Corporation of the City of
NEW WESTMINSTER

REPORT

Climate Action, Planning and Development

To:	Mayor Johnstone and Members of Council	**Date**:	October 30, 2023
From:	Jackie Teed Acting Director of Climate Action, Planning and Development	**File**:	09.1740.02
		Item #:	2023-683

Subject: **Electric Vehicle Ready Requirements for New Non-Residential Buildings**

RECOMMENDATION

THAT Council endorse, in principle, the recommended Electric Vehicle (EV) Ready Requirements for new non-residential buildings as outlined in this report; and

THAT Council direct staff to engage with the development community on the proposed requirements as outlined in this report**.**

PURPOSE

To request Council endorsement, in principle, of the recommended EV Ready Requirements for new non-residential buildings as the basis for consultation with the development community.

EXECUTIVE SUMMARY

The City's 2022 eMobility Strategy highlights that almost half of the community greenhouse gas (GHG) emissions in the city come from transportation. Transitioning from internal combustion engine (ICE) vehicles to zero emission vehicles (ZEV), such as electric vehicles (EV) is one pathway to reduce transportation Greenhouse gas emissions (GHGs).

In October 2018, Council adopted 100% EV Ready requirements for all new buildings having at least one dwelling unit to be EV Ready, and that all shared vehicle parking stalls also be EV Ready. This means that the parking stall must be equipped with an

Energized Level 2 electrical outlet to accommodate the installation of electric vehicle supply equipment (EVSE), commonly referred to as an EV charger. This report outlines a proposal to adopt EV Ready requirements for non-residential uses.

Staff propose the following requirements:

For non-residential land uses with 1,000 square metres or larger in gross floor area, a minimum of 50% of the required off-street parking spaces shall feature an energized level 2 outlet, or higher, where:

- A minimum of 40% of the required off-street parking spaces shall feature an Energized Level 2 Outlet, or higher, which may be connected to an Electric Vehicle Energy Management System (EVEMS) controls to facilitate load sharing and ;
- A minimum of 10% of the required off-street parking spaces shall feature a dedicated Energized Level 2 Outlet, or higher, to the parking space.

Within the defined percentages above, the following requirement is proposed:

- All required accessible off-street parking spaces shall feature a dedicated Energized Level 2 Outlet or higher to the parking space.

Non-residential uses are expected to include commercial, industrial and institutional land uses, among others.

Staff conducted a municipal scan of non-residential EV Ready requirements and reviewed recommendations from third party studies to arrive at a recommendation for the city and which takes into account various competing priorities.

As a next step following this report, staff would conduct outreach and engagement with the development community to collect, analyse and incorporate feedback as applicable to fine tune the requirements.

BACKGROUND

Climate Emergency and Seven Bold Steps

Following the City's 2019 climate emergency declaration and adoption of ambitious emission reduction targets, Council endorsed Seven Bold Steps for Climate Action to guide the community toward a low-carbon future. One of the Bold Steps is Pollution Free Vehicles, which targets 50% of kilometres driven by New Westminster registered vehicles to be by zero emissions vehicles by 2030.

EMobility Strategy

The City's 2022 eMobility Strategy highlights that almost half of greenhouse gas (GHG) emissions in the City come from transportation sources. Transitioning from internal combustion engine (ICE) vehicles to electric vehicles (EV) is one pathway to reduce

transportation GHGs. To enable this transition, Objective 7 from the eMobility Strategy identifies the need to: “improve access to EV charging at work”. This can be supported by action 7.1:

“Establish EV Ready Requirements for new non-residential buildings.”

Current EV Charging Requirements

In October 2018, Council adopted 100% EV Ready requirements for all new buildings having at least one dwelling unit, into the Zoning Bylaw. This requirement means that all residential parking spaces must be equipped with an Energized Level 2 electrical outlet to accommodate the installation of electric vehicle supply equipment (EVSE), commonly referred to as an EV charger. Additionally, the Zoning Bylaw requires that all shared vehicle parking spaces must be EV Ready.

Also, the Official Community Plan (OCP), through Development Permit Area guidelines, encourages EV Ready parking spaces for commercial and institutional uses with more than 10 parking spaces. So far, the uptake of this suggestion has been limited. This report proposes that EV Ready requirements for non-residential uses be updated to a regulation in the Zoning Bylaw.

DISCUSSION

Proposed Non-Residential EV Ready Requirements:

Staff propose the following requirements:

For non-residential land uses having 1,000 square metres or larger in gross floor area, a minimum of 50% of the required off-street parking spaces shall feature an energized level 2 outlet, or higher, where:

- A minimum of 40% of the required off-street parking spaces shall feature an Energized Level 2 Outlet, or higher, which may be connected to an Electric Vehicle Energy Management System (EVEMS) controls to facilitate load sharing and ;
- A minimum of 10% of the required off-street parking spaces shall feature a dedicated Energized Level 2 Outlet, or higher, to the parking space.

Within the defined percentages above, the following requirements are proposed:

- All required accessible off-street parking spaces for non-residential land uses shall require a dedicated Energized Level 2 Outlet or higher to the parking space.

Non-residential uses are expected to include commercial, industrial and institutional land uses, among others.

EVEMS refers to a system that controls EVSE, or EV charger, electrical loads comprised of monitor(s), communications equipment, controller(s), timer(s), and other applicable devices to permit electrical supply load-sharing amongst multiple charge points, allowing the support of more charging locations through a single circuit.

A number of considerations informed the proposed EV Ready Requirements. Some of the considerations played a role in adopting a percentage based approach while some played a role in arriving at a recommendation.

Factors which influenced the use of a percentage based approach are presented as below:

- *Standardization and Regional Consistency*
- *Alignment with City's Climate Action Plans & Policies*

Below factors were considered in arriving at a proposed requirement:

- *Equity* – Expanding publically accessible EV charging enables EV adoption for residents who lack access to at home EV charging.
- *Future Proofing New Construction* – incorporating EV chargers at the time of construction reduces risk and cost associated with building retrofits. The best practice recommendation for non-residential EV Ready parking spaces is in the range of 20%-50%.
- *Regional Consistency* – In Metro Vancouver, 9 municipalities have incorporated EV Ready Requirements in their bylaws for non-residential parking spaces.
- *Electrical Utility Implications* – EV Ready Requirements ensures adequate electric capacity is available to the building, which is cited as a barrier to EV Ready retrofits.

Anticipated Impacts on Development Costs

EV Ready requirements will impact electrical servicing to parking spaces. In March 2023, a costing study was conducted by Dunsky Energy for the City of Richmond which assessed the construction and cost impacts of a set of charging configurations (varying the percentage of EV Ready parking spaces) across a variety of non-residential building archetypes, including, but not limited to, light industrial, high rise office and mixed use developments. The results indicated that the overall cost impact ranged from $460-$640 per EV Ready parking space. Additionally, a configuration of 40% EVEMS connected and 15% dedicated Energized Level 2 charging outlets was found to be cost competitive across several non-residential building archetypes.

NEXT STEPS

Staff would consult with the development community including, but not limited to, the Urban Development Institute the school district and developers that regularly work with the City, on the proposed EV Ready requirements. Through the consultation, staff will gather feedback on the proposed requirements and the use of a percentage based approach. Staff would continue to refine requirements and internal implementation.

Staff would use the feedback to prepare the bylaws that will be presented to Council along with a summary of findings emerging out of the consultation process.

Stakeholder Engagement Approach

Preliminary stakeholder engagement approach would cover the following action items:

- Present the requirements to the relevant development community stakeholders (i.e. development community and current in-stream applicants)
- Circulate surveys to stakeholders though a variety of communication channels (i.e. through organization and social media).
- Analyze and incorporate feedback from the surveys.
- Report back to stakeholders, staff and Council, on the outcomes of the survey.

FINANCIAL CONSIDERATIONS

The development of EV Ready Requirements for non-residential new construction, has been included in the Climate Action Team's 2023 work plan and capital budget. The estimated cost for this initiative is $10,000 from the approved $304,000 Community and Corporate EV Charging Strategy project budget in 2023.

INTERDEPARTMENTAL LIAISON

The non-residential EV Ready requirements is being led by the Climate Action Team in collaboration with the Buildings, Planning, Development, Transportation, and Electric Utility. The Climate Action Team will continues to work with the Electric Utility to identify the potential impacts of climate action implementation strategies on utility planning.

OPTIONS

The following options are provided for Council's consideration:

1. That Council endorse, in principle, the recommended Electric Vehicle (EV) Ready Requirements for new non-residential buildings as outlined in this report.

2. That Council direct staff to engage with the development community on the proposed requirements as outlined in this report

3. That Council provide staff with other direction.

Staff recommends options 1 and 2.

APPROVALS

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