



**CITY OF BOULDER
ENVIRONMENTAL ADVISORY BOARD MEETING AGENDA**

DATE: April 6, 2016
TIME: 6 pm
PLACE: 1777 Broadway, West Conference Room

- 1. CALL TO ORDER**
- 2. ADMINISTRATIVE MATTERS**
 - A. The [March 9, 2016](#) Environmental Advisory Board meeting minutes are scheduled for approval. (6:00 – 6:03 pm)
 - B. Welcome and swearing in of new board member, Christina Gosnell (6:03-6:05 pm)
- 3. PUBLIC PARTICIPATION – (6:05 – 6:15 pm)**
- 4. PUBLIC HEARING ITEMS**
- 5. DISCUSSION ITEMS**
- 6. OLD BUSINESS/UPDATES**
 - A. Sustainability Dashboard Memo, Q&A with Elyse Hottel (6:15-6:45 pm)
 - B. Black Bear Protection Ordinance Update Memo, Q&A with Valerie Matheson (6:45-7:15 pm)
- 7. MATTERS FROM THE ENVIRONMENTAL ADVISORY BOARD, CITY MANAGER AND CITY ATTORNEY**
 - A. Preliminary planning for Joint Board Open House (7:15 – 8:00 pm)
- 8. DEBRIEF MEETING/CALENDAR CHECK**
 - A. Reschedule working session for Joint Board Open house planning.
 - B. Joint Board Open House is April 27 from 6-8:30 pm, location TBD.
- 9. ADJOURNMENT**

**CITY OF BOULDER ENVIRONMENTAL ADVISORY BOARD
MEETING GUIDELINES**

CALL TO ORDER

The board must have a quorum (three members present) before the meeting can be called to order.

AGENDA

The board may rearrange the order of the agenda or delete items for good cause. The board may not add items requiring public notice.

PUBLIC PARTICIPATION

The public is welcome to address the board (three minutes* maximum per speaker) during the Public Participation portion of the meeting regarding any item not scheduled for a public hearing. The only items scheduled for a public hearing are those listed under the category PUBLIC HEARING ITEMS on the agenda. Any exhibits introduced into the record at this time must be provided in quantities of eight to the Board Secretary for distribution to the board and admission into the record.

DISCUSSION AND STUDY SESSION ITEMS

Discussion and study session items do not require motions of approval or recommendation.

PUBLIC HEARING ITEMS

A Public Hearing item requires a motion and a vote. The general format for hearing of an action item is as follows:

1. Presentations

- Staff presentation (15 minutes maximum*) Any exhibits introduced into the record at this time must be provided in quantities of eight to the Board Secretary for distribution to the board and admission into the record.
- Environmental Advisory Board questioning of staff for information only.

2. Public Hearing

Each speaker will be allowed an oral presentation (three minutes maximum*). All speakers wishing to pool their time must be present, and time allotted will be determined by the Chair. Two minutes will be added to the pooled speaker for each such speaker's allotted time up to a maximum of 10 minutes total.

- Time remaining is presented by a green blinking light that means one minute remains, a yellow light means 30 seconds remain, and a red light and beep means time has expired.
- Speakers should introduce themselves, giving name and address. If officially representing a group please state that for the record as well.
- Speakers are requested not to repeat items addressed by previous speakers other than to express points of agreement or disagreement. Refrain from reading long documents, and summarize comments wherever possible. Long documents may be submitted and will become a part of the official record.
- Any exhibits introduced into the record at the hearing must be provided in quantities of eight to the Board Secretary for distribution to the board and admission into the record.
- Interested persons can send a letter to the Community Planning and Sustainability staff at 1739 Broadway, Boulder, CO 80302, two weeks before the Environmental Advisory Board meeting, to be included in the board packet. Correspondence received after this time will be distributed at the board meeting.

3. Board Action

Board motion. Motions may take any number of forms. Motions are generally used to approve (with or without conditions), deny, or continue agenda item to a later date (generally in order to obtain additional information).

- Board discussion. This is undertaken entirely by members of the board. Members of the public or city staff participate only if called upon by the Chair.
- Board action (the vote). An affirmative vote of at least three members of the board is required to pass a motion approving any action.

MATTERS FROM THE ENVIRONMENTAL ADVISORYBOARD, CITY MANAGER, AND CITY ATTORNEY

Any Environmental Advisory Board member, City Manager, or the City Attorney may introduce before the board matters which are not included in the formal agenda.

ADJOURNMENT

The board's goal is that regular meetings adjourn by 8 p.m. Agenda items will not be commenced after 8 p.m. except by majority vote of board members present.

*The Chair may lengthen or shorten the time allotted as appropriate. If the allotted time is exceeded, the Chair may request that the speaker conclude his or her comments.

**CITY OF BOULDER, COLORADO
BOARDS AND COMMISSIONS MEETING SUMMARY**

NAME OF BOARD/COMMISSION: Environmental Advisory Board

DATE OF MEETING: March 9, 2016

NAME/TELEPHONE OF PERSON PREPARING SUMMARY: Sandy Briggs, 303-441-1931.

NAMES OF MEMBERS, STAFF AND INVITED GUESTS PRESENT:

Environmental Advisory Board Members Present: Tim Hillman, Brad Queen, Karen Crofton, Steve Morgan and Morgan Lommele.

Staff Members Present: Brett KenCairn and Sandy Briggs.

Community Members Present: Brenda Lee and Elizabeth Black

MEETING SUMMARY:

❖ **Sustainability Dashboard Memo (Written by Elyse Hottel)**

- The board agrees the scope and timeline of the project is ambitious and could potentially become overly cumbersome.
- One board member advocated spending more time mapping out the process prior to developing the tools and relying on those tools to map the process for achieving the objective.
- It was also suggested that moving from goals to metrics to targets could get repetitive.
- The board noticed that most of the work appears to be done and the biggest exercise at this point is data collation while keeping the metrics measurable and realistic.
- The importance of keeping it simple and smart was recognized.
- The board requests more information regarding the specific metrics being used as well as the opportunity to offer feedback and suggestions about them.

1. CALL TO ORDER

Environmental Advisory Board Chair **T. Hillman** declared a quorum called the meeting to order at 6:08 pm.

2. APPROVAL OF MINUTES

On a motion by **B. Queen**, seconded by **K. Crofton**, the Environmental Advisory Board voted 5-0 to approve the January 6, 2016 and February 3, 2016 meeting minutes.

4. PUBLIC PARTICIPATION

❖ **Brenda Lee, Founder, Boulder Bear Coalition**

B. Lee founded the non-profit coalition seven years ago due to community outcry about how Colorado Parks and Wildlife (CPW) was handling black bear issues in the City of Boulder. She believes since there is now positive momentum towards solutions, it's the best time to do even more going forward.

She sees enforcement as crucial but as of yet lacking, and encourages proactive planning to prevent reactionary decisions from council that could potentially create contention and

therefore be counterproductive to the goal of protecting bears.

She does not believe it's acceptable that code enforcement won't enforce the ordinance outside the Secure Trash Regulation Zone when bears outside the zone are in just as much danger of being killed. This is counter to work already done and accomplishments made.

She would like to see it written into **V. Matheson's** report that enforcement can happen anywhere, not just within the Secure Trash Regulation Zone.

She references a draft of a CPW study full of questions that will be proposed to council in the near future. In her opinion, the objectives are great – reducing human/bear conflict – and the questions asked are valuable, but the methodology needs some work.

She wants to ensure the money proposed to be spent actually goes towards protecting bears.

According to B. Lee, the studies referenced in the ordinance update memo are more anecdotal than statistical and efforts should be made towards more education, monitoring and enforcement.

She provided detailed comments via email to the board and City Council one day prior to the meeting.

The board's comments are captured under the agenda item in Old Business/Updates.

❖ **Elizabeth Black**

E. Black encouraged the board to make recommendations to Council about the importance of sequestering carbon in Boulder's soil. She provided handouts, in addition to an emailed statement to the board and City Council one day prior to the meeting.

She requested some language regarding this topic be considered for addition to the Boulder Valley Comprehensive Plan update, among many other suggestions outlined in her written comments.

- One board member asked if she had an estimate of the potential sequestration capacity on city managed property. It was suggested she come up with this number as it would be useful in establishing the topic as a priority, and that quantitative cases lead to more action and are more likely to affect policy change.
- It was also suggested she could get some help from a research assistant at CU to gather metrics and solidify her case with quantifiable cost/benefit analyses.
- **B. Queen** will provide the name of his contact at CU who could be helpful to her while building a quantitative case.

5. PUBLIC HEARING ITEMS

None.

6. DISCUSSION ITEMS

A. Sustainability Dashboard Memo (Written by Elyse Hottel)

B. Ken Cairn reminded the board that there are two separate dashboard projects currently in development. One is a city-wide dashboard, larger in scope, and the other is specific to the Climate + Sustainability Division. It is the Sustainability Dashboard that will encompass and illuminate city program progress with climate, energy, zero waste and other sustainability projects distinctly from the city-wide dashboard.

He also pointed out the useful distinction between an indicator and a performance measure and how these relate to the metrics chosen and measured.

The board's comments are captured in the meeting summary.

7. OLD BUSINESS/UPDATES

A. Black Bear Protection Ordinance Update Memo (Written by Valerie Matheson)

- The board asked if there is there an alternate proposal to support the concerns about the currently proposed studies, in particular the collaring study.
- The board asked for clarification about what is considered the best use of the money available and one member suggested it be very specific regarding the costs and benefits involved.
- One board member expressed concern about where they will go when they are prevented from obtaining food from secured carts.
- The board also questioned how there could be so many “violations” noted in **B. Lee’s** observations while only five were specifically called out in **V. Matheson’s** memo. They suggested this would likely be from comparing apples and oranges and confusion with what’s defined as a “violation” versus simply being “knocked down”. As well as sampling questions about using equivalent areas and locations.
- Since it appears that there are significant differences between the data reported by B. Lee and the information in the memo, the board decided this is a good topic of discussion for the next meeting when **V. Matheson** will be in attendance.

8. MATTERS FROM THE ENVIRONMENTAL ADVISORY BOARD, CITY MANAGER AND CITY ATTORNEY

A. Discussion of April’s Open House Outline & Expectations of Board Members as Hosts

- This will be an exciting opportunity for the EAB to take ownership over carrying the Climate Commitment discussion into the community, starting with communicating it to other boards.
- **B. KenCairn** shared a draft outline/agenda and survey he would like to have completed by all participants. The board decided sending the survey electronically to attendees prior to the meeting with enough time to compile results and include findings as part of the meeting would be ideal.
- The board discussed the need for outside facilitation but determined that individual EAB members acting as “mini-facilitators” would be most beneficial to achieving the meeting goals in a short period of time. And an agreement about messaging, desired outcomes and a list of questions should be clear from the beginning.
- It was reiterated that the purpose of the meeting is to obtain perspective from the other boards, not impose the EAB’s perspective. And that encouraging engagement both through the boards and with the community in general is one of the greatest shared goals.
- Sharing the vision and reality with the boards is another of the larger goals of meeting jointly. This will be accomplished by framing the objectives such that everyone walks out with an idea of what’s happening, where we are now, how far we have to go and the magnitude of its importance.
- The board will meet for a working session prior to the next regular meeting to prepare, plan and strategize meeting logistics and structure. They discussed the draft outline and gave feedback on structure and content for both sections of the meeting.
- The suggestion arose that homework be assigned at the working session for each board member to call the other board chairs after reviewing their council letters to briefly discuss the meeting objectives.

- The board agrees that desired outcomes are action oriented. And that several of the boards involved being quasi-judicial, decision making bodies might have more influence in making things happen.
- The following points were identified as crucial to the success of the meeting:
 - Establish the assumptions to work from ahead of time.
 - Incorporate the Theory of Change strategic planning model – one organization can't do everything alone. Figure out how to synergistically incorporate the EAB's "puzzle piece" into the whole.
 - Establish the reality of the situation before asking what the other boards can do.
 - Address potential barriers with other boards seeing the vision, understanding where we are and where we need to go regardless of what is important to their own goals. Build consensus.
 - Set the stage and paint the picture of how significant the change has to be.
 - Emphasize that outcomes should be action oriented.

B. Farewell and thank you to Steve Morgan

- The board thanked **S. Morgan** and celebrated his five years of service to the EAB.

9. DEBRIEF MEETING/CALENDAR CHECK

- The Joint Board Open House is scheduled for April 27. The EAB will meet to discuss the agenda and facilitation strategy before the regular April 6 meeting. **S. Briggs** will check calendars and send a meeting request.
- The April meeting will be held as usual and will introduce the newest board member. Valerie Matheson and Elyse Hottel will also be invited to attend as neither was available for questions about their memos at this meeting. And the board will put the final touches on the joint meeting plan.
- The May meeting will also be held as usual to discuss the February retreat and debrief after the open house.

10. ADJOURNMENT

Environmental Advisory Board adjourned at 8:11 pm.

Approved:

Chair Date

Climate + Sustainability Dashboard Project Update for EAB, 3/9/16

Project Purpose and Goal

The goal of the Climate + Sustainability (C+S) division dashboard is to increase accessibility and transparency of program data and provide a user-friendly visualization of climate and sustainability program performance. The dashboard will include program goals, metrics to measure those goals, targets and associated timelines. (A reference list of definitions is provided at the end of this memo.)

Background

The concept of a performance dashboard is not new to the City of Boulder; it has been under discussion for nearly 10 years and aspects of dashboard-style reporting have been developed for specific programs, such as the quarterly one-page report format developed for SmartRegs and EnergySmart. In early Q4 2014, the City Manager's Office initiated a pilot citywide dashboard which is set to launch at the beginning of Q2 2016. Through that process, Tableau software was selected and implemented to provide robust visualization of city data. To support a consistent look and feel and integration with the citywide dashboard, future department and division dashboards, including the Climate + Sustainability performance dashboard, will use the same visualization software. The original vision for the C+S dashboard, conceived in 2012, provides a way to track the progress of climate and energy programs at a glance. During the initial concept scoping by the city's Information Resources and Information Technology teams, staff realized that a centralized repository for data was necessary to feed the dashboard if it were to be a dynamic reporting mechanism rather than a static graphic snapshot. Thus, the 'data warehouse' concept was introduced (see below for more info).

Project Work Plan

Included with this memo is a detailed project work plan. The dashboard project is fairly complex and thus has been broken out into several smaller projects:

- data inventory;
- data warehouse;
- goal setting;
- dashboard; and
- communications campaign.

While the data inventory and goal-setting pieces are independent projects, the data warehouse is dependent on the data inventory in order to specify the best technical solution. The dashboard is in turn dependent on the warehouse and goal-setting to provide the data and context for the sustainability 'story.' The communications campaign, which is dependent upon each of these other pieces, will be launched at the completion or near-completion of the technical pieces of the dashboard project.

Data inventory: Through the work being done on the citywide dashboard and by the city's Open Data team (description below), it was determined that the first step in creating a dashboard was to prepare a complete inventory of available data for past and present Climate + Sustainability initiatives. The City of Boulder is fortunate to have recognized the value of focused work on sustainability years before most municipalities, providing both historical and current datasets for potential use in developing the dashboard.

Data warehouse: The data warehouse is exactly as it sounds: a single place to store all the data inventoried through the above effort. The type of technological solution implemented will be determined once all of the data to be 'warehoused' is catalogued. This could range from a centralized

folder structure on the city's internal servers to an off-the-shelf archiving software product to a custom Structured Query Language (SQL) database. The most important considerations are:

1. the data is accessible to city staff;
2. the data can be easily (and, ideally, automatically) updated; and
3. the data the dashboard update process can be automated.

Goal-setting: The goal-setting effort is comprised of the following:

- Organizing datasets according to performance measures and community indicators;
- Creating or confirming long term goals;
- Developing shorter term program targets where they do not already exist; and
- Identifying corresponding metrics that will measure and track progress to these targets and goals.

Most current programs have goals, targets and metrics associated with them, but they are not always made explicit. This effort will comprehensively review those goals, targets and associated metrics, link them to program efforts and timelines, ensure that we are actively collecting the data to support these progress measures and provide a level of standardization across programs.

Part of this effort will also be to determine how best to distinguish between and display community indicators versus performance measures, which have different spheres of influence. For example, the community-wide greenhouse gas inventory is a 'community indicator'; we have limited influence over the outcome due to economic trends, weather, etc. With a performance measure, we are directly influencing the outcome. The number of kWh saved per dollar spent in energy efficiency rebates through EnergySmart is a good example of a performance measure.

Dashboard: The dashboard is the visual display that summarizes the preceding work and will be the piece of the project most visible to the community. The C+S dashboard will be accessed from the existing division website pages, as well as the soon-to-launch citywide dashboard, ensuring a cohesive look and feel. It will display the individual program outcomes and corresponding context so that the dashboard can be interpreted by community members within the context of the city's larger sustainability goals (e.g. social equity, prosperity, resilience) regardless of their knowledge of sustainability issues and city programs.

Communication campaign: Because the goal behind this project is to increase accessibility and transparency of city program data, publicizing the dashboard to the community is essential. This effort will focus on getting the word out about this new resource and will also track community engagement with the dashboard through website analytics. Last, it will be important to communicate that city program performance is only one aspect of how the community at-large can and should be working to reduce GHG emissions, as well as the role of residents and businesses in supporting program outcomes.

Current Status

The dashboard project is moving forward on several fronts. The data inventory is being conducted and staff is working to identify retired and current programs and datasets. Concurrently, goals and metrics are being discussed and identified where not previously explicitly stated. Training on the new Tableau software took place Feb. 29 and March 1, 2016. The templates already created as part of the development of the citywide dashboard will provide the foundation for Climate + Sustainability pages as well.

Definitions

Open Data Team: A group of interdepartmental subject matter experts in data working to implement a city-wide policy on data sharing. A policy is being developed to support the City of Boulder's commitment to the principles of open government including transparency, civic engagement and innovation through open and accessible data.

Goal: What is specifically sought to be achieved – some have measurable specificity, some describe general direction

E.g. Reduce community greenhouse gas emissions eighty percent below 2005 levels

Metric: A mathematical set of relevant, quantifiable, attributes (measures) *taken over time*. The metric should also define the unit of measurement and specify exactly how one arrives at the measure so that any two individuals in different institutions would come up with the same number.

E.g. Relating to GHG emissions, electricity expressed in kWh multiplied by the utility's published carbon factor for a given year

Target: A specified, realistic, measurable objective or outcome related to goal

E.g. 2% reduction from last year's measured GHG emissions from city vehicles to be achieved by X date

Baseline: Measurement that is used as a reference for subsequent measurements or reference condition if change is not implemented.

E.g. 1990 Single Occupant Vehicle (SOV) rates

Performance Measure: A performance measure responds to a specific, measurable, attainable, relevant and timeline-based target so that an organization can better achieve its mission or goals. Usually the measure is focused on effectiveness, but as a second best outcome, the measure can focus on efficiency or outputs (services delivered) or outcomes.

E.g. Number of Universal Zero Waste compliant businesses ; number of permit applications reviewed and completed within a specific schedule

Community Indicator: Quantitative assessments that provide information on the state of, or change in, a system. Such a system may be a wider geographic area, a community, a population, a sector, etc. Indicators attempt to convey a broader image than the underlying statistics would suggest and should send a plain and correct message without the need for much explanation or interpretation.

E.g. Number of days air pollutants exceed healthful levels (can be compared to previous year or years)

Dashboard: A performance monitoring system showing goals, metrics, targets and timelines. When tied to specific goals dashboards can include a "scorecard" or a particular view of performance.

Climate + Sustainability Dashboard Project - DRAFT

Goal: Increase accessibility, transparency and provide a user-friendly visualization of climate and sustainability related efforts

Task #	Activity	Resources	Quarter	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Status	Notes
1 Strategy 1. Create an inventory of all existing climate, energy and zero waste program, project and pilot datasets.														
1. KEY DELIVERABLE: Spreadsheet of initiatives and corresponding datasets sorted by 'high-value', 'historical'														
1.1	Catalog all known OEA/LEAD/C&S programs	Dept. staff	Q1										In progress	Meeting with EV, KM, JK, YG
1.2	Determine if programs have associated data and if so, what kind (ex. .xls, .csv, .pdf)	Dept. staff	Q1										In progress	S:drive discovery
1.3	Create guidelines for 'high-value' vs 'historical' datasets	Dept. managers	Q1											Need to set up meeting or add to 3/23 agenda
1.4	Determine which datasets meet 'high-value' vs 'historical' criteria	Dept. managers	Q1											
2 Strategy 2. Develop central data repository, 'data warehouse', for datasets.														
2. KEY DELIVERABLE: Data warehouse solution														
2.1	Determine approach for storage of high-value and historical data - same/different solution? Archive?	IT Liaison(s), Chris Trice	Q1,2											This could be as simple as a folder structure in S:drive all the way to custom SQL database
2.2	Procure/build solution	IT	Q1,2											
2.3	Implement solution	IT/IR	Q2											
2.4	Extract data from source as necessary based on chosen solution (ex. .pdf, worksheet from .xls)	Brad Lose	Q2											Brad will be a good resource as he's been working on this for citywide dashboard
2.6	Populate solution(s) with data identified	IT/IR	Q2											
2.5	Loop back to ensure integration with Strategy 1	Dept. managers	Q2											Iterative process
3 Strategy 3. Determine goals, targets, timelines and metrics for Climate & Sustainability programs.														
3. KEY DELIVERABLE: Comprehensive list of goals and metrics with associated targets, timelines and datasets														
3.1	Meet w/ program managers to collect/create desired goals, targets, timelines & metrics	Dept. staff	Q1,2										In progress	First pass
3.2	Perform 'gap analysis' on datasets necessary to measure goal appropriately		Q2											
3.3	Review program goals & metrics given available data; include in dashboard? Y/N	Dept. managers	Q2											This will include deciding whether to alter a goal based on data access (see above)
3.4	Refine goals, etc. if needed; develop 'story' language for dashboard (same as citywide)	Dept. staff/ Communications	Q2											Definition of metric; significance of metric; target significance; description of trend/lack
3.5	Loop back to ensure integration with Strategy 1, 2	Dept. managers	Q2											Iterative process
4 Strategy 4. Build out dashboard using high-value datasets and standardized metrics.														
4. KEY DELIVERABLE: User-friendly, high-value online dashboard														
4.1	Determine how to display/integrate community indicators vs performance metrics; tell the 'story'	Dept. managers/ Communications	Q1,2											
4.2	Design user interface/website integration for dashboard	IT/ Communications	Q1,2										In progress	Consult IT/Communications as appropriate
4.3	Build individual program pages (Software: Tableau)	Tableau Contractor												
4.4	Review pages with program owners	Dept. staff												Get final sign-off
4.5	QC dashboard	ALL C+S												Everyone bang on it!
4.5	Loop back to ensure integration with Strategy 1, 2, 3	Dept. managers												Iterative process
5 Strategy 5. Create a communication campaign to spread the word on the launch of the new visualization tool.														
5. KEY DELIVERABLE: Buzz around C&S dashboard resulting in high usage after launch														
5.1	Soft-launch dashboard	Communications	Q3											Date dependent on above variables
5.2	Publicize to internal staff; gather feedback	Communications/City staff	Q3											
5.3	Make necessary adjustments	Tableau Contractor	Q3											
5.4	Official go-live	Communications	Q3											
5.3	Perform 'google analytics' inquiry to for view stats	Communications	Q3											Perform monthly/quarterly?

MEMORANDUM

To: Environmental Advisory Board

From: Planning Housing and Sustainability Department
Susan Richstone, Deputy Director of Planning
Lesli Ellis, Comprehensive Planning Manager
Valerie Matheson, Urban Wildlife Conservation Coordinator

Date: March 9, 2016

Subject: Update on the implementation of the Black Bear Protection Ordinance (Ordinance No. 7962)

EXECUTIVE SUMMARY

The purpose of this memo is to provide the Environmental Advisory Board with an update on the implementation of the Black Bear Protection Ordinance (Ordinance No. 7962, adopted by City Council on March 18, 2014).

This memo includes information on:

- the phased approach to implementing Ordinance No. 7962;
- 2015 urban bear activity in comparison to the past six years;
- waste disturbances by bears and waste cart monitoring; and
- the development of a black bear study in partnership with Colorado Parks and Wildlife (CPW).

Ordinance No. 7962 requires trash and curbside compost containers to be secure from bears at all times within the Secure Trash Regulation Zone. Implementation efforts began in the spring of 2014 and include the following three phases:

- **Phase I-** single family residences with approximately 6,000 trash and compost carts in Zone 1, effective Oct. 1, 2014.
- **Phase II-** commercial and multifamily units comprised of an estimated 580 dumpsters in all of the Secure Trash Regulation Zone, and single family residences with an estimated 8,700 trash and compost carts in Zone 2, effective June 15, 2016.
- **Phase III-** all public waste containers in the entire Secure Trash Regulation Zone in coordination with the implementation of the Universal Zero Waste Ordinance effective date to be determined.

Specific patterns identified in the 2015 urban bear report and monitoring data include:

- Bears had knocked over and strewn trash from a similar number of carts in 2015 (five carts) as compared to 2014 (four carts), and considerably fewer than in 2013 (116 carts) and 2012 (142 carts), and
- The proportion of bear reports east of the Secure Trash Regulation Zone (Broadway) was greater in 2015 than previous years.

Though bear activity east of Broadway increased in 2015, staff is not recommending an expansion of the Secure Trash Regulation Zone in response to the past year. 2015 was the first bear season the ordinance was implemented and a difficult year for bears to find food in natural areas across the Front Range due to a natural food crop failure.

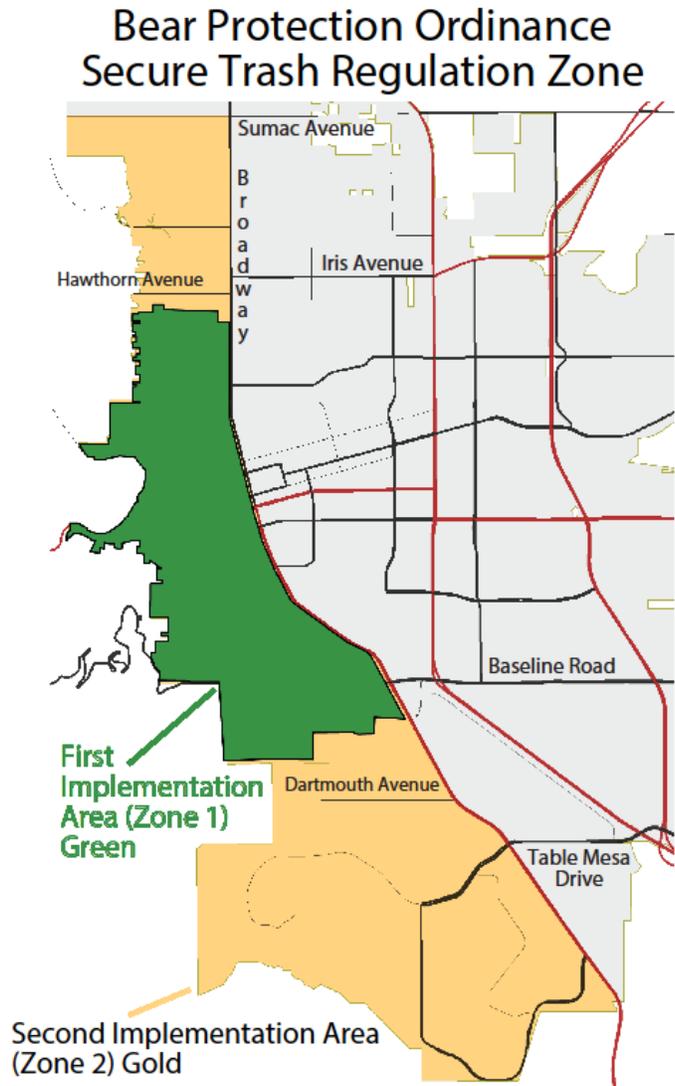
The city and CPW staff are working together to develop a study to gain additional information about how and when bears use the urban area. The goal of the study is to improve human-bear coexistence by better understanding how black bears use the urban area of Boulder.

No council action is requested but staff will be available on Feb. 29, to answer questions.

BACKGROUND

Bear Protection Ordinance

On March 18, 2014 council adopted Ordinance No. 7962 requiring trash and curbside compost containers to be secure from bears at all times in most of the city west of Broadway. (See March 18, 2014 City Council agenda item titled: Consideration of a



motion to adopt on third reading Ordinance No. 7962
(www.documents.bouldercolorado.gov/weblink8/0/foi/446/Row1.aspxlink.)

Implementation at the time of the ordinance adoption included a phased approach, hiring additional enforcement staff, and monitoring the effectiveness of the ordinance and bear behavior. For more information on the background of the ordinance see *Attachment A*.

ANALYSIS

This section includes information about the efforts made, and the information gathered through each phase of Ordinance No. 7962 implementation. The information is organized by each of the three phases of implementation, and includes information on:

- phase timeline, area, and waste containers involved;
- education and enforcement efforts; and
- urban bear activity and waste cart monitoring.

Phase I ordinance implementation (June – Dec. 2014)

Phase I of Ordinance No. 7962 implementation began in the spring of 2014 and included single family residences in Zone 1. During the months of June through September 2014, approximately 3,100 trash, and 2,900 curbside compost bear-resistant carts were put in use at single family residences in Zone 1. This phase also involved: notifying landowners, residents, and property managers about the ordinance requirements, working with local trash haulers to establish a feasible cart distribution and compliance timeline, focused education and enforcement, and monitoring the effectiveness of the ordinance, and bear behavior.

Education and Enforcement

In June 2014, the city mailed 9,392 informational postcards (*Attachment B*) to residents, property managers and landowners that were responsible for waste management in the approximate 7,000 residences and business in Zone 1.

In Sept. 2014, staff began monitoring bear-resistant cart use. (See Waste cart monitoring section below.) Staff observed a pattern of bear-resistant cart misuse (i.e., lids not being latched) and developed an educational door hanger to reinforce the importance of latching the carts (*Attachment B*). These door hangers were distributed by Code Enforcement staff and Boulder Bear Coalition volunteers at locations where cart misuse was observed. On Oct. 1, ordinance enforcement began. Between Oct. 1 and Dec. 1, 2014, Code Enforcement issued 245 warnings. Most of the warnings were for cart misuse, but some were for not storing waste in a bear-resistant cart or enclosure. All properties where warnings were issued voluntarily complied, and the city issued no summonses.

Urban bear activity

Reported bear activity from 2009 through 2013 showed only one report of a bear west of Broadway and north of Sumac (Wonderland Lake). In 2014, the pattern of activity looked different with several bear reports north of Sumac and west of Broadway (*Attachment C*). The number of reports north of Sumac was greater (13 reports) than in previous years (8 reports total 2009 to 2013).

In 2014 there were factors independent of secure trash and compost containers that contributed to less urban bear activity. These factors included: (1) good natural and domestic fruit tree production (though some of the drainages and fruit producing vegetation west of town were scoured by the flood of 2013); and (2) a lower number of bears in the area in 2014 because four habituated bears were killed in Boulder in 2013 which lowered the number of bears in the area in 2014.

Waste cart monitoring

Staff monitoring (**Table I**) and community reports suggest there were fewer trash cart disturbances in 2014 compared to previous years. Staff received feedback from the community that alleys west of Broadway looked substantially cleaner and have had less trash strewn.

Phase II ordinance implementation (Feb. 2015- Dec. 2016)

Phase II of Ordinance No. 7962 implementation includes changing approximately 580 dumpsters in use in the Secure Trash Regulation Zone to bear-resistant dumpsters and changing approximately 4,400 trash carts and 4,300 curbside compost carts with bear-resistant carts at single family residences throughout Zone 2. Residents in Zone 2 began receiving their fully-automated, retrofitted, bear-resistant carts in February 2015. Some residents, particularly older adults, expressed concerns with the weight of the carts when moving them to and from the curb. City staff and Western Disposal explored ways to accommodate all residents and as a result, Western began testing lighter versions of the cart and the city pushed back the enforcement date from June 15, 2015 to June 15, 2016. This change allowed the city and Western Disposal to fully examine options for increasing the usability of bear-resistant carts and dumpsters, and allowed residents who were challenged by the weight of the new carts to use their regular, non-bear resistant carts for up to one year without receiving a fine. Western Disposal tested and certified lighter versions of the fully automated 32, 64 and 96 gallon bear-resistant retrofitted carts at the [Grizzly and Wolf Discovery Center](#) in Montana in 2015.

Phase II also includes focused education and enforcement, and monitoring urban bear activity and waste carts to evaluate the effectiveness of the ordinance.

Education and Enforcement

The City of Boulder partnered with Colorado Parks and Wildlife to educate residents within the enforcement area about the ordinance and the bear resistant containers. CPW volunteers were provided with educational door hangers by the city (***Attachment A***) to distribute to households where volunteers observed violations such as bins not being latched or closed properly, overflowing garbage or compost, broken containers, or containers that were not bear resistant. Over 300 residences were provided with these door hangers over the course of more than 20 volunteer days. Additionally, University of Colorado's office of Off Campus Housing distributed postcards about the ordinance and the importance of properly using bear-resistant dumpsters to returning students as part of their move in packets and welcome bags.

For 2015, 952 trash violations were issued in the Secure Trash Regulation Zone. There were 321 summonses issued; most were for cart misuse, and some were for not storing waste in a bear-resistant container. Code Enforcement utilized a comprehensive enforcement approach that included enforcement of four different trash regulations that pertain to how waste containers must be stored, and when containers can be put out for collection. Some properties were cited for a combination of violations for not securing trash. Though properties within the Secure Trash Regulation Zone are not required to obtain bear-resistant dumpsters until June 15, 2016, properties that have obtained them are expected to use them correctly (dumpsters left in the open position are subject to a summons). Staff have received concerns from some residents who store waste containers in alleys and experience unauthorized use of their waste containers. In these instances, residents claim unauthorized users are accessing the containers and leaving them unsecured. Examples include: trash carts unlatched by dog walkers to dispose of dog waste; people rummaging through trash, and illegal use of dumpsters. Some properties have unique challenges that need to be addressed in complying with the requirements. In these instances staff works with the community to better understand the obstacles to compliance with the ordinance. Solutions that have worked for some properties include: storing carts off the alley, locking dumpsters, reporting illegal dumping when it occurs, constructing a trash enclosure or structure on the property (requires exploring zoning requirements for construction), and communicating with the adjacent property and possibly sharing trash costs and responsibility if the placement of the dumpster benefits adjacent residents too.

2016 efforts will include:

- continued focused education in partnership with CU off campus housing, area property management companies, to ensure student move-in packets, and welcome bags, include information about secure trash requirements;

- continued educational efforts in partnership with CPW, and the Boulder Bear Coalition to provide information about secure trash options to residents within and outside the Secure Trash Regulation Zone if there is a pattern of bear activity east of Broadway or north of Sumac in 2016;
- enforcement of dumpsters in the Secure Trash Regulation Zone and residential carts in Zone 2 will begin on June 15, 2016; and
- an additional Code Enforcement officer is expected to be hired in May 2016 to enforce Ordinance No. 7962 in addition to enforcing other laws that pertain to quality of life issues.

Urban bear activity

Reported bear activity from 2009-2014 showed very little activity east of Broadway, but in 2015 there was a greater proportion of bear reports east of the Secure Trash Regulation Zone than in previous years particularly in the area east of 19th street west of 28th street. In 2015 the police dispatch records for bear calls was included in the database, greatly increasing the number of reports being plotted on the Reported Bear Sightings map for that year (*Attachment D*). For 2015, the additional bear report source creates the appearance of increased bear activity in 2015; however, it is important to note the actual number of reports in 2015 from our historic sources (reports to CPW, Open Space and Mountain Parks staff, and Urban Wildlife Coordinator) was 116 which is in keeping with the number of reports from previous years (57-167 reports).

The city will continue to monitor and evaluate activity beyond the Secure Trash Regulation Zone to determine whether 2014 and 2015 observations of bear activity beyond the Secure Trash Regulations Zone will continue and thus necessitate expansion of the regulation area in the future. It is important to note 2016 will be the first year of enforcement for the entire Secure Trash Regulation Zone (including dumpsters and single family resident carts). The environmental conditions, including a lack of natural food sources for bears in 2015 may have been more of a driving force for bear activity east of Broadway than an indicator that the area where trash is secured is not large enough. For these reasons, city and CPW staff are not recommending expansion of the Secure Trash Regulation Zone at this time. Staff's assessment is there is not enough information obtained from one season of bear activity in the midst of implementing a new waste storage program to identify changes in bear behavior as a result of the program.

Partnership with Colorado Parks and Wildlife (CPW) to better understand how bears are using the urban areas of Boulder in 2016

CPW has proposed working with the City of Boulder on a study of Black Bear use within city limits. The study would involve putting three to five Global Positioning System (GPS) Collars on bears that are using the urban area, for the next three years.

The study is not expected to produce statistically significant results but rather provide anecdotal information about how individual bears use the urban area. Having a better understanding of how bears use the urban area will allow for more informed policy development and help the community protect bears, community members and improve overall human-bear co-existence. Specific study objectives include:

- Determine bear locations and movement patterns.
Much of the city policy development is based on resident reports of bear presence, however, much of the urban bear activity goes unreported and likely unnoticed.
- Determine temporal patterns (night/day) to better understand and inform the community on normal bear behavior.
- Determine locations where bears are in frequent close contact with humans to help us determine identify locations where human bear conflicts are more likely and where proactive education efforts would be effective at minimizing human conflicts.
- Determine what percentage of time collared bears spend in the city- to better understand how bears function across the landscape.
- Determine if there are den sites within the city to identify what types of physical features facilitate and/ compatible with bears denning.
- Verify the reliability and consistency of community reports compared to actual bear locations to determine how often bears are reported in town and to evaluate if that is a reliable way to measure bear activity.
- Help to determine if the coverage area of the trash storage ordinance is appropriate and over time if the pattern of usage is shifting from west of Broadway to east of Broadway.
- Identify movement corridors within the city and locations where bears immigrate/emigrate from the city.

On Nov.16, 2015, staff provided the Open Space Board of Trustees (OSBT) an update on preliminary aspects of the study. One board member expressed concern for the misconception in the community that reporting a bear would result in a “strike” meaning the bear would get moved or euthanized if reported. Staff clarified that the circumstance that has become known as a “strike” is when a bear’s activity or location triggers CPW to relocate an animal, and bears are generally not relocated a second time. Hundreds of reports of bear activity are received by the city and CPW, and euthanizations and relocations are relatively rare events. Another board member expressed support for ensuring that animals involved in the study (collared animals) would not be more likely relocated or euthanized due to involvement in the study.

Waste cart monitoring

In 2012 and 2013, (prior to Ordinance No. 7962 requiring trash to be secure from bears) the City of Boulder partnered with Colorado Parks and Wildlife (CPW) to monitor trash violations including trash being strewn by bears in the area that is now encompassed by the Secure Trash Regulation Zone (for Bear Education and Enforcement Pilot final report visit: www.boulderwildlifeplan.net “Background”). In the fall of 2014 and 2015 staff monitored the same route to compare trash storage practices prior to and after the implementation of Ordinance No.7962. The monitoring route included 612 single family homes and was conducted for 12 days in 2014 and 2015, and compared to 12 days of monitoring data collected in the fall of 2012 and 2013.

The monitoring showed fewer trash carts knocked over and strewn in 2014 (four carts) and 2015 (five carts), compared to 2013 (116 carts) and 2012 (142 carts) (see **Table I**).

All of the residences along the monitoring route had bear-resistant trash and compost carts, however, there were 96 observations of unlatched trash carts, and 161 observations of unlatched compost carts. In these cases the carts were not overflowing, the lid had just not been pushed down to engage the locking mechanism. In addition to the five trash containers that trash strewn by bears (shown in Table I) there was one compost cart and two recycling carts that had also been strewn by bears. In addition, there were 15 observations of carts that were visibly broken.

Table I. Number of observed trash violations* at 612 residences in the Bear Ordinance Secure Trash Regulation Zone during 12 monitoring days between Sept. 16, and Oct. 30, over the past four years.

Year	Total Trash Violations	Unique Addresses	Bear-Caused Violations (Trash Strewn)	Percent of Total Caused by Bears
2012	145	113	142	97.9%
2013	120	71	116	96.7%
2014	42	35	4	11.6%
2015	8	7	5	62.5%

**violations include B.R.C.6-3-5(a)(1) requiring trash to be stored in containers that are not overflowing, and their contents are not scattered by animals*

Phase III ordinance implementation

For Phase III, distribution of public waste containers is being coordinated with the implementation of the Universal Zero Waste Ordinance (Ordinance No. 8045 accepted by council on June 16, 2015).

The city is exploring design options for bear-resistant public compost and trash receptacles while assessing the city's needs for additional recycle and compost bins to comply with the Universal Zero Waste Ordinance. This assessment will take the form of a strategic assessment of new bin needs as well as an identification of areas where trash cans may no longer be needed. Findings of this strategic assessment will guide the timeline and prioritization for capital investments and final implementation to secure public waste containers from bears.

NEXT STEPS

- Develop timeline for "Phase III" of implementation which will include transitioning all city managed public waste containers in the entire Secure Trash Regulation Zone. This date is expected in 2017 but has not yet been determined.
- Provide an update to City Council expected in March 2016, but not scheduled at the time of this memo.

ATTACHMENTS

- A:** Supplemental Background section
- B:** Educational Materials: Postcard and Door hanger
- C:** Map of 2014 Reported Bear Sightings compared to 2009-2013
- D:** Map of Reported Bear Sightings 2009-2015

BACKGROUND

Bear Protection Ordinance

On March 18, 2014 council adopted Ordinance No. 7962 requiring trash and curbside compost containers to be secure from bears at all times in most of the city west of Broadway (see March 18, 2014 City Council agenda item titled: Consideration of a motion to adopt on third reading Ordinance No. 7962 www.documents.bouldercolorado.gov/weblink8/0/fol/446/Row1.aspxlink).

Implementation at the time of the ordinance adoption included the following elements:

- a phased approach beginning with alleys where waste containers are stored 24 hours a day, 7 days a week, and experience the most visible trash disturbances by bears;
- hiring two additional Code Enforcement staff to support the new ordinance in addition to enforcing existing quality of life ordinances; and
- monitoring the effectiveness of the ordinance, changes in enforcement, violations, and bear behavior.

Phased implementation

Due to the large area included in the ordinance and thousands of trash and compost containers that need to be changed or modified, the ordinance is being implemented and enforced in a phased approach. The phased approach identifies two sub-areas, or zones within the entire Secure Trash Regulation Zone. The first implementation area was the highest priority for securing waste from bears and includes properties with trash pick-up in alleys (Zone 1). The second implementation area includes the remainder of the properties in the Secure Trash Regulation Zone (Zone 2).

The phased approach includes the following locations, and timeline:

- **Phase I-** single family residences in Zone 1, effective Oct. 1, 2014.
- **Phase II-** commercial and multifamily units (dumpsters) in the entire Secure Trash Regulation Zone, and single family residences in Zone 2, effective June 15, 2016.
- **Phase III-** all public waste containers in the entire Secure Trash Regulation Zone, effective date to be determined.

Hiring additional Code Enforcement staff

In 2014, two additional Code Enforcement positions were created to execute the enforcement of Ordinance No. 7962 in addition to enforcing other laws that pertain to quality of life issues. The positions included one officer and one administrative assistant.

Monitoring ordinance effectiveness, violations, and bear behavior

For the past seven years the city has been maintaining a database of reported bear sightings and the attractants associated with the bear activity. The number of reported bear sightings varies from year to year and is not considered a representation of actual bear activity because much of

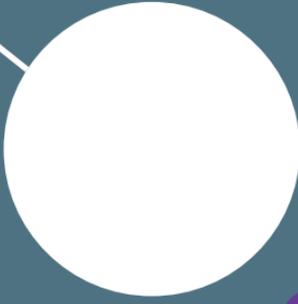
the urban bear activity goes unreported. The bear report database is helpful in providing information about the pattern of urban bear activity over time and was used in establishing the Secure Trash Regulation Zone. In addition, in 2012 and 2013, the city, in partnership with Colorado Parks and Wildlife (CPW), monitored compliance with trash ordinances and bear activity in waste containers along an established monitoring route in western Boulder as part of the Black Bear Education and Enforcement Pilot. (For final report visit: www.boulderwildlifeplan.net “Background”.) In 2014 and 2015, city staff continued monitoring trash violations and bear-resistant cart misuse along the same monitoring route established for the Pilot, to help evaluate the effectiveness of the ordinance.

Factors that cloud interpreting cause and effect change in bear behavior

Urban bear behavior in Boulder can be highly variable from year to year and is dependent on a variety of dynamic environmental factors. For example, in wet years with no late spring freeze, food production in natural areas is high, and pressure on bears to search for human-based food sources in town is lower. Similarly, prior to 2008 (and particularly in 2007) bear activity in south Boulder seemed to be greater than bear activity in north Boulder. That pattern of behavior seems to have shifted in recent years but not necessarily due to any programmatic or environmental change. Sometimes individual bears and their offspring have a preference for an area and these individual preferences change over time. For these reasons, the city cannot look at one season of bear activity after initiating a new waste storage program and identify changes in bear behavior resulting from the program.



Attachment B



PROTECT BOULDER'S BEARS

NEW CITY ORDINANCE

Your trash and compost must be secured at all times until it is collected by a trash hauler.

SECURE YOUR WASTE

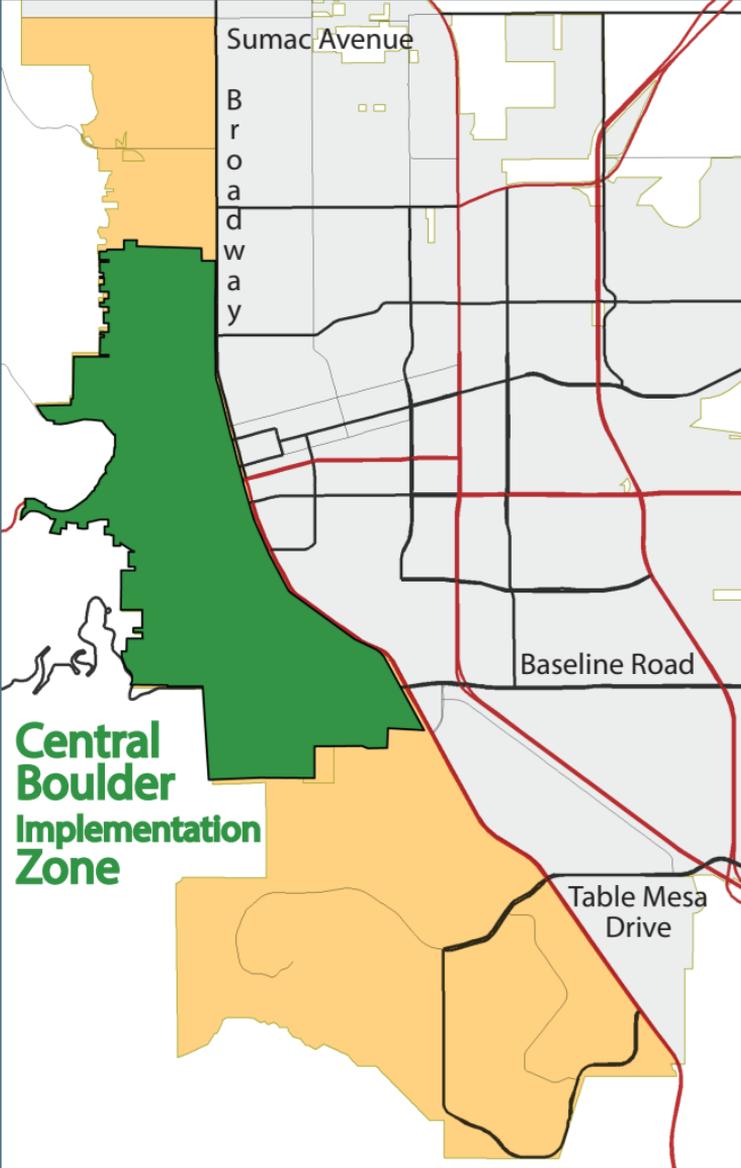
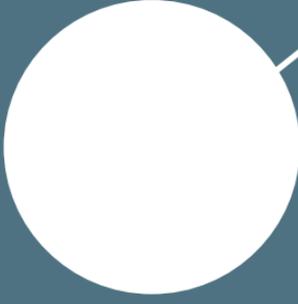
All containers, dumpsters or enclosures must be bear-resistant.

OR

Waste must be stored in a house, garage, shed or other structure.

Storage requirements are available at www.boulderwildlifeplan.net. Waste haulers will provide details about the options and services.

Agenda Item #6B

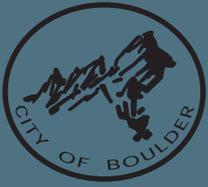


Secure Trash Regulation Zone

The ordinance applies to all properties west of Broadway to the western city limits, south of Sumac Avenue to the southern city limits.

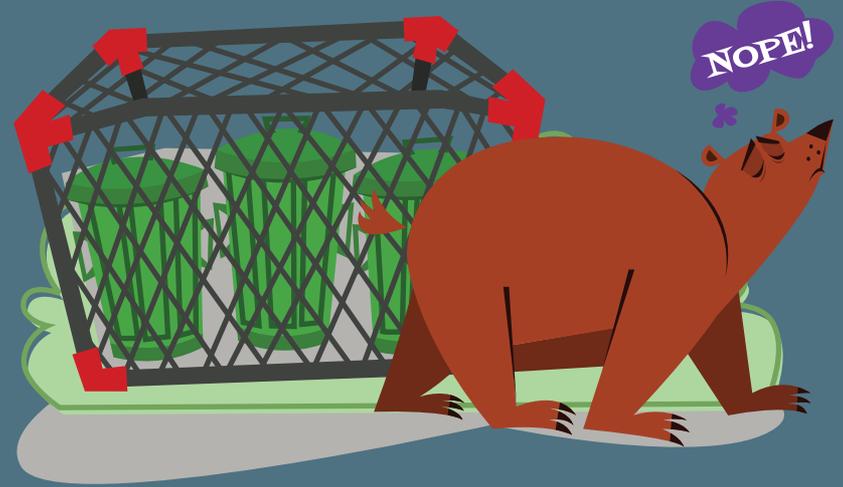
In summer 2014, implementation of the new storage requirements will begin in central Boulder, including areas where waste is collected from alleys.

The fine for a first offenses is \$250. Code enforcement officers may issue tickets in-person or give citations to property owners via email, mail, or printed notification.



PROTECT BOULDER'S BEARS

Attachment B



NEW CITY OF BOULDER ORDINANCE

Your trash and compost must be secured at all times until it is collected by a trash hauler.

All containers, dumpsters or enclosures must be bear-resistant.

Agenda Item #6B

Storage requirements are available at www.boulderwildlifeplan.net.

Waste haulers will provide details about the options and services.

Secure Trash Regulation Zone (Gold)

The ordinance applies to all properties west of Broadway to the western city limits, south of Sumac Avenue to the southern city limits.

First Trash Implementation Zone (Green)

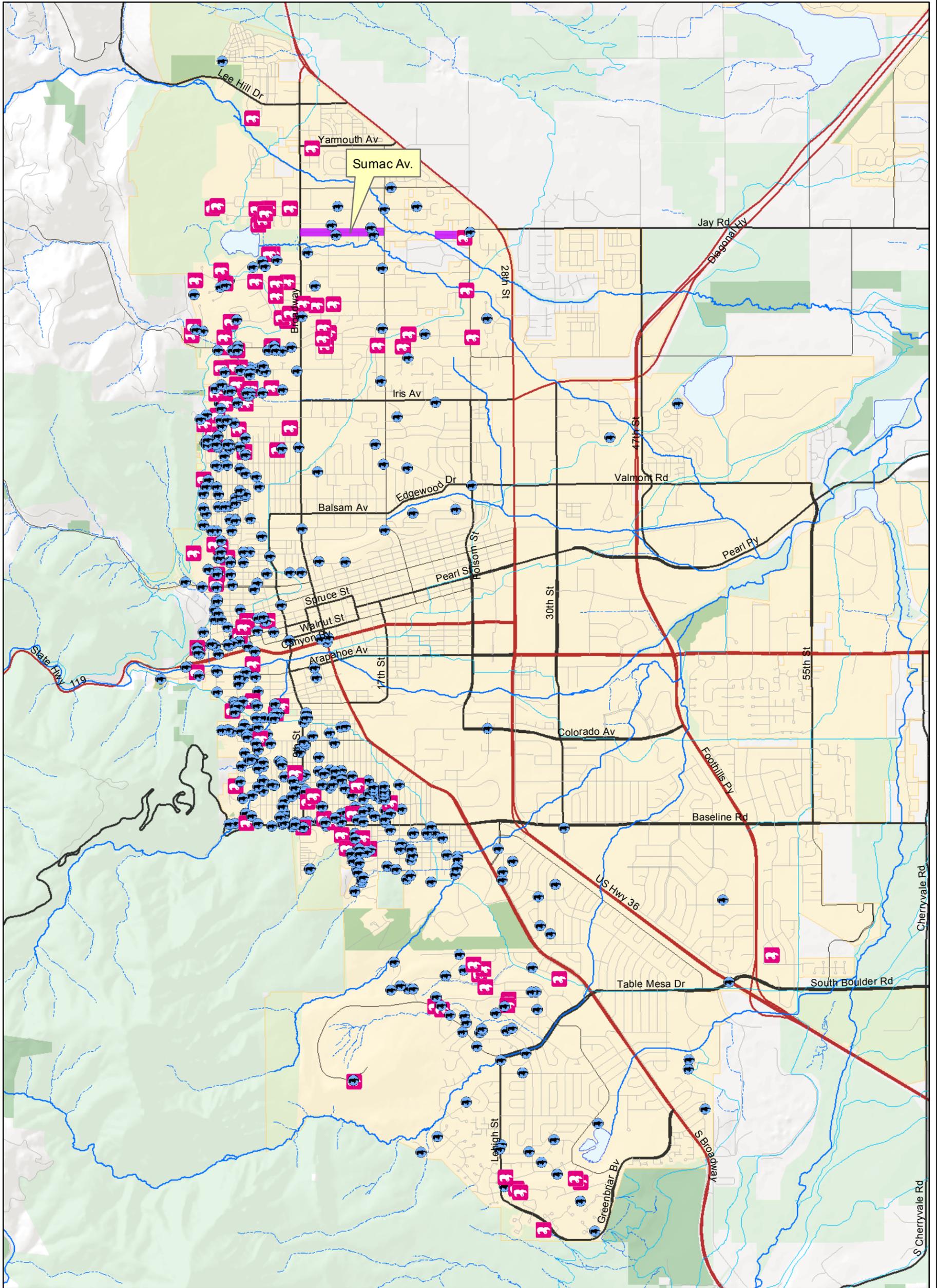
Implementation of the new storage requirements will begin in summer 2014.

The fine for a first offenses is \$250. Code enforcement officers may issue tickets in-person or give property owners citations via email, mail, or printed notification.



Reported Bear Sightings 2009 - 2014

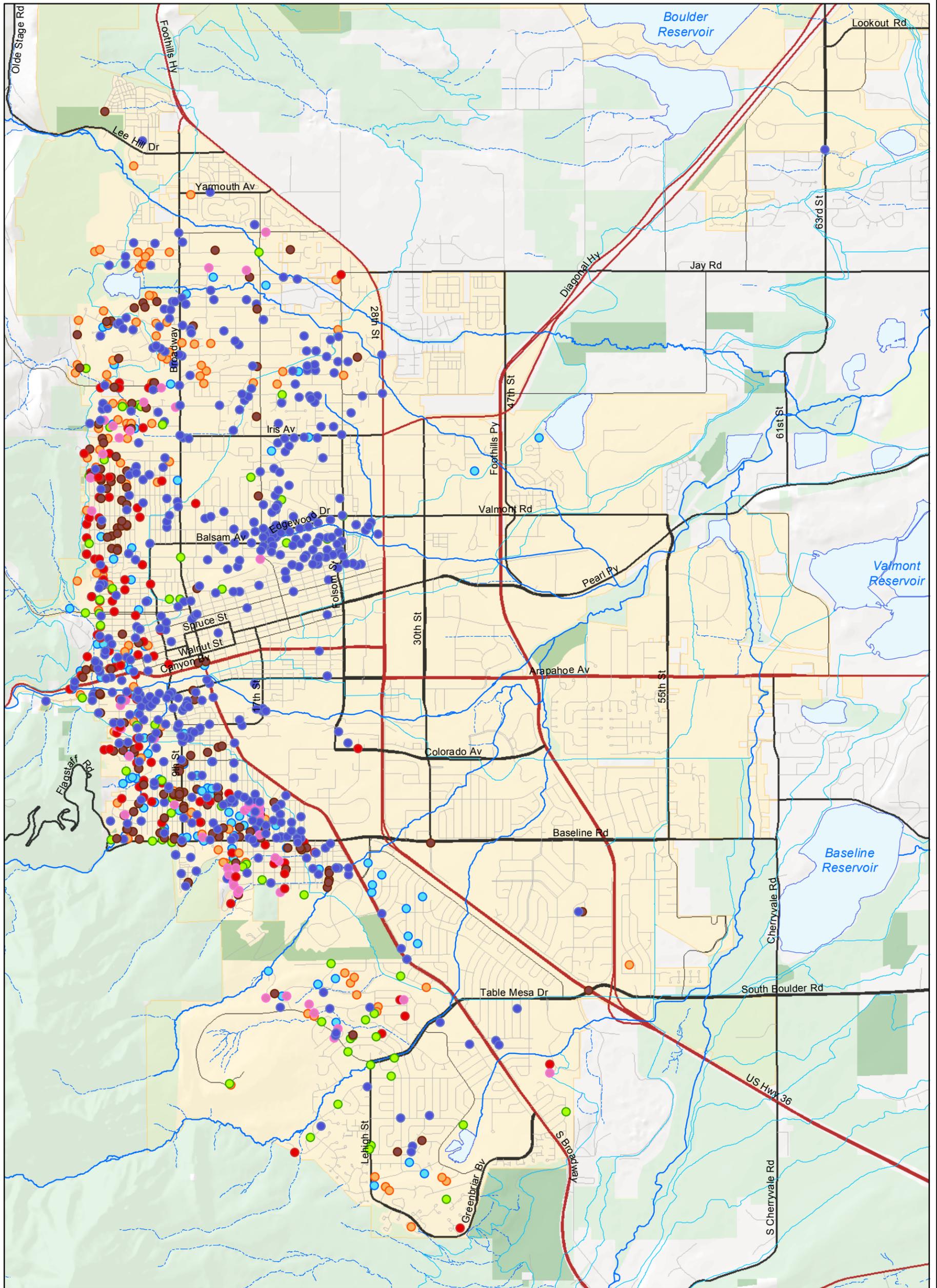
Within City of Boulder Limits



Bear Sightings	Major Lakes	Highway	Creek
Year	City Limits	Local Street	Creek, Intermittent
2014	Open Space and Mountain Parks Property	Minor Road	Ditch
2009-2013	Conservation Easement		
Sumac Avenue	Fee Property		
	Miscellaneous Easement		

Reported Bear Sightings 2009 - 2015

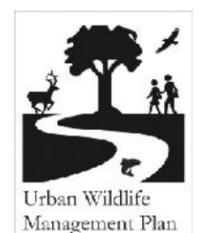
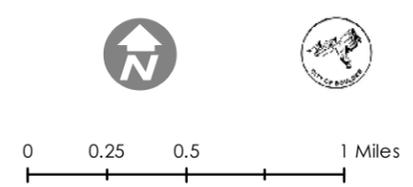
Within City of Boulder Limits



- Bear Sightings by Year**
- 2009- 72 reports
 - 2010- 101 reports
 - 2011- 57 reports
 - 2012- 167 reports
 - 2013- 118 reports
 - 2014- 127 reports
 - 2015- 538 reports*

- Major Lakes
- City Limits
- Open Space and Mountain Parks Property
- Conservation Easement
- Fee Property
- Miscellaneous Easement
- Alley
- Highway
- Local Street
- Major Road
- Minor Road
- Creek
- Creek, Intermittent
- Ditch

*Includes 422 calls to Police Dispatch



2016 Environmental Advisory Board Staff Calendar

January 6 Meeting

Public Hearings	Staff

Discussion Items	Staff
Energy Future Update: Municipalization	Jonathan Koehn
Climate Commitment Community Engagement Process	Brett KenCairn

Materials due by **noon on Wed, Dec 30**, emailed to EAB by 4 pm.

PPTs for meeting due to Sandy Briggs **by 4 pm Wed, Jan 6**.

February 3 – Retreat

March 9 Meeting

Public Hearings	Staff

Discussion Items/Matters for the Board	Staff
Sustainability Dashboard Memo	
Black Bear Protection Ordinance Update Memo	
Discussion of April’s Open House Outline & Expectations of Board Members as Hosts	

Materials due by **noon on Wed, March 2**, emailed to EAB by 4 pm.

PPTs for meeting due to Sandy Briggs **by 4 pm Wed, March 9**.

April 6 Meeting

Public Hearings	Staff
Sustainability Dashboard Memo	Elyse Hottel

Discussion Items/Matters for the Board	Staff
Black Bear Protection Ordinance Update	Valerie Matheson
Finalize Joint Board Open House Agenda and Facilitation Strategy	Board

Materials due by **noon on Wed, March 30**, emailed to EAB by 4 pm.

PPTs for meeting due to Sandy Briggs **by 4 pm Wed, April 6**.

April 27 – Joint Board Open House – Details TBD

May 4 Meeting

Public Hearings	Staff
Resilient Strategic Plan (draft)	Greg Guibert
Climate Commitment Community Engagement	Brett KenCairn

Discussion Items/Matters for the Board	Staff
Universal Zero Waste Ordinance Update	Kara Mertz

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Materials due by **noon on Wed, April 27**, emailed to EAB by 4 pm.
PPTs for meeting due to Sandy Briggs **by 4 pm Wed, May 4**.

June 1 Meeting

Public Hearings	Staff

Discussion Items/Matters for the Board	Staff
Study Session – Climate Commitment - Ecosystems	Brett KenCairn

Materials due by **noon on Wed, May 25**, emailed to EAB by 4 pm.
PPTs for meeting due to Sandy Briggs **by 4 pm Wed, June 1**.

July 6 Meeting

Public Hearings	Staff

Discussion Items/Matters for the Board	Staff

Materials due by **noon on Wed, June 29**, emailed to EAB by 4 pm.
PPTs for meeting due to Sandy Briggs **by 4 pm Wed, July 6**.

August 3 Meeting

Public Hearings	Staff

Discussion Items/Matters for the Board	Staff

Materials due by **noon on Wed, July 27**, emailed to EAB by 4 pm.
PPTs for meeting due to Sandy Briggs **by 4 pm Wed, Aug 3**.

September 7 Meeting

Public Hearings	Staff

Discussion Items/Matters for the Board	Staff

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Materials due by **noon on Wed, Aug 31**, emailed to EAB by 4 pm.

PPTs for meeting due to Sandy Briggs **by 4 pm Wed, Sept 7.**

October 5 Meeting

Public Hearings	Staff

Discussion Items/Matters for the Board	Staff

Materials due by **noon on Wed, Sept 28**, emailed to EAB by 4 pm.

PPTs for meeting due to Sandy Briggs **by 4 pm Wed, Oct 5.**

November 2 Meeting

Public Hearings	Staff

Discussion Items/Matters for the Board	Staff

Materials due by **noon on Wed, Oct 26**, emailed to EAB by 4 pm.

PPTs for meeting due to Sandy Briggs **by 4 pm Wed, Nov 2.**

December 7 Meeting

Public Hearings	Staff

Discussion Items/Matters for the Board	Staff

Materials due by **noon on Wed, Nov 30**, emailed to EAB by 4 pm.

PPTs for meeting due to Sandy Briggs **by 4 pm Wed, Dec 7.**