



cityofnovi.org

## CITY of NOVI CITY COUNCIL

Agenda Item E  
October 22, 2012

**SUBJECT:** Approval of Zoning Ordinance Text Amendment 18.263, to amend the City of Novi Zoning Ordinance at Article 25, General Provisions, Section 2505, Off-Street Parking Requirements; in order to provide standards for the location and design of plug-in electric vehicle charging stations and spaces in all parking areas. **SECOND READING**

**SUBMITTING DEPARTMENT:** Community Development Department - Planning *Bewy*

**CITY MANAGER APPROVAL:** *[Signature]*

### BACKGROUND INFORMATION:

Consistent with the City of Novi's continuing efforts to encourage sustainable development practices, as well as to clarify and streamline the Zoning Ordinance provisions for allowable uses, the Community Development Department proposes a text amendment to **create standards for the installation of plug-in electric vehicle (PEV) charging stations and parking spaces within off-street parking areas in all zoning districts.** Draft ordinance language is attached.

The intent is to provide reasonable regulations for the siting and design of PEV charging stations and spaces, such that the stations are located where they will not impede pedestrian access or encroach on a setback requirement. The proposed amendment also addresses the manner PEV charging spaces are to be treated with respect to meeting minimum parking requirements, and also the design and dimensions of the charging spaces.

PEV charging stations and spaces are typically located along the perimeter of a parking area, most often in close proximity to the building served by the parking area to minimize the distance covered by the electric infrastructure connecting the charging station to the building's electrical service panel. A PEV charging station usually consists of a pedestal adjacent to a parking space, with one or more cords of sufficient length to connect with a plug-in electric vehicle (see attached photographs of existing charging stations). The charging stations may be available to the public, either as a free service or for a fee, or they may be designated for private use (e.g. a particular tenant within an office complex).

If an applicant chooses to provide PEV charging spaces in a parking lot, the draft ordinance language provides a number of standards and clarifications, including:

1. PEV charging spaces are considered a permitted use in any parking lot.
2. PEV charging spaces will be included in the property's parking requirement, so no extra parking spaces would be required if charging spaces are provided.
3. PEV charging spaces will have the same dimensional standards as a typical parking space.
4. PEV charging stations and any necessary cords will not be located so as to block pedestrian access or any required means of egress.

5. PEV charging stations and spaces shall be set back from the property line a distance equivalent to the required parking setback of the district.
6. If a carport or solar collector-equipped panel is proposed as a part of a charging station, these ancillary structures shall meet the minimum building setback requirement and height limitations of the applicable zoning district.

The charging stations can be either Level-1 or Level-2 compatible, or often times both. Level-1 stations provide charging via a 120-volt AC plug, the same as plugging a vehicle into a standard three-prong wall outlet. Level-2 stations typically provide charging through a 240-volt hard-wired electrical service on a dedicated circuit, similar to the wiring of a residential electric dryer. Level-1 charging takes approximately 12 hours for a full charge, while Level-2 charging can take less than 4 hours. There is also Level-3 charging (aka DC Fast Charging), but the infrastructure is costly and more suited to a commercial fueling station.

By 2015, all major automakers are expected to offer plug-in electric vehicles for sale, including both entirely electric vehicles and plug-in hybrid vehicles. As energy prices continue to fluctuate and the market adjusts to this relatively new electric vehicle technology, it is difficult to predict the market share these types of vehicles will comprise in the foreseeable future. The general consensus among industry analysts is that 2% to 5% of all new vehicle sales in the United States will be plug-in electric vehicles (including plug-in hybrids) by 2020. It is therefore logical to conclude that at least 2% of the parking spaces in a parking area should be electric-vehicle ready in the near future.

Several southeast Michigan communities, including Auburn Hills, Rochester Hills, Troy, Dearborn, Warren, and Farmington Hills have either already adopted a similar PEV ordinance or are in the process of doing so. Adopting standards for PEV charging stations and spaces is seen not only as an effort to "go green", but also as a region-wide economic development measure to recognize southeast Michigan's willingness to move forward with new technology as the automotive industry brings more plug-in electric vehicles to the market.

The Planning Commission held the required public hearing on this Zoning Ordinance amendment on September 12, 2012 and unanimously recommended **favorable consideration** to the City Council. The City Council **approved** the first reading on October 8, 2012.

**RECOMMENDED ACTION:** Approval of Zoning Ordinance Text Amendment 18.263, to amend the City of Novi Zoning Ordinance at Article 25, General Provisions, Section 2505, Off-Street Parking Requirements; in order to provide standards for the location and design of plug-in electric vehicle charging stations and spaces in all parking areas. **SECOND READING**

	1	2	Y	N
<b>Mayor Gatt</b>				
<b>Mayor Pro Tem Staudt</b>				
<b>Council Member Casey</b>				
<b>Council Member Fischer</b>				

	1	2	Y	N
<b>Council Member Margolis</b>				
<b>Council Member Mutch</b>				
<b>Council Member Wrobel</b>				

## MEMORANDUM



**TO:** CLAY PEARSON, CITY MANAGER *(Signature)*  
**FROM:** DAVID CAMPBELL, AICP, PLANNER  
**THRU:** BARBARA MCBETH, AICP, COMMUNITY DEVELOPMENT  
DEPUTY DIRECTOR  
**SUBJECT:** TEXT AMENDMENT 18.263 – PLUG-IN ELECTRIC VEHICLE (PEV) CHARGING STATIONS AND SPACES  
**DATE:** SEPTEMBER 26, 2012

9/26/12

To Mayor [Signature]  
Council Member [Signature]

DYJ [Signature]

Consistent with the City of Novi's continuing efforts to encourage sustainable development practices, the Community Development Department proposes a text amendment to **create standards for the installation of plug-in electric vehicle (PEV) charging stations and parking spaces within off-street parking areas in all zoning districts**. Please see the attached draft ordinance language.

The intent of the proposed amendment is to provide reasonable regulations for the siting and design of PEV charging stations and spaces, such that the stations are located where they will not impede pedestrian access or encroach on a setback requirement. The proposed amendment also addresses the manner PEV charging spaces are to be treated with respect to meeting minimum parking requirements, and also the design and dimensions of the charging spaces.

PEV charging stations and spaces are typically located along the perimeter of a parking area, most often in close proximity to the building served by the parking area to minimize the distance covered by the electric infrastructure connecting the charging station to the building's electrical service panel. A PEV charging station usually consists of a pedestal adjacent to a parking space, with one or more cords of sufficient length to connect with a plug-in electric vehicle (see attached photographs of existing charging stations). The charging stations may be available to the public, either as a free service or for a fee, or they may be designated for private use (e.g. a particular tenant within an office complex).

By 2015, all major automakers are expected to offer plug-in electric vehicles for sale, including both entirely electric vehicles and plug-in hybrid vehicles. As energy prices continue to fluctuate and the market adjusts to this relatively new electric vehicle technology, it is difficult to predict the market share these types of vehicles will comprise in the foreseeable future. The general consensus among industry analysts is that 2% to 5% of all new vehicle sales in the United States will be plug-in electric vehicles (including plug-in hybrids) by 2020. It is therefore logical to conclude that at least 2% of the parking spaces in a parking area should be electric-vehicle ready in the near future.

Several southeast Michigan communities, including Auburn Hills, Rochester Hills, Troy, Dearborn, Warren, and Farmington Hills have either already adopted a similar PEV ordinance or are in the process of doing so. Adopting standards for PEV charging

stations and spaces is seen not only as an effort to "go green", but also as a region-wide economic development measure to recognize southeast Michigan's willingness to move forward with new technology as the automotive industry brings more plug-in electric vehicles to the market.

The Planning Commission held the required public hearing on this Zoning Ordinance amendment on September 12, 2012 and unanimously recommended **favorable consideration** to the City Council.

Staff anticipates sending this text amendment for consideration of the first reading at the October 8, 2012 City Council meeting.



**MMUTCD-Standard Pavement  
Markings (Auburn Hills, MI)**



**MMUTCD-Standard Sign**



**PEV Charging Station and Space  
(Auburn Hills, MI)**



**PEV Charging Stations and Spaces  
(Kistler North America, Novi)**



**PEV Charging Station and Space  
(Novi Police Station)**

STATE OF MICHIGAN

COUNTY OF OAKLAND

CITY OF NOVI

ORDINANCE NO. 12-18.263

AN ORDINANCE TO AMEND ORDINANCE NO. 97-18 AS AMENDED, THE CITY OF NOVI ZONING ORDINANCE, AMENDING ARTICLE 2 – CONSTRUCTION OF LANGUAGE AND DEFINITIONS, ZONING DISTRICT AND MAP, AS WELL AS ARTICLE 25 - GENERAL PROVISIONS, TO PROVIDE DEFINITIONS AND STANDARDS FOR PLUG-IN ELECTRIC VEHICLE CHARGING STATIONS AND PARKING SPACES, AS WELL AS TO ENCOURAGE THE INSTALLATION OF PLUG-IN ELECTRIC VEHICLE CHARGING STATIONS AND SPACES WITHIN NEW AND EXPANDED OFF-STREET PARKING AREAS.

THE CITY OF NOVI ORDAINS:

Part I. That Ordinance No. 97-18, the City of Novi Zoning Ordinance, as amended, Article 2 – Construction of Language and Definitions, Zoning District and Map, and Article 25 – General Provisions, is hereby amended to read as follows:

**Sec. 201 Definitions**

[Add the following definitions]

**Plug-In Electric Vehicle (PEV): Any vehicle licensed and registered for operation on public and private highways, roads, and streets, either partially or exclusively, on electrical energy from the grid, or an off-board source, that is stored on-board via a battery for motive purpose. Includes an all-electric vehicle (EV) and a plug-in hybrid electric vehicle (PHEV).**

**Plug-In Electric Vehicle (PEV) Charging Station: A public or private electrical component assembly or group of assemblies designated specifically to charge batteries within electric plug-in electric vehicles. Also known as electric vehicle supply equipment (EVSE). PEV charging stations include Level 1, Level 2, and Level 3 charging, as follows:**

- **PEV Charging Station Level 1: A PEV charging station that charges a PEV via a 120-volt AC outlet (a standard household electrical outlet).**
- **PEV Charging Station Level 2: A PEV charging station that charges a PEV at a voltage between 208 and 240 volts on a dedicated circuit of 20 to 80 amps.**
- **PEV Charging Station Level 3: A PEV charging station that charges a PEV at a voltage greater than 240 volts. Also known as DC fast charging and best suited to a public fueling station.**

**Plug-In Electric Vehicle (PEV) Charging Space: Any public or private designated parking space that is served by a PEV charging station and identifies the use to be dedicated exclusively for the active charging of a PEV.**

**Plug-In Electric Vehicle (PEV) Infrastructure: Conduit, wiring, structures, machinery, and/or equipment necessary and integral to support a plug-in electric vehicle, including PEV charging stations**

**Sec. 2501 – 2404 [unchanged]**

**Sec. 2505 – Off-Street Parking Requirements**

Subsections 1 through 16 [unchanged]

17. It is the intent of this subsection to provide reasonable standards for the installation and operation of Plug-In Electric Vehicle (PEV) charging stations and charging spaces within off-street parking areas.

  - a. PEV charging stations, as well as all structures and equipment ancillary to PEV charging stations (protective bollards, signage, etc.), shall collectively be considered an accessory use to any principal permitted use.
  - b. The location of PEV charging stations and spaces shall be subject to the following:

    1. PEV charging stations and spaces shall be permitted anywhere off-street parking is permitted;
    2. PEV charging stations and spaces shall be permitted anywhere within an off-street parking area that a standard parking space is permitted, provided all standards pertaining to off-street parking spaces and to off-street parking areas are met;
  - c. PEV charging stations and spaces shall meet the following design requirements:

    1. PEV charging stations shall meet all applicable electrical and building codes, including but not limited to the National Electrical Code (NEC) and the Michigan Building Code;
    2. PEV charging stations shall be Level-1 and Level-2 capable as defined by the National Electrical Code (NEC);
    3. PEV charging spaces shall meet all dimensional requirements of a standard parking space per Section 2506 of this Ordinance, including length and width. PEV charging spaces shall meet the requirements of the City's Design and Construction Standards, including those pertaining to parking lot curbing and pavement;
    4. Where a PEV charging space is proposed perpendicular to a 4 inch curb such that a 17-foot parking space with a two-foot overhang is permitted per Sec. 2509 of this Ordinance, the corresponding PEV charging station as well as any structures ancillary to it (bollards, signs, etc.) shall be installed a minimum of 2 feet from the face of the curb;
    5. Where a PEV charging station is installed adjacent to a sidewalk, the station and all structures ancillary to it shall maintain a 5-foot wide clearance for the sidewalk;
    6. PEV charging stations and spaces shall be identified with the State-standard "Reserved Parking Only – Charging Station" sign and corresponding plaque (R7-8c and R7-8cP, respectively) as detailed in the Michigan Standard Highway Signs Book, or its equivalent. PEV identification signs shall meet the same standards relative to location, height, and design as barrier-free parking signs;
    7. PEV charging spaces shall be identified with the MMUTCD-standard pavement marking D9-11b (ALT) or its equivalent;
    8. PEV charging stations shall be installed in a suitable location such that any cords connecting the charging station with the vehicle will not extend

- across a pedestrian walkway or will otherwise present a tripping hazard.  
Charging stations featuring self-retracting cords are encouraged;
9. PEV charging stations available to the public shall be maintained in safe and operational repair, and shall clearly display a toll-free telephone number to report any problems.
- d. PEV charging spaces shall be considered as standard parking spaces for the purpose of meeting the minimum off-street parking requirements of Section 2505 this Ordinance.
- e. PEV charging stations and spaces, as well as all structures ancillary to PEV charging stations and spaces, including but not limited to bollards, signs, canopies, shelters, solar collectors, etc., shall be subject to the following:
1. PEV charging stations and spaces, as well as all ancillary structures installed as part of a PEV charging station, shall meet the minimum parking setback requirements of the applicable zoning district;
  2. Solar collector-equipped panels and canopies, shelters, carports, and similar large structures installed as part of a PEV charging station or space shall meet the minimum building setback requirements of the applicable zoning district;
  3. All ancillary structures installed as part of a PEV charging station shall meet the maximum height requirements of the applicable zoning district;
  4. PEV charging stations shall be permitted no additional signage beyond the required City-standard sign identifying the PEV charging station space.

**Sec. 2506. - Off-Street Stacking Space, Layout Standards, Construction and Maintenance**  
[unchanged]

## **Part II**

**Severability.** Should any section, subdivision, clause, or phrase of this Ordinance be declared by the courts to be invalid, the validity of the Ordinance as a whole, or in part, shall not be affected other than the part invalidated.

## **PART III.**

**Savings Clause.** The amendment of the Novi Code of Ordinances set forth in this Ordinance does not affect or impair any act done, offense committed, or right accruing, accrued, or acquired or liability, penalty, forfeiture or punishment, pending or incurred prior to the amendment of the Novi Code of Ordinances set forth in this Ordinance.

## **PART IV.**

**Repealer.** All other Ordinance or parts of Ordinance in conflict herewith are hereby repealed only to the extent necessary to give this Ordinance full force and effect.

## **PART V.**

**Effective Date: Publication.** Public hearing having been held hereon pursuant to the provisions of Section 103 of Act 110 of the Public Acts of 2006, as amended, the provisions of this Ordinance shall be published within fifteen (15) days of its adoption by publication of a brief notice in a newspaper circulated in the City of Novi stating the date of enactment and effective date, a brief statement as to its regulatory effect and

that a complete copy of the Ordinance is available for public purchase, use and inspection at the office of the City Clerk during the hours of 8:00 A.M. to 5:00 P.M., Local Time. The provisions of this Ordinance shall become effective seven (7) days after its publication.

MADE, PASSED, AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF NOVI,  
OAKLAND COUNTY, MICHIGAN, ON THE \_\_\_\_ DAY OF \_\_\_\_\_, 2012.

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ROBERT J. GATT, MAYOR

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MARYANNE CORNELIUS, CITY CLERK

Ayes:  
Nays:  
Abstentions:  
Absent: