



Appendix A: Municipal Practices Gap Analysis Matrix

City: Victoria, BC (Canada) Population: 85,792 (2016 Census) Parking Context: Parking minimums reduced for multi-residential housing (Zoning Bylaw No. 80-159: Off-street Parking Regulations) depending on location and number of units					
Program / Tool / Tactic Name	Program Purpose	Program Successes	Program Weaknesses	Program Alignment to Edmonton Policy Themes (Strategic Policy Review)	Program Alignment to Reviewed Engagement Themes (Engagement Review)
Residential Parking Zone	To ensure that Victoria residents have access to on-street parking on their neighbourhood blocks. The cost for a Residential Parking Permit is estimated to be \$20 per year.	This allows residents to park on-street regardless of the restrictions to other motorists; and to park in close proximity to their housing, particularly in neighbourhoods with congestion.	While residents can get permits based on need, in practice, Parking Services noted that very few permits are actually applied for and/or provided. Parking Services lack capacity for daily inspections. Rather, parking enforcement is based on complaints	This program does not align with the majority of Policy Themes identified as it does not promote alternative modes of transportation, and does not provide equitable access to the program.	This program somewhat supports the Engagement Theme around provision of affordable and accessible parking spaces, however these spaces are only limited to permit holders.

			from citizens. Parking Services receives 20-30 complaints per day; and they inspect based on license plate and proof of residency.		
ParkVictoria App	<p>To provide a contactless, app-based opportunity to pay for on-street parking.</p> <p>ParkVictoria can be downloaded through Apple's AppStore or Google Play.</p>	<p>People can pay from a distance; and not at a pay station or parking meter.</p> <p>People can prepay for parking (e.g. can pay for next day starting at 5 a.m. or 9 a.m. depending on the area).</p> <p>Any paid time that is unused gets refunded to the purchaser.</p>	ParkVictoria App is focused primarily for on-street parking stalls.	This program aligns with Policy Themes like adaptability and support for emerging technologies; business and the local economy; business and the local economy; and strategic management of municipal assets.	This program aligns with the Engagement Theme around improving accessibility to parking spaces.
Downtown Parking Map	To provide a visual listing of City-run and privately-owned parking. This map was developed in concert with the Downtown Victoria Business Association.	Educates residents on where and how long they can park.	The map is only available online and is a static pdf document.	This program aligns with the Policy Theme around strategic management of municipal assets through education and awareness.	This program aligns with the Engagement Theme around improving accessibility to parking spaces.
Location Specific Metered Pricing	For decades, fees for metered parking were \$2.50 per hour city-wide. In 2014, the City of Victoria	Shifted parking behaviours as rates were increased by area. People have begun to understand	Pricing may be gauged by capacity available; and continued data and monitoring may be necessary to make	This program aligns with Policy Themes like: strategic management of municipal assets;	This program aligns with the Engagement Theme around supporting mode-shift away

	amended prices, as high as \$3/hr (downtown) and as low as \$1.50/hr (outside of the downtown).	<p>and accept that downtown parking is for short-term parking (90-minutes) as opposed to long-term parking.</p> <p>People started to park in long-term parking spots outside of the core; and in some cases, commuting into the downtown through other modes of transportation.</p> <p>Increased parking turnover and reduced congestion.</p>	appropriate adjustments.	access to and through the mobility system utilizing various modes of transportation; support for business and the local economy; and encouraging mode shift and more active modes of transportation	from automobile usage.
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City: Seattle, Washington (United States)

Population: 747,300 (2019 estimate)

Parking Context: Seattle reduced or eliminated parking requirements throughout the city, leading to fewer parking spaces (18,000) and cost savings of \$537 million

Program / Tool / Tactic Name	Program Purpose	Program Successes	Program Weaknesses	Program Alignment to Edmonton Policy Themes (Strategic Policy Review)	Program Alignment to Reviewed Engagement Themes (Engagement Review)

<p>Right-of-Way Prioritization</p>	<p>In 2016, the City of Seattle adopted a policy to define the curb lane as a “flex zone” allocating the curb to freight and passenger loading over metered parking along commercial corridors. Free long-term private vehicle storage is a low priority on key streets.</p> <p>“Seattle went through a process to identify the fundamental uses of the curb of flex zones, and to generally prioritize those uses in different zoning and land use settings.” (Estey, 2020)</p> <p>Illustration of uses of curb and prioritization, here.</p>	<p>The Flex Zone policy ranks the following uses for curb based on whether the land use is for residential, commercial and mixed use, or industrial: modal plan priorities; access for commerce; access for people; public space activation; greening; and lastly, private vehicle storage.</p> <p>Residential areas rank “access for people” as top use for curb; Commercial and Mixed Use and Industrial areas rank “access for commerce” as top use for curb. This type of framework provides the City with an understanding of who/what the curb is best used for.</p> <p>The Flex Zone prioritization “gives us an opportunity to</p>	<p>While the Flex Zone allows for “Different functions served at different times in the same space through time-of-day restrictions, such as a peak-period travel lane which is used for off-peak loading or parking,” (ite) one potential issue is monitoring and enforcement:</p> <p>“There are times when priorities conflict and there is limited right-of-way available for everyone. An example of how this plays out is when multiple modal plans identify the same street. Following the guidance, the modal plans take priority, but we recognize that people/goods loading has to occur somewhere for the buildings on those</p>	<p>This program aligns with Policy Themes around strategic management of municipal assets; and support for business and the local economy by connecting people and places.</p>	<p>This program aligns with Engagement Themes around efficient use of the transportation system, improved accessibility, affordability, and design of parking spaces; as well as enabling mode-shift from automobile usage.</p>
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		more effectively explain how/why we prioritize loading for people and loading for goods on busy commercial/retail streets.” (Estey, 2020)	streets. It hopefully forces a deeper, more intentional conversation about how we serve those properties (maybe there are off-street options, perhaps some zones can be shifted around a corner) as an element of implementing those modal priorities” (Estey, 2020)		
Demand-Based Pricing	In Seattle, data on parking occupancy is collected annually for each of the city’s 30 paid parking areas. Rates are adjusted up or down in line with occupancy targets and other performance metrics. The purpose is to adjust the cost of permits so that curbside use does not exceed supply. Seattle’s Performance-Based Parking Pricing	<p>“Ensures permit value as curbside space will reasonably be available. More reflective of value for curbside commodity.” (NACTO, 2017)</p> <p>Ranked by NAIOP as one of the top 3 innovating parking programs in the U.S.: “A performance based parking program uses a data-driven process to adjust on-street parking rates for 12,500 spaces downtown and in neighbourhood</p>	“May be cost prohibitive to lower income households and may limit their mobility options. Challenges in determining appropriate price point.” (NACTO, 2017)	This program aligns with Policy Themes around strategic management of municipal assets; adaptability to accommodate/support emerging technologies; and support for business and the local economy by connecting people and places.	This program aligns with Engagement Themes around improving the accessibility, affordability, and design of parking spaces, as well as supporting mode-shift away from automobile usage by pricing parking spaces appropriately

	<p>Program has been in place since 2011. Its foundation is in the Seattle Municipal Code, which says Seattle should use data to adjust rates so that there are one to two available spaces per block throughout the day. Seattle has 30 paid parking areas, each with morning, mid-day and evening rates.</p>	<p>business districts".</p> <p>Seattle collects parking occupancy data and uses that data to adjust rates up or down for areas/times outside our target 70 – 85% occupancy. Their rates vary between \$0.50/hour and \$5.00/hour. Much more information on this program can be found in a variety of places, including here and here. Our most recent annual parking study report can be found here.</p>			
Restricted Parking Zones (RPZs)	<p>Restricted Parking Zone (RPZ) Program was created in 1979 to help ease parking congestion in residential neighborhoods surrounded by major traffic generators like hospitals and universities, while balancing the needs of all people to be</p>	<p>Seattle's RPZs help neighborhoods deal with the impacts from major traffic generators through transportation and parking demand management strategies and signed time limits from which vehicles displaying a valid RPZ permit are Exempt.</p>	<p>Pricing for permits is \$65/two years, which may lock residents into unused permits if they decide to move.</p> <p>"Our desire over the past couple years has been to move towards a system more akin to our Performance-Based Parking Pricing</p>	<p>This program does not align with the majority of Policy Themes identified as it does not promote alternative modes of transportation, and does not provide equitable access to the program</p>	<p>This program somewhat supports the Engagement Theme around provision of affordable and accessible parking spaces, however these spaces are only limited to permit holders.</p>

	able to use the public streets.	Outreach was conducted with 1,100 respondents to assess the RPZ program.	program, recognizing there are different demands for RPZ permits in different neighborhoods. You can find more information on that effort here . We've had to put that effort on the shelf for the time-being." (Estey, 2020)		
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City: Portland, Oregon (United States)
Population: 654,741 (2019 Census)
Parking Context: Zero parking minimum requirements for new developments near frequent transit (if they contain affordable housing units) — [Parking, Loading, And Transportation And Parking Demand Management](#)

Program / Tool / Tactic Name	Program Purpose	Program Successes	Program Weaknesses	Program Alignment to Edmonton Policy Themes (Strategic Policy Review)	Program Alignment to Reviewed Engagement Themes (Engagement Review)
Allocating revenues to district enhancements and community initiatives	Commercial revenue from parking in a corridor or district fund transportation management strategies, including alternatives to driving or neighbourhood streetscape	This is an effective method to gain support for modifying parking fees and regulations, as the benefits of parking fees are clearly visible to	Enhancements to the area are still premised on providing on-street parking space for cars and deriving revenue from that mode of transportation.	This program aligns with Policy Themes around strategic management of municipal assets; support for business and the local economy by	This program aligns with Engagement Themes around improving the accessibility, affordability, and design of parking spaces as well of the Engagement

	improvements.	<p>on-street parking users.</p> <p>Meter revenue from Portland's Lloyd District, for example, provided funding for discounted transit passes for employees at 20 businesses, reducing drive-alone rates by 25%.</p>		connecting people and places; and encouraging mode shift.	Themes around enabling mode shift
Area Parking Permit (APP) areas	Area Parking Permit (APP) can be purchased by residents and businesses within an Area Parking Permit (APP) zones, allowing them to park on street past the posted visitor time limits. The cost is \$75 per year. Program is successful in addressing commuter parking.	<p>Districts with Parking Management Plans charge an additional \$120-\$295 permit surcharge with revenues to support community transportation initiatives (applies in Parking Management Plan Districts)</p> <p>There is some thinking around subsidizing active transportation options (including BIKETOWN memberships, a bike share program) for opting out of the APP program.</p>	<p>Additional surcharges are needed to support administration and enforcement of the program (e.g. ticketing) in Parking Management Plan Districts.</p> <p>When new multi-dwelling developments are built within a zone and meet rules/eligibility, a large number of tenants compete for a limited number of on-street spaces.</p>	This program aligns with the Policy Themes by strategically managing municipal assets and supporting businesses by connecting places with people.	This program aligns with the Engagement Theme around prioritization of active transportation to inspire modal shift, as well as providing better affordability and access to parking spaces.

SmartPark Garages	Portland has 5 public parking garage systems in the downtown, designed to support short-term needs of shoppers, visitors, and business clients.	<p>Revenues are invested in other downtown investments.</p> <p>Garage amenities include bike parking and EV charging stations.</p> <p>Hourly pricing in SmartPark is kept just slightly under the adjacent on-street hourly prices, creating an incentive for parking customers to quickly enter the off-street parking. Parking is created to reduce congestion.</p>	Payments can only be made through SmartPark Access and Revenue Control System (PARCS): pay stations and paper parking tickets.	This program aligns with the Policy Themes by strategically managing municipal assets and supporting businesses by connecting places with people.	This program aligns with the Engagement Theme around improving the accessibility, affordability, and design of parking spaces, as well as supporting major nodes and corridors through affordable and accessible parking opportunities.
City of Portland Parking Map + On-street Parking Guide	<p>An online interactive tool highlighting locations for on-street parking, SmartPark garages, Area Parking Permits, and Disability Parking.</p> <p>An On-street Parking Guide provides residents with information about on-street parking costs, locations, and</p>	<p>Online maps helped Portland retire out-of-date pdf maps listed on their website. The data is tied to Portland's GIS system, which automatically updates.</p> <p>For the first time, Portland consolidated all information into one place on their</p>	<p>There may be lags in changes made in the field and when they are updated in the GIS system. According to Portland's staff, however, this has not emerged as a public concern.</p> <p>The online map is best viewed on a desktop web browsing system, as opposed to smart phones.</p>	This program aligns with Policy Themes around strategic management of municipal assets and improved accessibility.	This program aligns with Engagement Theme around accessibility to parking spaces.

	permits.	website through their On-street Parking Guide webpage. They focused the information displayed on the end users and the questions/concerns they might have before calling the city.	The On-street Parking Guide webpage provides a significant amount of content.		
Residential and Business Parking Permits	<p>Portland has areas with both metered parking and parking for residential and business permit holders.</p> <p>“Created to bridge the gap between parking availability and demand, support a full range of transportation options within the context of neighborhood livability and economic vitality, efficiently manage parking, and reduce reliance on single-occupancy vehicles.” (City of Portland, 2020)</p>	Within residential neighbourhoods that are in close proximity to businesses, on-street parking spots can be more effectively utilized (e.g. residents who park in evening leave for work during the day; business owners use space during the day).	This program is premised specifically on parking for cars; and not for other modes of transportation.	This program aligns with the Policy Theme around strategic management of municipal assets.	This program aligns with the Engagement Theme around accessibility and affordability to parking spaces.

City: Buffalo, New York (United States)

Population: 255,284 (2019)

Parking Context: Buffalo is reported as being the first major U.S. city to completely eliminate parking minimums in 2017.

Program / Tool / Tactic Name	Program Purpose	Program Successes	Program Weaknesses	Program Alignment to Edmonton Policy Themes (Strategic Policy Review)	Program Alignment to Reviewed Engagement Themes (Engagement Review)
Buffalo Roam	An online app that provides customers with a more convenient way of paying for parking. Through their smartphones, customers can pay fees; receive alerts when their parking sessions expire; add time to a parking session; and see when parking rates change.	As of January 2019, approximately 35% of parking payments were completed via Buffalo Roam.	The app is not available to customers who do not own or use smartphones or comparable mobile devices.	This program aligns with the policy theme of demonstrating adaptability by accommodating and supporting emerging technologies.	This program aligns with the Engagement Theme around improving accessibility to parking spaces
Increased On-street Parking Rates	In 2019, on-street parking rates were doubled from \$1/hour to \$2/hour, to encourage parking turnover in front of downtown businesses. To generate a new	Creation of new parking spots where parking was previously prohibited was seen as a positive by one city official; as a way to make on-street parking more accessible. (Groh, 2018)	Perception that the increased rates are intended to discourage downtown parking: "The city's parking commissioner defends the new parking rates introduced this week, suggesting they don't discourage downtown	This program aligns with policy themes of strategic management of municipal assets; promoting access to and through the mobility system through	This program aligns with the Engagement Theme around supporting mode-shift away from automobile usage.

	revenue stream that could cover infrastructure improvements like sidewalks, lighting, and public safety measures.	Increased rates spurred more parking turnover.	parking” (Mroziak, 2019). Increased parking rates may turn away visitors, discourage tourism and hurt small businesses.	various modes of transportation; and supporting vulnerable populations through investments to public transportation infrastructure.	
Event-Night Street Parking Rates	<p>This program created a \$2/hour charge from 4-10 p.m., Monday to Saturday for streets near KeyBank Center, a multipurpose indoor arena located in downtown Buffalo.</p> <p>To encourage downtown parking by creating more turnover, and as a result, more frequent openings in front of businesses.</p>	Creation of new parking spots where parking was previously prohibited was seen as a positive by one city official; as a way to make on-street parking more accessible. (Groh, 2018)	Some have noted that the program could hurt downtown residents, downtown retailers and those in the food and entertainment business who rely on free parking for patrons (Michael T. Schmand, Executive Director, Buffalo Place, a non profit representing downtown business and property owners, 2018).	This program aligns with policy themes of strategic management of municipal assets and promote access to and through the mobility system through various modes of transportation.	This program aligns with the Engagement Theme around supporting mode-shift away from automobile usage.
Night Monthly Program	For a flat \$30/month fee, motorists can park their cars in any city ramp everyday from 3 p.m. until 9 a.m. the following day.	Provision of affordable overnight parking.	Serves only downtown.	This program aligns with policy themes of strategic management of municipal assets; promoting access to and through	This program aligns with the Engagement Theme around improving the accessibility and affordability of parking spaces.

	To provide safe, affordable, high quality public parking at the most reasonable cost to the consumer.			the mobility system through various modes of transportation; and prioritizing equity by ensuring mobility systems can be accessed by everyone.	
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City: San Francisco

Population: 883,305 (2018)

Parking Context: On December 11, 2018, the Board of Supervisors passed an ordinance (the “Ordinance”) eliminating required parking minimums citywide for all uses. Mayor Breed signed the Ordinance on December 21 and it went into effect on January 21, 2019.

Program / Tool / Tactic Name	Program Purpose	Program Successes	Program Weaknesses	Program Alignment to Edmonton Policy Themes (Strategic Policy Review)	Program Alignment to Reviewed Engagement Themes (Engagement Review)
Residential Parking Permits (RPP)	Discourages commuters or visitors from parking long-term in low-density residential areas. RPPs are available to permanent residents, new or short-term residents and visitors, business	Avails free parking for permit holders for 72 hours straight or for the posted time limit/overnight for persons without permits. Special event meter pricing and extended Residential Permit Parking (RPP)	Permits are not issued to only residents — they extend to different classes of people who have interests in the neighbourhood — a factor that still results in a perception of limited parking availability for residents (Limit of four permits per address in most areas; two permits	This program does not align with the majority of Policy Themes identified as it does not promote alternative modes of transportation, and does not provide equitable access to the program.	This program somewhat supports the Engagement Theme around provision of affordable and accessible parking spaces, however these spaces are only limited to permit holders.

	owners, medical and child caregivers, teachers, diplomats, active military and students.	enforcement hours on streets surrounding Oracle Park, home of the San Francisco Giants, have proven effective at maintaining parking availability for residents and local business customers.	per address in some areas. Waivers for additional permits may be granted only if there's available parking in the area).		
Curb and Meter Colours	Addresses site-specific parking needs, colour-coded curbs and meters indicate where people can park, and for how long.	Users who are familiar with the colour codes can easily identify areas where they are allowed to park.	User education required to know what the colors represent.	This program supports the Policy Themes of better connecting places and peoples	This program aligns with the Engagement Theme around improving the design of parking spaces.
SF Park (Demand Responsive Pricing)	Adjusts parking prices to achieve a target parking availability of one or two open spaces on each block.	<p>Average on-street meter rates dropped by \$0.11 per hour, or 4 percent</p> <p>Average garage rates dropped by \$0.42 per hour, or 12 percent</p> <p>Target occupancy of 60-80 percent was met 31 percent more often</p> <p>Blocks were full (i.e., no available parking)</p>	<p>Prices are set based on previous demand; and a shift is required to base pricing on prediction.</p> <p>Reduced utilization may result in lower costs, which may in turn induce parking demand.</p>	This program aligns with Policy Themes of strategic management of municipal assets; adaptability to accommodate/support emerging technologies; and support for business and the local economy by connecting people and places.	This program aligns with Engagement Themes around improving the accessibility, affordability, and design of parking spaces.

		<p>16 percent less often</p> <p>Average time spent searching for parking decreased by 5 minutes, or 43 percent</p> <p>Meter-related citations decreased by 23 percent; and</p> <p>Vehicle miles travelled and greenhouse gas emissions from cars circling for parking decreased by 30 percent.</p> <p>Parking became more affordable.</p> <p>Decrease in greenhouse gases.</p>			
Parking Time Limits	Increase turnover and maintain parking availability in high demand areas. Most meters have a two-hour time limit.	Increased parking availability in high demand areas	Approximately 25% of meters have a four hour time limit or no time limit at all — which limits turnover	This program aligns with the Policy Theme of prioritizing equity by ensuring mobility systems are accessed by everyone.	This program aligns with Engagement Themes around improving the accessibility of parking spaces.
Special Event Meter Pricing	Help to make more parking spots available and help	Special event meter pricing and extended Residential Permit	Event rates are in effect for all major events. Event dates and times	This program aligns with the Policy Theme of	This program aligns with the Engagement

	<p>reduce congestion by discouraging circling for free or cheap parking near the ballpark and arena.</p> <p>Event meter rates of \$7/hour during events, near Oracle Park and Chase Centre.</p>	<p>Parking (RPP) enforcement hours on streets surrounding Oracle Park, home of the San Francisco Giants, have proven effective at maintaining parking availability for residents and local business customers.</p>	<p>are subject to change, which can create some uncertainty.</p>	<p>managing municipal assets in a strategic manner.</p>	<p>Theme around supporting mode-shift away from automobile usage.</p>
Posted Time Limits (without parking meters)	<p>Used to manage parking where demand does not warrant the installation of meters or where conditions on the street make installing meters impractical.</p>	<p>Provision of free parking while balancing availability needs.</p>	<p>Strong enforcement is required.</p>	<p>This program aligns with the Policy Theme of prioritizing equity to ensure mobility systems can be accessed by everyone.</p>	<p>This program aligns with Engagement Themes around improving the accessibility, affordability, and design of parking spaces.</p>
SF Parking Tickets	<p>Encourage compliance with parking rules, with the most expensive rates in the country.</p>	<p>Revenue generation for the City, for example, in 2016, San Francisco issued parking tickets for a total worth more than \$124 million.</p>	<p>High volume of tickets partially indicates low compliance with the parking rules.</p>	<p>This program aligns with the Policy Theme of managing municipal assets in a strategic manner.</p>	<p>This program aligns with the Engagement Theme around supporting mode-shift away from automobile usage.</p>

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