



# Memorandum

PLANNING DIVISION  
COMMUNITY & ECONOMIC DEVELOPMENT

To: Salt Lake City Planning Commission  
From: Tracy Tran, Principal Planner  
Date: September 23, 2015  
Re: PLNPCM2015-00148 Electric Vehicle Parking Stalls Text Amendment

At the last meeting, the Planning Commission tabled the Electric Vehicle Parking Stall text amendment and asked staff for additional information. This memo addresses the questions and additional information requested by the Planning Commission and based on the research completed, staff has come up with 4 options for the Planning Commission to consider to amend the existing electric vehicle (EV) parking requirements.

**RECOMMENDATION:** Based on the analysis and findings of this memo, the staff report from July 29, 2015, comments and discussion from the Planning Commission meetings, it is the opinion of staff that the proposed text amendment Option 4 meet the intent of the proposal for the text amendment and standards for a zoning ordinance amendment. Staff recommends that the Planning Commission forward a favorable recommendation of petition PLNPCM2014-00148 to the City Council. Below is the proposed motion consistent with this recommendation:

**Based on the information in the memo and the discussion heard, I move that the Planning Commission transmit a positive recommendation of Option 4 text amendment to the City Council regarding petition PLNPCM2015-00148, text changes to the electric vehicle parking requirements.**

## EXHIBITS:

- A. Proposed Ordinance Options
- B. Staff Report from July 29, 2015
- C. Department/Public Comments
- D. Motions

## ADDITIONAL RESEARCH:

*[Do EV's make a difference in Air Quality in Utah?](#)*

The Southwest Energy Efficiency Project and Utah Clean Energy completed a [report](#) that shows the impact of light-duty electric vehicles, compared to a comparable gasoline-fueled vehicle, in

the Wasatch Front. The US Environmental Protection Agency (EPA) has designated parts of the Wasatch Front as non-attainment areas for Particulate Matter 2.5 and 10 micrometers (PM2.5 and PM10) and Sulfur Dioxide (SO<sub>2</sub>). The Utah Department of Air Quality have inventoried emissions and show that mobile sources (includes motor vehicles, planes, locomotives) account for a significant percentages of pollution in the region.

The study showed that electric vehicles improved the Air Quality in the Wasatch Front. The study compared battery electric vehicles (BEV), plug in hybrid electric vehicles that have a range of 10 miles (PHEV10), plug in hybrid electric vehicles that have a range of 40 miles (PHEV40), and compressed natural gas vehicles (CNG). The study showed a reduction in the following emissions compared to a new gasoline vehicle:

Table 1. Percent Reduction in Emissions in 2013 Compared to New Gasoline Vehicle

	<b>BEV</b>	<b>PHEV10</b>	<b>PHEV40</b>	<b>CNG</b>
<b>VOC</b>	99.7%	40.9%	63.6%	84.4%
<b>NOx</b>	76.1%	33.2%	53.4%	80.5%
<b>PM10</b>	49.3%	16.1%	28.0%	30.9%
<b>PM2.5</b>	64.8%	19.4%	36.5%	33.3%
<b>SO2</b>	95.7%	42.0%	57.2%	88.0%
<b>CO</b>	99.8%	17.2%	54.0%	0.6%
<b>GHG</b>	1.8%	19.5%	1.1%	16.7%

In regards to relevant upstream emissions from electricity, the report “calculated that 0% of statewide coal plant emissions and 60% of the state’s natural gas plant emissions take place along the Wasatch Front.” The report states that this is “based on 60% of the state’s natural gas generation occurring in counties that are either in non-attainment or maintenance areas for criteria pollutants (Salt Lake, Utah, Davis, Weber, and Cache Counties all have natural gas plants). For upstream emissions for gasoline vehicles, 100% of the emissions associated with gasoline refining take place in the Wasatch Front as all five of the state’s refineries are located in Salt Lake and Davis Counties.”

### *What are other cities doing?*

Based on research as to what other Cities are doing in regards to electric vehicles, staff found the following:

- Found very few cities that required the full installation of electric vehicle charging stations
- Majority of the ones that did, were geared towards multifamily dwellings or installing electric infrastructure only

Here are some examples:

- New York City requires that 20% of off street parking in all new buildings and expansions of existing structures are charge ready (electric infrastructure/conduit installed)

- Vancouver requires that 20% of parking stalls in multifamily buildings include a receptacle for charging cars, and the electrical room must include enough space to install any equipment necessary to provide charging for all residents in the future
- Los Angeles requires 5% of total parking spaces in Multifamily Dwellings to be able to support future Electric Vehicle Supply Equipment (EVSE)

#### *Required Electric Vehicle Parking Stalls Based on Use:*

Based on the examples of requirements from other cities, having different requirements for different types of uses will make the code confusing. Many of the cities leading the charge on electric vehicles require only the conduit or electrical wiring in place for a percentage of parking stalls to accommodate future use of a charging station and/or requirements for multifamily residential parking only.

#### *The Electric Vehicle Market:*

- The EV market continues to grow, but there is still an overall small total number relative to gas powered vehicles
- Many more carmakers are joining the electric vehicle market
- EV growth and sales dependent on gas prices
- Battery cost per kWh is coming down rapidly, making longer range EVs more affordable
- 2017/2018 will likely be a tipping point for EV adoption. Several manufacturers have stated they will bring vehicles offering 200+ miles of range for \$30,000-\$35,000

#### *What developments the proposal has impacted?*

The need to revise our current electric vehicle ordinance is in response to many comments we've heard:

- Many unused electric vehicle parking spaces
- Expensive to build
- Customers don't have electric cars
- Not good for economic development
- Some businesses have large fleets and the current requirements are not practical,

We've heard from the development community that the requirements are too high and have resulted in a number of unused electric vehicle charging parking stalls. In regards to some of the Western industrial areas, developers in this area have mentioned that these stations are expensive to build, their customers do not have these electric cars, and overall these requirements are not good for economic development. In addition, some of these businesses have large fleets and believe that the current requirements are not practical.

In the case of one of the residential parking facilities at City Creek, it was reported that their charging stations have very low use. There have been a couple multifamily developers who have also stated that the number required is too high and that there currently is not a large market for electric cars.

*Usage of existing units*

The City does not have detailed charging metrics for the two fast charge stations on 500 South. However, the City does have numbers for total power consumption for these stations. Based on calculation estimates from our Sustainability Department, the two stations are providing enough electricity for 4,375 miles of all-electric travel each month on average, which would equate to approximately 125 charges/month for both stations.

*Cost of the three levels of charging stations/installation*

There are two costs associated with charging stations. First, the install costs of the electric infrastructure, which range anywhere from \$800 to \$7,000 and depend on specific site conditions. The second cost involves the equipment costs which range from \$300 to \$500 for Level 1, \$1,000 to \$7,000 for Level 2, and \$20,000 to \$50,000 for Quick Charge.

	Install *	Equipment	Total
Level 1	\$800 to \$7,000	\$300 to \$500	\$1,100 to \$7,500
Level 2	\$800 to \$7,000	\$1,000 to \$7,000	\$1,800 to \$14,000
Quick Charge	\$800 to \$7,000	\$20,000 to \$50,000	\$20,800 to \$57,000

*\*Installing electrical conduit and upgrade in preparation for future charging stations will save money in the long run*

*Do electric vehicles qualify for LEED points?*

Yes, electric vehicles qualify for LEED points.

**CONSIDERATIONS FOR THE AIRPORT**

The Salt Lake International Airport is subject to these electric vehicle parking requirements. However, the variety of users that the airport accommodates makes the airport a unique situation. The City’s Department of Airports has provided comments on this issue. (Please see Exhibit C). The airport provides a parking for a variety of users, which include employees, general public in parking structures and surface parking lots, rental cars, rental car long term seasonal, tenants, maintenance vehicles, concessions, police, emergency responders, delivery vehicles, ground transportation providers, and the general aviation area. Based on these comments, staff has added a provision to Options 1 and 3 that states that the zoning administrator in conference with the Director of Airports may modify these requirements to better address their specific site conditions.

**PROPOSED ORDINANCE OPTIONS:**

(Please see Exhibit A for the complete proposed ordinance language for each Option)

All of the following options remove the location requirements that states that the EV parking stalls must be “located in the same lot as the principal use and located as close to the primary building entrance as possible.” Access to electric infrastructure is an important factor in the placement of charging stations and these may not necessarily be located as close to the primary building entrance as possible. In addition, it is also possible that a parking lot for a building may not be located in the same lot as the principal building. Removing these requirements will

allow for more flexibility and prevent any unnecessary costs associated with placing charging stations in certain locations.

Based on the research completed, the 4 options address the uses required (all uses or multifamily only) and whether full charging stations need to be installed or just the wiring and power outlet to allow for parking stalls to convert to EV charging stations when the market is ready.

Language has been added to all 4 options to ensure that charging stations have sufficient electrical capacity.

For the options requiring the wiring and power outlet to be in place, the language indicates that these should be wired for a minimum of 200V, which is becoming more of an industry standard in preparing for the future of electric vehicles.

**OPTION1 - EV Charging Station Requirement for All Uses** – as proposed at July 29, 2015 meeting

Required Minimum Number of Parking Spaces	Number of Electric Vehicle Parking Spaces
0 to 49	0
50 to 99	1
100+	2, plus 1 for each additional 100 stalls

This option is the initial proposal presented to the Planning Commission on July 29, and provides a requirement regardless of use

*Pros:* This is an improvement upon the existing code. Requiring electric vehicle parking for all uses may more quickly build the City’s electric vehicle infrastructure and better prepare the City to accommodate more electric vehicles.

*Cons:* Requiring all type of uses to provide electric vehicle charging stations can be problematic since different uses may have different demands. This may also add to the construction cost of a new amenity to a project that may not be used for some time. The short parking times associated with some uses, such as retail, may make the use of electric vehicle charging stations impractical because a quick charge system would work best with the shorter parking times, but are much more costly to install.

**OPTION 2 – EV Charging Station Requirement for Multi-Family Buildings/Uses Only** – Same numbers as proposed in July 29 meeting, but only required for Multi-family residential units

Required Minimum Number of Parking Spaces	Number of Electric Vehicle Parking Spaces
0 to 49	0
50 to 99	1
100+	2, plus 1 for each additional 100 stalls

This option works on the assumption that the majority of drivers of electric cars will charge their cars at home.

*Pros:* This is an improvement upon the existing code. Requiring electric vehicle parking for multi-family uses may more quickly build the City's electric vehicle infrastructure and better prepare the City to accommodate more electric vehicles. Requiring electric vehicle parking for only multifamily uses is similar to what other cities are doing.

*Cons:* Requiring a full and dedicated EV parking stall with a charging station may not meet the market demands of today and puts the cost of installation ahead of what the market may currently demand.

***OPTION3- EV Requirement to Install Wiring and Power Outlet for All Uses*** - 3% of minimum required number of parking stalls need to provide electric conduit for future charging stations

This option is required for all uses; however, this requirement focuses on providing the wiring and electrical infrastructure for a % of stalls. This assumes that when the market is ready, a charging station can be easily plugged in/installed and the parking stall can be easily converted to an EV parking stall.

*Pros:* This is an improvement upon the existing code. This option does not allow for unused electric vehicle parking stalls in today's market. Instead, the idea is that with the wiring and electrical infrastructure in place, the market can respond when the demand is there and the charging stations can easily plug into or be hard wired and used as an EV parking stall.

*Cons:* Requiring the installation of wiring and electric infrastructure through zoning can be difficult to enforce. Additionally, there is an assumption that the developers of these buildings will install the charging stations; therefore the use of these stall as charging stations may not be realized.

***Option 4 - Requirement to Install Wiring and Power Outlet for Multi-Family Only***  
3% of minimum required number of parking stalls for multi-family developments need to provide wiring and electric infrastructure for future charging stations

This option works off the assumption that the majority of drivers of electric cars will charge their cars at home and building the infrastructure and allowing a parking stall to convert to an EV parking stall will be more beneficial in the long run.

*Pros:* By installing the wiring and electric infrastructure, the market can more easily respond when there is a greater demand for electric vehicle charging stations. This option does not allow for unused electric vehicle parking stalls in today's market. Instead, the idea is that with the wiring and power in place, the market can respond when the demand is there and the charging stations can easily connect when necessary.

*Cons:* Requiring the installation of wiring and electric infrastructure through zoning can be difficult to enforce. Additionally, there is an assumption that the developers of these buildings

will install the charging stations; therefore the use of these stall as charging stations may not be realized.

**INCENTIVE ADDITION FOR OPTION 1 OR OPTION 2**

If the Planning Commission prefers Option 1 or Option 2, language can be added to include an 25% reduction in the number of EV parking stalls for installing Level 2 or Fast Charge Stations.

**EXHIBIT A**  
**Proposed Ordinance Options**



## OPTION 1

### 21A.44.050: TRANSPORTATION DEMAND MANAGEMENT:

A. Purpose: The purposes of the following provisions relating to transportation demand management are to:

1. Enable Salt Lake City to reduce vehicle miles traveled in the city, thereby reducing the use of gasoline, the use of other fossil fuels, and greenhouse gas emissions;
2. Improve public health;
3. Reduce air, water, and noise pollution associated with motorized vehicular transportation;
4. Promote alternative modes of transportation, such as bicycling and walking;
5. Lessen congestion on the streets and roads of the city;
6. Promote road safety and reduce the number of accidents;
7. Provide opportunities for residents, institutions, and businesses of the city to save fuel costs related to driving;
8. Encourage compact development patterns and reduce sprawl development;
9. Reduce the amount of surface parking lots in the city by facilitating other modes of transportation;
10. Reduce road and parking facility construction and maintenance costs; and
11. Support community economic development objectives.

B. Generally Applicable Transportation Demand Management Standards:

1. Applicability: The following standards shall be applicable to all new buildings that exceed five thousand (5,000) square feet in floor area or a major expansion of an existing building. For this subsection, a "major expansion" is defined as any alteration or modification to a building that increases the building's gross floor area by twenty five percent (25%) or five thousand (5,000) square feet, whichever is less.
2. Electric Vehicle Parking: ~~At least one parking space dedicated to electric vehicles shall be provided for every twenty five (25) parking spaces provided. Electric vehicle parking spaces shall count toward the required number of parking spaces. The electric vehicle parking space shall be:~~ The minimum number of required parking spaces is determined after applying any applicable reductions and exemptions. The number of required electric vehicle parking spaces shall be as follows:

<u>Required Minimum Number of Parking Spaces</u>	<u>Number of Electric Vehicle Parking Spaces</u>
<u>0 to 49</u>	<u>0</u>
<u>50 to 99</u>	<u>1</u>
<u>100+</u>	<u>2, plus 1 for each additional 100 stalls</u>

- a. ~~Located in the same lot as the principal use; Electric vehicle parking spaces shall count toward the required number of parking spaces. The electric vehicle parking space shall be:~~
  - ~~e. i.~~ Signed in a clear and conspicuous manner, such as special pavement marking or signage, indicating exclusive availability to electric vehicles; and
  - ~~d. ii.~~ Outfitted with a standard electric vehicle charging station.
- b. ~~Located as close to a primary building entrance as possible; Sufficient electrical capacity shall be provided for the use of the above required electric vehicle charging stations.~~
- c. ~~The zoning administrator, after receiving a recommendation from the Director of Airports or the Director's designee, may modify requirements of this section to better achieve the intent of this section and address site specific conditions. These modifications shall be limited to the location of required electric vehicle charging stations and shall not permit a reduction in the required total number of stations.~~
- d. ~~Where no minimum parking is required, calculations are based on provided parking.~~

## Option 2

### 21A.44.050: TRANSPORTATION DEMAND MANAGEMENT:

A. Purpose: The purposes of the following provisions relating to transportation demand management are to:

12. Enable Salt Lake City to reduce vehicle miles traveled in the city, thereby reducing the use of gasoline, the use of other fossil fuels, and greenhouse gas emissions;
13. Improve public health;
14. Reduce air, water, and noise pollution associated with motorized vehicular transportation;
15. Promote alternative modes of transportation, such as bicycling and walking;
16. Lessen congestion on the streets and roads of the city;
17. Promote road safety and reduce the number of accidents;
18. Provide opportunities for residents, institutions, and businesses of the city to save fuel costs related to driving;
19. Encourage compact development patterns and reduce sprawl development;
20. Reduce the amount of surface parking lots in the city by facilitating other modes of transportation;
21. Reduce road and parking facility construction and maintenance costs; and
22. Support community economic development objectives.

B. Generally Applicable Transportation Demand Management Standards:

3. Applicability: The following standards shall be applicable to all new buildings with multi-family uses that exceed five thousand (5,000) square feet in floor area or a major expansion of an existing building with multi-family uses. For this subsection, a "major expansion" is defined as any alteration or modification to a building that increases the building's gross floor area by twenty five percent (25%) or five thousand (5,000) square feet, whichever is less.
4. Electric Vehicle Parking: ~~At least one parking space dedicated to electric vehicles shall be provided for every twenty five (25) parking spaces provided. Electric vehicle parking spaces shall count toward the required number of parking spaces. The electric vehicle parking space shall be:~~ The minimum number of required parking spaces is determined after applying any applicable reductions and exemptions. The number of required electric vehicle parking spaces shall be as follows:

<u>Required Minimum Number of Parking Spaces</u>	<u>Number of Electric Vehicle Parking Spaces</u>
<u>0 to 49</u>	<u>0</u>
<u>50 to 99</u>	<u>1</u>
<u>100+</u>	<u>2, plus 1 for each additional 100 stalls</u>

- b. ~~Located in the same lot as the principal use; Electric vehicle parking spaces shall count toward the required number of parking spaces. The electric vehicle parking space shall be:~~
  - ~~e. i.~~ Signed in a clear and conspicuous manner, such as special pavement marking or signage, indicating exclusive availability to electric vehicles; and
  - ~~d. ii.~~ Outfitted with a standard electric vehicle charging station.
- b. ~~Located as close to a primary building entrance as possible; Sufficient electrical capacity shall be provided for the use of the above required equipment.~~
- c. ~~Where no minimum parking is required, calculations are based on provided parking.~~

### OPTION 3

#### 21A.44.050: TRANSPORTATION DEMAND MANAGEMENT:

A. Purpose: The purposes of the following provisions relating to transportation demand management are to:

23. Enable Salt Lake City to reduce vehicle miles traveled in the city, thereby reducing the use of gasoline, the use of other fossil fuels, and greenhouse gas emissions;
24. Improve public health;
25. Reduce air, water, and noise pollution associated with motorized vehicular transportation;
26. Promote alternative modes of transportation, such as bicycling and walking;
27. Lessen congestion on the streets and roads of the city;
28. Promote road safety and reduce the number of accidents;
29. Provide opportunities for residents, institutions, and businesses of the city to save fuel costs related to driving;
30. Encourage compact development patterns and reduce sprawl development;
31. Reduce the amount of surface parking lots in the city by facilitating other modes of transportation;
32. Reduce road and parking facility construction and maintenance costs; and
33. Support community economic development objectives.

B. Generally Applicable Transportation Demand Management Standards:

5. Applicability: The following standards shall be applicable to all new buildings that exceed five thousand (5,000) square feet in floor area or a major expansion of an existing building. For this subsection, a "major expansion" is defined as any alteration or modification to a building that increases the building's gross floor area by twenty five percent (25%) or five thousand (5,000) square feet, whichever is less.
6. Electric Vehicle Parking: ~~At least one parking space dedicated to electric vehicles shall be provided for every twenty five (25) parking spaces provided. Electric vehicle parking spaces shall count toward the required number of parking spaces. The electric vehicle parking space shall be:~~ At least 3% of the required minimum parking spaces must be wired with a power outlet that can accommodate the use of a minimum of 200 Volt electric vehicle charging equipment. Hard-wired electric vehicle charging equipment with a minimum of 200 Volts may be installed as an alternative to the required power outlet.
  - c. ~~Located in the same lot as the principal use; The number of required minimum spaces is determined after applying any applicable reductions and exemptions.~~
  - d. ~~Located as close to a primary building entrance as possible; Electric vehicle parking spaces shall count toward the required number of parking spaces.~~

- e. ~~Signed in a clear and conspicuous manner, such as special pavement marking or signage, indicating exclusive availability to electric vehicles; and Sufficient electrical capacity shall be provided for the use of the above required electric vehicle charging stations.~~
- f. ~~Outfitted with a standard electric vehicle charging station. The zoning administrator, after receiving a recommendation from the Director of Airports, or the Director's designee, may modify requirements of this section to better achieve the intent of this section and address site specific conditions. These modifications shall be limited to the location of required electric vehicle charging stations and shall not permit a reduction in the required number of stations.~~
- e. Where no minimum is required, calculations are based on provided parking.

## Option 4

### 21A.44.050: TRANSPORTATION DEMAND MANAGEMENT:

A. Purpose: The purposes of the following provisions relating to transportation demand management are to:

34. Enable Salt Lake City to reduce vehicle miles traveled in the city, thereby reducing the use of gasoline, the use of other fossil fuels, and greenhouse gas emissions;
35. Improve public health;
36. Reduce air, water, and noise pollution associated with motorized vehicular transportation;
37. Promote alternative modes of transportation, such as bicycling and walking;
38. Lessen congestion on the streets and roads of the city;
39. Promote road safety and reduce the number of accidents;
40. Provide opportunities for residents, institutions, and businesses of the city to save fuel costs related to driving;
41. Encourage compact development patterns and reduce sprawl development;
42. Reduce the amount of surface parking lots in the city by facilitating other modes of transportation;
43. Reduce road and parking facility construction and maintenance costs; and
44. Support community economic development objectives.

B. Generally Applicable Transportation Demand Management Standards:

7. Applicability: The following standards shall be applicable to all new buildings with multi-family uses that exceed five thousand (5,000) square feet in floor area or a major expansion of an existing building with multi-family uses. For this subsection, a "major expansion" is defined as any alteration or modification to a building that increases the building's gross floor area by twenty five percent (25%) or five thousand (5,000) square feet, whichever is less.
8. Electric Vehicle Parking: ~~At least one parking space dedicated to electric vehicles shall be provided for every twenty five (25) parking spaces provided. Electric vehicle parking spaces shall count toward the required number of parking spaces. The electric vehicle parking space shall be:~~ At least 3% of the required minimum parking spaces must be wired with a power outlet that can accommodate the use of a minimum of 200 Volt electric vehicle charging equipment. Hard-wired electric vehicle charging equipment with a minimum of 200 Volts may be installed as an alternative to the required power outlet.
  - g. ~~Located in the same lot as the principal use; The number of required minimum spaces is determined after applying any applicable reductions and exemptions.~~
  - h. ~~Located as close to a primary building entrance as possible; Electric vehicle parking spaces shall count toward the required number of parking spaces.~~

- i. ~~Signed in a clear and conspicuous manner, such as special pavement marking or signage, indicating exclusive availability to electric vehicles; and Sufficient electrical capacity shall be provided for the use of the above required equipment.~~
- j. ~~Outfitted with a standard electric vehicle charging station. Where no minimum is required, calculations are based on provided parking.~~



**EXHIBIT B**  
**Staff Report – July 29, 2015**



# Staff Report

PLANNING DIVISION  
COMMUNITY & ECONOMIC DEVELOPMENT

To: Salt Lake City Planning Commission  
From: Tracy Tran, 801-535-7645 or [tracy.tran@slcgov.com](mailto:tracy.tran@slcgov.com)  
Date: July 29, 2015  
Re: PLNPCM2015-00148 – Electric Vehicle Charging Stations Requirements

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## Zoning Text Amendment

**PROPERTY ADDRESS:** City-wide  
**PARCEL ID:** N/A  
**MASTER PLAN:** N/A  
**ZONING DISTRICT:** All Zoning Districts

**REQUEST:** The Mayor formally requested that the Salt Lake City Planning Division analyze the electric vehicle (EV) charging station requirements in the parking chapter of the zoning ordinance.

**RECOMMENDATION:** Based on the analysis and findings of this report, it is the opinion of staff that the proposed text amendments meet the intent of the City Council's direction, standards for a zoning ordinance amendment and staff recommends that the Planning Commission forward a favorable recommendation of petition PLNPCM2014-00148 to the City Council. Below is a proposed motion consistent with this recommendation:

**Based on the information in the staff report and the discussion heard, I move that the Planning Commission transmit a positive recommendation to the City Council regarding petition PLNPCM2015-00148, text changes to the EV Charging Station parking requirements.**

**ATTACHMENTS:**

- A. Proposed Ordinance
- B. Analysis of Standards
- C. Public Process and Comments
- D. Department Comments
- E. Motions

**PROJECT DESCRIPTION:**

In February 2015, the Mayor initiated a petition requesting the Planning Division analyze and make revisions to the Parking Chapter of the Zoning Ordinance. One of these revisions included the requirements for EV charging stations.

The existing electric vehicle (EV) parking requirements have been problematic as the requirements are seen as disproportionate to the market. Additionally, the language in the ordinance that specifies the location of EV parking spaces has also been problematic since the best location for these spaces depends on the location of electrical infrastructure on the property. Making the proposed changes will remove some existing challenges that come with providing EV parking stalls.

**KEY ISSUES:**

The section being changed in the zoning ordinance as part of the amendment is 21A.44.050B “Transportation Demand Management.” The changes being made to the EV charging station requirements are detailed below:

### **Issue 1: Number of EV Parking Stalls**

The zoning ordinance currently requires one EV parking stall for every 25 parking spaces provided. These existing requirements are disproportionate to market demands as it results in a large amount of unused EV parking stalls. Though the market is rapidly growing, the current market demand for EVs is very low. As of October 31, 2014, there were a total of 748 registered plug-in hybrid EVs in Salt Lake County.

When this ordinance was initially written, the Planning Commission recommended that there should be one EV parking stall for every 50 stalls. When the ordinance went in front of City Council, City Council increased the number to one EV parking stall for every 25 stalls. To meet the sustainability goals of the City and better meet market demands, the proposed changes require one EV parking stall for every 50 for the first 100 stalls, and one additional EV parking stall for every subsequent 100 stalls. Additionally, clarifying language has been included that state that the required number of EV parking spaces be determined after applying all applicable reductions and exemptions.

### **Issue 2: Required Versus Provided Parking**

Currently, the zoning ordinance requires one EV parking stall for every 25 parking stalls provided, which has been challenging for many developers in the City. The proposed amendment would require one EV parking stall for every 50 parking stalls required. Basing the requirement off the required number as opposed to the provided number allows for more flexibility as the number of EVs in use locally today is low but growing.

There are a few zoning designations that do not contain a minimum number of required parking spaces. In these instances, the proposed text amendment includes language that states “Where no minimum parking is required, calculations are based on provided parking.”

### **Issue 3: Location of Charging Stations**

Changes to the EV ordinance include removing the location requirements that state that these stalls must be located in the same lot as the principal use and located as close to the primary building entrance as possible. These requirements have been difficult for a couple reasons. Access to electric infrastructure is an important factor in the placement of charging stations and these may not necessarily be located as close to the primary building entrance as possible. In addition, it is also possible that a parking lot for a building may not be located in the same lot as its principal building. Removing these requirements will prevent any unnecessary costs associated with placing charging stations in a certain location.

### **Issue 4: Cost of EV Charging Infrastructure**

Currently, there are three (3) types of EV charging stations: Level 1, Level 2, and Level 3 (fast charge). These types vary in cost and in time it takes to charge. Level 1 charging is basically charging a car into an ordinary household 120V outlet. These get a full charge in eight (8)+ hours (approximately 2 to 5 miles per hour of charging). Level 2 charging requires a 220V or 240V plug (like a electric dryer or oven). These get a full charge in about 4 hours (approximately 10 to 20 miles per hour of charging). Level 3 charging, also known as Fast Charge, is currently the fastest type of charging (480V) and provides a full charge in about 30 minutes (approximately 50 to 70 miles in 20 minutes). These Fast Charge stations require a lot of power and are very expensive to install.

The costs to installing these electric charging stations vary from a few hundred dollars (Level 1) to thousands of dollars (Level 3). Due to the drastic variation in costs, the amendments to this section of the EV parking requirements will not specify the type of station required.

## **DISCUSSION:**

The proposed amendment intends to improve upon the existing code; however, there are pros and cons to any proposal and other considerations could be made. These considerations are laid out below.

The proposed amendment reduces the requirement for EV charging stations since the existing requirements result in a disproportionate amount of parking for EVs. Additionally, removing the location requirements and updating “provided parking” to “required parking,” allows for more flexibility for property owners and developers, which will better serve the current market for EVs. The number of EVs in Salt Lake City today is very small, but the EV market has been growing quickly. Based on 1<sup>st</sup> quarter 2015 car registration numbers in Utah, the number of EV cars total 1,722 for the state, with 942 EV cars in Salt Lake County.

These proposed changes do make the requirements less onerous in the short term and these changes will better provide the appropriate infrastructure for EVs charging stations in the long term. If the ordinance is not changed, the current requirements will continue to pose challenges to development in the City and may result in a large number of unused EV parking stalls.

### Other Considerations

Staff met with the Downtown Alliance Development Committee to go over the proposed changes and the group agreed that the existing requirements were not working well. The Development Committee provided their comments in a letter, which can be found in Attachment C. Some of their concerns/suggestions are mentioned below.

The Development Committee mentioned that the existing, non City-owned charging stations have very low usage rate. One example stated that five (5) Level 2 dual chargers were installed, which cost \$47,000. Current data shows that all these chargers are used an average total of 1.3 hours per day, which equals approximately 16 minutes per station. With the usage rates this low, the Development Committee questioned whether it was appropriate for any requirements at all and suggested that we as a City should allow the market to deal with providing charging stations for EVs as the demand grows.

A point was brought up as to whether different requirements should be made based on the type of development. Different types of development may have different users, such as: residents, employees, or patrons; based on these different users, the total number of required EV parking stalls may vary. For uses with a lot of turnover, such as retail uses, fewer charging stations may be required; and conversely, for uses with fewer turnover, such as residential and office uses, more stations may be required. Related to this matter is whether the different uses require different type of charging stations (Level 1, Level 2, Fast Charge).

The different types of charging stations (Level 1, Level 2, Fast Charge) may better match with different types of uses based on how long they are parked. For example, fast charge stations are likely better suited for retail stores, where consumers generally are not parked for long stretches of time. Conversely, slower charge Level 1 chargers may be more appropriate for multifamily units and office uses where residents and employees may be parked for 8+ hours. However, the concern with requiring the type of charging station is the drastic cost differences.

Though different requirements for different types of land uses or different charging station requirements for different types of uses are good considerations, these additional changes to the EV parking stall requirements could make the code more onerous and complicated. An incentive approach may be a better option to include within the Zoning Ordinance that would incentivize developers by giving them a reduction in the number of required EV parking stalls if a Type 2 or Fast Charge Station were installed. Additionally, this would provide an incentive to developers who may have higher parking turnover that would benefit from faster charging stations. Perhaps a 25% or 50% reduction in the total number of required electric vehicle parking stalls could be used if a Level 2 or Fast Charge station is installed, respectively. The following language could be included within the proposed text amendment changes to the EV Charging Station requirements:

*Incentives for Level 2 and Fast Charge Stations: A reduction in the minimum number of required electric vehicle parking stalls may be reduced by 25% if a Level 2 station is installed or by 50% if a Fast Charge station is installed. For each additional Level 2 or Fast Charge station installed, the additional reduction will be based on the already reduced number.*

- a) *When determination of the number of required electric vehicle parking stalls by this title results in a requirement of a fractional space, any fraction of less than one-half ( $1/2$ ) may be disregarded, while a fraction of one-half ( $1/2$ ) or more, shall be counted as one parking space.*

(Example: If a development required six (6) required electric vehicle parking stalls, and the developer decided to put in 2 Fast Charging stations, the first Fast Charging station would decrease the requirement to 50%, which would equal three (3) total electric vehicle parking stalls. The second Fast Charging station would decrease the requirement of three (3) electric vehicle parking stalls by 50%, which would require one and a half (1.5) electric vehicle parking stalls. This fraction would round up to two (2). Therefore, with the incentive of providing faster charging stations, the developer is required to install two (2) electric vehicle parking stalls.)

If the Planning Commission decides to include the incentive option in the ordinance, definitions could be added to define Level 1, Level 2, and Fast Charge stations.

Staff would like some direction from the Planning Commission on any of the above considerations or other considerations that come to mind.

**NEXT STEPS:**

The Planning Commission's recommendation for these proposed zoning text amendments will be forwarded on to the City Council for their action. The City Council is the decision-making body for zoning text amendments.

# ATTACHMENT A: PROPOSED ORDINANCE

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## 21A.44.050: TRANSPORTATION DEMAND MANAGEMENT:

A. Purpose: The purposes of the following provisions relating to transportation demand management are to:

1. Enable Salt Lake City to reduce vehicle miles traveled in the city, thereby reducing the use of gasoline, the use of other fossil fuels, and greenhouse gas emissions;
2. Improve public health;
3. Reduce air, water, and noise pollution associated with motorized vehicular transportation;
4. Promote alternative modes of transportation, such as bicycling and walking;
5. Lessen congestion on the streets and roads of the city;
6. Promote road safety and reduce the number of accidents;
7. Provide opportunities for residents, institutions, and businesses of the city to save fuel costs related to driving;
8. Encourage compact development patterns and reduce sprawl development;
9. Reduce the amount of surface parking lots in the city by facilitating other modes of transportation;
10. Reduce road and parking facility construction and maintenance costs; and
11. Support community economic development objectives.

B. Generally Applicable Transportation Demand Management Standards:

1. Applicability: The following standards shall be applicable to all new buildings that exceed five thousand (5,000) square feet in floor area or a major expansion of an existing building. For this subsection, a "major expansion" is defined as any alteration or modification to a building that increases the building's gross floor area by twenty five percent (25%) or five thousand (5,000) square feet, whichever is less.
2. EV Parking: ~~At least one parking space dedicated to EVs shall be provided for every twenty five (25) parking spaces provided.~~
  - a. The number of required minimum parking spaces is determined after applying any applicable reductions and exemptions. The number of required EV parking spaces shall be as follows:

<u>Required Minimum Number of Parking Spaces</u>	<u>Number of EV Parking Spaces</u>
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<u>0 to 49</u>	<u>0</u>
<u>50 to 99</u>	<u>1</u>
<u>100+</u>	<u>2, plus 1 for each additional 100 stalls</u>

~~a. b.~~ EV parking spaces shall count toward the required number of parking spaces. The EV parking space shall be:

~~a. Located in the same lot as the principal use;~~

~~b. Located as close to the primary building entrance as possible;~~

- ~~i.  Signed in a clear and conspicuous manner, such as special pavement marking or signage, indicating exclusive availability to EVs; and~~
- ~~ii.  Outfitted with a standard EV charging station.~~

~~b. Where no minimum parking is required, calculations are based on provided parking.~~

**Option to include:**

- ~~c. Incentives for Level 2 and Fast Charge Stations: A reduction in the minimum number of required electric vehicle parking stalls may be reduced by 25% if a Level 2 station is installed or by 50% if a Fast Charge station is installed. For each additional Level 2 or Fast Charge station installed, the additional reduction will be based on the already reduced number.~~
- ~~i. When determination of the number of required electric vehicle parking stalls by this title results in a requirement of a fractional space, any fraction of less than one-half (1/2) may be disregarded, while a fraction of one-half (1/2) or more, shall be counted as one parking space.~~

## ATTACHMENT B: ANALYSIS OF STANDARDS

As per section 21A.50.050, a decision to amend the text of this title or the zoning map by general amendment is a matter committed to the legislative discretion of the city council and is not controlled by any one standard. In making a decision concerning a proposed text amendment, the City Council should consider the following:

Factor	Finding	Rationale
<p><b>1. Whether a proposed text amendment is consistent with the purposes, goals, objectives, and policies of the city as stated through its various adopted planning documents;</b></p>	<p>Complies</p>	<p>None of the existing adopted Salt Lake City master plans specifically address the proposed amendment. The 1992 Salt Lake City Strategic plan notes an importance of developing business friendly regulatory practices. It is staff's opinion that the proposed amendments to the Zoning Ordinance relating to EV parking requirements will better reflect market demands, which furthers the goal of creating business friendly regulatory practices.</p>
<p><b>2. Whether a proposed text amendment furthers the specific purpose statements of the zoning ordinance;</b></p>	<p>Complies</p>	<p>Requiring EV Charging Stations helps build the EV infrastructure for the City and meets the purpose to "Protect the Environment" within Section 21A.02.030 of the Zoning Ordinance. Providing EV infrastructure in the City encourages more EV use in the City, which will protect the environment as tailpipe emissions are reduced and air quality is improved. Section 21A.44.010 of the Zoning Ordinance discusses the purpose of Off Street Parking and states that one of the purposes is to "promote public health and welfare through a cleaner environment by reducing the number of vehicle trips." Increased EV infrastructure will promote public health and welfare as EVs are less polluting; However, increased EV infrastructure may not necessarily reduce the number of vehicle trips, but the usage of electric vehicles nevertheless improves public health and welfare as fewer polluting vehicles are on the road.</p>



		<p>Section 21A.44.050 lists the provisions related to the purpose of Transportation Demand Management. It states the purpose of the Transportation Demand Management Section is to improve public health, reduce air, water, and noise pollution associated with motorized vehicular transportation, and provide opportunities for residents, institutions, and businesses of the city to save fuel costs related to driving. By requiring electric vehicle parking spaces, greenhouse gas emissions will likely be reduced as the number of gas vehicles are replaced with electric vehicles, which will improve public health and reduce air pollutions associated with motorized vehicular transportation. Electric vehicles will also provide an opportunity for the residents, institutions, and businesses of the City to save fuel costs related to driving as electric cars require little to no fuel.</p> <p>The proposal to amend the existing to reduce the requirements better reflects the EV and development market, which meets the purpose to “Foster the City’s business and residential development,” and it is an important incremental approach to building the necessary EV infrastructure in the City, which again meets the purpose to “Protect the Environment” in the Zoning Ordinance.</p>
<p><b>3. Whether a proposed text amendment is consistent with the purposes and provisions of any applicable overlay zoning districts which may impose additional standards;</b></p>	<p>Not applicable</p>	<p>The proposed text amendment is not associated with any specific overlay zoning district or development project.</p>
<p><b>4. The extent to which a proposed text amendment implements best current, professional practices of urban planning and design.</b></p>	<p>Complies</p>	<p>The proposed changes improve upon the existing ordinance, which has brought about challenges for development. The amendments to the EV parking chapter are meant</p>

		to allow for a more efficient process. The regulations do not relate to any specifics relating to practices of design.
<b>NOTES:</b>		

## **ATTACHMENT C: PUBLIC PROCESS AND COMMENTS**

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### **Public Notice, Meetings, Comments**

The following is a list of public meetings that have been held, and other public input opportunities, related to the proposed project:

#### **Downtown Development Committee Meeting (Downtown Alliance):**

Staff presented at the Downtown Development Committee Meeting on May 19, 2015. The Downtown Alliance sent a letter with their comments (see page 11-12).

#### **Open House:**

Because this zoning text amendment impacts the entire city and not just a specific community council, an open house was held on May 21, 2015. All recognized community based organizations were notified of the open house. No comments were received during the open house.

#### **Planning Commission Notice of the public hearing for the proposal included:**

Public notice posted on City and State websites and Planning Division list serve on July 16, 2015  
Public hearing notice published in the newspaper on July 18, 2015

#### **Public Input:**

One email was received in support of requiring electric vehicle parking. See page 13.



May 26, 2015

Nora Shepard  
Director  
Salt Lake City Planning Department

Nick Norris  
Planning Manager  
Salt Lake City Planning Department

Dear Nora and Nick,

The Downtown Alliance recognizes the importance of sustainable infrastructure and increased transportation options. Downtown is well situated for growth thanks to a forward thinking administration and a business community working together to build a stronger regional center for culture, commerce and entertainment.

We welcome the your efforts to introduce amendments to the electric vehicle charging stations zoning requirements. The existing regulations are onerous and cumbersome and have made it more expensive and difficult to develop new projects throughout Salt Lake City, with virtually no measurable benefits in air quality or electric car usage. We believe Salt Lake City can strike a balance that satisfies environmental goals and addresses issues with air quality while promoting the development and usage of electric vehicle charging stations in our urban center.

We recommend the following specific changes to the current language:

1. Create a flexible regulation that allows for the development community to respond to market demand for electric vehicle charging stations.
2. Remove language that requires one electric vehicle parking space for every 25 parking spaces provided. Consider geographic location and type of development (retail, office, residential, industrial) when determining thresholds rather than creating citywide standards that treats all development with overly broad regulations.
3. Differentiate or specify the type of electric vehicle charging station required based off of location within the city and type of parking. For example, high frequency lots (grocery stores, retail centers) may be better situated for level 3 "fast chargers" than an industrial park or office building.

4. Consider incentives or reductions in thresholds to new developments that are willing to install fast level 3 chargers vs. level 2 or level 1 chargers instead of minimum requirements.
5. Apply amendments to electric vehicle charging thresholds for existing permits.

Before moving forward with a decision, we ask that the planning department and City Council look over the usage data of both privately owned public charging stations as well as the city owned stations to determine whether zoning regulations are the most effective tool to encourage electric car usage. Empirical evidence seems to suggest that most electric car owners choose to charge their cars at home – not in public or private garages. Advancing technologies that provide up to 200 miles of usage with a single charge indicate that there may be even less demand for charging stations in the future.

A current example illustrates this point: a 6200-space downtown parking lot has five level 2 dual chargers averages a usage total of 1.3 hours per day, or 16 minutes per day per station. These were installed because the owner wanted to be a good corporate citizen, not because of any regulation. Based on an initial investment of approximately \$9,400 per station, the average usage return in this lot is \$8.76 per month. To be clear, the lot owner invested \$47,000 and is receiving only \$8.76 per month or 16 minutes per day in a highly utilized 6200-space lot. Based on this example, and similar anecdotal reports from other lot owners, we believe there is simply is not sufficient demand to necessitate a required minimum of electric vehicle charging stations. Market forces combined with thoughtful incentives for developers to add stations (to new and existing lots) is a better strategy than overly broad citywide regulations for new development that may have the unintended consequence of limiting Salt Lake City's growth and the overall availability of charging stations.

As always, we appreciate your willingness to listen to our feedback and recognize your efforts to foster a healthy, vibrant downtown.

Sincerely,



Jason Mathis

cc: Mayor Ralph Becker  
Salt Lake City Council  
Jill Love, Director of Community and Economic Development

**From:** [Scott Kisling](#)  
**To:** [Tran, Tracy](#)  
**Subject:** Electric Car Parking Case Number PLNPCM2015-00148  
**Date:** Tuesday, May 12, 2015 10:15:34 AM

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Tracy,  
I am in strong support of the Mayor's request to modify the electric vehicle parking ordinance to require parking for electric vehicles. You have probably noticed a sharp increase in the number of electric vehicles in the past year. My wife and I are considering moving to a condo downtown but the inability to easily charge an electric car is a drawback.  
Thanks,  
Scott

## **ATTACHMENT D: DEPARTMENT REVIEW COMMENTS**

Input was requested from all pertinent city divisions and departments. The following comments were received from other city divisions/departments with regard to these proposed amendments:

**Building Services:** With removal of the “location on same lot as principal use” requirement, there needs to be a tie in to requiring an “Off Site Parking” arrangement, through a lease agreement, etc... The language “Outfitted with a standard EV charging station” should include a reference to “Approved” or “Listed” (meaning UL Listed, or other certifying third party)... \*\*\*Outfitted with an approved (UL Listed, or other) EV charging station\*\*\* The change from “provided” to “required” parking poses an issue in zones that have “No Required Minimum”. Zones such as TSA, D-1, -2, -3, -4, and G-MU. See 21A.44.030 Additionally, There are some Land Uses that require “No minimum Parking” such as Commercial Parking Lots Language to include “Where no minimum parking is REQUIRED, calculations based on PROVIDED parking”

**Engineering:** No objections

**Transportation:** I have reviewed the proposed Zoning Amendment and discussed with staff. There are no objections from Transportation.

# **ATTACHMENT E: MOTIONS**

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## **Consistent with Staff Recommendation:**

Based on the information in the staff report and the discussion heard, I move the Planning Commission to transmit a favorable recommendation to the City Council regarding petition PLNPCM2015-00148, text changes to the EV Charging Station parking requirements.

## **Not consistent with Staff Recommendations:**

Based on the staff report information, public input and discussion and the following finding(s), I move that the Planning Commission transmit a negative recommendation to the City Council regarding petition PLNPCM2015-00148, relating to amend the EV Charging Station parking requirements.

The Planning Commission shall make findings on the Zoning Text Amendment standards as listed below:

1. Whether a proposed text amendment is consistent with the purposes, goals, objectives, and policies of the City as stated through its various adopted planning documents;
2. Whether a proposed text amendment furthers the specific purpose statements of the zoning ordinance;
3. The extent to which a proposed map amendment will affect adjacent properties;
4. Whether a proposed text amendment is consistent with the purposes and provisions of any applicable overlay zoning districts which may impose additional standards; and
5. The extent to which a proposed text amendment implements best current, professional practices of urban planning and design.



# EXHIBIT C

## Department/Public Comments

**From:** [McCandless, Allen](#)  
**To:** [Tran, Tracy](#)  
**Subject:** Electric Vehicle Parking - comments-21A.44.050  
**Date:** Monday, September 14, 2015 3:27:29 PM

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Tracy,

I reviewed the proposed text changes to section 21A.44.050: Transportation Demand Management, B. 2. Electric Vehicle Parking and have the following comments.

The Airport has unique areas that provide parking to a wide variety of users. As an example, the Airport provides parking areas for employees, the general public in the parking structure, the general public in the surface parking lots, rental cars in the garage first level, rental car long term seasonal parking, tenants, maintenance vehicles, concessions parking, police vehicles, emergency responders, delivery vehicles, ground transportation providers, and the General Aviation area. Each of these parking areas have different needs for electric vehicle parking. The new parking garage will likely exceed the new requirement for electric vehicle stalls, however, the final number of electric stations are being developed in the design plans. Because of the wide variety of users and types of parking lots, approval for Electric Vehicles should be given by the Director of the Salt Lake City Department of Airports.

I recommend that text be added to the section referenced above that the approval for number of Electric Vehicle parking spaces at the Airport (A zoning district) be given by the Salt Lake City Department of Airports or her/his designee.

--Allen McCandless

# EXHIBIT D

## Motions

### **Positive recommendation consistent with staff's opinion:**

Based on the information in the memo and the discussion heard, I move that the Planning Commission transmit a positive recommendation to City Council of Option 4 text amendment (as referenced in the September 23 Planning Commission memo) regarding petition PLNPCM2015-00148, text changes to the electric vehicle parking requirements.

### **Positive recommendation not consistent with staff's opinion:**

Based on the information in the memo and the discussion heard, I move that the Planning Commission transmit a positive recommendation to the City Council of Option \_\_\_ text amendment (as referenced in the September 23 Planning Commission Memo) regarding petition PLNPCM2015-00148, text changes to the electric vehicle parking requirements.

### **Negative recommendation to City Council:**

Based on the information in the memo and the discussion heard, I move that the Planning Commission transmit a negative recommendation to the City Council regarding petition PLNPCM2015-00148, text changes to the electric vehicle parking requirements.