

# Reallocation of Road Space to Support Active Transportation

## A Primer on Current Practices

### 1. Introduction

A number of communities within the region are developing and implementing new bicycle and pedestrian infrastructure. With limited public right-of-way, this can often result in the removal of on-street parking to enable the installation of protected bike lanes, enhanced sidewalks, traffic calming measures such as curb bulges, and other pedestrian facilities. In January 2016 the CRD commissioned Urban Systems to undertake a scan of practices to remove on-street parking (metered/free/residential/commercial) for replacement with active transportation facilities.

This memo provides a summary of current North American research on the removal of on-street parking to enable the installation of active transportation facilities. More specifically, the memo provides information on:

- Costs of providing on-street vehicle parking;
- Benefits of providing on-street vehicle parking;
- Research on the re-allocation of road space and removal of on-street vehicle parking;
- Review of municipal communications approaches related to road space re-allocation; and
- Recommendations for municipalities to consider when re-allocating road space from on-street vehicle parking to active transportation facilities.

A majority of the parking research that has been completed relates to costs, benefits and impacts of re-allocating road space in an urban, commercial environment. There is limited research on the costs, benefits and impacts of reallocating road space in a residential, suburban or rural setting. As new information emerges the CRD will continue to share data and research with municipal partners.

NOTE: Transit is also an important mode of transportation that should be considered in the allocation of road space. This memorandum does not evaluate the costs and benefits of re-allocating road space to transit or the implications for public transit when reallocating road space for cycling and walking infrastructure. Local governments should consider a 'complete streets' approach to re-allocating and re-design roads.

## 2. Cost of providing on-street vehicle parking

Because the majority of parking across cities in North America is provided free of charge, people generally assume that it costs very little to provide. In fact, the land, capital and maintenance cost of providing parking is significant. Providing on-street parking is much cheaper to provide than off-street surface or parking structure, but it is still an ongoing municipal expense. The cost of providing parking includes:

- Land costs- as parking is provided near destinations are usually higher than locations without destinations and amenities;
- Capital costs- providing paving, lighting, parking meters;
- Maintenance- street sweeping and snow cleaning, re-paving, fee collection (for priced parking), enforcement, insurance, labour and administration;
- Environmental or indirect costs- loss of greenspace, increased impervious surfaces;
- Opportunity costs- the space could be used for other things such as traffic lanes, busways, bike lanes, additional sidewalk space, or parklets,<sup>1</sup>

In the United States the least expensive urban parking space (8.5' x 18') on relatively worthless land costs approximately \$4,000 US to create.<sup>2</sup> Depending on the cost of land in a community or at different locations within a community, the cost can be much higher. For example, the typical parking facility financial costs in a Central Business District (the major commercial or business centre of a city), on-street parking is estimated to be:<sup>3</sup>

Type of Facility	Land Cost per Acre	Annualized construction costs	Annual O & M costs	Total Annual Cost	Total Monthly Cost
Central Business District, On-Street	\$6,000,000	\$543	\$460	\$3,268	\$272

The specific cost of providing on-street parking in the Capital Regional District would depend on the location's land cost and specific construction and operations and maintenance cost in the municipality or electoral area. For example, a review of 2015 BC Assessment data found that the land value in downtown Victoria (Fort Street) is approximately \$8 million per acre, while in a suburban residential area like Owens Road in Colwood land value is approximately \$1.2 million per acre.

---

<sup>1</sup> Litman, T. Transportation Cost and Benefit Analysis II – Parking Costs, December 2015. <http://www.vtpi.org/tca/tca0504.pdf>

<sup>2</sup> Speck, J. Walkable City, pg 116.

<sup>3</sup> Litman, T. Transportation Cost and Benefit Analysis II – Parking Costs, December 2015. <http://www.vtpi.org/tca/tca0504.pdf>

### 3. Benefits of providing on-street vehicle parking

Though there can be criticism of the amount and low cost of parking available, there are benefits to providing on-street vehicle parking. These benefits include:

- Enabling people from further distances to access commercial and residential buildings by car;
  - On street parking, when available, provides convenient and close access to shops, services and residences for people who arrive at the destination by car
  - As in-fill development occurs in residential neighbourhoods, on-street parking may provide parking for residents of secondary suites as well as visitors to the neighbourhood
- Revenue from parking meters
  - Revenue provided by appropriately pricing parking can cover or exceed the cost of providing the parking. For example, the City of Victoria received \$6.2 million in on and off-street surface parking revenue in 2015. This exceeded the \$5.6 million in expenses the business unit had in 2015<sup>4</sup>.
- Accessibility for people with disabilities
  - Allowing people with disabilities who drive or are driven to access shops, services or residences
- Buffer between vehicle travel lanes and sidewalk or protected bike lane
  - On-street parking provides a buffer between the sidewalk and the moving vehicles. Parked cars can also be used as the buffer in building protected bicycle lanes, which greatly increases the safety and comfort of the person riding a bicycle.
- When priced and regulated according to demand there is regular turnover in parking use
  - It is recommended that on-street parking be priced at a level that results in an 85% occupancy rate at all times. By identifying this optimal price for on-street parking, the average park-and-visit time will decrease, thus increasing turnover for merchants. As well, achieving 85% occupancy (or one empty spot per block face) then reduces the amount of time a driver spends searching for a parking spot.<sup>5</sup>
- Slower traffic speeds

---

<sup>4</sup> City of Victoria, Draft Financial Plan 2016 – 2020, page 227.

<sup>5</sup> Speck, J. Walkable City.

- Drivers travel at significantly slower speeds when there is on-street parking or small building setbacks.<sup>6</sup>
- More efficient use of space than off-street surface parking lots
  - According to research, a medium-sized town centre can save an average of more than two acres of land by providing on-street parking instead of a parkade/ off-street parking facility.<sup>7</sup>

When road space is provided for parking in commercial and higher density residential areas, space is often also allocated for loading, taxi or hotel zones. These spaces provide short term parking to allow goods delivery to commercial businesses and pick up and drop off of people and luggage. Therefore these zones are important for ongoing business operations and access for people with disabilities to residences and businesses.

#### 4. Exploring the Research

There are many municipalities that are choosing to re-allocate road space from on-street parking to other uses, including active transportation mobility. This section reviews the research that has been completed on the impacts of the re-allocation of space. The Victoria Transport Policy Institute argues that there are three justifications to provide bicycles lanes over vehicle parking:

- **Equity.** Local roads are funded through local property tax and it is fair to provide road space and funds for different modes of travel used by taxpayers.
- **Priority.** Movement and mobility is the primary function of public roads, and vehicle storage is less important. Therefore, bicycle lanes that facilitate movement should be prioritized over providing on-street parking.
- **Parking efficiency.** Reduction in on-street parking can be offset by a reduction of vehicle trips where people choose to bike instead.<sup>8</sup>

---

<sup>6</sup> Garrick, N. University of Connecticut. <http://www.planetizen.com/node/31274>

<sup>7</sup> Garrick, N. University of Connecticut. <http://www.planetizen.com/node/31274>

<sup>8</sup> Litman, T. (year). Quantifying the Benefits of nonmotorized travel.

Other reasons to provide cycling or walking facilities to replace parking include the impact on economic development, increasing active transportation mode share, and reducing greenhouse gas emissions. These are described in detail below.

### **Benefit 1: Economic Development**

When a community announces that it will be, or is considering, removing on-street parking to provide other facilities there is often objection that this will be detrimental to local businesses.<sup>9</sup> Emerging research is demonstrating that there are economic benefits that come with providing safe and comfortable bicycle or walking facilities that replace on-street parking.

#### *Bicycle Facilities:*

Overall, research demonstrates that people who arrive at shops by bicycle spend more per month than drivers. City Lab's article, "The Complete Business Case for Converting Street Parking into Bike Lanes"<sup>10</sup> reviewed this research and found:

- "Replacing on-street parking with a bike lane has little to no impact on local business, and in some cases might even increase business. While cyclists tend to spend less per shopping trip than drivers, they also tend to make more trips, pumping more total money into the local economy over time.";
- Research on travel mode and spending consistently finds that non-driving shoppers spend more per month than drivers because they visit a shop more often;
- Research examining Toronto's Bloor Street "concluded that converting street parking into a bike lane in the area was "unlikely" to have a negative impact on business and that, on the contrary, "this change will likely increase commercial activity.";
- Businesses such as restaurants, drinking establishments and convenience stores benefit more from the introduction of cycling facilities than supermarkets; and,
- When bike parking replaces vehicle parking, more people can access a location because six bikes can fit into one car parking space. Research in Melbourne, Australia that found that drivers spend

---

<sup>9</sup> Arancibia, D., Cyclists, Bike lanes and On-street Parking: Economic Impacts, 2013. [http://www.torontocycling.org/uploads/1/3/1/3/13138411/daniel\\_arancibia\\_ce\\_report\\_bike\\_lanes\\_december\\_10.pdf](http://www.torontocycling.org/uploads/1/3/1/3/13138411/daniel_arancibia_ce_report_bike_lanes_december_10.pdf)

<sup>10</sup> Jaffe, E. The Complete Business Case for Converting Street Parking into Bike Lanes. CityLab. March 13, 2015.

more per hour than people on bicycles, about \$27 compared to \$16. When considering the amount spent in relation to the size of parking required, a fully utilized bicycle parking spot results in \$97 in retail spending per hour. Therefore, the authors posit that “space used for car parking is less efficient at generating expenditure than bike parking.”<sup>11</sup>



**Figure 30** Retail spend per hour generated by one car parking space allocated to car parking in Lygon Street, Carlton, where the car park is fully utilised at all times by a car.



**Figure 31** Retail spend per hour generated by one car parking space allocated to six bike parking spaces in Lygon Street, Carlton, where the car park is fully utilised at all times by six bikes.

12

The Toronto Cycling Think and Do Tank released the report “Cyclists, Bike lanes and On-street Parking: Economic Impacts” in 2013<sup>13</sup>. The report notes that North American urban cyclists are a desirable demographic for local businesses because they are “skilled, selective, loyal, and spend more money where they shop than their driving counterparts” (page 6). The report also found that retailers in dense urban areas tend to overestimate the number of customers arriving by car, and that this number is small in comparison to those who arrive by other modes. This report reviewed the research completed on mode

<sup>11</sup> Lee, A & Alan March. (2010) Recognizing the economic role of bikes: sharing parking in Lygon Street, Carlton, Australian Planner, 47:2, 85-93.

<sup>12</sup> Ibid.

<sup>13</sup> Arancibia, D., Cyclists, Bike lanes and On-street Parking: Economic Impacts, 2013. [http://www.torontocycling.org/uploads/1/3/1/3/13138411/daniel\\_arancibia\\_ce\\_report\\_bike\\_lanes\\_december\\_10.pdf](http://www.torontocycling.org/uploads/1/3/1/3/13138411/daniel_arancibia_ce_report_bike_lanes_december_10.pdf)

share and retail spending, demonstrating that while drivers spend more money per visit, cyclists tend to make more trips over the course of a month.

#### *Walking facilities:*

Researchers have also examined the impact of widening sidewalks at the expense of on-street parking. A study of Prince Street in New York City explored the potential impact of wider sidewalks and found that patrons stated they would visit the street more often if the sidewalks were wider because there would be a reduction of crowding on the sidewalk. It was estimated that the increased patronage offset, by a five-to-one ratio, any lost retail sales from patrons who did not come because of the reduction in parking spaces.<sup>14</sup>

Another component of the economic development potential of walking facilities is land values. Research has shown that homes located in above-average walkable neighbourhoods sell for more than similar homes in average walkable areas.<sup>15</sup> It is important to note that in this research walkability is a combination of walking facilities and destinations within a short distance.

### **Benefit 2: Increase Active Transportation Mode Share**

The provision of cycling facilities can increase the number of people who choose active transportation for at least some of their trips. Research from Minneapolis found that presence of “bicycle facilities significantly impacted levels of bicycle commuting” and that generally the closer to the bicycle facility, the higher the impact.<sup>16</sup> Other studies have shown an increase in the number of people who cycle after bike lanes have been implemented.<sup>17</sup> Still, with the introduction of new bike lanes it can be difficult to provide causation. This is particularly true of protected bicycle lanes, where people who are already cycling alter their route to take advantage of the new facility.

There is a relationship between the built environment and physical activity, including walking. This relationship is not simply about walking facilities, but also includes land use mix, connectivity and

---

<sup>14</sup> Transportation Alternatives. (2006). Shopping, Parking and Pedestrian Space in So Ho. [http://www.transalt.org/sites/default/files/news/reports/2006/soho\\_curbing\\_cars.pdf](http://www.transalt.org/sites/default/files/news/reports/2006/soho_curbing_cars.pdf)

<sup>15</sup> <http://www.reconnectingamerica.org/assets/Uploads/2009WalkingTheWalkCEOsforCities.pdf>

<sup>16</sup> [http://vehicleforasmallplanet.com/wp-content/uploads/2012/04/Analyzing\\_effect.pdf](http://vehicleforasmallplanet.com/wp-content/uploads/2012/04/Analyzing_effect.pdf)

<sup>17</sup> <http://phys.org/news/2011-01-bike-lanes.html>

<http://la.streetsblog.org/2012/05/11/add-a-green-buffered-bike-lane-and-number-of-cyclists-explode/>

population density.<sup>18</sup> Overall, there is a correlation between walking facilities (sidewalks and crosswalks) and more physical activity for the average resident.<sup>19</sup> It is important, though, that there are destinations for people to walk to.

### Benefit 3: Reduce Greenhouse Gas Emissions

Transportation is a major contributor to community greenhouse gas emissions (GHGs). In the capital region, the Community Energy & Emission Inventory Reports estimate 55% of all GHGs in 2010 were from on-road transportation. Within the region, there is significant community variability. For example, within the City of Victoria 40% of emissions were accounted for through on-road transportation whereas in North Saanich 72% of emissions came from transportation. Every community in the CRD has established GHG reduction targets – regardless of their starting point, shifting transportation mode share away from the single occupant vehicle to forms that produce lower GHGs is critical. Providing more facilities to encourage cycling and walking can assist with this mode shift.

## 5. Public Communications and Mitigation

The theoretical research demonstrates the impact of replacing on-street parking with walking or bicycle facilities, but communities are using very different communications approaches when replacing on-street parking with walking or cycling facilities. This section reviews case studies of community approaches to communicating decisions and mitigating impacts.

Overall, communities are using the following communications strategies when removing parking:

- Parking utilization;
  - Demonstrating and communicating extent of current parking use and the opportunity to reduce the number of parking spaces
- Number of parking spaces in the area;
  - Mapping the current parking spaces within the area to increase awareness of current parking opportunities;
  - Calculating and communicating the number of parking spots within the area (usually within walking distance) to demonstrate continued parking opportunities;

---

<sup>18</sup> <http://www.ncbi.nlm.nih.gov/pubmed/22077952>

<sup>19</sup> <http://now.tufts.edu/articles/if-you-build-it-they-will-walk>

- Creating new parking spaces in the area that are equal or greater than the number of parking spaces that are being removed;
  - This can be accomplished by:
    - Changing parallel parking to angle parking to achieve up to 30% more parking spaces
    - Re-configuring parking type, for example changing residential only to time limited parking or extending the hours of operations of on-street parking spaces
    - Introducing one-way streets to retain or create parking
  - Providing additional outreach to businesses in the vicinity; and,
  - Identifying parking space removals that are required for safety and sight lines of all road users.

As demonstrated in the following case studies, communities also use mitigation measures to minimize the impact of removing on-street parking for walking or cycling facilities. The most common mitigation measure is to create new parking spaces within the vicinity of where parking is being removed. This can be done by introducing angle parking, changing parking restrictions (residential, time limited, or peak hour restrictions), or introducing new on or off-street parking spots. Another mitigation approach is to create time-limited bicycle facilities, as demonstrated in the Oak Bay case study, below.

## 6. Case Studies

### City of Vancouver

Since the first installation of a protected bicycle lane in 2011, the City of Vancouver continues to implement dedicated/protected cycling facilities across the City. In many cases, parking is being removed to install the facilities.

When communicating with the public regarding parking removal for cycling facilities, the City attempts to communicate the goals and policies from its Transportation 2040 Plan, as well as its Greenest City Action Plan and Healthy City Strategy to emphasize that “encouraging active transportation addresses a whole suite of City priorities (environment, health and transportation aspirations).”<sup>20</sup>

---

<sup>20</sup> Email communication between CRD and City of Vancouver, 2015.

Overall, the City uses the following approaches to mitigate the removal of parking:

- Demonstrate low usage/adequate supply through parking counts or study;
- Identify safety concerns and improvement of sight distances at key locations;
- Retain parking by converting street to one-way flow; and,
- Changing the regulations of available parking to best address the key needs in the area (i.e. time limited, permit parking only, etc.).

Recently, the City announced plans to create or upgrade 12 new cycling corridors. In the report to Council, staff were transparent about parking loss on each corridor, the reason for this loss (e.g. “improve visibility for all street users at intersections and driveways”), and note that “staff will consult with neighbouring businesses to understand issues and minimize impacts.”<sup>21</sup>

Examples of the City of Vancouver’s communication material are provided in the Appendix.

### **City of Calgary, City Centre Cycle Track Network**

The City of Calgary recently opened the City Centre Cycle Track Network pilot project, which is made up of 5.5 km of separated bike lanes in the downtown. The implementation of the network required the removal of some parking along the corridors.

The City’s approach to parking removal was to maintain it wherever possible. Where parking could not be maintained, the City identified new angle parking or parking stalls on adjacent streets. Overall, the City has created 501 new parking stalls downtown since 2014, with a net increase of 135 stalls in the city centre. In response to business owners that were concerned about parking loss, the City emphasized that parking was not being removed but rather re-located.<sup>22</sup>

Examples of the City of Calgary’s Frequently Asked Questions on cycle tracks and parking are provided in the Appendix.

---

<sup>21</sup> <http://former.vancouver.ca/ctyclerk/cclerk/20151210/documents/ptec7.pdf>

<sup>22</sup> <http://www.calgarysun.com/2015/05/19/downtown-calgary-business-owners-worry-parking-lost-to-cycle-track-network-will-hurt-profits>

## **Toronto**

The City of Toronto undertakes public consultation and information dissemination for each of the cycling infrastructure projects it undertakes. The Bloor Street Bike Lane Pilot Project consultation is currently underway. In public communications material the City reviews both the changes to parking as a result of the project and also the opportunities to reduce impacts on parking in the future. The material also communicates impact visually by showing options to retail parking on the same side or alternate sides of the street.

Examples of the Bloor Street Bike Lane Pilot Project materials are provided in the Appendix.

## **City of Ottawa**

The City of Ottawa initiated a segregated bike lane project on Laurier Avenue West in 2008. The pilot project was installed in 2011 for a two-year trial period while staff undertook monitoring using a wide range of indicators. In 2013 the segregated bike lanes were made permanent. The project website includes 'Frequently Asked Questions,' including questions about parking. The information provided emphasizes that on-street parking has increased in the area and documents the exact number of parking spaces that remain on Laurier Avenue West. In addition, parking that was limited to off peak hours was expanded to all day. One highlight is that some of the newly expanded parking was provided free of charge.

Examples of the City of Ottawa's Frequently Asked Questions are provided in the Appendix.

## **City of Thunder Bay**

In Thunder Bay, a proposal was put forward to expand a park by removing part of a parking lot. The consulting team used maps and visual representation to highlight the amount of off-street parking that was currently available within walking distance of the park.

Examples of the City of Thunder Bay maps and visuals are provided in the Appendix.

## **District of Oak Bay**

In Oak Bay, bicycle lanes were introduced along a 1.1km stretch of Henderson Road to provide increase cycling access to the University of Victoria. These bicycle lanes are in effect from 7am to 8pm on weekdays. Outside of these times, cars are allowed to park along the curb in the bicycle lanes. This mitigation measure

was developed based on adjacent resident's concerns about the removal of all residential parking along the corridor.

This approach provides vehicle parking during evenings and weekends when residents may have guests over who require additional parking while providing dedicated space for bicycle lanes during the busiest cycling hours. However, under this approach dedicated bike lanes are not available during the evening or night when visibility is low. Conversely, this approach can create confusion about the time limits for parking in both this and other bike lanes.

There are very few examples of other municipalities implementing this mitigation measure, though municipalities in Australia have constructed part-time or "peak period" lanes on some major thoroughfares.<sup>23</sup>

### Other Examples

The advocacy group, People for Bikes, has reviewed the different ways cities are communicating the impact of replacing parking spaces with bicycle lanes.<sup>24</sup> They highlighted the following examples:

- City of Chicago
  - Identify businesses owners who are supportive of bike lanes in advance
- City of Montreal
  - Provide information on every parking space within 200 metres of the proposed bikeway where parking spaces are being removed
- City of St. Paul
  - Provide aerial photos to demonstrate how much parking is available and current utilization
- City of Portland
  - Use demonstration or pop-up streets to show what is possible on a street
- City of Seattle
  - Undertook extensive research which resulted in 'demand-sensitive' parking reform.

---

<sup>23</sup> <https://www.bicyclenetwork.com.au/general/for-government-and-business/2843/>

<sup>24</sup> <http://www.peopleforbikes.org/blog/entry/10-ways-cities-can-win-the-fight-to-upgrade-parking-spaces-to-bike-lanes>

## 7. Recommendations

Based on the review of the research and current communications strategies by municipalities across North America, it is recommended that communities consider the following recommendations when reallocating on-street parking to cycling or walking facilities:

- Know your current on-street parking situation including current utilization both on the specific street that is being re-designed and within the area (i.e. walking distance);
- Communicate to residents and business owners the general benefits of providing cycling and walking facilities and how it relates to community aspirations;
- Communicate number of parking spaces removed and reason for removal or mitigation strategy:
  - Under-utilization of current parking;
  - Safety and sight lines;
  - Other parking spaces available in the area.
- Specific communication directed at businesses to consider impacts and concerns related to their establishments; and,
- Monitor ongoing impacts, including benefits and constraints.

## 8. Conclusion

This memorandum provides a summary of the research and case studies of communities that are removing on-street parking to install bicycle and walking facilities. There are some interesting and useful results that can be considered by many communities within the Capital Regional District. The following are key considerations as more communities consider road space re-allocation decisions:

- Vehicle parking is an important planning and economic issue for communities. It occupies significant public space and has both capital and maintenance cost implications for municipalities. In addition, it is a topic that elicits strong public opinion from residents and business owners. It is therefore important for municipalities to create a parking plan or strategy to understand the current parking facilities, current and future demands, and how vehicle parking can contribute to long term community goals.
- There is very little research on the impact of removing residential parking to install bicycle or pedestrian facilities as a majority of the focus of this topic is on parking in commercial areas. This

provides an opportunity for municipalities and rural areas to work closely with residents through ongoing consultation to understand the positive and negative impacts of removing residential parking.

- The removal of parking often also means the removal of loading areas and accessible access for people with disabilities. Loading zones are an essential part of business operations and access for people with disabilities is especially applicable to health care offices and seniors-oriented housing. It is important that municipalities consider alternatives for both of these situations.

Removing parking for the inclusion of active transportation infrastructure is becoming increasingly common in North America. With limited funding and roadway space, municipalities and electoral areas in the Capital Region may consider replacing parking with infrastructure dedicated to the pedestrian and cyclist.

# Appendix

## City of Calgary, City Centre Cycle Track Network (2015)

### Parking changes

- Parking has been maintained wherever possible. Where parking could not be maintained, we created new angle parking and micro parking stalls on adjacent streets. Since 2014,  [501 new parking stalls](#) have been created downtown to offset the loss of parking, and we have a net increase of 135 stalls in the centre city.
- There have been adjustments made to the location of some loading zones. Some have been moved to provide more direct access to ramps. Maps have been created to show where  [parking](#) is located along the  [5 Street](#),  [8 Avenue](#) and  [12 Avenue](#) cycle track routes.
- Feedback about accessibility along the new cycle track routes can be submitted via 311.

Reference: <http://www.calgary.ca/Transportation/TP/Pages/Cycling/Cycling-Route-Improvements/City-Centre-cycle-track-network.aspx>

# Arbutus St and 7<sup>th</sup> Ave

## Proposed Parking Changes

With the changes to the roadway, 15 on-street parking spaces adjacent to St. Augustine's School will be removed from 7<sup>th</sup> Ave.

As part of Phase 2 school construction, nine additional spaces will be added to the school property.

### Current Parking Demand

While school was in session in November 2014 and January 2015, City staff reviewed on-street parking in the area to understand current demand. Data was collected while 12 on-street spaces were already inaccessible due to construction.

- During daytime hours, 55-75% of nearby Resident Parking Permit spaces and 90% of nearby parking spaces with no posted regulations are typically occupied
- During daytime hours, 40% of spaces with no posted regulations accommodate long term stays (7+ hours)



PARKING: WHAT IS DIFFERENT?	WHY?
<p>Removal of 15 parking spaces (nine two-hour spaces and six spaces with no posted regulations) on 7th Ave adjacent to St. Augustine's School</p>	<ul style="list-style-type: none"> <li>• To provide space for one-way motor vehicle traffic and the bi-directional protected bike lane</li> <li>• To maintain emergency vehicle access</li> <li>• To ensure school drop-off occurs on-site</li> </ul>
<p>Convert nine spaces (eight Resident Permit Parking and one with no posted regulations) on 7th Ave west of St. Augustine's School to '2-Hour Except with Permit (9am to 6pm Mon-Fri)'</p>	<ul style="list-style-type: none"> <li>• To provide for Resident Permit Parking demands while also supporting access to the Western Institute for the Deaf and Hard of Hearing and short-term residential visitors</li> </ul>
<p>Convert three spaces with no posted regulations on 7th Ave east of Arbutus St (adjacent to Delamont Park) to '2-Hour (9am-6pm Mon-Sat)'</p>	<ul style="list-style-type: none"> <li>• To continue to accommodate short-term use of spaces that currently have no posted regulations</li> </ul>
<p>Convert three Resident Permit Parking spaces on 7th Ave opposite Delamont Park to '2-Hour (9am-6pm Mon-Sat)'</p>	
<p>Convert three spaces with no posted regulations on 7th Ave opposite Delamont Park to Resident Permit Parking spaces to create a larger permit zone</p>	

This information can be found at [vancouver.ca/spotimprovements](http://vancouver.ca/spotimprovements)  
June 2015



Reference: <http://vancouver.ca/files/cov/spot-improvements-design-and-proposed-change-Arbutus-and-7th.pdf>

## Parking Considerations

### Changes to Parking from the Pilot Project

- Reduction in the number of on-street parking spaces.
- Added pressure to the off-street parking lots and surrounding on-street parking.
- Increased hours of operation of on-street parking spaces (currently, parking is only permitted outside of the weekday morning and afternoon peak periods).



### Opportunities for Reducing Impacts on Parking

- SHORT TERM:**  
Explore additional on-street parking opportunities on side streets.  
  
Optimize usage & rates at current Green P lots.
- MEDIUM TERM:**  
The Toronto Parking Authority would review opportunities to enter into off-street management contracts for additional short-term parking spaces.
- LONG TERM:**  
Create more off-street parking opportunities in new developments in partnership with the Toronto Parking Authority.

## Option – Alternate Parking by Side of Street

Locating parking on alternating sides of the street is a more equitable approach to businesses and residents and provides drivers with potential parking in either direction.



Locating parking on the same side of the street provides for motor vehicle traffic lanes and bike lanes that are as straight as possible which improves road user expectations.



Reference:

<http://www1.toronto.ca/City%20Of%20Toronto/Transportation%20Services/Cycling/Files/pdf/B/Bloor%20Street%20Bike%20Lanes%20Pilot%20Dec%202%202015%20panels%20web.pdf>

## City of Ottawa, Laurier Avenue West Segregated Bike Lane (2013)

### Frequently Asked Questions

#### Where are people supposed to park now?

On-street parking has increased in the area, particularly along the side streets, while 44 parking spaces still remain on Laurier. For every space that was removed from Laurier, an additional space was added to Gloucester and Nepean Streets, which are only a block or two away. Unlike the previous parking spaces on Laurier which were limited to off peaks hours, these new spaces are available throughout the day, some for free. Additional information about on-street parking changes in the area is available [online](#).

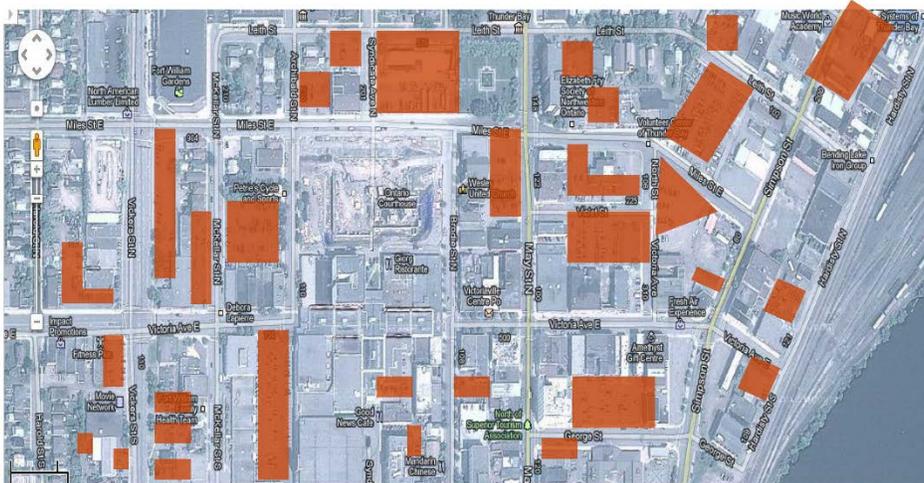
It should also be noted that additional bike parking has been implemented along Laurier, with dozens of new ring and post facilities installed between Bronson Avenue and Elgin Street.

Reference: <http://ottawa.ca/en/city-hall/public-consultations/transportation/frequently-asked-questions-1>

## City of Thunder Bay

These maps demonstrate the amount of off-street parking available within walking distance of the park planned for renovations. The second map demonstrates how much space was allocated to parking versus green space within the area.

Parking within walking distance of Paterson Park



Can we find a better balance?  
Can we be more creative?

