



ADMINISTRATIVE REPORT

Report Date: April 20, 2010
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RTS No.: 08539
VanRIMS No.: 08-2000-20
Meeting Date: May 6, 2010

TO: Standing Committee on City Services and Budgets
FROM: General Manager of Engineering Services
SUBJECT: Motorcycle Parking

RECOMMENDATION

- A. THAT Council approve a motorcycle parking program to provide free on-street spaces for zero emission motorcycles including motor assisted cycles and electric motorcycles, as described in this report, at a cost of \$50,000 per year provided from parking meter revenues.

AND FURTHER THAT the Director of Legal Services be instructed to prepare and bring forward the necessary changes to the Street and Traffic By-law as generally presented in Appendix A.

- B. THAT Council approve a reduced rate at parking meters to be provided through the pay-by-phone system such that zero emission motorcycles pay 25% of the existing rate as described in this report.

AND FURTHER THAT the Director of Legal Services be instructed to prepare and bring forward the necessary changes to the Parking Meter By-law as generally presented in Appendix B.

- C. THAT Council approve a reduced rate at parking meters to be provided through the pay-by-phone system such that motorcycles receive a 50% discount as described in this report.

AND FURTHER THAT the Director of Legal Services be instructed to prepare and bring forward the necessary changes to the Parking Meter By-law as generally presented in Appendix B.

- D. THAT Council support existing policy to charge current parking meter rates to motorcycle drivers who use coins when parked at meters.

CITY MANAGER'S COMMENTS

The City Manager recommends approval of the foregoing.

COUNCIL POLICY

In 1997, Council approved the Vancouver Transportation Plan that emphasized the need to develop a more balanced mode split and encourage alternatives to the car. The plan further calls for the introduction of motorcycle parking standards and requirements, and the allocation of parking spaces. Currently, Easypark provides motorcycle parking and designated on-street metered spaces are also available.

In July 2002, Council adopted the Downtown Transportation Plan to improve downtown accessibility and livability by creating a balanced transportation system.

In March 2005, Council approved the Community Climate Change Action Plan that established the reduction of greenhouse gas emissions (GHG's) as a City priority. Strategies in the Plan include facilitating ultra-compact vehicle parking opportunities, decreasing parking costs for ultra-compact vehicles and incorporating parking access, incentives, and public awareness opportunities for high efficiency vehicles.

In October 2009, Council adopted recommendations from the Greenest City Action Team with the goal to become the Greenest City in the World by 2020. One of the quick start recommendations includes providing free parking for electric scooters to enable zero-emission mobility.

PURPOSE

This report recommends expansion of the on-street motorcycle parking program. Included in this report are examples of motorcycle parking in Vancouver and elsewhere, feedback from stakeholder organizations, and a discussion of the impacts and considerations for new motorcycle parking options. The recommendations in this report that promote the use of zero emission motorcycles are consistent with the recommendations of the Greenest City Action Team.

SUMMARY OF RECOMMENDATIONS

<i>Recommendations</i>	<i>Motor Assisted Cycles</i>	<i>Zero Emission Motorcycles</i>	<i>Motorcycles</i>
<i>A: Permit free parking in marked corner clearance parking areas</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<i>B: Reduce parking rates at meters so drivers pay 25% of the existing rate when using pay by phone</i>		<input checked="" type="checkbox"/>	
<i>C: Reduce parking rates at meters so drivers pay 50% of the existing rate when using pay by phone</i>			<input checked="" type="checkbox"/>
<i>D: Support existing policy to charge current parking meter rates to motorcycle drivers who use coins to fill meters. If a motorcycle driver fills the meter, other motorcycle drivers can park for free.</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

BACKGROUND

On Tuesday May 5th, 2009 Council received recommendations from the Greenest City Action Team with the goal to become the Greenest City in the World by 2020. One of the quick start recommendations includes providing free parking for electric motorcycles to enable zero-emission mobility. On October 6th, 2009 Council directed staff to report back on existing initiatives and options for expansion of on-street motorcycle parking. On October 28th staff responded with a memo outlining several options for expansion. Following further work this report includes recommendations and identified funding for a new program to support parking for motorcycles.

Vancouver's Motorcycle Parking

Currently, Easypark provides motorcycle parking at a range of reduced rates in various City parking facilities. There are also 42 metered spaces, half the size of regular parking spaces, dedicated to motorcycle parking on various streets throughout the City. Despite the 50% reduced rate at these meters, many are not well used and some drivers argue they are too hard to find. The existing Parking Meter By-law allows multiple motorcycle drivers to park at any parking meter provided one motorcycle driver uses coins to fill the meter. Currently the BC Motor Vehicle Act restricts licensed motorcycles from parking on the sidewalk. It is possible however for the Ministry of Transportation and Infrastructure to consider new ways to facilitate additional motorcycle parking on the sidewalk.

The lack of dedicated parking areas often results in motorcycle drivers parking between meter spots, in the area between a crosswalk and the first legal parking space (the corner clearance), in lanes or even on sidewalks. This results in ticketing and damage to motorcycles caused by other drivers that cannot see the motorcycles parked behind or in front of them. ICBC reports a high rate of damage to motorcycles when parked.

Classes of Motorcycles

- **Motor assisted cycles (MAC's)** are cycles that combine an electric motor with pedals. Registration, licensing, insurance and driver's licenses are not required but drivers must be at least 16 years old. Drivers must wear a bicycle helmet. MAC's are subject to all traffic rules and should adhere to bicycle safety precautions such as riding on the right and using hand signals. MAC's are typically quieter than gas powered motorcycles and are currently allowed to park on the sidewalk. Gas powered MAC's are illegal and not allowed on public roads.
- **Limited speed motorcycles (mopeds or LSM's)** are low powered motorcycles or small scooters often called mopeds that rely on a small conventional gas powered motor (50cc or less) or a small electric motor (1500W or less). These motorcycles travel up to 70km/h and must be registered, licensed and insured. A driver's licence is required and drivers must wear a helmet. Although mini-motorcycles (or pocket bikes) fall into this category they do not meet federal safety standards and are not allowed on public roads.
- **Full-size motorcycles (and scooters)** are powered with a conventional gas powered engine (greater than 50cc) or a large electric motor (greater than 1500W). These motorcycles must be registered, licensed and insured and drivers require a motorcycle driver's license. Many scooters fall into this category. Gas-electric hybrid motorcycles which are expected to enter the market by 2011 would likely be considered full-size motorcycles.

For the purposes of this report, MAC's, electric LSM's and electric full-size motorcycles or scooters are defined as zero-emission motorcycles.

Emissions Impacts

Promoting the use of motorcycles often raises concerns regarding increased emissions. Gas powered motorcycles are more fuel efficient than cars and trucks which means they produce fewer GHG's and equivalent CO₂ (eCO₂) per kilometre travelled than most other vehicles. Electric motorcycles produce even fewer GHG's, especially if they are charged using renewable energy. These electric vehicles are therefore often referred to as zero-emission motorcycles. It should also be noted that fewer resources are required to produce all motorcycles and they therefore have less embodied CO₂ than cars and trucks.

Another measure of the environmental impacts is air quality contaminant emissions. Gas powered motorcycles typically contribute local air quality contaminants in excess of cars and trucks. While air quality contaminants are not considered GHG's they do contribute to smog and ground level ozone. Table 1 indicates the average quantity of local air quality contaminants produced per kilometre traveled. Compared to an average car, motorcycles produce more NO_x (oxides of nitrogen), PM₁₀ (particulate matter less than 10 microns in diameter), VOC's (volatile organic compounds) and CO (carbon monoxide). While some new motorcycle models produce fewer local air quality contaminants than the average, they generally produce more local air quality contaminants than new passenger cars.

Table 1 - Motorcycle air quality contaminant emissions

Vehicle Type	Air quality Contaminants (g / km travelled)				
	NOx	PM10	VOC	CO	SO2
Motorcycles	0.880	0.024	2.660	10.610	0.004
Passenger Cars	0.502	0.016	0.471	8.287	0.007
Light Trucks and SUV's	0.576	0.080	0.553	10.674	0.009

Source: ICF International, (2007). *Greenhouse Gases and Air Pollutants in the City of Toronto*. Online.

New emission standards instituted by Environment Canada do regulate emissions for motorcycles beginning with the 2006 model year. These regulations are expected to become progressively more stringent over time however they continue to allow new gas powered motorcycles to produce significantly more local air quality contaminants per kilometre traveled than new cars.

Noise Impacts

Like emissions, promoting the use of motorcycles may raise concerns regarding noise impacts. The Canadian Motor Vehicle Safety Act limits new and imported motorcycles' noise levels however these vehicles can be easily modified with after market products. Currently, members of the VPD can ticket drivers of 'loud' vehicles under the Motor Vehicle Act. Alternatively the VPD can issue a warning to drivers who must then have their vehicle inspected within 30 days and pass a test administered by individual garages. The Vancouver Motor Vehicle Noise and Emission Abatement By-law can also be enforced but is not used by the VPD as often as the Motor Vehicle Act.

Most noise related complaints received by the VPD occur within the Downtown and in the West End. They usually occur at night from June to October. Large displacement, gas powered motorcycle drivers are the typical offenders however complaints regarding small 2 stroke limited speed motorcycle drivers are also received. Often the complaints are related to driver behaviour as opposed to ill functioning equipment or after market modifications. Complaints are also received regarding gas powered modified bicycles because of the high pitched whining noise that they emit. These vehicles are illegal and not allowed on any public roads. Zero emission motorcycles are typically much quieter than gas powered motorcycles or cars.

It is unclear what effect the introduction of reduced parking rates will have on the number of noise complaints received regarding motorcycles. However, staff feel that the impact on noise levels should be considered when deciding which classes of motorcycles should receive preferred parking rates or locations.

Motorcycle Parking Elsewhere

Cities all over the world have undertaken a variety of initiatives to accommodate motorcycle parking. These initiatives differ in their scale, amount of resources required, lost revenue and impacts on mode split targets.

1. **Free Motorcycle Parking on Streets** is permitted on all streets in Toronto, ON during times in which parking is permitted. Burnaby, BC allows parking in corner clearances on Hastings Street but since parking is free elsewhere on the street, the corner clearance parking is generally not well used. Halifax, NS and Sydney, Australia have some free on-street parking spaces but drivers must observe time restrictions.
2. **Free Motorcycle Parking in Lots** is provided in London, UK which has over 1000 bays for free parking within pay lots. London has recently changed their policy for on-street parking so that all motorcycles now pay for on-street parking.
3. **Motorcycle Parking in Lanes** is legal in Portland, OR provided it does not prevent free passage through the lane.
4. **Free Motorcycle Parking on Sidewalks** is permitted in many Cities in Europe and in Brisbane, AU and Melbourne, AU
5. **Reduced Price for Motorcycle Parking** is available on streets in San Francisco, CA, London, UK, Calgary, AB and Victoria, BC. San Francisco, CA, Calgary, AB and Victoria, BC use individual meters and dedicated parking stalls located throughout the City. London, UK also offers on-street motorcycle parking spaces at a reduced price but also offers permits for these spaces on an on-going basis. In addition, Sydney, AU offers reduced parking rates in secured parking lots.
6. **Standard Rate Motorcycle Parking** is provided at dedicated stalls in Portland, OR. Portland also allows multiple motorcycle and car drivers to park within on-street parking spots provided they fit within the designated painted area and they pay the standard rate.

DISCUSSION

Recommendations to expand motorcycle parking initiatives in Vancouver include the following:

1. Create Free Parking Areas for Zero Emission Motorcycles
2. Reduce Parking Meter Rates for all Motorcycles

1. Create Free Parking Areas for Zero Emission Motorcycles

Staff looked at various opportunities to provide free on-street parking for motorcycles. Following this review, it is recommended to install a painted area, as seen in Figure 1, and signage, in the far side corner clearance which is the area located on the right hand side of the street between the crosswalk and the first parking spot found after an intersection. This area is currently unused and in some locations is already marked with painted triangles. Its shape and location are shown in Figure 2. The parking area will be marked with paint to clearly

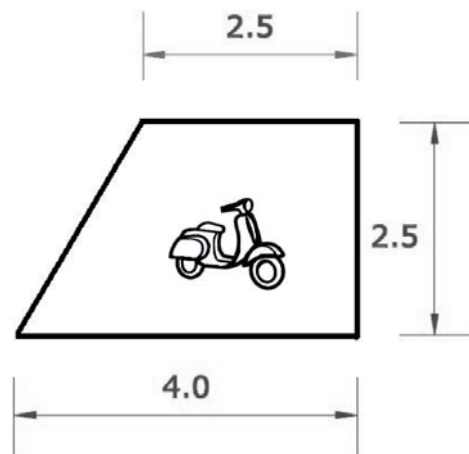


Figure 1 - Proposed Parking Area

identify the area in which parking is allowed and to prevent drivers from parking in the travel lane or too close to the crosswalk. New signage will clearly notify drivers that only zero-emission motorcycles are allowed to park within the parking area. These parking areas could be installed in new locations and in locations where existing painted corner clearances already exist. To ensure new parking opportunities are provided quickly, parking would be permitted in the existing painted and signed corner clearances as soon as the proposed by-law amendments are approved.

Each parking area will cost \$500 to install. Although, it may be possible to create up to 1000 parking areas city-wide, staff recommend an installation of approximately 100 locations per year, with evaluation and a report back if concerns develop.

In reviewing existing Council policy and the recommendations of the Greenest City Action Team, staff recommends that only zero emission motorcycle drivers be allowed to park within the parking areas. Allowing only these motorcycles to park within the spaces would provide a clear incentive for drivers to choose these types of vehicles. It would also make these spaces easier to enforce, as enforcement officers can easily identify zero emission motorcycles, and drivers would easily understand 'electric motorcycle only' signage. It is further proposed to permit these motorcycles to park for 10 hours in order to promote their use for commuting purposes, rather than just short term visits.

By-law Amendments, as outlined in Appendix A, will be required to the Vancouver Street & Traffic By-law to permit parking in the corner clearances as described above.

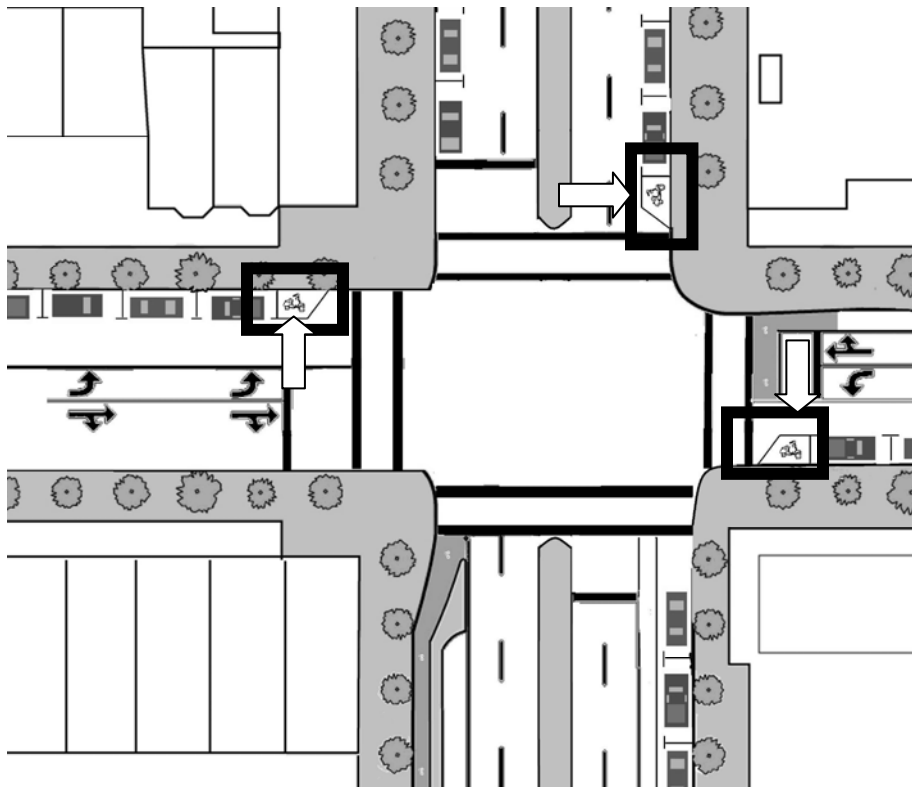


Figure 2 - Far Side Corner Clearances

2. Reduce Parking Meter Rates for All Motorcycles

A reduced rate for all motorcycles would help acknowledge that these vehicles use less area of the street to park and operate and that they produce fewer GHG's than cars and trucks. A further reduced rate for zero emission motorcycles acknowledges that these vehicles produce no GHG's. In addition, providing a convenient, legal means to park a motorcycle at a reduced rate will encourage legal parking and allow for increased enforcement of illegal parking. Furthermore every regular parking meter spot can hold up to four full size motorcycles, or up to seven small motorcycles. It is therefore recommended to reduce parking meter rates for all motorcycles through use of the City's pay-by-phone program.

This report recommends a two tiered pricing program where all motorcycles are offered a 50% discount while zero emission motorcycles receive an additional 25% discount. This would equate to an electric motorcycle driver paying 25% of the posted meter rate and thus providing a further incentive to use these vehicles. All drivers would pay for the parking time they require and existing time limits would apply.

If a motorcycle driver parked in a regular parking meter spot, and paid with coins, he or she would be charged the regular parking rate. If the meter expired, any motorcycles remaining in the space would be ticketed if the drivers had not paid-by-phone.

These changes can be achieved through configuration of the pay-by-phone system through tracking of license plate numbers. A driver will register with the system which prompts for and records their motor type. Once registered a user would be charged the proper discounted rate each time they parked. All of the drivers' information would be confirmed by the parking enforcement officer through the City's handheld devices. If a user has registered their motorcycle incorrectly they will be fined for the violation. By-law Amendments as outlined in Appendix B will be required to the Vancouver Parking Meter By-law in order to permit reduced parking rates. These proposed changes will not affect the current rights for MAC's. As these vehicles are unlicensed, they are not permitted to park at parking meters.

ALTERNATIVES/OPTIONS

Staff looked at options to allow all motorcycle drivers to park for free within the corner clearance parking areas as well as allowing gas powered limited speed motorcycle drivers to park for free within the corner clearance parking areas. However, due to the noise and environmental implications associated with gas powered motorcycles and the confusion created by allowing some gas powered motorcycles and not others, it is not recommended to provide free parking for their drivers at this time. Should council wish to allow small gas powered motorcycles to park for free within the corner clearance parking areas the following option could be approved as an alternative to the first part of Recommendation A:

THAT Council approve a motorcycle parking program to provide on-street spaces for zero emission, limited speed and gas-electric hybrid motorcycles, as described in this report, at a cost of \$50,000 provided from an increase in 2010 parking meter revenues.

It would also be possible to charge motorcycle drivers parked within the corner clearance parking areas. Drivers would have to call the City's pay by phone system and identify a

number assigned to each parking area. However such a system may be confusing to drivers, especially if some motorcycles were allowed to park for free and others were not.

CONSULTATION

Staff utilized several tools to reach out to stakeholders and obtain input. The public was asked to consider two motorcycle parking options including free parking areas for zero emission motorcycles and limited speed motorcycles and a reduced parking meter rate for all motorcycles. Over 300 emails were received from the public. Facebook®, Twitter®, the City's 'Open Dialogue' posting board and an advertisement in the Vancouver Courier asked the public and stakeholders for feedback regarding the proposed options. The City's website allowed the public to obtain additional information regarding the proposals, learn about existing motorcycle parking options in the City and provide additional feedback.

Overall, response to the consideration of more motorcycle parking opportunities was positive. However many respondents preferred free parking in corner clearances for all two wheeled vehicles citing fairness and simplicity. They felt restricting some types of gas powered motorcycles and not others from parking within the corner clearance parking areas would be too complicated. Others expressed concern about not having cell phones and confusion surrounding reduced rates through the pay by phone system. Some felt a larger reduction in price or free parking at meters would be more appropriate because more than two motorcycles can fit in each parking spot.

In response to the concerns raised by the public, it was determined that only zero-emission motorcycles should be allowed to park in the corner clearance parking areas. This will help prevent any confusion created by allowing some gas powered motorcycle drivers to park there and not others.

FINANCIAL IMPLICATIONS

Each parking area would cost approximately \$500.00 to paint, sign and stencil and there are up to 1,000 locations where they could be installed. The proposed plan is to add approximately 100 locations per year at an estimated cost of \$50,000 per year, to a maximum of 1,000 locations subject to evaluation and report back if any major issues develop. For 2010, funding will be provided from an increase in 2010 parking meter revenues. Future year installations would be funded from the same source, subject to annual budget reviews.

Beginning in 2011 an additional \$16,500 per year for sign and paint maintenance and replacement will be required for the Traffic Operating Budget, and this will be brought forward as a priority in the annual budget review.

Reducing rates at meters for motorcycles could result in reduced parking meter revenue. For example, if only one motorcycle driver uses the spot he or she would only pay 25% or 50% the rate a car or truck or would pay if parked in the same spot. However, if multiple motorcycle drivers park in the same spot the revenue may be equal to that of a car or truck or even greater. If a motorcycle driver chooses to pay with coins when parked at a meter, revenue would not be lost. Staff will monitor the use of meters by motorcycles in order to understand the financial implications of this change.

ENVIRONMENTAL IMPLICATIONS

On average gas powered motorcycles produce fewer GHG's and eCO₂ than typical cars and trucks. It should be noted however, that on average, gas powered motorcycles produce more air quality contaminants per vehicle kilometer traveled than average cars and trucks and increased use may increase levels of air quality contaminants as well as noise complaints. The plan presented in this report has considered those factors and the recommendations reflect the balance between all of the City's priorities.

IMPLEMENTATION PLAN

Reduced parking rates for motorcycle drivers parked at meters could be implemented immediately after the necessary by-law changes are made. Installation of the first 100 parking areas for zero emission motorcycles will not begin until the spring of 2010 because the painting and stencilling of the spaces requires warmer weather. If the program is approved the locations of the parking areas will be strategically located by staff throughout the City to maximize their use. Staff will solicit feedback and requests from the public for suggested locations. Existing staff resources are available to install, enforce and monitor the parking areas.

COMMUNICATIONS PLAN

Any changes to motorcycle parking approved by Council will be communicated in conjunction with the changes to the parking meter program approved as part of the 2010 Operating Budget. New parking areas will be evident once installed and earned media opportunities are expected.

CONCLUSION

At the request of Council, staff developed a plan to implement additional motorcycle parking opportunities. The recommended options will provide inexpensive, abundant and safe parking while promoting the use of zero emission motorcycles. Approving these options is yet another step forward in creating new sustainable transportation options and our goal to become the World's greenest City.

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APPENDIX A

BY-LAW NO. _____

**A By-law to amend Street and Traffic By-law No. 2849
regarding motorcycle parking**

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

1. This By-law amends the indicated provisions of the Street and Traffic By-law.
2. To section 3, after the definition of "Container", Council adds:

' "Corner Clearance Parking Area" means an area on a street that is 4 m by 2.5 m, and that the City Engineer has marked and signed for motorcycle parking.'
3. To section 3, after the definition of "Vehicle", Council adds:

' "Zero Emission Motorcycle" means a two wheeled self-propelled vehicle that is electrically powered or any cycle that combines the pedal power of a bicycle with the power assistance of an electric motor.'
4. To section 17.4(b), after "crosswalk", Council adds ", except for the driver of a zero emission motorcycle who is parking in a corner clearance parking area".
5. In section 17.6(f), Council:
 - (a) to the end of clause (iii), after the semi-colon, adds "or"; and
 - (b) after clause (iii), adds:

"(iv) the driver of a zero emission motorcycle parks in a corner clearance parking area, in which case a 10 hour limit between 8:00 a.m. and 6:00 p.m. is to apply;" .
6. A decision by a court that any part of this By-law is illegal, void, or unenforceable severs that part from this By-law, and is not to affect the balance of this By-law.
7. This By-law is to come into force and take effect on the date of its enactment.

ENACTED by Council this _____ day of _____,
2010

Mayor

City Clerk

APPENDIX B

BY-LAW NO. _____

**A By-law to amend Parking Meter By-law No. 2952
regarding motorcycle parking**

THE COUNCIL OF THE CITY OF VANCOUVER, in public meeting, enacts as follows:

1. This By-law amends the indicated provisions of the Parking Meter By-law.
2. To section 2, Council adds:
 - (a) after subsection (1):

“(1A) “Gas Powered Motorcycle” means a two wheeled self-propelled vehicle that has a gas powered engine.”
 - (b) after subsection (3):

“(3A) “Motorcycle” means a gas powered motorcycle or zero emission motorcycle.”
 - (c) after subsection (12):

“(13) “Zero Emission Motorcycle” means a two wheeled self-propelled vehicle that is electrically powered but does not include a cycle that combines the pedal power of a bicycle with the power assistance of an electric motor.”
3. To section 2(2)(1), section 2(2)(2)(a), and section 2(2)(2)(b), after the last reference, in each case, to “direction”, Council adds “except that in the case of a parking space signed for motorcycles only the measurement of 5.4 metres changes to 2.7 m”.
4. To section 4(2), at the end but before the period, Council adds “, except that the operator of a motorcycle may park at an angle”.
5. To section 5(3)(b), at the end but before the period, Council adds:

“, except that the parking meter rates for:

 - (i) gas powered motorcycles under the pay by phone system are to be 50% of the rates set for motor vehicles, and
 - (ii) zero emission motorcycles under the pay by phone system are to be 25% of the rates set for motor vehicles.”
6. A decision by a court that any part of this By-law is illegal, void, or unenforceable severs that part from this By-law, and is not to affect the balance of this By-law.

