



Land Use

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BOULDER COUNTY PLANNING COMMISSION

AGENDA ITEM #4

Wednesday, November 15, 2017, at 1:30 p.m.

Commissioners' Hearing Room, Third Floor
Boulder County Courthouse, 1325 Pearl Street, Boulder, CO

PUBLIC HEARING

Docket DC-17-0002: Proposed Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations

Staff: Amy Oeth, Planner II, Land Use Department
Sinead O'Dwyer, Planner I, Land Use Department

AGENDA

1. Staff presentation
2. Planning Commission questions for staff
3. Public Comment (3 minute allowance per individual speaker)
4. Planning Commission Discussion and Recommendation

INTRODUCTION

On August 22, 2017, the Board of County Commissioners authorized Land Use staff to pursue text amendments to the Boulder County Land Use Code specific to parking-related uses and regulations. Staff had identified a need for a use definition that allows offsite parking in areas where onsite parking is constrained and where allowing offsite parking facilities would help maintain the character and function of the area. Staff proposes replacing the transportation use for *Park and Ride Facility* in Article 4-513 with a *Multimodal Parking Facility* use. This update also proposes moving the overarching parking requirements in Article 4-500 to an accessory *Parking* use in Article 4-516. The new *Parking* accessory use would not change specific parking space requirements for individual uses.

ACTION REQUESTED

Staff requests that the Planning Commission: **recommend that the Board of County Commissioners APPROVE Docket DC-17-0002: Proposed Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations; and certify the docket for action to the Board which certification includes the approved text of the docket and the official record of the docket before the Commission with the staff comments, public testimony, and Commission discussion and action.**

CONTENTS

Section	Description	Pages
Section I	Summary of Proposed Land Use Code Changes	2-3
Section II	Staff Process	3-5
Section III	References	5-6
Section IV	Referrals and Comments	6
Section V	Conclusion	6
Attachment A	Proposed Text Amendments to Articles 4-500, 4-513, and 4-516 of the Boulder County Land Use Code concerning parking	A1-4
Attachment B	Electric Vehicles and Charging Infrastructure in Boulder County: A report on requiring EV charging stations in the Boulder County Land Use Code	B1-31
Attachment C	Referral and Public Comments	C1-60

I. SUMMARY OF PROPOSED LAND USE CODE CHANGES

The proposed update changes and expands upon the existing parking-related use definitions and re-organizes the location of some parking-related provisions within the code. The update proposes to:

- Replace 4-513.D Park and Ride Facility with 4-513.D Multimodal Parking Facility
 - The proposed update changes the name of the current *Park and Ride Facility* use definition, to *Multimodal Parking Facility* to reflect that the use can apply to more than just Park and Ride-type applications. As a primary use, this use definition remains within the “Transportation Uses” section of the Code.
 - In addition to expanding the use definition to allow offsite parking in areas where offsite parking facilities would help maintain the character and function of the area such as existing developed townsites, staff expanded the provisions in this use. The new provisions better align the code with the county’s transportation and sustainability goals and policies.
 - The proposed revised text also references meeting the provisions of Boulder County’s Multimodal Standards to provide clarity regarding expectations.
- Replace the overarching parking requirements in 4-500 and with an accessory parking use in 4-516
 - The current version of the code includes a standard parking definition at the beginning of the Code’s section on Use Regulations (4-500). In this current location it is not clear that all parking, with the exception of the narrowly-defined Park and Ride / Multimodal Parking Facility use, is intended to be accessory to a primary use. This shift improves Code organization and usability as it is a more logical and appropriate location for information on an accessory use.
 - Consistent with the Multimodal Parking Facility use, the new provisions expand the code to better align with the county’s transportation and sustainability-related goals and policies.
 - The proposal also references meeting the provisions of Boulder County’s Multimodal Standards to provide clarity regarding expectations.

Detailed proposed code changes are presented in **Attachment A**.

II. STAFF PROCESS

A. Summary

Developing this code proposal was a collaborative effort between Boulder County Land Use, Transportation, and Sustainability staff. A draft was sent out for referrals on September 26, 2017.

Electric Vehicle Charging Station Research

Staff extensively researched the land use impacts of development associated with the two proposed uses, as well the ways that electric vehicle (EV) charging stations mitigate those impacts. This included reviewing literature and other codes, interviewing staff in cities with adopted requirements, interviewing subject area experts, and analyzing a wealth of other information. A full report exploring development impacts in unincorporated Boulder County, EVs, EV service equipment (EVSE) or charging stations, and land use implications of requiring electric vehicle infrastructure is included as **Attachment B. Exhibit A** of the EV report contains a summary of EVSE requirements in other codes.

In summary, staff concludes:

Standard gasoline and diesel powered vehicles or internal combustion engine vehicles (ICEV) in the Denver Metro area emit significantly more air and water pollutants than electric vehicles (EV). These pollutants degrade air and water quality and are a threat to public health. Including the emissions from the electric generating stations powering them, EV produce less carbon dioxide, nitrous oxides, volatile organic compounds, and transitively less ozone than ICEV. The deposition of ICEV emissions and motor oil leakage on parking lots degrades water quality.

New developments directly increase vehicle usage, emissions, and pollutants from parking lot runoff. Dedicated electric vehicle supply equipment (EVSE) or charging station parking spaces will offset the impact of ICEV by replacing ICEV with EV. It stands to reason that the presence of electric vehicle charging stations will encourage EV owners to drive their EV instead of an ICEV to destinations. Additionally, the presence of the EVSE will promote adoption of EV, eventually replacing more ICEV with EV. The presence of EVSE at new developments in Boulder County will offset the impact of ICEV at those developments and have a net positive benefit on air and water quality.

B. Staff's analysis of and response to referral comments:

Staff received questions and suggestions during the referral process. Staff considered the comments by topic area as outlined below. All comments received through 4:00pm November 7, 2017 are included in **Attachment C**.

Application of the *Multimodal Parking Facility* use versus the accessory *Parking* use

The *Multimodal Parking Facility* use only would apply when parking is the primary use on the parcel. This use would apply to facilities that serve a 'park and ride' function, and to offsite parking lots in areas where onsite parking is constrained and offsite parking would help maintain the character and function of the area.

The accessory *Parking* use would apply to parcels for which the permanent primary use is something other than parking, such as commercial and office uses, trailheads, industrial uses,

lodging, and community uses. Currently, the parking regulations in 4-500 address these primary uses.

Why is there an exemption for open space parcels that have an open space management plan accepted by the Board of County Commissioners (BOCC)?

For county-owned open space parcels, Boulder County Parks and Open Space (POS) must develop open space management plans that address parking and that are approved by the BOCC. As this process is similar to the Land Use Department's review processes, POS is exempt from review under the proposed sections. Other county Land Use Code requirements also exempt POS parcels for the same reason.

How do the proposed updates incorporate CDOT's role in reviewing parking and traffic considerations on state highways?

The county's Multimodal Transportation Standards require referrals to CDOT where developments affect state roads.

Following receipt of comments on the code referral draft, staff revised the language in provisions 4-513.D.4.c and 4-516.W.5.b, which contain the same language, to ensure development meets all applicable provisions in the Multimodal Transportation Standards: *The parking facility must meet all applicable ~~the provisions of the Article 5 of the Boulder County Multimodal Transportation Standards.~~* Previously, the provisions only referred to Article 5 in the Multimodal Provisions as Article 5 includes parking lot design.

How are the Multimodal Transportation Standards currently applied?

The Transportation Department reviews land use proposals with transportation-related impacts. The standards are the basis for that review. Therefore, this proposed code update codifies the existing relationship between the Transportation Department and development review.

How did staff arrive at the requirement for one EV charging station for the first 15 spaces and one for each set of 25 parking spaces above that?

Staff performed a detailed study of issues related to impacts of development associated with the proposed uses and the benefits of adding EV charging stations to mitigate those impacts. Staff concluded that the proposed EVSE requirements are of the appropriate scale and scope to mitigate the impacts of development in unincorporated Boulder County.

Staff also reviewed other municipal and building codes with EV charging station installation requirements. The proposed requirement is similar to that adopted by other jurisdictions. The proposed Electric Vehicle Charging Fund will also allow the Director to determine if a site is not suitable for EVSE, and charge a fee in lieu of requiring installation of charging equipment.

What is the timeline for the development of the Electric Vehicle Charging Fund standards?

Within the proposed provisions, the Electric Vehicle Charging Fund referenced is a payment-in-lieu program applicable to sites that are not suitable for an EV charging station. This program is currently in development and the fees will be relative to the impacts of the proposed development. The funds collected in this program would be used to upgrade

stations from Level 2 to Level 3 or install more stations at more suitable locations in the county. If these regulations are adopted the County staff will develop this implementation measure and have it in place prior to the effective date of the regulations.

There other examples of instances in which Boulder County has adopted code language with reference to programs that are still in development when it is clear that such a program is material to the effectiveness of the proposed code. Examples includes the property transfer regulations referenced in Article 19-300(D)(6)(d) and the TDC program language in Article 4.

One Level 3 charger could have more benefit than two Level 2 chargers. There was a suggestion to include language to incentivize Level 3 equipment by reducing the requirement if a Level 3 is installed.

The suggested language was incorporated.

Detailed suggestions for low-impact parking lot development and stormwater management standards

Land Use and Transportation staff discussed the ideas regarding low-impact development and stormwater management and decided detailed standards for low-impact development are more appropriate to add to the county's Multimodal Transportation Standards. Since the Transportation Department intends to update these standards in the next two years and include low-impact development mechanisms, staff limited the amount of detail in this provision. Staff did add a provision requiring a 5% interior landscaping requirement for surface parking lots with 50 or more vehicular parking spaces. When the Multimodal Transportation Standards are updated, staff will review the Land Use Code requirements for alignment and reduction of overlap.

III. REFERENCES

To develop the language used in this code amendment, staff reviewed the following materials:

- Boulder County Building Code
- Boulder County Land Use Code
- Boulder County Multimodal Standards
- Example codes and/or interviewed staff from over 20 jurisdictions¹
- Santa Monica, CA
- Schaal, Eric. (2016, May). How to Choose the Best Locations for Public EV Charging. Retrieved from <http://www.fleetcarma.com/ev-charging-stations-choosing-best-locations/>
- McCauley, Ryan. (2017, June). Building Out Electric Vehicle Infrastructure: Where are the Best Locations for Charging Stations? Retrieved from <http://www.govtech.com/fs/Building-Out-Electric-Vehicle-Infrastructure-Where-Are-the-Best-Locations-for-Charging-Stations.html>
- U.S. Department of Energy. (2014, November). ADA Requirements for Workplace Charging Installation – Guidance in Complying with American Disabilities Act Requirements. Retrieved from

¹ Boulder, CO; Bellevue, WA; Chino, CA; Chittenden County, VT; Contra Costa County, CA; Coupeville, WA; Denver, CO; Fremont, CA; Hartford, CT; Indianapolis, IN; Kane County, IL; King County, WA; Lancaster, CA; Louisville, CO; Menlo Park, CA; Mountlake Terrace, WA; Palo Alto, CA; Provo, UT; Salt Lake City, UT; Santa Cruz, CA; Santa Monica, CA; Santa Cruz, CA; University of Houston, TX Design Guidelines; Vancouver, Canada Building Code

https://www.afdc.energy.gov/uploads/publication/WPCC_complyingwithADArequirements_1114.pdf

References specific to the EV study are included within the report (**Attachment B**).

IV. REFERRALS AND PUBLIC COMMENTS

The public has been notified of the proposed Land Use Code text amendments through the following forms:

- September 26, 2017 – Formal referral sent via email and postal service to applicable County referral agencies.
- September 26, 2017 – Docket information including a draft of the text amendments was posted to the DC-17-0002 webpage at: <https://www.bouldercounty.org/property-and-land/land-use/planning/land-use-code-update/dc-17-0002/>
- October 30, 2017 – Public notice for the November 15, 2017 Boulder County Planning Commission Hearing was posted in the Daily Camera. Public comment will be taken at this hearing.
- November 2, 2017 – The Planning Commission Agenda for Wednesday, November 15, 2017 – Public notice for the November Planning Commission meeting was sent to the email recipients who are subscribers to the Boulder Valley Comprehensive Plan, Planning Commission Agendas, or Boulder County Land Use Code lists.
- November 8, 2017 – The staff recommendation for the November 15, 2017 Planning Commission meeting including a draft of the revised proposed text amendments was posted to the DC-17-0002 webpage at: <https://www.bouldercounty.org/property-and-land/land-use/planning/land-use-code-update/dc-17-0002/>

All comments received through 4:00pm November 7, 2017 are included in **Attachment C**.

V. CONCLUSION

A. Text Amendment Criteria Analysis

Article 16-100.B. contains the criteria for amending the text of the Land use Code. Staff finds that the proposed amendments in this Docket meet the criteria.

- The existing text is in need of amendment because the present regulations do not offer a primary use for offsite parking in areas where onsite parking is constrained and where the allowance of offsite parking facilities would help maintain the character and function of the area. The accessory parking regulations are in need of an update to provide additional detail for parking requirements.
- The amendments are not contrary to the intent or purpose of the Code.
- The updates better align the Code with the goals and policies in the Boulder County Comprehensive Plan and other county master plans.

B. Staff Recommendation

Staff recommends the Planning Commission: **recommend that the Board of County Commissioners APPROVE Docket DC-17-0002: Proposed Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations and certify the docket for action to the Board which certification includes the approved text of the docket and the official record of the docket before the Commission with the staff comments, public testimony, and Commission discussion and action.**

DC-17-0002 - Proposed Boulder County Land Use Code changes in relation to parking.

Notes:

- Proposed changes are located in Articles 4-513 and 4-516.
- Underlined text delineates proposed new language.
- Text proposed for removal is identified with a strikethrough.

Article 4-513 Transportation Uses

Delete existing use

~~D. Park and Ride Facility~~

- ~~1. Definition: A parking area and transit facility the purpose of which is to allow the parking of motor vehicles with a connection to mass transit service.~~
- ~~2. Districts Permitted: By Special Review in all districts~~
- ~~3. Parking Requirements: To be determined through Special Review~~
- ~~4. Loading requirements: none~~
- ~~5. Additional Provisions: none~~

Replace with new use

D. ~~Park and Ride~~ Multimodal Parking Facility

1. Definitions: A public parking area and transit facility the purpose of which is to allow the parking of motor automotive vehicles and non-automotive modes to connect with a connection to mass transit, shuttle services, or rideshare programs; or a public parking area to allow the parking of automotive and non-automotive modes to service an area of public significance such as existing townsites, open space, and areas which have cultural, environmental, or historical value, where provision of on-site parking is constrained and allowing off-site parking facilities would help maintain the character and function of the area or district served.
2. Districts Permitted: In all districts, by Limited Impact Special Review for lots with less than 15 automotive parking spaces or by Special Review for lots with 15 or more automotive parking spaces.
3. Loading requirements: ~~none~~ To be determined through Special Review or Limited Impact Special Review
4. Additional Provisions: ~~none~~
 - a. This use is not required to be located on a building lot or comply with the minimum lot size requirement for the district in which it is located.
 - b. Parking for uses on open space parcels controlled by a government entity shall not require review under this section if the parking lot is in accordance with an open space management plan approved by the Board of County Commissioners.
 - c. The parking facility must meet all applicable provisions of the Boulder County Multimodal Transportation Standards.

- d. Electric vehicle service equipment or electric vehicle supply equipment (“EVSE”), also referred to as a charging station, must be provided for new or expanded parking lots that total 15 or more automotive parking spaces.
 - (i) On-site installation may not be required if a more suitable location is appropriate. Factors to be considered in determining suitability are land use impacts, proximity to employment areas, townsites or historical areas, existing or planned EVSE infrastructure in the area, electric infrastructure on-site and nearby, and location in relation to arterial roadways. For cases in which on-site installation is not required, the applicant shall be subject to the *Electric Vehicle Charging Fund* standards, as adopted by the Board of County Commissioners.
 - (ii) A Level 2 or Level 3 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required for the first 15 automotive parking spaces. If no Level 3 EVSE is installed then for each additional 25 automotive parking spaces, one additional Level 2 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required. If Level 3 EVSE is installed, then no additional EVSE is required.
 - (iii) For ease of use, parking spaces with an EVSE shall be designated for electric vehicle charging, and stations are required to register with an electric vehicle charging information network.
- e. Internal traffic circulation systems shall be designed to mitigate conflicts between vehicular, bicycle, and pedestrian traffic. Pedestrian paths or sidewalks will connect to transit or shuttle stops, and the public area served. When an area of public significance is served, pedestrian walkways or sidewalks on the parcel will connect to existing or planned walkways to the area being served.
- f. For surface lots with 50 or more automotive parking spaces, interior landscaping must cover at least 5% of the parking area.
- g. Lighting shall comply with Article 7-1600 Outdoor Lighting of the Boulder County Land Use Code. Additional restrictions on quantity of lights, hours of operation, and lighting locations may be determined through the applicable review process.
- h. A stormwater management plan or drainage plan is required for final design and construction.
- i. Rideshare requirements will be determined during review. Depending on the location and use of the multimodal parking facility, designated parking spots for rideshare vehicles may be required.

Article 4-516 Accessory Uses

Remove Parking from Article 4-500

~~4-500~~

~~V. Parking~~

- ~~1. The quantity and location of vehicle parking shall be appropriate for the site and use characteristics. A deviation in the number of required parking spaces as described in each use classification may be appropriate based on the specific circumstances of the proposal including but not limited to available on-street parking, seasonal or temporary needs for parking, shared parking agreements, reliance on alternative modes or other transportation demand management strategies.~~
- ~~2. A parking area may be shared to meet the parking requirements provided a signed agreement of sufficient length of time is provided. Revocation of the agreement will result in the loss of the dependent use until that use has provided adequate parking through other means.~~
- ~~3. For multiuse facilities, the parking for the most intensive use as defined in by the Land Use Department shall control.~~

Replace with new accessory use

~~4-500516~~

W. Parking

1. Definition: A permanent parking area
2. Districts Permitted: By right in all districts, subject to the additional provisions below and any specific provisions associated with the property's principal use.
3. Parking Requirements
 - a. The quantity and location of vehicle parking shall be appropriate for the use and site and use characteristics. A deviation in ~~Deviating from~~ the number of required automotive parking spaces as described in each use classification may be appropriate based on the specific circumstances of ~~the a~~ proposal including without limitation but not limited to available on-street parking, seasonal or temporary needs for parking, shared parking agreements, reliance on alternative modes or other transportation demand management strategies.
 - b. A parking area may be shared to meet the parking requirements, ~~provided a signed~~ sufficient, binding agreement for the duration the parking area will be shared is required. of sufficient length of time is provided. Revocation of the agreement will result in the loss of the dependent use until that use has provided adequate parking through other means.
 - c. For multiuse facilities, the parking for the most intensive use as defined in ~~by~~ the Land Use Department shall control.
4. Loading requirements: ~~none~~ As needed for primary use requirements
5. Additional Provisions:

- a. Parking for uses on open space parcels controlled by a government entity shall not require review under this code if the parking lot is in accordance with an open space management plan approved by the Board of County Commissioners.
- b. The parking facility must meet all applicable provisions of the Boulder County Multimodal Transportation Standards.
- c. Electric vehicle service equipment or electric vehicle supply equipment (“EVSE”), also referred to as a charging station, must be provided for new or expanded parking lots that total 15 or more automotive parking spaces.
 - (i) On-site installation may not be required if a more suitable location is appropriate. Factors to be considered in determining suitability are land use impacts, proximity to employment areas, townsites or historical areas, existing or planned EVSE infrastructure in the area, electric infrastructure on-site and nearby, and location in relation to arterial roadways. For cases in which on-site installation is not required, the applicant shall be subject to the *Electric Vehicle Charging Fund* standards, as adopted by the Board of County Commissioners.
 - (ii) A Level 2 or Level 3 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required for the first 15 automotive parking spaces. If no Level 3 EVSE is installed then for each additional 25 automotive parking spaces, one additional Level 2 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required. If Level 3 EVSE is installed, then no additional EVSE is required.
 - (iii) For ease of use, parking spaces with an EVSE shall be designated for electric vehicle charging, and stations are recommended to register with an electric vehicle charging information network.
- d. Internal traffic circulation systems shall be designed to avoid conflicts between vehicular, bicycle, and pedestrian traffic. Pedestrian paths or sidewalks will connect to the area being served.
- e. For surface lots with 50 or more automotive parking spaces, interior landscaping must cover at least 5% of the parking area.
- f. Lighting shall comply with Article 7-1600 Outdoor Lighting of the Boulder County Land Use Code. Additional restrictions on quantity of lights, hours of operation and lighting locations may be determined through the applicable review process.
- g. A stormwater management plan or drainage plan is required for final design and construction.
- h. For uses applying Transportation Demand Management strategies, areas reserved for rideshare vehicles shall have markings and signs indicating that the space is reserved for a rideshare vehicle.

BOULDER COUNTY LAND USE

Electric Vehicles and Charging Infrastructure in Boulder County

Requiring EV charging stations in the
Boulder County Land Use Code

Sinead O'Dwyer, Amy Oeth, Ron Flax, Nicole Wobus, Dale Case

11/8/2017

Contents

Summary	2
Introduction	3
Background.....	5
Electric Vehicles.....	5
Electric Vehicle Supply Equipment.....	8
Impacts of Development and Electric Vehicle Infrastructure	8
Development Trends.....	9
Air Quality in the Denver Metro Area and Boulder County.....	9
Water Quality.....	12
Opportunities for Renewable Energy Battery Storage.....	14
Economic Benefits of EV Infrastructure.....	14
Considerations for EVSE Installation and Boulder County Requirements	15
Installation Costs.....	15
Electricity Demands.....	16
Policies Supporting EV Infrastructure	16
Boulder County Comprehensive Plan.....	16
2008 Boulder County Sustainable Energy Plan.....	18
2012 Boulder County Environmental Sustainability Plan	18
U.S. Department of Energy- EV Everywhere.....	19
DRCOG MetroVision 2035	19
Grant Opportunities through Charge Ahead Colorado	20
Code Language Examples from Other Jurisdictions	20
Recommendations	22
EVSE Installation Requirement.....	22
Electric Vehicle Charging Fund.....	23
Additional Recommended Actions	24
Battery Reuse and Recycling	24
Conclusion	24
Table of Acronyms	26

SUMMARY

Standard gasoline and diesel powered vehicles or internal combustion engine vehicles (ICEV) in the Denver Metro area emit significantly more air and water pollutants than electric vehicles (EV). These pollutants degrade air and water quality and are a threat to public health. Including the emissions from the electric generating stations powering them, EV produce less carbon dioxide, nitrous oxides, volatile organic compounds, and transitively less ozone than ICEV. The deposition of ICEV emissions and motor oil leakage on parking lots degrades water quality.

New developments directly increase vehicle usage, emissions, and pollutants from parking lot runoff. Dedicated electric vehicle supply equipment (EVSE) or charging station parking spaces will offset the impact of ICEV by replacing ICEV with EV. It stands to reason that the presence of electric vehicle charging stations will encourage EV owners to drive their EV instead of an ICEV to destinations. Additionally, the presence of the EVSE will promote adoption of EV, eventually replacing more ICEV with EV. The presence of EVSE at new developments in Boulder County will offset the impact of ICEV at those developments and have a net positive benefit on air and water quality.

INTRODUCTION

Boulder County is proposing Land Use Code updates that would include requirements for EV charging stations, with the option of payment into an Electric Vehicle Charging Fund, in-lieu of installation where installation on a particular site is not suitable. The county expects to use the Electric Vehicle Charging Fund to strategically install fast-charging stations at critical locations. This study is an exploration of the land use implications of requiring EVSE.

Building Code

Under the guidance of the 2015 International Residential Code (IRC) building requirements and the International Building Code (IBC), Boulder County has adopted EV-ready requirements. EV-ready, means having the conduit and wiring for a potential future EVSE. The IRC requires EV-ready outlets in single family homes. The IBC requires EV-ready parking spaces at intervals for parking lots with more than 20 spaces. Requiring EV-ready parking has been widely-adopted, and is prudent because retro-active installation of the wiring and conduit for EV stations is significantly more costly than installing the equipment upfront.

K111.4 Electric vehicle (EV) charging receptacle outlets. Level 2 (240-volt) electric vehicle (EV) charging receptacle outlets are to be installed for all new commercial, industrial or multiple-family residential buildings or additions or alterations to existing such buildings that increase the existing total floor area of the building by either fifty percent or by 5,000 square feet in accordance with Table K111.4. Charging receptacle outlets shall be installed in accordance with the requirements of Article 625 of the Electrical Code.

**TABLE K111.4
ELECTRIC VEHICLE (EV) CHARGING RECEPTACLE OUTLETS**

TOTAL PARKING SPACES PROVIDED	1-19	20-50	51-100	101-150	151-200	201-250	251-300	301-350	351-400	401-450	451-500	501 and over
REQUIRED MINIMUM NUMBER OF EV CHARGING OUTLETS	0	1	2	3	4	5	6	7	8	9	10	2% of total

Figure 1. 2015 IBC Requirement adopted by Boulder County

Proposed Land Use Code Amendment

The following is the proposed language to include under the “additional provisions” for multimodal parking and accessory parking in the Land Use Code:

Electric vehicle service equipment or electric vehicle supply equipment (“EVSE”), also referred to as a charging station, must be provided for new or expanded parking lots that total 15 or more automotive parking spaces.

- (i) On-site installation may not be required if a more suitable location is appropriate. Factors to be considered in determining suitability are land use impacts, proximity to employment areas, townsites or historical areas, existing or planned EVSE infrastructure in the area, electric infrastructure on-site and nearby, and location in relation to arterial roadways. For cases in which on-site installation is not required, the applicant shall be subject to the Electric Vehicle Charging Fund standards, as adopted by the Board of County Commissioners.*
- (ii) A Level 2 or Level 3 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required for the first 15 automotive parking spaces. If no Level 3 EVSE is installed then for each additional 25 automotive parking spaces, one additional Level 2 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required. If Level 3 EVSE is installed, then no additional EVSE is required.*
- (ii) For ease of use, parking spaces with an EVSE shall be designated for electric vehicle charging, and stations are required to register with an electric vehicle charging information network.*

Background

Electric Vehicles (EVs), once considered an emerging technology, are becoming a more dominant force in the auto market and on the road to zero vehicle emissions. Several countries, including India, Norway, the UK and France, have begun adopting policies which will ultimately phase out the use of gasoline and diesel cars, also known as internal combustion engines (ICEV).¹ Several states within the U.S. have also introduced regulations to facilitate the expansion of EV charging infrastructure. Boulder County has an opportunity to be a leader in environmental sustainability, public health, and economic resilience by promoting the adoption of EV infrastructure through the Land Use Code.

The Denver Metro area and Front Range communities are committed to climate action and environmental health, yet have fallen short of EPA air quality standards since 2008. The transportation sector is the largest contributor to adverse impacts to air quality in the unincorporated area of Boulder County. Increased vehicular traffic, roadways and parking lots are a water pollution source. EVs are significantly less impactful to air and water quality relative to ICEV. More importantly, the battery availability associated with EVs has been cited as a keystone in improving grid reliability for renewable energy. Several studies demonstrate the pervasive economic benefits experienced from EV adoption and reduced fossil fuel dependence. Federal, State and local policy target electric vehicles and installation of EV Service Equipment (EVSE) as one of the avenues to achieve air quality and environmental sustainability goals.

Research has shown that the presence and availability of workplace and public charging stations significantly increases EV ownership.² In light of this, a number of communities are adopting policies and regulations that reflect a transition to a new paradigm for transportation infrastructure that recognizes EVs as an increasingly mainstream mode of transport worthy of infrastructure investment to facilitate increased use and adoption. Boulder County's building codes currently require "EV readiness" or charging receptacles, the conduit and wiring to accommodate for potential future EV charging equipment. Other jurisdictions across the country are taking more aggressive steps to facilitate increased use and adoption of EV technologies by requiring the installation of charging stations with new development. These jurisdictions use varied approaches for requiring charging stations, and cite air quality benefits and rising ownership rates as the primary drivers for adopting progressive regulations.

Electric Vehicles

EVs reduce fossil fuel consumption and greenhouse gas emissions. There are two types of plug-in electric vehicles (PEV) on the market: Plug-in Hybrid Electric Vehicles (PHEV) and Battery Electric Vehicles (BEV). Plug-in Hybrid Electric Vehicles utilize both electricity and gasoline to power the vehicle. Battery Electric Vehicles are fully powered by electricity and do not run on gasoline, but have a more limited

¹ India has announced that every vehicle sold should be powered by electricity by 2030. Norway has targeted all passenger vehicles sold in 2025 should be zero-emission vehicles. The UK and France will ban sales of new gasoline and diesel cars starting in 2040. The UK has mandated that by 2050 all cars on the road will need to be zero emission vehicles. Some companies like Volvo, have committed to all-electric fleets and to stop making internal combustion engines by 2030.

² Li, S. et al., "The Market for Electric Vehicles: Indirect Network Effects and Policy Impacts," Cornell University, June 2015. <http://www.journals.uchicago.edu/doi/abs/10.1086/689702>
Krupa et al 2015 Analysis of a consumer survey on plug-in hybrid electric vehicles <https://doi.org/10.1016/j.tra.2014.02.019>

driving range. Some popular BEV models currently achieve a range between 100 and 200 miles, and a few 2018 models will have ranges between 200 and 300 miles.

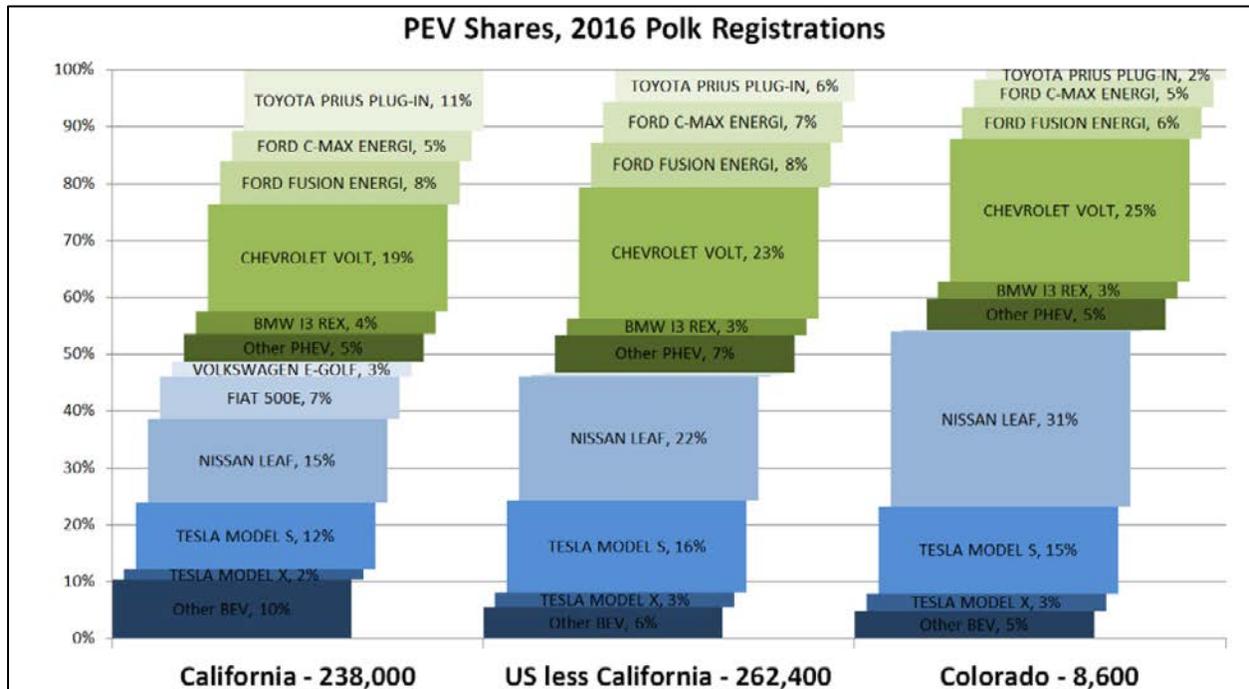


Figure 2. PEV Registrations by model across three regions, Wood and Rames 2017

Figure 1 demonstrates popular market BEV and PHEV models and their prevalence in registrations in Colorado and the US.³ Figure 2 demonstrates PEV ownership by Zip Code for the Denver Metro region. Both Figure 1 and Figure 2 are from *Electric Vehicles in Colorado*, a report by the National Renewable Energy Lab.

Boulder County has approximately 1,800 registered plug-in EV as of July 2017. Currently plug-in EV sales make up less than one percent of national vehicle sales. However, sales are increasing exponentially as demonstrated by U.S. sales data in Figure 3. A Bloomberg New Energy Finance (BNEF) report projects EV sales will reach over 10% of the market by 2025, with 44 models of EVs available in North America by 2020 (Figure 3).⁴

³ Wood and Rames (2017) *Electric Vehicles in Colorado*, <https://www.nrel.gov/docs/fy17osti/68447.pdf>

⁴ Bloomberg New Energy Finance as referenced in Wood and Rames (2017) <https://www.nrel.gov/docs/fy17osti/68447.pdf>

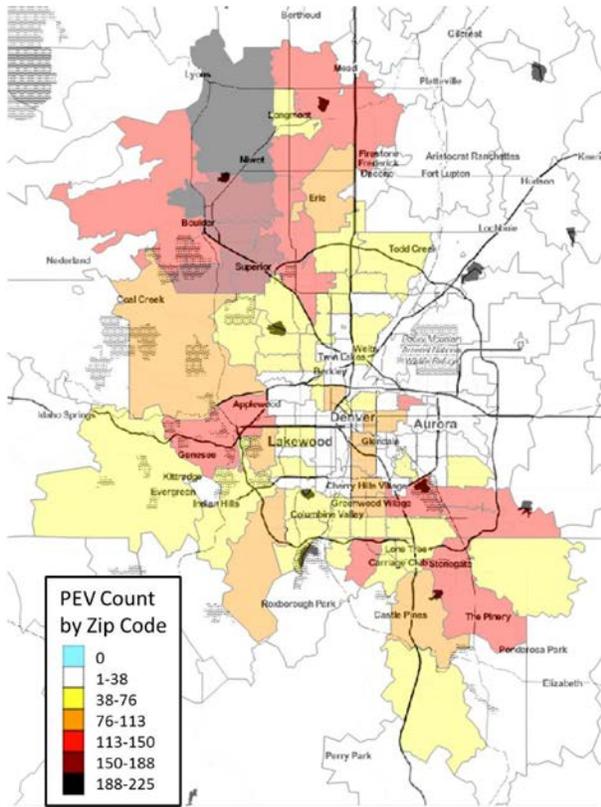


Figure 3. PEV Registrations by Zip Code, Wood and Rames 2017

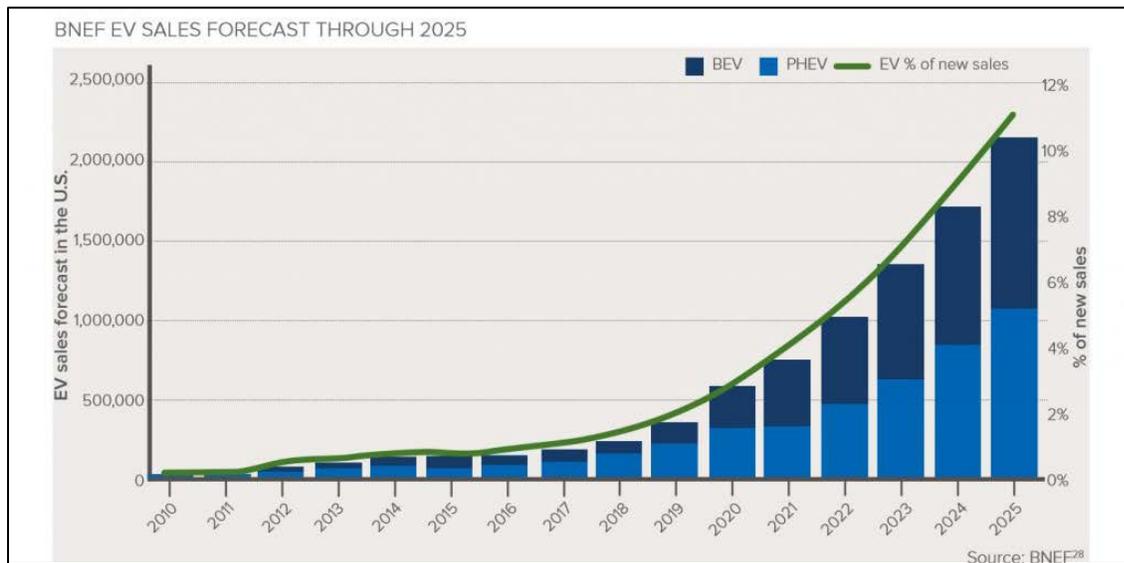


Figure 4. BNEF EV Sales Forecast, Wood and Rames 2017

Electric Vehicle Supply Equipment

EVSE, or, charging stations, supply energy to charge EV batteries. There are currently three general categories of EVSEs: Level 1, Level 2 and Level 3. Figure 4 demonstrates the supply power and average charging accommodations. Level 1 charging stations are accommodated by standard 120V outlets and charge at a rate of 4-6 miles of travel per hour. Level 2 charging requires access to 240V service, is more costly to install and charges at a rate of 10 to 60 miles per hour, depending on power. Level 3 or Direct Current Fast Charging (DCFC) can charge the average battery to 85 percent capacity in about half an hour, and requires 480V and system upgrades. Level 3 charging requires specific plugs depending on vehicle types. An emerging charging option that may become more available in the future is wireless charging. Currently, wireless charging requires vehicle upgrades and installations which can be accommodated by standard Level 2 power supply.

Charging Level	Vehicle Range Added per Charging Time and Power	Supply Power
AC Level 1	4 mi/hour @ 1.4kW	120VAC/20A (12-16A continuous)
	6 mi/hour @ 1.9kW	
AC Level 2	10 mi/hour @ 3.4kW	208/240VAC/20-100A (16-80A continuous)
	20 mi/hour @ 6.6kW	
	60 mi/hour @ 19.2 kW	
DC Fast Charging	24 mi/20minutes @24kW	208/480VAC 3-phase (input current proportional to output power; ~20-400A AC)
	50 mi/20minutes @50kW	
	90 mi/20minutes @90kW	

Figure 5. EVSE Charging Level, power supply and charging times. The power coming from the EVSE depends on the voltage from the electric service and the EVSE amperage rating, from US DOE

The perceived limitations of EVs, including the limited driving range of BEV and the lack of EVSE availability, have been cited as key impediments to growth in the rate of EV adoption. An article from the September 2017 issue of *Energy Policy* shows that fast-charging stations will be a primary driver in the transition to BEV adoption.⁵ However, the Rocky Mountain Institute (RMI) recently released a report that indicates the most effective EV infrastructure deployment approach in Colorado would be installation of Level 2 home and workplace EVSEs.⁶ The current cost of DCFC installation and peak demand electricity charges make this form of charging slow to show returns on initial investment. Implementation of DCFC will be crucial for increasing EV adoption and utilization, but should be balanced with considerations from local utilities and stakeholders for best implementation practices. Several studies have been completed by Southwest Energy Efficiency Project (SWEEP) and the City of Denver around the topic of DCFC charging in Colorado.

IMPACTS OF DEVELOPMENT & ELECTRIC VEHICLE INFRASTRUCTURE

New developments impact air quality, water quality, and energy consumption. The building industry has made progress in creating energy efficient buildings, but fails to mitigate the impacts of transportation to developments and subsequent parking lot pollutants. EVs produce less air and water pollutants, and consume less energy than ICEV. Installing EVSE at developments will encourage owners to drive their

⁵ Neaimeht al. Analysing the usage and evidencing the importance of fast chargers for the adoption of battery electric vehicles. *Energy Policy* 2017 <https://doi.org/10.1016/j.enpol.2017.06.033>

⁶ Rocky Mountain Institute, From Gas to Grid, <https://www.rmi.org/wp-content/uploads/2017/10/RMI-From-Gas-To-Grid.pdf>

EVSE over an ICEV and increase visibility and adoption of EV. Replacing ICEV trips with EV trips will decrease the impacts of transportation to a site and the parking lot pollutants.

Development Trends

Much of the building community has succeeded in decreasing the impacts of our built environment by more sustainably sourcing building materials and reducing the amount of energy consumed inside the structures themselves. However, there are additional impacts in the life cycle of the building that are not adequately evaluated or mitigated, including the energy consumed by the machinery constructing the buildings and the vehicle miles travelled to and from the new development.⁷ A study from the University of Minnesota went as far as creating calculators for the transportation-energy impacts of a development.⁸ The San Joaquin Valley Air Coalition has created a mandatory Indirect Source Review for construction proposals, to examine the total impacts of a development, including indirect sources of pollution such as transportation related pollutants.⁹ This research, among other studies, has shown that development in more rural areas, such as the unincorporated areas of the county, has a significantly higher transportation energy impact. According to reports, due to the improving efficiency of building envelopes and increased Vehicle Miles Traveled (VMT), the transportation energy consumed by a new development can account for up to twice as much as the building's operational energy.¹⁰ Leadership in Energy and Environmental Design (LEED), a standard in green building certification, has identified the importance of transportation energy in development and has offered points toward certification for "Green Vehicle" infrastructure, including the installation of EVSE in two percent of parking spaces. Additional research, as cited in the following pages, demonstrates other negative impacts of development and supports the role of EV and infrastructure in off-setting those impacts.

Air Quality in the Denver Metro Area and Boulder County

ICEV are a main contributor to air pollution. New developments increase the ICEV in their parking lots and on the road, directly increasing pollution. Requiring EVSE will reduce air quality impacts, including environmental health impacts of land use development. Air quality has long been a health concern of the Denver and North Front Range area, and EV have been shown to improve many air quality indicators. There are several key pollutants, emitted by ICEV which impact air quality: Volatile Organic Compounds (VOC), Nitrous Oxides (NO_x), particulate matter (PM), Carbon Dioxide (CO₂), and Carbon Monoxide (CO). Together, in a chemical reaction catalyzed by ultraviolet sunlight, VOC and NO_x contribute to the formation of ground-level ozone. The impacts of transportation emissions produced locally have immediate and serious health implications to area residents and can be reduced through EV adoption.

In 2008 the Denver Metro and Front Range area was identified as an 8-hour-average ozone nonattainment area. This rating has continued through 2016. The average concentration of ozone over a period of eight hours (8-hour-average ozone) is measured at air quality monitors. The ozone attainment standard is not

⁷ Environmental Building News, 2007 <http://www.azsolarcenter.org/images/docs/design/ZeroEnergyBuildings.pdf>

⁸ John Carmody, Richard Strong and Rolf Jacobson, *Minnesota Site and Building Carbon Calculator*, Center for Sustainable Building Research, University of Minnesota, <http://www.csbr.umn.edu/download/CarbonCalculator-Final.pdf>

⁹ Indirect Source Review FAQ; https://www.valleyair.org/ISR/Documents/isr_faq_10_29_12.pdf

¹⁰ Wilson, Alex and Navaro, Rachel; *Driving to Green Buildings: The Transportation Energy Intensity of Buildings*, <https://www.buildinggreen.com/feature/driving-green-buildings-transportation-energy-intensity-buildings>

met when the three-year average of the fourth-highest maximum 8-hour-average ozone concentration is more than 0.070ppm. In the 2016 Air Quality Report for Colorado, the only ozone levels measuring and reporting station in Boulder County was the Boulder Reservoir Station. This station has only been in operation since September 2016. However, the Rocky Flats North Station, located just south of Boulder County, measured continuing levels of high ozone over the last ten years, as shown in Figure 5.¹¹

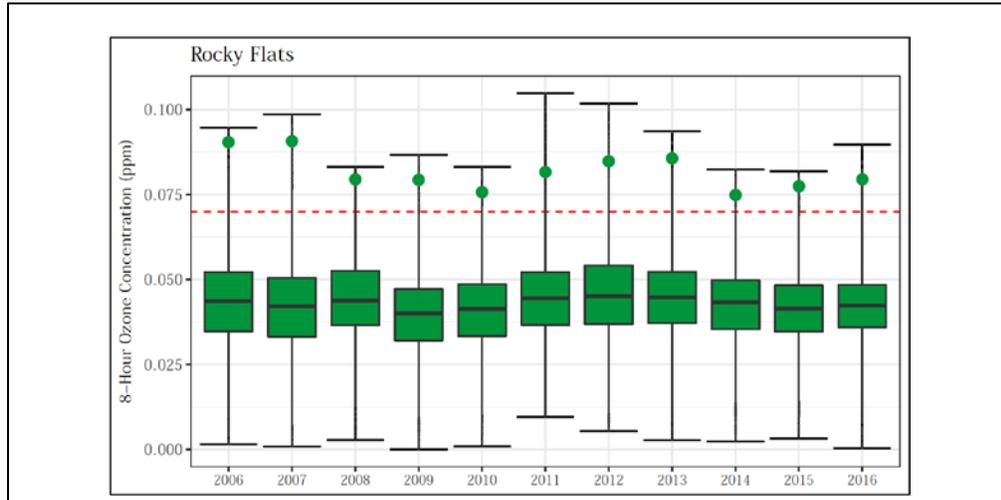


Figure 6. 8-hour average Ozone Concentrations at Rocky Flats station. The 8-hour standard (0.070ppm) is shown as a dashed red line. The annual design value (4th highest daily maximum 8-hour average value) is shown for each year as a green point. EPA 2016 Air Quality Report for Colorado

According to the 2012 Boulder County Green House Gas Emissions Study, the transportation sector is the largest contributor to GHG emissions in the unincorporated County (Figure 6). Additionally, Figure 7 demonstrates that unincorporated Boulder County produces 47% of Boulder County's transportation-related GHG emissions. There are several factors which can influence these measures: there are disproportionately longer stretches of road in the unincorporated areas of the county, and people are primarily travelling from outside the county to employment and recreation destinations within the municipalities and unincorporated areas of the county. New development in unincorporated areas will increase travel and its associated impacts. The 2012 Boulder County GHG Emissions Study set a goal of 10,000 PHEV in the county by 2020, or about a 5% adoption rate, which would reduce emissions by 12,000mtCO₂e/year in 2020.¹² The study did not address BEV, as popular BEV models were new to the market at that time.

¹¹ 2016 Air Quality Data Report, Colorado Air Pollution Control Division https://www.colorado.gov/airquality/tech_doc_repository.aspx?action=open&file=2016AnnualDataReport.pdf

¹² Boulder County 2012 Greenhouse Gas Inventory and Sustainable Energy Plan <https://assets.bouldercounty.org/wp-content/uploads/2017/03/greenhouse-gas-inventory-2012.pdf>

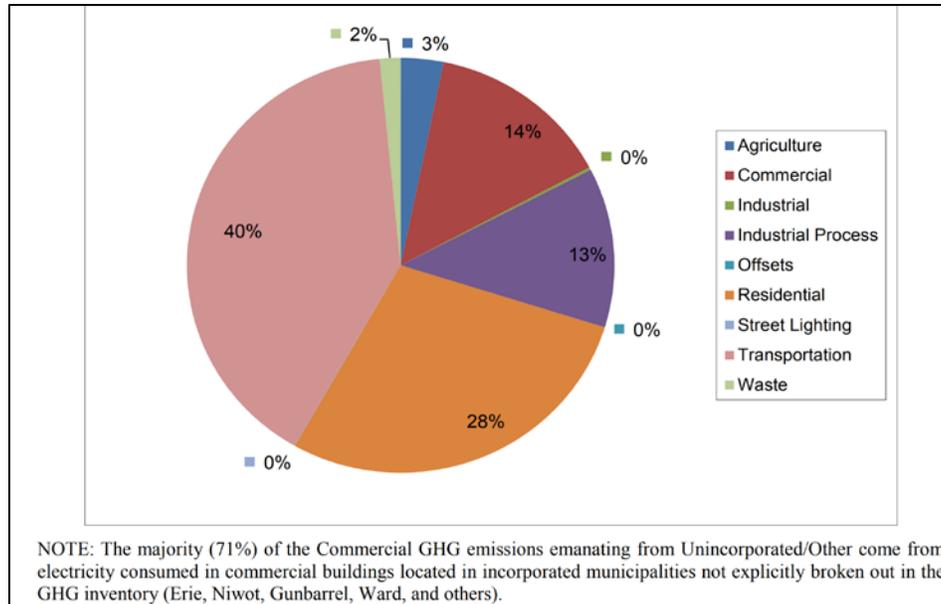


Figure 7. GHG Emissions By Sector for Unincorporated/ Other in 2011, from Boulder County GHG 2012

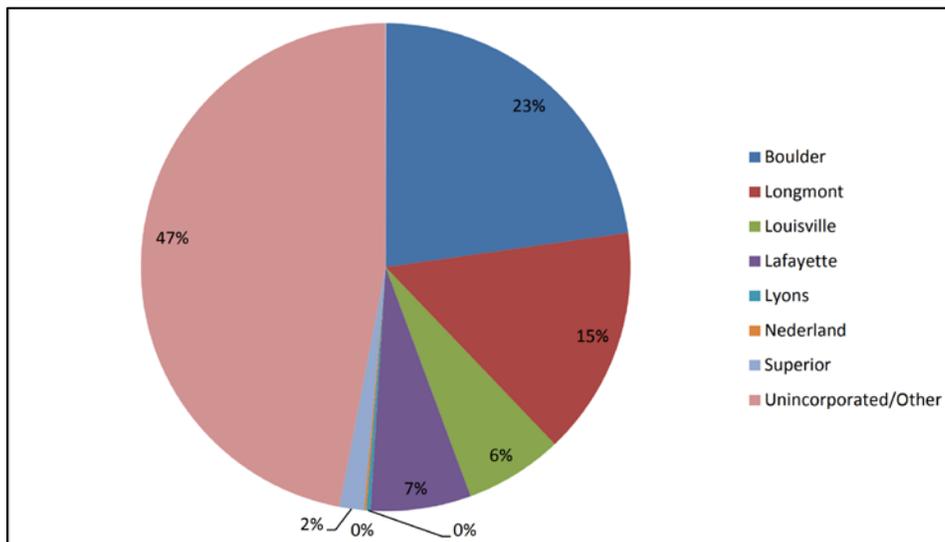


Figure 8. Transportation GHG Emissions by Jurisdiction, From Boulder County GHG 2012

ICEV exhaust has been cited as a main source of aerosol particulate matter which research indicates causes adverse health effects. In 2009, the Harvard School of Public Health published a study which evaluates and tests the robustness of previous studies that looked at the relationship between fine particles and mortality in six cities. The report references dozens of studies which have established positive association between fine particles and mortality. The study itself evaluated over 8,000 participants, their cardiovascular health conditions, and smoking status. The study utilized controls for smoking status and

sulfates and found statistically significant association between chronic exposure to fine particulate matter and mortality regardless of smoking status.¹³

BEVs do not have any exhaust emissions that contribute to particulate matter and Hybrid Plug-ins do not generate emissions when in all-electric mode (e.g., many short trips to and from work). Studies have shown that regardless of the types of fuel used to generate electricity, EV consistently outperforms ICEV in reducing human exposure to air pollutants. As Colorado electricity companies move away from coal toward more renewables, the gap between EV and ICEV emissions per mile will increase. The U.S. Department of Energy provides [a tool](#) which calculates CO₂ emissions based on popular market EV and geographical location, and provides a comparison to the Average New U.S. Vehicle.¹⁴ A 2014 study published by the National Academy of Sciences evaluated the Life Cycle air quality impacts of EV versus conventional transportation based on different fuel sources for the electricity generating stations. The study found that EVs powered by electricity from natural gas, wind, water or solar power reduce environmental health impacts by 50% or more.¹⁵

A 2013 study from the Pembina Institute calculated potential air quality impacts of EV for three British Columbia communities, assuming an adoption rate of 10%. Including all lifecycle emissions for EV, the study found that 10% EV adoption would result in emissions reductions in the following amounts: 36% for local particulate matter, 45% for sulfates, 96% for VOC, 81% for NO_x, and a 99% CO.¹⁶ Only two studies were found to relate non-exhaust emissions in EV to ICEV. Both studies pointed to the fact that engine braking in EV reduces brake wear emissions, however there is negligible difference between EV and ICEV in particulate emissions from tire wear.¹⁷ A 2008 report by Colorado Local Governments, including Boulder County, studied how to reduce air toxins by 18-25% by 2020 and called for the adoption of state mandates for Colorado Clean Car program and Zero Emission Vehicles.¹⁸

Water Quality

Parking lots are known contributors to water pollution, because of the deposition of ICEV emissions and motor oil leakage. The installation of EVSE will encourage the use of EV over ICEV and offset the water quality-related impacts of new development, including parking lots, in unincorporated Boulder County. Studies have shown that runoff from parking lots, specifically pollution from ICEV, degrades water quality. Numerous studies have confirmed the detrimental impacts of parking lots on water quality. Surface imperviousness at very low levels can account for stream degradation.¹⁹ Pollutants including heavy metals and polycyclic aromatic hydrocarbons are derived from automotive wear, automotive fluid

¹³ Lepeule et al (2012) Chronic Exposure to Fine Particles and Mortality: An Extended Follow-up of the Harvard Six Cities Study from 1974 to 2009. <https://ehp.niehs.nih.gov/wp-content/uploads/120/7/ehp.1104660.pdf>

¹⁴ U.S. Department of Energy <http://www.fueleconomy.gov/feg/Find.do?action=bt2&year=2016&vehicleId=36863>

¹⁵ Tessum et al. (2014) Life Cycle air quality impacts of conventional and alternative light duty transportation in the US http://www.jstor.org/stable/43278872?seq=1#page_scan_tab_contents

¹⁶ Bailie, Alison, 2013 Clean Air Benefits from EV <http://www.jstor.org/stable/resrep00195>

¹⁷ Timmers and Achten, 2016 <http://www.sciencedirect.com/science/article/pii/S135223101630187X>

The author stated a conflict of interest with regard to the work

¹⁸ Coalition of Colorado's Local governments and Environmental Groups, The Path Forward: Reducing Ozone Pollution to Protect Public Health in the Colorado Front Range (2008) <https://assets.bouldercounty.org/wp-content/uploads/2017/02/pathforward.pdf>

¹⁹ Tiefenthaler et al, 2001, Characteristics of Parking Lot Runoff Produced by Simulate Rainfall, ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/343_characteristics_of_parkinglot_runoff.pdf

leaks, and deposition of exhaust emissions.²⁰ Incomplete combustion of fuels leads to the production of polycyclic aromatic hydrocarbons, and subsequent deposition on surfaces and soils. The U.S. Geologic Survey identified a clear relationship between increasing traffic volume and increasing deposition of polycyclic aromatic hydrocarbons (PAHs).²¹ A 2017 study of organic pollutants (OP) occurring in road run-off found that the PAHs are a priority pollutant and major contributing sources were tire wear, motor oil leakage, and vehicle exhaust emissions of ICEV (Figure 8).²² Electric vehicles still have tire and some brake wear contributing to pollutant emissions, but produce no exhaust emission deposition and do not utilize petroleum fluids that often leak and cause water quality problems in parking lot run-off. Increased EV adoption will decrease the water quality impacts due to a reduction in exhaust and petroleum fluid pollution in parking lot run-off.

Type of source		Potential emitted substances
Vehicles		
Tyre wear		Phthalates, APs/EOs ^a , <i>n</i> -alkanoic acids, <i>n</i> -alkanes, oleic acid, stearanes, hopanes, natural resins, PAHs ^b
Brake lining		PAHs, oxy-PAHs ^c , polyglycol ethers, benzaldehydes, benzoic acids, oleic acids, <i>n</i> -alkanoic acids
Integrated vehicle components	Undercoating	Phthalates, PAHs
	Plastic components	Phthalates, APs/EOs, BPA ^d , amines
	Paint/lacquer	Phthalates, APs/EOs
Car care products		Phthalates, APs/EOs, naphtha
Fuels, oils and lubricants	Lubricant oil (gear box, engine) hydraulic oil, chemical spillage	PAHs, phthalates, APs/EOs, naphtha, BPA, antioxidants ^e
	Exhaust gases/combustion of fuels (gasoline/diesel/LPG/CNG)	PAHs and related substances, aldehydes, alkanes, phenols, fatty acids, ethers

Figure 9. Vehicle Point Sources for Organic Pollutants found in Stormwater; Markiewicz et al, 2017

²⁰ Tiefenthaler et al, 2001, Characteristics of Parking Lot Runoff Produced by Simulate Rainfall, http://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/343_characteristics_of_parkinglot_runoff.pdf

²¹ Van Metre et al, 2000 and EPA Green Parking Lot Resource Guide (2008)

²² Markiewicz et al (2017) <https://doi.org/10.1016/j.scitotenv.2016.12.074>

Opportunities for Renewable Energy Battery Storage

Each new development and increase in intensity of use has an associated increase in electricity use and dependence on fossil fuels through the electric grid and the VMT to the new development. Boulder County has a strong vision and policy basis for reducing fossil fuel dependence. Not only will EVs decrease the consumption of fuel in the transportation sector at a rate of about 46% per vehicle, EVs have also been recognized as a key player in the transition to renewable energy sources for our electric grid.

Renewable energy sources fluctuate in their production, and often have decreased or no energy output during peak demand times. For example no solar energy is produced at night, when electricity demands rise. The batteries in electric vehicles have been identified as an important potential storage source for the fluctuating renewable energy produced.²³ The strategy, coined “vehicle-to-grid”, involves charging EVs during peak renewable energy production, and later drawing energy from a vehicle during periods of peak electricity demand. The technology being developed allows individuals to set limits to the amount of energy that can be drawn from each EV so as to avoid having an insufficient charge to reach destinations.

Retired batteries from electric vehicles have also been cited as a valuable resource which can capture energy for storage. When an electric battery reaches an unacceptable charge capacity for a vehicle, these batteries can be retired to store energy from the grid. If a battery can only store 60% of its energy, this may be an unacceptable storage capacity for a vehicle driver but still holds great value for grid storage. During power outages, EV batteries can be a large and important energy source for communication devices and everyday needs. EVs and their infrastructure will be important for increasing energy independence and community resiliency, facilitating a more rapid transition to renewable energy sources overall, and serving as a power source during extreme weather events and power outages.

Economic Benefits of EV Infrastructure

There is strong evidence of the community economic benefits of EV adoption, assisted by EV infrastructure. In addition to savings through lower fuel costs per mile, EVs and motors tend to have lower vehicle maintenance costs than the average gas powered vehicles on the market. A 2012 UC Berkeley study examined the economic impacts of light duty PEV in California under three scenarios: a baseline of current growth projections, a 15% PEV, and a 45% PEV. PEV deployment has a net positive impact on employment under all three scenarios. A 15% EV deployment rate would add about \$5 billion to gross state product by 2030. A more aggressive 45% EV deployment would produce about an additional \$2 billion and 100,000 jobs.²⁴ A 2009 report by SWEEP estimated that 40% EV adoption in Colorado by 2040 would result in \$4.2 billion in fuel savings, which would be invested in other economic activities in Colorado which would stimulate job creation and increased tax revenues.²⁵ Most importantly,

²³ Electric Vehicle Energy Impacts. Hawaii Natural Energy Institute Electric Vehicle Transportation Center (2017) Katherine McKenzie. Accessed from Department of Transportation

²⁴ Plug-in Electric Vehicle Deployment in California: An Economic Assessment (2012) Roland Holst, David; Department of Agricultural and Economic Resources. https://are.berkeley.edu/~dwrh/CERES_Web/Docs/ETC_PEV_RH_Final120920.pdf

²⁵ Laitner and McKinney 2008. Yuhnke and Salisbury, 2009, Colorado Transportation Blueprint for the New Energy Economy, [http://www.swenergy.org/data/sites/1/media/documents/publications/documents/CO%20Transportation%20Blueprint%20\(August%202010%20reprinting\).pdf](http://www.swenergy.org/data/sites/1/media/documents/publications/documents/CO%20Transportation%20Blueprint%20(August%202010%20reprinting).pdf)

EVSE installation has been shown to benefit businesses. A 2015 survey of Coloradans showed that regardless of EV ownership, 59% of respondents would be more likely to visit a business with EVSE.²⁶

CONSIDERATIONS FOR EVSE INSTALLATION AND BOULDER COUNTY REQUIREMENTS

Installation Costs

Where EVSE-ready conduit and wiring already is installed, the additional costs of installing a charging station are nominal in comparison to overall development costs including plans, building materials, labor, and permitting fees.²⁷ A Level 2 charging station can cost anywhere from \$500 to \$6,000 dollars, depending on network communication features and mounting options. Wall mounted stations tend to be much cheaper than pedestal mounts. Figure 9 demonstrates some general figures for the cost of a Level 2 charging unit.



Figure 10. Ballpark cost ranges for different tiers of Level 2 EVSE units, US DOE 2015, Image from Kristina Rivenbark, New West Technologies

Level 2 and 3 charging stations can require new electrical service or upgrades to existing service. The installation of Level 2 and Level 3 involves considerations for electrical system upgrades to accommodate the energy demand of charging a vehicle. Installing new electrical service at some parking areas of the county may be cost prohibitive due to trenching for new utility lines and requiring electrical system upgrades. For this reason, the new parking regulations in the code propose a payment-in-lieu option where the Director determines that installation of EVSE is more appropriate in another location. Figure 10 demonstrates the costs of charging installation.

²⁶ Swalnik et al, Electric Vehicle Market Implementation Study, Colorado Energy Office 2015, <https://www.colorado.gov/pacific/energyoffice/atom/14086>

²⁷ US DOE, 2015, Costs associated with Non-residential Electric Vehicle Supply Equipment, https://www.afdc.energy.gov/uploads/publication/evse_cost_report_2015.pdf

Type of Charging Station	Minimum	Maximum	Mean
Workplace Level 2	\$624	\$5,960	\$2,223
Public Level 2	\$600	\$12,660	\$3,108
Blink DC Fast Charger	\$8,500	\$50,000	\$22,626

Installation Costs of Electric Vehicle Charging Stations
Source: Idaho National Laboratory Study, U.S. Dept of Energy

Figure 11. EVSE Installation Costs, INL US DOE 2015

Electricity Demands

Level 2 and 3 EVSE require large draws of energy from the grid. Current utility rate designs are also unfavorable to Level 3 charging; Level 3 charging creates surges in electricity demand that result in costly peak demand charges. This, in turn, drives up the cost of charging vehicles.²⁸ There is concern that with growing EV charging demands, utility companies will not be able to keep up with peak demand, and peak demand charges may significantly increase the costs of EV ownership, and EVSE maintenance. Both SWEEP and RMI recommend garnering the cooperation of utility providers as a high impact and high priority stakeholder. The utility providers in Boulder County are Xcel Energy, Estes Power and Light, Poudre Valley REA, United Power, and Longmont Power. These agencies should be included in conversations about the county's efforts to increase EV adoption; cooperation of these agencies in changing pricing structure will be crucial to the effectiveness of EV infrastructure expansion and EV adoption efforts. Pairing solar installations with public and workplace EVSE has been offered as an effective tool for moderating grid demand.

POLICIES SUPPORTING EV INFRASTRUCTURE

Boulder County Comprehensive Plan

The Boulder County Comprehensive Plan (BCCP) serves as a guiding document for county decision makers and reflects the current and continuing comprehensive land management ethics within the county. The following excerpts of the BCCP support the introduction of EVSE requirements.

BCCP Guiding Principles:

Encourage and promote the respectful stewardship and preservation of our natural systems and environment by pursuing goals and policies that achieve significant reductions in our environmental footprint

The guiding principles direct staff to pursue goals and policies which achieve significant reductions in our environmental footprint. EV adoption, and measures that encourage it, play a significant role in reducing the environmental footprint of the county and its residents and businesses.

²⁸ Rocky Mountain Institute, From Gas to Grid, 2017 <https://www.rmi.org/wp-content/uploads/2017/10/RMI-From-Gas-To-Grid.pdf>

BCCP Transportation

***TR 1.02 Design Complete Corridors** - Develop County transportation standards that assign specific design treatments for transit, pedestrian, bicycle, and motor vehicle facilities for each transportation corridor classification. Develop Standards for new transportation technologies as they become available and anticipated for common use.*

***TR 5.02 Use Energy Efficient Transportation Technologies and Fuels** – Encourage public use of renewable energy and energy-efficient vehicle technologies and plan for related infrastructure needs.*

***TR 5.04 Manage Parking** – Develop parking management policies for public and private facilities that encourage the use of alternative modes.*

***TR 6.02 Minimize and Mitigate Impacts** – Ensure that transportation system facilities and access improvements, which may include sections on public and/or public lands, are designed, constructed, and maintained to minimize impacts to the natural environment, including scenic view as and rural character, and to the surrounding community. All improvements shall reasonably mitigate the impacts resulting from them.*

Much of the BCCP Transportation Element is focused on decreasing VMT and increasing the mobility of citizens through public transit, walking, and biking. However, it is unrealistic to expect that no one will ever drive a vehicle and the BCCP recognizes the need to adapt to transportation technologies by developing standards (TR 1.02), planning for related infrastructure needs (TR 5.02), and encouraging alternative transportation modes through parking management (TR 5.04). The development of standards for EVSE through the proposed Land Use Code amendments will encourage public use of energy efficient technologies and adapt to projected infrastructure needs. It is expected that the proposed code update and this study will also inform updates to the county's Multimodal Transportation Standards which guide the development of transportation infrastructure and parking lots. The development impacts of parking lots have been cited previously in this report, and TR 6.02 calls for access improvements and transportation facilities to reasonably mitigate impacts resulting from them.

BCCP Sustainability Element

***Goal 4** - The County considers global climate change to be a matter of paramount concern, and a potential threat to any sustainability efforts that may be undertaken. In recognition of this concern and to implement the Board of County Commissioners' Resolution 2005-137 regarding a Sustainable Energy Path for Boulder County, the county should take a leadership role in identifying and implementing actions that will lead to a diminishment in the county's contribution to total greenhouse gas emissions from both stationary and mobile activities or sources through an increase in energy efficiency, etc.*

The BCCP Sustainability Element goals cite the 2005 Sustainable Energy Resolution and encourage the county to take a role in implementing actions that will lead to a diminishment in GHG emissions. Relevant commitments in the 2005 Sustainable Energy Resolution include considering energy efficiency and greenhouse gas emissions reductions through education, regulatory measures, and public policy

initiatives, including, “Transportation programs that provide information, incentives, and infrastructure to assist members of the public, county employees, and the business community in making the transition to low-emission vehicles, including high-efficiency hybrid electric vehicles, plug-in hybrid electric vehicles, and vehicles which use biodiesel or other biofuels.”²⁹

2008 Boulder County Sustainable Energy Plan³⁰

The 2008 Boulder County Sustainable Energy Plan (SEP) was a document produced by the Boulder County Consortium of Cities and was forward-thinking and progressive for its time, including action items which promote BEV energy storage and vehicle-to-grid connection. The 2008 SEP included Strategies and Actions 3.2, 3.3 and 3.4, listed in *Table 3. Transportation Sector Strategies*.

Table 3. Transportation Sector Strategies	Mitigation Scores Mitigation scores are ranked 0-4, with 4 being the highest, based on positive impacts to: climate (🌱), the economy (💰), and other environmental impacts (🌳).		
3.2 Vehicle-to-Grid Increasing the use of electric-drive hybrid vehicles would not only reduce dependence on foreign oil, but these vehicles could also provide storage capacity to power the electric grid during the many hours of the day that they sit idle. This strategy would reduce the need to build new power plants to meet peak power demand and allow for greater use of renewable energy. Action: Promote opportunities for vehicle-to-grid power through education, pilot projects, and incentives.	🌱🌱🌱🌱		🌳🌳🌳🌳
3.3 Clean Car Incentive A clean car incentive charges users of less fuel-efficient vehicles a fee and applies the funds from this fee, as an incentive, to the purchasers of more fuel-efficient vehicles. The benefits of this approach are that it is a relatively efficient way of promoting the purchase of more fuel-efficient vehicles; users of less fuel-efficient vehicles directly pay for the externalities that they inflict upon society; and it sends a potentially strong market signal to auto manufacturers. Action: Encourage adoption of a statewide Clean Car Incentive program for Colorado and as a countywide program as part of the vehicle registration process.	🌱🌱🌱🌱	💰💰💰💰	🌳🌳
3.4 Clean Car Standard for Colorado The “California Clean Car” standard gives car companies until 2016 to achieve a 30% reduction in greenhouse gas emissions from new cars, pickups, minivans, and SUVs sold in the state. At least twelve other states are moving to adopt the rules. Action: Encourage the state to adopt the standards.	🌱🌱🌱🌱	💰💰💰💰	🌳🌳🌳🌳

2012 Boulder County Environmental Sustainability Plan³¹

The Boulder County Environmental Sustainability Plan is intended as a guide for Boulder County’s internal operations and policies on achieving environmental sustainability. The overarching goals of the plan which support EV adoption include:

- *Air Quality: Ensure clean, clear and healthy air for current and future generations.*

²⁹ Resolution 2005-137, <https://assets.bouldercounty.org/wp-content/uploads/2017/03/sustainable-energy-path-resolution-2005-137.pdf>

³⁰ Boulder County 2008 Sustainable Energy Plan <https://assets.bouldercounty.org/wp-content/uploads/2017/03/sustainable-energy-plan.pdf>

³¹ Boulder County, Environmental Sustainability Plan (2012) <https://assets.bouldercounty.org/wp-content/uploads/2017/03/bc-environmental-sustainability-plan.pdf>

- *Climate: Achieve Carbon Neutrality and become more resilient to the potential effects of climate change.*
- *Transportation: Encourage environmentally sustainable transportation choices and infrastructure.*
- *Water: Provide ongoing leadership for water efficiency and water quality efforts to ensure sufficient, clean water for current and future generations.*

According to this report, “vehicle emissions are the second largest source of ozone-forming pollution in Colorado’s Front Range.” The Air Quality section calls for support of regulatory and other efforts to ensure citizen health through the reduction of harmful pollutant emissions.

Transportation - Target 4 includes an increase in modal choice, with the strategies for an, “Update of transportation policies, plans, and standards to incorporate new travel technologies into the design of transportation infrastructure.” The Transportation policy priorities include supporting the advancement of fuel-efficient vehicle usage and investment in related technology and infrastructure.

Water - Target 6 is to improve and maintain water quality, through strategies including devoting resources toward reducing storm water runoff in the upper watershed and non-urbanized areas of the county. The various fluids leaked from internal combustion engine vehicle engines are a common issue in stormwater run-off; a transition to more electric vehicles which do not require these fluids will help improve our water quality.

U.S. Department of Energy- EV Everywhere

The EV Everywhere Challenge is an initiative started in 2012 by President Obama, with the goal to make EVs as affordable and convenient as gasoline-powered vehicles. As a result of this initiative, much research has gone into making the production of EVs more cost effective, and to increase the driving range. We are just beginning to see the market results of these efforts with driving ranges up to 300 miles in some BEV. The 2013 EV Everywhere blueprint recognizes the importance of EV infrastructure in driving energy independence, and emphasizes the role of workplace and public charging.³²

DRCOG MetroVision 2035

The Denver Regional Council of Governments (DRCOG) Metro Vision 2035 Plan sets a target to reduce annual per capita greenhouse gas emissions from the transportation sector by 60% by 2035. The Plan presents the following strategies to reduce fossil fuel use and greenhouse gas emissions from the transportation sector:

- *Expand investment in research and development for alternative fuels, new clean fuel technologies, more efficient vehicles, and new ideas and technologies for transporting people and goods.*
- *Incentivize rapid conversion to more fuel-efficient and lower-emission vehicles or retrofits.*
- *Increase incentives for environmentally - friendly replacement transportation fuels.*

³² DOE, EV Everywhere Blueprint 2014 https://energy.gov/sites/prod/files/2014/02/f8/eveverywhere_blueprint.pdf

- *Incentivize regions to more closely link land use and transportation infrastructure to reduce transportation energy consumption, increase non-vehicle transportation options and reduce VMT, through techniques including scenario planning and investments in projects that improve accessibility.*

EVs are one of the transportation solutions to achieving the target 60% reduction in transportation sector emissions. DRCOG calls for incentivizing alternative fuel use such as EVs and encourages the region to link land use and transportation infrastructure to reduce energy consumption.

Grant Opportunities through Charge Ahead Colorado

EVSE installation has been prioritized as an air pollution mitigation measure for the state of Colorado. Grant funding for EVSE installation is available to both private and government entities in the DRCOG planning area through the Charge Ahead Colorado program.³³ Charge Ahead Colorado is a program created to decrease air pollution by increasing EV adoption in Colorado. The funding members include the Regional Air Quality Council (RAQC) and Colorado Energy Office (CEO). The RAQC portion of this program received funds from the federal Congestion Mitigation/Air Quality (CMAQ) program. The CEO EV charging program, created through Colorado legislature in 2009, provides grants to both public and private entities with the goal of installing EVSE as an energy efficiency measure.

The Colorado Department of Public Health is expecting to receive \$68 million from Volkswagen, as part of a lawsuit settlement for misrepresenting the efficiency of some of their vehicles, as soon as the beginning of 2018. The state has proposed to distribute these funds through their ALT Fuels Colorado and Charge Ahead Colorado programs, with \$10.3 million dedicated to EVSE. Boulder County meets the criteria area for the distribution of funds, in that it is an area that has borne a disproportionate share of the ozone burden, as part of the Denver Metro North Front Range, and is an area where many of the affected Volkswagen vehicles are owned and operated.



Figure 12. CDPHE Proposed Spending Plan for Volkswagen Settlement includes \$10.3 Million dedicated to EVSE, from RAQC

CODE LANGUAGE EXAMPLES FROM OTHER JURISDICTIONS

A search was conducted for jurisdictions that have adopted regulations that require EVSE. Many jurisdictions across the country have adopted incentive programs and municipalities have installed charging stations in public spaces. Standard building codes include requirements for EV-ready infrastructure, not including the charging station. As a result, most of the Land Use or Zoning codes studied as part of staff research, provided definitions for EV and EVSE and identified it as an allowed

³³ Charge Ahead Colorado, <http://cleanairfleets.org/colorado-wire-workplaces>

accessory use. Other leaders in sustainability have provided additional requirements for including EVSE installation as a staple technology.

Exhibit A is a summary table only for those jurisdictions which have adopted codes which require a charging station or EVSE. The table attempts to simplify rather complex codes and demonstrates the triggers and specific requirements. Where jurisdictions had different requirements based on use, the table separates those uses and their requirements.

Most of the jurisdictions that have adopted EVSE requirements are in California, which is likely due to the high adoption rate of EV in the state and serious air quality issues that have arisen due to development patterns and population growth. The California Green Building Code also has a set of requirements and different Tiers of Attainment which have guided municipalities in adopting their code language. While not included in the table, it should be noted that San Francisco recently required all parking for new development be ready to support an EV charging station.

There appears to be a pattern of jurisdictions placing emphasis on requiring EV charging station installations, not just EV-readiness, for multi-family development. The City of Boulder, Denver, and Contra Costa County, California have only adopted, or are in the process of adopting, charging station installation requirements for multi-family dwellings. Santa Cruz and Lancaster, California, have requirements for multiple uses, but have a higher requirement rate for their multi-family developments. Boulder County does not project new multi-family development in the unincorporated areas of the county, but this information could be valuable for the Boulder County Housing Authority for their projects and the Boulder County Sustainability Task Force in promoting EV charging at existing developments.

Coupeville, Washington requires charging stations for 10% of all parking lots with greater than 20 spaces. Fremont, California has a similar requirement, but has a stepped approach. At least one EVSE is required in every new development and an additional stepped number of EVSE are required per every 25 additional spaces, up to 200 spaces, at which point 12% of spaces must have EVSE. Both jurisdictions allow for the requirement of EV installation to be waived by council or a zoning administrator. According to City of Fremont staff, the city adopted its current regulations after planning council repeatedly added conditions for EVSE installation to Development Agreements. It appears that Santa Cruz used the California Greenbuilding Code as a guide and added the requirement that those EVSE-ready spaces include charging stations.

Palo Alto requires that all development, with the exception of single family dwellings or hotels, include EVSE for 1.25% of parking spaces, with a minimum of one charging station. Hotels are required to install EVSE for at least 3% of parking spaces, with a minimum of one space. Hotels are a travel destination and generally located near attraction points. This method encourages visitors to drive their EV, and it provides a possible public charging station near attractions. Boulder County has commercial lodging and camp uses which could benefit from the installation of EV charging stations.

Hartford, Connecticut requires all development to have EVSE for 3% of parking spaces, except gas stations, which are required to have at least one Level 2 charging station. Similarly, in Salt Lake City, development that exceeds five-thousand square feet of new floor area will be required to install at least one EVSE for every 25 parking spaces.

Indianapolis requires two EV charging stations for parking lots with 500 or more parking spaces, and takes an incentives approach for other parking lots. For each EVSE installed in an Indianapolis parking-lot, the off-street parking requirements are reduced by two. Their code includes similar reductions for bicycle parking facilities, shared car/carpool vehicle spaces, and proximity to transit.

Two counties studied encouraged EVSE installation through different measures. Kane County, Illinois introduced a code which required EV-ready infrastructure at similar rates to the Boulder County Building Code and provided language for which EVSE installation is, “strongly encouraged.” Chittenden County Vermont produced a directive for their municipalities to adopt codes which require three percent of new parking spaces to be equipped with EVSE.

RECOMMENDATIONS

EVSE Installation Requirement

New development in Boulder County has demonstrated impacts to air quality, water quality, and energy consumption which can be offset by EVs and associated infrastructure. The County’s sustainability and transportation goals and the projected EV growth establish the apparent need for EV infrastructure. Installing EV charging stations has multiple purpose: offsetting the impacts of development, supplying existing vehicles with power, and promoting the growth of vehicle adoption. As noted, several other jurisdictions have established policies and regulations for EV charging stations. The proposed Boulder County regulations include one EV charging station for parking lots of 15 or more parking spaces (about 6% of total spaces) and one additional charging station for each additional 50 parking spaces (about 3% of total spaces). Examining the other municipal codes the impacts of development and projected EV growth within the County, this is a reasonable requirement to mitigate some of the development impacts.

The primary form of development in unincorporated Boulder County is single family dwellings. Commercial, Business, and Industrial uses are allowed in a small percentage of the County. Few developments in the county trigger parking areas greater than 15 spaces. Those that do, generally have a high intensity use. Example proposed developments the Board of County Commissioners has recently seen or will see soon, that would have required EV charging stations under the proposed code change include: the Boulder Tech Center (SU-17-003) with 196 parking spaces which would have required four charging stations, the Alexander Dawson School (SU-17-0004) with 357 parking spaces which would have required seven charging stations, the Ecodharma Retreat Center (LU-17-0003) with 17 parking spaces would have required one charging station.

Parking Spaces	EVSE required per DC-17-0002
0-14	0
15-64	1
65-114	2
115-164	3
165-214	4
215-264	5
265-314	6
315-364	7

Figure 13. Proposed EVSE Requirement

Staff is recommending that EVSE be required in the Land Use Code to offset the impacts of development. The proposed amendments to the Land Use Code present an opportunity to ensure necessary infrastructure for EV transportation technology is available. An interesting component of implementing EV infrastructure will be a question of how we treat it with regards to county energy assessments. In order to promote the installation of EV infrastructure in the short term, the energy consumption of EV charging stations should not be considered as an energy consumer to be off-set by BuildSmart regulations.

Electric Vehicle Charging Fund

The *Electric Vehicle Charging Fund* (EVCF) proposed by Boulder County staff is intended to provide an alternative to requiring the installation of EVSE, where installing EVSE elsewhere may be more appropriate. The EVCF standards and implementation plan will be developed in coordination with the Sustainability Office and community stakeholders, and initial discussions of the concept with stakeholders has been met with positive support. It is proposed that the EVCF will be used by the county to strategically implement fast-charging stations. As noted above, there have been several studies in the vicinity of Boulder County which provide direction for how the county can strategically locate EVSEs to support EV adoption. Recommendations include installing charging stations along major transit corridors, with particular attention to Highway 119 and a priority for the installation of Level 3 chargers. Staff expects that payment-in-lieu of installation will be tailored to offset the impacts of the development proposed, which is expected to be approximately the average cost of installing a charging station. To begin quantifying requirements, initial contact has been made with local EVSE installers to gather information on the average cost of installation of a Level 2 EVSE.

The City of Aspen uses a comprehensive EVSE Siting Matrix which they adapted from the California Upstate: Plug-In Electric Vehicle Readiness Project. The matrix allows the City to evaluate 14 objectives and provide a score, on a scale of 1-5 for the appropriateness of the location for level 1-2 charging stations. The matrix also includes specific reasoning and guidance on scoring. The matrix is tailored to the City of Aspen, but very adaptable to any community's needs. This will be a valuable tool as the county evaluates site potential for charging stations through the fund.

It is important for the county to establish a vision and plan for electric vehicle charging station implementation in order to position itself and its local businesses as top candidates for any grant opportunity. The proposed fund could support staff research and grant writing for additional funds, particularly from the VW settlement and Charge Ahead Colorado program. Additional funding opportunities may be available at the federal level. A comprehensive list of federal laws and incentives is available on the [US Department of Energy website](#). As a part of establishing the EV charging requirements and fund, the county should assist business owners in securing grant funding. Additional policy and strategic implementation plans will further support local businesses in applying for the grant monies as well.

Additional Recommended Actions

Additional information gathered through research and interviews completed for this study can inform some key areas to focus Boulder County's next steps in promoting the expansion of EV infrastructure. A priority should be coordinating with key stakeholders including car dealerships and utilities. The Boulder County Sustainability office has already initiated communication with these stakeholders through its other EV promotion programs. Continued communication will be crucial to the success of EV adoption in the county. The county should provide informational materials on EVSE installation and its benefits to all business owners and individuals seeking permits in the county. The existing Boulder County PACE program helps local businesses identify areas in which they can improve their sustainability. This program could help the Land Use Department provide informational materials.

Another key element to advance EV adoption and expand infrastructure will be making existing charging stations visible. The county Transportation Department and Sustainability office should coordinate to introduce uniform signage for EV charging stations. In addition to using signage to make EV charging stations more visible in parking lots, signage along major transit corridors could also help direct drivers to public EV charging stations. This increased visibility will aid existing EV owners, and would minimize prospective EV buyers' concerns about the range limitations of EV. Some new models of EVs include wayfinding to charging stations. Therefore, new EVSEs should at least be registered with networks to ensure visibility through mobile device application. Taking a step further in increasing the convenience of charging, smart chargers are connected to a network and communicate charging station availability through a mobile device application. Finally, the installation of new infrastructure should include a plan for upkeep and maintenance to ensure long-term viability.

Battery Reuse and Recycling

The batteries from electric vehicles can be reused for grid storage as mentioned above, and are found to be fully recyclable.³⁴ Numerous articles describe the deconstruction and recycling process of the rare earth metals in these batteries.³⁵ Currently a factory in North Carolina serves as the main recycler of EV batteries in the US. Lithium Battery Recycling is expected to be a two-billion dollar market by 2022.³⁶ The materials in EV batteries are of high value and thus are efficiently recycled at this time. As EV adoption grows, it is important that the batteries from these vehicles continue to be properly reused and recycled. Stakeholders should coordinate to make sure appropriate resources are available for optimal battery reuse and recycling.

CONCLUSION

Implementing the proposed Land Use Code amendments, which include requirements for EVSE, is a logical and appropriate step toward more fully mitigating the negative impacts of development on air quality and water quality. New development has direct water quality, air quality, and energy consumption consequences. ICEVs have negative impacts on public health and sustain our dependence on fossil fuels.

³⁴ McIntire-Strasburg, Jeff (2015) The Electric Vehicle Battery "Can and Should Be Recycled"

<https://cleantechnica.com/2015/07/23/electric-vehicle-battery-can-recycled/>

³⁵ O'Dell, John (2014) <https://www.edmunds.com/fuel-economy/what-happens-to-ev-and-hybrid-batteries.html>

Market trends show growing EV ownership in Boulder County which has positive net benefits to public health, the environment, and the economy. Existing policies and programs at all levels of government support the advancement of EVs for the public good. Adopting research-based regulations is one of several steps the county can take to serve as a leader in addressing development impacts while putting the county's sustainability-related policies and vision into action.

The Sustainability, Land Use, and Transportation Departments should continue to coordinate efforts in increasing the availability and visibility of EV infrastructure. As a leader in sustainability and a member of many multi-jurisdictional sustainability efforts, Boulder County should work strategically with other jurisdictions, which are seeing greater amounts of commercial and multi-family development, to implement their own programs.

³⁶ Frost and Sullivan (2011) <http://evworld.com/news.cfm?newsid=25315>

Table of Acronyms

BEV	Battery Electric Vehicle
DCFC	direct current fast charging
EV	electric vehicle
EVSE	electric vehicle supply equipment/ electric vehicle service equipment/ charging station
GHG	greenhouse gas
ICEV	internal combustion engine vehicle
LEED	Leadership in Energy and Environmental Design
NOx	nitrogen oxides
OP	organic pollutants
PAH	polycyclic aromatic hydrocarbon
PEV	plug-in electric vehicle
PHEV	plug-in hybrid electric vehicle
PM	particulate matter
SWEEP	Southwest Energy Efficiency Project
VOC	volatile organic compounds

Exhibit A. Municipal Codes Chart

Jurisdiction	Trigger	Requirement of EVSE installation	Other notes
City of Boulder, CO	Newly permitted multi-family structures with more than 25 parking spaces.	Ten percent of parking spaces shall have one 240-volt and one 120-volt dedicated charging receptacle outlet. - At least two parking spaces shall have a Level - 2 dual port electric vehicle charging station.	Also require designated parking spaces INCENTIVE: Larger residential developments that generate over 20 vehicle trips per hour are required to undergo a site review which involves a Transportation Demand Management (TDM) plan to reduce vehicle travel. The installation of charging stations is one option that new developments can choose to help complete their TDM plan. (From Denver SWEEP Study) Link to Code: http://bit.ly/2hToPh1
	Commercial	Same Multi-family as above plus: - Buildings serving an R-1 or R-2 occupancy shall have a Level 2 dual port charging station in one percent of, but no less than two, parking spaces.	
Chittenden County, VT Recommendation	Multi-family and commercial uses	2% of parking spaces	Recommendation for Adoption Link to recommendation: http://bit.ly/2zq4Y2W
	Industrial	1% of parking spaces	
Contra Costa County, CA	Multifamily	5% of all parking spaces, at least one space	Link to Code: http://bit.ly/2ja28bP
Coupeville, WA	20 spaces	10% of spaces	Unless waived by council Link to Code: http://bit.ly/2Atu66j
Denver, CO	Multifamily	In progress	Decided to focus on multifamily at this point as most charging takes place at home and 44% of Denver residents live in multi-family housing. The cost of retrofitting a multi-family property is also likely more challenging and expensive than single-family homes

Fremont, CA	All new multi-family and non-residential development	Parking Spaces	EVSE	<p>Unless the zoning administrator determines that the circumstances of the particular development (e.g., lower than average number of employees or housing affordability level) does not warrant installation of chargers.</p> <p>Calculation of number of spaces shall be rounded up to the nearest whole number.</p> <p>Link to code: http://bit.ly/2AviArt</p>
		0-9	1	
		10-25	2	
		26-50	4	
		51-75	6	
		76-100	9	
		101-150	12	
		151-200	17	
201 and over	10 percent of total			
Hartford, CT	35 spaces Fueling Stations	3% of parking spaces Fueling stations - at least One Level 2		Link to Code: http://bit.ly/2Av50nW
Indianapolis, IN	500 spaces	2 stations		<p>Also provides parking reduction of two spaces for installation of EVSE</p> <p>Link to Code: http://bit.ly/2m584DS</p>
Kane County, IL	None			<p>Language strongly Recommends installing EV charging with EV ready receptacles</p> <p>Link to Code: http://bit.ly/2yhudAv</p>
Lancaster, CA	Multifamily with 10+ units	5% of parking spaces EVSE (or EVCS – charging station) installed		EVCSs shall be provided in disabled person parking spaces in accordance with state requirements. Several design requirements are listed for the EVCS
	Other (triggers vary based on use)	1% of parking spaces must have charging stations installed		Triggers include hospital and hotel occupancy rates greater than 500, greater than 1,000 employees, large sports/entertainment/recreation facilities, and

	Transit stations and park and rides	All must have 1%	all transit projects. Link to Code: http://bit.ly/2jaiR2U																				
Mountlake Terrace, WA	Electric vehicle charging stations shall be provided when the development is 10,000 sq. ft. or more than one of the following occurs: - A new building or a new off-street parking facility is developed; - An addition or improvement is made that meets a certain threshold; and - parking is increased by more than 50%.	<table border="1"> <thead> <tr> <th colspan="2">Required Electric Vehicle Charging Stations</th> </tr> <tr> <th>Land Use Type</th> <th>% of Parking Spaces*</th> </tr> </thead> <tbody> <tr> <td>Multi-household residential</td> <td>10%</td> </tr> <tr> <td>Lodging</td> <td>3%</td> </tr> <tr> <td>Retail, eating and drinking establishment</td> <td>1%</td> </tr> <tr> <td>Office, medical</td> <td>3%</td> </tr> <tr> <td>Industrial</td> <td>1%</td> </tr> <tr> <td>Institutional, Municipal</td> <td>3%</td> </tr> <tr> <td>Recreational/Entertainment/Cultural</td> <td>1%</td> </tr> <tr> <td>Other</td> <td>3%</td> </tr> </tbody> </table> <p>* An equal % of parking spaces shall have all electric vehicle infrastructure roughed-in for potential future electric vehicle stations.</p>	Required Electric Vehicle Charging Stations		Land Use Type	% of Parking Spaces*	Multi-household residential	10%	Lodging	3%	Retail, eating and drinking establishment	1%	Office, medical	3%	Industrial	1%	Institutional, Municipal	3%	Recreational/Entertainment/Cultural	1%	Other	3%	One ADA charging space for 5-50 spaces, additional are required for excess of 50 spaces. Link to Code: http://bit.ly/2hU39kS
Required Electric Vehicle Charging Stations																							
Land Use Type	% of Parking Spaces*																						
Multi-household residential	10%																						
Lodging	3%																						
Retail, eating and drinking establishment	1%																						
Office, medical	3%																						
Industrial	1%																						
Institutional, Municipal	3%																						
Recreational/Entertainment/Cultural	1%																						
Other	3%																						
Palo Alto, CA	Hotels	EVSE Installed for at least 30% of parking spaces, among which at least 10% (and no fewer than one) shall be EVSE Installed.;	There is a list of triggers for which this code applies, which can be summarized as being based on occupancy or floor area of large proportions. Link to Code: http://bit.ly/2m5cISx																				
	Multi Family and All other Non-residential	At least 25% EVSE ready, among which at least 5% (and no fewer than one) shall be EVSE installed																					
Salt Lake City, UT	5,000 square feet of new floor area or 25% expansion, whichever is less	1 per every 25 spaces for multifamily uses only.	City staff has proposed to require conduit only for 20% of the minimum required parking spaces for multifamily uses to accommodate wiring for the future use of 200 Volt EVSE. The City Council has not yet to make a decision on this. Link to Code: http://bit.ly/1k3XTIk																				
Santa Cruz, CA	Multi-Family 5+ units	12% of total parking and no fewer than one space	Multifamily projects requiring an EV van accessible parking space shall receive a credit of one parking																				

				space.
	Non-residential Structures with 10+ parking spaces	Parking Spaces	EVSE	Link to Code: http://bit.ly/2zsdE8r
		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	
Santa Monica, CA	New developments with more than 25 parking spaces, remodels with greater than 50	Requirement 25-49 parking space: 1 charging station, 50-99 2 charging stations, one for each additional 50 parking spaces.		Establishes electric vehicle parking as a use, exclusive parking spaces for charging purposes. Links to Code: http://bit.ly/2hUbVPH ; http://bit.ly/2zu9oFB

INCENTIVES PROGRAMS (FROM DENVER SWEEP STUDY)	
City of Boulder, CO	In the City of Boulder, larger residential developments that generate over 20 vehicle trips per hour are required to undergo a site review which involves a Transportation Demand Management (TDM) plan to reduce vehicle travel. The installation of charging stations is one option that new developments can choose to help complete their TDM plan.
Chino, CA	In order to help meet the city’s Climate Action Plan, the City of Chino, California requires that new developments in the city achieve energy savings of three percent beyond the California Energy Code. One of the ways to achieve the additional GHG savings is to include PEV charging for the new building.
Menlo Park	The City of Menlo Park in California allows the installation of PEV charging stations to serve as a potential mitigation measure to reduce the overall greenhouse gas impacts of new developments.

From: [Amber Kauffman](#)
To: [Oeth, Amy](#)
Subject: DC-17-0002 - Referral Request 1.pdf
Date: Tuesday, September 26, 2017 4:52:05 PM
Attachments: [DC-17-0002 - Referral Request 1.pdf](#)

Please see the attached referral request form.

Thank you for the opportunity to comment.

Amber Kauffman

Amber Kauffman, P.E., District Engineer



Little Thompson Water District

835 E. State Highway 56, Berthoud, CO 80513

PH: 970-532-2096 | FX: 970-532-3734

akauffman@ltwd.org | www.ltwd.org

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Land Use

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930 • Fax: 303.441.4856
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

Docket DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations

Request: Review of draft Land Use Code Text amendments regarding a Multimodal Parking Facility use definition and an accessory Parking use definition. (Staff planner: Amy Oeth)

Dear Stakeholder/Interested Party,

On August 22, 2017, the Board of County Commissioners authorized Land Use staff to pursue text amendments to the Boulder County Land Use Code specific to parking-related uses and regulations.

Why: Staff identified a need for a use definition that allows for offsite parking in areas where onsite parking is constrained and where the allowance of offsite parking facilities would help maintain the character and function of the area.

This is the initial referral draft of the proposed regulations to garner feedback and make necessary changes to the draft before it starts the public hearing process. We value your comments and ideas for improvement. In this draft, staff proposes to replace the existing *Park and Ride* use with an expanded definition of a *Multimodal Parking Facility*. Staff also proposes removing provisions for *Parking* in Article 4-500 and replacing it with an accessory *Parking* use in Article 5-516.

A draft of the proposed text amendments is attached to this letter for your review. You may also view the proposed draft text amendments and future revisions in our office or online at: <https://www.bouldercounty.org/property-and-land/land-use/planning/land-use-code-update/dc-17-0002/>

The docket review process for the proposed amendments will include a public hearing before the Boulder County Planning Commission, tentatively scheduled for November 15, 2017, and a public hearing before the Boulder County Board of County Commissioners, to be scheduled within a month after Planning Commission. Public comments will be taken at both hearings. Confirmation of hearing dates and times will be published online at the link above and in local newspapers.

The Land Use staff and County Commissioners value comments from individuals and referral agencies. Please check the appropriate response below or send a letter or email with your comments. All comments will be made part of the public record. If you have any questions regarding this docket, please contact us at (303) 441-3930 or aoeth@bouldercounty.org.

Please return responses to the above address by October 18, 2017. Late responses will be reviewed as the process permits.

_____ We have reviewed the proposal and have no conflicts.

_____ Letter is enclosed.

Signed *Amber Kauffman* PRINTED Name _____

Agency or Address _____

Attachment C: Referrals and Comments

From: [LuAnn Penfold](#)
To: [Oeth, Amy](#)
Subject: DC-17-0002
Date: Wednesday, September 27, 2017 8:32:38 AM
Attachments: [DC-17-0002.PDF](#)

Please see the attached.



Land Use

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930 • Fax: 303.441.4856
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

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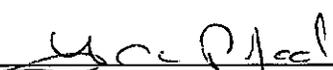
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Please return responses to the above address by October 18, 2017. Late responses will be reviewed as the process permits.

We have reviewed the proposal and have no conflicts.
 Letter is enclosed.

Signed  PRINTED Name LuAnn Penfold

Agency or Address Mountain View Fire District

Cindy Domenico County Commissioner

Deb Gardner County Commissioner

Elise Jones County Commissioner

From: [Michele Goldman](#)
To: [Milner, Anna](#)
Cc: [Oeth, Amy](#)
Subject: RE: Referral packet for DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations
Date: Wednesday, September 27, 2017 11:20:31 AM
Attachments: [image001.png](#)

Longmont Fire has reviewed the Referral packet for DC-17-0002. We have no comments at this time.

Thank you,

Capt. Michele Goldman
Fire Marshal- City of Longmont
Fire Codes and Planning
Fire Services Division
Department of Public Safety

michele.goldman@longmontcolorado.gov

303.651.8426 office

From: Milner, Anna [mailto:amilner@bouldercounty.org]
Sent: Tuesday, September 26, 2017 4:26 PM
Cc: Oeth, Amy
Subject: Referral packet for DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations

Please find attached the electronic Referral packet for *DC-17-0002, Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations*.

Please return responses and direct any questions to [Amy Oeth](#) by *October 18, 2017*. (Boulder County internal departments and agencies: Please attach the referral comments in Accela.)

Best Regards,
Anna

Anna Milner

Admin. Lead Tech. | Planning Division
Boulder County Land Use Dept. | PO Box 471 | Boulder, CO 80306
(720) 564-2638 (Direct) | (303) 441-4856 (Fax)
amilner@bouldercounty.org
www.bouldercounty.org



From: [Boulder County LU Fax 4856](#)
To: [Oeth, Amy](#)
Subject: FW: A new fax has arrived from 9705324744 (Part 1 of 1) on Channel 2
Date: Wednesday, September 27, 2017 11:31:15 AM
Attachments: [A6fd289da-c3ac-448d-bd71-ff0e9560f36f.PDF](#)

-----Original Message-----

From: RightFax E-mail Gateway [<mailto:rightfax@bouldercounty.org>]
Sent: Wednesday, September 27, 2017 11:05 AM
To: Boulder County LU Fax 4856
Subject: A new fax has arrived from 9705324744 (Part 1 of 1) on Channel 2

9/27/2017 11:04:26 AM Transmission Record
Received from remote ID: 9705324744
Inbound user ID MBX_LU_4856, routing code 4856
Result: (0/352;0/0) Successful Send
Page record: 1 - 1
Elapsed time: 00:44 on channel 2

Fax Images: [double-click on image to view page(s)]



Attachment C: Referrals and Comments

Land Use

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930 • Fax: 303.441.4856
 Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

Docket DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations

Request: Review of draft Land Use Code Text amendments regarding a Multimodal Parking Facility use definition and an accessory Parking use definition. (Staff planner: Amy Oeth)

Dear Stakeholder/Interested Party,

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Please return responses to the above address by October 18, 2017. Late responses will be reviewed as the process permits.

We have reviewed the proposal and have no conflicts.

Letter is enclosed.

Signed *P. Michael Bruner* PRINTED Name *P. Michael Bruner - F.M.I.*

Agency or Address *BERTHOUD FIRE PROT. DIST.*

Cindy Domenico County Commissioner

Deb Gardner County Commissioner

Elise Jones County Commissioner

From: [Milner, Anna](#)
To: [Oeth, Amy](#)
Subject: FW: Referral packet for DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations
Date: Thursday, September 28, 2017 10:38:02 AM
Attachments: [image001.png](#)

Response below.

Anna Milner

Admin. Lead Tech. | Planning Division
Boulder County Land Use Dept. | PO Box 471 | Boulder, CO 80306
(720) 564-2638 (Direct) | (303) 441-4856 (Fax)
amilner@bouldercounty.org
www.bouldercounty.org



From: Hollar - DOR, Richard [mailto:richard.hollar@state.co.us]
Sent: Wednesday, September 27, 2017 5:07 PM
To: Milner, Anna
Subject: Re: Referral packet for DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations

Anna,

I have no conflicts with the proposal.

On Tue, Sep 26, 2017 at 4:25 PM, Milner, Anna <amilner@bouldercounty.org> wrote:
Please find attached the electronic Referral packet for *DC-17-0002, Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations*.

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Anna Milner

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Boulder County Land Use Dept. | PO Box 471 | Boulder, CO 80306
(720) 564-2638 (Direct) | (303) 441-4856 (Fax)
amilner@bouldercounty.org
www.bouldercounty.org



--

Richard H. Hollar
Agent-in-Charge
Marijuana Enforcement Division
Licensing Section



P. 303.866.4664 | F 303.866.3177 | C 303.720.7088
1707 Cole Boulevard, Suite 300, Lakewood, CO 80401
Richard.Hollar@state.co.us | www.colorado.gov/revenue/med

If you have a licensing, compliance or enforcement question, please email it to dor_medinquiry@state.co.us and include the license number at issue, as well as the statute or rule related to your question. This email address is also on the "contact us" page of the med's website. [Click here to subscribe](#) to updates and Industry Bulletins from the Marijuana Enforcement Division.

Regulations are available (in searchable PDFs) on our website on the <https://www.colorado.gov/pacific/enforcement/laws-constitution-statutes-and-rules-marijuana-enforcement> page. For medical licenses, please refer to “Current Amalgamated Medical Marijuana Rules” and for retail licenses, “Current Amalgamated Retail Marijuana Rules”. You can also find links to the statutes, Industry Bulletins, and Position Statements on the same page.

From: [John Willson](#)
To: [Oeth, Amy](#)
Subject: FW: Referral packet for DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations
Date: Friday, September 29, 2017 2:05:48 PM
Attachments: [image001.png](#)
[SCAN_20170929_132434.pdf](#)

Amy,
Here is our response. Thanks

John Willson
Fire Chief
Louisville Fire Protection District
jwillson@louisvillefire.com
303 666-6595 Ext 201 (Office)
303 877-5089 (Cell)

From: Milner, Anna [mailto:amilner@bouldercounty.org]
Sent: Tuesday, September 26, 2017 4:26 PM
Cc: Oeth, Amy <aoeth@bouldercounty.org>
Subject: Referral packet for DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations

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Anna

Anna Milner

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amilner@bouldercounty.org
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Land Use

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Please return responses to the above address by October 18, 2017. Late responses will be reviewed as the process permits.

- We have reviewed the proposal and have no conflicts.
- Letter is enclosed.

Signed  PRINTED Name John Willson
 Agency or Address Louisville Fire Protection District

Cindy Domenico County Commissioner

Deb Gardner County Commissioner

Elise Jones County Commissioner

From: [Milner, Anna](#)
To: [Oeth, Amy](#)
Subject: FW: DC-17-0002 Code revisions for parking related uses
Date: Friday, September 29, 2017 2:26:05 PM
Attachments: [image001.png](#)

Referral response from CDOT!

Anna Milner

Admin. Lead Tech. | Planning Division
Boulder County Land Use Dept. | PO Box 471 | Boulder, CO 80306
(720) 564-2638 (Direct) | (303) 441-4856 (Fax)
amilner@bouldercounty.org
www.bouldercounty.org



From: Solomon - CDOT, Richard [mailto:richard.solomon@state.co.us]
Sent: Friday, September 29, 2017 2:25 PM
To: Milner, Anna
Subject: DC-17-0002 Code revisions for parking related uses

CDOT supports Boulder County's efforts to keep regulations and standards updated and current to today's trends. A few recommendations for consideration:

Off-Street Parking

If off street parking is limited, we wish to advise that any on-street parking on CDOT ROW and highways must be reviewed and accepted at the Region level on a case-by-case basis. Our Access code has specific rules to dissuade parking on our ROW and when or if so, head-in parking must be avoided. Avoid assumptions that CDOT Public ROW is for exclusive use by adjacent-abutting property for accommodating off-street parking including loading or unloading areas.

TIA/TIS

CDOT's requirements for Traffic studies and the aspects contained within may be different than local requirements. Each "trip" begins and ends with parking. Peculiar that this section of code does not mention the need for a traffic study/assessment to contextually review such development proposals. Under parking requirements, we offer caution that certain land uses with multi-modal or mixed-use with shared parking components seldom translates into reduced trips or warrants the consideration of higher internal (trip) capture rates.

Rick Solomon

Region One Permit Unit Supervisor



P [303.757.9356](tel:303.757.9356) | C [720.670-7068](tel:720.670.7068) | F 303.757.9886
2000 South Holly Street
Denver, CO 80222
richard.solomon@state.co.us

From: [Northrup, Elizabeth](#)
To: [Oeth, Amy](#)
Subject: DC-17-0002 Boulder Valley Conservation District Response
Date: Wednesday, October 04, 2017 11:44:34 AM
Attachments: [Docket DC-17-0002.pdf](#)

Hi Amy,

Attached is Boulder Valley Conservation Districts response for DC-17-0002. Thanks so much.

Best,

Liz Northrup
District Manager
Longmont and Boulder Valley Conservation Districts
9595 Nelson Road, Suite D
Longmont, CO 80501
(720) 378-5521
enorthrup@bouldercounty.org



Land Use

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Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

Docket DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations

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Please return responses to the above address by October 18, 2017. Late responses will be reviewed as the process permits.

We have reviewed the proposal and have no conflicts.
 Letter is enclosed.

Signed Keith Bateman PRINTED Name Keith Bateman

Agency or Address Boulder Valley Conservation District

Cindy Domenico County Commissioner

Deb Gardner County Commissioner

Elise Jones County Commissioner



Land Use

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930 • Fax: 303.441.4856
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

RECEIVED

OCT 04 2017

Boulder County
Land Use Department

Docket DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations

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Letter is enclosed.

Signed PRINTED Name Chief Sequoia Zahn

Agency or Address Indian Peaks FPD

Cindy Domenico County Commissioner

Deb Gardner County Commissioner

Elise Jones County Commissioner

From: [Lowrey, D](#)
To: [Oeth, Amy](#)
Subject: FW: Scanned from a Xerox Multifunction Device
Date: Thursday, October 05, 2017 4:53:35 PM
Attachments: [Scanned from a Xerox Multifunction Device.pdf](#)

Please see the signed attachment concerning Docket DC-17-0002

David Lowrey
Chief Fire Marshal

O: 303.441.4356
lowreyd@bouldercolorado.gov

Community Risk Reduction
3065 Center Green Dr. | Boulder, CO 80301
Bouldercolorado.gov

-----Original Message-----

From: FireXerox7855@bouldercolorado.gov [<mailto:FireXerox7855@bouldercolorado.gov>]
Sent: Thursday, October 5, 2017 4:10 PM
To: Lowrey, David <LOWREYD@bouldercolorado.gov>
Subject: Scanned from a Xerox Multifunction Device

Please open the attached document. It was scanned and sent to you using a Xerox Multifunction Device.

Attachment File Type: pdf, Multi-Page

Multifunction Device Location:
Device Name: XRX9C934E332EBA

For more information on Xerox products and solutions, please visit <http://www.xerox.com>



Land Use

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Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

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We have reviewed the proposal and have no conflicts.
 Letter is enclosed.

Signed David Lowrey PRINTED Name David Lowrey

Agency or Address Boulder Fire Rescue

Cindy Domenico County Commissioner

Deb Gardner County Commissioner

Elise Jones County Commissioner



Land Use

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930 • Fax: 303.441.4856
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

RECEIVED

OCT 05 2017

Boulder County
Land Use Department

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Signed Carol K. Yoakum PRINTED Name CAROL K. YOAKUM

Agency or Address 44709 N. 95th St Longmont 80504

Cindy Domenico County Commissioner

Deb Gardner County Commissioner

Elise Jones County Commissioner

From: [Brucker - DNR, Sarah](#)
To: [Oeth, Amy](#)
Subject: Re: Referral packet for DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations
Date: Friday, October 06, 2017 1:27:24 PM
Attachments: [image001.png](#)
[Signed Referral Request DWR.pdf](#)

We have no comments. Please see attached for signed referral form.

Sarah Brucker, P.E.
Water Resources Engineer



P 303.866.3581 x 8249
1313 Sherman Street, Suite 821, Denver, CO 80203
sarah.brucker@state.co.us | www.water.state.co.us

On Wed, Sep 27, 2017 at 7:05 AM, Kosloff - DNR, Tracy <tracy.kosloff@state.co.us> wrote:

Dear Sarah:
I can't imagine we'll need to weigh in on this, but, I did see something about stormwater, so, I thought I'd forward it for your consideration.
Regards,
Tracy

----- Forwarded message -----

From: **Milner, Anna** <amilner@bouldercounty.org>
Date: Tue, Sep 26, 2017 at 4:25 PM
Subject: Referral packet for DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations
To:
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Best Regards,

Anna

Anna Milner



Amy work letter

Land Use

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 Letter is enclosed.

Signed _____ PRINTED Name _____

Agency or Address _____

Cindy Domenico County Commissioner

Deb Gardner County Commissioner

Elise Jones County Commissioner

OCT 06 2017

Boulder County
Land Use Department

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
DENVER REGULATORY OFFICE, 9307 SOUTH WADSWORTH BOULEVARD
LITTLETON, COLORADO 80128-69

RE: Section 404 of the Clean Water Act Initial Comments

To whom it concerns:

In accordance with Section 404 of the Clean Water Act, the Corps of Engineers regulates the discharge of dredged or fill material, either temporary or permanent, within waters of the United States (WOUS). WOUS may include ephemeral and/or perennial streams, wetlands, lakes, ponds, drainage ditches and irrigation ditches. This office should be notified by a proponent of the project for Department of the Army permits, changes in permit requirements or jurisdictional determinations pursuant to Section 404 of the Clean Water Act.

If there is a discharge of fill material within WOUS, a Department of the Army Section 404 permit is required. A wetland delineation must be conducted using the methods outlined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*; (using applicable Regional Supplement) to determine wetlands based on the presence of three wetland indicators: hydrophytic vegetation, hydric soils, and wetland hydrology. Wetland delineations must be conducted in the field by a qualified individual, and any aquatic resource boundaries must be identified accordingly. Once the aquatic resources have been identified, only this office can determine if they are WOUS. Please note that development of the upland areas, avoiding stream and wetland resources, does not require authorization from this office.

Nationwide Permits (NWP) authorize common types of fill activities in WOUS that will result in a minimal adverse effect to the environment. Descriptions of the 54 types of nationwide permit activities and their general conditions can be found on our website: <http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/Colorado.aspx>. Some fill activities require notifying the Corps before starting work. Also, some types/sizes of work may require additional information or mitigation.

Regional General Permits (RGP) authorize specific types of fill activities in WOUS that will result in a minimal adverse effect to the environment. Descriptions of the 4 types of regional general permit activities and their general conditions can be found on our website: <http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/Colorado/RegionalGeneralPermits.aspx>. These fill activities require notifying the Corps before starting work, and possibly other local or state agencies. Also, some types/sizes of work may require additional information or mitigation. Please note several of the RGP's are applicant and location specific.

Individual permits may authorize fill activities that are not covered under the NWP or Regional General Permits (RGP's). This permit will be processed through the public interest review procedures, including public notice and receipt of comments. An alternative analysis (AA) must be provided with this permit action. The AA must contain an evaluation of environmental impacts for a range of alternatives which should include the preferred action, no action alternative, and other action alternatives that would be the identified project purpose. Other action alternatives should include other practicable with regards to cost, logistics, and technology that meet the overall project purpose. The alternatives could include offsite alternatives and alternative designs. When evaluating individual permit applications, the Corps can only issue a permit for the least environmentally damaging practicable alternative (LEDPA) to issue, in some cases, this may not be the desired preferred action. The individual permit application form and form instructions can be found on our website: <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/ObtainPermit.aspx>.

If the activity requires a Department of the Army permit as a result of any impacts to WOUS or any earth disturbances within that resource, a federal action will occur. For the Corps to make a permit decision, the applicant must provide enough information to demonstrate compliance with Section 106 of the National Historic Preservation Act (NHPA) and Section 7 of the Endangered Species Act (ESA).

The activity must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to WOUS to the maximum extent practicable at the project site. Mitigation in all its forms (avoiding, minimizing, rectifying, reducing, or compensating for resource losses) will be required to the extent necessary to ensure that the adverse effects to the aquatic environment are minimal. Any loss of an aquatic site may require mitigation. Mitigation requirements will be determined during the Department of the Army permitting review.

If the information that was submitted could impact WOUS, which are jurisdictional resources, this office should be notified. If a section 404 permit is required, work in an aquatic site should be identified by the proponent of the project and be shown on a map identifying the Quarter Section, Township, Range and County, Latitude and Longitude, Decimal Degrees (example 39.55555; -104.55555) and the dimensions of work in each aquatic site.

If there are any questions, please call the Denver Regulatory Office at **303-979-4120**.

Sincerely,



John Urbanic
Chief, Denver Regulatory Office

Enclosures:
-PCN requirements



Pre-Construction Notification (PCN) Requirements

(Nationwide Permit General Condition No. 32
from the January 6, 2017 Federal Register)

US Army Corps of Engineers, Omaha District, Denver Regulatory Office
9307 South Wadsworth Blvd, Littleton, CO 80128
Phone: (303) 979-4120

Contents of Pre-Construction Notification:

The PCN must be in writing and include the following information:

- (1) Name, address and telephone numbers of the prospective permittee;
- (2) Location of the proposed project;
- (3) Identify the specific NWP or NWP(s) the prospective permittee want to use to authorize the proposed activity;
- (4) A description of the proposed activity; the activity's purpose; direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure; a description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity; and any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity, including other separate and distant crossings for linear projects that require Department of the Army authorization but do not require pre-construction notification. The description of the proposed activity and any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or other mitigation measures. For single and complete linear projects, the PCN must include the quantity of anticipated losses of wetlands, other special aquatic sites, and other waters for each single and complete crossing of those wetlands, other special aquatic sites, and other waters. Sketches should be provided when necessary to show that the activity complies with the terms of the NWP. (Sketches usually clarify the activity and when provided results in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed activity (e.g., a conceptual plan), but do not need to be detailed engineering plans);
- (5) The PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current method required by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. Furthermore, the 45 day period will not start until the delineation has been submitted to or completed by the Corps, as appropriate;
- (6) If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and a PCN is required, the prospective permittee must submit a statement describing how the mitigation requirement will be satisfied, or explaining why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required. As an alternative, the prospective permittee may submit a conceptual or detailed mitigation plan.
- (7) For non-Federal permittees, if any listed species or designated critical habitat might be affected or is in the vicinity of the activity, or if the activity is located in designated critical habitat, the PCN must

include the name(s) of those endangered or threatened species that might be affected by the proposed activity or utilize the designated critical habitat that might be affected by the proposed activity. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with the Endangered Species Act;

(8) For non-Federal permittees, if the NWP activity might have the potential to cause effects to a historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places, the PCN must state which historic property might have the potential to be affected by the proposed activity or include a vicinity map indicating the location of the historic property. For NWP activities that require pre-construction notification, Federal permittees must provide documentation demonstrating compliance with section 106 of the National Historic Preservation Act;

(9) For an activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, the PCN must identify the Wild and Scenic River or the "study river" (see general condition 16); and

(10) For an activity that requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, the pre-construction notification must include a statement confirming that the project proponent has submitted a written request for section 408 permission from the Corps office having jurisdiction over that USACE project.

From: [Will Toor](#)
To: [Oeth, Amy](#)
Cc: [Milner, Anna](#)
Subject: Re: Referral packet for DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations
Date: Monday, October 09, 2017 2:41:39 PM

Hi, Amy. Thanks for the opportunity to provide input. My comments are specific to the EV charging requirements.

First, I think the overall intent, to assure that EV charging is available at these parking facilities, makes a lot of sense. EV market share is growing rapidly in Colorado, with a 40% growth in market share in 2016 and another 36% in the first half of 2017. The City of Boulder had the highest market share of any city in the country outside of California last year, with a 4% market share. There are already over 1700 EVs registered in Boulder County. Just in the last month, multiple major manufacturers have announced that they will be introducing many more models of EVs, and GM has stated that it plans to transition to all electric vehicles over the next few decades. Given these changes, it is almost certain that there will be a need to EV charging at all of these parking facilities. And, it is far more cost effective to install charging during initial construction than to come back later and have to rip up asphalt in order to install conduit.

I do have two questions/suggestions. First, I am trying to make sure I understand section d(i). I believe that this section is stating that if the particular site is not suitable for charging, or there is no access to electricity at the site, the applicant would not be required to install a charger, but instead would contribute basically a cash in lieu fee to a charging fund. If this is an accurate reading, I support this approach.

The other is a suggestion about level 2 versus level 3 charging. One level 3 charger can substitute for multiple level 2 chargers. Thus, if an applicant installs level 3, I would encourage you to allow this to substitute for multiple level 2 chargers. Here is some proposed language.

A Level 2 or Level 3 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required for the first 15 parking spaces. If no level 3 EVSE is installed then for each additional 25 parking spaces, one additional Level 2 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required. If level 3 EVSE is installed, then no additional EVSE is required.

Will Toor
Director, Transportation Program
Southwest Energy Efficiency Project
wtoor@swenergy.org
303-447-0078 ext 6
www.swenergy.org

On Sep 26, 2017, at 4:25 PM, Milner, Anna
<amilner@bouldercounty.org> wrote:

From: [George, Donna L](#)
To: [Oeth, Amy](#)
Subject: Amendments to the Boulder County Land Use Code for Parking-Related Uses and Regulations, Case # DC-17-0002
Date: Wednesday, October 11, 2017 12:48:39 PM
Attachments: [No Conflict letter.doc](#)

Donna George
Xcel Energy | Responsible By Nature
Contract Right-of-Way Referral Processor | Right of Way and Permits
1123 West 3rd Avenue, Denver, CO 80223
P: 303-571-3306 | F: 303-571-3660
donna.l.george@xcelenergy.com

XCELENERGY.COM

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Right of Way & Permits
1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571.3284
donna.l.george@xcelenergy.com

October 11, 2017

Boulder County Land Use
PO Box 471
Boulder, CO 80306

Attn: Amy Oeth

Re: Amendments to the Boulder County Land Use Code for Parking-Related Uses and Regulations, Case # DC-17-0002

Public Service Company of Colorado's Right of Way & Permits Referral Desk has reviewed the plan for the above captioned project and has **no apparent conflict**.

If you have any questions about this referral response, please contact me at (303) 571-3306.

Donna George
Contract Right of Way Referral Processor
Public Service Company of Colorado

From: [Josh Olhava](#)
To: [Oeth, Amy](#)
Subject: Docket DC-17-0002 - Broomfield no comment
Date: Thursday, October 12, 2017 10:10:34 AM
Attachments: [Boulder County Referral - no comment \(PZ-17-00283\).pdf](#)

Hi Amy,
We have no comments on the subject Land Use Code Amendments. Please see attached.

Thank you,
Josh

Josh Olhava, AICP

Senior Planner

City and County of Broomfield

[Community Development](#) • [Planning Division](#)

One DesCombes Drive • Broomfield, CO 80020

D: (303) 438-6362



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Land Use

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930 • Fax: 303.441.4856
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

Docket DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations

Request: Review of draft Land Use Code Text amendments regarding a Multimodal Parking Facility use definition and an accessory Parking use definition. (Staff planner: Amy Oeth)

Dear Stakeholder/Interested Party,

On August 22, 2017, the Board of County Commissioners authorized Land Use staff to pursue text amendments to the Boulder County Land Use Code specific to parking-related uses and regulations.

Why: Staff identified a need for a use definition that allows for offsite parking in areas where onsite parking is constrained and where the allowance of offsite parking facilities would help maintain the character and function of the area.

This is the initial referral draft of the proposed regulations to garner feedback and make necessary changes to the draft before it starts the public hearing process. We value your comments and ideas for improvement. In this draft, staff proposes to replace the existing *Park and Ride* use with an expanded definition of a *Multimodal Parking Facility*. Staff also proposes removing provisions for *Parking* in Article 4-500 and replacing it with an accessory *Parking* use in Article 5-516.

A draft of the proposed text amendments is attached to this letter for your review. You may also view the proposed draft text amendments and future revisions in our office or online at: <https://www.bouldercounty.org/property-and-land/land-use/planning/land-use-code-update/dc-17-0002/>

The docket review process for the proposed amendments will include a public hearing before the Boulder County Planning Commission, tentatively scheduled for November 15, 2017, and a public hearing before the Boulder County Board of County Commissioners, to be scheduled within a month after Planning Commission. Public comments will be taken at both hearings. Confirmation of hearing dates and times will be published online at the link above and in local newspapers.

The Land Use staff and County Commissioners value comments from individuals and referral agencies. Please check the appropriate response below or send a letter or email with your comments. All comments will be made part of the public record. If you have any questions regarding this docket, please contact us at (303) 441-3930 or aoeth@bouldercounty.org.

Please return responses to the above address by October 18, 2017. Late responses will be reviewed as the process permits.

We have reviewed the proposal and have no conflicts.
 Letter is enclosed.

Signed  PRINTED Name Joshua D. Olham, AICP

Agency or Address City & County of Broomfield

Cindy Domenico County Commissioner

Deb Gardner County Commissioner

Elise Jones County Commissioner

RECEIVED
SEP 29 2017
PLANNING

From: [Cynthia Bakke](#)
To: [Oeth, Amy](#)
Subject: Docket DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulation
Date: Thursday, October 12, 2017 1:20:42 PM

Thank you for the opportunity to comment on the amendments to the Land Use code pertaining to parking uses and regulation. I appreciate the consideration for multimodal transit and safety elements proposed. Additionally, the Special Review process for lots containing 15 or more cars can allow a more site-specific examination for recommendations and associated conditions.

Specifically, I'd like to add additional considerations for **Sec. 4-516 W5(g) A stormwater management plan is required.**

To this, a subsection in consideration of green parking elements:

- Tree-friendly parking lots
- Zone-appropriate and Water-conservation specific landscaping
- Low Impact Development (LID) stormwater techniques aka bioretention areas, swales, vegetated buffer strips/Riparian buffers, dry detention basins where more appropriate with wet retention basins in consideration of wildlife habitats and infiltration trenches
 - Bio-Retention parking areas with rain garden designs/appropriate plants/grasses/trees/shrubbery
- Planned Shading: initial and as trees age throughout, to reduce heat-islands
- Alternative pavement options such as permeable pavers, grass pavers where appropriate, or gravel with ADA compliant hard-surfaces as required. Use of recycled asphalt to reduce the impact to non-renewable petroleum-based materials in the production of new asphalt as well as porous asphalt, pervious concrete. Material choice/technology must be durable enough to work with existing snowplowing operations, and/or require additional training to maintain infrastructure properly
- Improved ADA visibility and access
- Linking parking to smart growth
- Alteration to zoning code as needed to support more bio-friendly options, and support alternative transit options to reduce the need for parking as a growing land use need, i.e. parking fee reduction for ridesharing/carpooling
 - Individual parking needs assessment with encouragement of siting a lot to serve multiple uses via incentives
 - Consideration of parking maximums or caps and existing parking ratios
- In larger sized lots, a baseline environmental assessment in the acknowledgement of habitat and local flora/fauna/aquatic habitat disturbances, best management practices, along with a follow up assessment of conditions to determine adequacy of drainage technology to prevent further erosion
 - In this regard, the consideration of multifunctional plant guilds to assist the changing habitat with the loss of greenspace for parking

Cynthia Bakke

Planning and Building Technician

Town of Nederland/Town Hall
45 W. First Street / P.O. Box 396
Nederland, CO 80466
303.258.3266 x22
303.258.1240 (fax)
www.nederlandco.org

****Please consider the environment before printing this message****

"Find your place on the planet. Dig in, and take responsibility from there." ~~~Gary Snyder

From: [Bruce \(Biff\) W. Warren](#)
To: [Oeth, Amy](#)
Cc: [Faberman Harris](#); [Anthony Santelli](#); [Tim Wise](#); [Chuck Klueber](#); ["Cotton Burden"](#); [Catherine McHale](#)
Subject: Parking Related Uses - Proposed Amendments
Date: Friday, October 13, 2017 5:35:13 PM
Attachments: [Comments to Parking Regulations.pdf](#)

Amy – Attached are suggested edits to the proposed regulations, submitted on behalf of the Niwot Future League (NFL) formerly known as the Revitalization Committee, an ad hoc committee of the Niwot Local Improvement District. We have long proposed a change in the Code that would allow a parking use broader than the existing Park and Ride Facility. While we proposed a simple change that would have allowed uses such as a proposed parking lot in Niwot to serve the downtown business district, we understand your desire to reexamine all of the parking provisions and update them. The one substantive change we would propose would be to remove the “open space” language in 4-513 D. 4. b. and 4-516 W. 5. a. so that any facility owned by the government which has a management plan need not be subject to further review. The parking lot in Niwot which has been proposed would be owned by Boulder County, and if a management plan were adopted, it would seem that the review process for creation of the management plan would work the same as it would for open space parking lots.

Thank you for the opportunity to comment.

Bruce W. (Biff) Warren
Warren, Carlson & Moore, LLP
www.niwotlaw.com
P.O. Box 610
Niwot, CO 80544-0610
303 652-2433; 303 652-2449 (fax)

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Land Use

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930 • Fax: 303.441.4856
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

Docket DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations

Request: Review of draft Land Use Code Text amendments regarding a Multimodal Parking Facility use definition and an accessory Parking use definition. (Staff planner: Amy Oeth)

Dear Stakeholder/Interested Party,

On August 22, 2017, the Board of County Commissioners authorized Land Use staff to pursue text amendments to the Boulder County Land Use Code specific to parking-related uses and regulations.

Why: Staff identified a need for a use definition that allows for offsite parking in areas where onsite parking is constrained and where the allowance of offsite parking facilities would help maintain the character and function of the area.

This is the initial referral draft of the proposed regulations to garner feedback and make necessary changes to the draft before it starts the public hearing process. We value your comments and ideas for improvement. In this draft, staff proposes to replace the existing *Park and Ride* use with an expanded definition of a *Multimodal Parking Facility*. Staff also proposes removing provisions for *Parking* in Article 4-500 and replacing it with an accessory *Parking* use in Article 5-516.

A draft of the proposed text amendments is attached to this letter for your review. You may also view the proposed draft text amendments and future revisions in our office or online at: <https://www.bouldercounty.org/property-and-land/land-use/planning/land-use-code-update/dc-17-0002/>

The docket review process for the proposed amendments will include a public hearing before the Boulder County Planning Commission, tentatively scheduled for November 15, 2017, and a public hearing before the Boulder County Board of County Commissioners, to be scheduled within a month after Planning Commission. Public comments will be taken at both hearings. Confirmation of hearing dates and times will be published online at the link above and in local newspapers.

The Land Use staff and County Commissioners value comments from individuals and referral agencies. Please check the appropriate response below or send a letter or email with your comments. All comments will be made part of the public record. If you have any questions regarding this docket, please contact us at (303) 441-3930 or aoeth@bouldercounty.org.

Please return responses to the above address by October 18, 2017. Late responses will be reviewed as the process permits.

We have reviewed the proposal and have no conflicts.

Letter is enclosed. *Email*

Signed *Bruce W. Warren* PRINTED Name Bruce W. Warren

Agency or Address *Niwot Future League*

Cindy Domenico County Commissioner

Deb Gardner County Commissioner

Elise Jones County Commissioner

Attachment: DC-17-0002 - Proposed Boulder County Land Use Code changes in relation to parking.

Notes:

- Proposed changes are located in Articles 4-513 and 4-516
- Underlined text delineates proposed new language.
- Text proposed for removal is delineated through a strikethrough.

Article 4-513 Transportation Uses

Delete existing use

~~D. Park and Ride Facility~~

- ~~1. Definition: A parking area and transit facility the purpose of which is to allow the parking of motor vehicles with a connection to mass transit service.~~
- ~~2. Districts Permitted: By Special Review in all districts~~
- ~~3. Parking Requirements: To be determined through Special Review~~
- ~~4. Loading requirements: none~~
- ~~5. Additional Provisions: none~~

Replace with new use

D. Park and Ride Multimodal Parking Facility

1. Definitions: A public parking area and transit facility the purpose of which is to allow the parking of motor ~~automotive~~ vehicles and non-automotive modes to connect with a connection to mass transit, shuttle services, or rideshare programs; or a public parking area to allow the parking of automotive and non-automotive modes to service an area of public significance such as existing townsites, open space, and areas which have cultural, environmental, or historical value, where provision of on-site parking is constrained and allowing off-site parking facilities would help maintain the character and function of the area or district served.
2. Districts Permitted: In all districts, by Limited Impact Special Review for lots with 15 or less spaces or by Special Review for lots with more than 15 spaces.
3. Loading requirements: ~~none~~ To be determined through Special Review or Limited Impact Special Review
4. Additional Provisions: ~~none~~
 - a. This use is not required to be located on a building lot or comply with the minimum lot size requirement for the district in which it is located.
 - b. Parking for uses on ~~open space~~ parcels controlled by a government entity shall not require further review under this section if the parking lot is in accordance with an ~~open space~~ management plan approved by the Board of County Commissioners.
 - c. The parking facility must meet the provisions of Article 5 of the Boulder County Multimodal Transportation Standards.

d. Electric vehicle service equipment ("EVSE"), also referred to as a charging station, must be provided for parking lots with 15 or more automotive vehicle spaces.

(i) On-site installation may not be required if a more suitable location is available. Factors to be considered in determining suitability are land use impacts, proximity to employment areas, townsites or historical areas, existing or planned EVSE infrastructure in the area, electric infrastructure on-site and nearby, and location in relation to arterial roadways. In cases where on-site installation is not required, the applicant shall be subject to the *Electric Vehicle Charging Fund* standards.

(ii) A Level 2 or Level 3 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required for the first 15 parking spaces. For each additional 25 parking spaces, one additional Level 2 or Level 3 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required.

(iii) For ease of use, parking spaces with an EVSE shall be designated for electric vehicle charging, and stations are required connect to an electric vehicle charging information network.

of a parking lot with 15 or more spaces

e. Multimodal traffic circulation systems shall be designed to mitigate conflicts between vehicular, bicycle, and pedestrian traffic. Pedestrian paths or sidewalks will connect to transit or shuttle stops, and the public area served. When an area of public significance is served, pedestrian walkways or sidewalks on the parcel will connect to existing or planned walkways to the area being served.

f. If nighttime use is expected at the facility, lighting may be required for security and safety purposes. Lighting shall comply with Article 7-1600 Outdoor Lighting of the Boulder County Land Use Code. Additional restrictions on quantity of lights, hours of operation and lighting locations may be determined through the applicable review process.

g. A stormwater management plan is required.

h. Rideshare requirements will be determined during special review. Depending on the location and use of the multimodal parking facility, designated parking spots for rideshare vehicles may be required.

Article 4-516 Accessory Uses

Remove Parking from Article 4-500

~~4-500~~

~~V. Parking~~

- ~~1. The quantity and location of vehicle parking shall be appropriate for the site and use characteristics. A deviation in the number of required parking spaces as described in each use classification may be appropriate based on the specific circumstances of the proposal including but not limited to available on-street parking, seasonal or temporary needs for parking, shared parking agreements, reliance on alternative modes or other transportation demand management strategies.~~
- ~~2. A parking area may be shared to meet the parking requirements provided a signed agreement of sufficient length of time is provided. Revocation of the agreement will result in the loss of the dependent use until that use has provided adequate parking through other means.~~
- ~~3. For multiuse facilities, the parking for the most intensive use as defined in by the Land Use Department shall control.~~

Replace with new accessory use

~~4-500~~516

W. Parking

1. Definition: A parking area
2. Districts Permitted: By right in all districts, subject to the additional provisions below and any specific provisions associated with the property's principal use.
3. Parking Requirements
 - a. The quantity and location of vehicle parking shall be appropriate for the use and site and use characteristics. A deviation in Deviating from the number of required parking spaces as described in each use classification may be appropriate based on the specific circumstances of the a proposal including without limitation but not limited to available on-street parking, seasonal or temporary needs for parking, shared parking agreements, reliance on alternative modes or other transportation demand management strategies.
 - b. A parking area may be shared to meet the parking requirements, provided a signed-sufficient, binding agreement for the duration the parking area that will be shared is required. of sufficient length of time is provided. Revocation of the agreement will result in the loss of the dependent use until that use has provided adequate parking through other means.
 - c. For multiuse facilities, the parking for the most intensive use as defined in by the Land Use Department shall control.
4. Loading requirements: none As needed for primary use requirements
5. Additional Provisions:

- a. Parking for uses on ~~open space~~ parcels controlled by a government entity shall not require further review under this code if the parking lot is in accordance with an ~~open space~~ management plan approved by the Board of County Commissioners.
- b. The parking facility must meet the provisions of Article 5 of the Boulder County Multimodal Transportation Standards.
- c. Electric vehicle service equipment ("EVSE"), also referred to as a charging station, must be provided for parking lots with 15 or more automotive vehicle spaces.
 - (i) On-site installation may not be required if a more suitable location is available. Factors to be considered in determining suitability are land use impacts, proximity to employment areas, townsites or historical areas, existing or planned EVSE infrastructure in the area, electric infrastructure on-site and nearby, and location in relation to arterial roadways. In cases where on-site installation is not required, the applicant shall be subject to the *Electric Vehicle Charging Fund* standards.
 - (ii) A Level 2 or Level 3 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required for the first 15 parking spaces. For each additional 25 parking spaces, one additional Level 2 or Level 3 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required. A deviation in the number of required plugs may be appropriate based on site-specific circumstances.
 - (iii) For ease of use, parking spaces with an EVSE shall be designated for electric vehicle charging, and stations are required connect to an electric vehicle charging information network.
- d. Multimodal circulation systems shall be designed to avoid conflicts between vehicular, bicycle, and pedestrian traffic. Pedestrian paths or sidewalks will connect to the area being served.
- e. If nighttime use is expected at the facility, lighting may be required for security and safety purposes. Lighting shall comply with Article 7-1600 Outdoor Lighting of the Boulder County Land Use Code. Additional restrictions on quantity of lights, hours of operation and lighting locations may be determined through the applicable review process.
- f. A stormwater management plan is required.
- g. For uses applying Transportation Demand Management strategies, areas reserved for rideshare vehicles shall have markings and signs indicating that the space is reserved for a rideshare vehicle.

of a parking lot with 15 or more spaces.

From: [Smith, Richard](#)
To: [Oeth, Amy](#)
Subject: DC-17-0002
Date: Tuesday, October 17, 2017 12:47:40 PM

Amy,

We have reviewed the draft of the proposed changes and have no comments.

Dick Smith

Richard T. Smith P.E.
Floodplain Specialist
Boulder County Transportation Department
2525 13th Street, Suite 203
P.O. Box 471
Boulder, Colorado 80306

rsmith@bouldercounty.org

720-564-2754

www.bouldercounty.org

From: [Do Not Reply](#)
To: [Oeth, Amy](#)
Subject: DC-17-0002 - Building Division Review
Date: Tuesday, October 17, 2017 2:01:25 PM

The Building Division Review workflow task for DC-17-0002 has been updated to **Referral Submitted** and the following comments entered:

null

Please see the Accela record for more information.

email sent by EMSE: PLN_Referrals_Entered

From: [Milner, Anna](#)
To: [Oeth, Amy](#)
Subject: FW: DC-17-0002 - Parking Regulations Amendments
Date: Wednesday, October 18, 2017 1:20:38 PM

Referral response from CDOT.

Anna Milner

Admin. Lead Tech. | Planning Division
Boulder County Land Use Dept. | PO Box 471 | Boulder, CO 80306
(720) 564-2638 (Direct) | (303) 441-4856 (Fax)

From: Gloria Hice-Idler [hiceidlercdot@hotmail.com]
Sent: Wednesday, October 18, 2017 1:12 PM
To: Milner, Anna
Cc: timothy.bilobran@state.co.us
Subject: DC-17-0002 - Parking Regulations Amendments

Anna,

I'm helping Tim Bilobran of CDOT with referrals. CDOT has no comment regarding the amendments.

If you have any questions, please contact me.

Gloria Hice-Idler
(970) 350-2164 - CDOT Phone Number

Sent from [Outlook](#)



Land Use

Attachment C: Referrals and Comments
Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930 • Fax: 303.441.4856
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

Docket DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations

Request: Review of draft Land Use Code Text amendments regarding a Multimodal Parking Facility use definition and an accessory Parking use definition. (Staff planner: Amy Oeth)

Dear Stakeholder/Interested Party,

On August 22, 2017, the Board of County Commissioners authorized Land Use staff to pursue text amendments to the Boulder County Land Use Code specific to parking-related uses and regulations.

Why: Staff identified a need for a use definition that allows for offsite parking in areas where onsite parking is constrained and where the allowance of offsite parking facilities would help maintain the character and function of the area.

This is the initial referral draft of the proposed regulations to garner feedback and make necessary changes to the draft before it starts the public hearing process. We value your comments and ideas for improvement. In this draft, staff proposes to replace the existing *Park and Ride* use with an expanded definition of a *Multimodal Parking Facility*. Staff also proposes removing provisions for *Parking* in Article 4-500 and replacing it with an accessory *Parking* use in Article 5-516.

A draft of the proposed text amendments is attached to this letter for your review. You may also view the proposed draft text amendments and future revisions in our office or online at: <https://www.bouldercounty.org/property-and-land/land-use/planning/land-use-code-update/dc-17-0002/>

The docket review process for the proposed amendments will include a public hearing before the Boulder County Planning Commission, tentatively scheduled for November 15, 2017, and a public hearing before the Boulder County Board of County Commissioners, to be scheduled within a month after Planning Commission. Public comments will be taken at both hearings. Confirmation of hearing dates and times will be published online at the link above and in local newspapers.

The Land Use staff and County Commissioners value comments from individuals and referral agencies. Please check the appropriate response below or send a letter or email with your comments. All comments will be made part of the public record. If you have any questions regarding this docket, please contact us at (303) 441-3930 or aoeth@bouldercounty.org.

Please return responses to the above address by October 18, 2017. Late responses will be reviewed as the process permits.

We have reviewed the proposal and have no conflicts.

Letter is enclosed.

Signed *Jeff Eden* PRINTED Name Jeff Eden
Agency or Address AAL *Jeff* P.O. Box 334, Allenspark CO
80510

Cindy Domenico County Commissioner

Deb Gardner County Commissioner

Elise Jones County Commissioner

04/16/17

From: [Jeff Kolen](#)
To: [Oeth, Amy](#)
Cc: [Case, Dale](#)
Subject: Docket DC-17-0002 Amendments To the Boulder County Land Use Code for Parking-Related Uses and Regulations
Date: Wednesday, October 18, 2017 1:26:09 PM

First, what exactly is driving these changes? Be specific as to locations, dates and such items as are pertinent that the causes for such a drastic modification may be evaluated. To wipe out the protections currently provided for neighboring parcels should not be taken lightly. To suddenly allow potential impacts including noise and automobile pollution, light pollution, increased foot traffic, trespassing and the like would be a mistake significantly affecting the surrounding area. Especially if this were to be considered a use by right subject to only cursory review.

Secondly regarding changes to Article 4-500: We must define cultural, environmental and Historical value. These must truly be applicable and vetted publically with such vetting to be verified and agreed to by neighboring parcels.

Thirdly regarding changes to Article 4-500: Who is to bear the costs for charging stations, walkways and lighting? It had better be the party receiving the benefit of the increased parking and as such being permitted to proceed with their particular project. This cost should not be borne by Boulder County or surrounding parcels.

Lastly existing projects already filed for and having applications in process should not be allowed to benefit from this change in regulation but rather be required to remain in compliance with such regulation as was in place when process was begun. For example docket SU-16-0001 The Old Gallery in Allenspark which would derive benefit without affording affected neighbors process by which they could mitigate concerns regarding problems generated by lack of parking for The Old Gallery.

We look forward to hearing about further developments regarding these amendments.

For Allenspark Area Landowners
Jeff Kolen. PO Box 334
Allenspark, CO 80510

From: [Bruce \(Biff\) W. Warren](#)
To: [Oeth, Amy](#)
Subject: Niwot Parking Regs
Date: Wednesday, October 18, 2017 5:33:56 PM
Attachments: [DOC101817-10182017172239.pdf](#)

Amy - I sent some suggested changes earlier, but attached is another version with some corrections (typos) that were not included.

Biff
For The Niwot Future League

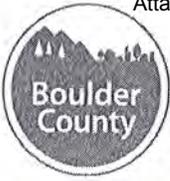
Bruce W. (Biff) Warren
Warren, Carlson & Moore, LLP
www.niwotlaw.com
P.O. Box 610
Niwot, CO 80544-0610
303 652-2433; 303 652-2449 (fax)

The information contained in this transmission may contain privileged and confidential information. It is intended only for the use of the person(s) named above. If you are not the intended recipient, you are hereby notified that any review, dissemination, distribution or duplication of this communication is strictly prohibited. If you are not the intended recipient, please contact the sender by reply email and destroy all copies of the original message. To reply to our email administrator directly, please send an email to info@niwotlaw.com.

U.S. TREASURY DEPT. CIRCULAR 230 NOTICE: Unless expressly indicated, any U.S. Federal tax advice included in this communication (including any attachments) is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding U.S. Federal tax-related penalties or (ii) promoting, marketing or recommending to another party any tax-related matter addressed herein.

-----Original Message-----
From: TJM Office
Sent: Wednesday, October 18, 2017 5:23 PM
To: Biff Warren <BIFF@niwotlaw.com>
Subject: 10/18/2017 17:22

Scanned from MFP07318416
Date:10/18/2017 17:22
Pages:5
Resolution:300x300 DPI



Land Use

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930 • Fax: 303.441.4856
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

Docket DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations

Request: Review of draft Land Use Code Text amendments regarding a Multimodal Parking Facility use definition and an accessory Parking use definition. (Staff planner: Amy Oeth)

Dear Stakeholder/Interested Party,

On August 22, 2017, the Board of County Commissioners authorized Land Use staff to pursue text amendments to the Boulder County Land Use Code specific to parking-related uses and regulations.

Why: Staff identified a need for a use definition that allows for offsite parking in areas where onsite parking is constrained and where the allowance of offsite parking facilities would help maintain the character and function of the area.

This is the initial referral draft of the proposed regulations to garner feedback and make necessary changes to the draft before it starts the public hearing process. We value your comments and ideas for improvement. In this draft, staff proposes to replace the existing *Park and Ride* use with an expanded definition of a *Multimodal Parking Facility*. Staff also proposes removing provisions for *Parking* in Article 4-500 and replacing it with an accessory *Parking* use in Article 5-516.

A draft of the proposed text amendments is attached to this letter for your review. You may also view the proposed draft text amendments and future revisions in our office or online at: <https://www.bouldercounty.org/property-and-land/land-use/planning/land-use-code-update/dc-17-0002/>

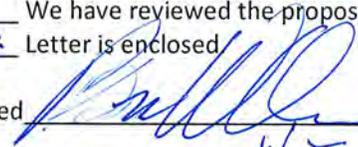
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The Land Use staff and County Commissioners value comments from individuals and referral agencies. Please check the appropriate response below or send a letter or email with your comments. All comments will be made part of the public record. If you have any questions regarding this docket, please contact us at (303) 441-3930 or aoeth@bouldercounty.org.

Please return responses to the above address by October 18, 2017. Late responses will be reviewed as the process permits.

We have reviewed the proposal and have no conflicts.

Letter is enclosed

Signed  PRINTED Name Bruce W. Warren

Agency or Address NFL - see circled items (some sent earlier, some new)

Cindy Domenico County Commissioner

Deb Gardner County Commissioner

Elise Jones County Commissioner

Attachment: DC-17-0002 - Proposed Boulder County Land Use Code changes in relation to parking.

Notes:

- Proposed changes are located in Articles 4-513 and 4-516
- Underlined text delineates proposed new language.
- Text proposed for removal is delineated through a strikethrough.

Article 4-513 Transportation Uses

Delete existing use

~~D. Park and Ride Facility~~

- ~~1. Definition: A parking area and transit facility the purpose of which is to allow the parking of motor vehicles with a connection to mass transit service.~~
- ~~2. Districts Permitted: By Special Review in all districts~~
- ~~3. Parking Requirements: To be determined through Special Review~~
- ~~4. Loading requirements: none~~
- ~~5. Additional Provisions: none~~

Replace with new use

D. ~~Park and Ride~~ Multimodal Parking Facility

1. Definitions: A public parking area and transit facility the purpose of which is to allow the parking of motor automotive vehicles and non-automotive modes to connect with a connection to mass transit, shuttle services, or rideshare programs; or a public parking area to allow the parking of automotive and non-automotive modes to service an area of public significance such as existing townsites, open space, and areas which have cultural, environmental, or historical value, where provision of on-site parking is constrained and allowing off-site parking facilities would help maintain the character and function of the area or district served.
2. Districts Permitted: In all districts, by Limited Impact Special Review for lots with 15 or less spaces or by Special Review for lots with more than 15 spaces.
3. Loading requirements: ~~none~~ To be determined through Special Review or Limited Impact Special Review
4. Additional Provisions: ~~none~~
 - a. This use is not required to be located on a building lot or comply with the minimum lot size requirement for the district in which it is located.
 - b. Parking for uses on ~~open space~~ parcels controlled by a government entity shall not require further review under this section if the parking lot is in accordance with ~~an open space~~ management plan approved by the Board of County Commissioners.
 - c. The parking facility must meet the provisions of Article 5 of the Boulder County Multimodal Transportation Standards.

- d. Electric vehicle service equipment ("EVSE"), also referred to as a charging station, must be provided for parking lots with 15 or more automotive vehicle spaces.
 - (i) On-site installation may not be required if a more suitable location is available. Factors to be considered in determining suitability are land use impacts, proximity to employment areas, townsites or historical areas, existing or planned EVSE infrastructure in the area, electric infrastructure on-site and nearby, and location in relation to arterial roadways. In cases where on-site installation is not required, the applicant shall be subject to the *Electric Vehicle Charging Fund* standards.
 - (ii) A Level 2 or Level 3 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required for the first 15 parking spaces. For each additional 25 parking spaces, one additional Level 2 or Level 3 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required.
 - (iii) For ease of use, parking spaces with an EVSE shall be designated for electric vehicle charging, and stations are required connect to an electric vehicle charging information network.
- e. Multimodal traffic circulation systems shall be designed to mitigate conflicts between vehicular, bicycle, and pedestrian traffic. Pedestrian paths or sidewalks will connect to transit or shuttle stops, and the public area served. When an area of public significance is served, pedestrian walkways or sidewalks on the parcel will connect to existing or planned walkways to the area being served.
- f. If nighttime use is expected at the facility, lighting may be required for security and safety purposes. Lighting shall comply with Article 7-1600 Outdoor Lighting of the Boulder County Land Use Code. Additional restrictions on quantity of lights, hours of operation and lighting locations may be determined through the applicable review process.
- g. A stormwater management plan is required.
- h. Rideshare requirements will be determined during special review. Depending on the location and use of the multimodal parking facility, designated parking spots for rideshare vehicles may be required.

Article 4-516 Accessory Uses

Remove Parking from Article 4-500

4-500

V. Parking

1. ~~The quantity and location of vehicle parking shall be appropriate for the site and use characteristics. A deviation in the number of required parking spaces as described in each use classification may be appropriate based on the specific circumstances of the proposal including but not limited to available on-street parking, seasonal or temporary needs for parking, shared parking agreements, reliance on alternative modes or other transportation demand management strategies.~~
2. ~~A parking area may be shared to meet the parking requirements provided a signed agreement of sufficient length of time is provided. Revocation of the agreement will result in the loss of the dependent use until that use has provided adequate parking through other means.~~
3. ~~For multiuse facilities, the parking for the most intensive use as defined in by the Land Use Department shall control.~~

Replace with new accessory use

4-500516

W. Parking

1. Definition: A parking area
2. Districts Permitted: By right in all districts, subject to the additional provisions below and any specific provisions associated with the property's principal use.
3. Parking Requirements
 - a. The quantity and location of vehicle parking shall be appropriate for the use and site and use characteristics. ~~A deviation in~~ Deviating from the number of required parking spaces as described in each use classification may be appropriate based on the specific circumstances of ~~the a~~ a proposal including without limitation ~~but not limited to~~ available on-street parking, seasonal or temporary needs for parking, shared parking agreements, reliance on alternative modes or other transportation demand management strategies.
 - b. A parking area may be shared to meet the parking requirements, ~~provided a signed sufficient, binding agreement for the duration~~ provided a signed sufficient, binding agreement for the duration of the use of the parking area that will be shared is required. ~~of sufficient length of time is provided. Revocation of the agreement will result in the loss of the dependent use until that use has provided adequate parking through other means.~~
 - c. For multiuse facilities, the parking for the most intensive use as defined in by the Land Use Department shall control.
4. Loading requirements: none As needed for primary use requirements
5. Additional Provisions:

- a. Parking for uses on open space parcels controlled by a government entity shall not require further review under this code if the parking lot is in accordance with an open space management plan approved by the Board of County Commissioners.
- b. The parking facility must meet the provisions of Article 5 of the Boulder County Multimodal Transportation Standards.
- c. Electric vehicle service equipment ("EVSE"), also referred to as a charging station, must be provided for parking lots with 15 or more automotive vehicle spaces.
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 - (ii) A Level 2 or Level 3 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required for the first 15 parking spaces. For each additional 25 parking spaces, one additional Level 2 or Level 3 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required. A deviation in the number of required plugs may be appropriate based on site-specific circumstances.
 - (iii) For ease of use, parking spaces with an EVSE shall be designated for electric vehicle charging, and stations are required to connect to an electric vehicle charging information network.
- d. Multimodal circulation systems shall be designed to avoid conflicts between vehicular, bicycle, and pedestrian traffic. Pedestrian paths or sidewalks will connect to the area being served.
- e. If nighttime use is expected at the facility, lighting may be required for security and safety purposes. Lighting shall comply with Article 7-1600 Outdoor Lighting of the Boulder County Land Use Code. Additional restrictions on quantity of lights, hours of operation and lighting locations may be determined through the applicable review process.
- f. A stormwater management plan is required.
- g. For uses applying Transportation Demand Management strategies, areas reserved for rideshare vehicles shall have markings and signs indicating that the space is reserved for a rideshare vehicle.

From: [Bonnell, Juliet](#)
To: [Oeth, Amy](#)
Subject: DC-17-0002 - Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations
Date: Friday, October 20, 2017 3:50:42 PM
Attachments: [image002.png](#)
[DC-17-0002 OSMP Signed Memo and Final Comments .pdf](#)

Hi Amy,

Thank you for the extension for submitting comments as well as your answers to my numerous questions this week.

Please find attached OSMP's comments and signed memo.

Thank you for sharing your schedule with me. I will try to find a time for you and your City Attorney to meet with me and my team to continue to discuss and answer some of our outlying questions.

Thanks and Happy Friday!

Juliet Bonnell
Associate Planner



City of Boulder
Open Space & Mountain Parks

720-564-2060

bonnellj@bouldercolorado.gov

Open Space & Mountain Parks
66 S. Cherryvale Rd. | Boulder, CO 80303
Bouldercolorado.gov



Land Use

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Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

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The Land Use staff and County Commissioners value comments from individuals and referral agencies. Please check the appropriate response below or send a letter or email with your comments. All comments will be made part of the public record. If you have any questions regarding this docket, please contact us at (303) 441-3930 or aoeth@bouldercounty.org.

-extension granted by Amy Oeth until 10/20/17

Please return responses to the above address by **October 18, 2017**. Late responses will be reviewed as the process permits.

- We have reviewed the proposal and have no conflicts.
- Letter is enclosed.

Signed *Juliet Bonnell* PRINTED Name Juliet Bonnell

Agency or Address City of Boulder Open Space and Mountain Parks



City of Boulder
Open Space and Mountain Parks
P.O. Box 791, Boulder, CO 80306; 303-441-3440

MEMORANDUM

To: Amy Oeth, Planner, Boulder County Land Use Department

From: Juliet Bonnell, Associate Planner, City of Boulder Open Space and Mountain Parks

Date: 10/20/2017

Re: Docket DC-17-0002
Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations

Thank you for the opportunity to review the draft Land Use Code Text amendments referenced above. The Boulder County Land Use Code for Parking-related Uses and Regulations has implications for the management of City of Boulder Open Space and Mountain Parks (OSMP). Please consider the following comments regarding the proposed amendments to the land use regulations.

During initial review of the docket, it appeared that the intent of the amendments was to define a use that allows for offsite parking in areas where onsite parking is constrained such as park-and-ride facilities and shuttle parking. While the proposed amendments address this topic, they also outline many changes beyond that affecting parking lots in general. Taken together, these changes have the potential for significant consequences to the City of Boulder's OSMP department and the way in which trailhead parking is designed and implemented as well as the costs of construction and operations. We are interested in better understanding the implications of these proposed changes.

To meet this interest, we will be meeting with Boulder County staff in the next couple weeks. The proposed amendments include special provisions for parking lots serving open space, which we understand to be due to the recognition by the county of the special nature of these facilities. Since the majority of OSMP trailheads are in unincorporated Boulder County, we have an interest in working with the county to coordinate and streamline an intergovernmental approach around trailhead parking lots. We look forward to exploring options together. In the meantime, we have comments and clarifying questions regarding the proposed amendments. These are appended as comments on the proposed amendments to the land use code.

In addition to these embedded comments and questions, OSMP staff has identified several scenarios that represent typical situations and actions that we encounter or anticipate encountering. We look forward to discussing these when we meet with county staff.

Please feel free to contact me if you have any questions or comments about this response.

Article 4-513 Transportation Uses

Delete existing use

~~D. Park and Ride Facility~~

- ~~1. Definition: A parking area and transit facility the purpose of which is to allow the parking of motor vehicles with a connection to mass transit service.~~
- ~~2. Districts Permitted: By Special Review in all districts~~
- ~~3. Parking Requirements: To be determined through Special Review 4. Loading requirements: none~~
- ~~5. Additional Provisions: none~~

Replace with new use

D. Park and Ride Multimodal Parking Facility

1. Definitions: A public parking area and transit facility the purpose of which is to allow the parking of ~~motor automotive vehicles and non-automotive modes to connect with a connection to mass transit, shuttle services, or rideshare programs; or a public parking area to allow the parking of~~ automotive and non-automotive modes to service an area of public significance such as existing townsites, open space, and areas which have cultural, environmental, or historical value, where provision of on-site parking is constrained and allowing off-site parking facilities would help maintain the character and function of the area or district served.
2. Districts Permitted: In all districts, by Limited Impact Special Review for lots with 15 or less spaces or by Special Review for lots with more than 15 spaces.
3. Loading requirements: ~~none~~ To be determined through Special Review or Limited Impact Special Review
4. Additional Provisions: ~~none~~
 - a. This use is not required to be located on a building lot or comply with the minimum lot size requirement for the district in which it is located.
 - b. Parking for uses on open space parcels controlled by a government entity shall not require further review under this section if the parking lot is in accordance with an open space management plan approved by the Board of County Commissioners.
 - c. The parking facility must meet the provisions of Article 5 of the Boulder County Multimodal Transportation Standards.

Commented [A1]: What would be required of a governmental entity as an "open space management plan" to meet the provisions of this section? Could it be limited to a description of proposed parking in the context of the general open space services provided?

Commented [A2]: OSMP staff has limited experience using and familiarity with Article 5 of the Boulder County Multimodal Transportation Standards; therefore, the below clarifications would increase our understanding of its implications:

- Will the Boulder County Multimodal Transportation Standards be amended to include standards specific for Multimodal Parking or will the existing standards in Section 5.6 Parking Facilities remain the same?
- Section 5.6.2.1 states that parking lots shall be paved for all public uses that meet or exceed 150 daily trips. Are open space trailhead parking lots considered public uses that would require paving? Is there an alternative for open space trailhead parking areas?
- Section 5.6.2.2 indicates that parking spaces will be delineated with lines. We don't currently line our parking spaces in gravel trailhead parking lots. What is acceptable?
- Section 5.6.2.3 indicates that bumper guards or curbing shall be located so that no part of any vehicle shall extend beyond the parking area. Does this mean that bumpers/curbs will be required at all trailhead parking areas?
- Section 5.6.2.5 notes that parking areas with more than 6 spaces shall be partially screened from public view. Do OSMP's fences at trailhead parking areas count? Typically, we don't want to screen the views since the parking areas are adjacent to open space lands that provide scenic value to the community.
- Section 5.6.5.4 states that bicycle parking shall be secure... including a permanent foundation that is securely anchored to the ground. OSMP does not pour cement foundation- does rebar count as secure?

- d. Electric vehicle service equipment (“EVSE”), also referred to as a charging station, must be provided for parking lots with 15 or more automotive vehicle spaces.
 - (i) On-site installation may not be required if a more suitable location is available. Factors to be considered in determining suitability are land use impacts, proximity to employment areas, townsites or historical areas, existing or planned EVSE infrastructure in the area, electric infrastructure on-site and nearby, and location in relation to arterial roadways. In cases where on-site installation is not required, the applicant shall be subject to the *Electric Vehicle Charging Fund* standards.
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- g. A stormwater management plan is required.
- h. Rideshare requirements will be determined during special review. Depending on the location and use of the multimodal parking facility, designated parking spots for rideshare vehicles may be required.

Commented [A3]: Boulder County staff has indicated that the *Electric Vehicle Charging Fund Standards* are in development concurrent with the land use code amendments. Without the ability to review these standards, it is difficult to provide comprehensive and useful feedback. Would it be possible to adjust the schedule so that the standards are available for review prior to review of the amendments by the Planning Commission?

Commented [A4]: What is the definition of “nighttime use”?

Commented [A5]: What issues are to be considered in determining whether a parking area is subject to rideshare requirements? Specifically, which locations and use levels might require this?

Article 4-516 Accessory Uses

Remove Parking from Article 4-500

~~4-500~~

~~V. Parking~~

- ~~1. The quantity and location of vehicle parking shall be appropriate for the site and use characteristics. A deviation in the number of required parking spaces as described in each use classification may be appropriate based on the specific circumstances of the proposal including but not limited to available on-street parking, seasonal or temporary needs for parking, shared parking agreements, reliance on alternative modes or other transportation demand management strategies.~~
- ~~2. A parking area may be shared to meet the parking requirements provided a signed agreement of sufficient length of time is provided. Revocation of the agreement will result in the loss of the dependent use until that use has provided adequate parking through other means.~~
- ~~3. For multiuse facilities, the parking for the most intensive use as defined in by the Land Use Department shall control.~~

Replace with new accessory use

4-500516

W. Parking

1. Definition: A parking area
2. Districts Permitted: By right in all districts, subject to the additional provisions below and any specific provisions associated with the property's principal use.
3. Parking Requirements
 - a. The quantity and location of vehicle parking shall be appropriate for the use and site and use characteristics. ~~A deviation in~~ Deviating from the number of required parking spaces as described in each use classification may be appropriate based on the specific circumstances of ~~the a~~ proposal including without limitation ~~but not limited to~~ available on-street parking, seasonal or temporary needs for parking, shared parking agreements, reliance on alternative modes or other transportation demand management strategies.
 - b. A parking area may be shared to meet ~~the parking requirements,~~ provided a signed sufficient, binding agreement for the duration the parking area that will be shared is required, of sufficient length of time is provided. ~~Revocation of the agreement will result in the loss of the dependent use until that use has provided adequate parking through other means.~~
 - c. For multiuse facilities, the parking for the most intensive use as defined in ~~by~~ the Land Use Department shall control.
4. Loading requirements: none As needed for primary use requirements
5. Additional Provisions:

- a. Parking for uses on open space parcels controlled by a government entity shall not require further review under this code if the parking lot is in accordance with an open space management plan approved by the Board of County Commissioners.
- b. The parking facility must meet the provisions of Article 5 of the Boulder County Multimodal Transportation Standards.
- c. Electric vehicle service equipment (“EVSE”), also referred to as a charging station, must be provided for parking lots with 15 or more automotive vehicle spaces.
 - (i) On-site installation may not be required if a more suitable location is available. Factors to be considered in determining suitability are land use impacts, proximity to employment areas, townsites or historical areas, existing or planned EVSE infrastructure in the area, electric infrastructure on-site and nearby, and location in relation to arterial roadways. In cases where on-site installation is not required, the applicant shall be subject to the *Electric Vehicle Charging Fund* standards.
 - (ii) A Level 2 or Level 3 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required for the first 15 parking spaces. For each additional 25 parking spaces, one additional Level 2 or Level 3 EVSE with a minimum of one SAE J1772 EV Plug, or the equivalent, is required. A deviation in the number of required plugs may be appropriate based on site-specific circumstances.
 - (iii) For ease of use, parking spaces with an EVSE shall be designated for electric vehicle charging, and stations are required connect to an electric vehicle charging information network.
- d. Multimodal circulation systems shall be designed to avoid conflicts between vehicular, bicycle, and pedestrian traffic. Pedestrian paths or sidewalks will connect to the area being served.
- e. If nighttime use is expected at the facility, lighting may be required for security and safety purposes. Lighting shall comply with Article 7-1600 Outdoor Lighting of the Boulder County Land Use Code. Additional restrictions on quantity of lights, hours of operation and lighting locations may be determined through the applicable review process.
- f. A stormwater management plan is required.
- g. For uses applying Transportation Demand Management strategies, areas reserved for rideshare vehicles shall have markings and signs indicating that the space is reserved for a rideshare vehicle.

Commented [A6]: See questions regarding “open space management plan” in previous section.

Commented [A7]: See statement and questions regarding Article 5 of the Boulder County Multimodal Transportation Standards in previous section.

Commented [A8]: Is this addition retroactive? Under what conditions of trailhead parking area could this be required?

Commented [A9]: See question regarding nighttime use in previous section.

Commented [A10]: See question regarding rideshare requirements in previous section.

From: [Riley, Anita A.](#)
To: [Oeth, Amy](#)
Cc: [Gerstle, George](#); [Thomas, Mike](#); [McCarey, Scott](#); [McKay, Julie](#)
Subject: Transportation Department response for DC-17-0002 Parking Regulations referral
Date: Monday, October 30, 2017 10:39:04 AM
Attachments: [DC-17-0002 Parking Regulations.docx](#)

Hi Amy,

Please find attached the Transportation Department referral response for DC-17-0002. There shouldn't be any surprises as we've discussed the comments extensively.

Thank you for the opportunity to comment on this code amendment.

Anita Riley, Senior Planner
Boulder County Transportation Department
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Transportation Department

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October 24, 2017

TO: Amy Oeth, Staff Planner, Land Use Department

FROM: Anita Riley, Senior Planner

SUBJECT: Docket #DC-17-0002: Amendments to the Boulder County Land Use Code for Parking-related Uses and Regulations

The Transportation Department has reviewed the above referenced docket and has the following comments.

1. While the amendments relate to the Boulder County Comprehensive Plan (BCCP) strategy *TR 5.04 Manage Parking*, staff believes that a policy or set of policies that identify an approach to parking that encourages the use of alternative modes would strengthen the link between this code amendment and the BCCP strategy.
2. The inclusion of the electric vehicle service equipment provisions provides a general connection to the Boulder County Comprehensive Plan objective of *Minimize Reliance on Fossil Fuels* in the Transportation Element and specifically to the strategy of *TR 5.02 Use Energy Efficient Transportation Technologies and Fuels*.
3. There may be opportunities to further support these code amendments via revisions to portions of *Section 5.6 Parking Facilities* of the Boulder County Multimodal Transportation Standards (Standards). Staff is contemplating an update to the Standards in 2018 of which revisions to Section 5.6 would then be considered.
4. Staff recommends a review of this code amendment and any policy and Standards updates to ensure alignment among the documents.

This concludes our comments at this time.

Attachment C: Referrals and Comments

From: Oeth, Amy
To: "Lois Dolan"
Cc: Thomas, Mike
Bcc: Ruzzin, Mark; Case, Dale; Parker, Kathy M.
Subject: RE: new parking regs
Date: Tuesday, November 07, 2017 3:53:00 PM

Hi Lois,

I think there is some confusion with the way I used the word "use" below.

If RTD significantly updated the Niwot Park and Ride, the provisions for the Multimodal Parking Facility would apply as a Park and Ride fits in the first portion of the definition for Multimodal Parking Facility (highlighted).

D. Multimodal Parking Facility

- 1. Definitions: A public parking area and transit facility to allow the parking of automotive and non-automotive modes to connect with transit, shuttle services, or rideshare programs; or a public parking area to allow the parking of automotive and non-automotive modes to service an area of public significance such as existing townsites, open space, and areas which have cultural, environmental, or historical value, where provision of on-site parking is constrained and allowing off-site parking facilities would help maintain the character and function of the area or district served.

Regarding the thresholds for the Niwot Transportation and Connectivity Plan, here is more information:

- Page 43 of the Transportation and Connectivity Plan (2012) calls out a parking utilization at 74% and below threshold, as well as describes measures when utilization is at that level.
- Page 43 also talks about the 75-85% level.
- Page 44 talks about the 85%+.

In 2012, the utilization was at 60% (p. 42 of the study). The 2016 study shows averages of 44% for 2014 and 51% for 2016. The construction of "parking supplies" in 85%+ is based on that identified in 75-85%. The construction of multi-modal facilities are also called out at each level.

Screenshots of the pages from the T&C Plan are shown below.

Parking Utilization below 74%- Short term actions to consider in the N.R.C.D.

Policy Changes

Begin a process with Boulder County Commissioners and the public in early 2012 to amend the parking requirements in the N.R.C.D. This process would consider the following potential or similar changes to the current parking requirements.

- Existing properties in the N.R.C.D. would be allowed to change use without providing additional parking
- All reconstruction and new construction in the N.R.C.D., that adds additional square footage to an existing structure, would require providing parking at maximum rate of 1 space per 500 square feet (regardless of use)
- The distance to provide parking beyond the front door of a business would be increased beyond the current 250' maximum
- Allow for shared parking agreements via a Boulder County- approved shared parking agreement
- Amend the bicycle parking requirements as part of N.R.C.D. code to require bicycle parking when reconstruction and new construction in the N.R.C.D occurs
- Request employees of the N.R.C.D to park at edges of district
- Conduct parking utilization study on non-event day in August at a minimum of every 3 years or as needed

P. 43

Potential physical improvements as needed

- Install new regulatory signage on 2nd Avenue
 - Signs limit parking to 4 hour parking for all parking where more turnover is desired
- Parking enforced by business owners with "courtesy cards"
 - Courtesy cards explain new parking procedures and provide store discounts
- Construct new bike parking in locations as shown in Appendix B
- Construct short-term multi-modal projects as outlined in previous section

Parking Utilization between 75-85% or one major new use is projected to increase demand to 75-85% - Actions to consider in the N.R.C.D.

Policy Changes

Work with the Boulder County Commissioners and the public to evaluate the parking requirements in the Niwot Rural Community District. This process may mean more strategic changes to the parking requirements.

Potential physical improvements as needed

- Stripe on-street parking spaces on 2nd Avenue
- Consider 45 angle parking on both sides of 2nd Avenue
- Update directional signage from entry areas
- Explore land ownership and location options for possible future parking facility
- Construct additional multimodal projects in previous section

Parking Utilization greater than 85%- Actions to consider in the N.R.C.D.

Policy Changes

Work with the Boulder County Commissioners and the public to evaluate the parking requirements in the Niwot Cultural Resource District. This process would make strategic changes to the parking requirements.

Potential physical improvements as needed

- Acquire or construct additional parking supplies previously identified (see 75% to 85% actions).
- Implement a comprehensive parking signage plan
- Construct additional multi-modal projects as outlined in previous section

Toolbox action to consider for Event Parking

Policy Changes

Implement a parking, shuttle, bike, and walking Action Plan using the following tools:

- Bike valet
- Shuttle and parking director to Niwot High School
- Crossing guards at Niwot Road
- Niwot L.I.D. leases spaces for events from Cottonwood
- Square during events
- Adjacent neighborhood residents receive premium seating at events
- Parking enforcement on Niwot Road bicycle lanes

Potential physical improvements as needed

- Construct short-term multi-modal projects as outlined in previous section

P. 44

Thanks,

Amy Breunissen Oeth, AICP

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From: Lois Dolan [mailto:lunchladybme@gmail.com]
Sent: Monday, November 06, 2017 7:19 AM
To: Oeth, Amy
Subject: Re: new parking regs

Hi Amy, thanks for the information. I don't know what park and ride the Article is referring to if it is not RTD park and ride areas. As I see it the Downtown parking did not meet the threshold as defined in the Niwot Connectivity Study per the parking study last year. It was 74% not 85% that was set as the trigger for an additional parking area. Once the BNSF property is purchased for a parking lot it will longer be rural residential; the land will look like a city parking lot when developed no matter with regulations there are in place. The new regulations make it sound like the county is trying to preserve our area but I guess not. Thanks again for keeping me updated,Lois

On Fri, Nov 3, 2017 at 4:46 PM, Oeth, Amy <aoeth@bouldercounty.org> wrote:
Hi Lois,

Please see responses to your questions below...

does this mean in the revision (Article 4-513:D.1.) that the business district can use the park and ride in the middle of the diagonal for Employees and Customers; and event nights?

This code update is unrelated to any use of the Park and Ride. If RTD chose to update the Park and Ride, they would follow the regulations in our code.

If so, is the county transportation department going to help RTD enlarge the parking area?

There are no plans for the Park and Ride.

Well this plan mean that the NCAA/NBA/LID/NFL no longer need the parking lot on Murray street?

This code update sets the regulations for what would happen if a parking lot was developed as the primary use on a parcel anywhere in the county. Downtown parking thresholds are defined in the Niwot Connectivity Study and follow-up parking studies.

Thanks,

Amy Breunissen Oeth, AICP

Attachment C: Referrals and Comments

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From: Lois Dolan [mailto:lunchladybme@gmail.com]
Sent: Friday, November 03, 2017 7:18 AM
To: Oeth, Amy; janezander@comcast.net; Arlene Baldwin
Subject: new parking regs

Hi Amy, thanks for the information. does this mean in the revision (Article 4-513:D.1.) that the business district can use the park and ride in the middle of the diagonal for Employees and Customers; and event nights? If so, is the county transportation department going to help RTD enlarge the parking area? Well this plan mean that the NCAA/NBA/LID/NFL no longer need the parking lot on Murray street? The wording makes it sound like this is a way to preserve the BNSF property as it is and our neighborhood. Please let me know I have several neighbors that are planning on attending the meeting on Nov,15. Thanks so much for your help. Sincerely Lois