



**Shaping a new  
tomorrow, today.**

**NOTICE OF INTENT- PROPOSED NEW OR INCREASED FEES  
Notice of Intent to Implement Electric Vehicle Charging Fees**

The Gilbert Town Council, at a study session on March 5, 2024, directed staff to publish a Notice of Intention to implement electric vehicle charging fees.

Pursuant to A. R. S. §§ 9-499.15 and 9-511.01, the Town of Gilbert is providing notice of its intention to implement electric vehicle charging fees.

A public hearing on the proposed fees will be held at the regularly-scheduled Town Council meeting on June 18, 2024, at 6:30 PM at the Gilbert Council Chambers at 50 E. Civic Center Dr., Gilbert, Arizona to hear and receive written comments regarding the proposed electric vehicle charging fees. Following this public hearing, the Town Council may adopt the proposed electric vehicle charging fees. If approved, the fees shall become effective on August 1, 2024.

The proposed fees are listed below, and the recent study conducted resulting in the fee recommendations is attached to this notice and on Gilbert's website at [www.gilbertaz.gov](http://www.gilbertaz.gov).

Proposed fees relating to electric vehicle charging:

- \$0.25 per kWh cost to charge for the first four hours
- \$0.70 per kWh cost to charge after four hours
- \$5.00 per hour idle fee if not actively charging vehicle
- \$175 fine for non-electric vehicles or electric vehicles not plugged into the charging station parked in an electric vehicle space

Questions related to the proposed electric vehicle charging fees should be directed to Jennika Horta, Assistant to the Town Manager, at [Jennika.Horta@gilbertaz.gov](mailto:Jennika.Horta@gilbertaz.gov).

DATE POSTED ON TOWN OF GILBERT WEBSITE: April 8, 2024



Prepared for Town of Gilbert, Arizona

# Electric Vehicle Charging Pricing and Policy Study

March 26, 2024



**WALKER**  
CONSULTANTS



March 26, 2024

Ms. Jennika Horta  
Assistant to the Town Manager  
Town of Gilbert  
50 E. Civic Center Drive  
Gilbert, AZ 85296

Re: *Electric Vehicle Charging Pricing and Policy Study*  
*Gilbert, Arizona*

Dear Ms. Horta:

Walker Consultants is pleased to submit for your review this report for the Town of Gilbert Electric Vehicle Charging Pricing and Policy Study.

We appreciate the opportunity to be of service to you on this project. If you have any questions or comments, please do not hesitate to call.

Sincerely,

WALKER CONSULTANTS

A handwritten signature in black ink, appearing to read "Eric Haggett", is written over a faint, light-colored signature line.

Eric Haggett, LEED Green Associate  
Director of Planning

# Contents

Introduction	5
Gilbert EVCS Pricing and Policy Summary	5
Project Background	8
Ongoing EVCS Replacement Projects	8
Walker’s Methodology	9
Peer City and Other Research	12
Phoenix Area Use Policy and Pricing Research	12
Public Entity EVCS Pricing and Policies	12
Private Entity EVCS Pricing	14
Fleet Vehicle Charging Research	14
EVCS Use Policy and Pricing in Other U.S. Metros	16
EV-Related Code and Zoning Requirements in Phoenix Area Municipalities	16
Applicable References to Electric Vehicle Charging in Arizona State Statutes	18
Recommended EV Charging Station Pricing and Use Policies	20
Fees for Use of the Town’s EVCS	20
Electricity Cost Analysis	20
Recommended Cost to Charge	21
Use Policies for the Town’s EVCS	22
Use Policies and Other Recommended Fees	22
Penalties for Parking in an EV Space Without Charging a Vehicle	23
Fleet Vehicle Charging Policies	23
Anticipated Annual Financial Impact of Providing EV Charging	25
EV Charging Use Projections	25
Estimated Annual Net EV Charging Revenue	26
Average Annual Cost of EVCS Equipment and Support	27
Anticipated Annual Financial Impact of Providing EV Charging	27
Other Potential Costs of EVCS Ownership	27
Procurement Options for EV Charging Stations	30
Previous EV-Related Plans and Projects	33
Gilbert Transportation Master Plan	33

Updates to Parking Requirements and Standards	33
Heritage District Parking Master Plan	38

## List of Figures

Figure 1 City of Chandler Fleet Vehicle Charging	15
Figure 2 City of Chandler EV Fleet Vehicle Parking Signage	15

## List of Tables

Table 1 Summary of Phoenix Area Public Entity EVCS Use Policy and Pricing	13
Table 2 Summary of Recommended EV Charging Station Pricing and Other Fees	21
Table 3 Comparison of Estimated Cost to Fuel an EV versus ICE Vehicle to 250 Miles of Range	22
Table 4 Assumptions Related to EVCS Use by Location	25
Table 5 Estimated Net EV Charging Revenue by Location for a Range of per kWh Charging Fees	26
Table 6 Summary of Electric Vehicle Charging Station Procurement Options	31

# Introduction

This document and the recommendations contained within were developed to help the Town of Gilbert (“Town”) best manage Town-owned electric vehicle (“EV”) charging stations (“EVCS”). During the Town’s ongoing project to replace its existing EVCS, Town personnel realized that there was no policy in place governing the use of these charging stations. With the updates to its EV charging technology ongoing, the Town retained Walker Consultants (“Walker”) to develop policy recommendations and proposed pricing structures that could be implemented to help manage the use of the new EVCS once they are brought online.

The document that follows provides Walker’s EVCS pricing and use policy recommendations for Town-owned infrastructure, as well as background research and other information gathered in the development of these recommendations.

## Gilbert EVCS Pricing and Policy Summary

The recommended pricing for use of the Town’s EVCS was based primarily on the goal of ensuring that the revenue generated from charging would at least cover the cost of the electricity dispensed by the charging stations. However, other factors were considered such as prices and policies in other local municipalities and the intended users of the Town’s EVCS, among others.

The below table summarizes the recommended fees for use of and penalties for misuse of the Town of Gilbert’s EV charging stations.

EVCS User Group	Per kWh Cost to Charge (first 4 hours)	Per kWh Cost to Charge (after 4 hours)	Idle Fee if Not Actively Charging Vehicle	Fine for ICE Vehicle in EV Space or EV Not Plugged into EVCS
Public Users & Town Employees	\$0.25	\$0.70	\$5.00/hour	\$175.00
Town Fleet Vehicle Drivers	Free	Free	N/A	N/A

Source: Walker Consultants

Based on an assessment of the Town’s electricity costs, it is recommended that the Town charge \$0.25/kWh for the use of its EVCS by the public, including Town employees driving personal vehicles. This should allow the Town to cover the cost of electricity dispensed by the EVCS, regardless of the time of year, while also generating some amount of positive net revenue on the electricity being provided. At this per kWh cost, providing 250 miles of range to a newer model EV in the middle of the fuel efficiency range is expected to cost the owner approximately \$29.00. By comparison, it costs approximately \$32.00 for the owner of an average internal combustion engine (“ICE”) vehicle to travel 250 miles, based on current average gas prices in Maricopa County.

In addition to the per kWh fee to charge at a Town-owned EVCS, it is recommended that the Town implement fees that would be assessed only when a vehicle remains plugged into a charging station without actively charging (an idle fee) or when a vehicle continues charging beyond the maximum charging time limit (discussed further, below). To prevent drivers from leaving vehicles plugged into the EVCS after their charging sessions are complete,

a fee of \$5.00/hour is recommended for time spent not actively charging, after a 30-minute grace period. A similar per-hour fee is recommended when vehicles are charged for more than four consecutive hours.

For drivers who park an ICE vehicle in an EV charging space, it is recommended that a fine of \$175.00 be assessed, consistent with the fine assessed for many civil traffic violations in Gilbert. It is also recommended that drivers of EVs and plug-in hybrid electric vehicles (“PHEV”) parked in an EV charging space without their vehicle plugged into the EVCS also be subject to this same penalty.

Understanding the Town’s intention to allow its fleet vehicles to charge for free, an internal policy should be established to restrict fleet vehicle charging to off-hours for public charging, unless necessary. It is recommended that Town employees be advised to charge fleet vehicles only at the following times in each location, whenever possible:

#### Town Hall Campus

- Employee Lot: Anytime.
- Public Parking Lot(s)\*:
  - Before 7:00 AM or after 6:00 PM, Monday – Thursday.
  - Anytime on Friday, Saturday, and Sunday.

*\*EVCS are anticipated to be installed in public parking lots at Town Hall in the future, but none are currently installed.*

#### Hearne Way Parking Garage

- Before 9:00 AM or after 9:00 PM, Sunday – Thursday.
- Before 10:00 AM or after midnight, Friday and Saturday.

#### Gilbert Public Safety Training Facility – Publicly Available EVCS

- Before 7:00 AM or after 6:00 PM, Monday – Thursday.
- Anytime on Friday, Saturday, and Sunday.

Additional details related to these recommendations and the potential financial impacts of the proposed pricing are presented later in this document, along with pertinent background research and reference material.



# 01 Project Background & Methodology



## Project Background

Like many communities across the U.S., the Town of Gilbert is currently navigating how best to address expected growth in the use of EVs by the public and commercial enterprises. Additionally, the Town is preparing for the potential growth of EV usage to expand into its fleet in the future. Through this process, the Town has discovered that continued movement away from ICE vehicles towards EVs is expected to impact various aspects of how the Town operates and how it serves its citizens. The Town has recognized that everything from its Ordinances to its Land Development Code, to the day-to-day operations of its various departments has been and will continue to be impacted by the transition toward EVs.

To address these impacts, the Town has undertaken several efforts including proposing EV charging requirements in new multifamily and commercial developments in its Land Development Code and replacing existing municipally owned EV charging stations with more current charging technology. However, during the ongoing project to replace its existing EVCS, the Town realized that it did not have a policy in place governing the use of these charging stations. Historically, EV charging has been a free amenity provided by the Town at various locations throughout the community. In Town-owned facilities accessible by the public, anyone with an EV or PHEV can pull into a parking space served by an EVCS, plug in their vehicle, and remain parked indefinitely, unless signs are posted prohibiting overnight parking.

With the updates to its EV charging technology ongoing, the Town retained Walker to develop pricing and policy recommendations that could be implemented to help manage the use of the new EVCS once they are brought online. The document that follows provides Walker's EVCS pricing and use policy recommendations for Town-owned infrastructure, as well as research into the pricing and policies employed by peer and non-peer communities, a discussion of options for procurement of EVCS technology, and a summary of other ongoing and past Town projects and planning efforts that have addressed EVs and their use.

## Ongoing EVCS Replacement Projects

It is Walker's understanding that the Town's primary motive for undertaking this project was the need to establish baseline pricing and policies to govern the expected use of Town-owned EV charging stations. Establishing rules around EVCS use became more pressing due to the advanced nature of the Town's EVCS replacement projects. As of the date of this report, the Town had completed the replacement of its legacy EVCS at the Town Hall campus and was preparing to begin the projects to replace its other existing EV charging stations.

The following is a brief description of the EVCS equipment replacement projects completed or planned to be undertaken by the Town in the very near future, along with the status and anticipated timelines of those projects:

### Town Hall Campus

- Installation of 3 EV charging stations serving 6 parking stalls in the Town employee parking lot located at 90 E. Civic Center Drive.
- Status: Installation complete; EVCS awaiting activation pending the recommendations of this study.

### Hearne Way Parking Garage

- Installation of 6 EV charging stations serving 12 parking stalls in the public parking garage commonly referred to as the Hearne Way Parking Garage (or RD-120 Garage) located at 28 E. Vaughn Avenue.
- Status: Procurement and installation of new EVCS to begin promptly upon conclusion of this study.

### Gilbert Public Safety Training Facility

- Installation of 6 EV charging stations serving 12 parking stalls – 6 in an unsecured public parking lot and 6 in a secured (gated, restricted access) parking lot – located at 6860 S. Power Road.
- Status: Procurement and installation of new EVCS to begin promptly after the completion of the Hearne Way Parking Garage EVCS upgrades.

While these three projects are currently the Town's only planned installations of EVCS infrastructure, the intent of this Pricing and Policy Study is to provide the Town guidance in these areas as it considers future EVCS installations.

## Walker's Methodology

To formulate appropriate recommendations related to pricing and usage policies of Town-owned EVCS, Walker undertook a multi-step process. First, the Walker team requested and reviewed background information related to the Town's recently completed and ongoing EVCS replacement projects, as well as other relevant projects with an EV charging component. Additionally, the Walker team reviewed several existing planning documents to understand the work that the Town and other government entities in the Phoenix area had already completed in the realm of EV use. These documents included:

- Plan for Our Future: 2020 Gilbert General Plan
- Gilbert Transportation Master Plan
- Heritage District Parking Master Plan
- Maricopa Association of Governments Regional Electrification Readiness Strategic Plan

Next, the Walker team met with Town staff to gain a better understanding of the goals for this project and the current challenges facing the Town related to EVs. This in-person meeting involved representatives from Walker as well as the following Town departments:

- Town Manager's Office
- Public Works
- Finance and Management Services
- Development Services
- Fire and Rescue
- Parks, Recreation, and Facilities

Following the meeting with Town staff, the Walker team visited the three Town facilities that are the subject of this project (Town Hall, Public Safety Training Facility, and Hearne Way Garage). At Town Hall and the Public

Safety Training Facility, the Walker team discussed with Town staff the expected/desired use of the EVCS in these locations, as well as existing issues with public use of the EVCS at the Public Safety Training Facility. At the Hearne Way Garage, Walker staff observed occupancy and use of the existing EVCS several times a day over several days.

Following Walker's visit to Gilbert the team reached out to contacts at the manufacturer of the Town's replacement EVCS – ChargePoint – to discuss the capabilities of their equipment, as well as gather information about the EVCS market in the Phoenix area. Outreach was also conducted to other municipalities and large institutions in the Phoenix area to discuss their current EV charging pricing and policies.

From an information-gathering perspective, the Walker team's final task was to conduct desktop research into the EV charging pricing and policies in other suburban Phoenix communities, as well as those of suburban locations throughout the U.S. This information supplemented Walker's existing knowledge of the EV and EV charging markets.

The knowledge gained through this process, along with Walker's past EV charging and parking operations experience, informed the recommendations contained in this document for the Town of Gilbert's EV charging pricing and policies.

## 02 Background Research

## Peer City and Other Research

To help inform Walker’s recommendations for pricing and use policies for the Town’s EVCS, research was conducted into the operations and pricing of publicly available EV charging infrastructure owned and hosted by other municipalities and major institutions in the Phoenix metro area. The primary focus of this research was publicly available EV charging infrastructure; given that the Town intends to provide charging for its fleet vehicles at no cost, less effort was focused on gathering information on policies around municipal fleet vehicle charging. Walker also examined the pricing and use policies of EVCS in the Phoenix area not owned by public entities but available for use by the public.

In addition to Phoenix area research, Walker also looked at the pricing and use policies of EV charging in suburban communities in other areas of the country.

Aside from pricing and use policies, Walker was asked by the Town to explore current Phoenix area municipal code and zoning requirements for EV charging for public and private multi-family and commercial developments.

A summary of Walker’s research on the above topics (and others) is presented below for context and reference.

## Phoenix Area Use Policy and Pricing Research

The transition from ICE vehicles to EV vehicles is still in its infancy, with only about 1.2 percent of registered vehicles on the road in the U.S. being either EV or PHEV (approximately 3.4 million vehicles out of 281 million cars registered nationally)<sup>1</sup>. Additionally, many current municipal owners of EVCS acquired their charging infrastructure at a significantly discounted price or for free using government incentives, utility company rebate programs, grants, or other sources. As a result, much of the existing EVCS use policy and pricing nationally is not based on a sustainable economic model or was not developed with much consideration of where, when, and how owners of EVs and PHEVs charge their vehicles. For these reasons, in Walker’s view, it did not make sense to recommend EVCS use policy and pricing for Gilbert based on what other Phoenix area municipalities are currently doing.

While not the basis for Walker’s recommendations, it was important for Walker to understand the current market for EV charging in the Phoenix area, particularly for municipally owned and hosted EV charging infrastructure. This context allowed Walker to understand how any recommended pricing and policies for the use of the Town’s EVCS would compare to existing pricing and policies in other local municipalities, as well as the potential impact of those recommendations on future use of the Town’s EVCS.

## Public Entity EVCS Pricing and Policies

The below table summarizes Walker’s EVCS pricing and use policy research for several major suburbs of Phoenix. Additionally, Arizona State University (“ASU” or “University”) and State of Arizona properties located in Phoenix have been included for some additional context.

---

<sup>1</sup> <https://afdc.energy.gov/vehicle-registration>

**Table 1 Summary of Phoenix Area Public Entity EVCS Use Policy and Pricing**

Municipality/ Public Entity	Cost to Charge	Charging Time Limit	Fee Imposed if Not Actively Charging Vehicle	Paid Parking Required	Charging Equipment Vendor
Chandler	Free	No	No	No	ChargePoint
Mesa	\$0.39/kWh, Blink member; \$0.49/kWh, non-member.	No	No	During some events	Blink
Tempe	Free (w/ paid parking); \$0.20-\$0.39/kWh.	No	No	At certain locations	Blink; ChargePoint
Scottsdale	No municipal charging locations identified.	N/A	N/A	N/A	N/A
Glendale	No municipal charging locations identified.	N/A	N/A	N/A	N/A
Arizona State University	One to four hours: \$1.25 per hour; Four hours or more: \$5.00 per hour.	No	Ticketable offense but not actively enforced	Yes, various rates	ChargePoint
State of Arizona (Phoenix offices)	\$1.50/hour for the first 3 or 4 hours; \$5/hour thereafter.	No	\$5.00/hour, typically	Employee parking only	ChargePoint

Source: Walker Consultants; various online resources

As shown in the above table, the City of Chandler currently provides EV charging to the public for free, in their free public parking facilities. The City of Tempe/Downtown Tempe Authority also provides some amount of free charging in their paid parking facilities, while imposing a fee for charging in parking facilities with free parking; where payment is required to charge, costs range from \$0.20-\$0.39/kilowatt hour (“kWh”). Municipal EV charging stations in Mesa cost either \$0.39/kWh or \$0.49/kWh, depending on membership status with the City’s EVCS provider. None of the municipalities examined appear to charge an “overstay” or “idle” fee – this is an additional fee assessed for vehicles that are plugged into a charger that are not actively charging. Additionally, Walker could not identify any municipally owned or hosted EVCS in either Scottsdale or Glendale.

Based on Walker’s research, both ASU and the State of Arizona impose hourly fees for charging, as opposed to imposing fees on a per kWh basis. Assuming both ASU and the State employ similar EVCS to the ChargePoint CT4000 chargers installed and proposed in Gilbert, the \$1.25/hour fee at ASU would equate to approximately \$0.178/kWh and the \$1.50/hour at the State facilities would equate to approximately \$0.214/kWh (the per kWh prices are based on an assumed 7 kW of electricity dispensed per hour). While both entities impose a lower per kWh fee to charge a vehicle than the municipalities examined, both also raise the per-hour cost to charge after the first few hours of a charging session. Both ASU and the State impose a fee of \$5.00/hour to charge after either three or four hours, raising the per kWh price to approximately \$0.714/kWh. This higher hourly rate seems designed to encourage drivers to move their vehicles after several hours of charging, to allow for other vehicle owners to use the EVCS.

In addition to the graduated rates charged by both ASU and the State, both entities also can impose fees or other penalties if vehicles are plugged into the charging stations but are not actively charging. ASU can ticket drivers if their vehicles are plugged into a charging station, but the vehicle is not actively charging. However, it is Walker’s understanding that this is not actively enforced; the University does issue citations on vehicles parked in EV

charging spaces that are not plugged into a charger. The State imposes an idle fee of \$5.00/hour if a vehicle is plugged into a charging station but is not actively charging.

## Private Entity EVCS Pricing

In addition to data on the pricing and use policies for EVCS owned and hosted by public entities in the Phoenix area, Walker was also able to gather some data on the fees charged by private property owners who own or host publicly accessible EV charging infrastructure. This information does not include EV charging infrastructure that may be provided by private property owners for exclusive employee or tenant use, only publicly accessible EVCS. Like public sector entities, private property owners in the Phoenix area vary in terms of how they charge for the use of their EVCS. Some entities charge by the kWh, while others charge a flat hourly rate. Additionally, some private property owners assess a lower fee for the first few hours of charging, then charge a much higher hourly rate beyond three or four hours of charging, while others assess the same fee regardless of the charging time.

Based on Walker's research, private property owners with publicly available EVCS typically impose fees in the range of \$0.15-\$0.50 per kWh. Additionally, some locations charge fees as high as \$5.00/hour after the first few hours of charging or for vehicles plugged into their stations that are not actively charging. Generally, private property owners in the Phoenix area with publicly available EVCS seem to impose higher user fees than public entities.

Unsurprisingly, Walker did not find many instances of private property owners providing public charging for free. Notable exceptions were healthcare facilities where some EV charging stations are provided for use free of charge.

## Fleet Vehicle Charging Research

Limited information could be found relative to EV fleet vehicle charging by Phoenix area municipalities. However, Walker was able to gather some information on how other Phoenix area municipalities are managing the transitions of their fleet vehicles to EVs and information on the charging infrastructure currently in place.

While conducting fieldwork for this project, Walker observed fleet vehicle charging spaces and actively charging fleet vehicles at the City of Chandler's Public Works and Utilities Administration building, as shown below.

**Figure 1 City of Chandler Fleet Vehicle Charging**

Source: Walker Consultants

**Figure 2 City of Chandler EV Fleet Vehicle Parking Signage**

Source: Walker Consultants

Despite the designation of spaces for Chandler’s fleet vehicles, parking spaces immediately adjacent to these spaces were available for use by the public. Additionally, the EVCS in use by the City’s fleet vehicle is the same station available for use by the public at no cost. It was unclear to Walker, based on our observations, whether the driver of the City’s fleet vehicle used any credential to begin their charging session and track usage or if they could just plug in and begin charging automatically, like a public user of the station.

Research indicates that the City of Tempe also has significant charging infrastructure dedicated for use by its fleet EVs. Based on the most recent information available, Tempe has around 30 or more EVCS dedicated for EV fleet charging<sup>2</sup>, in addition to its public charging stations which can also be used to charge its fleet vehicles.

<sup>2</sup> <https://mailchi.mp/tempe/evchargers>



The City of Scottsdale recently completed the installation of 16 charging ports and supporting solar power generation equipment at its North Corporation Yard, presumably for use by City fleet vehicles<sup>3</sup>.

Finally, the City of Mesa was recently awarded an \$11.8 million grant to add 48 vehicle charging ports and associated solar canopies across the city<sup>4</sup>, some of which may be used for charging EV fleet vehicles. The City also recently brought its first fully electric fire truck into service<sup>5</sup>.

Based on this research, many if not most municipalities in the Phoenix area seem to be actively replacing their legacy fleet vehicles with EVs and installing new EVCS to support the use of those vehicles.

## EVCS Use Policy and Pricing in Other U.S. Metros

In addition to researching the EVCS pricing and use policies of Phoenix area municipalities, Walker also searched for this same information for large suburbs in other U.S. metro areas. Specifically, Walker's research for this project focused on the largest suburbs around Las Vegas, Nevada, and Tampa and Miami, Florida. This research was supplemented by Walker's internal database of similar data for municipalities in California, Colorado, Illinois, Massachusetts, and other states.

Like the suburbs of Phoenix, the pricing and use policies for municipally owned or hosted EVCS in large suburbs around major cities throughout the U.S. vary significantly from city to city. Some locales offer free charging to the public without restrictions, while also providing free parking. Others impose a fee for charging, while also charging for parking. Additionally, of the municipalities that charge for the use of their EVCS, some charge significantly lower per kWh rates than Phoenix area suburbs (\$0.50/hour or ~\$0.17/kWh), while others charge rates that are comparable to those charged by Mesa, Tempe, ASU, and the State of Arizona. Several municipalities researched increase the cost of charging after a few hours and others impose fees if a vehicle is plugged in and not actively charging.

These findings have led Walker to the conclusion that, like municipalities in the Phoenix area, there is no uniform set of best practices for managing the use of or pricing the use of EVCS in cities across the country.

## EV-Related Code and Zoning Requirements in Phoenix Area Municipalities

Walker also conducted research into the municipal code and zoning requirements related to EV charging currently in place in Phoenix and many of its major suburbs to provide Gilbert a sense of where it stands relative to its geographic peers. The following is a summary of Walker's findings for each municipality:

---

<sup>3</sup> [https://www.scottsdaleaz.gov/Assets/ScottsdaleAZ/About+Scottsdale/Scottsdale\\_Overview\\_Book\\_2023-24.pdf](https://www.scottsdaleaz.gov/Assets/ScottsdaleAZ/About+Scottsdale/Scottsdale_Overview_Book_2023-24.pdf)

<sup>4</sup> <https://www.mesaaz.gov/Home/Components/News/News/9189/16?backlist=%2Fgovernment%2Fmayor-council%2Fcouncilmember-jen-duff>

<sup>5</sup> <https://www.mesaaz.gov/Home/Components/News/News/9177/>

Phoenix

The City’s code makes no mention of “electric vehicles” or “charging stations” or other relevant keywords.

Mesa

Mesa’s zoning ordinance references EVCS only in relation to the design of parking areas.

- Chapter 32, Section 11-32-4 states that “if spaces for electric cars are provided, allowed compact parking spaces can be increased by 1% for every 2 electric car charging stations; up to a maximum of 25 percent of the total minimum required.”
- Additionally, Section 11-33-2 states “electric vehicle charging stations may be placed in parking lot landscape islands. If necessary, shrubs and ground cover may be eliminated to accommodate the charging equipment.”

Chandler

Chapter 35 of the City’s code generally references electric vehicles and charging infrastructure.

- In the description of the purpose of the Parking and Loading Regulations, one of the stated intentions is to “encourage the proactive installation of dedicated spaces and necessary infrastructure in anticipation of greater need for electric vehicle charging stations.”
- This Chapter also states that “new parking garages and parking lots and/or major renovations to existing parking areas should include installation of conduit to selected parking spaces in anticipation of a greater need for electric vehicle charging stations.” However, this suggestion of additional infrastructure related to future EV charging is not a specific requirement that must be met.

Scottsdale

The City’s Building Code contains requirements from the International Energy Conservation Code, 2021 Edition, including specific requirements for electric vehicle charging infrastructure in commercial and multi-family developments.

- The code includes the following requirements for electric vehicle charging infrastructure:

Occupancy Group	Minimum number of EV Installed Spaces <sup>a</sup>	Minimum number of EV Capable Spaces <sup>a</sup>
Group R-1 (hotels, motels) and Group R-2 (apartments, condominiums)	4% of total required parking spaces	20% of total required parking spaces
<sup>a</sup> Parking spaces designated for other than passenger vehicles may be excluded from the number of parking spaces used to calculate the minimum number of EV spaces.		

- Other sections of the code include specific requirements about the electrical capacity of circuits serving EV charging spaces, how electric service panels need to be labeled to accommodate future EVCS, and construction document requirements related to planned EVCS.

### Tempe

References to EV charging in the City of Tempe code focus specifically on the use of these spaces, as opposed to minimum requirements to provide EVCS.

- Section 19-101 of the code states that “no person shall stand or park a vehicle in an electric vehicle charging space at any time except for the use of charging a vehicle.”
- The same section also limits the use of spaces designated for electric vehicle charging to a maximum time limit of six hours.
- Violating this section of the code is a civil traffic violation, punishable by a fine of up to \$250.00.

### Peoria

The City’s code makes no mention of “electric vehicles” or “charging stations” or other relevant keywords.

### Surprise

The City’s code makes no mention of “electric vehicles” or “charging stations” or other relevant keywords, except in the definition of a “Motor Vehicle”.

- That definition states that “motor vehicle means a self-propelled vehicle that is operated on the highways of this state and that is propelled by the use of motor vehicle fuel or electricity.”

## Applicable References to Electric Vehicle Charging in Arizona State Statutes

Arizona State Statutes include only a few references to EVs and EV charging. However, the Statutes do provide a mechanism that could help deter improper parking in EV charging spaces by owners of ICE vehicles. In addition to any penalties that can be imposed by the owners or hosts of the EVCS for this type of parking behavior, the State of Arizona can also impose financial penalties on these drivers.

Per Section 28-876, parking a vehicle that is not powered by electricity (or a vehicle powered by electricity that has not been issued an alternative fuel vehicle special plate) in “...any parking space designated for parking and fueling motor vehicles exclusively by electricity...” can result in the registered owner of that vehicle receiving a civil traffic violation. The fine for this type of violation is a minimum of \$350, per the Statutes, with any fines collected going to the State’s general fund.

While it seems unlikely that a State agency would enforce this rule on Town property or be focused on enforcing this rule generally, the magnitude of the fine that can be imposed by the State should provide the Town with a good frame of reference when setting its fee structures governing the use of EV charging spaces.

03

Recommended Gilbert EVCS  
Pricing and Use Policies

# Recommended EV Charging Station Pricing and Use Policies

Based on Walker’s expertise, knowledge of the EV and EVCS markets, past work with public and private sector owners of EV charging infrastructure, and research conducted as part of this project, the following recommendations were developed to help the Town of Gilbert best manage the use of its existing and planned future EVCS. The intent of the recommended pricing and use policies described below is to provide the Town with a starting point from which to begin operating its EV charging infrastructure while gathering data on the actual use of its new EVCS technology. Ideally, these policies and pricing structures will be updated regularly in the future in response to actual charging station use, anticipated growth in EV demand in the Phoenix region, changes in the number of publicly accessible EVCS in the region, and other factors, in pursuit of furthering the Town’s goals.

## Fees for Use of the Town’s EVCS

Walker’s recommended pricing for use of the Town’s EVCS was based primarily on the goal of ensuring that the revenue generated from charging would at least cover the cost of the electricity dispensed by the charging stations. Secondly, Walker considered several additional factors including:

- Current market rates for charging in the Phoenix area;
- The potential to recoup the upfront cost of installing the new equipment and pay ongoing costs, and;
- Industry best practice of discouraging vehicles that are not actively charging from remaining plugged into the EVCS and occupying the parking spaces designated for this purpose.

## Electricity Cost Analysis

To determine the minimum cost per kWh fee necessary to pay for the electricity dispensed by the Town’s EVCS, Walker analyzed historical electricity usage information and electric utility bills for Town Hall, the Hearne Way Parking Garage, and the Public Safety Training Facility. Using electric bills for each location from November and December 2023, Walker determined the billed rate per kWh of electricity used by location. These rates were then extrapolated for the remaining months of the year, accounting for increased electricity use during the summer months, as well as increases in electricity costs and demand charges during these same months.

From the past electricity bills provided by the Town and information available on the websites of the Salt River Project (supplier of electricity to Town Hall and the Public Safety Training Facility) and Arizona Public Service (supplier of electricity to the Hearne Way Parking Garage), Walker determined that the peak per kWh billed cost of electricity during the peak summer months of July and August is approximately \$0.157/kWh or less at Town Hall and the Public Safety Training Facility and \$0.143/kWh or less at the Hearne Way Parking Garage. Additional analyses of historical electricity usage at the three sites could make it possible to further refine these per kWh hour billing rates. However, Walker did not deem this additional level of analysis necessary to determine recommended pricing for the Town’s EVCS.

## Recommended Cost to Charge

The below table summarizes Walker’s recommended fees for the use of and penalties for misuse of the Town’s EVCS.

**Table 2 Summary of Recommended EV Charging Station Pricing and Other Fees**

EVCS User Group	Per kWh Cost to Charge (first 4 hours)	Per kWh Cost to Charge (after 4 hours)	Idle Fee if Not Actively Charging Vehicle	Fine for ICE Vehicle in EV Space or EV Not Plugged into EVCS
Public Users & Town Employees	\$0.25	\$0.70	\$5.00/hour	\$175.00
Town Fleet Vehicle Drivers	Free	Free	N/A	N/A

Source: Walker Consultants

Based on the electricity cost analysis, Walker recommends the Town charge \$0.25/kWh for the use of its EVCS by the public, including Town employees driving personal vehicles. This should allow the Town to cover the cost of electricity dispensed by the EVCS, regardless of the time of year, while also generating some amount of positive net revenue on the power being provided. At this per kWh cost, assuming 7 kW of electricity per hour dispensed by a single charging port (an assumption provided by the Town’s EVCS vendor), the approximate cost to charge a vehicle would be \$1.75 per hour.

With newer model EVs requiring between 24 kWh and 70 kWh of electricity to travel 100 miles<sup>6</sup>, to get 250 miles of range using a Town charging station that costs \$0.25/kWh, it would cost a driver between \$15.00 and \$43.75 (\$0.25/kWh X kWh of electricity per 100 miles X 2.5); the significant range in potential cost to charge a vehicle is a function of the relative efficiency of each EV, with larger, heavier EVs generally being less efficient than smaller, lighter EVs.

The below table provides a comparison of the estimated cost to fuel the average EV versus the average ICE vehicle based on current gas prices in Maricopa County and Walker’s recommended per kWh fee to charge at the Town’s EVCS.

<sup>6</sup><https://www.fueleconomy.gov/feg/PowerSearch.do?action=Cars&vtype=Electric&srchtyp=evSelect&rowLimit=50&sortBy=Comb&year1=2023&year2=2024&range=&drive=>

**Table 3 Comparison of Estimated Cost to Fuel an EV versus ICE Vehicle to 250 Miles of Range**

Vehicle Type	Average Fuel Efficiency <sup>1</sup>	Assumed Fuel Cost <sup>2</sup>	Estimated Fuel Cost per 250 Miles of Range
Electric Vehicle	2.127 miles/kWh	\$0.25/kWh	\$29.38
Internal Combustion Engine Vehicle	25 miles/gallon	\$3.225/gallon	\$32.25

1) Based on data from the U.S. Department of Energy.

2) Data on per gallon cost of gasoline taken from AAA website.

Source: Walker Consultants

Assuming the average personal ICE vehicle on the road in the U.S. can travel 25 miles on 1 gallon of gasoline (which may be an overestimate based on the most recent data available from the U.S. Department of Energy<sup>7</sup>), at the current average cost of 1 gallon of gas in Maricopa County of \$3.225 (per AAA<sup>8</sup>), traveling 250 miles would cost the driver of the average personal ICE vehicle approximately \$32.25 (250 miles/25 miles per gallon X \$3.225). Assuming the Town imposes a fee of \$0.25/kWh to charge, a 2023-2024 model year EV in the middle of the fuel efficiency range could charge to 250 miles of range at a cost of approximately \$29.38, comparable to the cost of fueling the average ICE vehicle; if the Town were to charge \$0.20/kWh, the cost to charge an EV at a Town-owned EVCS would be much less than the cost to fuel the average ICE vehicle (approximately \$23.50 for an EV vs. \$32.25 for an ICE vehicle).

In addition to covering the cost of electricity dispensed by the EVCS and the comparable cost to charge an EV at this price versus fuel an ICE vehicle at the current cost of gasoline, the recommended per kWh cost is in line with current EV charging fees in the greater Phoenix area.

## Use Policies for the Town's EVCS

To help ensure that drivers of EVs and PHEVs in need of a charge have access to the Town's EVCS, in addition to fees for charging, it will be beneficial for the Town to implement policies governing the use of the EVCS and to manage parking activity in spaces designated for EV charging.

## Use Policies and Other Recommended Fees

In addition to the per kWh price to charge an EV or PHEV, Walker recommends the Town implement fees that would be assessed only when a vehicle remains plugged into a charging station without actively charging (an idle fee) or when a vehicle continues charging beyond the maximum charging time limit (discussed further, below). Because the Town does not have another mechanism for enforcing policies around the use of its EVCS (aside from its Police Department, which has other priorities), costs that can be charged directly to users of the EVCS are the

<sup>7</sup> <https://afdc.energy.gov/data/10310>

<sup>8</sup> <https://gasprices.aaa.com/?state=AZ>

most effective way of encouraging proper use of this infrastructure. In other municipalities and at public institutions like ASU, dedicated Parking Enforcement Officers or other staff might enforce EVCS use policies in place of these organizations charging additional fees to manage user behavior.

When vehicles are plugged into the EVCS but not actively charging (referred to as being “idle”), this prevents the next driver from plugging in and charging their vehicle. To prevent this practice, Walker recommends the Town assess a fee to drivers of \$5.00/hour for leaving a vehicle parked in an EV space and plugged into an EVCS while not actively charging. It is further recommended that drivers be provided a 30-minute grace period from the time their active charging session ends to the time when this fee is assessed. This will allow drivers time to return to their vehicles to move them to another parking space, freeing up the charging plug for other drivers. The replacement EVCS purchased and installed at Town Hall and the EVCS proposed for the other two Town properties can charge this kind of idle fee. Additionally, these systems will provide an alert to EVCS users to notify them when their charging sessions have ended and inform them of the added fee if they do not move their vehicles.

Aside from an idle fee, Walker also recommends the Town increase the per kWh cost to charge to \$0.70/kWh (~\$5.00/hour of charging) if a vehicle continues charging for more than four consecutive hours; the proposed time limit could be raised or lowered in the future, depending on actual demand for the Town’s EVCS in each location. Like the idle fee, this recommended increase in the price of charging is aimed at increasing the number of drivers that can use the Town’s EVCS. With the Town’s EVCS providing enough electricity for approximately 10-29 miles of driving range per hour of charging, a vehicle charging for four hours should gain between 40 and 116 miles of range during that period. This means charging a vehicle for more than four hours is likely a convenience more than a necessity for most drivers. Again, the EVCS purchased and installed at Town Hall and the EVCS proposed for the other two Town properties can adjust the per kWh cost of charging to align with this recommendation.

## Penalties for Parking in an EV Space Without Charging a Vehicle

While the Town does not have dedicated parking enforcement staff and Town Police are unlikely to be tasked with monitoring vehicles parking in spaces dedicated for EV charging, Walker recommends that, whenever possible, illegal parking of ICE vehicles in EV charging spaces be enforced as outlined in Section 62-75 of Town Code. Additionally, Walker recommends that this ordinance be updated to include drivers of EVs and PHEVs parked in an EV charging space without their vehicle plugged into the EVCS. To align with penalties assessed for common civil traffic violations in Gilbert, Walker recommends the fine for this type of violation be set at \$175.00.

Although unlikely to be used frequently given the lack of dedicated enforcement staff, this type of violation, and notice of the restriction posted on signage near the EVCS, on the Town’s website, and in other Town informational resources, can act as a deterrent to drivers that might otherwise consider parking in an EV charging space inappropriately.

## Fleet Vehicle Charging Policies

As mentioned previously, the Town intends to use its EVCS to provide both public charging and to charge vehicles in its fleet that are EVs or PHEVs. At present, the Town does not intend to bill its various departments for using



the EVCS to charge fleet vehicles. However, even with free fleet vehicle charging, there are best practices that should be implemented by the Town to help monitor the usage of the EVCS, ensure chargers are available for the public, and help plan for future EV charging needs.

Walker recommends that each Town staff member who may drive an EV or PHEV from the Town's fleet be issued an RFID card or an RFID card be associated with each fleet EV and PHEV that can be used to provide free access to the Town's EVCS. Usage of each card can be tracked, allowing the Town to understand how often fleet vehicles are used and the distances they are traveling, as well as to prevent potential use of the cards to charge personal vehicles for free. Analyzing the fleet vehicle usage data over time, along with the public charging usage data, will also allow the Town to better plan for its future EVCS needs by helping Town staff understand the growth in demand for charging versus the availability of charging infrastructure.

In addition to associating fleet vehicle charging with individual employees or the vehicles themselves, Walker also recommends that the Town implement a policy around the appropriate use of fleet vehicle charging by employees. Specifically, the help ensure that the Town's EVCS are available for use at the times when the public is most likely to need access to charging, Walker recommends that Town employees be advised to charge fleet vehicles only at the following times whenever possible:

#### Town Hall Campus

- Employee Lot: Anytime.
- Public Parking Lot(s)\*:
  - Before 7:00 AM or after 6:00 PM, Monday – Thursday.
  - Anytime on Friday, Saturday, and Sunday.

*\*EVCS are anticipated to be installed in public parking lots at Town Hall in the future, but none are currently installed.*

#### Hearne Way Parking Garage

- Before 9:00 AM or after 9:00 PM, Sunday – Thursday.
- Before 10:00 AM or after midnight, Friday and Saturday.

#### Gilbert Public Safety Training Facility – Publicly Available EVCS

- Before 7:00 AM or after 6:00 PM, Monday – Thursday.
- Anytime on Friday, Saturday, and Sunday.

#### Gilbert Public Safety Training Facility – Secured/Restricted EVCS

- Anytime.

There could be times when a Town fleet vehicle needs a charge outside of the recommended charging windows. However, to promote the public's use of the Town's charging infrastructure, charging of fleet vehicles should be done during the off-hours of public charging demand whenever possible.

# Anticipated Annual Financial Impact of Providing EV Charging

To help the Town evaluate the EVCS pricing and use policy recommendations, Walker performed an analysis of the potential financial implications of several pricing scenarios and compared that to the anticipated upfront and average annual costs likely to be borne by the Town to provide its planned EV charging infrastructure. Because no data is available on the historical use of the Town’s existing EV charging stations, Walker needed to make some assumptions about the anticipated use of the new EVCS technology in each location based on experience. Additionally, the analysis that follows does not consider the costs of any electrical infrastructure work or other site preparation work required to prepare for the EVCS installations, only the costs associated with the EVCS, their installation, and associated operating fees and warranties paid for upfront by the Town. Finally, Walker used actual equipment and other cost data from the Town Hall EVCS replacement project to estimate the cost of replacing the legacy EVCS at both the Hearne Way Parking Garage and the Public Safety Training Facility, since those projects have yet to be completed.

## EV Charging Use Projections

As mentioned above, no data was available related to the historical use of the Town’s legacy EVCS. For that reason, Walker made several assumptions related to the potential use of EVCS at each of the identified sites, as described in the following table.

**Table 4 Assumptions Related to EVCS Use by Location**

EVCS Location	Public/Paid Charging Ports	Likely Days of Use <sup>1</sup>	Assumed Hours of Paid Charging per Port per Day (Weekday)	Notes on Assumed Weekday Usage of EVCS	Assumed Hours of Paid Charging per Port per Day (Weekend)	Notes on Assumed Usage of EVCS
Town Hall Campus	6	Monday - Thursday	1.00	Assumes an average total of 6 hours of paid charging per weekday when Town Hall is open.	0.00	Assumes EVCS are unused Friday-Sunday when Town Hall is closed.
Hearne Way Parking Garage	12	Monday - Sunday	1.31	Assumes 25% of ports used during lunch hours and 50% used during dinner hours, with a 1.25-hour duration of stay during lunch and 2-hour duration of stay during dinner.	2.25	Assumes 25% of ports used during lunch hours and 75% used during dinner hours, with a 1.5-hour duration of stay during lunch and 2.5-hour duration of stay during dinner.
Public Safety Training Facility	6	Monday - Thursday	0.25	Assumes an average total of 1.5 hours of paid charging per weekday when the Public Safety Training Facility is open.	0.00	Assumes EVCS are unused Friday-Sunday when the Public Safety Training Facility is typically closed.

1) Use of EVCS at Town Hall and the Public Safety Training Facility was assumed to occur primarily during normal business hours for those facilities. Calculations of EVCS use assume Town facilities are closed 10 business days per year.

Source: Walker Consultants

As shown in the table, Walker assumed that the EVCS at both Town Hall and the Public Safety Training Facility will be limited primarily to Monday-Thursday, when those facilities are typically open and operating. While there may be some use of the EVCS by the public Friday-Sunday, it was assumed that the use of each charging port would average one hour per day, four days per week.

Assumptions around EVCS use at the Hearne Way Garage were based on the types of land uses in the Heritage District and the higher demand for parking in this area compared with the other EVCS locations.

Based on these assumptions, the total assumed paid charging time per year was calculated for each location.

## Estimated Annual Net EV Charging Revenue

Using the assumptions of paid charging time described above, plus the assumed per kWh billed cost of electricity for each location presented earlier in this document, Walker calculated the cost of providing the amount of electricity expected to be dispensed by the Town’s EVCS in each location. Estimated gross charging revenue was then calculated based on paid charging time multiplied by the per kWh fee for charging. Comparing the gross charging revenue with the projected cost of electricity dispensed results in an estimate of the net EV charging revenue that may be generated to help the Town defray the costs of providing, operating, and maintaining the electric charging infrastructure.

The below table presents high-level estimates of the net EV charging revenue that could be generated by the Town’s completed and planned EVCS installations, assuming a range of per kWh fees.

**Table 5 Estimated Net EV Charging Revenue by Location for a Range of per kWh Charging Fees**

Per kWh Charging Fee	Town Hall	Hearne Way Parking Garage	Public Safety Training Facility	Total Annual Net Charging Revenue
\$0.10	(\$241)	(\$1,939)	(\$48)	(\$2,228)
\$0.20	\$595	\$2,845	\$161	\$3,601
<b>\$0.25 (recommended)</b>	<b>\$1,012</b>	<b>\$5,236</b>	<b>\$266</b>	<b>\$6,514</b>
\$0.30	\$1,430	\$7,628	\$370	\$9,428
\$0.40	\$2,266	\$12,411	\$579	\$15,256

Lowest Cost/  
Most Equitable/  
Least Cost Recovery



Highest Cost/  
Least Equitable/  
Greatest Cost Recovery

Source: Walker Consultants

Assuming the Town implements the recommended \$0.25/kWh fee for charging recommended by Walker across all its publicly available EVCS, Walker estimates that the Town could generate approximately \$6,500 annually in net revenue, after paying the cost of the electricity dispensed by the charging stations.

It should be noted that the projections of net charging revenue assume that the use of the EVCS remains constant regardless of the price. However, as with nearly all goods and services, the higher the cost, the less of that good or service that is likely to be consumed. For that reason, the estimated revenues at the top of the per kWh fee range may not be attainable, as there are less expensive charging options available in the vicinity of Gilbert (including charging at home) that drivers may select versus charging at a Town facility.

It is also important to note that setting the cost to charge too low would result in the Town losing money on every kWh of electricity dispensed (as shown in the \$0.10/kWh scenario).

## Average Annual Cost of EVCS Equipment and Support

The terms of the Town's agreement with their EVCS vendor do not permit sharing exact pricing information. However, in general terms, it is anticipated that the Town will spend about \$136,000 on the 15 total EVCS it has already procured for the Town Hall site and plans to procure for the Hearne Way Garage and Public Safety Training Facility; this cost includes mounting, activation, and testing of the units. Over the estimated 10-year useful life of the charging stations, this equates to an average annual cost of \$13,600. *It is worth noting that this cost does not include the sitework necessary to prepare each location for the installation of the new EVCS.*

In addition to the upfront cost of the equipment, the Town also prepaid for 5-years' worth of software upgrades, service, and support, to receive more favorable pricing on these services. Assuming the Town procures and activates its planned 15 charging stations, on an average annual basis, these ongoing services will cost the Town approximately \$16,200 per year.

Adding the noted cost components together means that, in simple terms, the Town will spend approximately \$29,800 per year over the next 10 years to provide the planned EV charging infrastructure.

## Anticipated Annual Financial Impact of Providing EV Charging

After accounting for potential net revenue that could be generated by the Town's EVCS, it is estimated that the average annual cost to provide the planned EV charging infrastructure will be approximately \$23,300 per year. However, if the actual paid charging activity is greater than estimated by Walker, this annual loss would narrow. Additionally, if the useful life of the EVCS extends beyond 10 years, the average annual loss would also be reduced.

## Other Potential Costs of EVCS Ownership

While the above financial impact analysis considers the cost of maintaining the Town's EVCS over time, these service agreements only cover routine maintenance and upkeep of the EVCS and not damage due to vandalism, vehicle strikes, and other incidents. To help limit necessary repairs that would not be covered by the service agreements, it is recommended that the Town's EVCS be protected by bollards to prevent damage from vehicles

and that they be located in well-illuminated areas to help prevent vandalism. The Town should also consider 24-hour surveillance for the safety of EVCS users and to help reduce any potential for vandalism.

Lighting and security upgrades are not included in the cost estimates used in this analysis, nor is any assumption of future repairs that fall outside of the repairs covered by the pre-paid service agreements.

04

Procurement Options for  
Electric Vehicle Charging  
Stations

# Procurement Options for EV Charging Stations

The following section presents high-level information regarding the various methods available to procure EV charging equipment from several of the major charging station vendors. This is by no means an all-inclusive accounting of the EV charging equipment vendors in the U.S. or all the potential methods by which this type of equipment can be procured.

Walker reached out to contacts at several large vendors of EV charging stations in the U.S. including ChargePoint, the provider of the new EVCS installed at Gilbert Town Hall, Blink Charging, and Tesla. These three EVCS providers each have a significant presence in the Phoenix market, including in the peer cities examined by Walker. Additionally, ChargePoint is the largest provider of publicly accessible EV charging ports in the U.S., accounting for approximately 42 percent of this market (60,201 ports) as of the second quarter of 2023, per the U.S. Department of Energy<sup>9</sup>.

The below summary of potential procurement options was developed based on information provided by these vendors, as well as information available from independent sources.

Based on advice from Walker provided before the completion of this study, the new Town Hall EVCS (ChargePoint CT4000 Level II charging stations) were procured using the “Outright Purchase” procurement option, described below.

---

<sup>9</sup> [https://afdc.energy.gov/files/u/publication/electric\\_vehicle\\_charging\\_infrastructure\\_trends\\_second\\_quarter\\_2023.pdf](https://afdc.energy.gov/files/u/publication/electric_vehicle_charging_infrastructure_trends_second_quarter_2023.pdf)

Table 6 Summary of Electric Vehicle Charging Station Procurement Options

Procurement Option	Description	Pros	Cons
<b>Outright Purchase</b>	Property owner purchases EVCS and pays upfront for the equipment. Multi-year agreements for software upgrades, support, and maintenance can be paid for upfront or paid for annually.	<p>Long-Term Cost Savings: The initial investment is higher, but buying is nearly always more cost-effective in the long run.</p> <p>Flexibility: Flexibility to use the equipment as the owner sees fit without the constraints of a lease agreement.</p> <p>Asset Value: Equipment can be listed as an asset on the owner's balance sheet.</p> <p>Revenue Sharing: Typically low or no revenue sharing requirements; owner keeps all or nearly all revenue generated.</p>	<p>Higher Initial Costs: Purchasing equipment typically requires a substantial upfront investment.</p> <p>Depreciation: The value of the equipment decreases over time, which will need to be reflected in the owner's financial results.</p> <p>Technology Obsolescence: Purchased equipment may become outdated more quickly than leased equipment.</p> <p>Maintenance Costs: If no ongoing maintenance agreement is in place, the owner is responsible for all maintenance and repair costs.</p>
<b>Installment Purchase</b>	Property owner purchases EVCS and pays for the purchase in monthly installments, potentially over several years. Multi-year agreements for software upgrades, support, and maintenance can be paid for upfront or paid for annually.	<p>Lower Initial Costs: Equipment is paid for over time, so a single, large expense is not incurred at once.</p> <p>Additional "pros" similar to an Outright Purchase.</p>	<p>Higher Ongoing Costs: The owner pays interest on the purchase until the balance is paid in full.</p> <p>Additional "cons" similar to an Outright Purchase.</p>
<b>Lease</b>	Property owner leases EVCS and makes periodic lease payments over several years. Typically, the lease payment includes the cost of ongoing software upgrades, service, and maintenance. At the end of the term, the property owner has the option to renew the lease or purchase new equipment.	<p>Lower Initial Costs: Leasing often requires less upfront capital compared to purchasing.</p> <p>Up-to-Date Technology: Leasing allows owner to upgrade to newer equipment at the end of the lease term.</p> <p>Maintenance Included: Some leases include maintenance and service, relieving the owner of the responsibility for repair costs and downtime.</p> <p>Tax Benefits: Lease payments are typically considered operational expenses and may be tax-deductible.</p> <p>Flexibility: Leasing provides flexibility in terms of the duration of the lease and the ability to return or buy the equipment at the end of the lease term.</p> <p>Revenue Sharing: Typically low or no revenue sharing requirements; owner keeps all or nearly all revenue generated.</p>	<p>Total Cost: Over the long term, leasing is typically more expensive than buying because financing costs are added to the base price of the equipment.</p> <p>No Ownership: At the end of the lease term, the equipment reverts back to the vendor.</p> <p>Restrictions: Leases often come with restrictions on an owner can use the equipment and deviating from those terms may result in additional charges.</p>
<b>Vendor Owned</b>	Property owner makes the site ready to accept the EVCS, then the vendor installs, operates, and maintains the station for the term of the agreement.	<p>Lowest Initial Cost: Upfront cost to the owner limited to site preparation.</p> <p>Up-to-Date Technology: Vendor likely to upgrade technology as newer versions are developed.</p> <p>Maintenance Included: Vendor pays all maintenance costs and ensures equipment remains functional.</p> <p>Limited Flexibility: Potential to terminate the arrangement early for compensation to the vendor.</p>	<p>No Ownership: The property owner does not own the equipment, which the vendor can remove at the end of the term if the agreement is not extended.</p> <p>Lack of Control: Vendor sets the cost of charging.</p> <p>Revenue Sharing: Most revenue generated by the equipment goes to the vendor and not the property owner.</p> <p>Agreement Term: Terms may exceed five years, with a cost to terminate the agreement early.</p>

Source: Walker Consultants; EVCS Vendors



05


EV Charging References in  
Town Plans and Other  
Documents

## Previous EV-Related Plans and Projects

In addition to this policy document, the Town has completed several other planning efforts and other projects that address, to some degree, the need to prepare for the expected increase in the demand for EV charging. Below is a summary of these past efforts including excerpts from the associated reports highlighting EV charging-related recommendations.

### Gilbert Transportation Master Plan

Completed in August 2022, the *Gilbert Transportation Master Plan* “...represents a 20-year vision and serves as a roadmap for rethinking our transportation system so everyone can safely and comfortably drive, walk, bike, or ride.” Among the recommendations for improving how people move through and around Gilbert was a reference to EVs in the “Programs and Policy” recommendations on page 147 of the document. The below excerpt was taken directly from the *Master Plan* report.

Program/Policy	Description	Recommended Initial Action Items	Priority
<b>Vehicle Electrification</b>	Vehicle electrification is the transition from fuel-powered internal combustion vehicles to those powered by electricity. To prepare for transitioning to electric vehicles, consider developing infrastructure and policies.	<ul style="list-style-type: none"> <li>Update Gilbert’s Land Development Code to require and/or incentivize installation of electric vehicle charging stations in new developments.</li> <li>Inventory town-owned parking garages to identify opportunities to incorporate charging stations.</li> <li>Coordinate with utility companies and Valley Metro</li> </ul>	 <b>Mid-Term</b>

Source: *Gilbert Transportation Master Plan*, August 2022.

Among the recommended action items related to EV charging was a directive to examine updating Gilbert’s Land Development Code “...to require and/or incentivize...” developers to provide EVCS in new development projects. Progress toward implementing this portion of the recommendation has already been made by the Town, as detailed below.

In addition to the above, Appendix E of the *Master Plan* included a recommendation that the Town look for opportunities to replace existing ICE fleet vehicles with EVs and that the Town work with Valley Metro on their transition to electric buses.

### Updates to Parking Requirements and Standards

As part of the Town’s effort to update its Land Development Code, an effort was undertaken to address needed updates to the various parking requirements contained in the Code. In addition to addressing minimum parking requirements, the design of parking areas, opportunities for parking reductions, and improvements to administrative processes related to parking requirements, the *Updates to Parking Requirements and Standards: Strategies Report*, completed in April 2023, made recommendations related to the number of EV Capable and

EVCS Installed parking spaces that should be required for new multi-family and commercial/mixed-use developments. The *Strategies Report* also included recommended design standards for EV charging spaces.

As of the date of this document, the EV-related recommendations contained in the *Strategies Report* have not been adopted by the Town.

The below excerpts highlight the EV charging-related recommendations contained within the *Strategies Report*.

Total Parking Required (1)	Multifamily Residential		Commercial/Mixed-Use/Employment	
	% EV Capable (2)	# Stalls with EVCS Installed	% EV Capable	# Stalls with EVCS Installed
1-25 Spaces	35%	2	25%	1
26-50 Spaces	34%	4	23%	2
51-75	33%	6	22%	3
76-100	32%	8	21%	4
101-150	31%	10	20%	5
151-200	30%	12	19%	6
201-300	28%	14	18%	7
201-350	26%	16	16%	8
351-400	24%	18	14%	9
401-500	22%	20	12%	10
501+	25%	4%	10%	2%

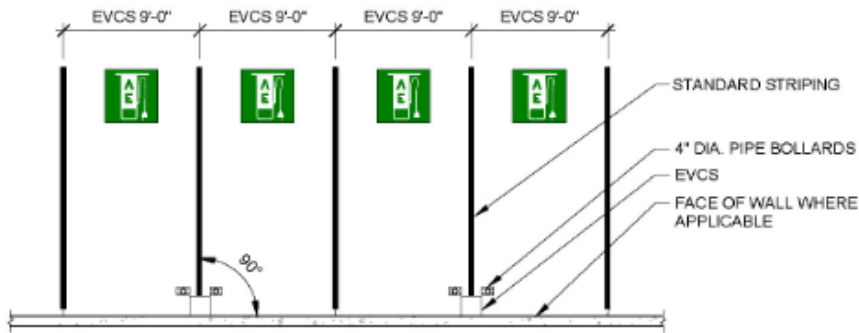
(1) After any applicable reductions approved by the Town

(2) Equipped with electrical service needed to power an Electric Vehicle Charging Station (EVCS)

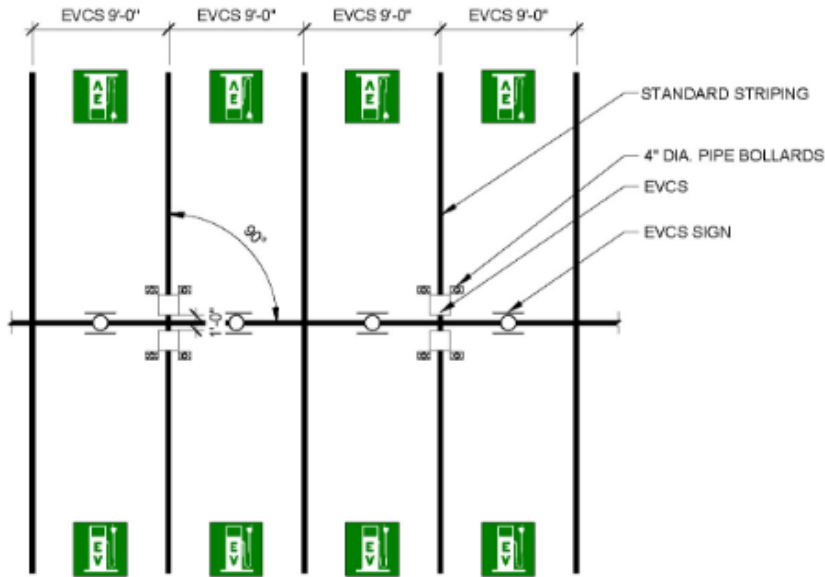
Source: *Updates to Parking Requirements and Standards: Strategies Report, April 2023.*

**E-2: Require all EV Capable and EVCS stalls to adhere to parking design standards and disallow “compact” EV stalls under 8’ 6”.**

Source: *Updates to Parking Requirements and Standards: Strategies Report, April 2023.*

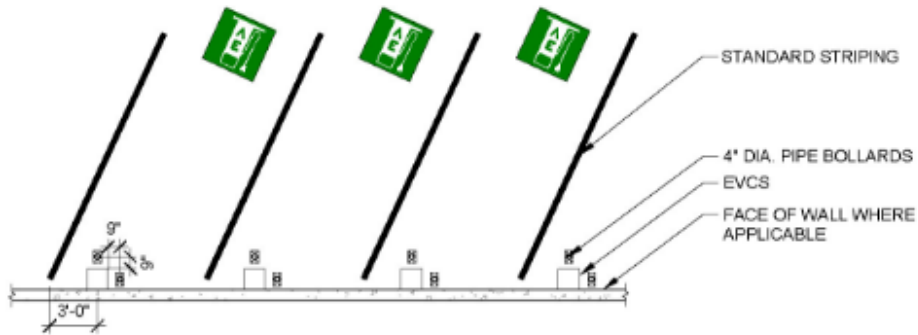


EV Signage for Standard 90 degree Parking Stalls

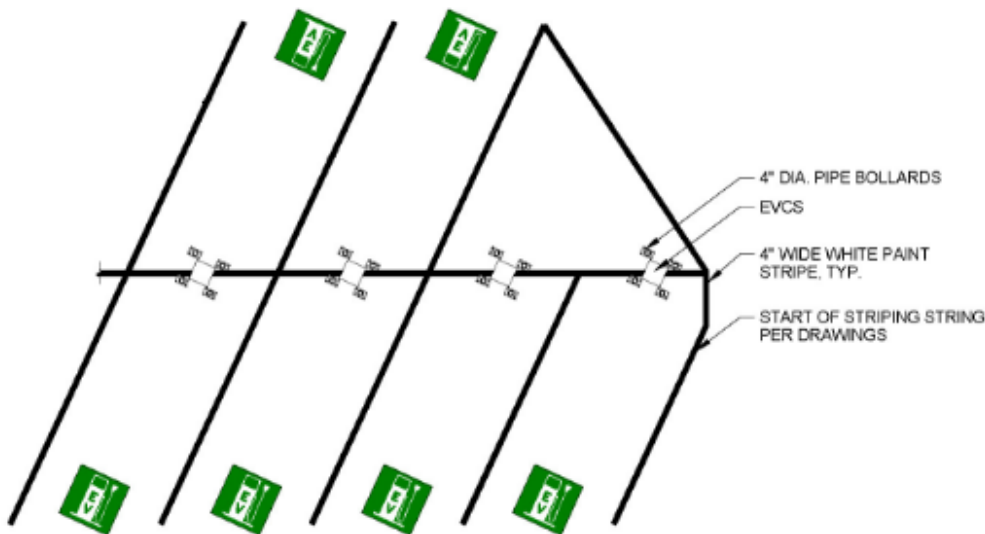


EV Signage for Standard 90 degree Parking Stalls

Source: Updates to Parking Requirements and Standards: Strategies Report, April 2023.

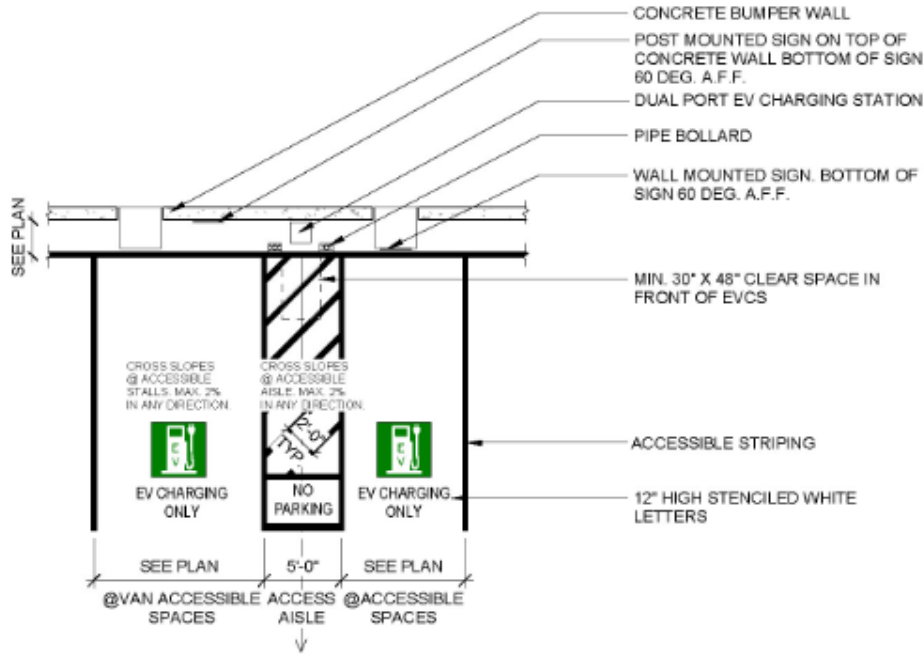


EV Signage for Standard Angled Parking Stalls

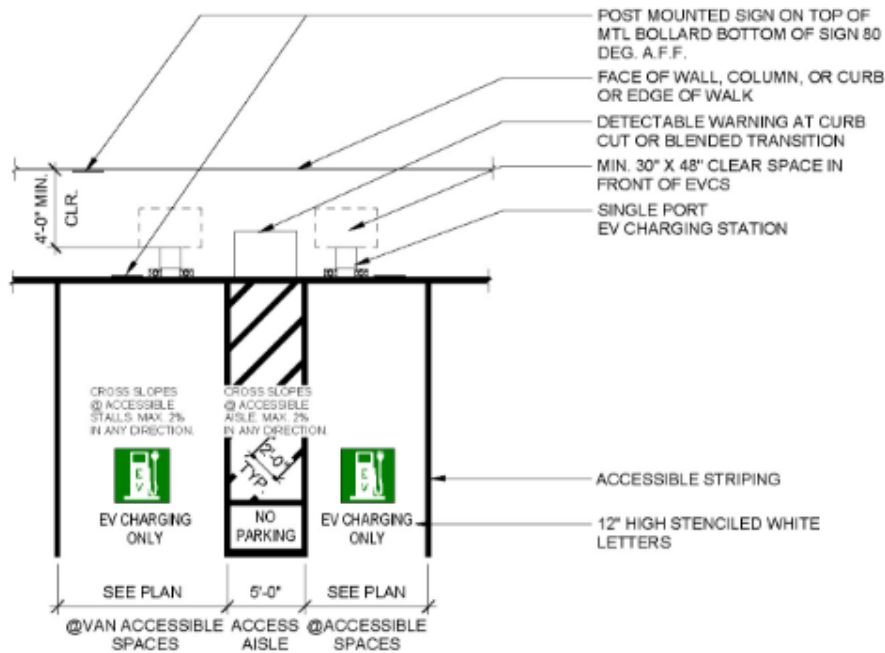


EV Signage for Standard Angled Parking Stalls

Source: Updates to Parking Requirements and Standards: Strategies Report, April 2023

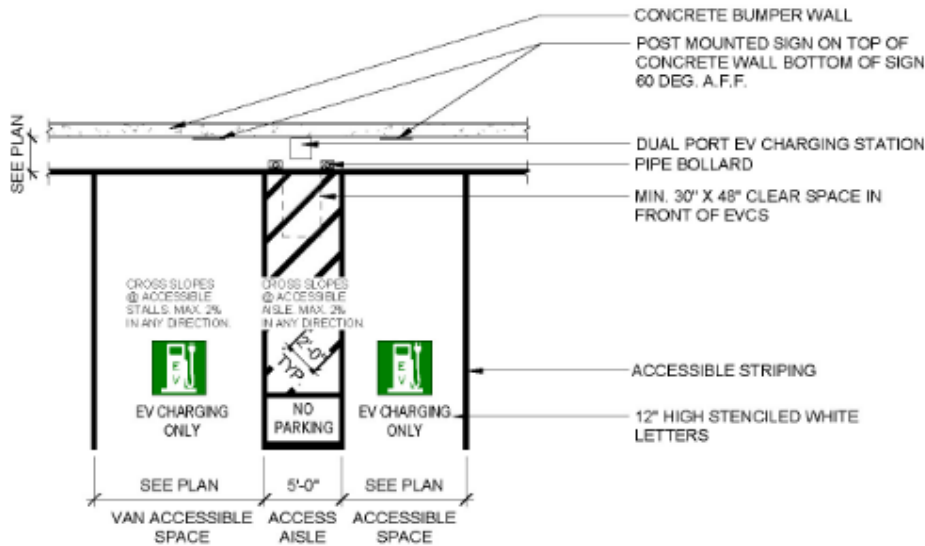


EV Signage for ADA Parking Stalls



EV Signage for ADA Parking Stalls

Source: Updates to Parking Requirements and Standards: Strategies Report, April 2023



EV Signage for ADA Parking Stalls

Source: *Updates to Parking Requirements and Standards: Strategies Report, April 2023*

## Heritage District Parking Master Plan

Completed in February 2021, the *Heritage District Parking Master Plan* was an effort by the Town to quantify and plan for expected future parking needs in the Heritage District. The *Plan* identified existing issues with localized parking shortages and projected that a significant parking shortage could occur if planned new development in the District were to occur as expected. Recommendations were made related to how best to manage parking in the District to ensure equitable access for all user groups including patrons, employees, residents, and visitors.

In terms of EV charging infrastructure, the *Plan* briefly mentions the need to include new EVCS in any new parking facilities constructed in the District, while also providing guidance on the potential number of EV charging spaces to provide. Additionally, the document discusses the benefits of placing EVCS in off-street parking facilities versus along the curb to serve on-street parking spaces.

As of the date of this document, an update to the *Heritage District Parking Master Plan* was underway.