

# Jurisdictional Building and Zoning Codes: Evaluation and Recommendations



## Driving to Net Zero

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County  
Submitted by: ICF

County of Santa Clara Office of Sustainability

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# Table of Contents

<b>I. Introduction.....</b>	<b>5</b>
<b>II. Jurisdictional Evaluation and Recommendations.....</b>	<b>5</b>
<b>1. Santa Clara County.....</b>	<b>5</b>
1.1 Existing Provisions.....	5
1.2 Assessment.....	7
1.2.1 Missing Provisions.....	8
1.3 Recommendations.....	8
<b>2. City of Cupertino.....</b>	<b>9</b>
2.1 Existing Provisions.....	9
2.2 Assessment.....	10
2.2.1 Missing Provisions.....	10
2.3 Recommendations.....	11
<b>3. City of Morgan Hill.....</b>	<b>11</b>
3.1 Existing Provisions.....	12
3.2 Assessment.....	12
3.2.1 Missing Provisions.....	12
3.3 Recommendations.....	12
<b>4. City of Mountain View.....</b>	<b>13</b>
4.1 Existing Provisions.....	13
4.2 Assessment.....	14
4.2.1 Missing Provisions.....	14
4.3 Recommendations.....	15
<b>5. City of Palo Alto.....</b>	<b>15</b>
5.1 Existing Provisions.....	16
5.2 Assessment.....	17
5.2.1 Missing Provisions.....	17
5.3 Recommendations.....	17
<b>6. City of San José.....</b>	<b>18</b>
6.1 Existing Provisions.....	18
6.2 Assessment.....	19
6.2.1 Missing Provisions.....	19
6.3 Recommendations.....	19
<b>7. City of Sunnyvale.....</b>	<b>20</b>
7.1 Existing Provisions.....	20
7.2 Assessment.....	21
7.2.1 Missing Provisions.....	21
7.3 Recommendations.....	22
<b>8. Jurisdictional Overview.....</b>	<b>22</b>
<b>III. General Recommendations.....</b>	<b>23</b>
<b>Appendix: Zoning Code – Potential Revisions.....</b>	<b>26</b>

1. Santa Clara County .....	26
2. City of Cupertino .....	26
3. City of Morgan Hill .....	27
4. City of Mountain View.....	27
5. City of Palo Alto .....	28
6. City of San José.....	29
7. City of Sunnyvale.....	29

## I. Introduction

This document, prepared by ICF under task 3B of the Santa Clara County Driving to Net Zero Project Work Plan, evaluates the existing provisions in each jurisdiction’s building and zoning codes, focusing in particular on those provisions that address or otherwise pertain to plug-in electric vehicles (PEVs) and PEV charging infrastructure. As part of the effort, ICF also examined each jurisdiction’s motor vehicle and traffic code and planning document(s).

After reviewing each jurisdiction individually and describing the legal and plan provisions already in place there, we offer an assessment of the existing code language. Our jurisdiction-by-jurisdiction assessment includes an identification of PEV-friendly provisions that are missing and recommendations regarding other requirements and provisions that, if adopted and added to the code, would help facilitate further, in ICF’s view, the deployment of PEVs and charging infrastructure in the community. For those recommendations that are zoning-code specific, we provide potential code language for each jurisdiction’s consideration in the appendix.

## II. Jurisdictional Evaluation and Recommendations

### 1. Santa Clara County

ICF reviewed the online version of the County of Santa Clara Ordinance Code (County Code),<sup>1</sup> as well as the *Santa Clara County General Plan*.<sup>2</sup>

#### 1.1 Existing Provisions

Division B12 of the County Code addresses motor vehicles and traffic, and includes the following prohibitory language in section B12-157.2:

No person shall park a nonelectric vehicle at a charging station. Non-EVs parked at stations will receive citations and may be towed.

EV charging stations are intended for EVs that need to be charged. EVs not utilizing the service or parking for longer than is designated by signage are subject to citation.<sup>3</sup>

This helpful parking provision, applicable to charging stations located on County property, has been in place since September 2012.

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<sup>1</sup> Accessible at <https://www.sccgov.org/sites/bos/Legislation/Ordinance-Code/Pages/default.aspx>.

<sup>2</sup> The General Plan is posted at <https://www.sccgov.org/sites/dpd/PlansOrdinances/GP/Pages/GP.aspx>.

<sup>3</sup> See

[https://library.municode.com/ca/santa\\_clara\\_county/codes/code\\_of\\_ordinances?nodeId=TITBRE\\_DIVB12MOVETR\\_CHIIISTST\\_PA\\_ART3PARECOPR\\_SB12-157.2ELVVEVCHST](https://library.municode.com/ca/santa_clara_county/codes/code_of_ordinances?nodeId=TITBRE_DIVB12MOVETR_CHIIISTST_PA_ART3PARECOPR_SB12-157.2ELVVEVCHST).

Chapter III of Division C3 of the County Code contains the County Green Building Standards Code. Set forth within the chapter are a host of provisions that deal with PEVs and charging infrastructure, including the following:

- Section C3-30 makes clear that Santa Clara County has adopted the 2016 California Green Building Standards Code, commonly known as CALGreen 2016 (hereafter, CALGreen), with various modifications.<sup>4</sup>
- Section C3-32(a) amends the EV charging provision for new one- and two-family dwellings and townhouses with attached private garages (CALGreen section 4.106.4.1) by extending its application to certain rebuilds of existing dwellings. Hence, pre-wiring for Level 2 (208/240V) charging via the installation of a raceway is required under the County code not only for new construction but also for rebuilds of existing dwellings “that include a panel upgrade or construction between the panel and parking area.”<sup>5</sup>
- Section C3-32(b) amends the EV charging provision for new multifamily dwellings (CALGreen section 4.106.4.2) by making it applicable to all new buildings, not just those with 17 or more residential units.<sup>6</sup>
- Section C3-32(c) adds a new provision applicable to multifamily dwellings with more than 100 new parking spaces. The section stipulates that in addition to the need for 3% of those spaces to be pre-wired, Level 2 charging must be installed in 1% of the total number of spaces.<sup>7</sup>
- Section C3-32(d) adds a new provision on parking provided to new residential buildings from shared parking lots.<sup>8</sup>
- Section C3-33(c) amends the introductory EV charging provision in CALGreen section 5.106.5.3, providing that at least 5 percent of the total number of nonresidential parking spaces must be capable of supporting future EV chargers.<sup>9</sup>
- Sections C3-33(d)-(g) eliminate references to the EV charging spaces table in CALGreen section 5.106.5.3.3 and provide that in nonresidential buildings with more than 100 new parking spaces, Level 2 charging must be installed in 1% of the total number of spaces.<sup>10</sup>
- Section C3-33(h) adds a new provision on parking provided to new nonresidential buildings from shared parking lots.<sup>11</sup>

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<sup>4</sup> See [https://library.municode.com/ca/santa\\_clara\\_county/codes/code\\_of\\_ordinances?nodeId=TITCCODELAUS\\_DIVC3BU\\_CHIIICO\\_GRBUSTCO\\_ART1INRE\\_SC3-302016CAGRBUSTCOAD](https://library.municode.com/ca/santa_clara_county/codes/code_of_ordinances?nodeId=TITCCODELAUS_DIVC3BU_CHIIICO_GRBUSTCO_ART1INRE_SC3-302016CAGRBUSTCOAD).

<sup>5</sup> See [https://library.municode.com/ca/santa\\_clara\\_county/codes/code\\_of\\_ordinances?nodeId=TITCCODELAUS\\_DIVC3BU\\_CHIIICO\\_GRBUSTCO\\_ART2ADDEAM2016CAGRBUSTCO\\_SC3-32AMCH4](https://library.municode.com/ca/santa_clara_county/codes/code_of_ordinances?nodeId=TITCCODELAUS_DIVC3BU_CHIIICO_GRBUSTCO_ART2ADDEAM2016CAGRBUSTCO_SC3-32AMCH4).

<sup>6</sup> *Id.*

<sup>7</sup> *Id.*

<sup>8</sup> *Id.*

<sup>9</sup> See [https://library.municode.com/ca/santa\\_clara\\_county/codes/code\\_of\\_ordinances?nodeId=TITCCODELAUS\\_DIVC3BU\\_CHIIICO\\_GRBUSTCO\\_ART2ADDEAM2016CAGRBUSTCO\\_SC3-33AMCH5](https://library.municode.com/ca/santa_clara_county/codes/code_of_ordinances?nodeId=TITCCODELAUS_DIVC3BU_CHIIICO_GRBUSTCO_ART2ADDEAM2016CAGRBUSTCO_SC3-33AMCH5).

<sup>10</sup> *Id.*

<sup>11</sup> *Id.*

- Finally, sections C3-34(a) and C3-35(a) delete the residential and nonresidential voluntary measures on EV charging found in sections A4.106.8 and A5.106.5.3 of CALGreen Appendices A4 and A5.<sup>12</sup>

Ordinance No. NS-1100.128, adopted on February 6, 2018, but not yet codified in the online version of the County Code, established in Chapter V of Division C3 an expedited, streamlined permitting process for the installation of EV charging stations.<sup>13</sup>

## 1.2 Assessment

Overall, ICF finds the existing County Code language on PEVs and charging infrastructure to be quite strong. Of particular significance on the residential side are sections C3-32(a) and C3-32(b), which broaden the CALGreen pre-wiring requirements to (i) certain rebuilds of existing one- and two-family dwellings and townhouses with attached private garages, and (ii) all new multifamily dwelling buildings, including those with fewer than 17 units. Also noteworthy is section C3-32(c), which requires, in addition to the pre-wiring of at least 3% of the total number of new parking spaces, the installation of Level 2 chargers in 1% of the new spaces.

On the nonresidential side, sections C3-33(c)-(e) establish for new buildings the pre-wiring requirements included in CALGreen section 5.106.5.3, albeit apparently with less pre-wiring in at least some instances and more pre-wiring in others.<sup>14</sup> Section C3-33(f) exceeds the voluntary Tier 2 level of CALGreen by requiring the installation of Level 2 charging in 1% of the spaces in nonresidential buildings with more than 100 new parking spaces. Ostensibly, the requisite installation of Level 2 charging is in addition to the 5% pre-wiring mandate, though see below.

These exceedances of CALGreen aside, ICF believes that two of the above-referenced nonresidential provisions could benefit from clarifying amendments. First, we observe that section C3-33(g) deletes CALGreen Table 5.106.5.3.3, yet section C3-33(c) explicitly references the table. A lawyer might characterize this as an internal inconsistency. Second, ICF observes that the prefatory language that is present in section C3-32(c) (“In addition to requirements in”) does not appear in section C3-33(f), making it at least arguable that the 1% Level 2 charger installation mandate is the *only* requirement that must be met for nonresidential buildings with more than 100 new spaces. Acknowledging that 5.106.5.3.3 is subsumed within (i.e., a subsection of) 5.106.5.3, ICF suspects the Board of Supervisors intended that, say, a

<sup>12</sup> See

[https://library.municode.com/ca/santa\\_clara\\_county/codes/code\\_of\\_ordinances?nodeId=TITCCODELAUS\\_DIVC3BU\\_CHIIICOGRBUSTCO\\_ART2ADDEAM2016CAGRBUSTCO\\_SC3-34CH4APADE](https://library.municode.com/ca/santa_clara_county/codes/code_of_ordinances?nodeId=TITCCODELAUS_DIVC3BU_CHIIICOGRBUSTCO_ART2ADDEAM2016CAGRBUSTCO_SC3-34CH4APADE) and [https://library.municode.com/ca/santa\\_clara\\_county/codes/code\\_of\\_ordinances?nodeId=TITCCODELAUS\\_DIVC3BU\\_CHIIICOGRBUSTCO\\_ART2ADDEAM2016CAGRBUSTCO\\_SC3-35CH5APADE](https://library.municode.com/ca/santa_clara_county/codes/code_of_ordinances?nodeId=TITCCODELAUS_DIVC3BU_CHIIICOGRBUSTCO_ART2ADDEAM2016CAGRBUSTCO_SC3-35CH5APADE).

<sup>13</sup> See [https://library.municode.com/ca/santa\\_clara\\_county/ordinances/code\\_of\\_ordinances?nodeId=877234](https://library.municode.com/ca/santa_clara_county/ordinances/code_of_ordinances?nodeId=877234). Presumably, the Department of Planning and Development’s current “over-the-counter” permit guidelines for [residential] charging stations, posted at <https://www.sccgov.org/sites/dpd/Iwantto/Permits/Pages/Renewable.aspx>, will be updated eventually to reflect the new ordinance.

<sup>14</sup> For a new nonresidential building with 80 parking spaces, it appears that 4 of the spaces (.05 x 80) would have to be pre-wired for Level 2 charging under the County Code, whereas under CALGreen, 5 spaces would need to be pre-wired. On the other hand, for a new commercial building with 50 spaces, 3 would have to be pre-wired (.05 x 50, rounding up to 3) under the County Code rather than the 2 dictated by CALGreen. For nonresidential buildings with 120 and 240 spaces, the County Code appears to require the pre-wiring of fewer spaces than CALGreen (120 spaces – 6 vs. 7 pre-wired under CALGreen; 240 spaces – 12 vs. 15 pre-wired under CALGreen).

commercial building with 200 new parking spaces have 2 spaces with charging stations *as well* as 10 pre-wired spaces. If this is indeed the case, absolute clarity certainly would not hurt.

### 1.2.1 Missing Provisions

ICF observes that the zoning portion of the County Code, set forth in Appendix I, contains no provisions on PEV charging infrastructure. Similarly, while the County’s General Plan includes several general references to PEVs in the Resource Conservation chapter,<sup>15</sup> there is no discussion of charging stations in the Transportation chapter or any other chapter of the planning document, even though “[o]ne of the major roles of the County’s General Plan is to place plans and policies for the county’s transportation system in the context of achieving a unified, comprehensive vision of the county’s desired future,” and the document points out the direct nexus between automobile emissions and air quality.<sup>16</sup>

## 1.3 Recommendations

ICF recommends that the County consider amending the Transportation chapter and other portions of its General Plan by incorporating new language on PEVs and charging infrastructure.

ICF further suggests that the County consider adding to the County Code, through the adoption of one or more ordinances, additional PEV- and infrastructure-specific provisions. For example:

- Requisite pre-wiring or other measures could be added to the County Green Building Standards Code for certain additions and alterations of existing multifamily dwellings and nonresidential buildings;
- PEV parking could be allowed to count towards the minimum off-street parking requirements set forth in the County’s Zoning Ordinance (Chapter 4.30 of Appendix I);
- Charging stations could be enumerated as permitted uses (e.g., within the different residential and nonresidential use classifications in section 2.10.030) or otherwise addressed in the supplemental use regulations (Chapter 4.10 of Appendix I); and
- Density bonuses or other (e.g., floor area ratio) incentives for the installation of charging stations could be established in Chapter 4.20 of Appendix I.

For more on these and other possible code provisions, see Sections I-IV of ICF’s *Plug-in Electric Vehicle Best Practices Compendium* (hereafter, *Best Practices Compendium*) and the appendix below. Apart from these potential additions, the internal inconsistency between sections C3-33(c) and C3-33(g) regarding CALGreen Table 5.106.5.3.3 could be resolved, and clarity regarding the ambit of section C3-33(f) could be provided.

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<sup>15</sup> See pp. H-48 and H-49 of [https://www.sccgov.org/sites/dpd/DocsForms/Documents/GP\\_Book\\_A.pdf](https://www.sccgov.org/sites/dpd/DocsForms/Documents/GP_Book_A.pdf).

<sup>16</sup> *Id.* at F-9 – F-10. Among the “coordinated strategies [that] should guide decision-making and implementation efforts on a sub-regional basis” is “support [for] new transportation technologies” (C-TR 3; *see also* C-TR 42 on page F-31 (“application of advanced transportation-related technologies”).



## 2. City of Cupertino

ICF reviewed the online version of the Cupertino Municipal Code (Cupertino Code),<sup>17</sup> as well as the *Cupertino General Plan: Community Vision 2015-2040*.<sup>18</sup>

### 2.1 Existing Provisions

Chapter 16.58 of the Cupertino Code sets forth the municipality's Green Building Standards Code. The chapter contains the following provisions related to PEVs and charging infrastructure:

- Sections 16.58.010, 16.58.015, and 16.58.040 indicate that Cupertino has adopted CALGreen with various amendments, though it has not adopted Appendices A4 and A5 (the voluntary CALGreen Tiers).
- Notwithstanding Cupertino's non-adoption of Appendix A4, section 16.58.400 incorporates, as a *mandatory* measure per section 16.58.100, the language of CALGreen section A4.106.8 as amended. Pursuant to the amended language:
  - Builders of new one-and two-family dwellings must install both pre-wiring and a dedicated branch circuit sufficient to provide electricity for a Level 2 charging station;
  - For all new multifamily dwellings, a minimum of 5 percent of the parking spaces (but not less than 1) must be capable of supporting future electric vehicle supply equipment, and more specifically, irrespective of how many charging spaces are required, pre-wiring and a dedicated branch circuit sufficient to provide electricity for a Level 2 charging station must be installed, and in the case of multiple charging spaces, detailed plans must be provided.<sup>19</sup>
- Notwithstanding Cupertino's non-adoption of Appendix A5, section 16.58.420 incorporates, again as a *mandatory* measure in view of section 16.58.100, the language of CALGreen section A5.106.5.3 as amended. Under the amended language:
  - For all new nonresidential buildings, at least 10 percent of the total parking spaces (i.e., the voluntary Tier 2 level under CALGreen for buildings with over 200 spaces), but not less than 1, must be capable of supporting future electric vehicle supply equipment;<sup>20</sup>

<sup>17</sup> Accessible at

[http://library.amlegal.com/nxt/gateway.dll/California/cupertino/cityofcupertinocaliforniamunicipalcode?f=templates\\$fn=default.htm\\$3.0\\$vid=amlegal:cupertino\\_ca](http://library.amlegal.com/nxt/gateway.dll/California/cupertino/cityofcupertinocaliforniamunicipalcode?f=templates$fn=default.htm$3.0$vid=amlegal:cupertino_ca).

<sup>18</sup> The General Plan is posted at <http://www.cupertino.org/our-city/departments/community-development/planning/general-plan/general-plan>. ICF did not review the *City of Cupertino Climate Action Plan*, available at <http://www.cupertino.org/our-city/departments/environment-sustainability/climate-action>, inasmuch as it predates the amended version of the General Plan.

<sup>19</sup> ICF reviewed the "City Electric Vehicle Charging System Pre-Wiring Requirements" listed at <http://www.cupertino.org/our-city/departments/public-works/transportation-mobility/ev-charging-station-and-alternative-transportation-resources>. The link takes one to a March 2014 City Council Staff Report ([http://cupertino.granicus.com/MetaViewer.php?view\\_id=13&clip\\_id=1612&meta\\_id=89277](http://cupertino.granicus.com/MetaViewer.php?view_id=13&clip_id=1612&meta_id=89277)) that references a proposed Ordinance. More important, page 2 of the report does *not* provide an accurate description of the PEV infrastructure provisions in Chapter 16.58.

<sup>20</sup> Notably, this 10 percent requirement means less pre-wiring in at least some instances and more pre-wiring in others compared to the Tier 2 level of CALGreen. For a new nonresidential building with 30 parking spaces, 3 need to be pre-wired for Level 2 charging under the Cupertino Code, whereas under CALGreen Tier 2, 4 would need to be pre-wired. On the other

- When only 1 charging space is required, pre-wiring and a dedicated branch circuit sufficient to provide electricity for a Level 2 charging station must be installed;
- When multiple charging spaces are required, pre-wiring sufficient to provide electricity for Level 2 charging stations must be installed, and detailed plans must be provided.

With respect to the *Cupertino General Plan: Community Vision 2015-2040*, which was updated most recently in late 2015:

- Chapter 5, on the Mobility Element, establishes as a municipal goal the “promot[ion of] policies to help achieve state, regional and local air quality and greenhouse gas emission reduction targets” and puts in place Policy M-8.6 for the development of “a city-wide strategy to encourage the construction of a network of public and private alternative fuel vehicle charging/fueling stations.”<sup>21</sup>
- Chapter 6 addresses the Environmental Resources and Sustainability Element, and calls for municipal measures to “[r]educe fossil fuel use through . . . alternative transportation” and the continued encouragement of “fuel-efficient transportation modes such as alternative fuel vehicles . . . .”<sup>22</sup>

## 2.2 Assessment

The existing Cupertino Code language on PEVs and charging infrastructure is strong, both with respect to residential and nonresidential construction. As noted, builders in most instances must install pre-wiring *and* a dedicated branch circuit sufficient to serve Level 2 charging. Thus, Cupertino appears to have largely exceeded the voluntary Tier 2 level of CALGreen.

### 2.2.1 Missing Provisions

Cupertino lacks provisions in its municipal code on an expedited, streamlined permitting process for the installation of charging infrastructure, an absence that is made conspicuous by the inclusion in Chapter 16.28 of precisely such provisions for small rooftop solar systems. As indicated in the *Best Practices Compendium*, Assembly Bill (AB) 1236 required local jurisdictions with a population of at least 200,000 to adopt, no later than September 30, 2016, an ordinance creating an expedited, streamlined permitting process for PEV charging stations; jurisdictions with a population of fewer than 200,000 residents had until September 30, 2017, to adopt such an ordinance.<sup>23</sup> That said, it appears that Cupertino at least allows applicants to submit EV charger permit applications electronically.<sup>24</sup>

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hand, for new commercial buildings with 50 and 200 spaces, 5 and 20 must be pre-wired under the Cupertino Code rather than the 4 and 17 dictated by CALGreen Tier 2. ICF observes, too, the absence of any rounding provision in section 16.58.420 (and also section 16.58.400), thereby creating uncertainty in various multiple charging space instances.

<sup>21</sup> See pp. M-23 – M-24 of <http://www.cupertino.org/home/showdocument?id=12735>.

<sup>22</sup> See pp. ES-13, ES-16 of <http://www.cupertino.org/home/showdocument?id=12734>.

<sup>23</sup> See Cal. Gov. Code § 65850.7, available at [https://leginfo.ca.gov/faces/codes\\_displaySection.xhtml?lawCode=GOV&sectionNum=65850.7](https://leginfo.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV&sectionNum=65850.7).

<sup>24</sup> See <http://www.cupertino.org/home/showdocument?id=7970> and <http://www.cupertino.org/our-city/departments/community-development/building/permits/electronic-plan-submittal>.

ICF’s research has also revealed that the Vehicles and Traffic and Zoning titles of the Cupertino Code (Titles 11 and 19) do not contain any provisions on PEVs and PEV charging infrastructure.

## 2.3 Recommendations

ICF recommends that Cupertino move promptly to adopt an ordinance establishing an expedited, streamlined permitting process for the installation of EV charging stations. Model administrative and technical ordinances for small jurisdictions are available from the California Building Officials.<sup>25</sup>

ICF also recommends that Cupertino consider adding to its municipal code, through the adoption of one or more ordinances, additional PEV- and infrastructure-specific provisions. For example:

- Sections 16.58.400 and 16.58.420 of the Cupertino Code could be made more stringent (e.g., for new nonresidential buildings, by also requiring a dedicated branch circuit in the case of multiple charging spaces, or for all new residential and nonresidential buildings, by requiring the installation of Level 2 charging stations);
- Requisite pre-wiring or other measures could be extended beyond new construction to certain additions and alterations of existing residential and nonresidential buildings;
- PEV parking could be allowed to count towards the minimum off-street parking requirements set forth in the city’s parking regulations (Chapter 19.124);
- Charging stations could be enumerated as permitted uses in the different zones and zoning districts or otherwise addressed in the Zoning title;
- Density bonuses or other (e.g., floor area ratio) incentives for the installation of charging stations could be established in the Zoning title; and
- Appropriate language could be added to the Vehicles and Traffic title to ensure that PEVs have unobstructed access to PEV charging stations, especially those located on city property.

For more on these and other possible code provisions, see Sections I-IV of the *Best Practices Compendium* and the appendix below.

## 3. City of Morgan Hill

ICF reviewed the online version of the Morgan Hill Municipal Code (Morgan Hill Code),<sup>26</sup> as well as the *Morgan Hill 2035 General Plan*.<sup>27</sup>

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<sup>25</sup> See [www.calbo.org](http://www.calbo.org) (“AB 1236 Tool Kit: Electric Vehicle Charging Stations Ordinance and Staff Report Templates for Small Jurisdictions”).

<sup>26</sup> Accessible at <http://www.morgan-hill.ca.gov/655/Municipal-Code>.

<sup>27</sup> Available at <http://ca-morganhill2.civicplus.com/DocumentCenter/View/20686>.

### 3.1 Existing Provisions

Section 15.08.10 of the Buildings and Construction title of the Morgan Hill Code makes clear that CALGreen is in effect in the city.<sup>28</sup> As no amendments or enhancements have been adopted,<sup>29</sup> new residential and nonresidential construction must comply with the mandatory measures on EV charging found in CALGreen sections 4.106.4 and 5.106.5.3. Builders, in other words, are under no obligation to abide by the enhanced measures in voluntary Tiers 1 and 2.

Ordinance No. 2259, adopted in September 2017 but not yet added to the online version of the Morgan Hill Code, established in Chapter 15.37 an expedited, streamlined permitting process for PEV charging stations.<sup>30</sup>

The Natural Resources and Environment Element of the *Morgan Hill 2035 General Plan*, which was adopted almost 2 years ago, includes policy NRE-10.3 on automobile emissions. According to this policy, the city encourages “the use of and infrastructure for . . . electric vehicles” and the inclusion of EV charging stations in “new and existing public and private development.”<sup>31</sup>

### 3.2 Assessment

By virtue of the city’s adoption of CALGreen without any amendments or enhancements, the existing Morgan Hill Code language on PEVs and charging infrastructure is the very language in CALGreen Chapters 4 and 5. While these standards are perfectly satisfactory, they represent the “mandatory minimum” or floor in California.<sup>32</sup> Arguably, Morgan Hill would more effectively facilitate the uptake of PEVs and the deployment of charging infrastructure if, for example, the City Council adopted instead an ordinance requiring the Tier 1 or Tier 2 measures set forth in CALGreen Appendices A4 and A5, or better yet, provisions requiring the installation of Level 2 charging stations.

#### 3.2.1 Missing Provisions

Neither the Vehicles and Traffic nor the Zoning titles of the Morgan Hill Code (Titles 10 and 18) include any provisions on PEVs and PEV charging infrastructure.

### 3.3 Recommendations

ICF recommends that Morgan Hill consider adding to its municipal code, through the adoption of one or more ordinances, additional PEV- and infrastructure-specific provisions. For example:

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<sup>28</sup> See

[https://library.municode.com/ca/morgan\\_hill/codes/code\\_of\\_ordinances?nodeId=TIT15BUCO\\_CH15.08BUCO\\_15.08.010AD2\\_016CABUCO2016CARECOOTPASTBUSTCO](https://library.municode.com/ca/morgan_hill/codes/code_of_ordinances?nodeId=TIT15BUCO_CH15.08BUCO_15.08.010AD2_016CABUCO2016CARECOOTPASTBUSTCO). Of course, section 101 of CALGreen already establishes CALGreen’s applicability.

<sup>29</sup> See

[https://library.municode.com/ca/morgan\\_hill/codes/code\\_of\\_ordinances?nodeId=TIT15BUCO\\_CH15.08BUCO\\_15.08.040ADA\\_MDE](https://library.municode.com/ca/morgan_hill/codes/code_of_ordinances?nodeId=TIT15BUCO_CH15.08BUCO_15.08.040ADA_MDE).

<sup>30</sup> See <http://www.morgan-hill.ca.gov/DocumentCenter/View/22084>. EV charging station permit information is posted at <http://www.morgan-hill.ca.gov/914/Solar-PV-and-EV-Charging-Stations>, and includes a procedure for electronic submission.

<sup>31</sup> See page NRE-40.

<sup>32</sup> See CALGreen section 101.7.

- Sections A4.106.8 and A5.106.5.3 of the CALGreen Appendices (or more restrictive provisions (e.g., requiring the installation of Level 2 charging stations)) could be adopted as mandatory measures in the Buildings and Construction title;
- Requisite pre-wiring or other measures could be extended beyond new construction to certain additions and alterations of existing residential and nonresidential buildings;
- PEV parking could be allowed to count towards the minimum off-street parking requirements set forth in the city’s off-street parking standards (Chapter 18.50);
- Charging stations could be enumerated as a permitted or accessory use in the different zoning districts or otherwise addressed in the Zoning title, including in the Morgan Hill Residential Development Control System (Chapter 18.78);
- Density bonuses or other (e.g., floor area ratio) incentives for the installation of charging stations could be established in the Zoning title; and
- Appropriate language could be added to the Vehicles and Traffic title to ensure that PEVs have unobstructed access to PEV charging stations, especially those located on city property.

For more on these and other possible code provisions, see Sections I-IV of the *Best Practices Compendium* and the appendix below.

## 4. City of Mountain View

ICF reviewed the online version of the Mountain View City Code (Mountain View Code),<sup>33</sup> as well as the *Mountain View 2030 General Plan* and the *City of Mountain View Climate Protection Roadmap*.<sup>34</sup>

### 4.1 Existing Provisions

Division III of Article I of the Buildings chapter of the municipal code contains the Mountain View Green Building Code (MVGBC). Set forth within the MVGBC are a number of provisions that deal with PEVs and charging infrastructure. These provisions include, most notably, the following:

- Section 8.20.1 makes clear that Mountain View has adopted CALGreen with various amendments.<sup>35</sup>
- Section 8.20.31 amends the EV charging provision for new multifamily dwellings (CALGreen section 4.106.4.2) by (i) reducing the threshold number of units, thus making the provision applicable to new multifamily buildings with at least 3 (rather than 17) dwelling units, (ii) increasing the requisite EV charging space percentage from 3 to

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<sup>33</sup> Accessible at <http://www.mountainview.gov/depts/attorney/code/default.asp>.

<sup>34</sup> The General Plan is available at <http://www.mountainview.gov/depts/comdev/planning/regulations/general.asp>, while the Climate Protection Roadmap can be found at [http://www.mountainview.gov/depts/comdev/sustain/city\\_plans\\_n\\_policies.asp](http://www.mountainview.gov/depts/comdev/sustain/city_plans_n_policies.asp).

<sup>35</sup> See [https://library.municode.com/ca/mountain\\_view/codes/code\\_of\\_ordinances?nodeId=PTIITHCO\\_CH8BU\\_ARTIBUCO\\_DIVIIIIGR\\_BUCO\\_S8.20.1CAGRBUSTCODO](https://library.municode.com/ca/mountain_view/codes/code_of_ordinances?nodeId=PTIITHCO_CH8BU_ARTIBUCO_DIVIIIIGR_BUCO_S8.20.1CAGRBUSTCODO).

10 percent, and (iii) apparently requiring that Level 2 charging stations be installed in those spaces.<sup>36</sup>

- Section 8.20.42 amends the introductory EV charging provision in CALGreen section 5.106.5.3 by mandating the installation of Level 2 charging stations, sections 8.20.43 and 8.20.44 make corresponding amendments to the single and multiple charging space requirements in CALGreen sections 5.106.5.3.1 and 5.106.5.3.2, and section 8.20.45 of the MVGBC amends the EV charging space calculation in CALGreen section 5.106.5.3.3 by incorporating the more stringent Tier 2 table from A5.106.5.3.2.<sup>37</sup>

The *Mountain View 2030 General Plan*, adopted in mid-2012, establishes as a city policy the promotion and increased use of alternative fuel vehicles and “new technologies as alternatives and supplements to gasoline in vehicles,” but there is no explicit mention in the plan of PEVs or charging infrastructure.<sup>38</sup> The more recent (i.e., September 2015) *City of Mountain View Climate Protection Roadmap*, however, contains in chapter 4.B an extensive discussion of vehicle electrification, including the “need [for the city] to increase the number of” PEV parking spaces in public and private parking areas and the desirability of “implement[ing] parking standard requirements for EV charging stations in new and renovated multi-family developments.”<sup>39</sup>

## 4.2 Assessment

The current language in the Mountain View Code on PEVs and charging infrastructure is very strong, especially with respect to new multifamily dwellings and nonresidential buildings. By requiring the installation of Level 2 charging stations in these types of construction projects, Mountain View appears to have gone well beyond the voluntary Tier 2 level of CALGreen for all but new one- and two-family dwellings and townhouses (for which CALGreen section 4.106.4.1 applies).

### 4.2.1 Missing Provisions

Like Cupertino, Mountain View lacks provisions in its municipal code on an expedited, streamlined permitting process for the installation of charging infrastructure (though it, too, has (in Division V of Chapter 8) an expedited permit process for small residential rooftop solar systems). As discussed in section 2.2.1 above, AB 1236 required local jurisdictions with a population of fewer than 200,000 residents to adopt an ordinance creating an expedited, streamlined permitting process for PEV charging stations by September 30, 2017.

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<sup>36</sup> See

[https://library.municode.com/ca/mountain\\_view/codes/code\\_of\\_ordinances?nodeId=PTIITHCO\\_CH8BU\\_ARTIBUCO\\_DIVIIIIGR\\_BUCO\\_S8.20.31SU4.106.4.2AM](https://library.municode.com/ca/mountain_view/codes/code_of_ordinances?nodeId=PTIITHCO_CH8BU_ARTIBUCO_DIVIIIIGR_BUCO_S8.20.31SU4.106.4.2AM).

<sup>37</sup> See

[https://library.municode.com/ca/mountain\\_view/codes/code\\_of\\_ordinances?nodeId=PTIITHCO\\_CH8BU\\_ARTIBUCO\\_DIVIIIIGR\\_BUCO\\_S8.20.42SU5.106.5.3AM](https://library.municode.com/ca/mountain_view/codes/code_of_ordinances?nodeId=PTIITHCO_CH8BU_ARTIBUCO_DIVIIIIGR_BUCO_S8.20.42SU5.106.5.3AM).

<sup>38</sup> See pp. 114 (MOB 9.3) and 134 (INC 13.2) of <http://www.mountainview.gov/civicax/filebank/blobdload.aspx?blobid=10702>.

That said, we note the existence of 2017 action item numbers 74 (calling for the provision of preferred parking locations for zero emission vehicles), 77 (calling for the installation of EV charging stations), and 110 (calling for actions to increase the availability of charging stations), as well as ongoing action item number 114 (calling for support for the installation of EV charging stations) in <http://www.mountainview.gov/civicax/filebank/blobdload.aspx?BlobID=24086>.

<sup>39</sup> See p. 57 of <http://www.mountainview.gov/civicax/filebank/blobdload.aspx?BlobID=19516>.

Notwithstanding this statutory directive, Mountain View continues to implement an “over-the-counter” permit process for [residential] charging stations.<sup>40</sup>

ICF’s research has also revealed that the Motor Vehicles and Traffic and Zoning chapters of the Mountain View Code (Chapters 19 and 36) do not include any provisions on PEVs and PEV charging infrastructure.

### 4.3 Recommendations

ICF recommends that Mountain View take prompt steps to adopt an ordinance establishing an expedited, streamlined permitting process for the installation of EV charging stations. Model administrative and technical ordinances for small jurisdictions are available from the California Building Officials.<sup>41</sup>

ICF also recommends that Mountain View consider adding to its municipal code, through the adoption of one or more ordinances, additional PEV- and infrastructure-specific provisions. For example:

- Section A4.106.8.1 of CALGreen Appendix 4 (or more restrictive provisions (e.g., requiring the installation of Level 2 charging stations)) could be adopted in lieu of section 4.106.4.1 as a mandatory measure in the MVGBC for new one- and two-family dwellings and townhouses with attached private garages;
- Pre-wiring or other measures could be required for certain additions and alterations of existing residential and nonresidential buildings;
- PEV parking could be allowed to count towards the minimum off-street parking requirements set forth in the Parking and Loading article of the Zoning chapter;
- Charging stations could be enumerated as permitted uses within the different zoning districts or otherwise addressed in the Zoning chapter;
- Density bonuses or other (e.g., floor area ratio) incentives for the installation of charging stations could be established in the Zoning chapter; and
- Suitable language could be added to the Motor Vehicles and Traffic chapter to ensure that PEVs have unobstructed access to PEV charging stations, especially those located on city property.

For more on these and other possible code provisions, see Sections I-IV of the *Best Practices Compendium* and the appendix below.

## 5. City of Palo Alto

ICF reviewed the online version of the Palo Alto Municipal Code (Palo Alto Code),<sup>42</sup> as well as the *City of Palo Alto Comprehensive Plan 2030*.<sup>43</sup>

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<sup>40</sup> See <http://www.mountainview.gov/civicax/filebank/blobdload.aspx?BlobID=18993>.

<sup>41</sup> See [www.calbo.org](http://www.calbo.org) (“AB 1236 Tool Kit: Electric Vehicle Charging Stations Ordinance and Staff Report Templates for Small Jurisdictions”).

<sup>42</sup> Accessible at [https://www.cityofpaloalto.org/gov/city\\_information/municode/default.asp](https://www.cityofpaloalto.org/gov/city_information/municode/default.asp).

<sup>43</sup> Available at <https://www.cityofpaloalto.org/civicax/filebank/documents/62915>.

## 5.1 Existing Provisions

Chapter 16.14 of the Palo Alto Code contains the city’s version of the California Green Building Standards Code. The chapter includes the following provisions related to PEVs and charging infrastructure:

- Sections 16.14.010, 16.14.020, and 16.14.060 indicate that Palo Alto has adopted CALGreen and its Appendices A4 and A5 with modifications.
- Section 16.14.420, together with section 16.14.150, makes clear that CALGreen section A4.106.8, as amended, is a *mandatory* measure for new residential structures in Palo Alto, including those built as part of a mixed-use development. Under the amended language:
  - For single family residences, whether detached or attached, the property owner must provide “Conduit Only,” an “EVSE-Ready Outlet,” or “EVSE Installed,” as those terms are defined in the amended section;
  - For multi-family residential structures, regardless of the number of residential units, the property owner must provide (i) at least one “EVSE-Ready Outlet” or “EVSE Installed” for each unit, and (ii) “Conduit Only,” an “EVSE-Ready Outlet,” or “EVSE Installed” for at least 25% of the guest parking spaces, with a minimum of 5% of the spaces having “EVSE Installed”; and
  - For multi-family residential structures with individual, attached parking, the property owner must provide “Conduit Only,” an “EVSE-Ready Outlet,” or “EVSE Installed” for each residence.
- Section 16.14.430, together with section 16.14.280, makes clear that CALGreen section A5.106.5.3, as amended, is a *mandatory* measure for new nonresidential construction. Under the amended language:
  - For nonresidential structures other than hotels, the property owner must provide “Conduit Only,” an “EVSE-Ready Outlet,” or “EVSE Installed,” as those terms are defined, for at least 25% of the guest parking spaces, with a minimum of 5% of the spaces having “EVSE Installed”; and
  - In the case of hotels, the property owner must provide “Conduit Only,” an “EVSE-Ready Outlet,” or “EVSE Installed” for at least 30% of the parking spaces, with a minimum of 10% of the spaces having “EVSE Installed.”
- Section 16.14.440 provides an expedited permitting process for EV charging stations, though the city does not yet appear to have enabled the electronic/online submission of permit applications.<sup>44</sup>

Section 18.52.050(d)(2) of the city’s Parking and Loading Requirements authorizes a reduction in the minimum off-street parking requirements due to the implementation of a transportation demand management program, which may include, among other things, priority parking spaces for zero emission vehicles and vehicle charging stations.

The *City of Palo Alto Comprehensive Plan 2030*, which was adopted in late 2017, establishes in the Transportation Element several municipal policies related to PEVs and charging

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<sup>44</sup> See <https://www.cityofpaloalto.org/civicax/filebank/documents/37623> (referring to “over-the-counter review”) and <https://www.cityofpaloalto.org/civicax/filebank/documents/37622>.



infrastructure. Policy T-1.3 seeks the reduction of “GHG and pollutant emissions associated with transportation by . . . the use of zero-emission vehicle technologies,” and calls for the development of “an [EV] promotion program that identifies policy and technical issues, barriers and opportunities to the expansion of [EVs],” while Policy T-1.4 seeks to “[e]nsure that [EV] charging infrastructure . . . is available citywide.” Associated with the latter policy are two specific actions: (1) “[u]pdate the Zoning Code to ensure compatibility with the [EV] infrastructure requirements;” and (2) “[p]eriodically review requirements for electric and plug-in vehicle infrastructure in new construction; [c]onsider and periodically review requirements for electric and plug-in infrastructure for remodels; [and] [c]onsider costs to the City, including identifying payment options.”<sup>45</sup>

## 5.2 Assessment

The current language in the Palo Alto Code on PEVs and charging infrastructure is very strong. With respect to both residential and nonresidential buildings, Palo Alto appears to have largely exceeded the voluntary Tier 2 level of CALGreen.

### 5.2.1 Missing Provisions

The Vehicles and Traffic title of the Palo Alto Code (Title 10) does not contain any provisions on PEVs and PEV charging infrastructure.

## 5.3 Recommendations

ICF recommends that Palo Alto consider adding to its municipal code, through the adoption of one or more ordinances, additional PEV- and infrastructure-specific provisions. For example:

- “Conduit Only,” “EVSE-Ready Outlet,” or “EVSE Installed” requirements could be established for certain additions and alterations of existing residential and nonresidential structures;
- Charging stations could be enumerated as permitted uses within the different zoning districts or otherwise addressed in the Zoning title;
- Density bonuses or other (e.g., floor area ratio) incentives for the installation of charging stations could be established in the Zoning title; and
- Appropriate language could be added to the Motor Vehicles and Traffic title to ensure that PEVs have unobstructed access to PEV charging stations, especially those located on city property.

For more on these and other possible code provisions, see Sections I-IV of the *Best Practices Compendium* and the appendix below.

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<sup>45</sup> See pp. 79-80 of <https://www.cityofpaloalto.org/civicax/filebank/documents/62915>.

## 6. City of San José

ICF reviewed the online version of the San José Municipal Code (San José Code),<sup>46</sup> as well as the *Envision San José 2040 General Plan*.<sup>47</sup>

### 6.1 Existing Provisions

Chapter 17.88 of the San José Code provides an expedited, streamlined building permit process for EV charging stations.<sup>48</sup> To date, though, the city appears to have enabled electronic/online submission of permit applications for the installation of EV charging stations only at single-family and duplex residential properties.<sup>49</sup>

San José’s zoning provisions appear in Title 20 of the municipal code. Sections 20.40.100, 20.50.100, and 20.70.100 provide that “charging stations that are incidental to a separate primary use, that do not impact on-site or off-site vehicular circulation, and that serve patrons of the primary use on-site are permitted in all” commercial, industrial, and downtown zoning districts.<sup>50</sup> In addition, section 20.90.220(A)(1)(d) allows for a reduction in the requisite number of off-street parking spaces if certain conditions are met; for reductions in excess of 20 percent, the “provision of preferential parking with charging station” for EVs is one of several measures that may be included in the transportation demand management program that must be implemented as part of the project.<sup>51</sup>

Chapter 24.10 contains San José’s green building standards code,<sup>52</sup> and includes only one provision. That provision, section 24.10.100, makes clear that the city has adopted the residential and nonresidential mandatory measures of CALGreen.<sup>53</sup> As in Morgan Hill, then, new residential and nonresidential construction in San José must comply with the mandatory EV

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<sup>46</sup> Accessible at [https://library.municode.com/ca/san\\_jose/codes/code\\_of\\_ordinances](https://library.municode.com/ca/san_jose/codes/code_of_ordinances).

<sup>47</sup> Available at <http://www.sanjoseca.gov/index.aspx?nid=1737>.

<sup>48</sup> See

[https://library.municode.com/ca/san\\_jose/codes/code\\_of\\_ordinances?nodeId=TIT17BUCO\\_CH17.88ELVECHSTEXBUPEPRELV\\_ECHST](https://library.municode.com/ca/san_jose/codes/code_of_ordinances?nodeId=TIT17BUCO_CH17.88ELVECHSTEXBUPEPRELV_ECHST).

<sup>49</sup> See <http://www.sanjoseca.gov/documentcenter/view/1825> and <https://sjpermits.org/permits/help/permitsavailable.htm>.

<sup>50</sup> See Table 20-90, note 15 at

[https://library.municode.com/ca/san\\_jose/codes/code\\_of\\_ordinances?nodeId=TIT20ZO\\_CH20.40COZODIPUQUBLZODI\\_PT2USAL\\_20.40.100ALUSPERE](https://library.municode.com/ca/san_jose/codes/code_of_ordinances?nodeId=TIT20ZO_CH20.40COZODIPUQUBLZODI_PT2USAL_20.40.100ALUSPERE), Table 20-110, note 8 at

[https://library.municode.com/ca/san\\_jose/codes/code\\_of\\_ordinances?nodeId=TIT20ZO\\_CH20.50INZODI\\_PT2USAL\\_20.50.100ALUSPERE](https://library.municode.com/ca/san_jose/codes/code_of_ordinances?nodeId=TIT20ZO_CH20.50INZODI_PT2USAL_20.50.100ALUSPERE), and Table 20-140, note 8 at

[https://library.municode.com/ca/san\\_jose/codes/code\\_of\\_ordinances?nodeId=TIT20ZO\\_CH20.70DOZORE\\_PT2USAL\\_20.70.100ALUSPERE](https://library.municode.com/ca/san_jose/codes/code_of_ordinances?nodeId=TIT20ZO_CH20.70DOZORE_PT2USAL_20.70.100ALUSPERE). EV charging stations are also listed as a vehicle related use in the table for “pedestrian oriented” zoning districts, albeit without a “P” entry (Table 20-156 of section 20.75.200).

<sup>51</sup> See

[https://library.municode.com/ca/san\\_jose/codes/code\\_of\\_ordinances?nodeId=TIT20ZO\\_CH20.90PALO\\_PT3EX\\_20.90.220RERFOREPASP](https://library.municode.com/ca/san_jose/codes/code_of_ordinances?nodeId=TIT20ZO_CH20.90PALO_PT3EX_20.90.220RERFOREPASP).

<sup>52</sup> See

[https://library.municode.com/ca/san\\_jose/codes/code\\_of\\_ordinances?nodeId=TIT24TECO\\_CH24.01AD\\_PT1GE\\_24.01.100PU](https://library.municode.com/ca/san_jose/codes/code_of_ordinances?nodeId=TIT24TECO_CH24.01AD_PT1GE_24.01.100PU), which refers to the “green building standards code . . . adopted by the City of San José.”

<sup>53</sup> See

[https://library.municode.com/ca/san\\_jose/codes/code\\_of\\_ordinances?nodeId=TIT24TECO\\_CH24.10CAGRBUSTCO\\_PT1ADCAPR\\_24.10.100ADTEPRCAGRBUSTCO](https://library.municode.com/ca/san_jose/codes/code_of_ordinances?nodeId=TIT24TECO_CH24.10CAGRBUSTCO_PT1ADCAPR_24.10.100ADTEPRCAGRBUSTCO). Of course, CALGreen section 101 already establishes the applicability of CALGreen’s mandatory measures.

charging provisions in CALGreen sections 4.106.4 and 5.106.5.3. Builders are under no obligation to abide by the enhanced measures in voluntary Tiers 1 and 2.

The *Envision San José 2040 General Plan*, adopted in late 2011 and reviewed most recently in December 2016 under the plan’s 4-year review cycle, includes in the Land Use and Transportation chapter the following action (TR-1.16) to be taken by the city: “[d]evelop a strategy to construct a network of public and private alternative fuel vehicle charging/fueling stations city wide [and] [r]evis[e] parking standards to require the installation of electric charging infrastructure at new large employment sites and large, multiple family residential developments.”<sup>54</sup>

## 6.2 Assessment

ICF finds commendable the permitted use provisions in San José’s zoning title. As for the city’s green building standards code, the existing language on PEVs and charging infrastructure is the very language in CALGreen Chapters 4 and 5. While these mandatory measures are perfectly satisfactory, they represent the “mandatory minimum” or floor in California.<sup>55</sup> In ICF’s view, San José could further strengthen its facilitation of PEV uptake and charging infrastructure deployment if, for example, the City Council adopted instead the Tier 1 or Tier 2 measures set forth in CALGreen Appendices A4 and A5, or better yet, provisions requiring the installation of Level 2 charging stations.

### 6.2.1 Missing Provisions

Although Part 3 of Chapter 11.36 of the Vehicles and Traffic title contains reserved parking provisions for zero emission vehicles, it does not currently have any language on PEV charging infrastructure.

## 6.3 Recommendations

ICF recommends that San José consider adding to its municipal code, through the adoption of one or more ordinances, additional PEV- and infrastructure-specific provisions. For example:

- Sections A4.106.8 and A5.106.5.3 of the CALGreen Appendices (or more restrictive provisions (e.g., requiring the installation of Level 2 charging stations)) could be adopted as mandatory measures in Chapter 24.10;
- Requisite pre-wiring or other measures could be extended beyond new construction to certain additions and alterations of existing residential and nonresidential buildings;
- If appropriate, permitted use zoning language similar to the language found in sections 20.40.100, 20.50.100, and 20.70.100 could be added for the city’s residential and other zoning districts;
- Density bonuses or other (e.g., floor area ratio) incentives for the installation of charging stations could be established in the Zoning title; and

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<sup>54</sup> See Chapter 6, p. 37 of <http://www.sanjoseca.gov/DocumentCenter/Home/View/474>. Another municipal action (MS-10.14) in the Environmental Leadership chapter of the plan calls for San José to “[r]eview and evaluate the effectiveness of . . . new transportation technologies and encourage those that most successfully reduce air pollutant emissions.” *Id.* at Chapter 3, p. 13.

<sup>55</sup> See CALGreen section 101.7.

- Notwithstanding the existence in the Vehicle and Traffic title of reserved parking provisions for zero emission vehicles, appropriate language could be added to Chapter 11.36 to ensure that PEVs have unobstructed access to PEV charging stations, especially those located on city property.

For more on these and other possible code provisions, see Sections I-IV of the *Best Practices Compendium* and the appendix below.

## 7. City of Sunnyvale

ICF reviewed the online version of the Sunnyvale Municipal Code (Sunnyvale Code),<sup>56</sup> as well as the *Sunnyvale General Plan* and the *City of Sunnyvale Climate Action Plan*.<sup>57</sup>

### 7.1 Existing Provisions

Chapter 16.43 of the Sunnyvale Code contains the city’s Green Building Code (GBC). Section 16.43.020 of the GBC indicates that Sunnyvale has adopted CALGreen with modifications, and section 16.43.040 sets out one of the only two modifications that have been made by the City Council. That section amends the EV charging provision for new multifamily dwellings (CALGreen section 4.106.4.2) by (i) rendering it applicable to all new multifamily dwelling structures, not just those with 17 or more residential units, and (ii) increasing the percentage of parking spaces that must be pre-wired from 3 to 12.5 percent.

Chapter 16.70 of the Sunnyvale Code provides an expedited, streamlined permitting process for EV charging stations. To date, though, the city appears to have enabled electronic/online submission of permit applications for the installation of EV chargers only at single-family detached residential properties.<sup>58</sup>

Section 19.46.100(g)(6) of the Sunnyvale Code’s Zoning title requires “pre-wiring” (for Level 2 charging) of 3 percent of the total parking spaces provided in new industrial buildings, research and development offices, and other office buildings with at least 100 spaces. The term “pre-wiring” is undefined, but in any event, this zoning provision is less stringent than the pre-wiring required under CALGreen section 5.106.5.3 for these and all other newly constructed nonresidential buildings with at least 100 parking spaces – roughly 5-7 percent must be future EV charging spaces under that CALGreen section.

Finally, the *City of Sunnyvale Climate Action Plan*, adopted in May 2014 and in the process of being updated, specifies the following municipal action items related to PEVs and PEV infrastructure:

- Designate preferred parking stalls in all public and private parking lots;
- Secure funding to install EV charging stations in existing public and private parking lots;
- and

<sup>56</sup> Accessible at <https://sunnyvale.ca.gov/government/codes/default.htm>.

<sup>57</sup> The General Plan is available at <https://sunnyvale.ca.gov/government/codes/plan.htm>, and Climate Action Plan 1.0 is available at <https://sunnyvale.ca.gov/people/sustainability/default.htm>.

<sup>58</sup> See [http://ecityhall.sunnyvale.ca.gov/cd/i\\_ElectricVehicleCharger.aspx](http://ecityhall.sunnyvale.ca.gov/cd/i_ElectricVehicleCharger.aspx).

- Require sufficient electrical service in the garages/parking facilities of new residential development to support EV charging.<sup>59</sup>

## 7.2 Assessment

For new multifamily dwellings, the current Sunnyvale Code language on PEVs and charging infrastructure is strong, as it goes beyond the voluntary Tier 1 and Tier 2 levels in CALGreen Appendix 4. For other new residential dwellings and for newly constructed nonresidential buildings (certainly those not covered under section 19.46.100(g)), the current language is that found in CALGreen Chapters 4 and 5.<sup>60</sup> While these CALGreen standards are perfectly satisfactory, they represent the “mandatory minimum” or floor in California.<sup>61</sup> Arguably, Sunnyvale would more effectively facilitate the uptake of PEVs and the deployment of charging infrastructure if, for example, the City Council adopted instead an ordinance requiring the Tier 1 or Tier 2 measures set forth in CALGreen Appendices A4 and A5 for these types of buildings, or better yet, provisions requiring the installation of Level 2 charging stations.

Additionally, for new nonresidential structures covered under section 19.46.100(g), the Sunnyvale Code appears to contain inconsistent requirements. As indicated above, CALGreen dictates that new nonresidential buildings with at least 100 parking spaces have, depending on the precise number of spaces, anywhere between 4.67 and 7 percent as future EV charging spaces, whereas section 19.46.100(g), assuming “pre-wiring” as used in that section likewise means the installation of raceways, requires that only 3 percent have raceways installed in them.

### 7.2.1 Missing Provisions

The *Sunnyvale General Plan*, adopted in mid-2011 and updated last April, contains no discussion of PEVs and charging infrastructure in the Land Use and Transportation chapter or any other chapter of the document, although the plan, in the Environmental Management chapter, does call for the city to “reduce automobile emissions through traffic and transportation improvements.”<sup>62</sup> As indicated above, the more recent *City of Sunnyvale Climate Action Plan* identifies a number of municipal action items related to PEVs and charging stations.

ICF also observes that the Vehicles and Traffic title of the Sunnyvale Code (Title 10) lacks any PEV-related provisions.

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<sup>59</sup> See OVT-1.1 – OVT-1.3 at 3-31 of <https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?blobid=23736>.

<sup>60</sup> ICF notes that the section 5.106.5.3 entry on the “CALGreen Mandatory Checklist for Non-Residential Projects,” posted at <https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?BlobID=23494>, is inaccurate in that it contains an outdated version of Table 5.106.5.3.3.

<sup>61</sup> See CALGreen section 101.7.

<sup>62</sup> See Policy EM-11.5 at 7-31 of <https://sunnyvale.ca.gov/civicax/filebank/blobdload.aspx?blobid=23734>. The plan also calls for the city to reduce emissions from its municipal fleet (and ostensibly in that context alludes to “electric city vehicles”), *id.*, and to provide parking and lane-access priority for, among other “environmentally friendly motorized vehicles,” zero emission vehicles. See Policy 25 at p. 29 of <https://sunnyvaleca-prod.civica.granicusops.com/civicax/filebank/blobdload.aspx?BlobID=23980>.

### 7.3 Recommendations

ICF recommends that Sunnyvale consider adding to its municipal code, through the adoption of one or more ordinances, additional PEV- and infrastructure-specific provisions. For example:

- Sections A4.106.8 and A5.106.5.3 of the CALGreen Appendices (or more restrictive provisions (e.g., requiring the installation of Level 2 charging stations)) could be adopted as mandatory measures in the city’s GBC for new one- and two-family dwellings and new nonresidential buildings;
- Requisite pre-wiring or other measures could be extended beyond new construction to certain additions and alterations of existing residential and nonresidential buildings;
- PEV parking could be allowed to count towards the minimum off-street parking requirements set forth in Chapter 19.46, including the requirements in section 19.46.100 (for other than new industrial buildings, research and development offices, and office buildings with at least 100 spaces);
- Charging stations could be enumerated as a permitted use in the different zoning districts or otherwise addressed in the Zoning title (e.g., added to Chapter 19.56 (Alternative Energy Systems) or referenced in Chapter 19.45 (Transportation Demand Management));
- Density bonuses or other (e.g., floor area ratio) incentives, similar to those in section 19.56.150 for solar and wind energy systems, could be established in the Zoning title for the installation of charging stations; and
- Appropriate language could be added to the Vehicles and Traffic title to ensure that PEVs have unobstructed access to PEV charging stations, especially those located on city property.

For more on these and other possible code provisions, see Sections I-IV of the *Best Practices Compendium* and the appendix below. Apart from these potential additions, the existing inconsistency between CALGreen section 5.106.5.3 and section 19.46.100(g)(6) of the Sunnyvale Code could be addressed and eliminated.

## 8. Jurisdictional Overview

The following table provides a brief summary of key aspects of the existing building and zoning code provisions in the various Santa Clara County jurisdictions.

Jurisdiction	Adopted CALGreen?	1- & 2-Family: CALGreen Minimum or Better?	Multifamily: CALGreen Minimum or Better?	Nonresid: CALGreen Minimum or Better?	Has Expedited Permitting Process?	Relevant Zoning Language?
Santa Clara County	✓	Better (rebuilds as well as new construction)	Better (all new dwellings + 1% installed EVSE if > 100 spaces)	Better (1% installed EVSE if > 100 spaces)	✓	x
Cupertino	✓	Better (Tier 2)	Better (exceeds Tier 2)	Better (largely exceeds Tier 2)	x	x
Morgan Hill	✓	Minimum	Minimum	Minimum	✓	x
Mountain View	✓	Minimum	Better (10% installed EVSE)	Better (installed EVSE)	x	x
Palo Alto	✓	Better	Better (5% installed EVSE)	Better (5% installed EVSE)	✓	✓
San José	✓	Minimum	Minimum	Minimum	✓	✓
Sunnyvale	✓	Minimum	Better (all new dwellings + 12.5%)	Minimum	✓	✓ (industrial + office bldgs)

### III. General Recommendations

For all seven jurisdictions, ICF offers the following recommendations *in addition to* the jurisdiction-specific recommendations offered in Section II above.

- Last October, Governor Brown signed into law Assembly Bill 1452, which amended section 22511 of the California Vehicle Code by expanding local authorities’ authorization to designate parking spaces “for the exclusive purpose of charging and parking a vehicle that is connected for electric charging purposes” beyond off-street parking facilities to public streets as well, provided appropriate signage is installed.<sup>63</sup> The amendments went into effect this past January 1. In view of the amended law, ICF encourages Santa Clara County and the individual cities to (i) consider drafting and adopting an ordinance or resolution that designates an appropriate number of parking spaces on public streets within its jurisdiction for PEV charging, and (ii) assuming an ordinance or resolution is adopted, following it up by installing Level 2 charging stations (and associated signage) in the designated on-street spaces. To the extent a particular

<sup>63</sup> See Cal. Vehicle Code § 22511(a)(2), (c)(2), (d)(2).

jurisdiction needs or prefers first to undertake a study or assessment of which public streets and how many and which parking spots on those streets should be designated for PEV charging, we recommend that the study or assessment be commenced expeditiously so that the designation authority, if it is to be exercised, can be exercised without undue delay. For the six cities in the County, ICF observes that a charging space-designation ordinance or resolution could also include language ensuring that PEVs have unobstructed access to off-street and on-street charging stations.<sup>64</sup>

- On July 1, 2018, the latest CALGreen revisions adopted by the California Building Standards Commission will go into effect.<sup>65</sup> Among the revisions to the CALGreen residential mandatory measures is the addition of a new section 4.106.4.3 setting out EV charging standards for newly constructed hotels and motels.<sup>66</sup> The requirements for these structures will largely mirror those for new multifamily buildings with at least 17 residential units – pre-wiring (via the installation of a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit) of a portion of the total parking spaces. The requisite number of EV charging spaces will be determined in accordance with the table below.

**CALGreen Hotel and Motel EV Pre-wiring Requirements**

Total Number of Parking Spaces	Number of Required EV Charging Spaces
0-9	0
10-25	1
26-50	2
51-75	4
76-100	5
101-150	7
151-200	10
201 and over	6 percent of total

Consequently, for those jurisdictions in which “intervening code adoption cycle” revisions to CALGreen do not automatically become part of the local building code, ICF recommends that the locality consider passing an ordinance that adopts the new mandatory measures in CALGreen section 4.106.4.3, or better yet, establishes more stringent provisions for new hotels and motels (e.g., mandating a greater percentage of

<sup>64</sup> As indicated in Section II.1.1 above, Santa Clara County’s regulations on motor vehicles and traffic already include unobstructed access language, which accords with California Vehicle Code section 22511.1.

<sup>65</sup> See [https://cdn-web.iccsafe.org/wp-content/uploads/errata\\_central/2016CA-IgCC-070118.pdf](https://cdn-web.iccsafe.org/wp-content/uploads/errata_central/2016CA-IgCC-070118.pdf); <http://www.bsc.ca.gov/Rulemaking/adoptcycle/2016InterveningCodeAdoptionCycle/ApprovedStandardsJune2017.aspx>; and <https://www.documents.dgs.ca.gov/bsc/2016InterCycle/ApprovedStandards/June2017/HCD-03-16-Part-11-Final.pdf>.

<sup>66</sup> A new definition of “hotel or motel” is also being added to CALGreen section 202.



pre-wiring or requiring the installation of Level 2 charging stations).<sup>67</sup> ICF emphasizes, though, that even in the absence of such an ordinance, the EV charging standards for new hotels and motels will become the mandatory minimum in all seven jurisdictions on July 1 pursuant to CALGreen section 101.

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<sup>67</sup> In the case of Palo Alto, which appears to have in section 16.14.010 of the Palo Alto Code an automatic adoption provision for CALGreen amendments, consideration should be given to the existence come July 1, 2018, of seemingly inconsistent mandatory standards for hotels – those in section 16.14.430 (A5.106.5.3.3) vs. those in CALGreen section 4.106.4.3. While the Palo Alto version of A5.106.5.3 addresses conflicts, it only speaks to conflicts between that local version and CALGreen section 5.106.5.3, not conflicts between the local version and CALGreen section 4.106.4.3.

# Appendix:

## Zoning Code – Potential Revisions

### 1. Santa Clara County

- **Minimum Parking** – appropriate language or a provision similar to the following could be added via a new paragraph F in section 4.30.020 (“General provisions”) or instead to sections 4.30.030 (“Parking spaces required—Residential uses”) and 4.30.040 (“Parking spaces required—Nonresidential uses”):

*EV charging space.* An electric vehicle (EV) charging space [EV charging station] shall count [as two spaces?] towards the residential and nonresidential parking space requirements in sections 4.30.30 and 4.30.040.

Alternatively, suitable language could be added to section 4.30.100 (“Parking exception”) to make clear that a reduction in required parking spaces – for residential or nonresidential uses – may be allowed if one or more EV charging spaces [EV charging stations] is provided.

- **Permitted Use** – appropriate language or a provision similar to the following could be added to the relevant sections or tables in Article 2 (“Base Districts”), or if preferred, to the supplemental use regulations in Chapter 4.10 or to the supplemental development standards in section 4.20.020 (“Accessory buildings and structures”):

EV charging stations that are incidental to a primary use are permitted by right.

- **Density Bonus** – appropriate language or a provision similar to the following could be added to Chapter 4.20 (“Supplemental Development Standards”) or to the relevant development standards sections in Article 2:

Residential and nonresidential property developments that include EV charging spaces or EV charging stations are eligible for a development density bonus of \_\_\_ [or other incentives].

### 2. City of Cupertino

- **Minimum Parking** – appropriate language or a provision similar to the following could be added via a new note following Tables 19.124.040(A) and 19.124.040(C):

*EV charging space.* An electric vehicle (EV) charging space [EV charging station] shall count [as two spaces?] towards the minimum required number of parking spaces.

Alternatively, suitable language could be added to section 19.124.060(B) (“Exceptions—Findings”) to make clear that an exception in the form of a reduction in the minimum required number of parking spaces may be allowed if one or more EV charging spaces [EV charging stations] is provided.

- **Permitted Use** – appropriate language or a provision similar to the following could be added to the various permitted, conditional and excluded use provisions in Title 19:

EV charging stations are permitted in this zoning district.

Alternatively, language could be added to section 19.100.020 (“Accessory Uses and Facilities”) to make clear that accessory uses and facilities include EV charging stations.

- **Floor Area Ratio Increase or Density Bonus** – appropriate language or a provision similar to the following could be added to the relevant building/site development regulations and development standards throughout Title 19:

Residential and nonresidential property developments that include EV charging spaces or EV charging stations are eligible for a floor area ratio increase [density bonus] of \_\_\_\_.

### 3. City of Morgan Hill

- **Minimum Parking** – appropriate language or a provision similar to the following could be added to section 18.50.020 (“Number of spaces—Schedule”):

An electric vehicle (EV) charging space [EV charging station] shall count [as two spaces?] towards the required number of parking spaces.

Alternatively, suitable language could be added to Chapter 18.57 (“Exceptions”) to make clear that an exception in the form of a reduction in the required number of parking spaces may be allowed if one or more EV charging spaces [EV charging stations] is provided.

- **Permitted or Accessory Use** – appropriate language or a provision similar to the following could be added to the various permitted or accessory uses provisions in Title 18:

EV charging stations shall be permitted [permitted as accessory uses] in the \_\_\_\_ zoning district [where incidental to and associated with a permitted use].

Alternatively, language could be added to Chapter 18.56 (“Accessory Structures”) to specify that EV charging stations qualify as accessory uses or structures.

- **Density Bonus** – appropriate language or a provision similar to the following could be added to Chapter 18.78 (“Residential Development Control System”) and to the relevant site development standards for nonresidential districts establishing suitable density bonuses or other incentives (e.g., floor area ratio increases) for developments that include EV charging spaces or EV charging stations:

Residential and nonresidential property developments that include EV charging spaces or EV charging stations are eligible for a density bonus [floor area ratio increase] of \_\_\_\_.

### 4. City of Mountain View

- **Minimum Parking** – appropriate language or a provision similar to the following could be added to a new subsection (c) of section 36.32.50 (“Required number of parking spaces”):

EV charging space. An electric vehicle (EV) charging space [EV charging station] shall count [as two spaces?] towards the minimum number of off-street parking spaces that shall be provided for each use.

Alternatively, suitable language could be added to section 36.32.65 (“Parking reduction”) to make clear that the zoning administrator is authorized to grant a reduction in off-street parking requirements if one or more EV charging spaces [EV charging stations] is provided.

- **Permitted Use** – appropriate language or a provision similar to the following could be added to section 36.06.50 (“Exemptions from zoning permit requirements”):

**EV charging stations.** EV charging stations are permitted in all zoning districts.

- **Floor Area Ratio Increase or Density Bonus** – appropriate language or a provision similar to the following could be added to the various zone development standards throughout Chapter 36:

Developments within the zoning district that include EV charging spaces or EV charging stations are eligible for a floor area ratio increase [density bonus] of \_\_\_\_.

## 5. City of Palo Alto

- **Permitted or Accessory Use** – appropriate table entries or language similar to the following could be added to the “land uses” provisions for the various zoning districts in Title 18:

EV charging stations are permitted uses.

Alternatively, EV charging stations could be listed in the tables as “accessory and support uses” or “accessory uses” and, where applicable, made subject to the “accessory uses and facilities” provisions for the various districts so that these stations are permitted when incidental to and associated with a permitted use or facility in the district, or are permitted as accessory facilities and activities associated with or essential to permitted uses, and operated incidental to the principal use.

- **Floor Area or Density Bonus** – appropriate language or a provision similar to the following could be added to the various [site] development standards throughout Title 18:

Buildings or developments within the district that include EV charging spaces or EV charging stations are eligible for a floor area bonus [floor area ratio with bonus] of \_\_\_\_ to encourage the installation of charging infrastructure in the district.

In crafting this language, ICF has taken note of sections 18.18.070, 18.20.040(d), and 18.28.050(b)(1)(A).

## 6. City of San José

- **Permitted Use** – if appropriate, table entries and the following notation (identical to the charging station notes that follow Tables 20--90, 20-110, and 20-140) could be added to the “allowed uses and permit requirements” tables for the other zoning districts set forth in Title 20, i.e., Open Space & Agricultural (Chapter 20.20), Residential (Chapter 20.30), and if applicable, Planned Development (Chapter 20.60) and Pedestrian Oriented (Chapter 20.75):

Charging stations that are incidental to a separate primary use, that do not impact on-site or off-site vehicular circulation, and that serve patrons of the primary use on-site are permitted in [this/all residential] district(s).

Alternatively, for the residential zoning districts, perhaps charging stations could be listed in Table 20-50 and permitted as a “residential accessory use,” or permitted as an “incidental use” under section 20.30.110.

- **Floor Area Ratio Increase or Density Bonus** – appropriate language or a provision similar to the following could be added to the different development standards and other relevant provisions in Title 20:

Buildings or developments within the district that include EV charging spaces or EV charging stations are eligible for a floor area ratio increase [density bonus] of \_\_\_ to encourage the installation of charging infrastructure in the district.

## 7. City of Sunnyvale

- **Minimum Parking** – appropriate language or a provision similar to the following could be added to subsection (c) of section 19.46.100 (“General requirements for nonresidential and mixed-use parking”), as well as to the residential minimum space requirement in subsection (c) of section 19.46.040 (“General requirements for residential parking”):

The provision of pre-wired Level 2 (or greater) electric vehicle (EV) charging spaces or the installation of Level 2 (or greater) EV charging stations shall count [as two spaces?] towards the minimum number of nonresidential [residential] parking spaces that shall be provided.

Alternatively, the installation of Level 2 (or greater) pre-wiring or Level 2 (or greater) EV charging stations could be specified in section 19.46.100(e) as an incentive that may reduce required nonresidential and mixed-use parking up to a certain percentage.

In addition, promotional and other appropriate language on EVs and charging infrastructure could be added to section 19.45.010 and elsewhere in Chapter 19.45 (“Transportation Demand Management”).

- **Permitted Use** – appropriate language could be added to the “permitted, conditionally permitted and prohibited uses” tables for the various zoning districts set forth in Article 3 of the Zoning title to establish that EV charging stations are permitted as accessory, other, or automotive uses.

Another approach could be to include a permitted use provision for EV charging stations in Chapter 19.56 (“Alternative Energy Systems”), one that is analogous to the broad permitted use provision in section 19.56.010 for solar energy systems.

- **Floor Area Ratio Increase or Density Bonus** – separate and apart from the permitted use issue, appropriate language or a provision similar to the following, based on section 19.56.150(a), could be added to Chapter 19.56:

To provide incentives for the installation of EV charging stations [or EV charging spaces], lot coverage [density] may be exceeded by up to \_\_\_ percent and/or floor area ratio may be exceeded by up to \_\_\_ percent.

Alternatively, authorization for a floor area ratio increase when EV charging spaces are provided or EV charging stations are installed could be added to section 19.32.070(b), similar to the existing provision for bicycle support facilities.