



Memorandum

TO: HONORABLE MAYOR
AND CITY COUNCIL

FROM: Kerrie Romanow
Rosalynn Hughey

SUBJECT: SEE BELOW

DATE: September 11, 2019

Approved

D. P. S. Y. L.

Date

9/12/19

SUPPLEMENTAL

SUBJECT: BUILDING REACH CODE FOR NEW CONSTRUCTION

REASON FOR SUPPLEMENTAL

This supplemental memorandum provides an update to items discussed at the September 9, 2019 Transportation and Environment (T&E) Committee meeting and outlines edits that were made to the proposed reach code ordinance since the T&E memorandum posting.

BACKGROUND

On September 9, 2019, staff presented the *Building Reach Code for New Construction* item to the T&E Committee. The Committee requested that staff provide additional outreach on the reach code requirements to San José Neighborhood Associations and residents. In addition, the Committee inquired about several items including the following:

1. The difference in electric vehicle charging infrastructure (EVCI) costs between the first posted draft reach code and the proposed reach code
2. Application of the reach code to affordable housing developments
3. Application of the reach code to high-rise multi-family developments
4. Minimum of 8-amp electrical service capacity requirement for EV Capable parking spaces

The T&E Committee attachments included a draft of the reach code ordinance, which was updated in the version posted for the September 17, 2019 City Council meeting.

ANALYSIS

The following provides additional information in response to the T&E Committee’s outreach request and questions:

1. **Additional Residential Outreach:** In response to the Committee’s request, City staff scheduled an informational meeting to provide San José residents with an additional opportunity to understand the requirements of the proposed reach code and to receive feedback. The meeting is scheduled on Friday, September 13, 2019 at City Hall from 10:00-11:00 a.m. Environmental Services Department staff sent invitations via email to an extensive list of Neighborhood Association representatives and interested non-profits with San-José resident membership. The results of this outreach can be shared at the September 17, 2019 City Council meeting.

2. **EVCI First Draft vs. Proposed Draft Cost Difference:** From the draft to the proposed reach code, only the multi-family EVCI requirements were reduced. The table below provides the difference in the EVCI costs between the first draft reach code and the revised, proposed reach code, as applied to a sample multi-family development with 100 required parking spaces:

	Multi-family Draft 1 EVCI Reach Code	Multi-family Proposed EVCI Reach Code
EV Capable Spaces	50	50
EV Ready Spaces	50	0
EVSE Spaces	0	10
Total Cost of EV Capable (w/8A capacity)	\$ 49,500	\$ 49,500
Total Cost of EV Ready	\$ 66,500	\$ -
Total Cost of EVSE	\$ -	\$ 23,300
Total EVCI Cost	\$ 116,000	\$ 72,800
Total Project Cost	\$23,000,000	\$ 23,000,000
Incremental EVCI Reach Code Cost as a % of Total Project Cost (excludes 2019 base code EVCI cost)	0.45%	0.26%

3. **Application to Affordable Housing:** As discussed in the T&E and City Council memorandum, all-electric buildings and transportation can provide several benefits particularly to low-income communities, including reduced indoor and outdoor air pollution and lower operational costs for EV vehicles. There are also a number of existing and anticipated EVCI, EV vehicle, and building electrification incentives (e.g. SB 1477, California Electric Vehicle Infrastructure Project funds, Public Goods funds) focused on low-income communities. It is important to cover affordable housing

developments under a reach code to ensure that residents can more equitably access the benefits associated with building and vehicle electrification.

Staff also heard concerns regarding a potential over-requirement of parking spaces at affordable housing sites, which have little existing or expected car ownership. On this separate issue, it's important to note that the City is currently evaluating potential changes to the City's parking requirements as part of its American Cities Climate Challenge commitment. This effort is likely to address some of the concerns about the City's parking requirements for affordable housing development while the reach code can help to ensure that any remaining required parking spaces will be ready for future electric vehicles.

4. **Application to High-rise Multi-family Developments:** The proposed reach code also applies to high-rise (i.e. four stories or more) multi-family developments. Staff acknowledged that the technologies utilized by this market may be considered to be an "emerging market", specifically around centralized hot water heating. However, there are a number of all-electric multi-family developments, including high-rise, which have already been constructed, are in construction, or are planned (see T&E memorandum, Attachment B), so the technology and ability to construct all-electric multi-family buildings does exist. Given that the City expects high-rise multi-family developments to be a large portion of San José's future residential development, it is important to cover this type of development under a reach code.
5. **Electrical Service Capacity Requirement for EV Capable Spaces:** The proposed reach code ordinance strikes a balance between providing for future charging needs and minimizing development costs. It includes a requirement for electric vehicle service equipment (EVSE) spaces to have a minimum charging output of 32-amps. This amperage was chosen for a combination of technical and market reasons. The definition for EV Ready Spaces includes a requirement for a 40-amp branch circuit. The California Electrical Code sets limits for the loads that can be connected to branch circuits and the largest EV charger that can be connected to a 40-amp branch circuit is 32-amp. Additionally, a much broader range of EV chargers are available at 32-amp than 40-amp. Setting the charging output for EVSE spaces at 32-amps keeps the requirements of the various EV space definitions in harmony while ensuring a broad array of charging equipment choices.

The EV Capable space requirements ensure the installation of conduit to the electric panel so that wiring can be easily run in the future. It also requires that 8-amps of capacity be reserved for each EV Capable space since providing a full 40-amps of reserved capacity for the 40-50 percent of required EV Capable spaces could have a major impact on electrical service sizing and electrical grid infrastructure, and could result in substantial related costs. Requiring 8-amps of capacity per space ensures that there is room to begin to expand EV charging in the parking lot in the future and recognizes that load management, which dynamically shares existing power across

charging spots so that full charging capacity for every space is not required, will most likely be a necessary part of EV charging.

The T&E Committee attachments included a draft of the reach code ordinance (dated 8/22/19). The ordinance has since been updated for the September 17, 2019 City Council meeting to include the following:

1. Substantive and clarifying edits:
 - a. Definitions: Removed unnecessary and/or redundant definitions
 - b. Prescriptive requirements: Revised "inductive stove" and "heat pump clothes dryer" requirements to more general "electric stove" and "electric clothes dryer"
 - c. ADU exemptions: ADUs are fully exempt from all reach code requirements.
 - d. 4.106.4, Exceptions: Kept the \$4,500 per EV capable, EV Ready and EV Supply Equipment Spaces exception
 - e. 4.106.4.2, 4.106.4.3.1, and 5.106.5.3.1: Clarified text to show application of EVCI requirements to *total* parking spaces
 - f. 4.106.4.2.3 and 4.106.4.2.4: Updated to show sections that were not adopted
 - g. 4.106.4.2.6 and 4.106.4.3.7: Added these new sections to ensure consistency of 8-amp service capacity per EV space requirements
 - h. 4.106.4.3.2-4.106.4.3.6: Clarified that these were adopted without modification
2. Non-substantive edits: Slight revisions to wording in resolution language and added in tables showing EVCI requirements listed in text.
3. Editorial items: Corrected formatting, punctuation, consistent terminology, etc.

The final draft of the reach code ordinance will be posted on the City Council's Agenda website.

/s/
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