog legs a considerable distance north at Keewatin.

The only segments of existing cycling infrastructure along this new Manitoba-Tyndall Ave route are pathways in Shaughnessy Park and Tyndall Park, both of which will need to be supplemented to complete the bikeway.

1. A segment of existing crushed limestone pathway through Shaughnessy Park links Chudley St @ Gilbert Ave to the south Tyndall Avenue sidewalk midblock near the intersection of Tyndall Ave and Dorset St.
2. An existing segment of asphalt pathway in Tyndall Park linking the western end of Tyndall Ave to Tyndall Park Community School.

The Manitoba-Tyndall Ave route has high potential to connect a wide area, including many important destinations, making it a high priority for development. To meet the requirements of an all ages and abilities bike route along Manitoba and Tyndall avenues, a number of improvements will be required. These improvements are outlined in the pages that follow.

Roadway Improvements

The roadways being considered as part of this bikeway are all classified as local roads, and run through residential neighbourhoods. Most of the streets have relatively narrow curb to curb widths of between 7 and 8 m, and permit parking along one side of the street. The streets generally include sidewalks on both sides of the roadway, along with treed boulevards, providing a pleasing aesthetic along the planned route. To meet the needs of an all ages and abilities network, a neighbourhood greenway treatment is recommended along the local streets that will make up the Manitoba-Tyndall Ave Neighbourhood Greenway.

Defining Neighbourhood Greenways/Bicycle Boulevards

The Transportation Association of Canada (TAC) notes the following in its Geometric Design Guide for Canadian Roads Chapter 5 – Bicycle Integrated Design:

> Cyclists typically travel at speeds between 15 km/h and 30 km/h, although they may reach 50 km/h when traveling downhill. Where there is no physical barrier between cyclists and motor vehicles, the speed differential between them should not exceed 20 km/h to 25 km/h.[1]

[1] Pg. 9, Geometric Design Guide for Canadian Roads Chapter 5 – Bicycle Integrated Design, Transportation Association of Canada, June 2017.

For bicycles to be effective as a means of transportation, cyclists must be able to maintain their momentum without having to slow or stop often. Once slowed or stopped, it takes considerable time and effort to regain the desired operating speed. To the extent reasonable, bicycle routes should be designed for continuous riding and to minimize steep gradients, rough surfaces, sharp corners, intersections, and the need to yield to other users.[2]

A bicycle boulevard, as illustrated in Figure 5.3.6 (A & B), is a shared roadway that provides a continuous corridor of suitable operating conditions for cyclists, including limiting exposure to motor vehicle traffic and designing for low motor vehicle speeds. Often located on local roads, bicycle boulevards incorporate traffic calming measures to facilitate through-access by bicycles while inhibiting through access by motor vehicles. At intersections, such traffic calming measures can include diagonal diverters, bicycle-crossable medians, and neighbourhood traffic circles. Between intersections, such traffic calming measures can include bicycle-crossable chicanes and speed humps.[3]

[2] Pg. 9, Geometric Design Guide for Canadian Roads Chapter 5 – Bicycle Integrated Design, Transportation Association of Canada, June 2017.
[3] Pg. 22

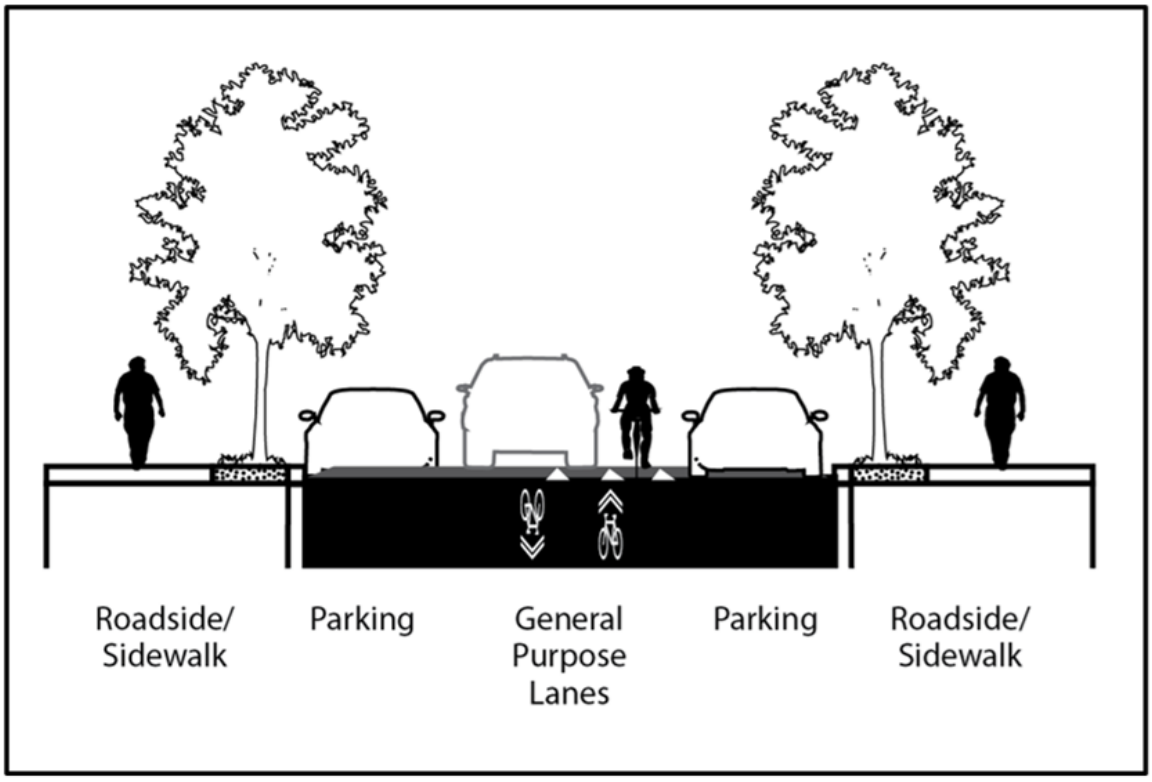

Figure 5.3.6: (A) Bicycle Boulevard - Cross Section

[4]

[4] Pg. 23

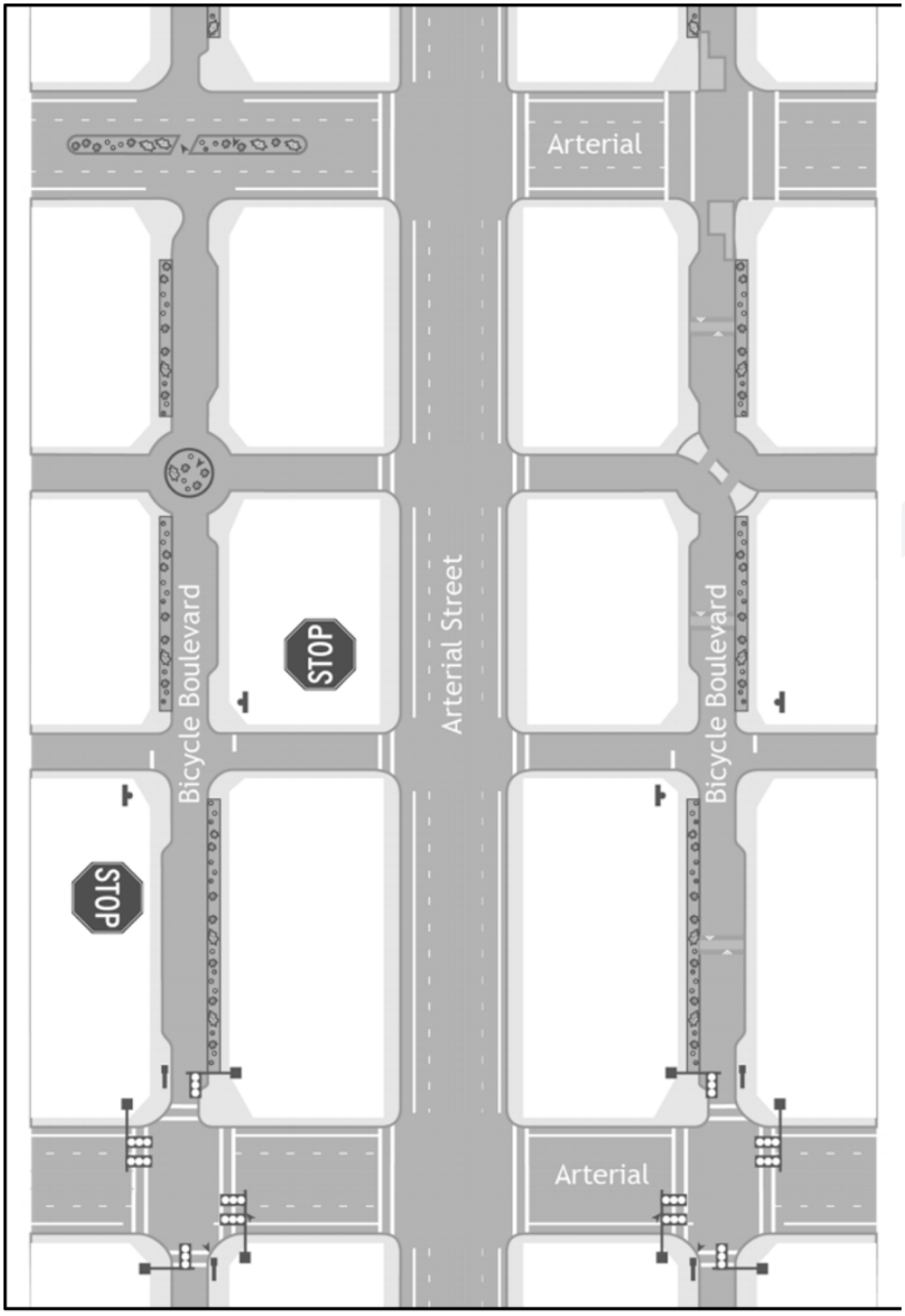

Figure 5.3.6: (B) Bicycle Boulevard - Plan View Example

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> To reduce cyclist travel time and facilitate maintenance of speed and momentum at minor street intersections, stop signs should be oriented to control the cross-street rather than the bicycle boulevard. At major street intersections, bicycle signals with bicycle detectors or bicycle-friendly actuation should be provided.[6]

The City of Winnipeg defines neighbourhood greenways as follows:

> Neighbourhood greenways are on-street routes designated to comfortably and safely move both cyclists and pedestrians and motor vehicles. Greenways typically include a range of treatments from low-impact things like signage, bike signals, and pavement markings to varying degrees of traffic calming including a best-practice speed limit of 30 km/h.[7]

Reduced Speed Limits

As the roadway segments for this bikeway are envisaged as neighbourhood greenways where people on bikes will be traveling in mixed traffic with vehicles, speed limits should be reduced to 30 km/hr along the entire route of the proposed bikeway.

[5] Pg. 24
[6] Pg. 22
[7] Neighbourhood Greenway Reduced Speed Pilot, City of Winnipeg, https://engage.winnipeg.ca/neighbourhood-greenway-reduced-speed-pilot accessed on December 12, 2022.

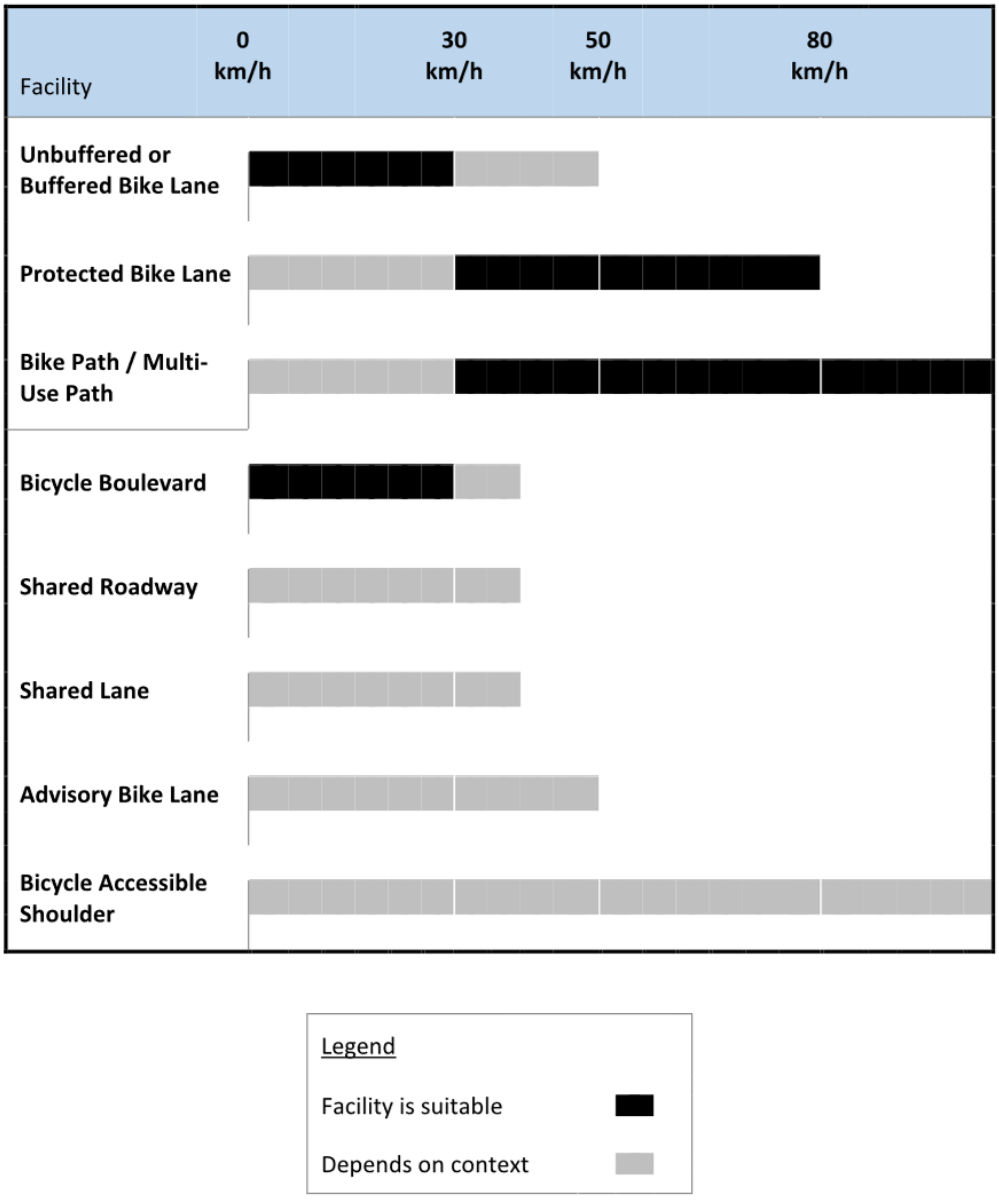


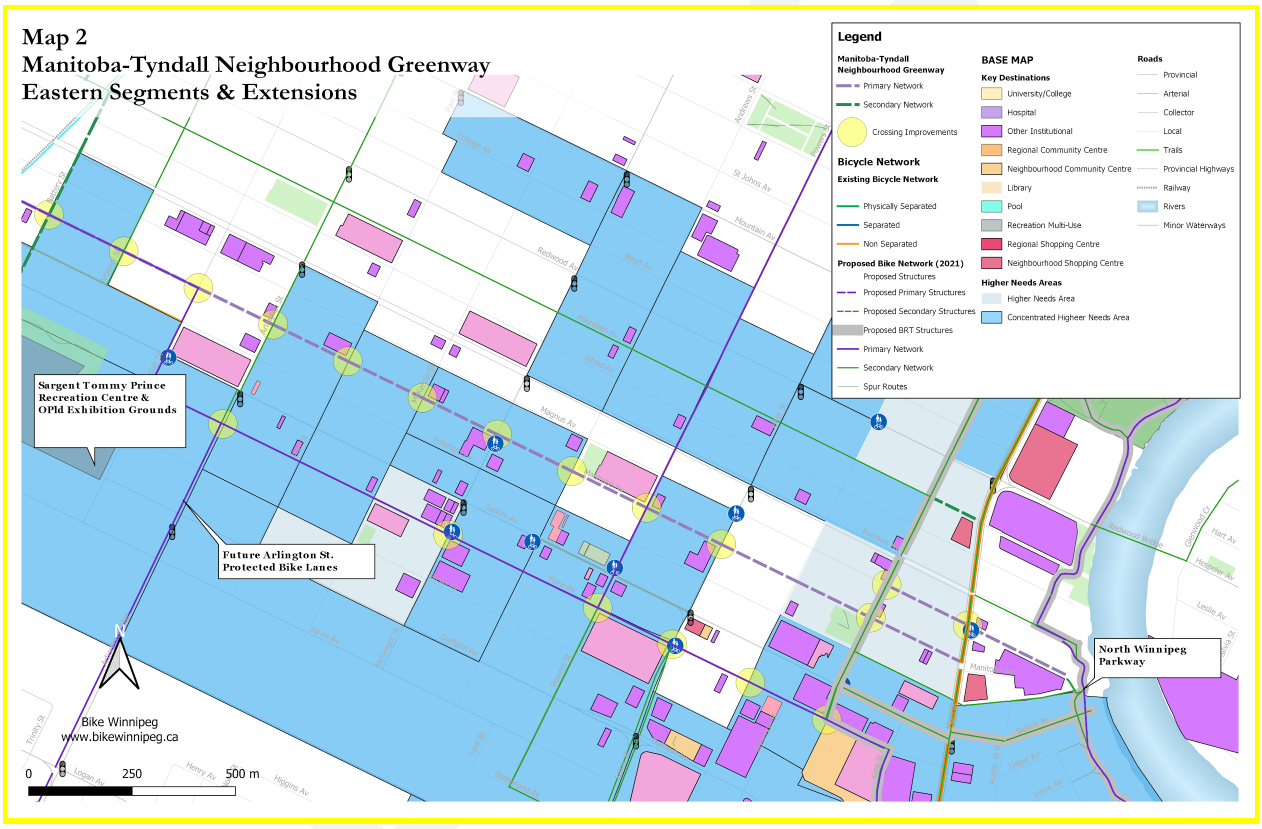
Figure 5.4.1 Bikeway Facilities, by Roadway Posted Speed

TAC guidelines indicate a posted speed limit of 30 km/hr are advised for neighbourhood greenways (identified here as a Bicycle Boulevard) such as those being proposed along local residential streets in this discussion paper.

The City of Winnipeg piloted 30 km/hr speed limits along a number of neighbourhood greenways in 2021 and 2022. Results from this pilot project should be released in 2023.

Core Roadway Segments

The core segments of the Manitoba-Tyndall Ave Neighbourhood Greenway would provide a connection from King St in the North End to Tyndall Park and King Edward St, traversing approximately 6.6 km through mature neighbourhoods.



Magnus Ave Option

Extension of the Manitoba-Tyndall Ave Neighbourhood Greenway across Main Street via Magnus Ave is recommended to make use of a pedestrian corridor already installed on Main Street. In addition to facilitating a crossing of Main St, extension of the greenway along Magnus Ave would provide a connection to the North Winnipeg Parkway through Pritchard Point Park and Pritchard Ave, and likely through future connections to Burrows Ave.

West of Main St, Magnus Ave is connected to Charles St, which is proposed as a north-south neighbourhood greenway opposite the North Winnipeg Parkway. The connection to Magnus would thus only create a short detour in the greenway.

As a residential street with low volumes of traffic, no need for any cycling infrastructure or traffic calming measures other than a reduced speed limit is anticipated for any extension of the neighbourhood greenway along Magnus Ave.

Consideration would need to be given to an improved crossing of Main St at Magnus, as the pedestrian corridor cannot be activated from the roadway, and forces people on bikes to orient themselves to the south side of Magnus before crossing Main St.

Flora Ave

Flora Ave is part of the existing bike network between Main St and Sinclair St and has been identified as a neighbourhood greenway in the proposed bike network released during phase II of the current Transportation Master Plan update.

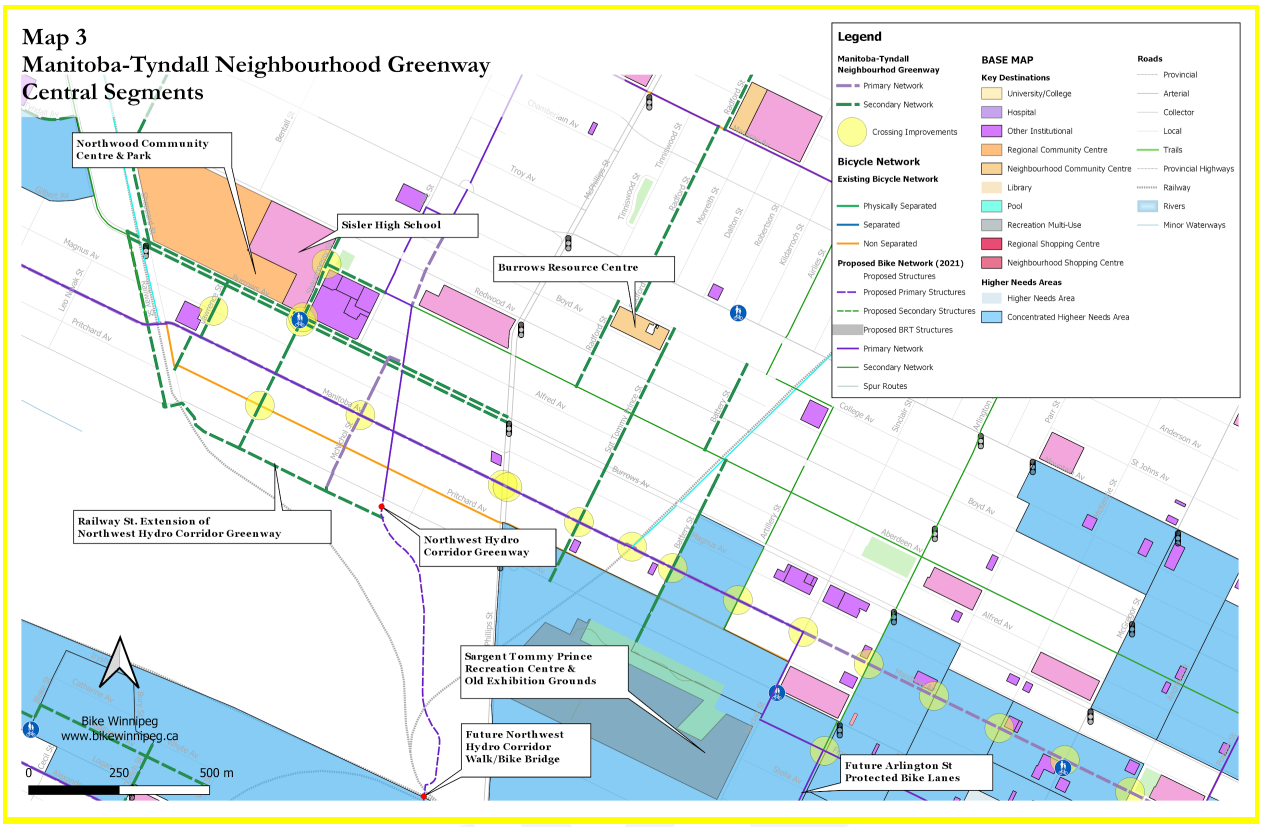
A number of traffic calming improvements were made to Flora Ave as part of the 2011 AT stimulus package. These included:

1. Curb extensions on King St at the intersection of Flora and King
2. Raised intersection at the intersection of Flora and Charles
3. Traffic calming circle at Flora and McKenzie
4. Traffic calming circle at Flora and Parr

As Selkirk Ave has no existing or planned cycling facilities and acts as a barrier in the cycling network, we envision Flora remaining in the cycling network as a neighbourhood greenway where it will serve destinations south of Selkirk Ave. A number of intersection upgrades should be considered for the Flora neighbourhood greenway:

1. Flora @ Charles - improvements may be considered as part of any plan to develop the Charles St neighbourhood greenway, including the potential to replace the stop on Charles St with a traffic calming circle at this intersection.
2. Flora @ Aikins - as there is a stop one block east at Robinson, and riders will also need to stop one block west at Salter St, consideration should be given to the installation of a traffic calming circle or diverter to remove the existing stop along Flora.
3. Flora @ Salter - a pedestrian corridor is situated on the south side of Flora to facilitate crossings, but it cannot be activated from the roadway, especially by people riding west.
4. Flora @ Powers - as Powers dead-ends for vehicles at Selkirk, a traffic calming circle should be considered to help preserve momentum for people on bikes; the presence of Niji Makhwa School needs to be part of the decision making process (a traffic calming circle has been installed at Flora and McKenzie, where Immaculate Heart of Mary School is located).
5. Flora @ McGregor - a pedestrian corridor is situated on the south side of Flora to facilitate crossings, but it cannot be activated from the roadway, especially by people riding west.
6. Flora @ Arlington St - plans included in the Arlington Bridge Replacement Project call for installation of a half signal at this intersection to facilitate crossings.

Consideration should also be given to potential extensions west through the Old Exhibition Grounds, especially to look into a way to connect the Flora bikeway to the existing pathway along the northern boundary of the Old Exhibition Grounds and to a potential neighbourhood greenway along Battery St.



Manitoba Ave

Manitoba Ave is currently not part of the proposed bike network east of Sinclair St. Flora Ave has been selected as the east-west corridor through the North End east of Sinclair, with riders being directed north to Pritchard Ave in the existing network, and to Manitoba in the most recently proposed bike network.

Manitoba Ave is classified as a local street between Main St and McPhillips St, and as a collector street between McPhillips St and Egesz St, where it serves as a transit route (community route 332 in the Transit Master Plan).

Why extend Manitoba Ave bikeway east of Sinclair?

Given the massive potential for bicycle traffic in the North End's grid network, the presence of so many higher needs and concentrated higher needs areas along or near Manitoba and Flora avenues, and the fact that high volumes of traffic and a lack of cycling infrastructure on Selkirk Ave effectively make it a barrier to cycling, we recommend that Manitoba Ave between Sinclair St and Main St be added to the bike network and developed as a neighbourhood greenway.

As Manitoba Ave is already part of the proposed bike network west of Sinclair St, extending any planned bikeway east along Manitoba Ave all the way to Main St would add coherence and intelligibility to the network, increase the network's density, and improve access to the network from higher needs and concentrated higher needs areas, all goals of the City's Pedestrian and Cycling Strategies.

Recommended Crossing Treatments along Manitoba Ave

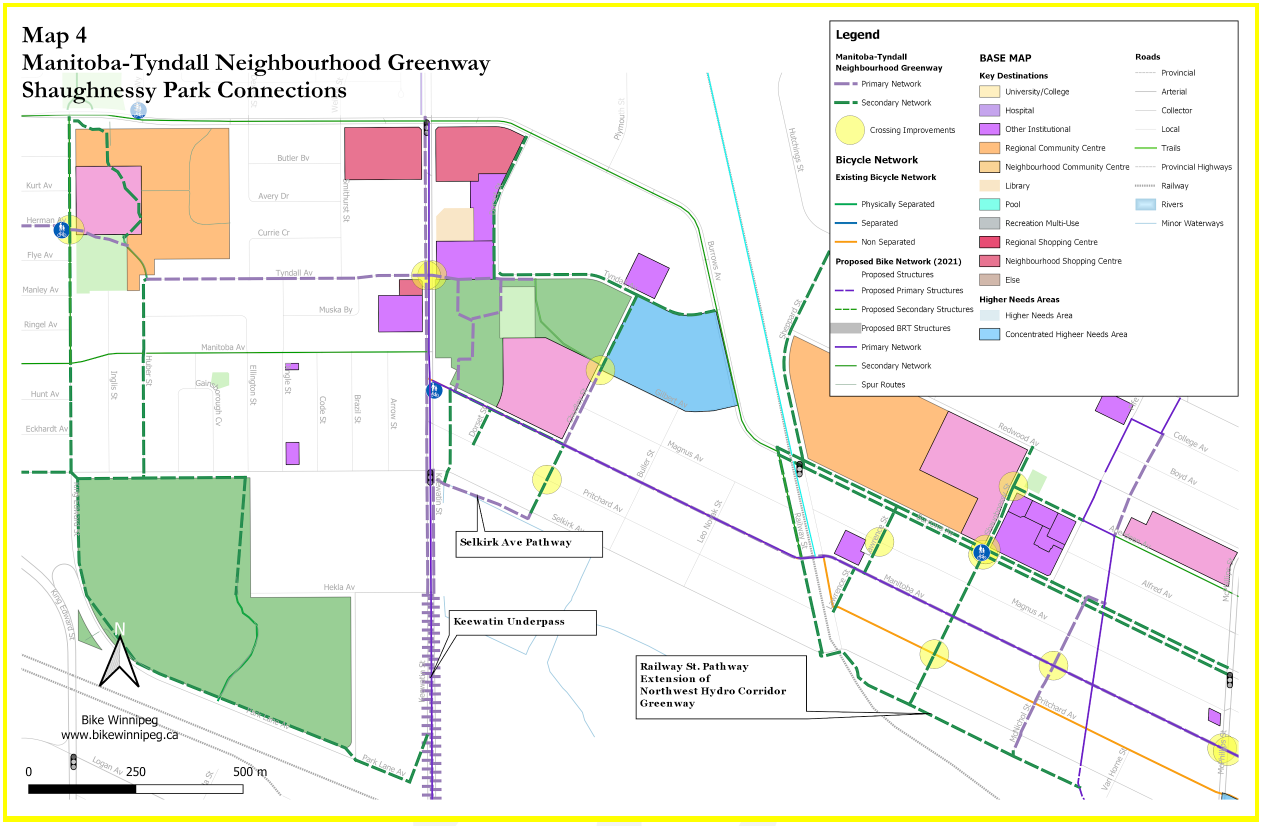
Consideration for new or improved crossing treatments along Manitoba are recommended as follows:

1. Major Recommended Crossing Improvements
    a. Manitoba Ave @ Salter St - Half signal or HAWK signal; possibly combined with a right in, right our turning restriction to reduce traffic volumes
    b. Manitoba Ave @ McGregor St - Upgrade of existing pedestrian corridor to Half signal or HAWK signal; possibly combined with a right in, right our turning restriction to reduce traffic volumes
    c. Manitoba Ave @ Arlington St - Half signal or HAWK signal; possibly combined with a right in, right our turning restriction to reduce traffic volumes
    d. Manitoba Ave @ McPhillips St - Half signal or HAWK signal; possibly combined with a right in, right our turning restriction to reduce traffic volumes

2. Minor Recommended Crossing Improvements
    a. Manitoba Ave @ Charles St - Traffic calming circle or other traffic calming measure that would allow people on bikes to maintain momentum
    b. Manitoba Ave @ Powers St - Traffic calming circle or other traffic calming measure that would allow people on bikes to maintain momentum

c. Manitoba Ave @ Andrews St - Traffic calming circle or other traffic calming measure that would allow people on bikes to maintain momentum
d. Manitoba Ave @ McKenzie St - Traffic calming circle or other traffic calming measure that would allow people on bikes to maintain momentum
e. Manitoba Ave @ Parr St - Traffic calming circle or other traffic calming measure that would allow people on bikes to maintain momentum
f. Manitoba Ave @ Artillery St - Turn stop signs or install a traffic calming circle or other traffic calming measure that would allow people on bikes to maintain momentum
g. Manitoba Ave @ Battery St - Turn stop signs or install a traffic calming circle or other traffic calming measure that would allow people on bikes to maintain momentum
h. Manitoba Ave @ Winnipeg Beach rail line - Upgrade sidewalk crossing and add a bike path crossing to connect Manitoba Ave over the tracks for people on bikes
i. Manitoba Ave @ Sargent Tommy Prince St - Traffic calming circle or other traffic calming measure that would allow people on bikes to maintain momentum
j. Manitoba Ave @ McNichol St - Traffic calming circle or other traffic calming measure that would allow people on bikes to maintain momentum

Chudley St



Chudley St, a local street running between Selkirk and Tyndall avenues, is not part of the current or 2022 draft bike network, but would provide important connections and access to destinations if added to the City's bike network. If developed as a neighbourhood greenway, Chudley St would provide connections to important destinations such as:

1. Shaughnessy Park School
2. Shaughnessy Park
3. Manitoba Housing offices
4. Shaughnessy Park Pathways
5. Gilbert Park Housing and Services
6. Billy Mosienko Arena
7. Philippine Canadian Centre of Manitoba
8. Access NorWest
9. Sir William Stephenson Library
10. Willow Park Housing Coop
11. Tyndall Market

12. Tyndall Square
13. Burrows Crossing

There are no major road crossings along Chudley St. All-way stops control the intersections at Pritchard Ave, Manitoba Ave, and Gilbert Ave. As Shaughnessy Park School is located along Chudley St, most of its length is within a 30 km/hr school zone.

Looking south, there may be potential to negotiate an easement through the CP Railway (CPR) Winnipeg Intermodal Terminal to develop a pathway connecting Chudley at Selkirk to Gallagher Ave W at Keewatin St to create a much-needed connection across the CPR mainline on the east side of Keewatin St.

For these reasons, we highly recommend the addition of Chudley St to the City's bike network, with consideration for traffic calming and crossing improvements along its length.

Tyndall Ave and Shaughnessy Park Pathways

Tyndall Ave has not been included in plans for the City's bike network to date, but has high potential to provide important connections in the development of the City's bike network between planned, protected bike lanes along Burrows Ave and destinations and routes in the vicinity of Tyndall Park. A bikeway on Tyndall Ave would also provide a connection to Manitoba Ave, proposed as a major east-west bike route north of the CPR mainline.

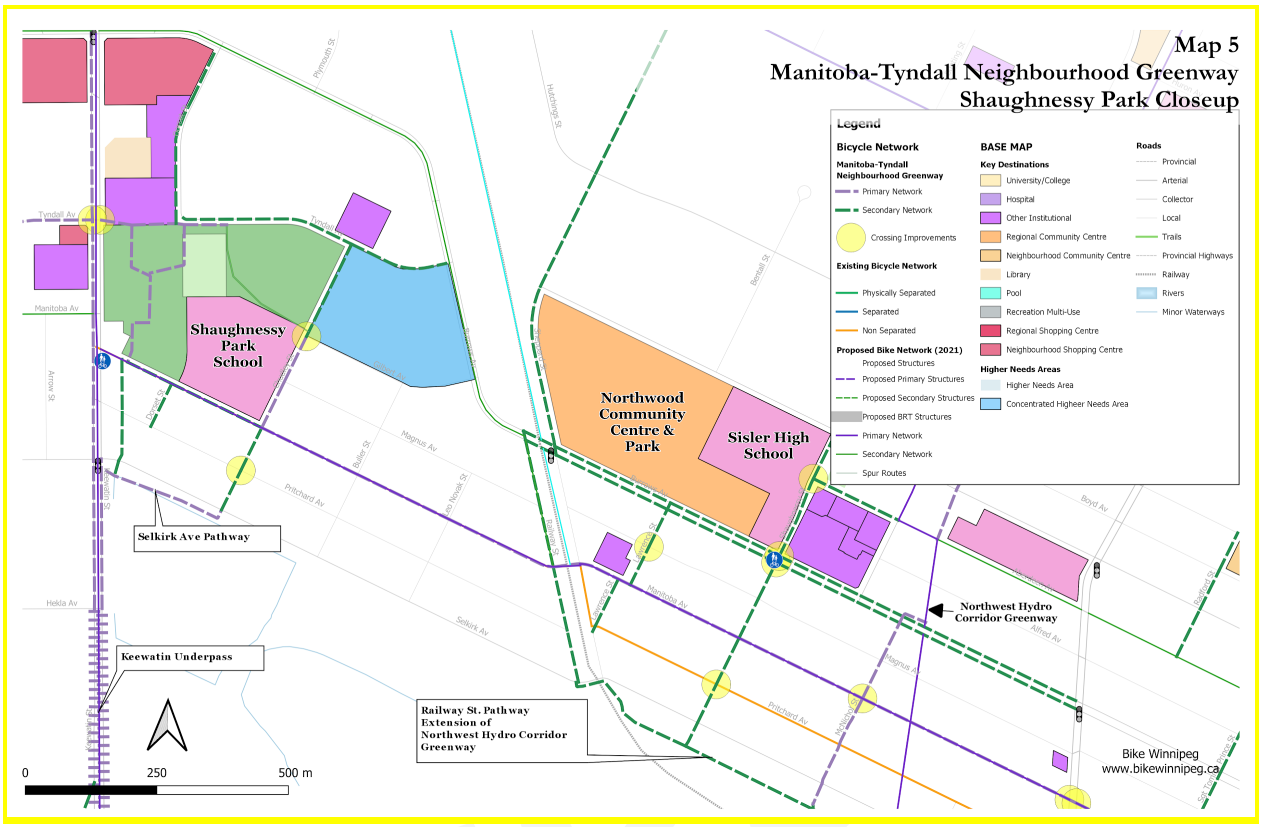
Two key additions that would be needed to incorporate Tyndall Ave into the City's bike network:

1. A pathway connection through the section of Shaughnessy Park that currently divides the eastern and western sections of Tyndall Ave. A pathway of about 250 m in length would provide a connection between Keewatin St and existing pathways that connect from the southern sidewalk on Tyndall Ave to Shaughnessy Park School at the intersection of Chudley St and Gilbert Ave.
2. A signalized crossing of Keewatin St at Tyndall Ave.

Proposed pathway location for Shaughnessy Park connection along the Tyndall Ave right of way. Looking west from the corner of Tyndall Ave and Dorset St.

Tyndall Ave boulevard looking west from the point where the Shaughnessy Park pathway connects with the Tyndall Ave sidewalk.

An existing crushed limestone pathway in Shaughnessy Park provides a connection from Shaughnessy St @ Gilbert Ave to Tyndall Ave and Dorset St where it can be extended to provide a connection to and across Keewatin St at Tyndall Ave.



Tyndall Park Pathway Additions

Development of a neighbourhood greenway along Tyndall St would provide the City with the opportunity to extend the bike network's connectivity through the addition or extension of a couple of strategic pathways in Tyndall Park.

Existing asphalt pathways in Tyndall Park already provide access from the corner of Tyndall Ave at Huber St and from Burrows Ave to Tyndall Park Community School. Working with The Winnipeg School Division, the Public Works Department (Open Space Division), and with The Tyndall Park Community Centre, it should be possible to develop two spur pathways that would provide connections west to the existing pedestrian corridor crossing of King Edward St at Herman Ave, as well as a connection north to the existing asphalt pathway in the George Heshka/Albina Park that connects north to Garden Grove Dr just south of Stanley Knowles School.

The path connecting to King Edward @ Herman ave would only need to be about 130 m long, and would run through vacant parkland. As the existing pathway between Herman Ave and Tyndall Park Community School ends at the intersection of Tyndall Ave and Hubert St, extensions to this pathway would provide an opportunity to develop Huber St as a north-south neighbourhood greenway providing access south to Selkirk Ave and Woodsworth Park, eventually connecting into the Keewatin Underpass via current and future pathways within its grounds.

A further extension of the existing Huber/Tyndall pathway north to the intersection of Burrows Ave at King Edward St would connect this Huber neighbourhood greenway to the George Heshka/Albina Park pathway north of Burrows Ave. This path would only need to be about 360 m long. The path north to connect with the George Heshka/Albinina Park pathway @ King Edward and Burrows would need to either wind its way between the school and community centre parking lots, or find a route behind the school and community centre.

An existing asphalt pathway leads from the corner of Tyndall Ave and Huber St to Tyndall Park Community School. This pathway could easily be extended west to connect with Herman Ave @ King Edward St (where there is an existing pedestrian corridor) and north to connect to the intersection of Burrows and King Edward St and the George Heshka/Albina Park pathway.

Western Roadway Segments

The western segments of the Manitoba-Tyndall Ave Neighbourhood Greenway would connect from Tyndall Park to Charter Dr, creating a safe connection to Garden Grove School and Child Care Centre via Charter Dr and Benbow Rd. These sections add between 500 m and 850 m of bikeway to the network, depending on whether you include Charter Dr and Benbow Rd in the extension.

Marble Ave

Marble Ave is a short local street running from Finestone St to Charter Dr. Its short length (approximately 160 m) and limited connections (Charter Dr and Finestone St) suggest that it should not require any traffic calming measures. A traffic calming circle (or some other traffic calming measure that would allow people on bikes to maintain momentum) should be considered to aid with flow at the intersection of Marble Ave with Charter Dr.

Finestone Park Pathway

An existing sidewalk-width pathway in Finestone Park connects from the southwest corner of the park (Finstone St @ Marble Ave) to the northeast corner of the park (Kurt Ave), and is bisected by another sidewalk with path connecting from the middle of the park to the southeast corner of the park (Bentley St @ Herman Ave).

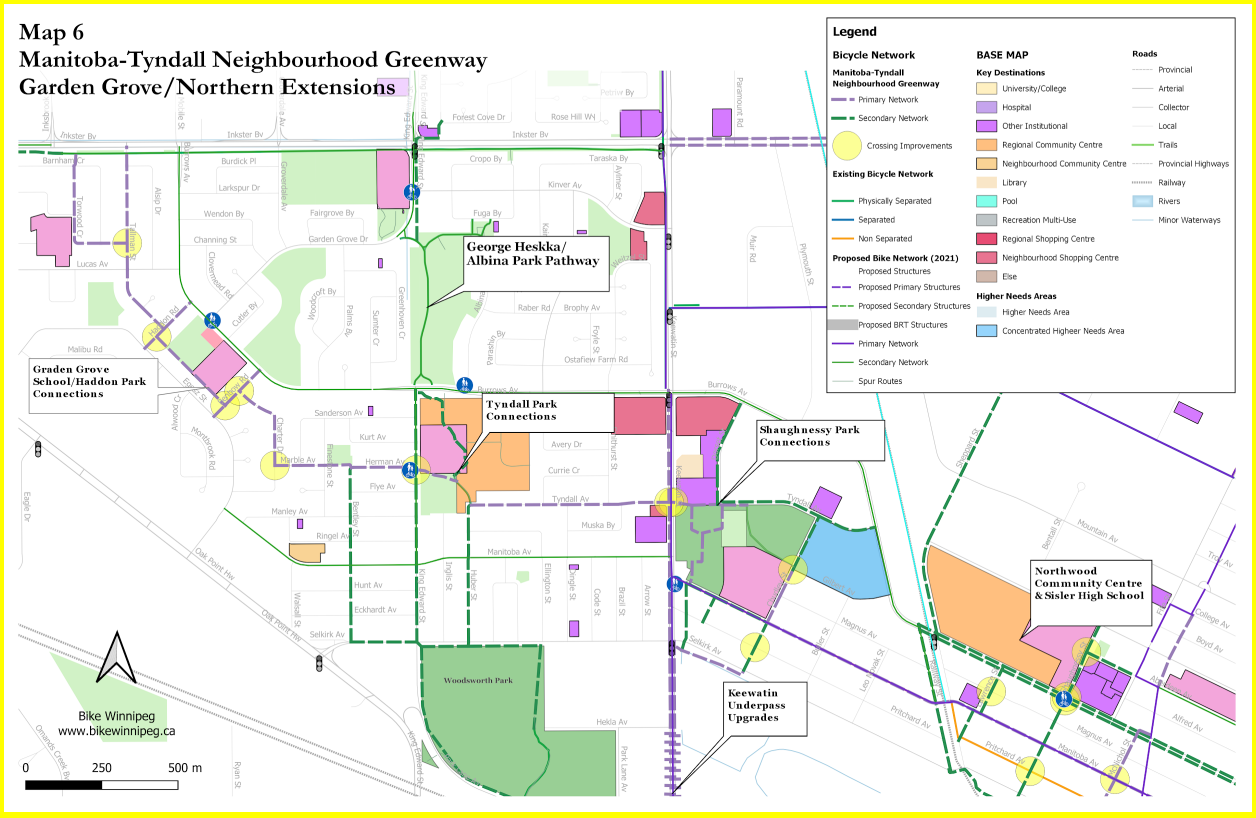
These existing pathways should suffice for the time being, but future demand may warrant widening of these pathways, or adding a more direct connection along the southern boundary of Finestone Park.

Herman Ave

Herman Ave is a local street running from King Edward St to Bentley St. Its short length (approximately 210 m) and limited connections (King Edward St and Bentley St) mean it should not require any traffic calming measures other than a way to activate the pedestrian corridor at its intersection with King Edward St.

Garden Grove Neighbourhood Greenway Extension

The connections and access gained from development of the Manitoba-Tyndall Ave Neighbourhood Greenway could easily be extended northwest through Garden Grove by developing a neighbourhood greenway along the Charter Dr/Benbow Rd/Tallman St/Torwood Cr right of way. This would extend the connectivity of the Manitoba-Tyndall Ave Neighbourhood Greenway all the way to Inkster Blvd, totalling approximately 1.5 km of bikeway.



Charter Drive

Charter Dr is a short local street that runs from Benbow Rd to Egesz St with its lone connecting street in between being Marble Ave, which has the potential to serve as an eastward connection to King Edward St and onward to Tyndall Ave as described above.

Limited access along this roadway indicates that it should not require any traffic calming measures. A traffic calming circle (or some other traffic calming measure that would allow people on bikes to maintain momentum) should be considered to aid with flow at the intersection of Charter Dr with Marble Ave.

Benbow Rd to Haddon Rd

Benbow Rd is a short local street connecting Burrows Ave to Egesz St. The only other road connecting to Benbow Rd is Charter Dr, the recommended connection through to the Manitoba-Tyndall Ave Neighbourhood Greenway. A sidewalk cut through just north of the Egesz St back lane provides access from Benbow Rd to Garden Grove School and Haddon Park. The Egesz St back lane runs from Benbow St to Haddon Rd, and borders Haddon Park.

To facilitate the inclusion of Benbow Rd in a neighbourhood greenway connecting the Manitoba-Tyndall Ave Neighbourhood Greenway to Inkster Blvd, consideration should be given to the addition of a traffic calming circle (or some other traffic calming measure that would allow people on bikes to maintain momentum) at the intersection of Charter Dr and a pathway or back lane bikeway along the border of Haddon Park to connect Benbow Rd with Haddon Rd.

Running between Burrows Ave and Egesz St, Haddon Rd mirrors Benbow Rd, except that it is much wider than Benbow Rd, and that its lone roadway connection is to Tallman St, identified here as the potential connection north to Inkster Blvd. To facilitate the inclusion of Haddon Rd in a neighbourhood greenway connecting the Manitoba-Tyndall Ave Neighbourhood Greenway to Inkster Blvd, consideration should be given to the addition of curb extensions at the intersection of Tallman St and a pathway or, as suggested above, a back lane bikeway along the border of Haddon Park to connect Benbow Rd with Haddon Rd.

Tallman St

Tallman St is a local street that runs from Haddon Rd to Inkster Blvd. Its inclusion in the city bike network should be considered as a way to extend network connections north to Inkster Blvd. To facilitate its development as part of a neighbourhood greenway linking Inkster Blvd to the Manitoba-Tyndall Ave Neighbourhood Greenway being discussed in this document, installation of a traffic calming circle (or some other traffic calming measure that would allow people on bikes to maintain momentum) at the corner of Tallman St and Torwood Cr could also be considered to help with traffic flow, although the presence of Prairie Rose School would need to be taken into consideration.

Torwood Cr

Torwood Cr is a local street that runs from Tallman St to Barnham Cr. It provides access to the front door of Prairie Rose School, but with minimal access to other streets and residences, it should have limited traffic volumes. The presence of Prairie Rose School provides a time-specific speed limit of 30 km/hr for a large portion of Torwood Cr's length.

An existing sidewalk cut through at the intersection of Torwood Cr and Barnham Cr provides a connection to the Inkster Blvd pathway.

Local Connecting Roadway Segments

Railway St

Railway St provides a connection between Burrows and Manitoba avenues in both the 2015 Pedestrian and Cycling Strategies bike network and in the draft bike network made public during phase II of the Transportation Master Plan update. ***We recommend that the full length of Railway St from Burrows Ave to Selkirk Ave be included in the bike network, and that a pathway connecting Railway St at Selkirk Ave to the Northwest Hydro Corridor be constructed to provide a connection to McPhillips Street Station Casino and any future walk/bike crossing of the CPR mainline.***

Plans for the Northwest Hydro Corridor Greenway include a multi-use pathway just south of the Selkirk Ave back lane that will connect into and through the McPhillips Street Station Casino site. This pathway will eventually be extended across the CPR mainline to connect into the bike network south of the tracks. The Northwest Hydro Corridor Greenway path could easily be extended to reach Selkirk Ave at Railway St, creating a more direct route between the Shaughnessy Heights and Pacific Industrial neighbourhoods. In addition to being more direct, the pathway would eliminate the need to cross Sheppard St.

Lawrence St

Lawrence St leads directly into the Northwood Community Centre and Park, and should be added to the City's bike network. A traffic calming circle (or some other traffic calming measure that would allow people on bikes to maintain momentum) at the intersection of Magnus Ave and Lawrence St should be considered to aid flow on Lawrence St. Further crossing improvements at the intersection of Burrows Ave and Lawrence St could also be considered.

Shaughnessy St

The development of a neighbourhood greenway along Shaughnessy St is recommended as part of any plans to develop the Manitoba-Tyndall Ave Neighbourhood Greenway. This would connect the Manitoba-Tyndall Ave Neighbourhood Greenway to Sisler High School (the city's biggest school), and to the proposed Aberdeen Neighbourhood Greenway.

If the spur trail between Railway St @ Selkirk Avenue and the Northwest Hydro Corridor pathway leading into McPhillips Street Station Casino were built, Shaughnessy St would also provide a direct connection between the Northwest Hydro Corridor Greenway, the proposed Burrows Ave bikeway, Sisler High School, and the Aberdeen neighbourhood greenway. The more direct Shaughnessy path would be a boon for students cycling in from the south side of the railway tracks.

McNichol St

The denser street grid south of Inkster Blvd, combined with the presence of back lanes, greatly increases the number of roadways that need to be crossed by the Northwest Hydro Corridor Greenway. Shifting the route west to McNichol St would allow these crossings to be greatly reduced. McNichol St could be developed as a neighbourhood greenway to provide a connection from Burrows Ave to the greenspace between Selkirk Ave and the McPhillips Street Station Casino parking lot.

Complementary Projects

Dorset Pathway

Dorset Ave provides access to a number of key destinations in the vicinity of Shaughnessy Park, including:

1. Walk-in Connected Care Clinic at Access Norwest
2. Willow Park Housing Co-op
3. Sir William Stephenson Library
4. Shopping at Burrows Crossing
5. A connection between the planned Burrows Ave protected bike lanes and the Manitoba-Tyndall Ave Neighbourhood Greenway described in this document.
    a. There is potential to extend any pathway along Dorset Ave south to Manitoba Ave to connect with a possible future cycling facility through the east side of the

Keewatin Underpass to provide a more direct connection to Alexander/Pacific/Elgin Bikeway south of the rail line.

Although strong desire lines indicate significant demand for a connection between Shaughnessy Park/Tyndall Ave and destinations accessed off of Dorset Ave, currently there is no sidewalk along the west side of Dorset Ave, where most of the above destinations are located.

Strong desire lines lead down the west boulevard of Dorset St from Shaughnessy Park and Tyndall Ave to the sidewalk leading into the Sir William Stephenson Library.

A pathway and/or sidewalk in the west boulevard should be developed at least as far as the sidewalk and transit stop providing access to the Walk-In Connected Care Clinic @ Access NorWest located at 785 Keewatin St. This pathway could easily be extended north to Burrows Ave where it could connect with planned, protected bike lanes and complete a connection to the pathway along the west side of Keewatin St.

While not as strong as the desire lines north of the sidewalk leading into Sir William Stephenson Library, there is a definite desire line south to the entrance to the Walk-in Connected Care Clinic at Access Norwest.

Charles St

Draft plans from phase II of the public engagement process for the Transportation Master Plan update identify Charles St as a future neighbourhood greenway between Flora Ave and Church Ave. Charles St is a north-south alternative to Main St.

Charles St would act as the connection between Manitoba and Magnus avenues if the Manitoba-Tyndall Ave Neighbourhood Greenway is extended across Main St via Magnus Ave.

Keewatin St/Dr Jose Rizal Way Pathway (West Side)

City plans (both current and draft) call for a multi-use pathway to be built along the west side of Keewatin and Dr. Jose Rizal Way between Gallagher Ave W and Chief Peguis Trail. To date, the City has developed this pathway from Burrows Ave to Water Ridge Path at the northern edge of the new Waterford Green development.

The northern sections along Dr. Jose Rizal Way provide considerable separation from traffic, are generally free from driveway and roadway crossings, and separate people on foot from those biking to keep everyone comfortable. However, sections south of Inkster Blvd travel through commercial districts where the separation between people on foot and bike is dropped, and where the pathway is frequently crossed by high volume driveways. These southern sections are much less comfortable for people who are traveling on bike or foot.

The remaining sections connecting Burrows to Gallagher Ave W have yet to be completed, but right of way restrictions and a higher frequency of driveways and roadways mean the pathway will likely be closer in feel to sections south of Inkster rather than the more comfortable northern sections of the pathway.

A completed pathway along the west side of Keewatin with a connection through the Keewatin Underpass would provide a much needed connection into the Brooklands neighbourhood, including connections to Red River College's Notre Dame campus via a planned neighbourhood greenway along Gallagher Ave W, Doe St, Oddy St, and Lismore Ave (with a secondary route connecting via Elgin Ave). Completion of this pathway should be a high priority in City planning and budgets.

Connectivity Issues with West Side Pathway

The presence of destination-rich neighbourhoods on either side of the Keewatin Underpass suggest that there is likely a strong desire for people to travel through the underpass and the intersection of Keewatin St. at Logan Ave by bike.

A significant shortcoming of current planning is that while a lone westside pathway on Keewatin St north of the Keewatin Underpass combined with bike routes west of Keewatin St to the south of the underpass creates reasonable connections between neighbourhoods to the west of the underpass, trips starting or ending on the east side of Keewatin St will be forced to take significant detours. There is no direct (or even marginally direct) connection from the north side of Logan Ave to the Alexander/Pacific bikeway just south of the Keewatin Underpass. Planned as the primary east/west cycling corridor south of the CPR mainline, the Alexander/Pacific bikeway provides connections into the Weston, West Alexander, and Sargent Park neighbourhoods.

This lack of direct routes stems from a reluctance/inability (arguably justified) of City engineers and planners to develop cycling facilities along both sides Keewatin St north of Logan, either side of Keewatin St south of Logan, along any portions of Logan Ave, or to provide safe crossing options in close proximity to the intersection that might allow for detours along parallel bike routes. As long as no cycling facilities are developed through the intersection of Keewatin @ Logan or along the east side of Keewatin St and the Keewatin Underpass, people on bikes will be forced to take lengthy and circuitous detours for any trips that don't start and end on the west side of Keewatin St. Such long detours act as a strong deterrent to any hoped-for shift from driving to cycling.

Any project that reduces the degree of detour necessitated by the lack of safe bike routes through the east side of the Keewatin Underpass and/or the intersection of Keewatin St @ Logan Ave will likely encourage strong growth in ridership. Substantial effort and resources, even to the point of appearing heroic, should be directed toward providing additional connections and redundancy through this critical choke point in the bicycle network.

The table of bike route travel distances below underscores the high level of detour people on bikes are required to make when visiting destinations separated by the Keewatin/Logan intersection.

	Hekla @ Keewatin to Alexander @ Worth	Hekla @ Keewatin to Elgin @ Oddy
via Westside Pathway	**2.59 km** 2 major crossings (Logan & Keewatin) Route → Keewatin, Gallagher Ave W, Dee, Brooklands Park, Pacific, Oddy, Elgin, Worth	**1.55 km** 1 major crossing (Logan) Route → Keewatin, Gallagher Ave W, Dee, Brooklands Park, Pacific, Oddy
via Eastside Pathway	**1.27 km** 1 major crossing (Logan) Route → Keewatin, Gallagher Ave W, Weston Memorial Park, McKelvey, Logan back lane, Weston Park, Worth	**2.40 km** 2 major crossings (Logan & Keewatin) Route → Keewatin, Gallagher Ave W, Weston Memorial Park, McKeley, Logan back lane, Weston Park, Worth, Elgin

Keewatin Underpass Improvements

Both the 2015 Pedestrian and Cycling Strategies and the draft bike network released during Phase II of the current project updating the Transportation Master Plan (and Pedestrian and Cycling Strategies) call for the development of a bicycle-friendly route through the Keewatin St Underpass.

While Council-approved 2019, 2020, and 2021 budgets included an allocation of $1.3 million for construction of a pathway on Keewatin St between Selkirk Ave and Logan Ave to be completed in 2021 as part of a roadway rehabilitation project, to date, this work has not been completed.

An August 4th, 2022 administrative report, “Pedestrian and Cycling Facilities as Integrated with Street Renewal Projects” stated the following with respect to plans to extend the pathway and develop a connection under the rail line on the west side of the underpass.

> This section of Keewatin Street was identified for a Regional Mill and Fill/Overlay Preservation Work in the 2021 Capital Budget. As such, it was a preservation treatment and the $2.8 million did not include AT improvements. In that year’s budget, the Pedestrian and Cycling Program detail sheet identified the $1.3 million for AT improvements, which was, unfortunately, an oversight.

Further the $1.3 million did not relate to the actual scope of work required for AT. Work through the railway underpass required extra study to determine slope stability and incorporation of structural retaining walls under and near the railway bridge. Further, this project would leave a gap in the AT networks between Selkirk Avenue and Burrows Avenue.

The engineering assignment for the project included conducting a Preliminary Design Study to determine a Class 3 cost estimate to undertake the AT improvements. The scope was expanded to include the gap between Selkirk Avenue and Burrows Avenue. The study is being undertaken in 2022, and once costs are known, the Public Service will develop a plan to program its construction.

The active transportation facility will be an off-road multi-use path to connect with the path north of Burrows. There will be no rework involved with road renewal preservation work that was undertaken in 2021.[8]

The cost of developing a cycling connection through the Keewatin Underpass along the west side of the Keewatin Underpass was estimated at $2 million in an October 12, 2021 report to the Standing Policy Committee on Infrastructure Renewal and Public Works, “Updates on the Pedestrian and Cycling Strategies Document.”[9] This was a class 5 estimate.

Current plans call for the addition of a mixed-use path on the west side of Keewatin St that would connect to a planned neighborhood greenway along Gallagher Ave W, Dee St, and Oddy St. The underpass improvements and addition of the neighbourhood greenway would provide important connections into the Brooklands neighbourhood, including:

1. Brooklands School
2. Brooklands Park
3. Eldon Ross Pool
4. NorWest on Alexander
5. Red River College Notre Dame Campus (via Lismore Ave and Skinner Rd)
6. Alexander/Pacific/Elgin Neighbourhood Greenway

We agree with the plans to develop a multi-use pathway along the west side of Keewatin from Burrows Ave to Selkirk Ave and then south through the Keewatin Underpass to Gallagher Ave W.

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[8] Pg. 18, Pedestrian and Cycling Facilities as Integrated with Street Renewal Projects, city of Winnipeg, August 2022.
[9] Pg. 10, Updates on the Pedestrian and Cycling Strategies Document, Item # 14, Standing Policy Committee on Infrastructure Renewal and Public Works, October 12, 2021 Agenda, City of Winnipeg.

We recommend that this work be completed as a top priority. Design and construction through the underpass should include provisions for a connection into Woodsworth Park, as well as for a potential walk//bike bridge over Keewain St located between the CPR mainline and the Gallagher Ave W right of way.

Given the value inherent in the provision of connections on the east side of the Keewatin Underpass as well as on the west side, we recommend that the study noted above include a review of options and costs to add a pathway connection on the east side of Keewatin St as well as along the west side of Keewatin St. The study should identify both immediate and future improvements that could be provided, with the understanding that initial improvements may provide constricted travel through the underpass that would be improved upon during future, more substantial rehabilitations of the underpass.

We recommend that the $1.3 million previously budgeted for the development of a multi-use path on the west side of Keewatin St between Burrows Ave and Logan St be reallocated as part of a future Regional Road Renewals program budget (perhaps as a relocation or previous budget surpluses) dedicated to the design and construction of:

1. ***A multi-use path on the west side of Keewain between Burrows Ave and Gallagher Ave;***
2. ***A neighbourhood greenway along Dee St and Oddy St that would connect Gallagher Ave W to McDermot Ave; and***
3. ***A neighbourhood Greenway that would connect Lismore Ave at Oddy St to King Edward St at Skinner Rd.***

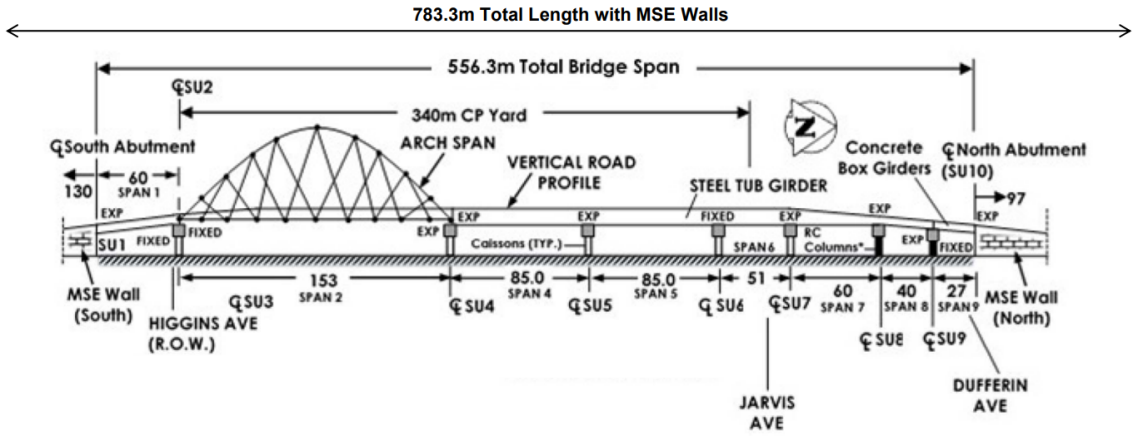
Consider a Walk/Bike bridge be built just south of CPR mainline

Should it be determined that a connection through the underpass is not feasible on the east side of Keewatin Underpass, we would recommend that consideration be given to the construction of a walk/bike bridge over Keewatin St on the south side of the CPR mainline. Such a bridge could make use of the existing grade differentials and right of way, and potentially the existing underpass structure in its design and construction. This would need to be paired with crossing improvements north of the underpass, either at Selkirk Ave or Hekla Ave.

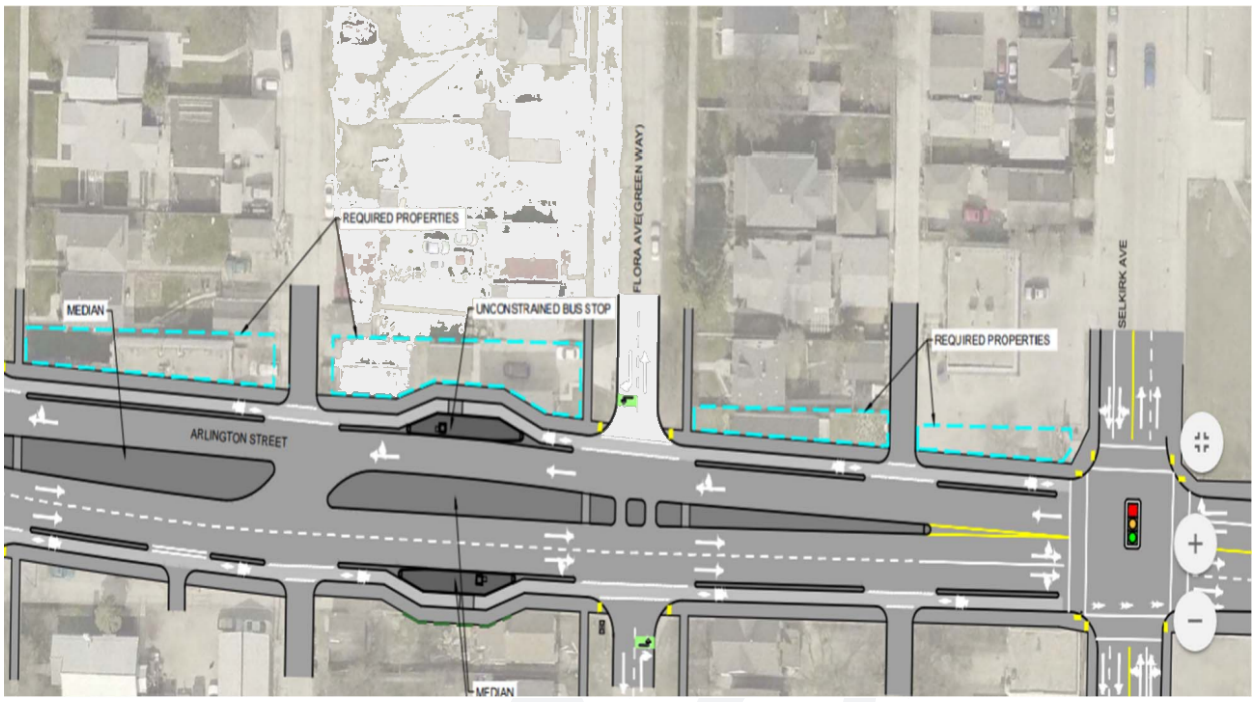
Arlington Bridge Replacement

As plans for the replacement of the Arlington Bridge include protected bike lanes stretching from Selkirk Ave to McDermot Ave, the Manitoba-Tyndall Ave Neighbourhood Greenway will provide a connection to a key crossing of the CPR mainline, either directly through a northern extension of the planned protected bike lanes on Arlington (providing a connection to Inkster Blvd, which would add significant benefits to the Arlington project), or via Flora Ave. Our recommendation is that both the Manitoba and Flora crossings be improved, as there would be considerable benefit in having routes available north and south of Selkirk Ave.

Arch (Enhanced) Option



Flora, Selkirk

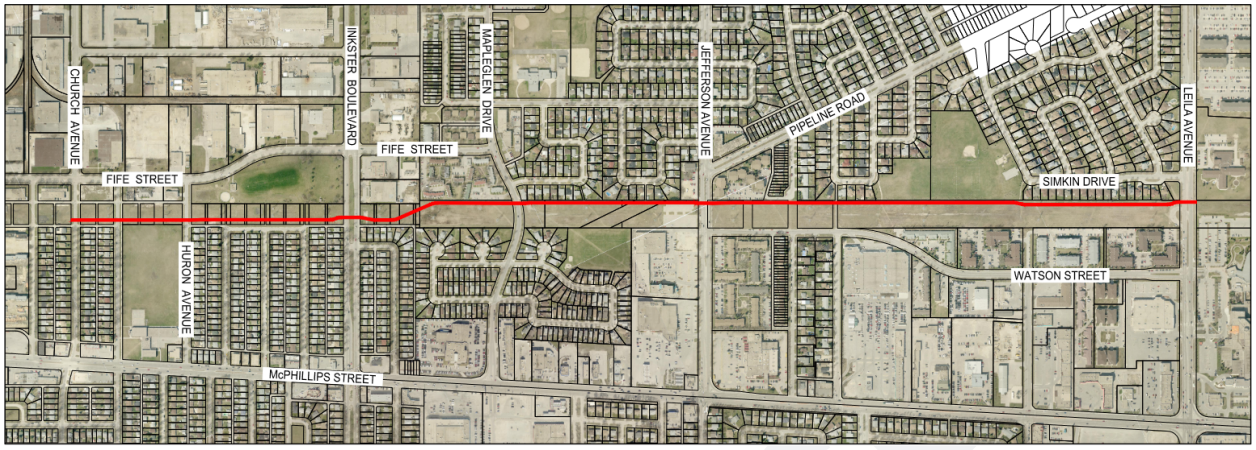


Drafts of the Transportation Master Plan call for removal of the Arlington truck route south of Logan Ave. This should make it easier to develop the protected bike lanes planned for Arlington further north and south along Arlington to create a longer, more direct, and more coherent cycling route along Arlington St.

https://legacy.winnipeg.ca/publicworks/construction/projects/arlingtonBridge.stm

Northwest Hydro Corridor Greenway

The Northwest Hydro Corridor pathway is planned as a major cycling connection into the Leila & McPhillips Regional Mixed Use Centre. It is currently under development, with the expectation that a 4.5 m wide multi-use pathway (with some possible neighbourhood greenway segments) will be developed from the McPhillips Street Station Casino to the future Chief Peguis Trail pathways (and eventually over that and into the future Precinct D development).



There is excellent potential to extend this bikeway south to the Omand's Creek rail crossing, providing a high quality connection all the way to the Assiniboine River parkways.

The Manitoba-Tyndall Ave Neighbourhood Greenway would intersect with the Northwest Hydro Corridor Greenway at McNichol St or just east of McNichol where the hydro corridor passes over Manitoba Ave.

Railway St. & Northwest Hydro Corridor Spur Pathway

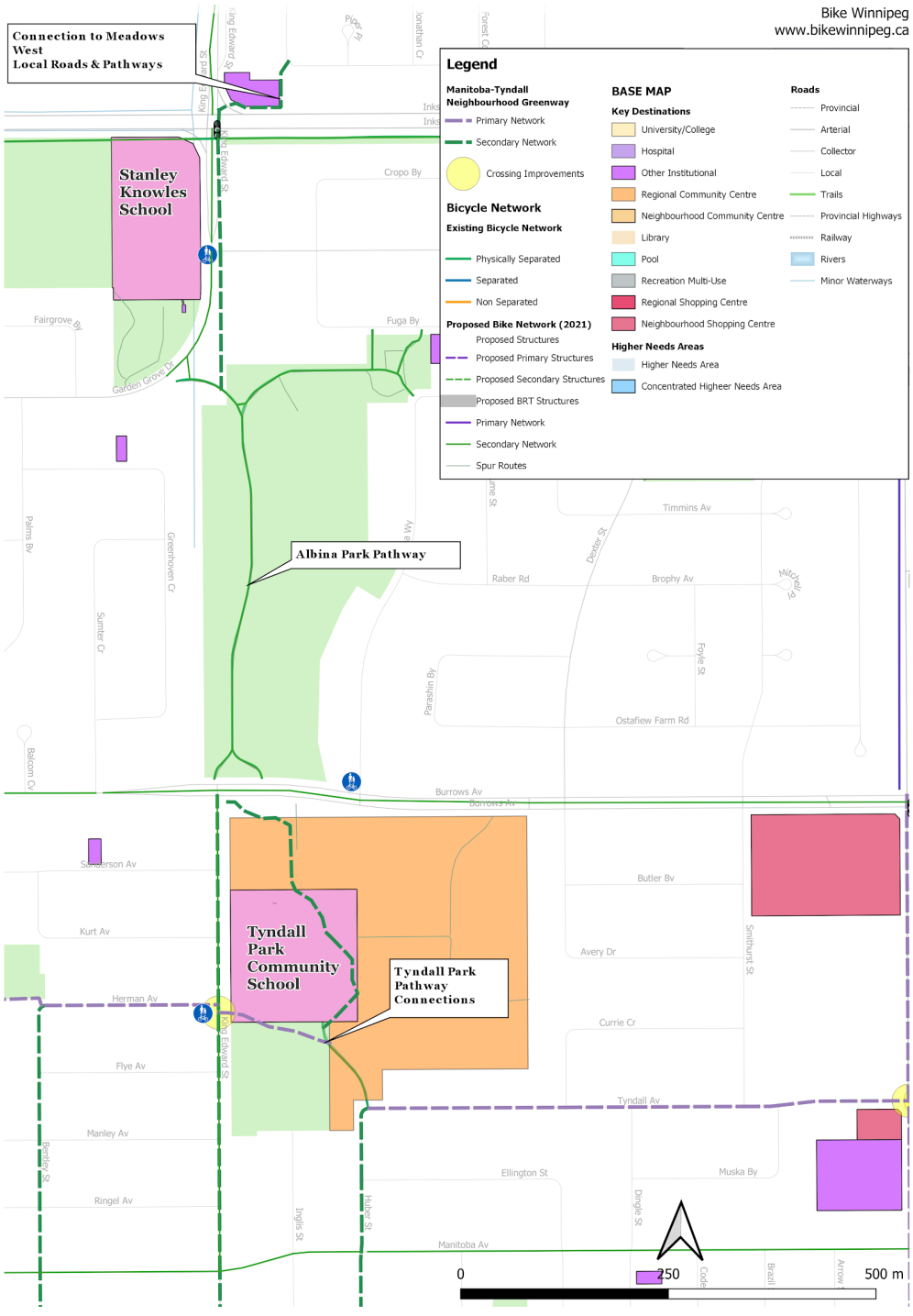
Railway St could provide an excellent connection between Manitoba Ave and the Northwest Hydro Corridor Greenway if a short spur pathway were built in the hydro right of way to the south of the Selkirk Ave back lane connecting to the planned pathway leading through the McPhillips Street Station Casino lot. It would provide a more direct route from the McPhillips Street Station Casino to western destinations as well as to Sisler High School and Northwood Community Centre, and allow users to bypass crossings of Sheppard St.

King Edward St & Alternates

The draft bicycle network released in phase II of the Transportation Master Plan update proposes protected bike lanes along King Edward St between Selkirk Ave and Burrows Ave, where riders would transition to/from a multi-use pathway running north through George Heshka and Albina parks to Garden Grove Dr just south of Inkster Blvd. North of Albina Park, the draft plan calls for the bikeway to transition back to protected bike lanes and to continue northward along Garden Grove Dr and King Edward St, ending at Jefferson Ave.

Map 7
Manitoba-Tyndall Neighbourhood Greenway
Northern King Edward Connections

Bike Winnipeg
www.bikewinnipeg.ca

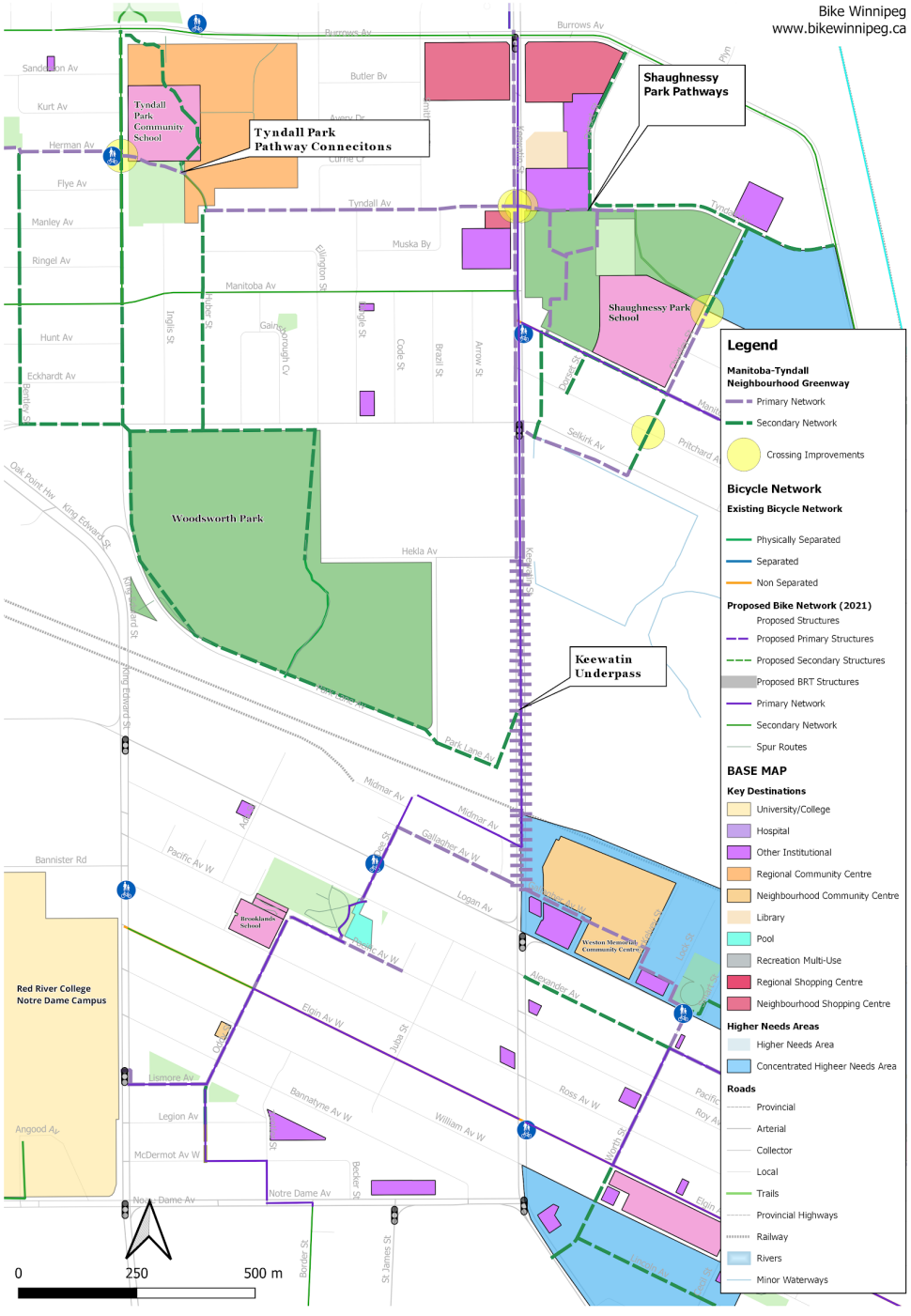


From the northern end of Albina Park, less than 500 m of (two-way) pathway or protected lane built on the east side of Garden Grove Dr, across Inkster Blvd and through the Faizan-e-Aqsa property would be required to provide a connection across Inkster Blvd (and pathway) to the southwest corner of Forest Cove Dr. Forest Cove Dr would in turn provide access to the internal pathways and local streets of the Meadows West and Inkster Gardens neighbourhoods.

Looking south from the Manitoba-Tyndall Ave Greenway, it would be advantageous to try to extend the King Edward bikeway south through Woodsworth to the Keewatin Underpass as part of any plans to develop a multi-use pathway connection through the west side of the Keewatin Underpass.

Map 8
Manitoba-Tyndall Neighbourhood Greenway
Southern King Edward Connections

Bike Winnipeg
www.bikewinnipeg.ca



There are also natural neighbourhood greenway opportunities to the south of the Manitoba-Tyndall Ave Neighbourhood Greenway along Bentley St and Huber St that could easily be combined with a pathway along Selkirk Ave to create a fairly dense network of bikeways through the Garden Grove and Tyndall Park neighbourhoods.

Future extensions of the King Edward St bikeway north as well as potential upgrades to the King Edward Underpass would provide added connectivity.

Huber St

Huber St has excellent potential as a neighbourhood greenway providing north-south connections through southeast Tyndall Park between the Manitoba-Tyndall Ave Neighbourhood Greenway and Woodsworth Park and its potential connections to the planned pathway through the west side of the Keewatin Underpass. Options to develop a pathway connection through Tyndall Park to the George Heshka/Albina Park pathway would further extend the reach of this greenway north to Garden Grove Dr.

Bentley St

Bentley St has good potential as a neighbourhood greenway providing north/south connections through the southwest corner of the Tyndall Park neighbourhood. Running from Selkirk Ave to Herman Ave, a neighbourhood greenway along Bentley St could provide good access to people on the west side of King Edward St, and could provide a connection to pathways along Selkirk Ave (and from there through Woodsworth Park).

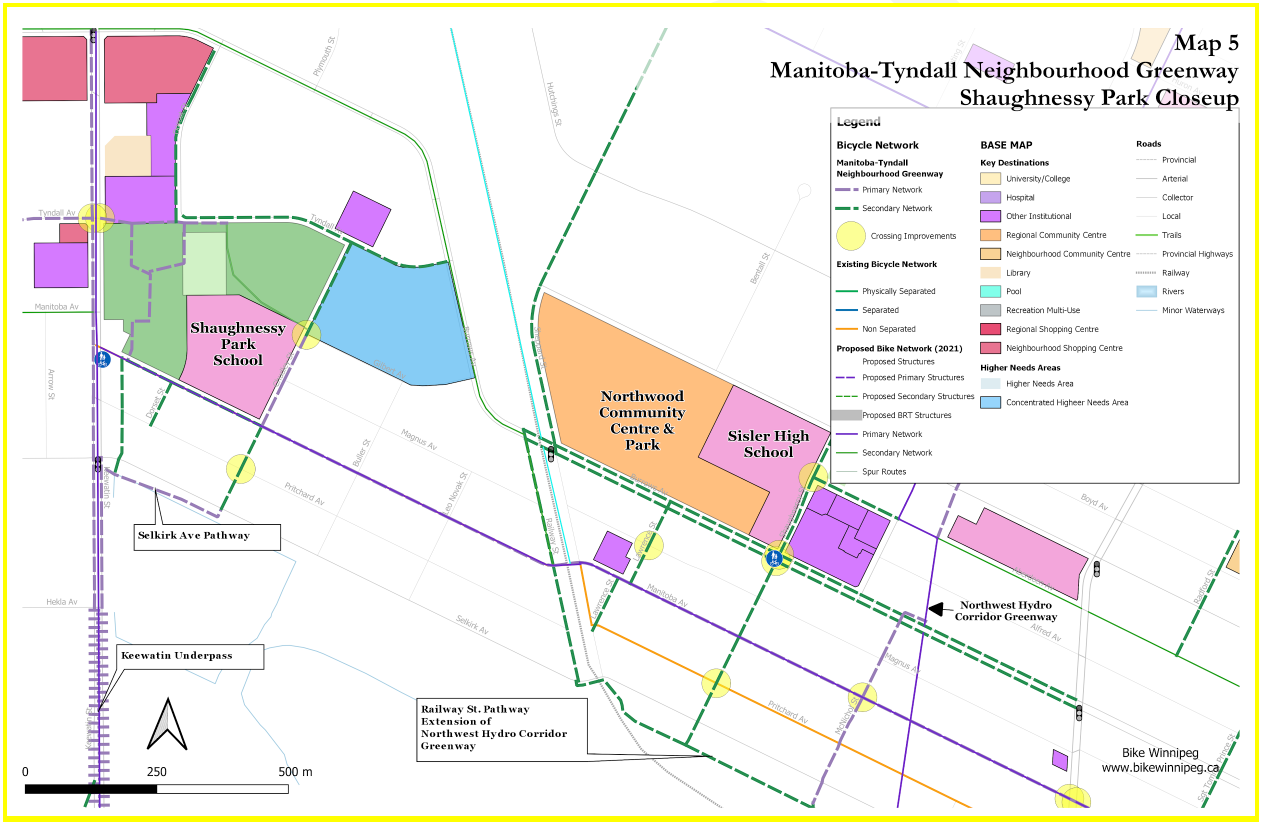
There is currently no sidewalk connection to the transit stop on the northeast corner of Manitoba Ave @ Bentley St. The sidewalks on Bentley St are carried across Selkirk Ave where they connect with the sidewalk on the east side of the Oak Point Highway/Route 90.

1. Curb extensions could be considered at the intersection of Manitoba Ave and Bentley St to reduce crossing distances and increase visibility.
2. A sidewalk connection to the transit stop in the northeast corner of the intersection of Manitoba Ave with Bentley St should be considered.
3. Manitoba Ave is the only stop on Bentley St between Herman Ave and Selkirk Ave.

Burrows Bikeway

Long-term plans for cycling on Burrows Ave are somewhat in flux. The existing 2015 plan called for a neighbourhood greenway treatment along Burrows between the North Winnipeg Parkway and the Northwest Hydro Corridor and for a painted bike lane to be installed between the Arborg rail crossing and Inkster Blvd. No treatment is identified for the section of Burrows between the Northwest Hydro Corridor and the Arbog rail crossing. None of the proposed treatments are well suited to the roadway and traffic conditions on the road segments that they were assigned to, except for the neighbourhood greenway treatment proposed for the short section of Burrows between Main Street and the North Winnipeg Parkway.

In the draft bike network release during phase II of the Transportation Master Plan update, protected bike lanes are being proposed for the segment of Burrows between Railway St and Inkster Blvd. This is a far more appropriate treatment for this section of Burrows Ave, but it really needs to be extended east. Railway St is not a logical endpoint as Northwood Park and Community Centre, as well as Sisler High School are located just 300m and 550 m further along Burrows from the proposed end point at Railway St.

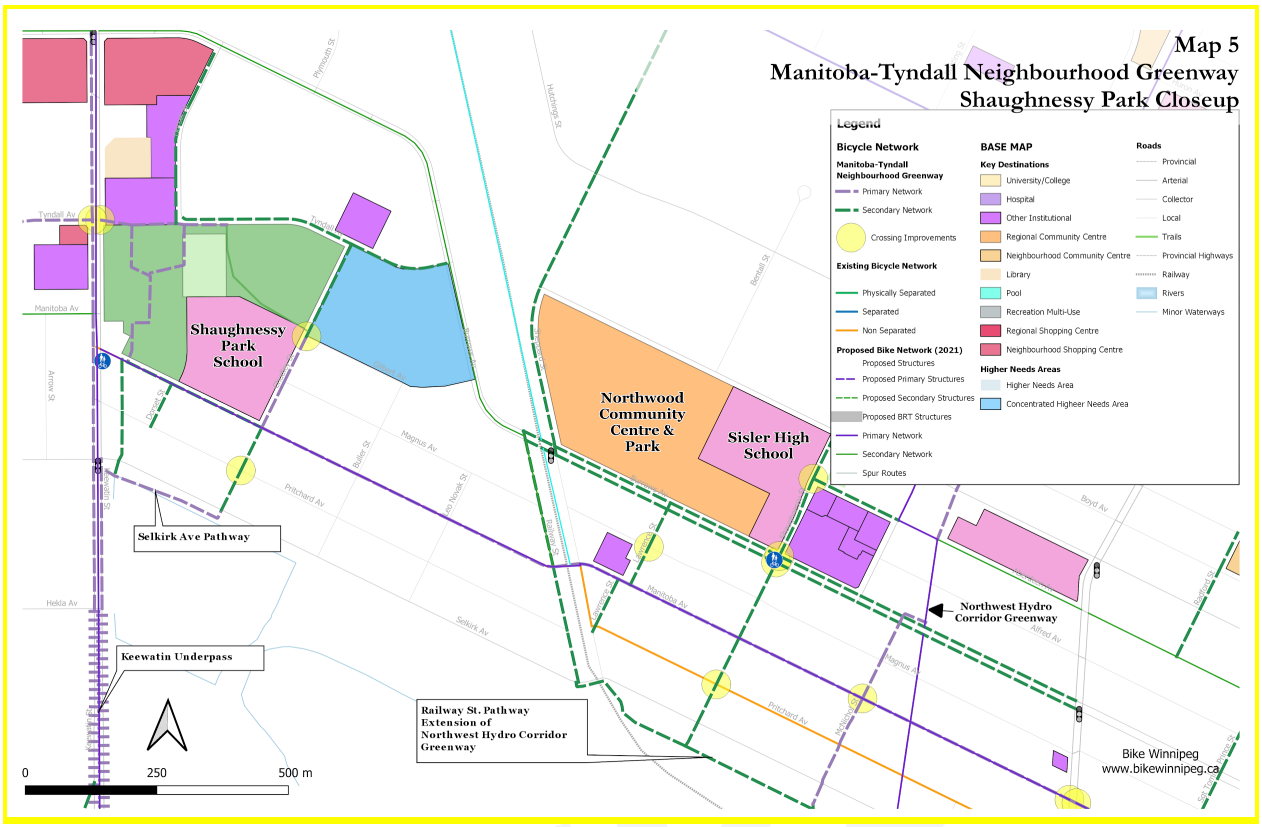


As these are both primary destinations, we recommend that the Burrows Ave protected bike lanes be extended at least as far east as Shaughnessy St, ideally to McPhillips St. where it would connect with the frequent transit route proposed in the 2021 Transit Master Plan. By extending the protected bike lanes along Burrows Ave to Shaughnessy St, a connection to Aberdeen Ave, planned as a neighbourhood greenway and the presumed alternate to Burrows in the Transportation Master Plan draft bike network, could easily be developed.

Selkirk Ave Pathways

Between the Oak Point Highway and Buller St, there is potential to improve cycling along the Selkirk Ave corridor that would enhance the cycling improvements being considered in this paper. In particular, the stretches of Selkirk between the Oak Point Highway and Keewatin (or at least to the northeastern boundary of Woodsworth Park) and between Keewatin St and Buller St could likely allow for the construction of a two-way path along their wide curbside rights of way.

A pathway along Selkirk from Bentley St to Ellington or Keewatin St would provide excellent links into the Tyndall Park neighbourhood, in particular along Walsall St (via Eckhardt Ave), Bentley St, Huber St, and Dingle St. Wide boulevards seem to permit construction on either side of Selkirk Ave, although the south side might be more attractive because of limited roadway and driveway crossings. The value of these connections would be further increased by future connections through Woodsworth Park and Park Lane linked to a cycling connection through the west side of the Keewatin Underpass.



If easements could be secured from CPR's Winnipeg Intermodal Terminal, a second potential pathway could be constructed along the south side of Selkirk Ave from Buller St or Chudley St to Keewatin, ideally matched to a pathway along the east side of Keewatin connecting the Selkirk Ave pathway through the Keewatin St Underpass to Gallagher Ave W where a connection to the pedestrian crossing at Logan and Worth could be developed to complete a connection to the Alexander/Pacific/Elgin neighbourhood greenway.

Keewatin St Pathway (East Side)

With the rich diversity of destinations located on the east side of Keewatin St between Burrows Ave and Manitoba Ave, it would be most unfortunate if the bike network could not provide direct connections to those destinations. Similarly, a lack of direct connectivity between the Weston and Shaughnessy Heights/Burrows-Keewatin neighbourhoods, particularly from the Alexander/Pacific neighbourhood greenway is a major shortcoming of the draft bike network released during phase II of the Transportation Master Plan update.

While the density of roads and driveways on the east side of Keewatin would make it challenging to develop a pathway along the eastern boulevard of Keewatin St, it should be possible to develop a pathway and neighbourhood greenway route just east of Keewatin that would provide the desired access to destinations.

The basic route of this connection would be:

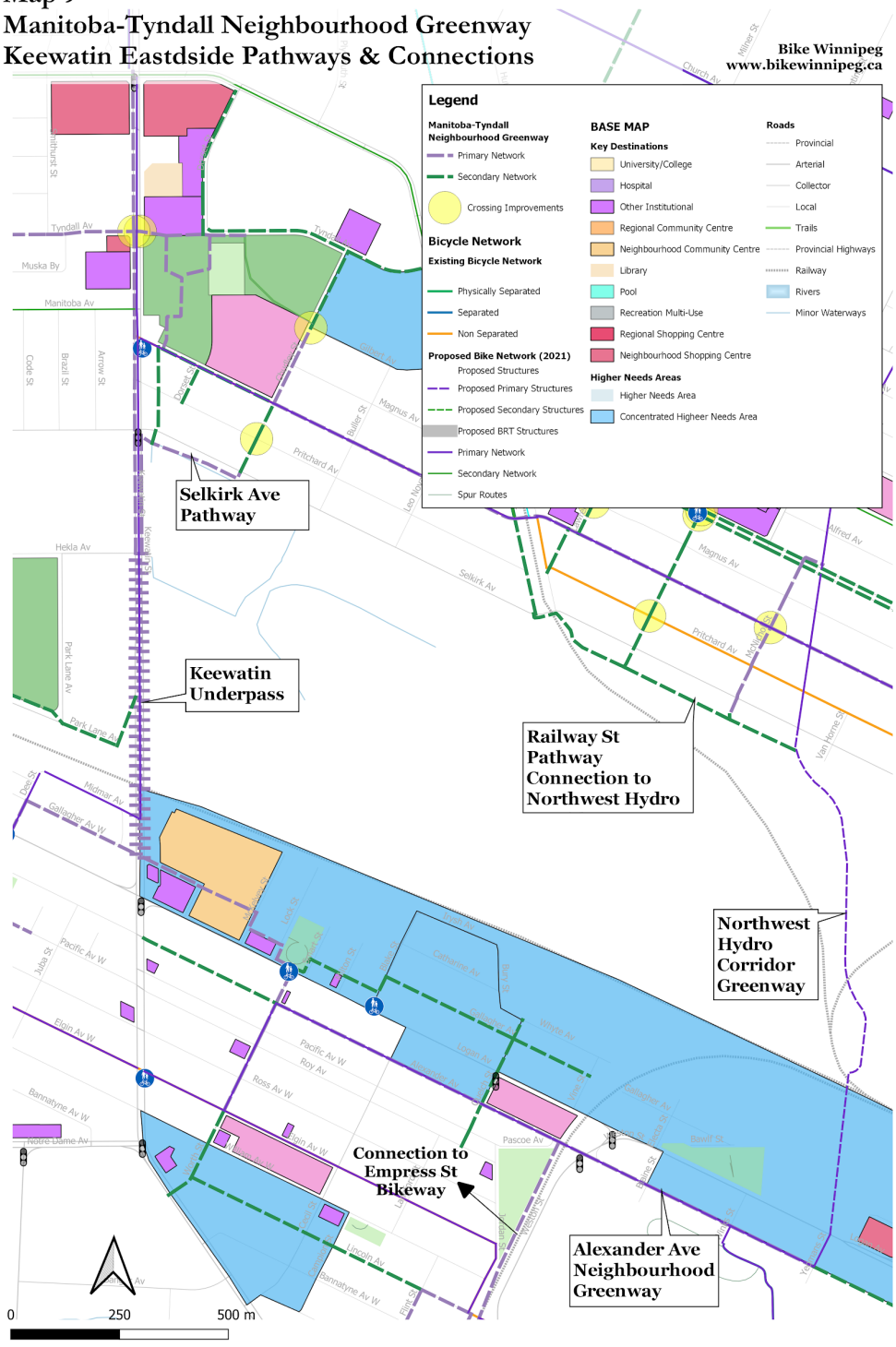
1. Dorset Ave between Burrows and Tyndall Ave,
2. A new pathway through Shaughnessy Park from Dorset @ Tyundall to Manitoba Ave
3. Dorset Ave (or back lanes) to Selkirk Ave,
4. An east side pathway along the boulevard on the east side of Keewatin, with some egress into the CPR's Winnipeg Intermodal Terminal property, especially around the site's entrances and exits,
5. Gallagher Ave W,
6. A new pathway behind Weston Memorial Community Centre to connect from Gallagher Ave W to McKelvey St,
7. A back lane bikeway to connect from McKelvey St to Lock St, and
8. A new or upgraded pathway through Weston Park from the Logan Ave back lane at Lock St to the pedestrian corridor crossing of Logan Ave at Worth St.

A shared sidewalk through the Keewatin Underpass could serve the route until a major rehabilitation allowed for realignment of the roadway to create space for a wider pathway.

Worth and Elgin Ave W/William Ave would provide connections to:

1. Alexander Ave
2. Keewatin Prairie Community School
3. Adolescent parent Centre

Map 9
Manitoba-Tyndall Neighbourhood Greenway
Keewatin Eastside Pathways & Connections



Potential Stakeholders

1. Resident Associations
    a. Tyndall Park
    b. Garden Grove
    c. Burrows Central
    d. Shaughnessy Park
    e. William Whyte
    f. Lord Selkirk Park
    g. Burrows-Keewatin
    h. Weston
    i. Brooklands
2. City of Winnipeg
    a. City Councillors
    b. Transportation & Active Transportation
    c. Transit
    d. Parks
    e. Library Services
    f. Community Services
3. Philippine Canadian Centre of Manitoba
4. Winnipeg Regional Health Authority
5. Manitoba Housing
6. Schools & School Divisions
7. Parent Teacher Associations
8. Social Organizations
9. OURS Winnipeg

Key Discussions on Options/Points for Discussion

1. What destinations have we missed?
2. What connections have we missed?
3. Woodsworth Park Pathways & Connections
    a. Huber St
    b. King Edward St
    c. Bentley St
4. Tyndall Park Connections
    a. George Heshka/Albina Park Pathways
    b. Herman Ave
    c. Tyndall Ave @ Huber St
    d. Along King Edward St
    e. Existing Pathways
5. Dorset Pathway
    a. North of Tyndall Ave
    b. Tyndall Ave to Manitoba Ave
    c. Connections to Selkirk @ Keewatin
6. Selkirk Ave Pathways
    a. Walsall St to Ellington St (and possibly to Keewatin St)
        - North side vs south side
            - Oak Point Highway to King Edward St
            - King Edward St to Ellington (and possibly to Keewatin St)
    b. Keewatin St to Chudley St or Buller St
7. King Edward Street Bikeway
    a. Pathways along King Edward
    b. Potential Neighbourhood Greenways along Huber & Bentley
8. Shaughnessy Park pathways and access points
    a. Potential access to/from the Philippine Canadian Centre of Manitoba
    b. Potential north/south pathway connecting from Dorset St @ Tyndall Ave to Manitoba Ave
    c. Is there any desire/need to improve the existing crushed gravel pathways that connect from Gilbert Ave to Tyndall Ave
9. Finestone Park
    a. Are existing pathways sufficient for now?
10. Keewatin Underpass
    a. Developing a cycling route through the underpass on the west side of Keewatin St

b. Developing a cycling route through the underpass on the east side of Keewatin St
c. Connections on the north side of the underpass
    - Woodsworth Park and Park Lane
    - Hekla Ave
    - Keewatin St
d. Connections on the south side of the underpass
    - Gallagher Ave W
    - Doe/Oddy/Lismore Neighbourhood Greenway
    - Alexander/Pacific/Elgin Neighbourhood Greenway
    - Empress Bikeway
    - Spruce/Clifton Neighbourhood Greenway
    - Wellington Ave
e. Potential for a walk/bike bridge over Keewatin on the south side of the tracks

11. Haddon Park Pathways
    a. Is there any need/desire for a pathway along the south boulevard of Burrows Ave to provide a connection between Benbow Rd and Garden Grove Dr (Garden Grove Child Care Program)?
    b. Will the Egesz back lane suffice for the bikeway, and if not, would a pathway along the park/school boundary connecting Benbow Rd to Haddon Rd be possible?
12. Burrows Ave Protected Bike Lanes
    a. Do these need to be extended further east?
        - Shaughnessy St?
        - Northwest Hydro Corridor Greenway?
        - McPhillips St?
        - Beyond?

Applicable Guidelines and Best Practices

British Columbia
- British Columbia Active Transportation Design Guide (2019 Edition) (PDF, 77.2MB)
- Supplement: British Columbia Active Transportation and Transit-Oriented Development Design Guide (2021 edition) (PDF, 23MB)

City of Ottawa
- Protected Intersection Design Guide (2021)

MassDOT
- Separated Bike Lane Planning & Design Guide

MNDot
- Bicycle Facility Design Manual

City of Vancouver
- All Ages and Abilities Cycling Routes

CROW
- Design Manual for Bicycle Traffic (2016)

TAC
- Geometric Design Guide for Canadian Roads (2017)

FHWA
- Separated Bike Lane Planning & Design Guide
- Bikeway Selection Guide
- Guidebook for Measuring Multimodal Network Connectivity (2018)
- Guidebook for Developing Pedestrian and Bicycle Performance Measures (2016)

NACTO
- Don't Give Up at the Intersection
- Designing for All Ages and Abilities
- Transit Street Design Guide

Other
- Transport Access Manual: A Guide for Measuring Connection Between People and Places

Bicycle Network Principals/Characteristics

Winnipeg's bike network must be designed to provide access to the maximum number of destinations with facilities that minimize the level of traffic stress experienced by potential users. We feel strongly that in order to shift peoples travel habits away from private vehicle use to sustainable transportation, the sustainable modes of transportation must be made more convenient than those based on private vehicle use.

Unfortunately, we do not see the need for a connected, comfortable, and complete bicycle network reflected in the proposed bike network put forward in phase II of the public engagement process. It is our opinion that major revisions to the proposed bicycle network meet the goals set out in the TMP, OurWinnipeg, and the Climate Action Plan.

Three well-formulated network principals/characteristics are provided below. The recommendations that follow should be taken with these network characteristics/principles in mind.

Alta Planning & Design

A Comprehensive Bicycling Network

Bikeways come in multiple forms, including on-street bikeways and off street facilities. Bikeways should form a logical network of facility types that serve transportation and recreation functions and appeal to the full range of users. Characteristics of a high-quality biking network include:

- **Connectivity**: Network serves key destinations and districts. Bikeways should be spaced a half-mile apart at most, forming a minimum grid.
- **Convenience**: System should minimize delay and out-of-direction travel, avoid unnecessary hills, allow for bicyclists to pass each other, and provide wayfinding guidance to other bikeways and popular destinations.
- **Safety**: Design and maintenance should minimize the potential for bodily harm by providing adequate operating space, ensuring bicyclist visibility at intersections, and creating a predictable environment for all path and/or road users.
- **Comfort**: The network should not induce stress. On-street bikeways should provide dedicated space for bicyclists or create a traffic-calmed bicycle priority environment. Off-street bikeways should be adequately buffered from fast-moving vehicles and include enhanced crossing treatments at roadway intersections.

- **Inclusion**: The best cycling networks enable riders of all ages and abilities. They facilitate safe, comfortable, and convenient routes for all community members, and are supported by policies, practices, and programs to encourage people to cycle. Alta is a leader in planning all ages and abilities facilities.
- **Smooth transitions**: Bicyclists should be able to move easily from on-street facilities to off-street pathways and vice versa. Bicyclists should not be subject to unnecessary conflicts, such as navigating large parking lots to get from a pathway to bike parking.

FHWA Guidebook for Measuring Multimodal Network Connectivity

Network completeness – How Much of the transportation network is available to bicyclists and pedestrians?
Network density – How dense are the available links and nodes of the bicycle and pedestrian network?
Route directness – How far out of their way do users have to travel to find a facility they can or want to use?
Access to destinations – What Destinations can be reached using the transportation network?
Network quality – How does the network support users of varying levels of experience, ages, abilities, and comfort with bicycling or walking?

CROW Design Manual for Bicycle Traffic

Requirements for the main cycle network

Cohesion[10]

Cohesion is essentially about ensuring that the cycle network links all origins and destinations that cyclists may have, providing door-to-door connections that keep traffic stress and detours within limits that people will find acceptable.

Cohesion is mainly related to grid size, the distance between (more or less) parallel connections in a network and the extent of interconnectedness of the network as determined by the number of interchange points (or junctions) between network branches.

[10] Design Manual for Bicycle Traffic, CROW, pg 64-65

Cohesion also implies that the cycle network, and the elements that make it up (cycleways, low traffic streets, cycle paths, et cetera) should be joined up in a consistent and legible way. Interchanges between branches and between cycling facilities need to be seamless.

- "If around 70% of the cycle route kilometers can be covered through the main cycle network, it may be inferred from this that the network is fulfilling transport needs."
- "A grid size of 300-500m is usually assumed within built up areas;"

Directness[11]

- Directness refers to both directness in terms of distance and directness in terms of time.
- To encourage the use of bikes, bicycle routes should be more direct than vehicle routes.
- Giving cyclists priority at traffic signals can boost the competitive position of the cyclist.
- Minimizing time lost at traffic signals and crossings is critical. Reducing the number of traffic signals (or poorly timed traffic signals) and improving right of way measures are key ways to improve cyclist directness.
- At uncontrolled junctions where cyclists have to give way to passing motorized traffic, the wait time can be driven down considerably by installing a refuge island.

Safety[12]

The CROW Design Manual provides the following requirements with regard to road safety for cyclists:

- Avoiding conflicts with intersecting traffic
- Segregating vehicle types
- Reducing speeds at points of conflict
- Ensuring recognizable road categories
- Ensuring uniform traffic situations

Additionally, the following (Traffic) Health requirements are listed:

- Ensuring minimal pollution due to emissions and noise
- Ensuring minimal physiological stress
- Ensuring minimal stress level
    - Segregated cycle paths need to be available along busy roads.

[11] Design Manual for Bicycle Traffic, CROW, pg 65-67
[12] Design Manual for Bicycle Traffic, CROW, pg 67

Comfort[13]

- Avoiding traffic nuisance
- Avoiding or limiting stops
- Optimizing wayfinding
- Comprehensibility
- Even road surfaces that are enjoyable to ride on
- Limiting the amount or turning off

Attractiveness[14]

- Personal safety and an attractive environment are fundamental factors contribute to making cycling enjoyable
- Utilitarian connections pass through lively areas, in a varied environment, with a well-maintained public space, and that the connections are lit as much as possible.

[13] Design Manual for Bicycle Traffic, CROW, pg 69-70
[14] Design Manual for Bicycle Traffic, CROW, pg 70

Guidance on Bikeway Selection

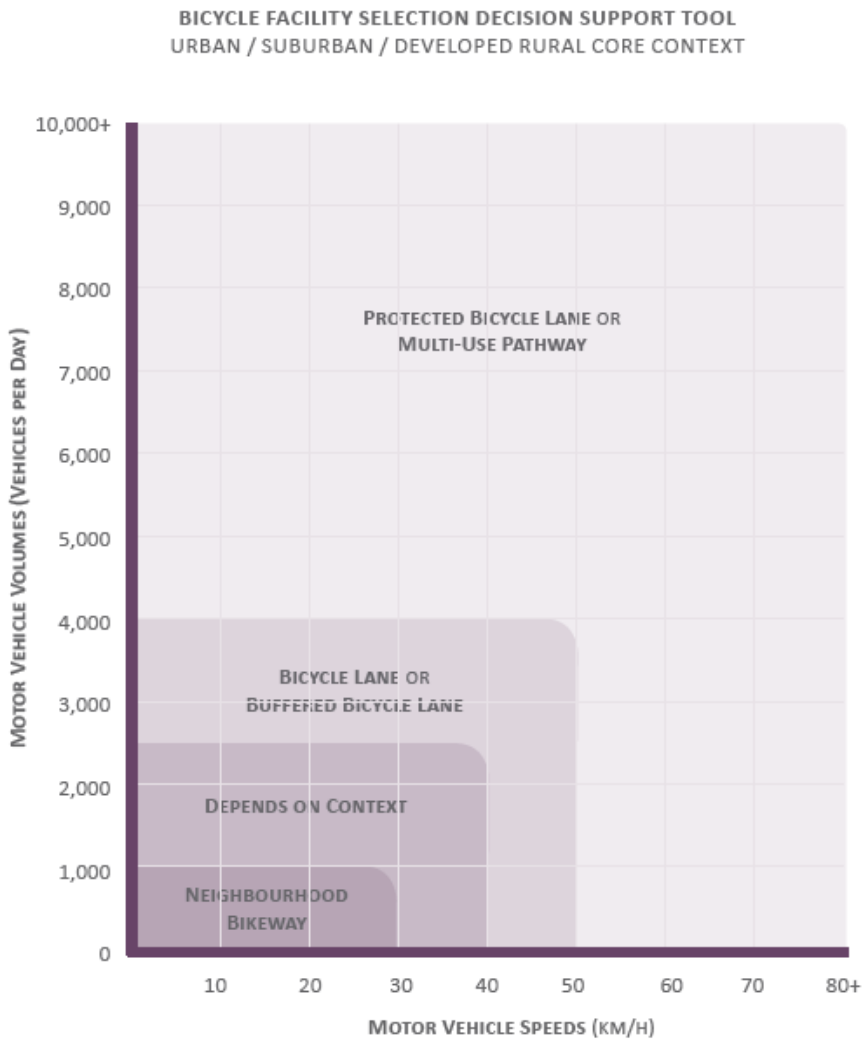


FIGURE D-29 // BICYCLE FACILITY SELECTION DECISION SUPPORT TOOL - URBAN / SUBURBAN / DEVELOPED URBAN CORE CONTEXT

British Columbia Active Transportation Design Guide, 2019

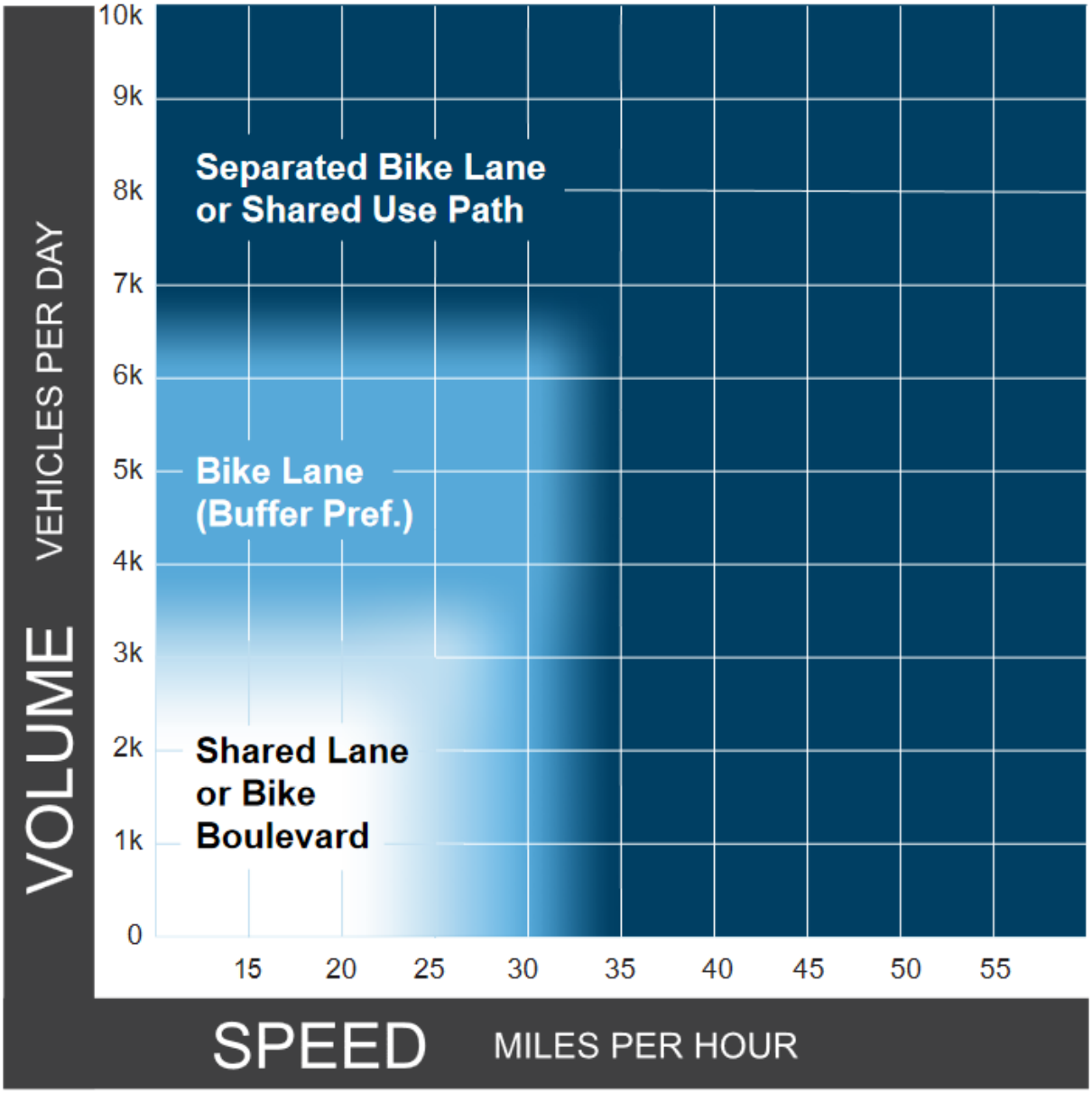
TABLE D-15 // PROTECTED BICYCLE LANE CONFIGURATIONS ON TWO-WAY ROADS

Source: Adapted from MassDot Separated Bike Lane Planning & Design Guide

	ONE-WAY PROTECTED BICYCLE LANE ON ONE SIDE OF THE ROAD	ONE-WAY PROTECTED BICYCLE LANE ON EACH SIDE OF THE ROAD	TWO-WAY PROTECTED BICYCLE LANE
			
ACCESS TO DESTINATIONS	Provides bicycle access to only one side of the road.	Provides full access to both sides of the road.	Provides bicycle access to only one side of the road.
NETWORK CONNECTIVITY	Does not address contraflow travel and may result in wrong way cycling.	Accommodates two-way bicycle travel.	Accommodates two-way bicycle travel, though contraflow travel through signals may be impacted by signal timing.
CONFLICT POINTS	If bicycles and motor vehicles are travelling in the same direction directly adjacent to each other, the number of conflicts may be reduced as travel behaviour is more predictable; however, turning movements yielding to bicycles remains the primary conflict; as a result, parking should be restricted close to intersections to ensure sightlines are unobstructed.	As bicycles and motor vehicles are travelling in the same direction, the number of conflicts may be reduced as travel behaviour is more predictable; however, turning movements yielding to bicycles remains the primary conflict, as a result, parking should be restricted close to intersections to ensure sightlines are unobstructed.	There is significant potential for conflict between turning motor vehicles and bicycles. Traffic signalization is recommended to mitigate this risk. Conflicting movements should be prohibited by providing separate signal phases for bicycle users and turning motor vehicles. If this is not possible, conflicts should be mitigated with clear signage and pavement markings indicating right-of-way. This should only be considered for short segments or where there is limited to no access or driveways
INTERSECTION OPERATIONS	Can likely make use of existing signals and phasing.	Can likely make use of existing signals and phasing.	Typically requires additional signal equipment for the contraflow bicycle lane.
IMPACT	Requires less width when compared to the other configurations.	Requires more width and impacts both sides of the road	Requires more width when compared to the uni-directional configuration on one side.

British Columbia Active Transportation Design Guide, 2019

Figure 9: Preferred Bikeway Type for Urban, Urban Core, Suburban and Rural Town Contexts



Pg 23, Bikeway Selection Guide, US Department of Transportation, Federal Highway Administration, 2021

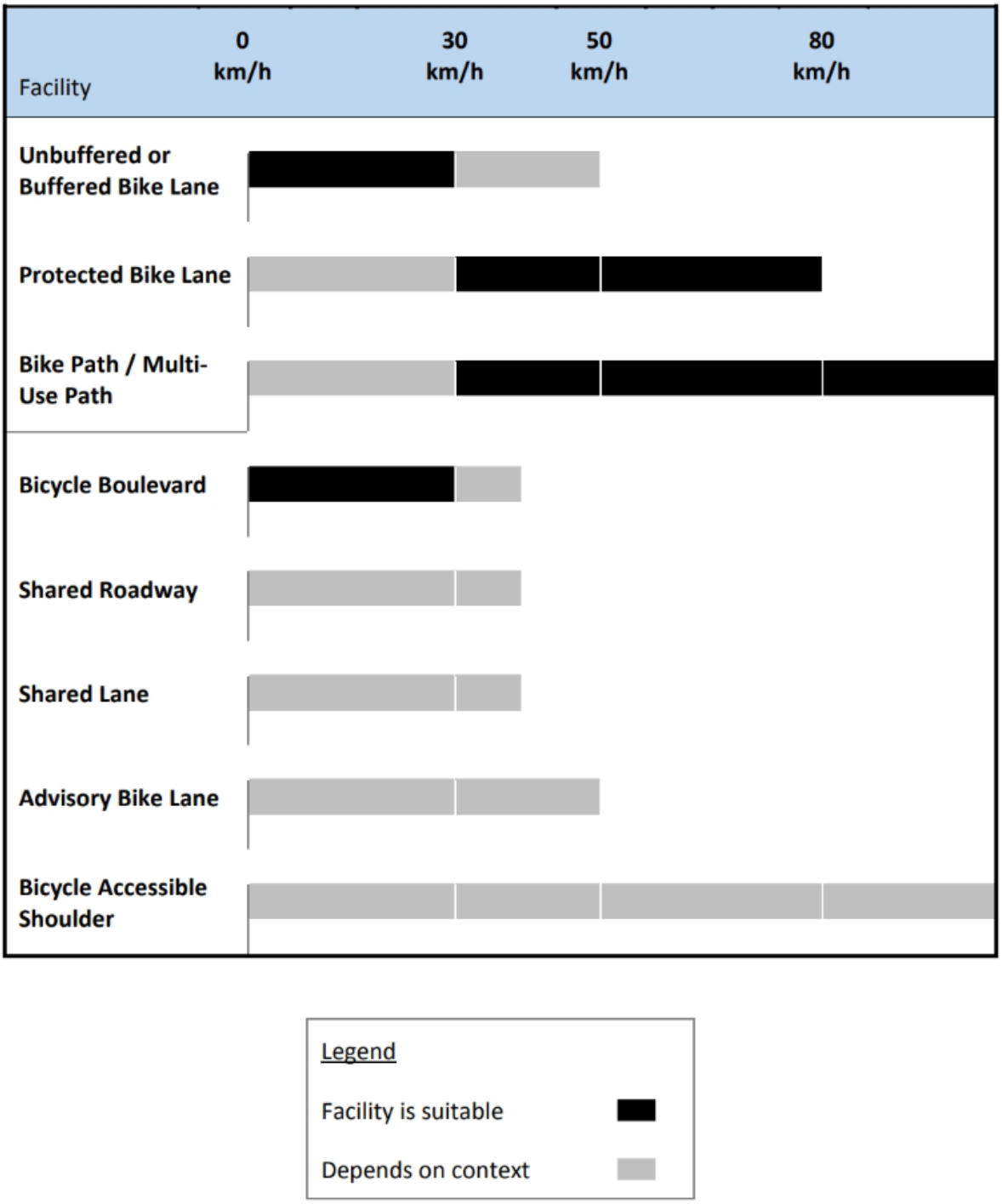


Figure 5.4.1: Bikeway Facilities, by Roadway Posted Speed

Source: Transportation Association of Canada Geometric Design Guide for Canadian Roads (2017)

Contextual Guidance for Selecting All Ages & Abilities Bikeways

Roadway Context				All Ages & Abilities Bicycle Facility
Target Motor Vehicle Speed*	Target Motor Vehicle Volume (ADT)	Motor Vehicle Lanes	Key Operational Considerations	
Any		*Any*	*Any of the following:* high curbside activity, frequent buses, motor vehicle congestion, or turning conflicts‡	**Protected Bicycle Lane**
< 10 mph	Less relevant	No centerline, or single lane one-way	Pedestrians share the roadway	**Shared Street**
≤ 20 mph	≤ 1,000 – 2,000		< 50 motor vehicles per hour in the peak direction at peak hour	**Bicycle Boulevard**
≤ 25 mph	≤ 500 – 1,500			
	≤ 1,500 – 3,000	Single lane each direction, or single lane one-way	Low curbside activity, or low congestion pressure	**Conventional or Buffered Bicycle Lane, or Protected Bicycle Lane**
	≤ 3,000 – 6,000			**Buffered or Protected Bicycle Lane**
	Greater than 6,000			**Protected Bicycle Lane**
	Any	Multiple lanes per direction		
Greater than 26 mph†	≤ 6,000	Single lane each direction	Low curbside activity, or low congestion pressure	**Protected Bicycle Lane, or Reduce Speed**
		Multiple lanes per direction		**Protected Bicycle Lane, or Reduce to Single Lane & Reduce Speed**
	Greater than 6,000	*Any*	*Any*	**Protected Bicycle Lane**
High-speed limited access roadways, natural corridors, or geographic edge conditions with limited conflicts		*Any*	High pedestrian volume	**Bike Path with Separate Walkway or Protected Bicycle Lane**
			Low pedestrian volume	**Shared-Use Path or Protected Bicycle Lane**

Choosing an All Ages & Abilities Bicycle Facility, NACTO, online, accessed on May 18, 2021

Guidance on Protected Bicycle Lane Widths

One-Way Protected Bike Lane

Crow			
Rush Hour Traffic (bikes/hr)	0-150	150-750	>750
Width	2.00 m	2.50-3.00 m	3.50-4.00 m

TAC	
Recommended Lower Limit	1.8 m
Recommended Upper Limit	2.5 m

MassDOT			
Rush Hour Traffic (bikes/hr)	0-150	150-750	>750
Recommended Width	2.00 m	2.50 m	3.00 m

FHWA	
Preferred Width	2.13 m

MNDOT			
Rush Hour Traffic (bikes/hr)	0-150	150-750	>750
Preferred Width	2.00 m	2.50 m	3.00 m

Two-way Protected Bike Lane

Crow				
Rush Hour Bike Traffic	0-50	50-150	150-350	>350
Width	2.50 m	2.50-3.00 m	3.50-4.00 m	4.50 m

TAC	
Recommended Lower Limit	3.0 m

Recommended Upper Limit	3.6 m

MassDOT			
Rush Hour Traffic (bikes/hr)	0-150	150-750	>750
Recommended Width	3.00 m	3.35 m	4.25 m

FHWA	
Preferred Width	3.66 m

MNDOT			
Rush Hour Traffic (bikes/hr)	0-150	150-750	>750
Preferred Width	3.35 m	3.66 m	4.88 m

It is worth noting that the Transport Association of Canada provided the following guidance on the width of protected bike lanes:

> The practical lower limit of the width of a unidirectional protected bike lane including the delineator portion is 1.8 m, based on a minimum delineator width of 0.3 m. This allows for the cyclist operating envelope and horizontal clearance from curb-type delineators, but does not facilitate passing within the lane. The practical lower limit dimensions should be used only under constrained conditions and for short distances (e.g., less than 100 m), and when reasonable consideration has been given to context and trade-offs as described in Section 5.4.2. (Chapter 5, pg. 17 of the TAC Geometric Design Guide for Canadian Roads)

Guidance on Protected Intersections

TAC

Setback Distance: 6m (one car length)

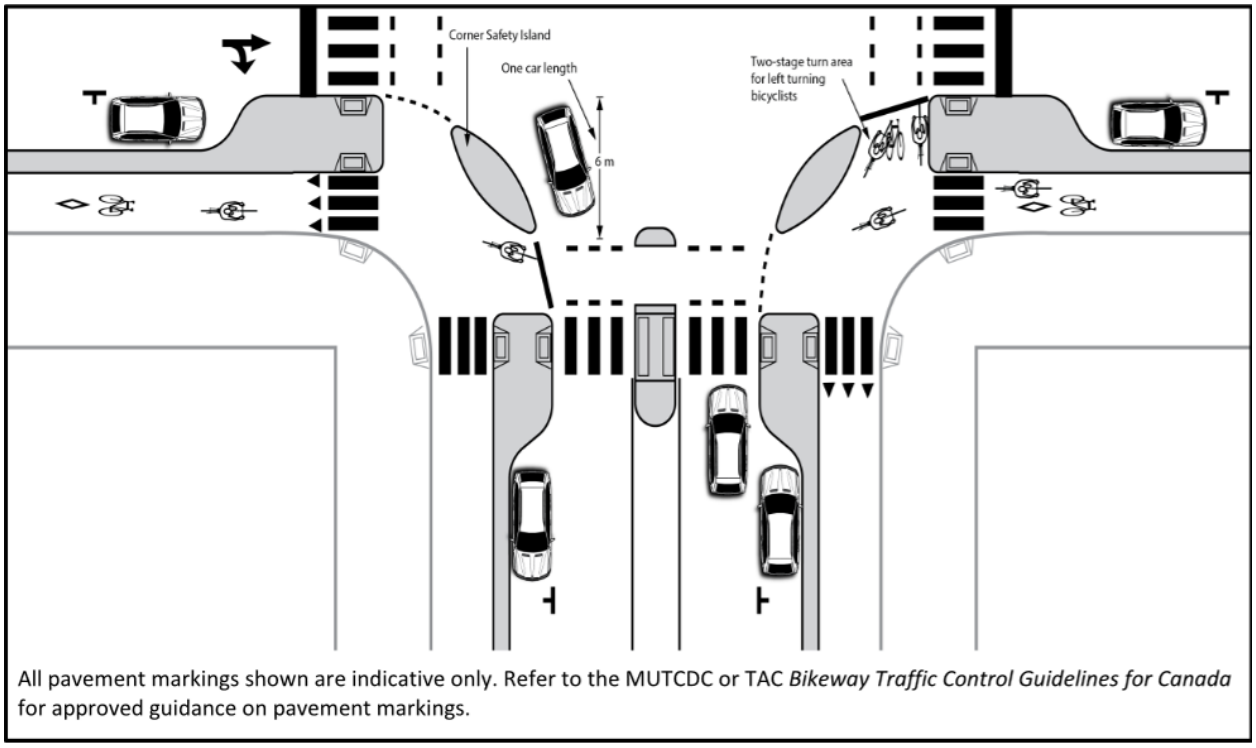
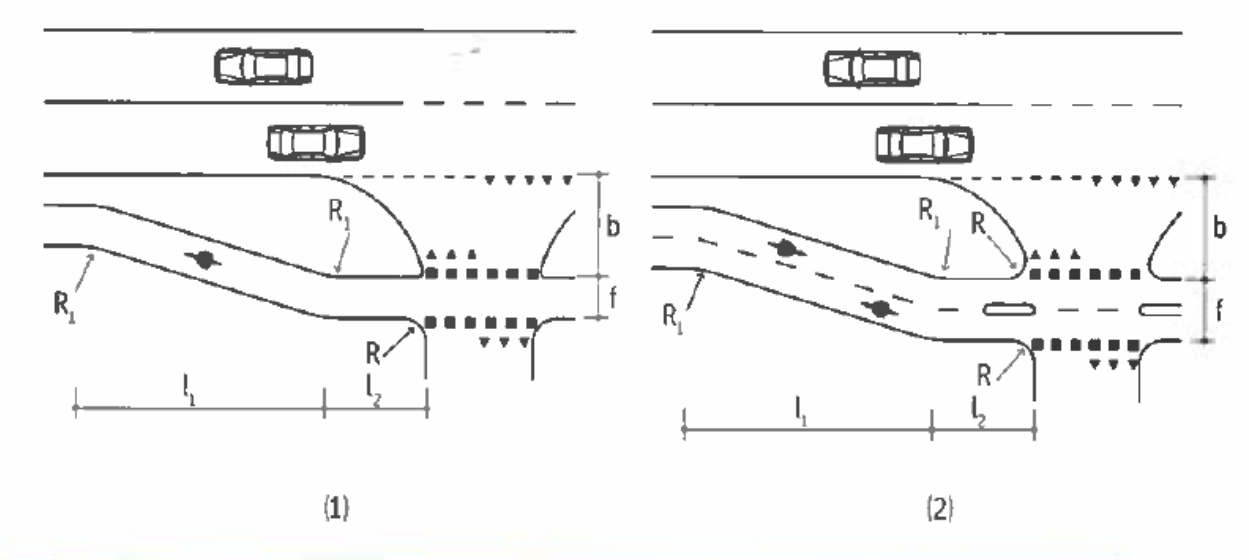


Figure 5.6.9 Protected Intersection

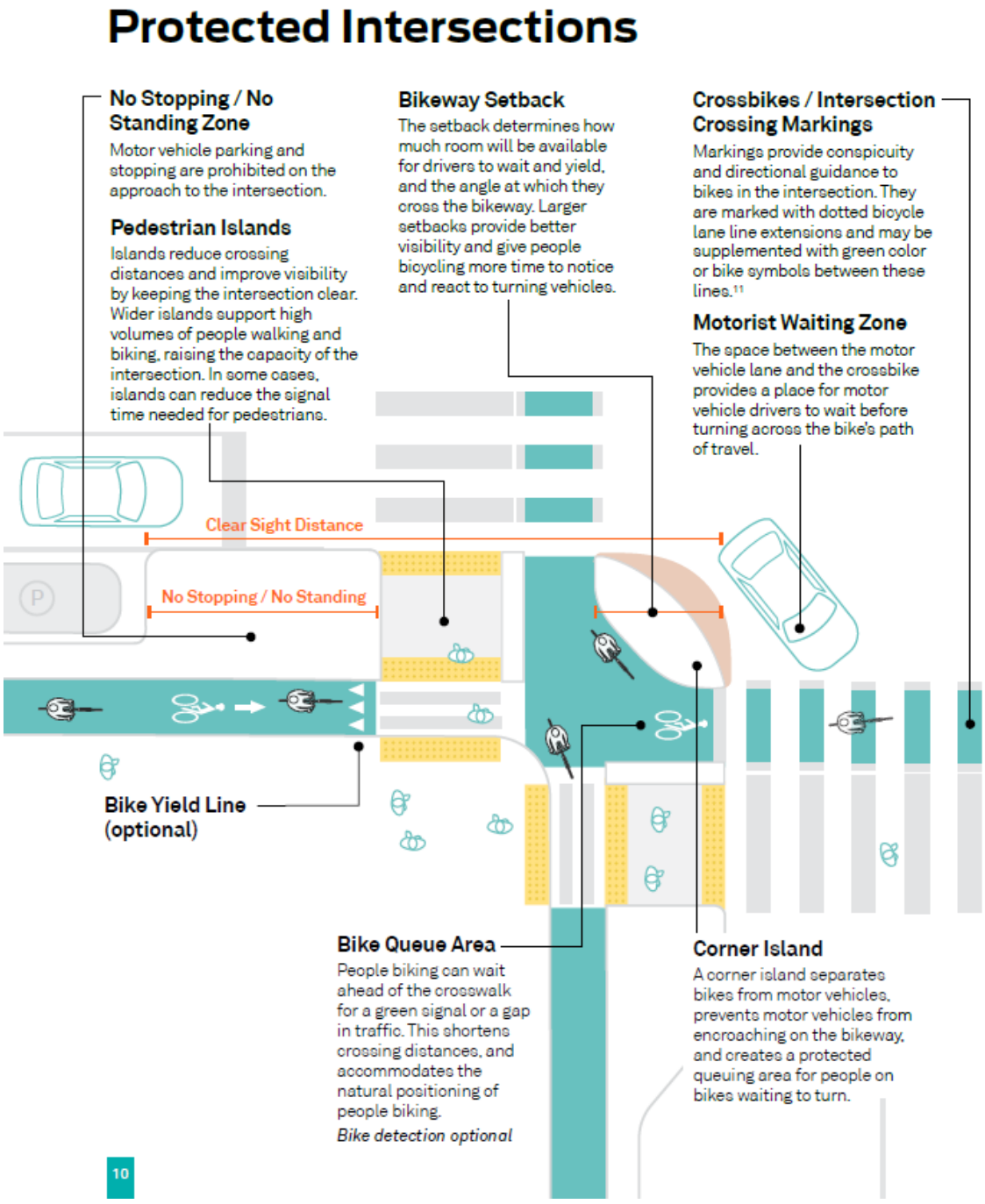
CROW

Setback Distance: 5m



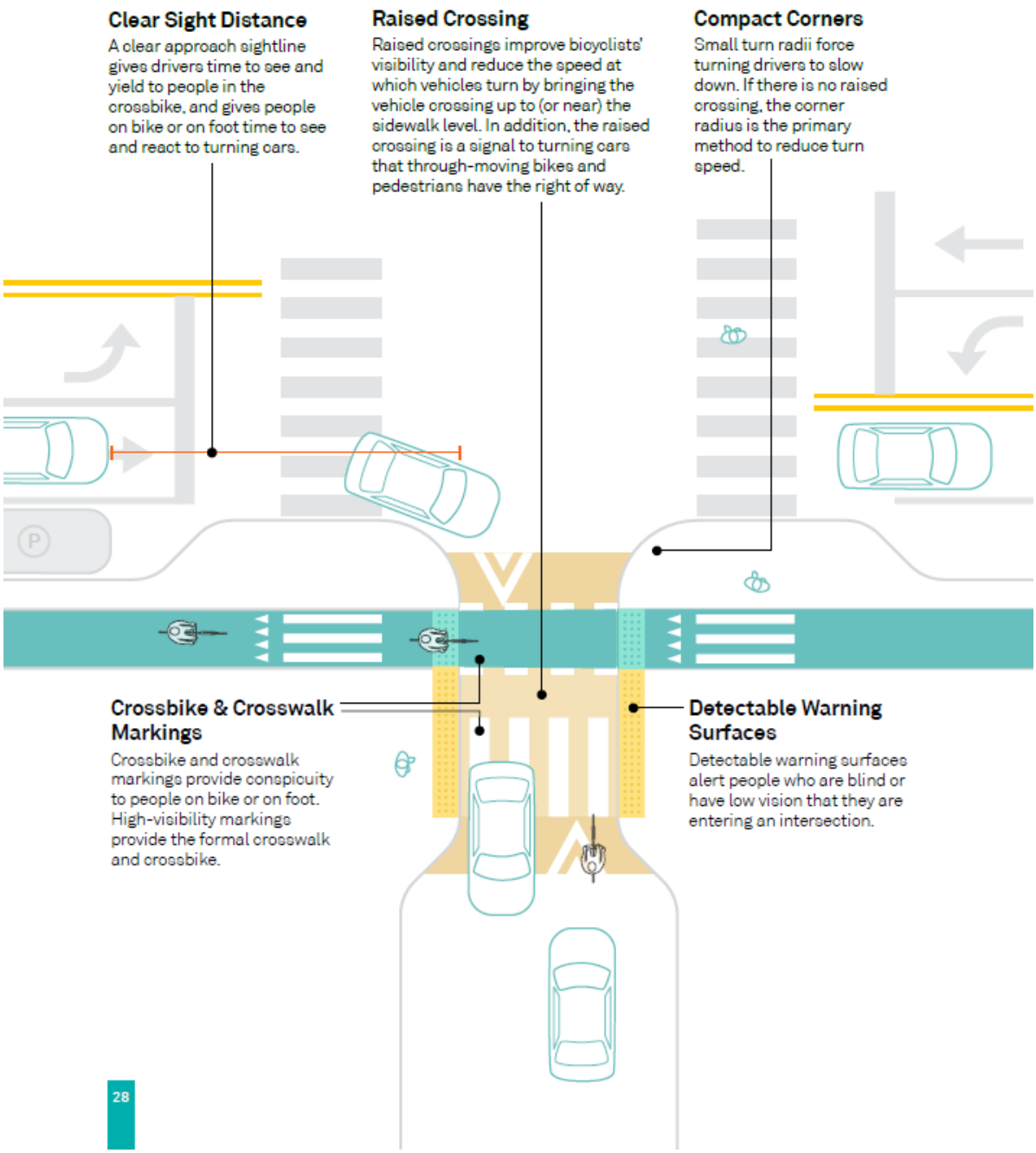
NACTO

Setback Distance: 4.25m → 6.1m



Don't Give Up at the Intersection: Designing All Ages and Abilities Bike Crossings; pg. 10; National Association of City Transportation Officials; May 2019.

Minor Street Crossings



Don't Give Up at the Intersection: Designing All Ages and Abilities Bike Crossings; pg. 28; National Association of City Transportation Officials; May 2019.