



**MORE PEOPLE BIKING  
MORE OFTEN**

## **Wolseley to Downtown Walk/Bike Project**

**Bike Winnipeg Comments and Recommendations Regarding Preliminary Design – June 2019**

### **General**

The Pedestrian and Cycling strategies call for bikeways along Westminster/Young/Balmoral/Granite Way from Dominion to Osborne, and along Wolseley from Omands Creek to Furby. The Wolseley neighbourhood has embraced some of the highest levels of sustainable transportation seen in the city. Residents of the West Broadway neighbourhood have some of the lowest car ownership rates in the city. The residents of these neighbourhoods, and the thousands of Winnipeggers who travel through these neighbourhoods have displayed a strong demand to create a complete, connected, and dense bicycle network as directed in the Pedestrian and Cycling Strategies. This project needs to deliver on that demand.

The Wolseley to Downtown Walk Bike Project provides an opportunity to turn this vision into reality. If we truly want to embrace the city's strategic goal of providing "a transportation system that supports active, accessible and healthy lifestyle options", then we must use this opportunity to reshape the transportation system in Wolseley and West Broadway from one centered on travel by car to one that provides quality options to people on foot, bike, or riding on transit.

We need to ensure that the designs brought forward by this process meet the needs of the future we desire for our city in terms of livability, equity, sustainability, and transportation choice. Design choices must go beyond minimal improvements to walking and cycling conditions by embracing best practices in walking and cycling infrastructure and traffic calming to substantially improve safety for all users of the transportation system, and to substantially improve comfort levels and mobility for people on foot, bike, or public transit. Designs must be appropriate for all ages and abilities, they need to provide mobility for trips of all purposes (not just the commute to work/school), selected cycling facilities must be consistent along routes, and they need to be designed to meet the capacities that we expect to see as we meet our climate, health, and mobility targets.

The recommendations in this document are conceptual only, and represent our best effort to meet the desire for improved walking and cycling called for through the first phase of public engagement under this project. Widths and treatments may need to be modified as information becomes available. We are open to dialogue and suggestions that improve the designs that this project will provide., but our goal is to provide safe transportation options..., we feel that the final designs chosen for the neighbourhoods need to meet legitimate, well expressed demands for improved safety, better bike network connections, and cycling comfort throughout the areas covered by this report.

## Bike Lane Design Guidelines

We ask that the city consult the following guidelines as they move forward with bike lane designs.

Massachusetts Department of Transportation (2015) Separated Bike Lane Planning & Design Guidelines

National Association of City Transportation Officials (2019) Don't Give Up at the Intersection: Designing All Ages and Abilities Bicycle Crossings

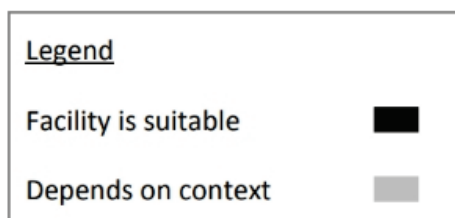
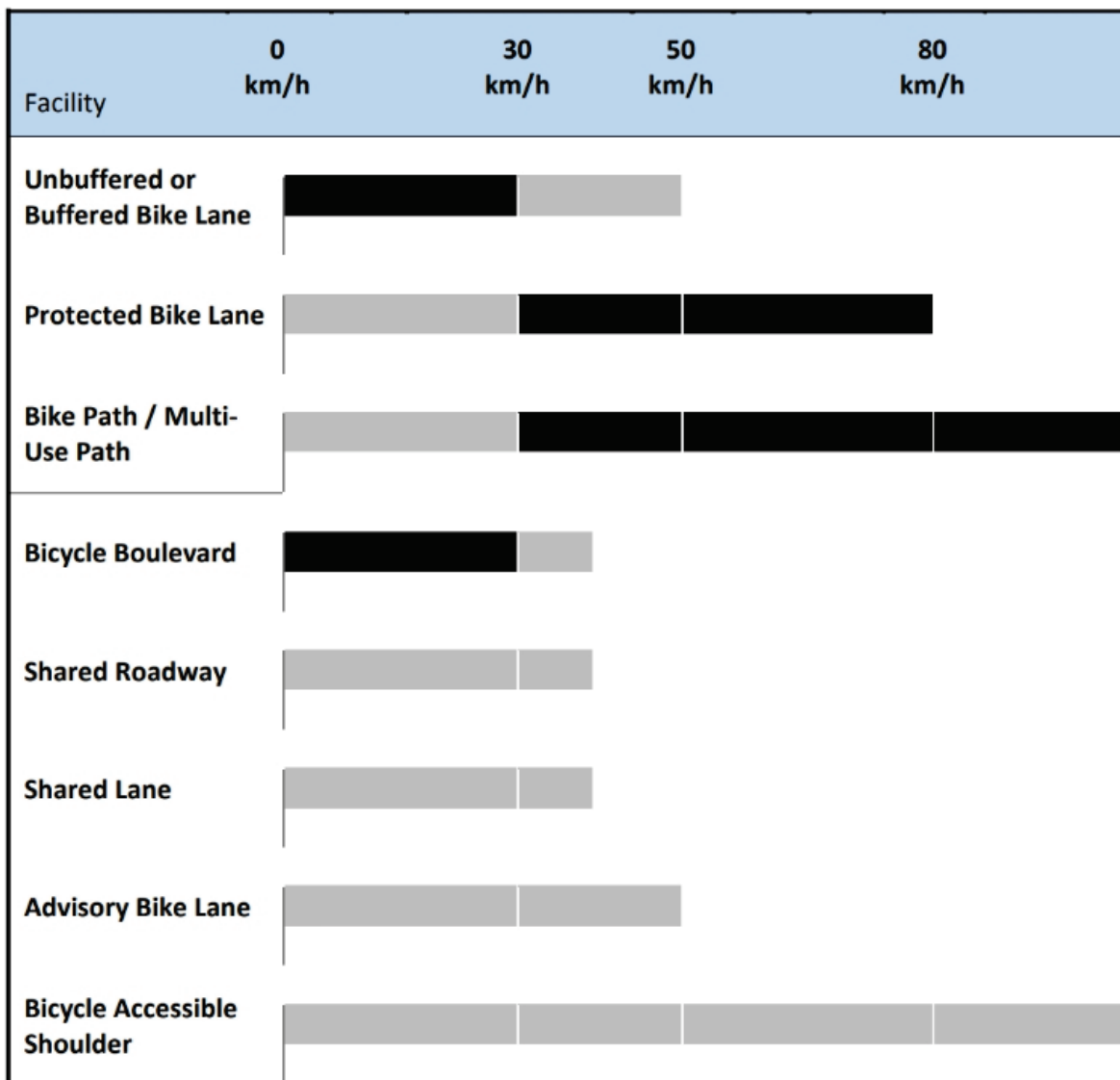
[Don't Give Up at the Intersection \(link is external\)](#) provides intersection safety design guidance by focusing on three strategies to make walking and biking more comfortable for roadway users of all ages and abilities:

- reduce turning speeds,
- increase visibility of people bicycling, and
- give priority at intersections to people bicycling.

National Association of City Transportation Officials (2019) Designing for All Ages and Abilities: Contextual Guidance for High-Comfort Bicycle Facilities

### Selection Criteria

Guidance from both the Transportation Association of Canada (TAC) and the National Association of City Transportation Officials (NACTO) suggest that protected



**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 Max. 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 <sup>‡</sup>	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		Low curbside activity, or low congestion pressure	Conventional or Buffered Bicycle Lane, or Protected Bicycle Lane
	≤ 1,500 – 3,000	Single lane each direction, or single lane one-way		Buffered or Protected Bicycle Lane
	≤ 3,000 – 6,000			Protected Bicycle Lane
	Greater than 6,000	Multiple lanes per direction		
Greater than 26 mph <sup>†</sup>	≤ 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, or Bicycle Path
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

\* While posted or 85th percentile motor vehicle speed are commonly used design speed targets, 95th percentile speed captures high-end speeding, which causes greater stress to bicyclists and more frequent passing events. Setting target speed based on this threshold results in a higher level of bicycling comfort for the full range of riders.

<sup>†</sup> Setting 25 mph as a motor vehicle speed threshold for providing protected bikeways is consistent with many cities' traffic safety and Vision Zero policies. However, some cities use a 30 mph posted speed as a threshold for protected bikeways, consistent with providing Level of Traffic Stress level 2 (LTS 2) that can effectively reduce stress and accommodate more types of riders.<sup>18</sup>

<sup>‡</sup> Operational factors that lead to bikeway conflicts are reasons to provide protected bike lanes regardless of motor vehicle speed and volume.

Source: NACTO (2019) Designing for All Ages and Abilities: Contextual Guidance for High-Comfort Bicycle Facilities

## Protected Bike Lanes & Intersections

We wish to see designs that incorporate protected designs wherever higher traffic speeds, traffic volumes, or bus traffic are expected. Protected bike lanes provide people in bikes with the level of comfort and safety needed to attract the “interested but concerned” cyclist type that the city’s

Pedestrian and Cycling Strategies have identified as a key target group to be encouraged out of their cars and onto their bikes to meet their transportation needs.

### Bike Lane Widths & Capacity

It is critical that the cycling facilities selected for the Wolseley to Downtown Walk/Bike project be matched to:

- User expectations for comfort and safety
- Expected speed and volume of motorized traffic
- Expected volume of bicycle traffic

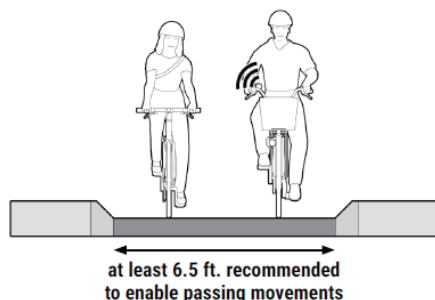


**Table 5.3.3: Design Domain: Width of Protected Bike Lane**

Parameter	Design Domain			
	Practical Lower Limit	Recommended Range		Practical Upper Limit
		Recommended Lower Limit	Recommended Upper Limit	
<b>Width (m), protected bike lane, unidirectional, including delineator</b>	1.8	2.1	3.5	5.0
<b>Width (m), bike lane component, unidirectional</b>	1.5	1.8	2.5	3.0
<b>Width (m), delineator component</b>	0.3 <sup>1</sup>	0.3 <sup>1</sup>	1.0	2.0
<b>Width (m), protected bike lane, bidirectional, including delineator</b>	2.7	3.3	4.6	6.0
<b>Width (m), bike lane component, bidirectional</b>	2.4	3.0	3.6	4.0
<b>Width (m), delineator component</b>	0.3 <sup>1</sup>	0.3 <sup>1</sup>	1.0	2.0

NOTE: <sup>1</sup> A minimum delineator width of 0.6 m is required when bike lanes are adjacent to motor vehicle parking

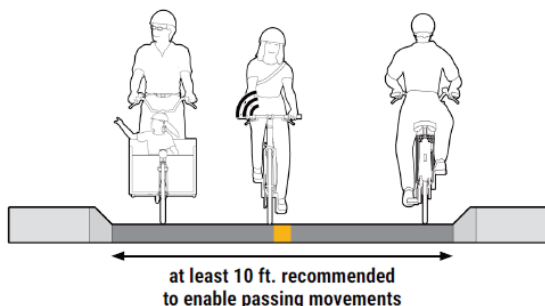
Source: Transportation Association of Canada



Same Direction Bicyclists/ Peak Hour	Bike Lane Width (ft.)	
	Rec.	Min.*
<150	6.5	5.0
150-750	8.0	6.5
>750	10.0	8.0

\* A design exception is required for designs below the minimum width.

EXHIBIT 3H: Bike Lane Widths for One-way Operation



Bidirectional Bicyclists/ Peak Hour	Bike Lane Width (ft.)	
	Rec.	Min.*
<150	10.0	8.0
150-400	11.0	10.0
>400	14.0	11.0

\* A design exception is required for designs below the minimum width.

EXHIBIT 3I: Bike Lane Widths for Two-way Operation

Source MassDOT Separated Bike Lane Planning and Design Guide (2015)

In all likelihood, peak hour bicycle traffic on the Wolseley/Westminster/Young/Balmoral Corridor already exceeds 150 bikes per hour per direction. The volume of bicycle traffic along the corridor should be expected to increase as the city's cycling network evolves and connects to more and more destinations. Any cycling facility chosen for the corridor will need to be designed at the wider range of recommended design widths.

Recent or forthcoming projects that have or will add connectivity to the Wolseley/Westminster/Young/Balmoral Corridor include:

- Garry Protected Bike Lanes (2019)
- Empress Protected Bike Lane (2019)
- Yellow Ribbon Trail/St Matthews Connection (2018)
- Southwest Rapid Transit Corridor Bike Path (2019)
- Osborne Village to Downtown Walk Bike Bridge & Connections (Unknown)
- Ruby/Banning Neighbourhood Greenway (Unknown)
- Arlington Bridge Replacement & Protected Bike Lanes (Unknown)
- St. Mathews Protected Bike Lanes (Unknown)
- University of Winnipeg Southern Connection (Unknown, study in 2019)
- Kenaston Widening (Unknown)

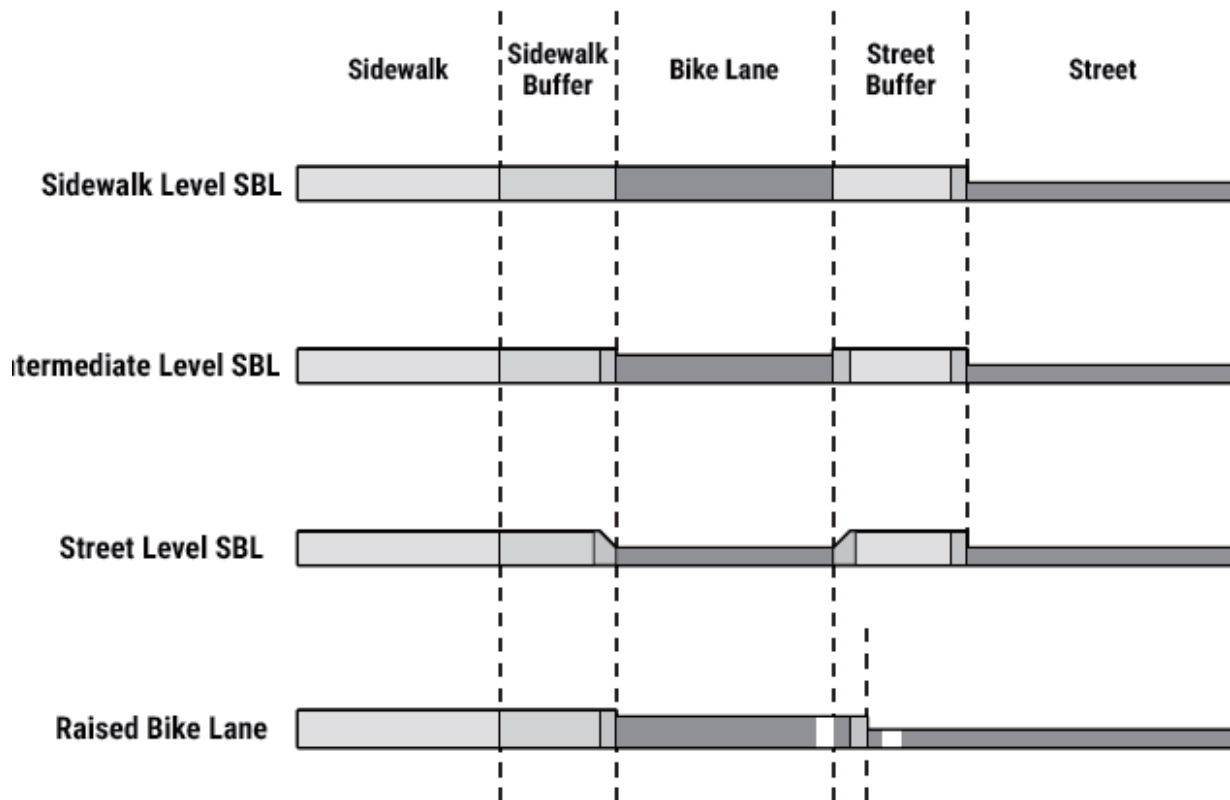
Only East Segment Option 1 provides protected bike lanes with enough width to accommodate the expected level of bicycle traffic along the corridor. East Segment Options 2 and 3 both provide 1.6m wide bike lanes (with or without protection), and will fail to meet user expectations and the capacity demands of the corridor. These issues will only be exasperated on the stretch of Young St between Balmoral and Westminster, where the roadway width narrows to 9.5m (32 ft), forcing a further reduction in the width of the bike lanes in an area identified as a safety issue, with reduced sight lines and considerable traffic into and out of the Balmoral Hall site.

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)

### **Bike Lane Elevation**

Raised bike lanes would seem to offer the best balance between separation, bike lane width, and width requirements for Emergency Vehicle Access. A raised bike lane with a mountable curb should be able to provide options for the Westminster/Young/Balmoral corridor to remain open to two-way EMS access while also providing the best options for drainage and snow clearing. For instance, if planters were used to provide separation within the buffer area, they could be placed in such a way as to provide alternating that would allow traffic to vacate the roadway in the presence of an Emergency Services Vehicle.



**EXHIBIT 3C: Bike Lane Elevation**

### Intersections

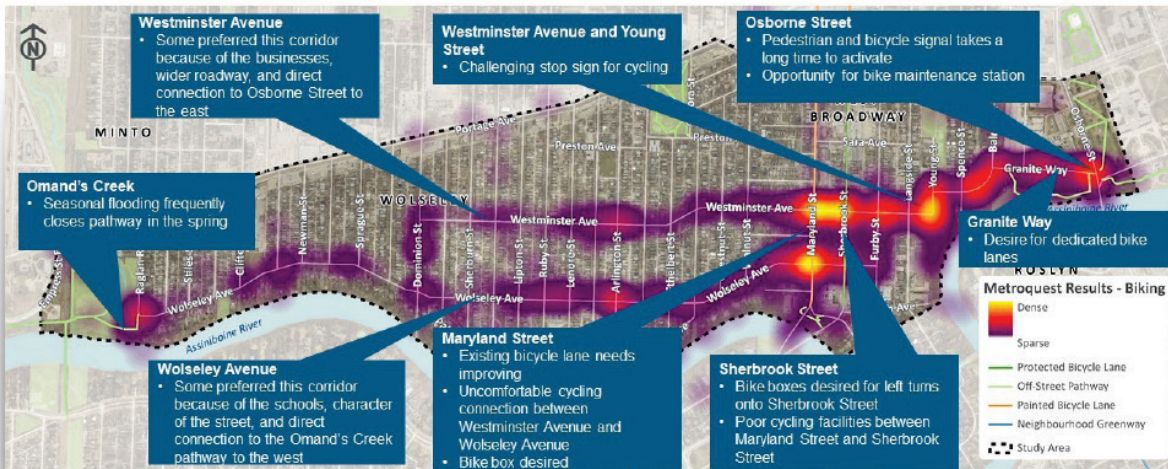
As the intersections of Sherbrook and Maryland with Wolseley and Westminster were identified as cycling and safety issues, we strongly urge conversion of these intersections into protected intersections. These should be possible at the intersections with Sherbrook, and would fit in with recommendations in this paper to provide protected bike lanes on Wolseley and Westminster across Sherbrook and Maryland.



## Cycling Issues

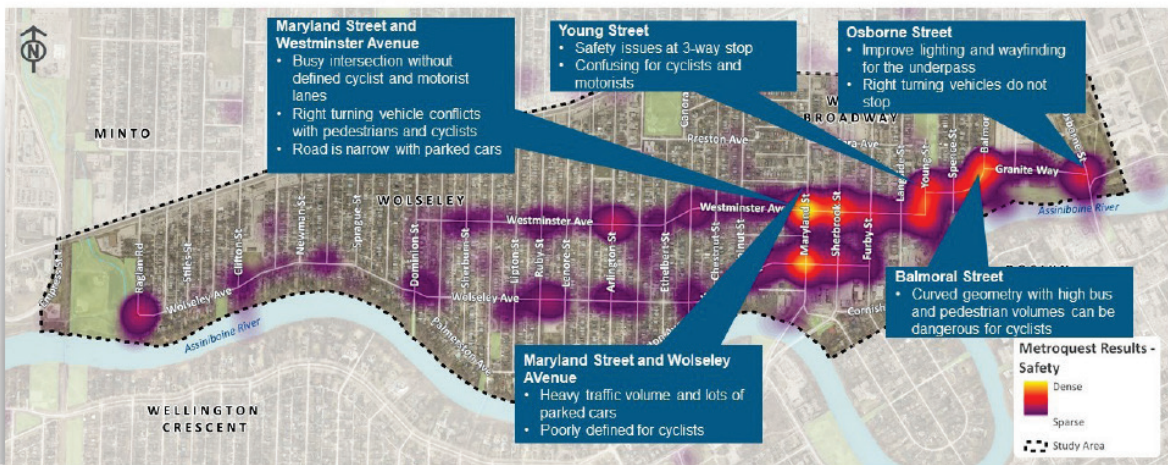
**General Comments**

- Too many stop signs on both Westminister Avenue and Wolseley Avenue
- Improved connections across the Assiniboine River and Portage Avenue desired



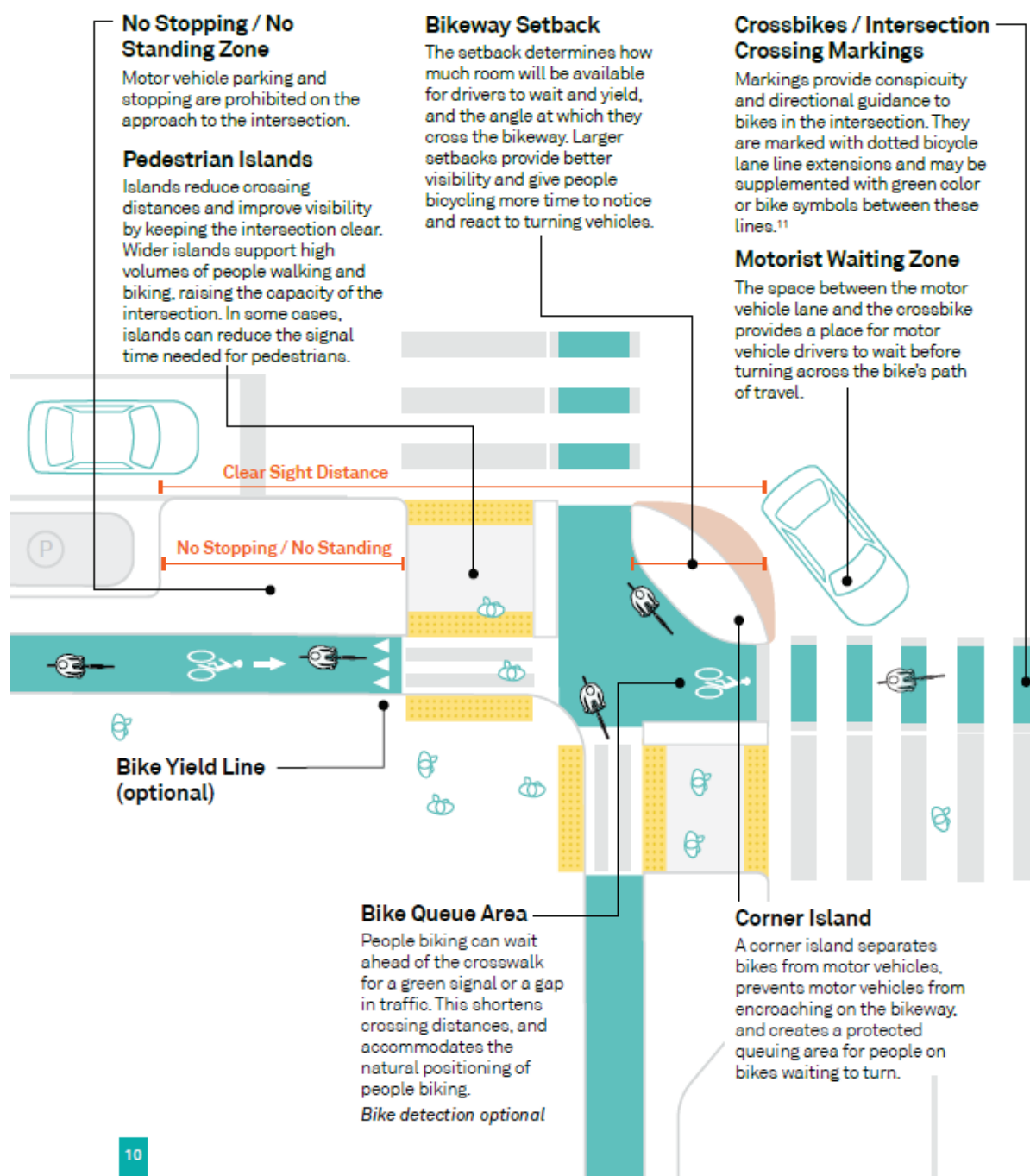
Source: Wolseley to Downtown Walk/Bike Project Phase I Public Engagement Report (pg. 23)

## Safety Issues



Source: Wolseley to Downtown Walk/Bike Project Phase I Public Engagement Report (pg. 26)

# Protected Intersections



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Source: NACTO (2019) Don't Stop at the Intersection: Designing All Ages and Abilities Bicycle Crossings

Depending on the updates to the Maryland bike lane planned for 2019, right of way constraints may preclude provision of protected intersections at Maryland. In that case, we recommend use of bike boxes to facilitate left turns by cyclists onto Maryland.

## Neighbourhood Greenway Traffic Volumes

Reduction of traffic volumes and cut through traffic has been identified as a community need in both the Wolseley to Downtown public engagement process, and in the West Broadway Community Plan 2016-2021. Traffic reduction will undoubtedly improve neighbourhood livability and safety, and we feel that the measures under consideration to reduce traffic volumes should all be carried out.

Of concern, we feel that traffic reduction provisions in East Segment Option 2 and East Segment Option 2, where one-way conversion is limited to a one-way conversion of Granite Way, will not be sufficient to substantially reduce traffic volumes.

## Background Plans

### West Broadway 5 Year Plan

The West Broadway Community Plan 2016-2021 was produced through a participatory approach between March and May of 2016 that reached out to over 1,000 people through 14 events and an online survey. One of the six Key goals of the West Broadway Community Plan 2016-2021 is to improve mobility and active transportation (pg. 45). The plan notes that comments on mobility and active transportation in the community were “primarily focused on more and better active transportation options and traffic calming” (pg. 57). Specific requests included:

- Increased access to affordable transportation options to run errands such as grocery shopping and socializing;
- Improvements to bike infrastructure, including dedicated bike lanes on Westminster, and an East West Connection along Westminster, Balmoral, and Granite Way as well as along other routes.
- Traffic calming and safety for cyclists and pedestrians, especially at busy thoroughfares and near community amenities (pg. 58)

## Public Engagement Report

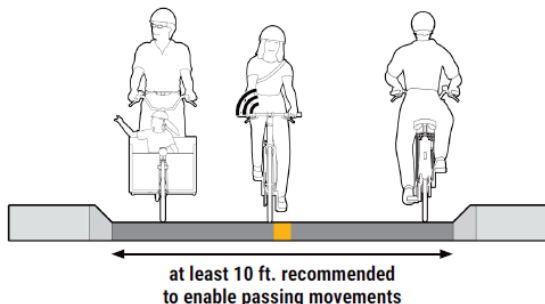
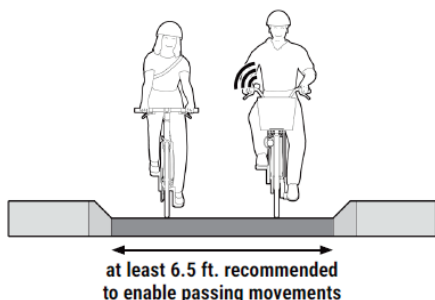
A substantial effort was put into public engagement as part of this project;

- Over 800 participants completed an on-line survey;
- Over six hundred people attending pop-up events;
- More than 800 plus students were engaged in a school travel planning process

## Collision History

We would like to note that Sherbrook and Maryland, as well as the Westminster/Balmoral/Granite Way all show multiple collisions between vehicles and people biking in the 5-year collision reports generated by Manitoba Public Insurance. In particular, Sherbrook St at Westminster and Westminster at Young Street show multiple collisions.





Same Direction Bicyclists/ Peak Hour	Bike Lane Width (ft.)	
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EXHIBIT 3I: Bike Lane Widths for Two-way Operation

Conversion of the Westminster/Young/Balmoral section to a northeast bound one-way will also make it possible to significantly improve safety for all road users at the intersections of Balmoral @ Young and Westminster @ Young, two locations singled out in the public engagement report as safety issues, cycling issues, and driving issues.

### One-Way Conversion of Granite Way

We feel that a one-way conversion along Granite Way makes a lot of sense, but would like to see modifications to the plan to maintain a higher level of access to the Building Blocks Childcare Centre and the Granite Curling Club. The one way conversion will remove two conflict zones at Osborne and Granite Way identified on page 26 of the public engagement report (people on foot or bike accessing the pork chop island west of Osborne having to merge or cross motorized traffic turning right off of Granite Way onto Osborne), and cyclists turning left off of eastbound Assiniboine onto southbound Osborne being cut-off by motorized traffic turning right off of Granite Way onto Osborne), which is a positive improvement to safety along this bike route.

### Access to Building Blocks on Balmoral YMCA-YWCA of Winnipeg Child Care Centre

To provide access to the Building Blocks on Balmoral YMCA-YWCA of Winnipeg Child Care Centre parking lot, two-way traffic could be allowed on Granite Way between Balmoral and the Building Blocks parking lot entrance.

If maintenance of on-street parking is desired along the segment between Balmoral and the Building Blocks parking lot, there is adequate space on the south boulevard of Granite Way to route the northbound protected bike lane coming off of Balmoral onto eastbound Granite Way between a

realigned south sidewalk and Granite Way (this may require some property acquisition, but the property in question would benefit from the maintenance of on-street parking). Westbound cycling traffic could be routed to the north side of Granite Way at a raised crossing attached to a closure of the westbound traffic lane. This would be similar to the treatment used on McDermot Avenue two-way protected bike lanes as they approach Arlington Street. As an added benefit, a raised crossing would slow traffic in front of the Child Care Centre.

Adding a two-way cycle track to the south side of Granite Way will also remove a potential safety hazard at the intersection of the Cornish Pathway with Granite Way, which is currently obscured behind parked cars. A diverter at this location would provide the same benefit.

### **Access to Granite Curling Club**

We recognize that access to the Granite Curling Club parking lots is an important consideration for the project, and recommend modifications to the proposed plan to minimize any reduced access to the curling clubs parking lots, which provide an important source of income for the club. We are recommending two modifications to the preliminary designs to improve access to the Granite Curling Club parking lots. First, we recommend that the section of Balmoral between Broadway and the southern back lane of Broadway remain open to two-way traffic. This modification will maintain access to the norther entrance to the Canada Life parking lot and the Balmoral back lane. With an improvement to the parking lot/back lane connection between Balmoral and Colony just south of Broadway, a connection to the curling club could also be maintained.

With the removal of parking on Granite Way between the east and west Granite Curling Club parking lot entrances, two-way traffic along Granite Way could be maintained between the entrances to the Granite Curling Club parking lots via Colony, with continued one-way access from Osborne through to Balmoral. Ideally, we would recommend working with Canada Life to improve access between Balmoral and Colony. Patrons would be directed to the curling club via wayfinding signage. Should an improved connection between Balmoral and Colony prove unfeasible, the city should consider installation of a traffic signal at the intersection of Colony and Broadway to facilitate left turns off of Broadway onto Colony.

While it may be tempting to suggest detouring the bike route behind the Granite Curling Club, either along the existing Cornish Pathway or along a higher route skirting the south side of the curling club along a well-established desire line, this option presents several challenges:

- The Cornish Pathway is regularly closed due to seasonal flooding;
- The Riverside pathway presents CPTED/safety issues;
- A pathway along the higher desire line would require substantial benching of the slope and potential removal of mature trees and or parking.
  - This would prove quite expensive.

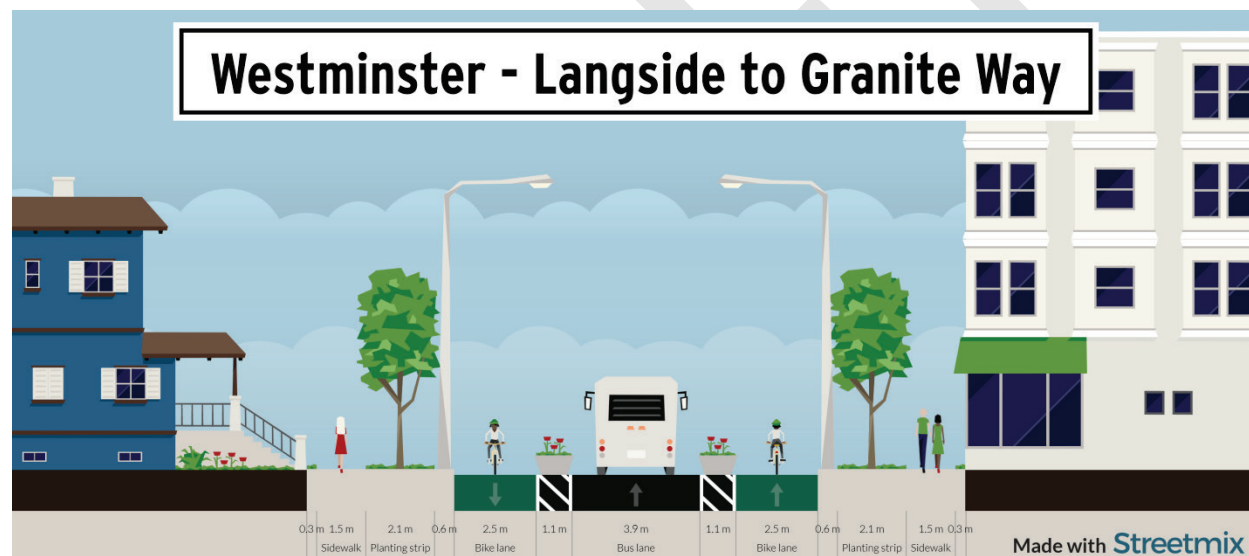
It should be noted that people already choose not to detour along the river pathway south of Assiniboine Avenue between Osborne and Edmonton. It's unlikely that a detour south of the curling club will be treated any differently.

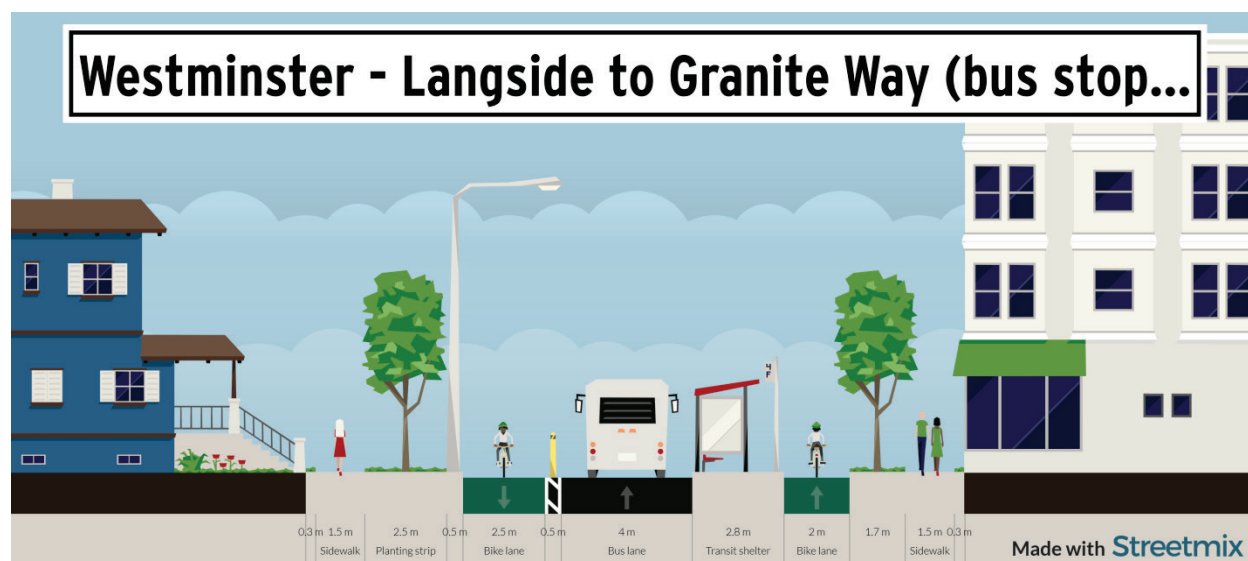
For these reasons, we recommend against any option to divert people on bikes south of the curling club. The on road options, including the addition of short two-way segments described above provide better options.

### Furby/Langside to Granite Way – One Way Conversion

We like the decision to convert the Westminster/Young/Balmoral corridor to one-way northbound traffic as the only option provided that we feel adequately meets the demands to improve safety, connectivity, and cycling comfort.

This is the only option that approaches the widths recommended by best practice, but it also meets neighbourhood goals of reducing cut-through traffic, improving safety, improving bicycle network connectivity, and increasing the comfort level of folks on bikes.

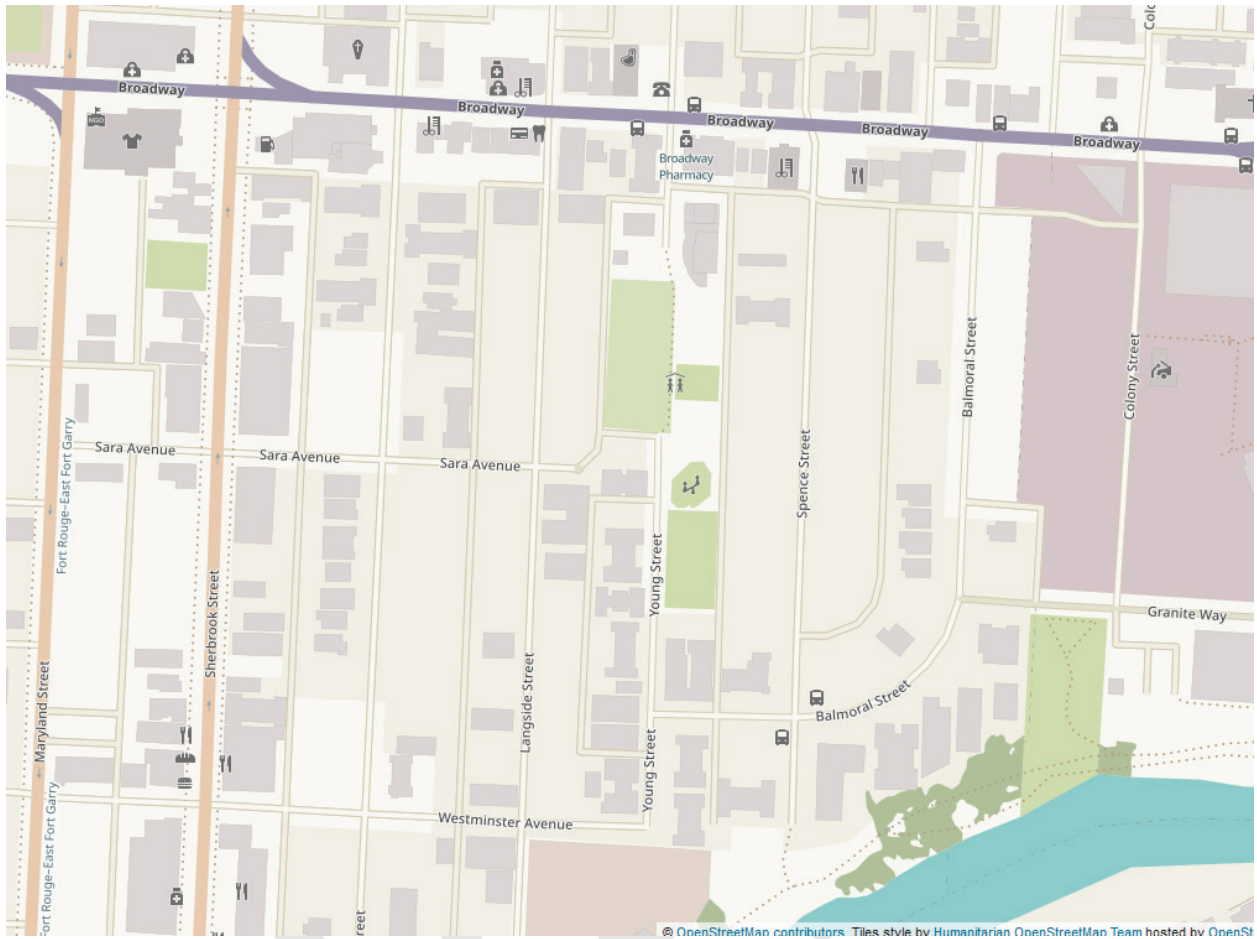




In contrast to the comfort levels provided to road users in option 1 with its conversion of Westminster/Young/Balmoral to a one-way, options 2 and 3 provide bike lanes that will be narrow to meet TAC guidelines or to permit passing. IN the case of option 3, people on bike would be provided with nothing more than painted bike lanes to improve their safety and comfort. These options fall far below the expectations and desires set out in both the West Broadway Community Plan 2016-2021 and the Phase I Public Engagement report.

Young Street will be an important destination and connection for people on bike (Broadway Neighbourhood Centre and Park – community gardens, skate park, bike park, sports field, playground, wading pool/spray pad -, ArtCity, Pals Supermarket, an existing traffic signal providing safe access across Broadway). We recommend that Young Street should replace Langside Street as the main north/south bike route through West Broadway and potentially up to the University of Winnipeg.





This change to the strategies would be in line with direction 1B - Action xi of the Pedestrian and Cycling Strategies – to pursue bicycle network improvements that establish connections to major destinations throughout the City, including regional, community, and neighbourhood mixed-used centres and corridors, schools, libraries, and parks.

Given that northeast/southwest flow along Westminister/Young/Balmoral is not currently forced stop at Young and Balmoral, access to northbound Young would be best served by a conversion of the Westminister/Young/Balmoral corridor to a one way, which will reduce the number of conflicting movements through this intersection. We would like to see the consultants investigate the possibility of widening the planned one-way southbound protected bike lane on Young between Westminister and Balmoral into a two-way protected bike lane in addition to the planned northbound one-way protected bike lane. People riding their bikes eastbound on Westminister would then be able to cross eastbound Balmoral at the existing stop protecting the driveway into/out of Balmoral Hall and ride north along the west side of Young before crossing the southbound lane of Young with the right of way before turning left and continuing up Young St in mixed traffic in the northbound lane.



As a northbound one-way, option 1 would also provide a way to get rid of the southbound stop sign at Westminster and Young that is identified as an issue in the public engagement report, as any potential conflict is removed through the protected bike lanes.

### **Connecting Young Bikeway across Portage Avenue**

This is the hardest part of the route to complete, but multiple options exist that would provide a connection from Young and Westminster across Portage Avenue to the University of Winnipeg Campus, the downtown protected bike lane network, and ideally the planned east/west connection to the St. Matthews Ave protected bike lanes (identified as an east/west spine in the city's planned bike network).

Destinations and Connections North of Portage Avenue:

- The U of W's Furby-Langside Campus (McFeeters Hall, Richardson College Centre for the Environment & Science Complex, Day Care Centre)
- The Richardson Green Corridor – providing connections between Langside and Young to Spence Street and then main U of W Campus.
- Signalized connections across Ellice Ave along Young St or Spence St.
- Pedestrian corridors across Ellice and Sargent along Langside.

The 2019 Pedestrian and Cycling Program Action Plan includes funding for a study to improve cycling connectivity to the U of W Campus from the south. We urge the consulting team to work with consultants for this study and coordinate access from Young Street to the U of W Campus.

### **Move Traffic Signal from Langside @ Portage to Young @ Portage**

This would create a signalized connection across Portage, but could prove hard to implement as U of W parking is currently accessed via a left turn lane on Portage at Young.

### *Add Pathway Connection between Young and Langside South of Portage*

This would have to wind its way through parking. It would require removal of some parking on Young, but this could be mitigated by flipping the parking from the west side of Young to the east side of Young.

### *Add a 2-way Pathway between Langside and Young on South Portage Right of Way*

There is not a lot of space for this, and it would require the removal of any snow storage on the south side of Portage between Young and Langside.

### *Add One-way Cycle Tracks on Portage between Langside and Young*

To reach Langside from Young, it might be possible to install a one-way cycle track between an off-peak parking lane and sidewalk on the south side of Portage. This would provide a cycle track that was parking protected in off-peak hours, but next to a diamond lane during peak hours. There are no bus stops on this section of eastbound Portage.

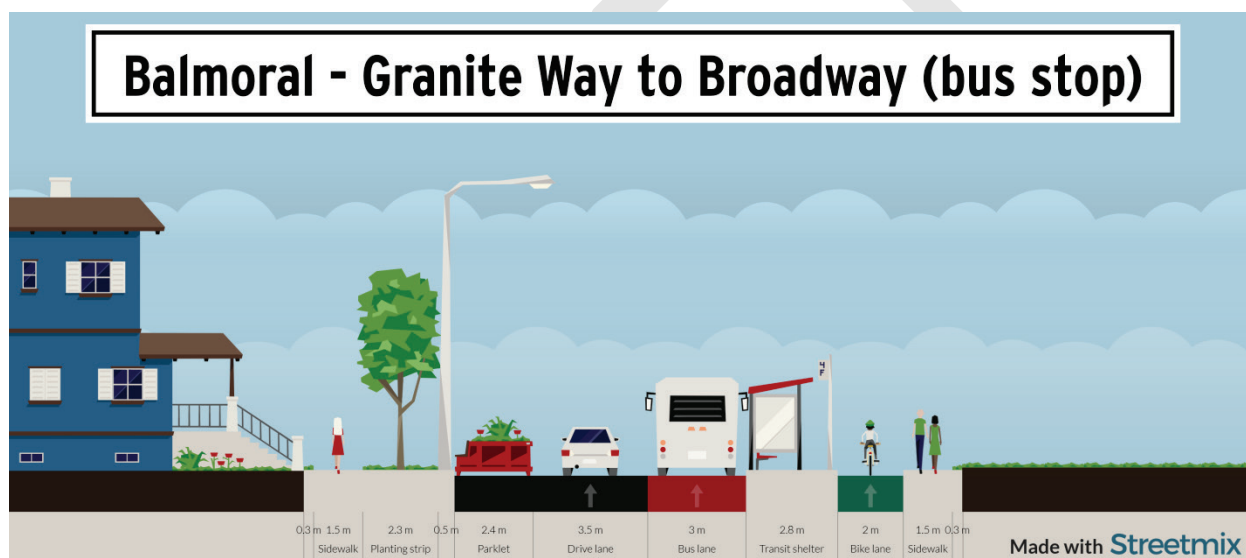
To facilitate westbound people on bike, it may be possible to remove the left turn lane on Portage between Langside and Young to provide a one-way cycle track in the Portage median between Young and Langside. This option may be a hard sell as the left turn off Portage onto NB Young is the access route to parking.

This would require closing Young at Portage and adding a signal to stop eastbound traffic on Portage – westbound traffic coming off St. Mary and heading east on Portage could be maintained.

There could be potential to continue the bikeway north along Langside to Cumberland, and then revert to Young/Kate via a two way cycle track on Cumberland (planned?) that would continue north to Elgin. Elgin would provide easy access to the Red River College Princes Ave Campus, and could ideally be connected through the Princess Ave bike lanes to the Market Lands development and Old Market Square.

## **Balmoral One-Way**

Balmoral has a width of 11m between Granite Way and Broadway, widening to 13.5 m between the back lane and Broadway. If turned into a one way, you could implement angled parking between Granite Way and Broadway instead of parallel parking, which would add parking spaces. Space would also be available for a northbound protected bike lane, at least along the one-way section.



Two-way traffic could be maintained between Broadway and the Canada Life Parking Lot Entrance/Broadway back lane to maintain access to the Canada Life Parking Lot and the Balmoral/Spence back lane.

### Langside One Way Conversion vs Furby Transit Route

Langside Street is approximately 7m curb to curb, without boulevards and with 2m sidewalks adjacent to the roadway. The narrow road width and lack of boulevard will make it challenging to route buses down Langside. Parking would certainly have to be flipped from the west side of the street to the east side of the street. The narrow sidewalks will also make it challenging (and potentially impossible) to provide bus stops that are universally accessible without removing parking at bus stops and bumping out the sidewalk.



New stops located at Furby nad Sara would provide access to commercial and institutional properties on Sherbrook (about 50m distant) and Maryland (about 150m distant) via Sara, served by pedestrian corridors for crossings of both Sherbrook and Maryland.

### *Active Transit Signal Priority @ Broadway and Langside*

To facilitate the left turn off of Broadway onto Furby, it may be possible/feasible to utilize an [Active Transit Signal Priority](#) treatment at Furby and Broadway. To facilitate this, the existing pedestrian corridor could be replaced with a half signal that included some kind of transit priority signal. Only eastbound traffic on Broadway would need to be stopped, although to ensure that the bus could transition from the curb lane to the median lane for the left turn, Upstream Green Truncation could be combined with a transit priority signal at the intersection of Broadway and Young to provide westbound buses with a needed jump in traffic to transition into the median lane or to generate the needed gap in eastbound traffic.

Essentially, as the #10 bus approached Broadway @ Furby, the signal would be triggered to stop east bound traffic on Broadway and allow the transit bus to turn left onto Furby.

This would limit access to Langside and preserve the signal at Broadway and Young, needed for the north/south bikeway along Young and as a connection to the Broadway Neighbourhood Centre and Park.

## **Developing Cornish Pathway as Alternative to Cycling Facilities on Balmoral**

The Cornish pathway is simply not a viable alternative to protected bike lanes along the Westminster/Young/Balmoral/Granite Way corridor:

- It would be an isolated pathway with very serious CPTED issues (would you want your 13 year old daughter riding this pathway at 10pm?)
  - It would require installation of lighting, which is quite expensive.
- Seasonal flooding is an issue.
- An arterial pathway (and that is what we are planning) would require considerable property acquisition (~5m per property along the route to build the path on high ground).
- Construction of an arterial pathway would cause substantial damage to the riparian zone
  - Height differences make access from side streets impractical. They would either be prohibitively expensive and destructive to the riparian zone (you would have to raise the pathway and riverbank to make it accessible from side streets and maintain it above flood level.
  - Accessibility is an important factor for choice of cycling /walking facilities
  - Accessible pathways are limited to a 5% (3-4% preferred) grade and a 2% cross-grade.
- A 3.5m pathway (plus 1m buffer) would require significant tree removal.
- It would be poorly connected to destination along the route

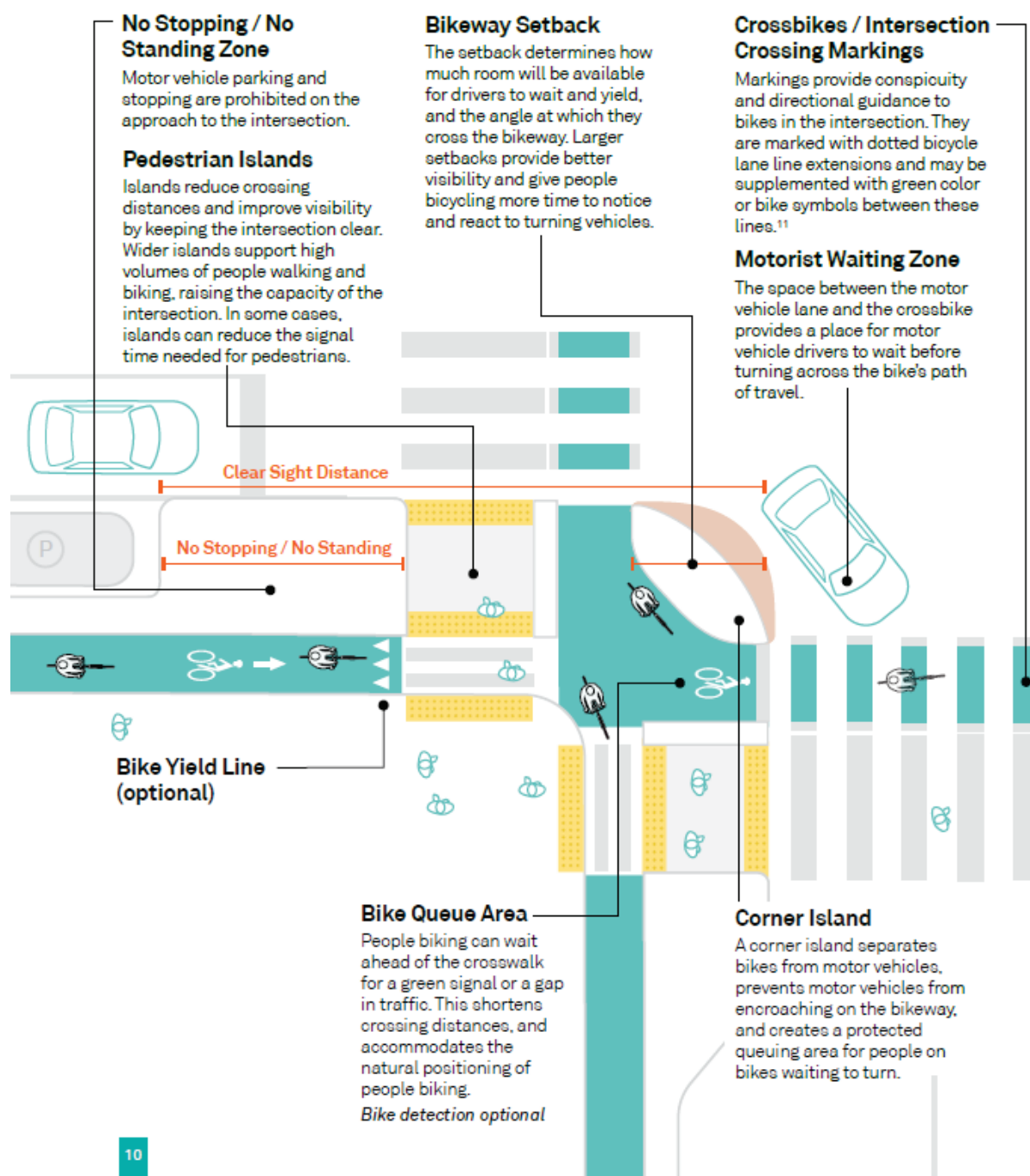
- The pathway would only be accessible from Cornish, Spence, and one or two locations off Granite Way.

## **Mid Segment- Walnut through to Langside**

### **Mid Segment Issues Matrix**

The sections between Walnut and Langside are the most important sections along the route as they see the highest levels of traffic and generate the most conflict points between motorized traffic and people on foot or bike. We need to see improvements along these sections of road. An important improvement will also see protected intersections developed where Westminster and Wolseley cross Sherbrook and Maryland. Protected intersections at Sherbrook and Maryland will accommodate left hand turns off of Sherbrook/Maryland onto Wolseley & Westminster. Space constraints on Maryland may limit treatments to accommodate left turns off of Wolseley and Westminster to bike boxes, but the Sherbrook intersections should provide enough room for more substantial protection, including the ability to provide protection for the crosswalks.

# Protected Intersections



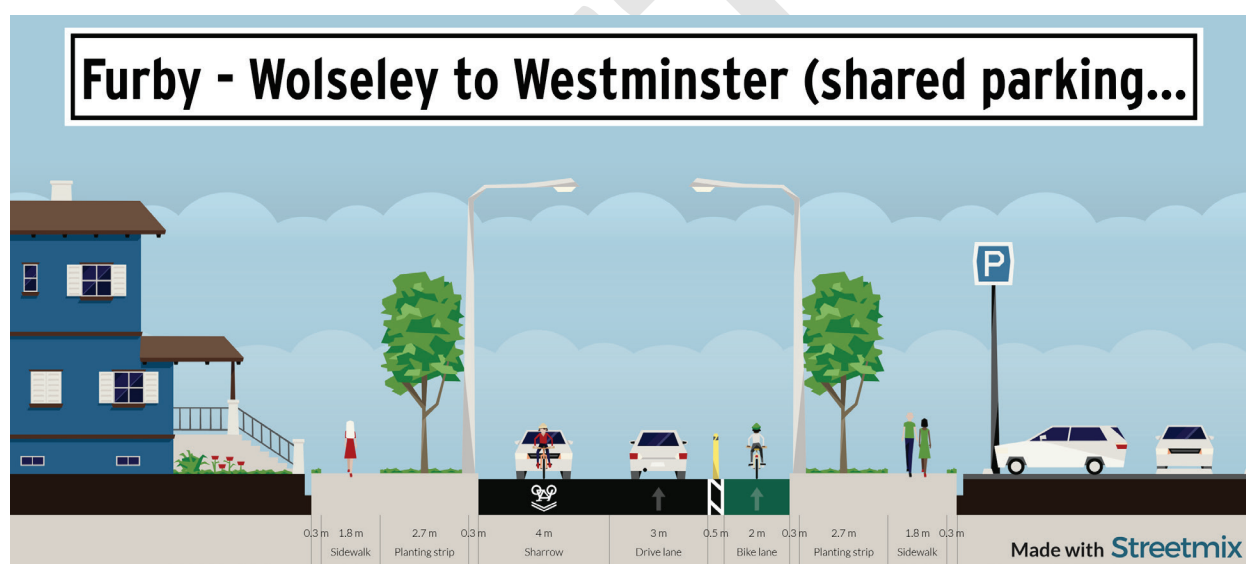
## Furby

Furby is about 9.5m/32ft wide between Broadway and Cornish. This is quite wide, and would provide a connection to the east side of the Maryland Bridge should it ever be desirable to allow bikes onto the bridge sidewalks.



As Wolseley and Westminster Ave have limited width and will likely require two-way traffic between Maryland and Langside, we suggest that in order to provide the highest degree of comfort, consideration be given to adding a southbound protected bike lane along Furby between Cornish and Broadway. This would cut back on the amount of counter flow bike traffic in the Sherbrook protected bike lanes, and would also allow for a more consistent bike lane width and level of comfort for people biking along the Wolseley/Sherbrook/Furby/Westminster/Young/Balmoral/Graniteway corridor.

A southbound protected bike lane on Furby could provide a connection between Broadway and Wolseley, including Sara. Existing parking along Furby could be maintained (although flipped from the west side to the east side of Furby) with this option via a shared travel/parking lane. Implementing the protected bike lane as a raised bike lane would allow



## Wolseley

Converting Wolseley into a westbound one way between Walnut and Maryland will dramatically cut down on traffic along this stretch as well as the stretch from Maryland to Sherbrook.

### Sherbrook to Furby

Wolseley to Furby has about 8 parking spots on the south side between Furby and Sherbrook.

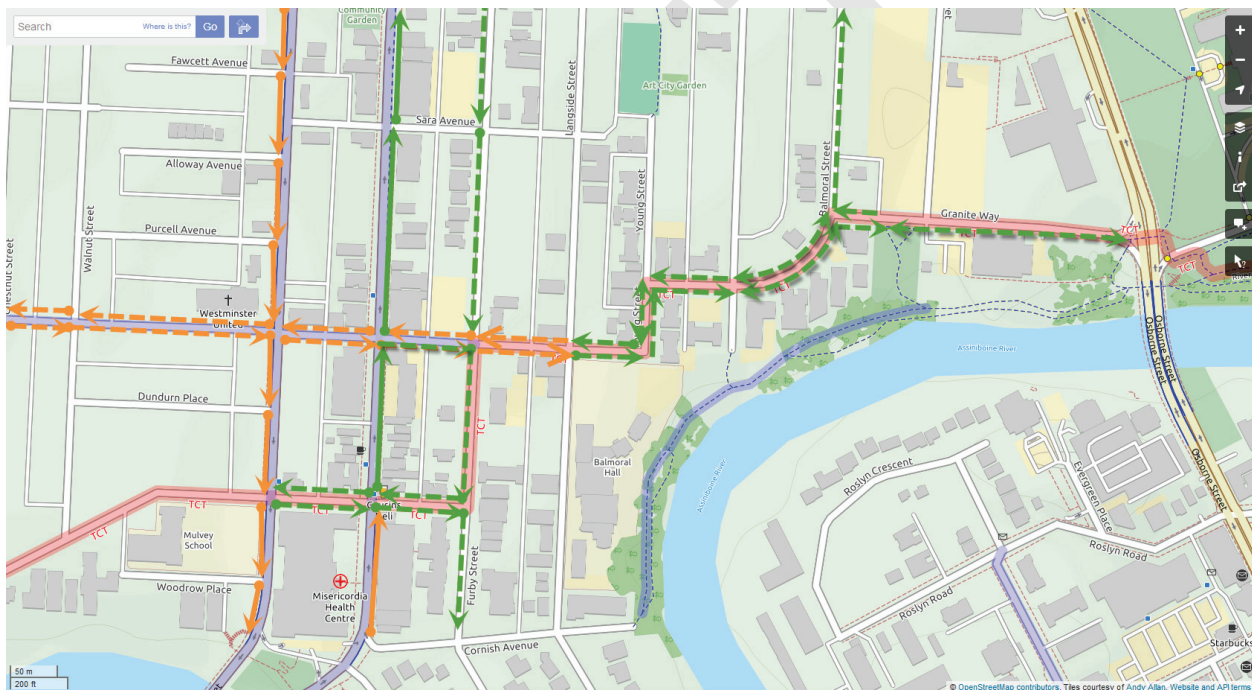
### Critical Measurements

Sherbrook to Furby

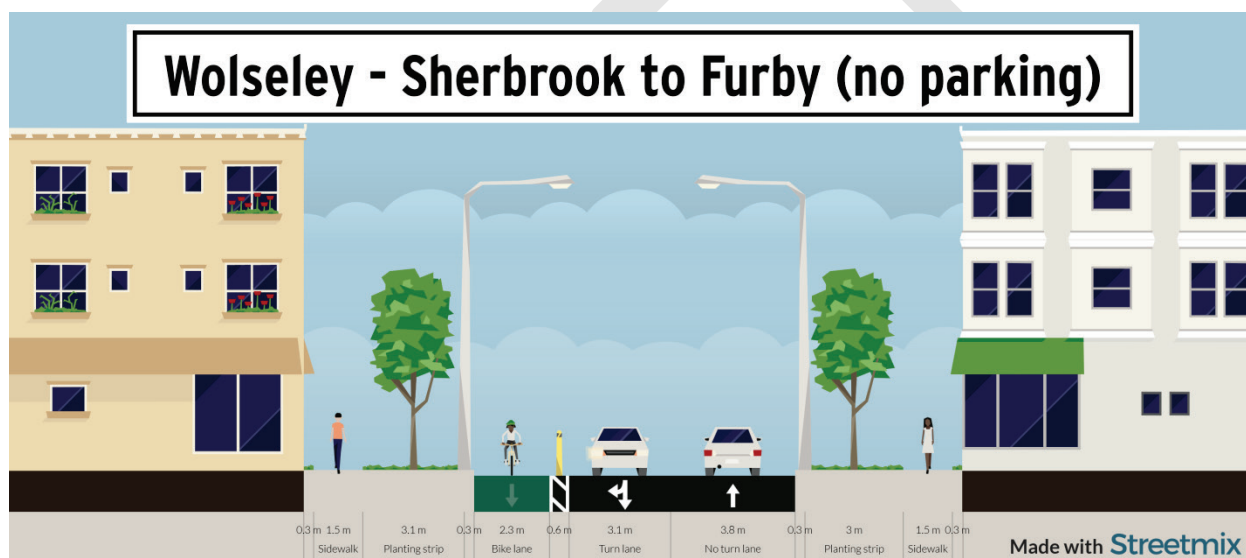
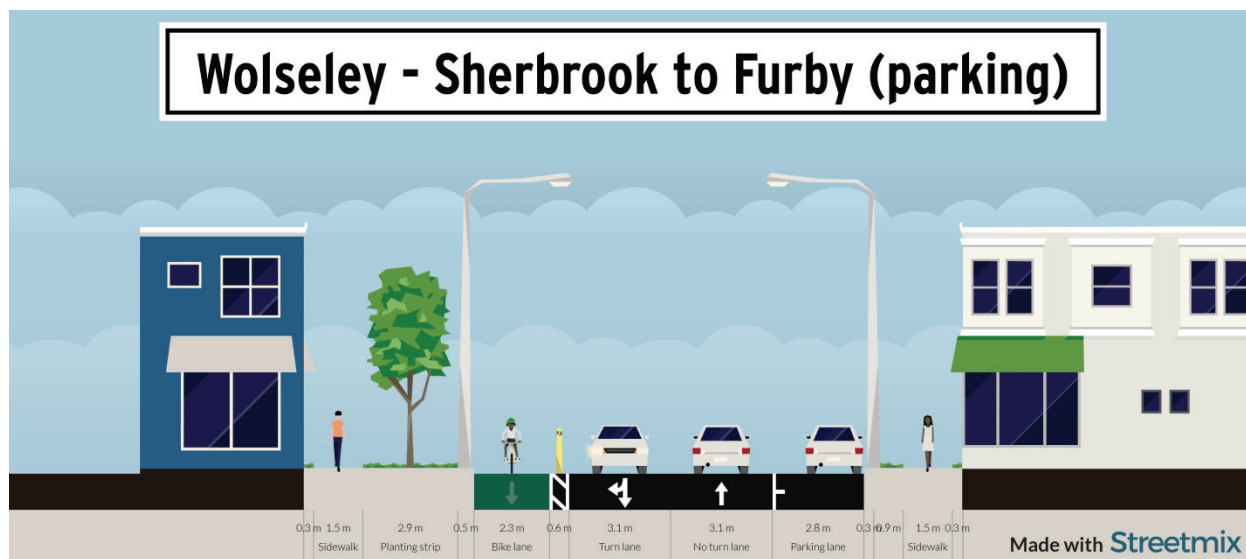
- Roadway width (curb to curb) - ~ 11m (36') wide
- North boulevard is about 11'2" (3.4m) from curb to sidewalk (including curb)
- South boulevard is about 10'8" (3.3m) from curb to sidewalk (including curb)

- Tapers to about 3'10" (1.2m) between Sherbrook back lane and Sherbrook
- 4 parking spots between Sherbrook and back lane (there is a fire hydrant adjacent to the back lane that prevents any additional parking).
- Sidewalks are 5'

Given that there is already a protected bike lane along Sherbrook heading north between Wolseley and Westminster, to maximize space it might be better to split north/south bike traffic travelling along the Wolseley/Sherbrook/Furby/Westminster corridor between Sherbrook and Furby. Northbound bike traffic would follow Wolseley/Sherbrook/Westminster. Southbound traffic would follow Westminster/Furby/Wolseley.



Proposed bikeway network east of Maryland – Green arrows show cycling facilities meeting recommended widths for expected demand, orange arrows show facilities below recommended level of service. Solid arrows represent existing facilities, dashed lines/arrows represent proposed facilities.



### Sherbrook to Maryland

Wolseley stretches about 88m from Sherbrook to Maryland.

#### Critical Measurements

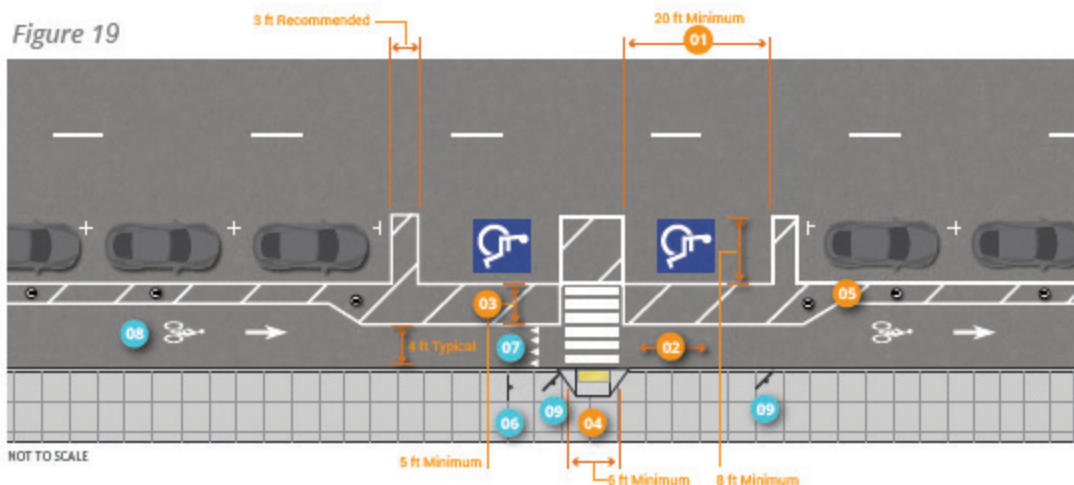
- ~ 24m right of way.
- ~ 14m curb to curb between Sherbrook and Maryland.
- South Boulevard
  - Boulevard is about 4'3" (1.3m) sidewalk to curb (including curb)
  - Sidewalk is about 5' (1.5m)
  - South side includes about 14' (4.25m) space between building and sidewalk
- North side boulevard
  - Boulevard is about 47" (1.2m) from curb to sidewalk (including curb)

- Sidewalk is about 5' (1.5m)

There are needed bus stops on both sides of Wolseley between Sherbrook and Maryland – they are both far side bus stops.

- Route 99 turns off Sherbrook onto Wolseley and then onto Maryland.
- Route 17 turns off Maryland onto Wolseley and then onto Sherbrook.

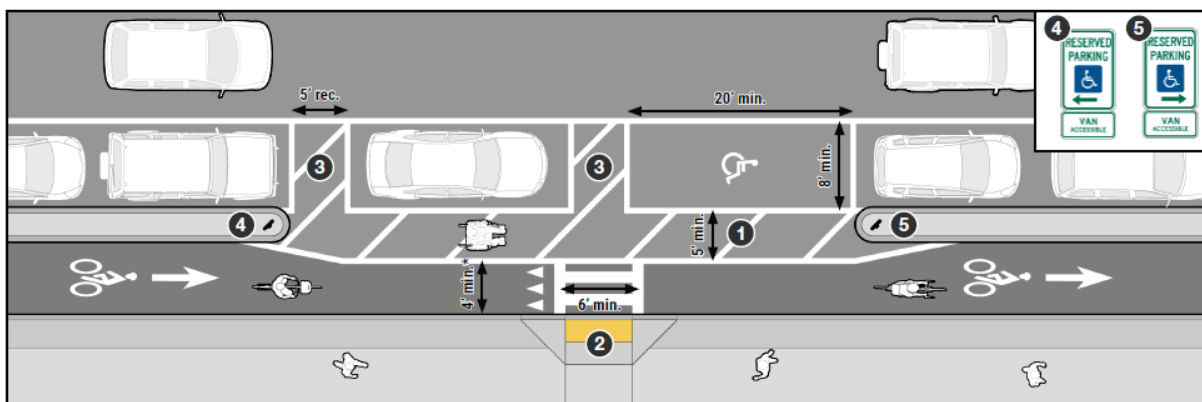
Any design will need to plan for accessible parking in front of Misericordia Hospital from the entranceway to Sherbrook.



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Source: FHWA Separated Bike Lane Planning & Design Guide; 2015; FHWA

**EXHIBIT 5B: ACCESSIBLE ON-STREET MOTOR VEHICLE PARKING (MID-BLOCK)**

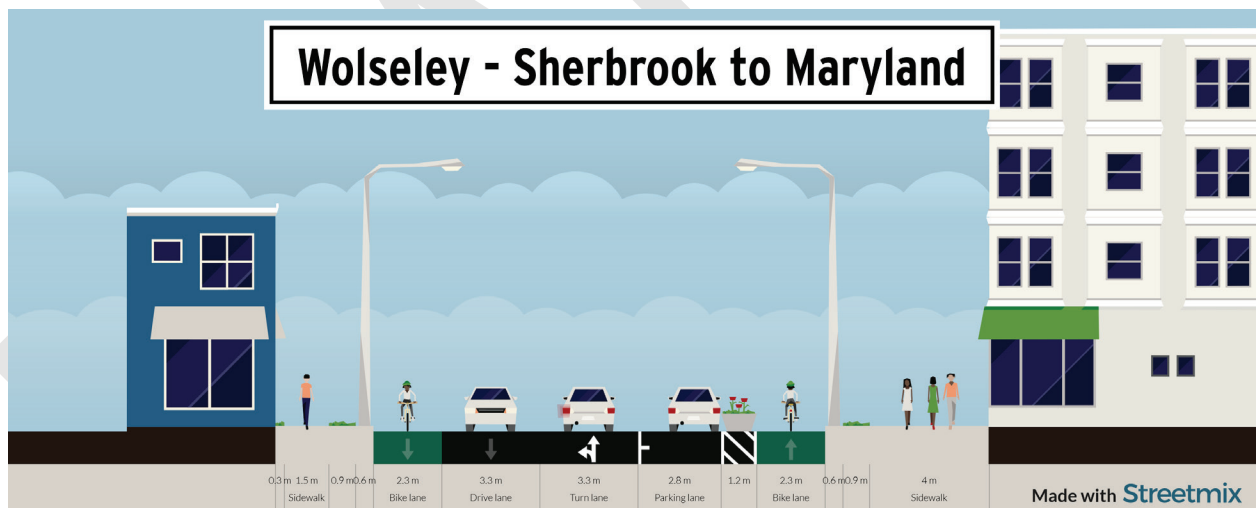


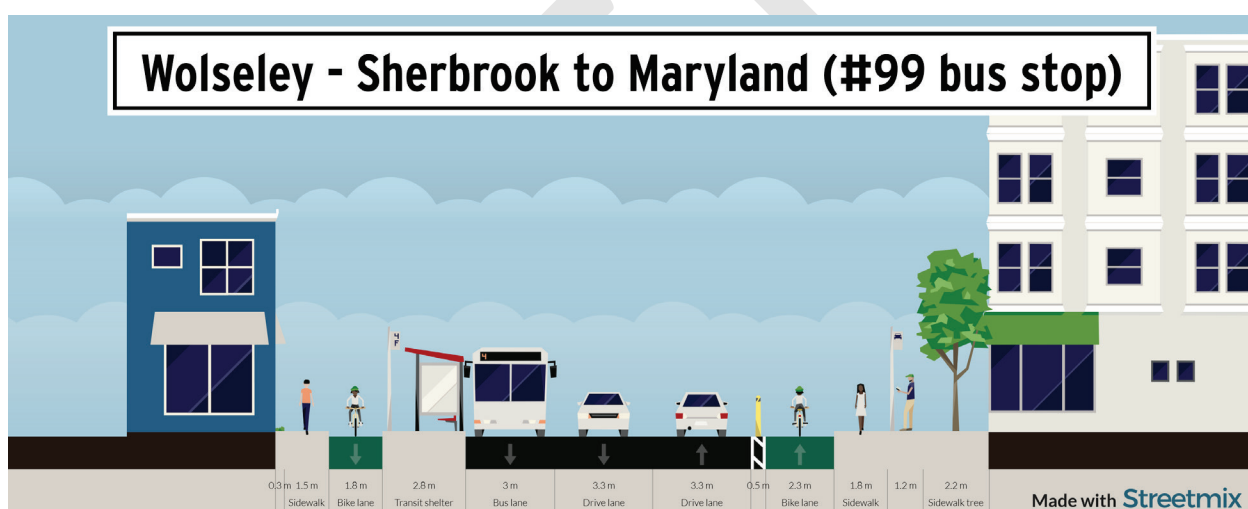
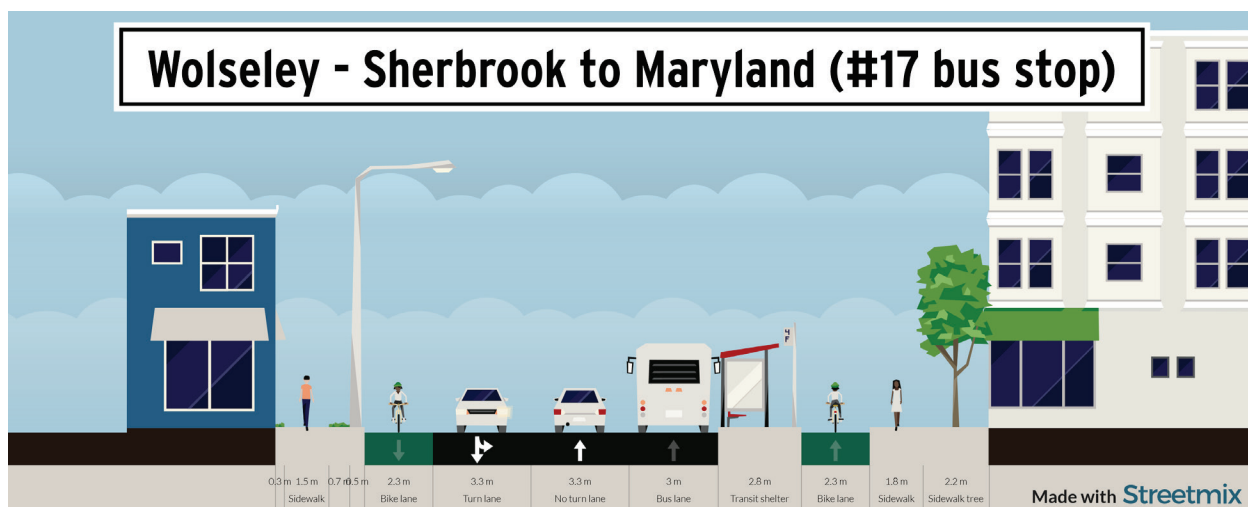
\* A bike lane width narrower than 5 ft. requires a design exception.

The only eastbound traffic on Wolseley would be traffic turning off of southbound Maryland or out of the back lane, so this will be a negligible flow, eliminating the need for a turning lane. There are only so many reasons why you would want to turn off of Maryland onto Wolseley:

- Hospital drop offs/pick ups and parking
- Turning around to head north on Sherbrook
  - Cornish serves the same purpose
- Connecting to eastbound Wolseley beyond Sherbrook.
  - This is also fairly limited as Wolseley dead ends at Furby.
    - Access to Armstrong Point
    - Access to Furby
    - Connecting to Westminster on way to Osborne
      - This would be negated by the one-way option on Westminster/Balmoral.

Removing one lane may provide space to install protected bike lanes, leave room for transit, and maintain some parking/drop off zones for the hospital.





A bike box at Wolseley and Maryland might be desirable to help facilitate left turns off of westbound Wolseley onto southbound Maryland by people on bike. It could be hard to find space on Wolseley for a two stage left turn (a person on bike would have to cross the sidewalk to wait for a green light on Maryland and then again to reach the southbound bike lane on Maryland). Combined with traffic volume reductions this might be acceptable.

The canopy/porch on northern entrance to Misericordia Hospital extends to the sidewalk. This means that there is likely no way to widen Wolseley to the south.

On the south side of Wolseley, you essentially have:

- 4.5m standing space between the building front and the sidewalk
- 1.5m sidewalk
- 1.25 (maybe up to 1.5m) buffer between the sidewalk and street.

### Recommendation:

- Two one way protected bike lanes between Sherbrook and Maryland
- Requires removal of one parking lane, but only one or two spots are available on the north side anyway.
- Push bus stop as far east as possible and bend roadway to allow for a left hand turn land and bike box at Maryland.

## Westminster

Westminster is narrower than Wolseley between Maryland and Sherbrook, and mature trees in the boulevards mean that there is no possibility of widening the roadway without removing mature trees. Traffic volumes along this section of Westminster reach about 5,000 vehicles per day at Maryland and Westminster. That means that any type of bikeway along Westminster that will need to remove parking or drastically reduce the volume of traffic. The choice then becomes whether to remove parking or to reduce traffic. We think that the option to remove parking makes more sense and better fits the desires identified in the public engagement report.

Westminster has no bus stops in the section between Sherbrook and Maryland.

### Critical Measurements

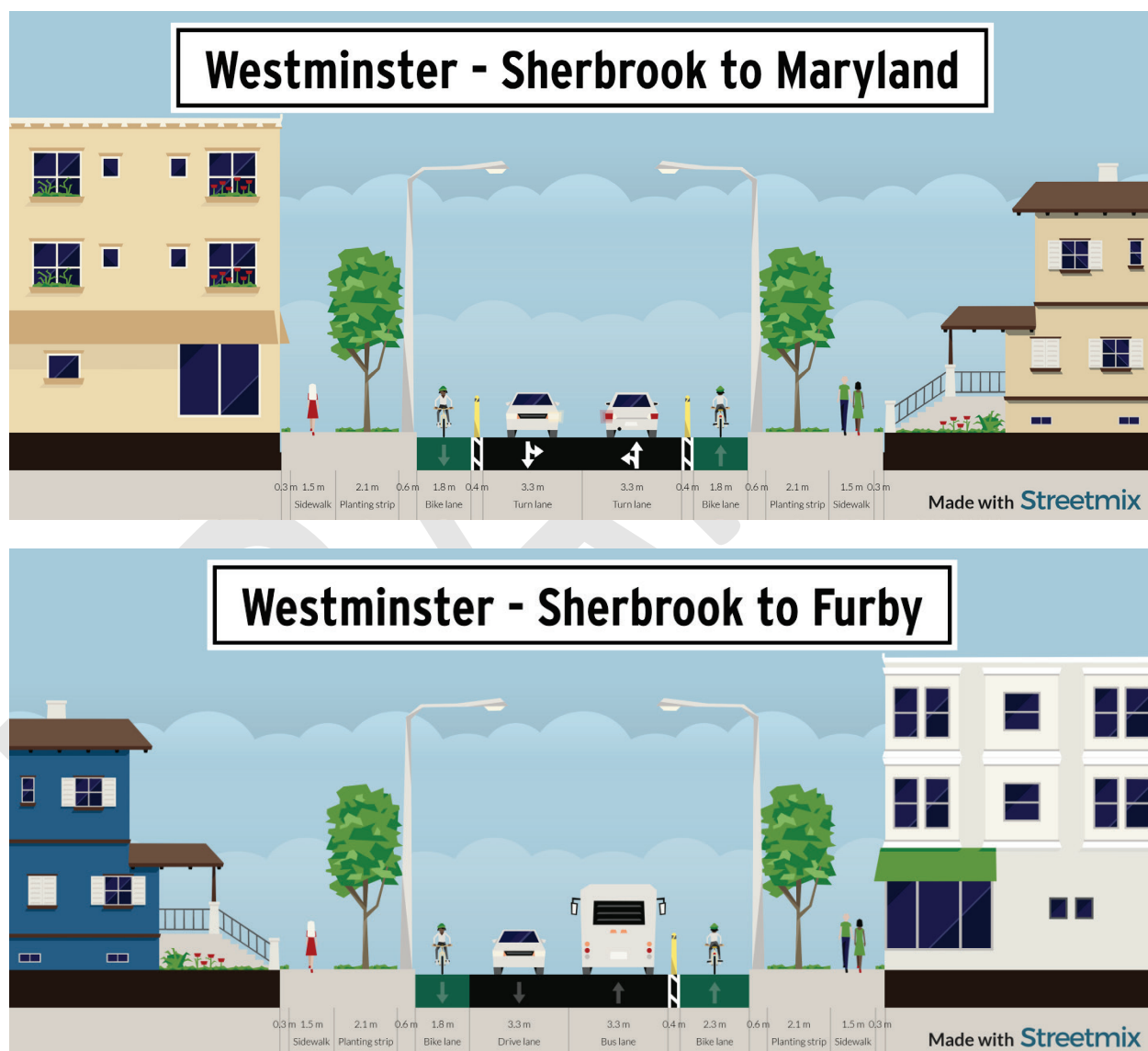
- 20.1 m right of way
- 11m roadway – curb to curb
- North Side Boulevard
  - 2.7m boulevard – curb to sidewalk (including curb)
  - Boulevard has mature trees
  - 1.5m sidewalk
  - 0.3m setback
- South Side Boulevard
  - 2.7m boulevard – curb to sidewalk (including curb)
  - Boulevard has mature trees
  - 1.5m sidewalk
  - 0.3m setback

Parking would need to be prohibited to provide any bike lane (protected or not) on Westminster if two-way traffic is to be retained. Even then, only a narrower bike lane can be provided, likely 2.2m or less in width including any buffer/gutter. This constraint is true for the section of Westminster between Arlington and Maryland all the way through to Langside, where East Option 1 proposes turning Westminster into an eastbound one-way, which would free up space for protected bike lanes (see above for the benefits of this option and potential cross sections made possible by the conversion to a one-way).

Since the narrower conditions along Westminster exist all the way to Arlington, we think that its worth reducing the quality of the westbound bike lane from a protected bike lane to an at-grade

bike lane between Sherbrook and Furby to provide a more consistent wider protected bike lane for bike traffic flowing east. As the Wolseley/Sherbrook/Furby/Westminster routing is identified as part of The Great Trail (formerly the Trans-Canada Trail), we think that this decision is warranted.

Where width exists, we would recommend raised bike lanes along Westminster as the best compromise between width and protection along the constrained sections of Westminster.



### Furby @ Westminster

To accommodate left turns off of westbound Westminster onto southbound Furby, we would recommend installation of a two-stage turn queue at Westminster and Furby. Space for the two-stage turn queue would likely have to be created by bending the southbound protected bike lane on Furby into the curb, which would require moving a utility pole west.

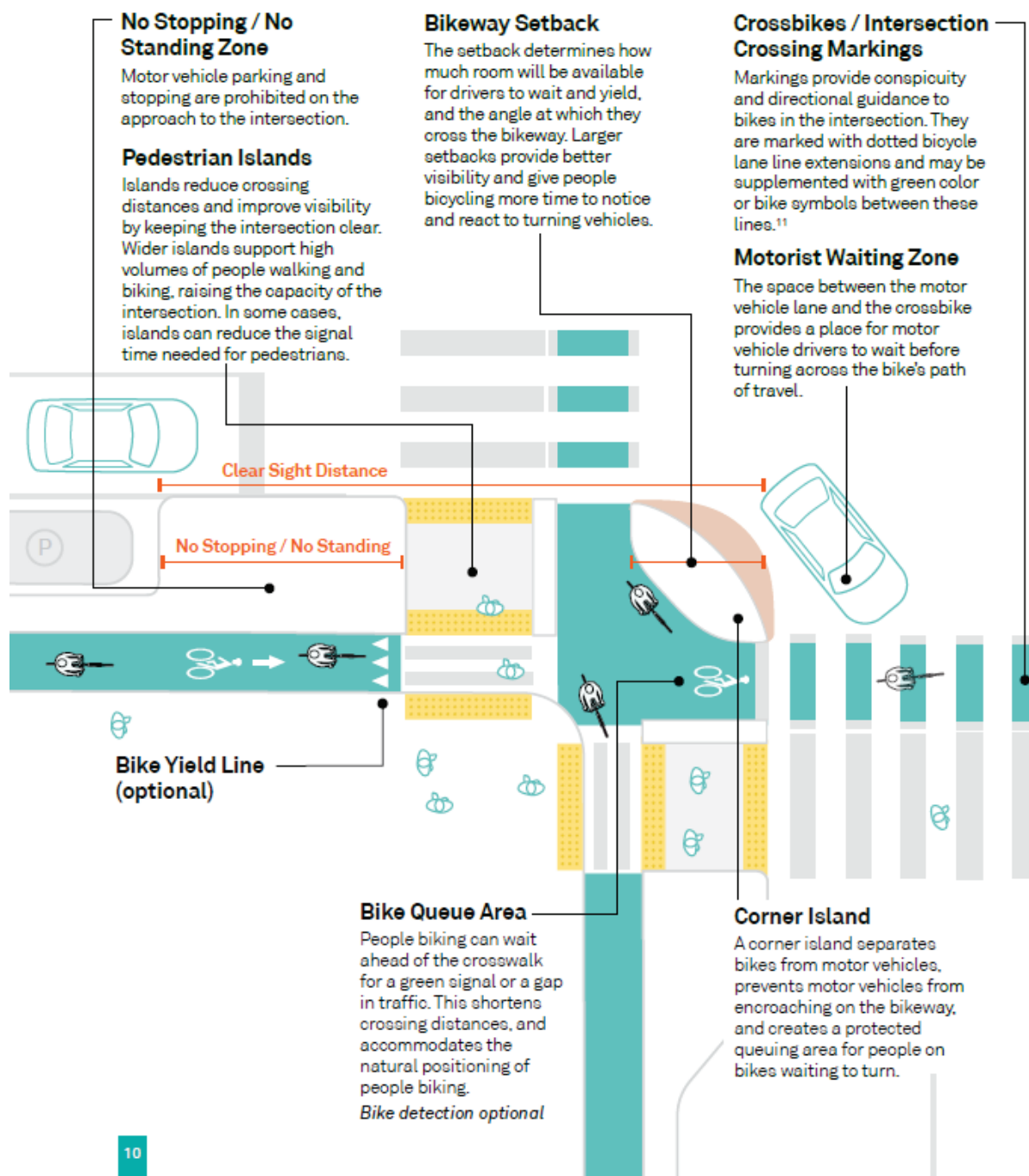


## Maryland/Sherbrook Intersection Improvements

### Sherbrook @ Wolseley

Convert Sherbrook @ Wolseley into a protected intersection.

## Protected Intersections



**Maryland @ Wolseley**

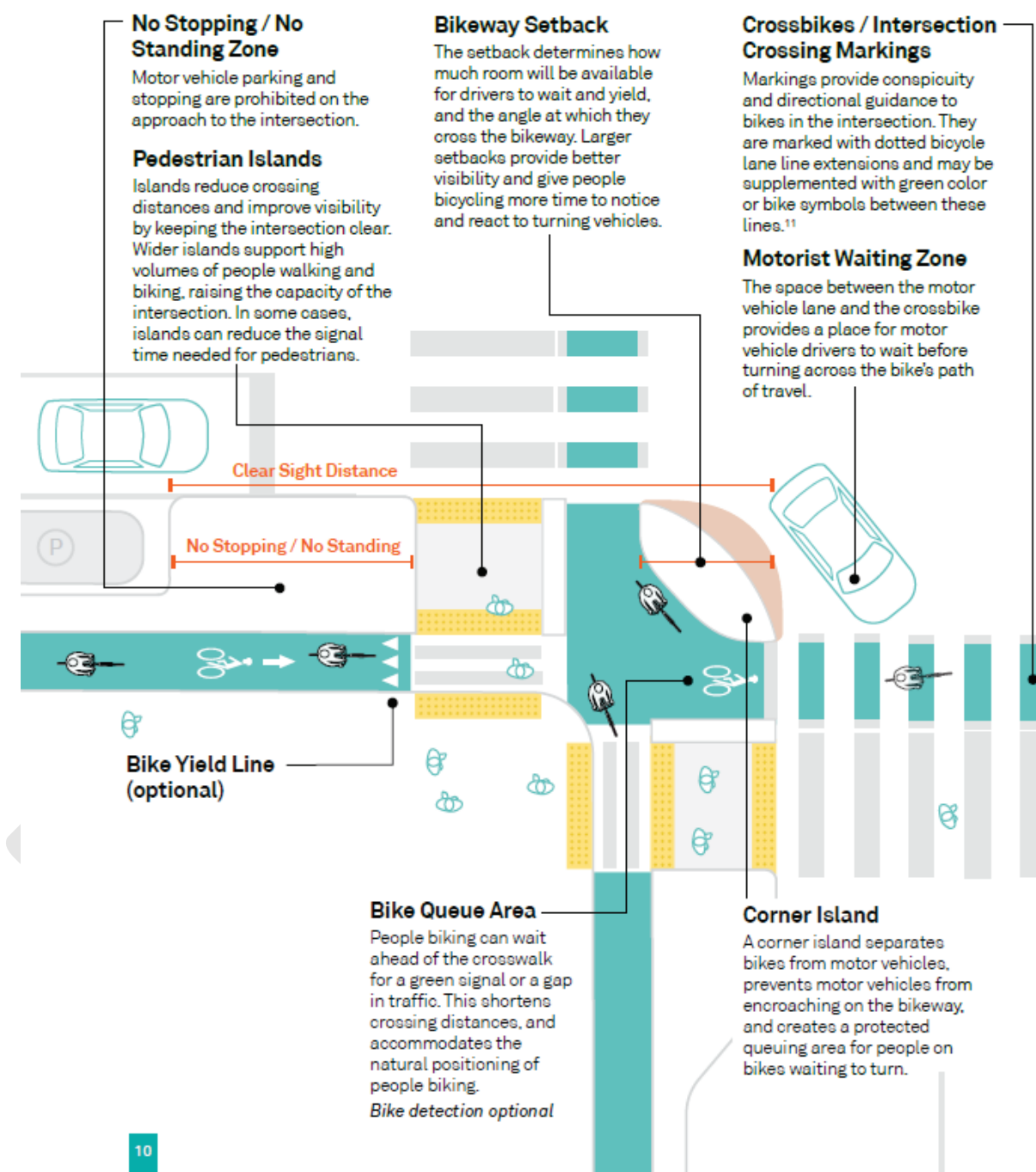
Depending on what is being considered for Maryland, a bike box might be used for left turns instead of a more formal protected intersection treatment.

**Sherbrook @ Westminster**

Convert into a protected intersection.

DRAFT

# Protected Intersections



## Maryland @ Westminster

Depending on what is being considered for Maryland, a bike box might be used for left turns instead of a more formal protected intersection treatment.

## West Segment – Raglan to Maryland

### West Segment Issues Matrix

#### Wolseley

With traffic diverters and one way conversions as shown, we think that a mixed use, neighbourhood greenway treatment should be good.

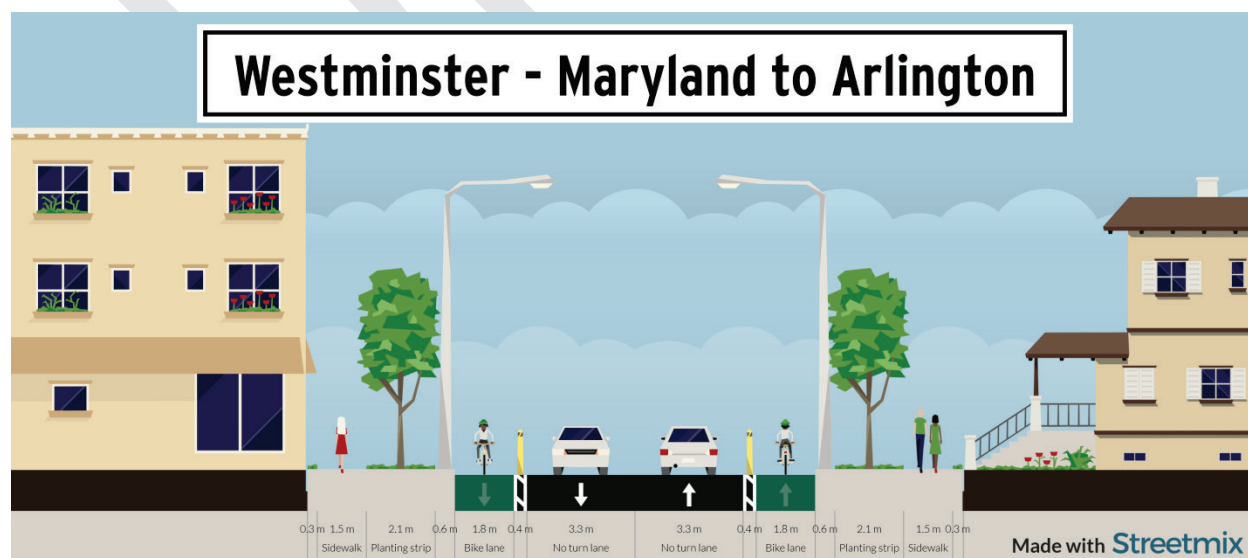
The one way section between Walnut and Maryland is critical. It has been noted that 4 collisions with students at Mulvey School have occurred in the last number of years.

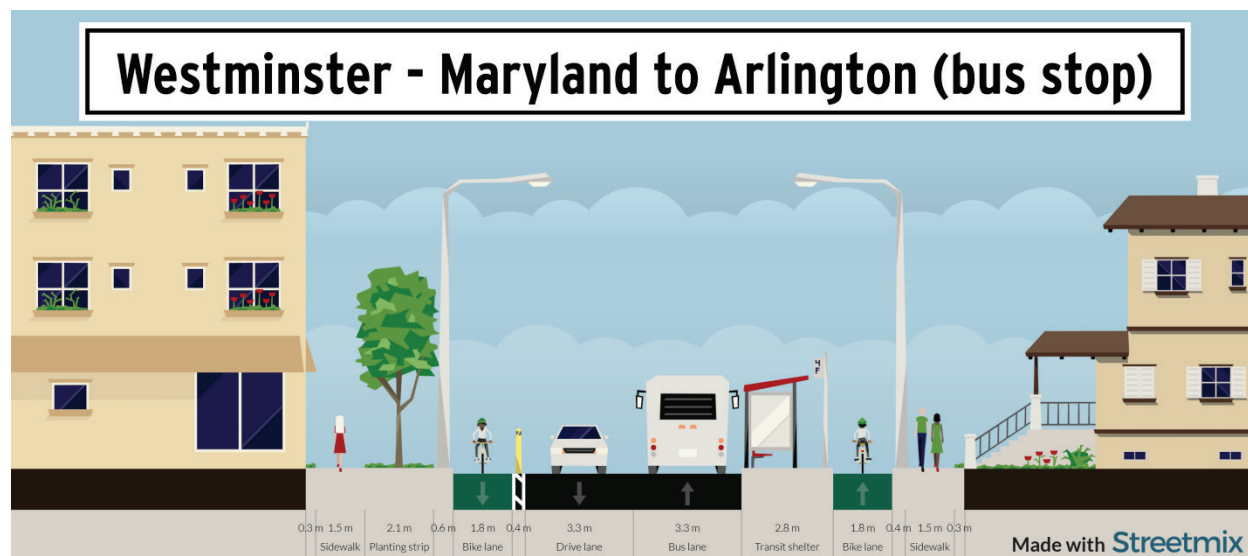
#### Clifton

- Geometric changes at Wolseley and Clifton are important.
- Rather than a pedestrian corridor at Portage and Clifton, we'd like to see a half signal, similar to what is planned for the Ruby/Banning intersection with Portage, to facilitate the proposed Clifton neighbourhood greenway.
- The addition of a safe crossing of Portage at Clifton via a half signal creates a connection to Riddle and hence to the Empress Cycle track which may act as an alternative route when the Omand's Creek Bridge is flooded out.
- Clifton is the last direct crossing opportunity on Portage. Every other street west of Greenwood and Dominion
- Clifton provides access to Valour Community Centre – Isaac Brock Centre.

#### Westminster

We prefer option 2 through the west section of the study, as the protected bike lanes included in this design match the desire for added connectivity and comfort for people cycling on Westminster. We would recommend that parking restrictions at the north/south ends of streets intersecting Westminster be used to free up parking space for local businesses.





## Arlington Bus Route

Rather than diverting bus traffic onto Home Street, we believe that transit should connect between Wolseley and Westminster along Arlington northbound and southbound.

It should be fairly easy to convert Arlington into two-way bus traffic. When included with the width along Arlington and the back lane entrances on the west side of Arlington, bus stops and parking restrictions at either end of Arlington should allow for a straightforward transit protocol to prevent the passing of two buses.

- Southbound Buses – If a northbound bus has entered the roadway, any southbound bus would complete its turn onto Arlington, pull into the curb of the southbound lane (perhaps a good spot for a new bus stop?) and wait for the northbound bus to pass before continuing south.
- Northbound Buses – If a northbound bus turning onto Arlington spots a southbound bus already in the roadway, it will turn onto Arlington and wait for the southbound bus to pass it in the southbound lane (may require removal of some parking) before continuing north.

This option removes buses from Evanston, which would likely be seen as a plus.

This would create a direct north/south bus route along Arlington from Inkster all the way to Wolseley once the planned Arlington Bridge replacement project is completed (buses are not now allowed over the Arlington Bridge, but will be allowed once this project is completed). As this is a highly walkable/bikeable segment of roadway, this route would be beneficial.

## Wayfinding

We urge the city to consider wayfinding to be an important component of the bikeway improvements to the study area. Wayfinding signage should be included within the scope of any project proceeding from this study.

## Omand's Creek Bridge Status

We would like to see signage added to indicate whether the Omand's Creek Bridge is open or closed. Signs should be located as follows:

- Before the first entrance to the Empress St Pathway near the east end of the St James Cemetary
- At the north end of the BNSF Rail/Walk/Bike Bridge
- At the corner of Wolseley and Raglan Rd.

## Other

We would like to see improvements to the crossing at Ruby/Banning @ Portage.

1. A post to allow someone on bike to activate the signal.
2. Bike signals to show red, yellow, and green for people on bikes.