

**Boulder City Council
STUDY SESSION**

**Tuesday
July 29, 2014**

**6-7:30 PM
Zero Waste Strategic Plan**

**7:30-9 PM
Access Management and Parking Strategy
(AMPS) Continued**

**Council Chambers
Municipal Building
1777 Broadway**

Submit Comments to City Council
Email: [council @bouldercolorado.gov](mailto:council@bouldercolorado.gov)
or
Attention: Alisa Lewis, City Clerk
PO Box 791, Boulder, CO 80306
Fax: 303-441-4478

TO: Members of City Council

FROM: Jane Brautigam, City Manager
David Driskell, Executive Director, Community Planning and Sustainability
Susan Richstone, Deputy Director, Community Planning and Sustainability
Kara Mertz, Environmental Action Project Manager
Jamie Harkins, Business Sustainability Specialist
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DATE: July 29, 2014

SUBJECT: **Study Session – July 29, 2014**
Zero Waste Strategic Plan

I. PURPOSE

The City of Boulder has a goal of becoming a Zero Waste community, which in practical terms means 85 percent of the materials discarded in Boulder would be reused, recycled, or composted and only 15 percent would be buried in landfills.

The purpose of this study session is to review the community's zero waste progress to date; and to seek City Council feedback on the working goals, objectives and strategies to move Boulder toward this visionary goal. Council's input will help prioritize the zero waste strategies that will form the foundation of a Zero Waste Strategic Plan (ZWSP). Following this study session, the city will re-engage with stakeholders and a broad spectrum of community members to refine these goals and strategies. The end product is anticipated to be a Zero Waste Strategic Plan that clearly explains the community vision for zero waste and helps guide future decision-making on policies, programs and funding priorities. The intent is for this to be a shared plan: both the city and our community zero waste partners intend to endorse the ZWSP and include individual action plans for their organizations that collectively move us closer to achieving our community goals.

II. QUESTIONS FOR COUNCIL:

1. Does council have any specific feedback on the format or process being proposed for the ZWSP?
2. Does council have feedback on the ZWSP working goals and objectives for the ZWSP?
3. Are there any specific regulatory or programmatic strategies that rise to the top of council's priorities - or any strategies that should not be pursued as part of the ZWSP?

II. EXECUTIVE SUMMARY

Waste reduction has long been a community value in the City of Boulder, and since the creation of the Master Plan for Waste Reduction in 2006, the city has worked to create the programs, services and facilities needed to reach the plan's goal of 85 percent waste diversion by 2017. Many of these initiatives have been implemented and continue to be improved and expanded, including new facilities, advising programs, financial incentives and regulations. Despite the progress since 2006, community-wide waste diversion, which accounts for single family residential, multi-family residential and commercial properties, rose modestly to 33 percent in 2013. Gains have been made in the residential sector's diversion rates; however, the percentage of Boulder's waste stream generated by the commercial sector has increased significantly while the corresponding diversion rate has remained stagnant. This has contributed to keeping Boulder's community-wide diversion rate relatively low. The master plan update process provides an opportunity to re-evaluate the priorities, goals and strategies Boulder can use to reduce waste generation and diversion across all sectors of the community.

In contrast to communities where municipal control, state mandates or high landfill tip fees encourage zero waste investments, Boulder relies on a strong network of nonprofit, for-profit, governmental and community partnerships to invest resources in the success of our zero waste systems. In this dynamic environment, the City of Boulder has a role to: facilitate a community vision around zero waste; "set the rules" so everyone can play on an even field; and work with each community partner to collaboratively build facilities and deliver strategic programs and services. Recognizing this unique landscape, staff is proposing to transition the Master Plan for Waste Reduction to a Zero Waste Strategic Plan (ZWSP). This plan will set an overarching framework for reaching the community's goals, yet remain flexible as year-to-year facility and programmatic investments fluctuate depending on the plans of our partners. The ZWSP will include an action plan outlining which strategies the city will pursue in the coming three years.

This memo provides council with high-level results from the 2013 Program Evaluation Study and explores the proposed vision, goals, trash tax investment strategy and possible strategies for each sector that will help guide the development of the ZWSP. The possible strategies are presented against a set of evaluation criteria that reflect the priorities of City Council and the community. Council's feedback will enable staff to further develop the plan goals, evaluate and refine the proposed strategies and develop an action plan. Following the study session, a second phase of community outreach will focus on obtaining additional stakeholder and public input on the strategies that council identifies as specific priorities. Staff will return to council in late 2014 for consideration of the draft ZWSP.

III. BACKGROUND

The City of Boulder's [Master Plan for Waste Reduction](#) was completed and accepted by City Council in February 2006 along with a [Zero Waste Resolution](#). This plan contained a goal of 85 percent waste diversion by 2017. The process to update the plan began in 2011, with a study session on Feb. 8, 2011, at which council provided feedback on plan goals and metrics, as well as its priorities for new or expanded zero waste services, facilities and potential regulations. The feedback received included the following:

- Plan should include goals in addition to diversion, including a way to measure broad community participation;
- Priorities should include reducing toxicity of the waste stream and increasing reuse and compost collection opportunities; and
- Methane-producing waste should be a priority.

A second study session was held on Oct. 11, 2011, at which council provided feedback on specific strategies for potential new programs, facilities, and regulations. Council members expressed interest in:

- Every other week trash collection with weekly compost collection;
- Focusing on the commercial and multi-family housing sectors;
- Improving end-use markets for local compost product through city organization purchase;
- Pursuing Phase II development at 6400 Arapahoe Road;
- Pursuing a restaurant take-out container requirement; and
- Continuing and expanding financial incentives for businesses before considering recycling requirements.

While briefly discussed, there was not strong interest in pursuing a C&D (construction and demolition) debris recycling facility.

While the plan update process was put on hold to dedicate staff resources to the Disposable Bag Fee ordinance development and implementation and completion of construction for Phase I of 6400 Arapahoe, work in the areas council prioritized, especially commercial recycling, has continued.

As noted previously, the success of any chosen strategies will depend on both the level and quality of coordination and collaboration with the city's many waste reduction partners. **Attachment A** outlines all of the zero waste facilities available to the Boulder community and which entities own and operate each.

IV. 2006 MASTER PLAN FOR WASTE REDUCTION

The 2006 Master Plan for Waste Reduction presented the framework, guiding principles and investment philosophy for working toward zero waste in Boulder. A Zero Waste resolution was also adopted in 2006. The master plan included investment levels – fiscally constrained, action and vision – that were made up of recommendations for facilities, services, education and regulations to approach zero waste.

The guiding principles of the current Plan include:

- Identify service voids;
- Create effective partnerships to expand services with minimal city investment;
- Support programs that are convenient;
- Utilize economic incentives; and
- Help build infrastructure and then require its use once it's convenient and economical.

Table 1 below gives an overview of the strategies included in the 2006 Plan and indicates which fiscally constrained and action plan strategies have been implemented and in what year. Since 2006, many of the actions described in the Plan have been

completed. However, the overall waste stream has increased from 2005 levels, and these strategies have resulted in less overall diversion than anticipated. The communitywide percent diversion has increased from 30 percent in 2004 to 33 percent in 2013, with several higher spikes in that timeframe. More detail on diversion by sector is discussed later in the memo (see Proposed Vision and Goals).

Table 1: 2006 Master Plan for Waste Reduction Investment Program

STRATEGY	IMPLEMENTED?	YEAR
Fiscally Constrained Plan: 60% Diversion by 2007		
Residential compost collection	YES	2009
Residential single stream recycling	YES	2009
Commercial compost collection subsidy	YES	2006
C&D (Construction & demolition) debris recycling regulation	YES	2008
Expanded business assistance programs	YES	2008
Ban on electronic waste	YES	2012
Hard-to-Recycle-Materials (CHaRM) expansion	YES	2014
Action Plan: 70% Diversion by 2012		
Minimum recycling for multifamily units	YES	2009
Public place recycling	YES	2008
Fine for electronics disposal	(banned from CO landfills)	2012
C&D bond		
More aggressive “pay-as-you-throw” (volume-based trash rates)		
Increase or rebate business trash tax		
Regulations establishing a commercial recycling goal		
Vision Plan: 85% Diversion by 2017		
Regulations requiring commercial recycling		
Develop a mixed C&D recycling center		
Establish local “take back” laws		

Some of the important facility changes/additions and new strategies that have occurred since the 2006 Plan include:

1. **6400 Arapahoe/Recycle Row.** The Plan identified a one-time investment of \$400,000 to develop “Recycle Row” as a consolidated area for recycling and reuse activities. Instead, in 2009 the city increased the trash tax to its maximum level to issue bonds to purchase property at 6400 Arapahoe Road to accomplish the intent of Recycle Row. The property cost was \$5,450,000; this resulted in an annual debt expense of \$400,000 to \$576,300 per year through 2029. As of 2014, this property now serves as a home for Eco-Cycle’s offices, the City of Boulder/Eco-Cycle Center for Hard-to-Recycle Materials (CHaRM) and ReSource, the used building materials yard operated by the Center for ReSource Conservation. The purchased property also includes approximately two acres that are not yet programmed and could be sold or leased for other waste reduction facilities. This facility is a key investment in the City of Boulder’s zero

waste foundation as it supports two important partners and provides opportunities for future expansion to address the community's waste reduction needs.

2. **Hazardous Materials Management Facility.** In 2011, a new expanded facility located behind the Boulder County Recycling Center on 63rd Street has replaced the outdoor facility previously located at Western Disposal's transfer station. Hazardous materials such as paint, pesticides, auto products and other chemicals from residents and small businesses are accepted at this facility and allow the community to reduce the toxicity of the waste stream.
3. **Disposable Bag Fee.** In 2012 and 2013, city efforts focused on developing and implementing the Disposable Bag Fee. This ordinance was not a part of the original master plan. It resulted from community interest in a way to reduce disposable bag use in Boulder. The first six months of the bag fee resulted in a 68 percent reduction in bag use, compared to a 50 percent projected reduction in the first year. The portion of the fee remitted to the city totaled \$136,753, which was below projections. These funds were applied toward the expense of the education campaign and reusable bags distributed to the community in June 2013.
4. **Expanded Business Assistance Program.** In 2010 and 2011, staff focused efforts on improving and expanding the free technical zero waste assistance available to Boulder businesses. Similar to the EnergySmart model, businesses can now call the PACE program (Partners for a Clean Environment) and receive help from a zero waste advisor who performs a waste assessment and can help the business set up new services, apply for financial incentives, train employees, display customized signage, and order needed bins and carts. To date, the program has provided advising services to more than 600 businesses since 2010. In addition, in 2012 the city added an additional financial incentive to assist with the costs of adding new recycling and/or composting service. The Zero Waste Start-Up Rebate reimburses businesses \$250 towards the purchase of items such as bins, compostable bags, compostable serviceware, etc. This incentive is in addition to the existing \$2.50 per cubic yard compost collection subsidy and the Three-Months-Free Recycling Coupon for businesses.
5. **Bear Resistant Trash Container Ordinance.** On March 18, 2014, City Council adopted an ordinance that requires all trash and compost in the Secure Trash Regulation Zone to be secured from bears at all times until collected by the waste hauler.
6. **Expansion of Curbside Compost Pickup Program.** In May, the City Manager issued a rule change to extend the list of allowable items to include meat, dairy and bones. Community-wide outreach to build awareness of this rule change and educate residents and businesses regarding their composting opportunities will take place this Fall in coordination with outreach efforts around the Bear Resistant Trash Container Ordinance.

Additional ongoing program enhancements were reported to council in the [Feb. 18 information packet memo](#).

In addition to the changes above, Boulder County issued its Zero Waste Action Plan at the end of 2010. Boulder County's plan outlines its recommendations to reach the county's goal of zero waste "or darn near" by 2025. The county's plan outlines zero waste programs and policy recommendations for municipalities within the county to initiate in the short-term and mid-term. Of those, the City of Boulder has 14 of the 17 short-term recommendations already in place. In addition, of the nine mostly regulatory, mid-term recommendations from the report, the City of Boulder has two in place. The remaining 10 short- or mid-term recommendations are expected to be addressed through the recommended initiatives in the current update to the city's ZWSP.

V. 2014 ZERO WASTE STRATEGIC PLAN

Staff is proposing transitioning from a Master Plan for Waste Reduction to a Zero Waste Strategic Plan to reflect a more dynamic and flexible approach to zero waste. Due to the fact that year-to-year infrastructure and programmatic investments fluctuate depending on the plans of our partners, it is logical to create a flexible strategic plan that sets an overarching framework for reaching agreed-upon goals while allowing flexibility in the strategies implemented. The ZWSP will include an action plan outlining the strategies that will be pursued in the coming three years. This action plan is intended to be flexible and change as circumstances do to take advantage of opportunities, address specific program offerings, partner on infrastructure needs or other possibilities that serve the shared zero waste vision.

The intent also is to present the plan in a more dynamic format. The concept is that the new strategic plan will be formatted as an interactive web-based graphical plan the community can easily use. The graphical plan will act as a "zero waste portal" on the city's website and will enable the public to see the current status of waste diversion in Boulder and the strategies that will be pursued to achieve our goals.

The purpose of ZWSP is to:

- create a framework that helps the city prioritize programs/projects for the annual work plan;
- define the criteria for determining if a new program/project fits into the city's priorities;
- define the proper roles for the city and its partners;
- define what metrics will be tracked to measure progress; and
- define the Trash Tax investment strategy.

The city's Sustainability Framework will be used to inform the development of the ZWSP. The framework is a tool to help ensure that each departmental master or strategic plan aligns with and advances the goals and priorities of the City Council and community. The categories of the Sustainability Framework build upon the Boulder Valley Comprehensive Plan and the city's Priority-Based Budgeting approach. The tool is comprised of seven categories:

- Safe Community
- Healthy and Socially Thriving Community
- Livable Community
- Accessible & Connected Community
- Environmentally Sustainable Community

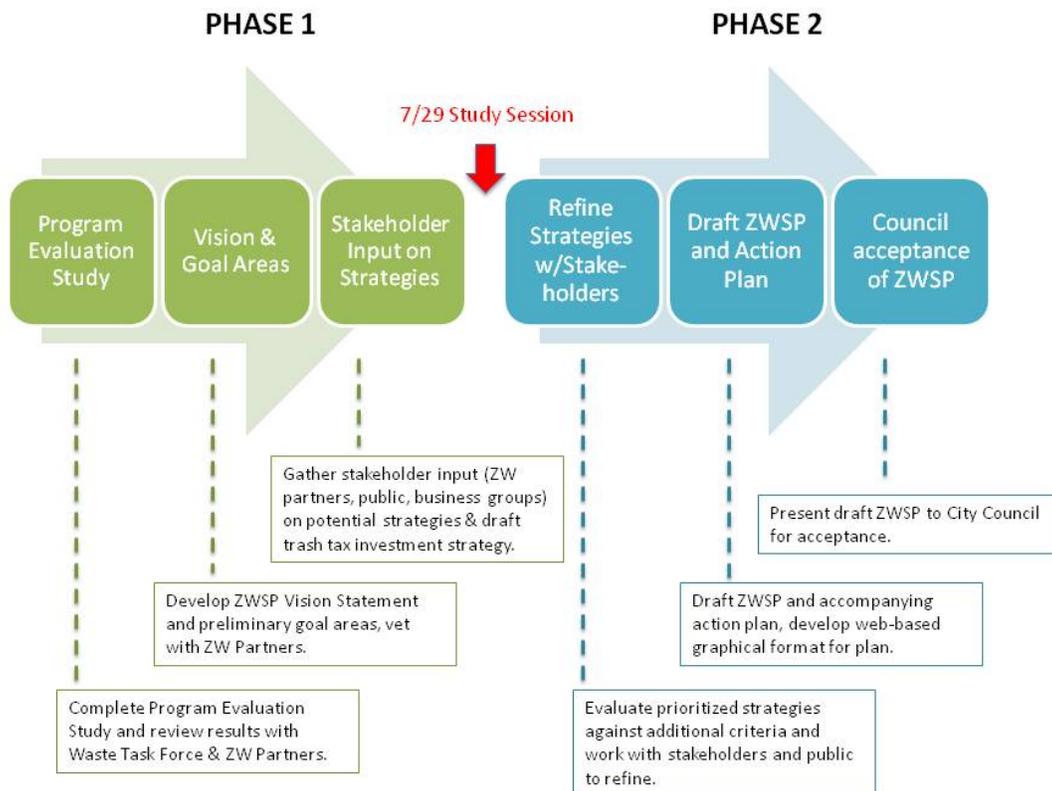
- Economically Vital Community
- Good Governance

The proposed goal areas and strategies of the ZWSP align with the Sustainability Framework, demonstrating the importance of waste reduction in creating a thriving community. For instance, the ZWSP exists to promote an environmentally sustainable community, encouraging the prevention of waste and the recycling/composting of materials to ensure the efficient use of resources and reduce pollution. Additionally, Boulder’s unique zero waste landscape, which relies heavily on fostering partnerships with both non-profit and for-profit organizations, supports these organizations that contribute to the economic sustainability of the community.

The City of Boulder also supports the connection between environmental and economic sustainability. One example of this connection is the presence of environmental guidelines in the Flexible Rebate Incentive Program. From program years 2008 through 2013, 100 percent of all primary employers that received rebate approvals from the city manager selected to commit to either recycling or composting as an environmental sustainability guideline.

A. ZWSP PROCESS

The graphic below illustrates the two phases of work on the ZWSP, which began in 2013. City Council’s feedback on the ZWSP goals, potential strategies and draft trash tax investment strategy will enable staff to further develop the framework and action plan for stakeholder, partner and public input and draft the ZWSP in the coming months.



B. Zero Waste Program Evaluation Study

As reported in the [Feb. 18 information packet memo](#), the firm of Kessler Consulting, Inc., with LBA Associates, prepared a Zero Waste Program Evaluation Study for the city to evaluate current waste diversion facilities, programs and policies and to identify potential alternatives for achieving the community's zero waste goals.

A waste task force helped define the scope, strategies, and criteria in the study. The waste task force consisted of industry experts, community leaders and interested organizations including Boulder County, Eco-Cycle, Western Disposal, Boulder County Public Health (zero waste business advisors), the Center for Resource Conservation, the Boulder Area Rental Housing Association, the University of Colorado and more.

The study provides recommendations for improving the efficiency and effectiveness of the city's trash tax funds, as well as for general operational and partnership improvements across the community's zero waste systems. Key findings from the study include:

- Boulder is uniquely positioned to become a zero waste community, with progressive nonprofit organizations and for-profit partners investing in the ownership and operation of the community's zero waste infrastructure. The study recommends that the city solidify its contractual relationship with its partners to ensure the longevity of these facilities and their continued ability to meet the community's zero waste goals.
- When assessed against both quantitative and qualitative objectives, the effectiveness of trash tax expenditures varies. The following program enhancements are recommended for consideration:
 - Re-prioritize existing funding for zero waste field trips in Boulder schools to invest directly in school reuse, recycling and composting activities;
 - Modify commercial recycling incentives in anticipation of new diversion policies for this sector;
 - Expand the impacts of the city's Green Building Green Points program to accomplish increased reuse and recycling from construction activities; and
 - Improve data capture from both city and vendor programs and improve the application of qualitative metrics.
- The greatest opportunity for future diversion and greenhouse gas reductions would occur with a combination of the following initiatives:
 - Every-other-week trash collection
 - Mandatory subscription to trash service for all owner-occupied homes¹

¹ Data analyses from several independent sources suggest that approximately 20 percent of the owner-occupied single-family homes in Boulder do not currently subscribe to trash collection service; therefore, these homes do not receive curbside or alley collection of recyclables or compostables. Residential rental properties are already required to subscribe to regularly scheduled trash collection service.

- Mandatory single-stream recycling for businesses with more than 10 employees
- Mandatory commercial composting for food-service establishments including supermarkets and restaurants.

C. Proposed Vision and Goals

The following preliminary vision statement and goals were developed based upon input from prior council discussions, the waste task force and the program evaluation study.

Proposed Vision Statement

Facilitate a community-wide vision for zero waste and build awareness of prioritized goals and strategies so every Boulder resident, business and visitor is empowered to take personal action.

The original Master Plan for Waste Reduction was created around the goal of achieving 85 percent waste diversion by December 2017. The percentage of waste diversion is calculated by taking the weight of total materials recycled and composted and dividing this by the weight of the total discarded materials (recycled + composted + landfilled). While the percentage of waste diverted is the most common type of goal, it can be problematic. If diversion is always reported as a ratio of materials recycled to materials generated, it is difficult to see absolute increases or decreases in the materials being generated or collected, or to have a full understanding of progress being made toward the community's zero waste goals.

In recognition of this and other community priorities, such as greenhouse gas emission reductions, staff is proposing that the ZWSP identify goals in six areas:

- Diversion
- Climate
- Source Reduction
- Community Engagement
- Toxicity Reduction
- Innovation

Specific target years and percentage amounts for the goals will depend on the strategies prioritized in the action plan and will be developed in the next phase of the process.

Diversion

Staff is proposing that the city's adopted goal of 85 percent waste diversion be carried over from the original master plan. Once strategies are determined, the goal year will be defined. Current progress towards the existing diversion goal is presented in the graphic below.

Diversion Rates		2004	2013*
	Single-family residential	48%	59%
	Multi-family residential	13%	21%
	Commercial and industrial	25%	28%
	Community wide	30%	33%

*Does not include 2013 flood debris trash

It is interesting to note that Boulder’s single family and multi-family residents were able to increase recycling and composting by 11 and eight percentage points, respectfully (primarily due to single stream recycling and curbside compost collection), while the overall community diversion rates only increased by 3 percentage points. This is due to the fact that in 2004, approximately 55 percent of Boulder’s waste stream was generated by businesses and industry, and in 2013, almost 65 percent of Boulder’s waste stream was generated by business and industry.

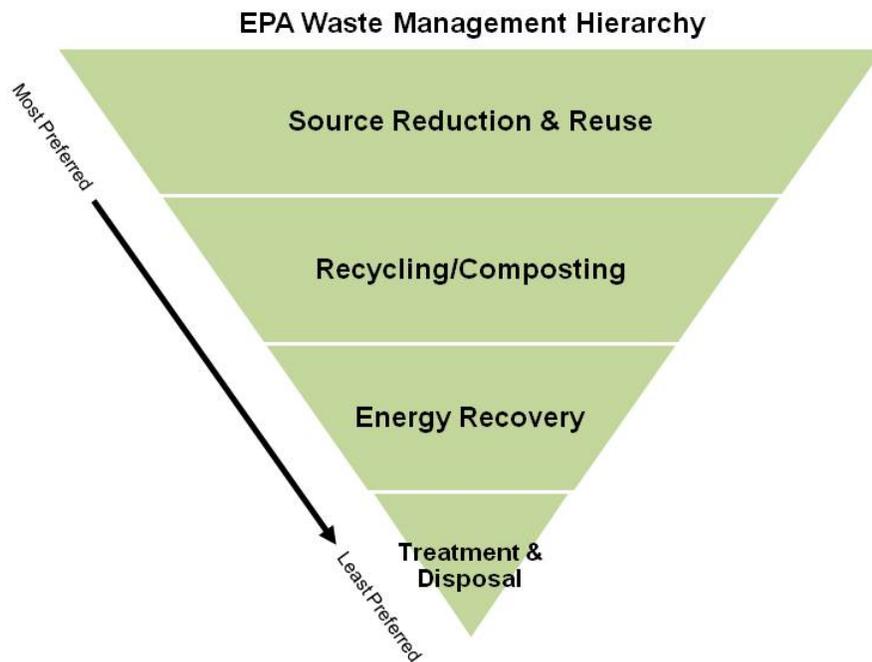
Climate

The renewal of the Climate Action Plan Tax in 2012 and continued Climate Commitment planning efforts demonstrate Boulder’s recognition that we must drastically reduce our greenhouse gas emissions. City master and strategic plans that address the focus areas of the Climate Commitment are a main tool for achieving those emission reductions, and waste is one of these. As the action plan for the ZWSP is formulated, staff will be coordinating with the Climate Commitment team to determine an appropriate and ambitious emission reduction goal for the ZWSP.

Source Reduction

While much of the city’s focus since the acceptance of the original Plan has been on recycling and compost services and infrastructure, an increased focus on reducing waste at its source is proposed for the ZWSP. This priority is aligned with the EPA’s waste hierarchy, which ranks the most environmentally sound strategies for municipal solid waste. This hierarchy emphasizes source reduction and reuse as the most

preferred approach.



Source reduction goals are commonly measured by calculating the total waste material generation per capita (including materials recycled or composted). According to EPA data, the average American generated 4.38 pounds of total waste per day in 2012, and recycled or composted 1.51 pounds of those materials. One of the goals of the Colorado Association for Recycling is to reduce total individual waste generation to 3.5 pounds per day.

Community Engagement

In 2011, City Council identified tracking and increasing participation in Boulder's zero waste programs, services and facilities as a high priority. Beginning in 2010, the annual Boulder hauler reporting form included a request for the number of trash, recycling and compost customers (by service address) by sector in addition to tonnage data. This information is reconciled with the number of trash customers reported through trash tax receipts. Table 2 below shows 2013 participation data.

One challenge of this data is the ability to translate "service addresses" into actual numbers of customers. This is because each service address can represent one single family home, one section of a multi-family complex that shares a dumpster, or one commercial dumpster that is shared by multiple businesses. The city will continue to collaborate with community partners to develop improved measures of participation in order to develop an appropriate goal for this area.

Table 2: Total customer accounts reported by all haulers for trash, recycling and compost collection services in 2013

	Trash	Recycling	Compost
Single Family	19,927	19,893	19,695
Multi-Family	1,010	1,479	94
Commercial, Industrial & Institutional	1,936	1,690	351

Toxicity Reduction

In 2011 City Council also identified reducing the toxicity of the waste stream as a high priority. While progress on toxicity is hard to measure without waste audits, the city does receive data on visits by Boulder residents and businesses to the Hazardous Materials Management Facility. Ideally, strategies to reduce toxicity would be aimed not only at properly disposing of toxic materials but also by encouraging the purchase of non-toxic alternative materials. In addition to providing local options for disposal, efforts in support of a toxicity reduction goal would also be focused on legislative efforts, such as Boulder’s participation in the Colorado Association for Recycling’s policy committee and Product Stewardship Council.

Innovation

In recognition that not all the solutions for processing everything in the waste stream exist or are commercially available today, staff recommends formally acknowledging the role of innovation in the waste sector as part of the ZWSP’s new goals. Establishing an innovation goal would formalize the city’s support of new and innovative waste reduction solutions, especially solutions that provide an alternative to disposing materials that are not currently recyclable/compostable or offer a more efficient process for recycling (or reusing) a material.

D. Proposed Strategies

The following list of strategies has been identified for potential inclusion in the city’s ZWSP. They will be evaluated based on a number of criteria, discussed later in the memo. The strategies are organized in two sections: (1) Additional Facilities and (2) Programs, Services and Regulations, which are broken out by sector.

1. Additional Facilities

While Boulder is close to having all of the zero waste facilities needed to achieve the Plan goals, there are several remaining needs.

- a) **Compost site for business organics.** Currently, compostable materials collected from businesses are taken to Western Disposal’s compost facility only if that business contracts with Western as its hauler. Other haulers take materials to compost processing facilities that are outside of Boulder County. A city-supported compost facility, at Western or another site, would ensure its presence to serve Boulder’s zero waste needs for the long-term, ensure the gate fees are

equitable for all haulers using the facility, and make the system more efficient and cost-effective while reducing fuel emissions from transportation.

- b) **Construction and demolition (C&D) facility.** Right now there is no facility in close proximity to Boulder that can sort and process mixed construction and demolition waste. Having this type of facility would greatly increase the diversion from construction projects. Part of the ZWSP will be to address the proper role for the city and its partners in creating a C&D sorting facility and in driving materials toward it for efficient processing.
- c) **Creative Reuse Center.** A creative reuse center typically accepts industrial waste items that cannot be recycled and makes them available very inexpensively to the community, often artists, teachers and students for reuse. While this type of facility would target “the last 10 percent” of the waste stream, it also has the potential to greatly increase community engagement and participation in other zero waste initiatives of the city. In 2011, Arts Parts was started by a local entrepreneur who watched a window treatment manufacturer routinely waste high-end fabric because it lacked the infrastructure to find suitable reuse or recycling venues for the material. Today, Art Parts is run out of the founder’s garage and is actively seeking a new home to expand its reach and mission in Boulder.
- d) **Expanded CHaRM and ReSource.** “Phase II” of development at 6400 Arapahoe, already approved by City Council and Planning Board, allows for expanded capacity inside the existing leased area for CHaRM and ReSource. This development would allow each facility to accept a greater quantity and more types of materials for recycling and reuse. As additional funds may become available, the Trash Tax investment strategy will guide future investment in this facility expansion.
- e) **Improvements to Boulder County Recycling Center (BCRC).** In order for the BCRC to accept a broader range of plastic packaging (including thin plastic “clamshell” food containers) and a larger quantity of commercial recyclables, the facility needs equipment upgrades. The ZWSP and its clarification of roles for the city and its community zero waste partners - as well as the trash tax investment strategy - will help guide decision-making around potential facility upgrades.
- f) **Waste to Energy Facilities.** In the broad definition of how Boulder can become a zero waste community, it would be inappropriate to ignore the possible role of facilities that could process low-grade waste into heating or vehicle fuels. In keeping with the adopted hierarchy of 1-reduce 2- reuse and 3- recycle, it would only be appropriate for Boulder to fully exploit the possibility for materials to either be reused, recycled or composted before investing in waste-to-energy. However, for the last remaining waste materials that are unable to be reliably marketed for reuse or recycling, the trash tax investment strategy and evaluation criteria will be applied to determine whether the city should spend public resources on such a facility.

2. Programs, Services and Regulations

a) Multi-Family Residential

Barriers/Gaps: According to hauler reports, multi-family unit waste diversion was 21 percent in 2013. Other leading cities report similarly low diversion and challenges for this sector. Some barriers to higher diversion at multifamily housing are high resident turnover and limited education – issues with improper recyclable and compostable materials sorting (contamination) are more common in comparison to single family homes. The fact that property owners or managers are not onsite in most cases is also a barrier.

Potential New Strategies:

- Multi-Family Composting – modify existing policy to require haulers to provide compost collection to multi-family accounts in addition to recycling. This requirement should be phased in over time with significant technical assistance and should be accompanied by a review of potentially conflicting land use code requirements to accommodate a smooth transition to any new requirement.
- Existing Policy Enforcement – increased resources for improved enforcement of existing recycling requirement for multi-family housing. Any additional enforcement resources could potentially be shared with new trash enforcement personnel.

b) Single-Family Residential

Barriers/Gaps: According to hauler reports, single family household waste diversion was 59 percent in 2013. While this sector has access to curbside recycling and compost collection and diverts a higher percentage of waste than other sectors, waste sorts reveal that there are still gains to be made from the recyclable and compostable materials still present in the trash. According to previous years' surveys and input at public meetings, residents are confused about what should go in each cart. Single family residents would benefit from a more intense focus on:

- Community zero waste goals
- Clarity around recycling and composting guidelines
- Technical assistance to overcome barriers to food waste composting
- Facilities that accept hard-to-recycle and hazardous materials
- Reduce and reuse opportunities

Potential New Strategies:

- Every Other Week Trash Collection – Decreasing regular single-family trash collection to an every-other-week frequency while increasing organics or recycling collection to a weekly frequency. Any resident still wishing to subscribe to weekly trash collection could do so for an additional charge. Several other US communities have this system including Eugene and Portland, Ore. The City of Portland found that residential trash decreased by 38 percent and the compostables tripled in quantity one year after implementing an every-other-week trash collection service. In addition, nine out of ten curbside compost carts contain food

waste; 86 percent of Portland residents had a positive or neutral perception of the shift. A “Year One Report” from the City of Portland is included in **Attachment B**.

- Homeowner Collection Service Requirement – Modify Boulder Revised Code subsection 6-3-3(b) to require all homeowners to subscribe to curbside trash collection.

c) Business

Barriers/Gaps: According to hauler reports, business waste diversion was 28 percent in 2013. Furthermore, over 60 percent of commercial trash customers have some level of recycling service but fewer than five percent have compost collection service.

Based on discussions with the city’s business zero waste advisors, surveys and meetings with property owners and business leaders, it is clear that some barriers exist to implementing recycling or compost service in businesses. These barriers include:

- Businesses and multi-family property managers must initiate and pay for additional services, unlike the single-family residential sector where services are included with trash collection service.
- Unless a business is able to reduce its level of trash service, these costs are additive.
- There is a landlord/tenant split incentive (i.e., owner or property management company pays the trash bills, and may be unwilling to subscribe to additional services).
- Trash and recycling containers in common collection areas often suffer from “the tragedy of the commons,” and contamination is an issue.
- There is often insufficient space for additional carts or dumpsters, especially in dense commercial districts.

Potential New Strategies:

- Business Recycling Requirement – Universal recycling requirement for businesses to subscribe to recyclables collection. Across the United States, communities are finding that a requirement for businesses to subscribe to recycling service is needed to significantly increase diversion rates. **Attachment C** includes a summary of best practices for business recycling requirements implemented in other communities. If such a requirement were to be pursued, it would likely take the form of requiring every business over a certain size (e.g. based on employees or square footage) and/or of a certain type to subscribe to single-stream recycling collection. Any such ordinance would need to include an adequate phase-in period with ample incentives and technical assistance to maximize the number of businesses that could comply in a timely fashion.
- Food Business Compost Collection Requirement – Universal requirement mandating food establishments over a certain size threshold subscribe to compost collection service. Any such ordinance would also need an adequate phase-in period and the city should aim to prioritize businesses

that generate enough food waste to result in a reduction in trash collection costs. Again, technical assistance and incentives should be designed to help affected businesses overcome common barriers at start-up.

- Take-Out Packaging – Encourage voluntary use of recyclable or compostable packaging by take-out restaurants. This would also require significant technical assistance and incentives to encourage more widespread adoption, including helping restaurants establish proper on-site collection systems for recyclable and compostable take-out packaging.

d) Citywide

Barriers/Gaps: In addition to the need for a mixed construction and demolition waste processing facility described above, more waste from this sector would be diverted if there were stronger financial and/or regulatory incentives in place.

Potential New Strategies:

- Existing Policy Enforcement – The program evaluation study recommended increased resources for improved enforcement of existing Green Points Green Building construction and demolition recycling requirements for residential housing projects.
- Construction and Demolition Debris Deposit Program – The city could establish a refundable deposit that would be paid at the time of issuance of demolition and/or building permits; it would be refunded once a certain level of waste was verified to have been reused or recycled. Such a deposit program would be most effective if implemented in consort with other communities in Boulder County, and at the same time that a new C&D processing facility were to become operational.
- Special Events Requirement – Modify existing policy to require recycling and composting collection at all special events requiring a city permit. This could be accompanied by a deposit program that could be refunded once diversion was verified.
- City Purchase of Local Compost – To help develop the market for finished compost product, a new policy could be implemented to require city departments to use certified, locally produced compost for city projects when quantity and quality requirements are met by such a product.

E. Strategy Evaluation

The following preliminary criteria have been identified for evaluating the strategy options for the action plan. Staff will use a second set of criteria, including cost impacts, to determine what strategies can be implemented together in the action plan.

- **Diversion Potential** – additional tons that would be diverted from landfill
- **Greenhouse Gas Reduction Potential** – reduction of GHG emissions

- **Upstream Conservation** - supports source reduction, repair, reuse, or reduced toxicity
- **Community Engagement** - encourages broad community participation and raises awareness
- **Ease of Implementation**- provides strong basis for future zero waste activities

For the non-numerical criteria, Table 3 provides and explanation of the rankings.

Table 3: Description of non-numerical criteria

Community Engagement (encourages participation and raises awareness)	1 for engaging up to 25% of City households, 2 for up to 50%, 3 for up to 75% and 4 for up to 100%
Upstream Conservation (supports source reduction, repair, reuse, and reduced toxicity—4 mechanisms)	1 for one mechanism, up to 4 for all 4 mechanisms
Ease of Implementation (including policy needs)	1 for high effort (high cost, public vote, etc.); 2 for policy with high enforcement; 3 for policy with light enforcement or aggressive education; 4 for minimal effort

Table 4: Evaluation of proposed strategies against criteria

Strategy	Diversion	GHG Reduction	Community Engagement	Upstream Conservation	Ease of Implementation
Homeowner Collection Service Requirement	7,400	15,000	2	0	3
Every Other Week Trash (Option for Weekly)	2,500 – 5,000	2,600 – 5,200	2	0	3
MFU Composting	300 – 600	< 100	1	0	3
Enforcement of Existing Policies	2,100 – 5,800	9,400	1	0	2
Business Recycling Requirement	5,500 – 11,900	17,000 – 36,600	3	0	2
Food Business Compost Requirement	8,600 – 17,100	1,800 – 3,600	2	0	2
Take-Out Packaging	100 – 200	< 100	2	0	3
C & D Deposit Program	5,400	4,200	1	2	2

Special Events Requirement	Unknown at this time	<100	1	0	4
City Purchase of Local Compost	0	N/A	1	0	4

F. Community Partner Roles and the Trash Tax Investment Strategy

The local landscape in Boulder for zero waste is unique as compared to other communities around the U.S. where municipal control, state mandates or high landfill tip fees drive zero waste investments. In Boulder, the role of local government in achieving zero waste is dependent on the city harnessing the significant knowledge and power of the community we serve. Boulder can facilitate a community vision around zero waste; “set the rules” so everyone can play on an even field; and help nurture each player’s unique strengths to contribute to that shared vision. Recognizing that the city does not have all of the control - nor does it want to make all of the investment - in facilities or programs, as part of the process to create the ZWSP, the city will work to collaboratively identify the proper roles for the city and each of our community partners.

The ZWSP will more formally recognize these partnerships and create a framework for supporting each other to reach Boulder’s shared goals. Internationally, an emerging understanding of the “systems” required to create a successful zero waste community includes the existence of adequate facilities to facilitate reuse and to process recyclables and compostables; paired with supporting policies and robust education to ensure broad participation.

As part of these ongoing discussions with our community partners, the city will also refine its trash tax investment strategy to be included in our ZWSP that will address how the city might invest in future facilities and programs. An initial draft of this investment strategy is as follows:

DRAFT TRASH TAX INVESTMENT STRATEGY

The city’s investment strategy for the Trash Tax focuses on providing convenient programs and services that reduce waste but are not initially viable for the private sector to provide. Programs and services are designed to be “spun off” when either the economic motivators or the desires of the program participants have shifted sufficiently to allow the private sector to take over. Sometimes this shift requires enabling legislation so that all private sector companies are playing by the same rules.

The general investment strategy is for the city to provide programs that protect the environmental health and safety of the community, always giving preference to cooperative ventures with for-profit and nonprofit organizations above sole municipal control. The primary goal for Boulder is to create complete zero waste “systems” that provide adequate facilities for reuse, recycling and composting; and to pair these facilities with supporting policies and robust education to ensure broad participation.

When faced with funding choices, the following guidelines will be considered:

- One-time funding is preferable to ongoing program support
- The city can fund business plans and technical assistance to help partners determine private sector viability
- Investments will be prioritized if they are “opportunistic” and take advantage of fund matches or other forms of significant community support
- The city will avoid duplicating services where an existing community organization can either provide the service or whose existing services could be built upon
- Investments will be prioritized if they have the ability to achieve multiple community goals
- Investments choices will be weighed against the community’s zero waste goals and preference will be given to the most cost-effective choices with respect to the following criteria:
 1. Source reduction
 2. Greenhouse gas reduction
 3. Waste diversion
 4. Broad community involvement
 5. Facility investment that build critical infrastructure for a flexible zero waste future

VI. BOARD, PARTNER AND PUBLIC INPUT TO DATE

A. The Environmental Advisory Board (EAB) reviewed the findings and recommendations of the Program Evaluation study at the April 2, 2014, meeting and provided comments on the potential ZWSP strategies. Feedback from EAB members included:

- Support for criteria used to evaluate strategies;
- Support for moving towards mandatory strategies given how much has already been done on a voluntary basis over the past decade, including for the commercial sector; and
- Support for new construction and demolition requirements; however members cautioned against a new C&D requirement/deposit program that is not paired with any kind of incentives (especially for single-family construction).

B. Zero Waste Partner Discussions

Boulder is highly dependent on the activities, investments and support of our partners in order to achieve the community’s zero waste goals. In recognition of this, staff has fully engaged with our community partners, including Western Disposal, Eco-Cycle, the Center for Resource Conservation, and Boulder County, since the beginning of the update process. During these meetings, our partners have been highly supportive of the direction of the ZWSP and several ideas were proposed for incorporating the partners’ roles in the plan and for a process to update the plan based on developments at each of their organizations. Staff will continue discussions with these and other community partners and a more formal definition of each organization’s role will be a part of the ZWSP.

C. Business Sector Input

Commercial Property Owner Survey – In 2013, the city commissioned an in-person survey of seven large commercial property owners in Boulder through the PACE program's zero waste advising contract with the Boulder County Public Health. The survey focused on incentives and opportunities to increase zero waste services, maximize utilization of existing services, and identify barriers to zero waste. Key takeaways from the survey include:

- Barriers: The cost of adding services is the top barrier cited, along with lack of space for expanded services, lack of tenant education and not enough time to implement new services.
- Incentives: Strong interest in financial incentives for adding services and for startup costs—current incentives are not significant enough.
- Regulation: New mandates and regulations were generally discouraged.

Business Organization Policy Group Meetings – The city held preliminary meetings with the Boulder Chamber Community Affairs Council and the Downtown Boulder, Inc. Public Policy Committee. These meetings were primarily focused on the overall direction of the ZWSP and potential strategies for achieving Boulder's zero waste goals, especially those that may affect businesses in Boulder. Feedback received from these organizations mirror the feedback from the property manager survey. Most business leaders agree that recycling is a core value in Boulder and that their customers and employees demand the service. They cited similar barriers to expanding service, and requested that any future ordinance allow for a phase-in period; not be too onerous as to punish businesses trying to comply; and set a low enough bar to meet the city's goals while still allowing "green" businesses to differentiate themselves by providing a higher level of zero waste services.

D. Public Input

A recent communitywide sustainability survey conducted in conjunction with Boulder County shows that the vast majority of city residents engage in waste reduction activities and would support the expansion of programs that work toward this end. One of the major takeaways from the survey is that zero waste has become an embedded community value, and residents are willing to increase their zero waste efforts if provided with support from the city and community partners.

Specific to the ZWSP, phase 1 of the public outreach focused on obtaining buy-in on the goals of the new Plan, as well as gauging the preferred prioritization of strategies for the Plan. Input was obtained at the following events:

- Zero Waste Community Celebration at 6400 Arapahoe
- Open House in conjunction with the Comprehensive Housing Strategy
- Outreach booth at the July 9 Farmers Market

Participants were asked to vote on which strategies they would like to see implemented now, within two years, in two to five years, or within 10 years. Over 1,600 votes were cast on the prioritization of strategies at these events. A full report of the compiled votes for each time horizon category is provided in the Public Input Summary in **Attachment D**. In general, more than 700 votes were cast in the "now" time horizon, indicating an urgency from the community to increase waste reduction efforts. In general, new regulations such as business recycling requirements, a take-out packaging requirement

and multi-family compost collection were prioritized in the near term, with many of the facility-related strategies prioritized in the “within two years”/“two to five year” categories.

The online portal Inspire Boulder was also used to obtain feedback from the community. Participants were asked several questions related to improving waste reduction in Boulder. When asked what programs, services or facilities would most help them recycling or compost more at home, the highest ranked answers were compost collection at apartments, townhomes and condos followed by clear guidelines and weekly curbside recycling and compost collection.

When asked what key issues the ZWSP should address, participants indicated that increasing business recycling and compost collection were top priorities, followed by the ability of residents in multi-family housing to compost and the ability to better recycle construction and demolition waste. Additional Inspire Boulder comments are also included in **Attachment D**.

VII. Next Steps

City Council’s feedback on the ZWSP goals, potential strategies and draft trash tax investment strategy will enable staff to further develop the plan goals, further evaluate and refine the strategies and create the action plan. Following the study session, the second phase of outreach will focus on obtaining stakeholder and public input on the strategies that council identified as specific priorities. This phase will begin in August and continue through fall when the draft ZWSP is created, and will include:

- Continued engagement on InspireBoulder.com
- Additional Waste Task Force meeting
- Public meetings
- Continued partner discussions to formalize roles and refine trash tax investment strategy
- Focused stakeholder meetings – Depending on the City Council’s input on strategies, specific input will be solicited from the affected stakeholder groups, such as the city’s zero waste partners, haulers, commercial businesses, property managers, etc. These discussions will provide feedback for council on options for voluntary incentive phases to accompany any proposed ordinance, options for compliance dates, etc.

As the content of the ZWSP is refined, work on the graphical web-based interface for the plan will also continue. Staff will return to council in late 2014 for consideration of the draft ZWSP.

ATTACHMENTS:

Attachment A – Zero Waste Facilities

Attachment B – City of Portland Report on One Year of Every Other Week Trash

Attachment C – Business Recycling Requirement Best Practices

Attachment D – Public Input Received

Zero Waste Facilities

Facilities	Ownership	Operational Funding	Other partners
Boulder County Recycling Center	Boulder County	Customers through collection fees; revenue from sale of recyclables	Eco-Cycle operates under contract to Boulder County
Hazardous Materials Management Facility	Boulder County	All municipalities in Boulder County and Broomfield, based on each community's usage. Businesses pay for usage	
Yard Waste Drop-off Center	Western Disposal	City of Boulder and Boulder County subsidize residential and business user fees	Western Disposal operates under contract to the City of Boulder and Boulder County
Wood Waste Drop-off Center	Western Disposal	City of Boulder and Boulder County subsidize residential usage; businesses pay user fees	Western Disposal operates under contract to the City of Boulder and Boulder County
City of Boulder/ Eco-Cycle CHaRM	City of Boulder owns land; Eco-Cycle owns equipment	City of Boulder and user fees	Eco-Cycle operates under contract to the city; Eco-Cycle commercial operations, grant and donor support
Yard and Food waste composting facility	Western Disposal	Customers through collection fees; yard and wood waste drop off fees and City of Boulder subsidies	
ReSource used building materials yard	City of Boulder owns land; Center for ReSource Conservation (CRC) owns equipment	Sale of donated materials	City of Boulder Water utility helps support CRC water conservation programs and services; other communities, grant and donor support
Western Disposal Transfer Station	Western Disposal	User fees; sale of recyclables dropped off or separated from transfer station waste	
Other: University of Colorado (CU) Recycling, front range Construction & Demolition (C&D) facilities	CU and private companies	CU student fees and user fees	CU and private companies



Bureau of Planning and Sustainability
Innovation. Collaboration. Practical Solutions.

December 5, 2012

New Curbside Collection Service Year One Report

On October 31, 2011, the City of Portland launched a new curbside collection service that included weekly collection of all food scraps along with yard debris and shifted garbage collection to every other week. No changes were made to weekly recycling collection.

Today, Portlanders in single family homes and small multiplexes with two to four units have been using this new curbside collection service for over a year. This report presents outcomes from the first year of the new program and summarizes the steps the Bureau of Planning and Sustainability (BPS) has taken to assist residents, provide ongoing customer service support, coordinate with garbage and recycling companies, and gather data to evaluate progress.



During the launch of the new curbside collection service last fall, TriMet buses displayed a reminder for Portland residents to "Include the Food."



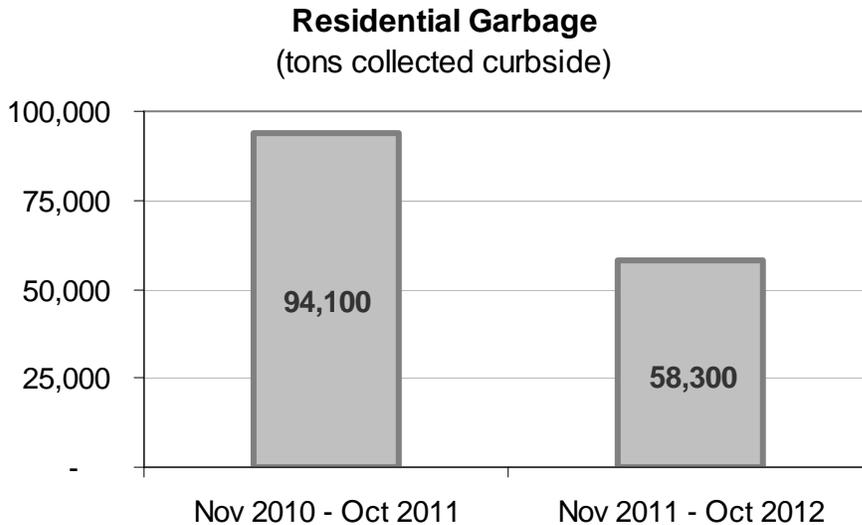
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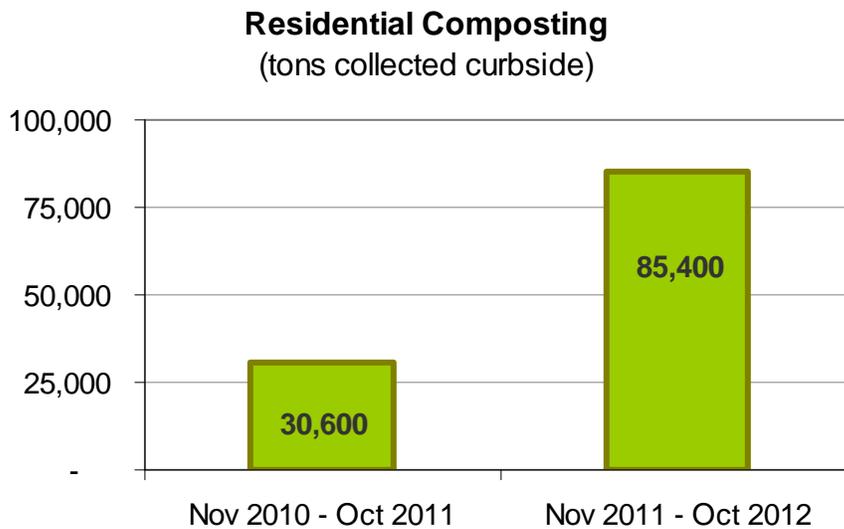
Reduction in Garbage

Comparing the first 12 months of the new program with the same time period the previous year, the amount of residential garbage collected curbside has decreased by an estimated 38 percent.



Increase in Yard Debris and Food Scraps

The new curbside collection service has contributed to a large increase in the material collected from Portland residents for composting. The amount of yard debris and food scraps collected in the first year of the program is nearly triple the amount of yard debris collected during the prior year.

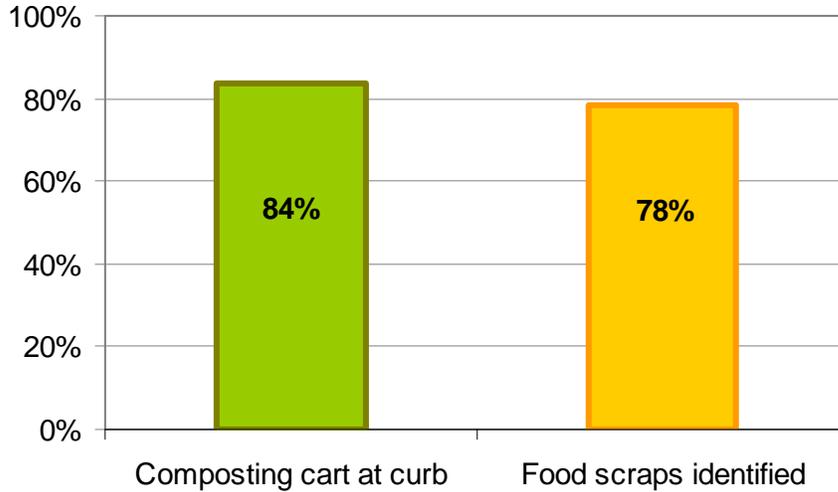


Customer Participation

About nine out of ten composting roll carts at the curb contain food scraps, according to a field study conducted this fall.¹ Assuming that customers whose carts were not at the curb during the study are not participating in the program, the study indicates that at least 78 percent of customers are placing food scraps in their green Portland Composts! roll cart.

¹ Based on a positive identification of food scraps in the curbside composting roll cart in a sample of about 1,000 Portland homes during September and October 2012.

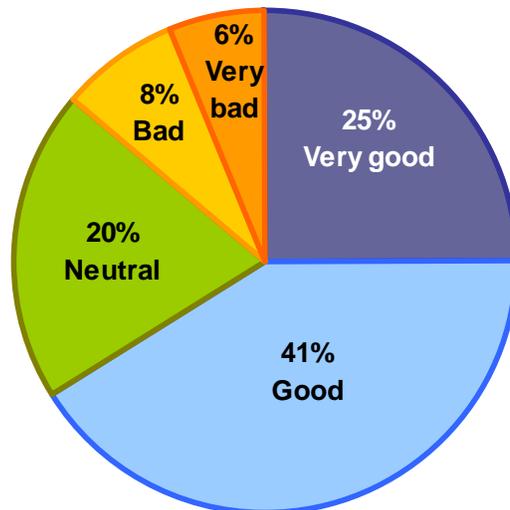
Composting Participation
(Percent Customers in Sample)



Positive Perception of Curbside Collection Service

The annual Community Survey report released by the City Auditor in October 2012 revealed a very positive public perception of the curbside collection service. The survey showed that 66 percent of respondents felt good or very good about the new curbside collection service. An additional 20 percent of respondents felt neutral about the quality of service.

How do you rate garbage/recycling service in terms of quality?
(2012 Community Survey)

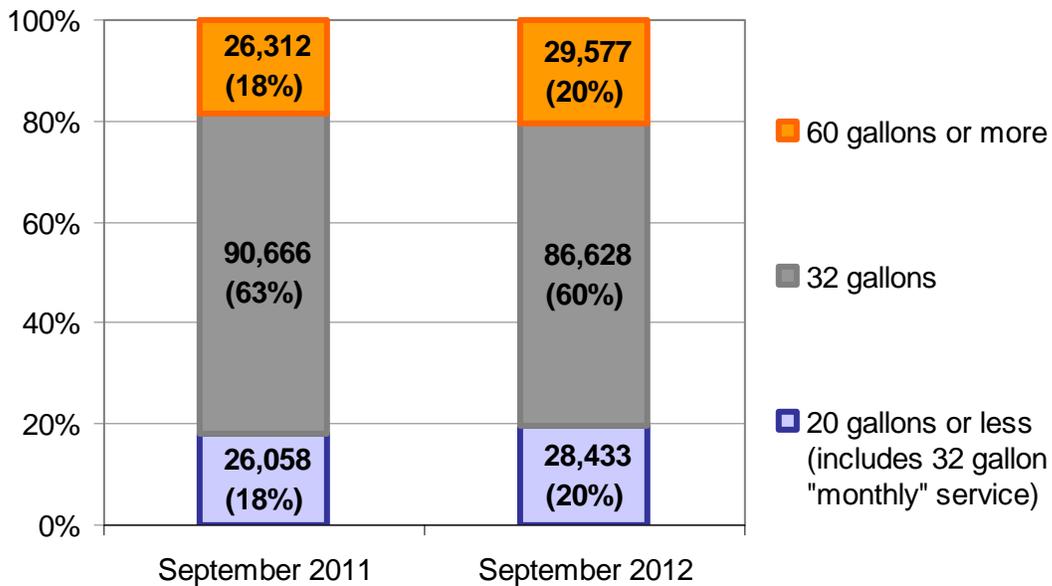


Adapting to the New Service

While most customers have adapted to the new program without changing the size of their garbage container, some customers are taking advantage of the multiple service options offered in the curbside program to customize service to fit their households' needs. In September 2012 the number of customers with larger can sizes had increased by just two percent from the previous year, and the number of customers with smaller cans or every-four-week service was also up by about two percent compared with the year before.

BPS staff continue to provide customers with information about their service options and encourage them to find the service level that meets their household's needs.

Garbage Service Subscription Level

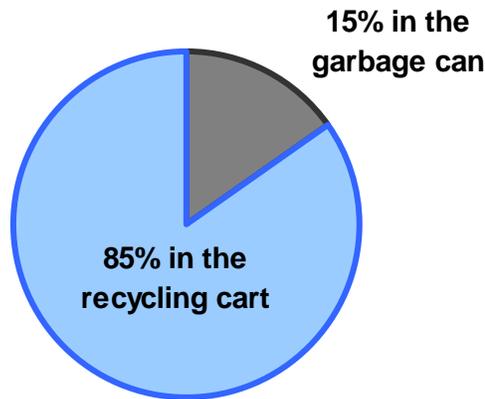




Portlanders continue to recycle 85 percent of accepted materials

According to waste composition studies conducted during September and October 2012,² Portland residents are recycling 85 percent of the materials that can be recycled curbside.

Where is Portland's curbside recycling?



Employees who sort Portland's recycled materials have reported finding some household garbage in loads of residential recycling. In response to these concerns, the City has increased its outreach on this issue and has worked with the recycling sorting facilities as well as garbage and recycling companies to identify households with garbage in recycling and composting containers. A notification program was begun in April, 2012 and nearly 3,000 households out of 143,000 subscribers have been notified with a cart tag by their hauler and a follow-up letter from the City informing them of the contamination. Over half of the tags and letters were issued from April through June, with the number of notified households declining through the summer and fall. Contamination remains an issue and the notification process is an ongoing effort, though recycling sorting facilities have indicated that it has decreased from earlier levels. BPS staff will continue to monitor this issue and work with facilities, haulers and residents to keep recyclable materials clean.

² Samples of each curbside material stream were randomly selected and hand-sorted, and the constituent materials were weighed.

Communication to Residents

In addition to a two-gallon kitchen pail for collecting their food scraps, the 143,000 customers with curbside collection service received an information packet and two issues of the *Curbsider* newsletter dedicated to the change in service.



BPS conducted a broad-based media campaign that included radio, transit, and a variety of print ads, as well as earned media, both print and broadcast.

Enhanced Customer Service to Aid Transition

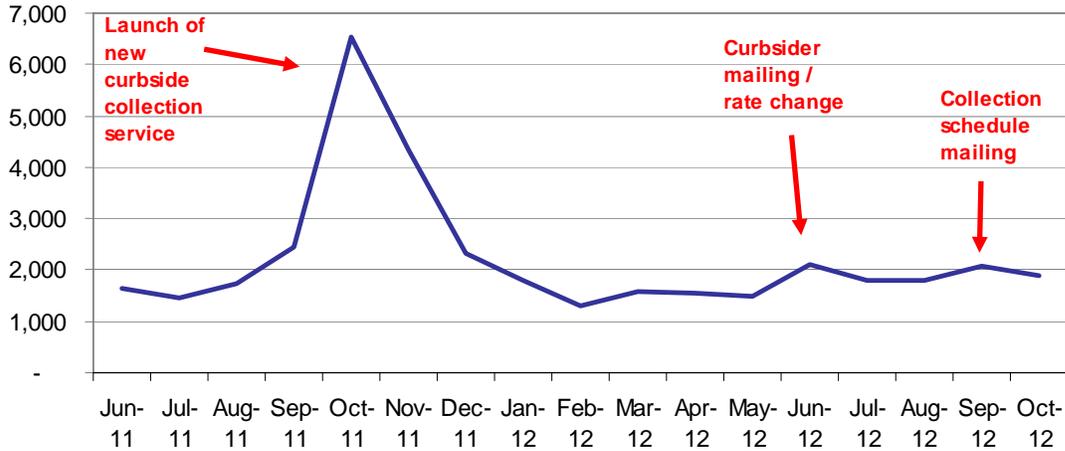
BPS started tracking customer calls and emails related to the new program in mid-September, when customers first began receiving information about service changes in the mail. At that time, BPS also added four new customer service staff, including two fluent Spanish speakers, and extended call center hours to include evening and weekend hours. (The curbside hotline can be reached at 503-823-7202.)

In the weeks surrounding the rollout, call levels spiked significantly. From mid-September to the end of the year, BPS logged over 10,000 calls and emails related to the new program. By January 2012 call levels dropped and BPS shifted back to normal staffing levels and hours.

From October 2011 through October 2012 BPS logged about 30,600 calls and emails, compared with 22,900 during the same period the previous

year. The top call reasons during the first year of the new program were similar to those in previous years: “Who is my hauler?” as well as questions about recycling and composting preparation.

Customer Calls and Emails to BPS



Online Tools

As part of the rollout of the new program, BPS launched a new web domain, www.portlandcomposts.com, which was focused on providing residents with information and tools to help them adjust to the new curbside collection service. The website included downloadable versions of all the materials sent to residents, as well as several videos providing tips on how to compost food scraps and keep containers clean.

The switch to every-other-week garbage prompted development of the e-schedule, which allows residents to look up their garbage collection day online. Over 3,700 Portland residents have signed up to receive a weekly email reminder via the e-schedule at www.portlandcomposts.com. Plans for continued improvement of the e-schedule include adding an option to receive reminders by SMS/text message.

Community Engagement

Outreach efforts from August 2011 through the end of October 2012 involved 275 volunteers and resulted in conversations with over 25,000 Portlanders. BPS staff and volunteers delivered more than 25 presentations and staffed information booths at 87 community events and meetings.



Volunteers from the Urban League of Young Professionals canvassed and promoted the Include the Food message.

During spring 2012, BPS coordinated a door-to-door outreach campaign as part of the City's efforts to offer residents technical assistance. For 12 weeks, volunteers from 25 community groups joined BPS staff to canvass in 26 neighborhoods across Portland. Volunteers were from neighborhood associations, churches, ethnic and cultural organizations, school groups and the Master Recycler program. They answered questions about the changes to the curbside collection service and made sure residents had the information they needed to successfully collect their food scraps for composting and adjust to every-other-week garbage collection. The effort reached nearly 19,000 homes.

Canvassing was targeted in areas with larger households, more renters, and a greater number of linguistically isolated residents. A particular effort was made to reach linguistically isolated households by recruiting

bilingual volunteers, translating materials, utilizing translation services to place follow up calls and partnering with ethnic and cultural organizations to distribute educational materials.

Staff and volunteers continue to actively engage Portlanders regarding curbside services and options, with a special focus on renters living in single family to fourplex households.

Boosting Portland's Recovery Rate

The new curbside collection program has helped dramatically reduce the amount of garbage Portland sends to landfills and increase the amount of yard debris and food scraps turned into rich compost for healthier soil. In 2007 City Council adopted the *Portland Recycles! Plan*, which set a goal to recover 75 percent of the City's waste by the year 2015. The 2009 *Climate Action Plan* established a longer-term goal to recover 90 percent by 2030. The two plans identified weekly curbside collection of food scraps along with every-other-week garbage collection as a key step in achieving Portland's waste recovery and carbon-reduction goals.

The first year results show the new curbside collection service will likely increase Portland's residential recovery rate from 51 percent in 2010 to about 70 percent in 2012. This will help increase the city's overall recovery rate and bring Portland closer to its 75 percent near-term goal for commercial and residential combined.

Business Recycling Requirement Best Practicesⁱ

What is the policy for business recycling?

City	Policy overview
<i>Portland, OR</i>	All businesses must recycle their paper and containers, including cardboard, newspaper, office paper, plastic bottles, milk cartons and glass/metal jars. Large food businesses must compost food scraps and soiled paper products. The city also requires businesses to make sure their recycling programs operate according to best practices. This includes correctly labeling all recycling containers and making sure they are conveniently located, educating all employees at least once a year, providing tenants with recycling services and at least one recycling container per workstation or trash can, and contracting with janitorial services that support the recycling system.
<i>Austin, TX</i>	Businesses and property owners are required to provide recycling collection for mixed paper, cardboard, plastic bottles, glass bottles and aluminum cans at a minimum. Businesses and property owners must provide recycling signage in English and Spanish, conduct annual tenant and employee education, and must submit annual recycling plans to the city.
<i>Collier County, FL</i>	All non-residential properties must recycle paper, cardboard, ferrous metal, and plastic, glass and aluminum containers. Properties that do not generate 96 gallons or more of any of these materials must designate one or more of the materials to recycle.
<i>Alameda County, CA</i>	Businesses must recycle cardboard, newspaper, office paper, and glass, metal and plastic containers. In 2014, discarded food and soiled paper must be composted at all businesses. This applies to the county and 12 of its 14 municipalities. The policy also requires trash haulers to provide businesses with 96 gallons of both recycling and composting service at no additional charge, meaning the services are bundled together into one rate. Pricing for trash service is based on volume to encourage recycling and composting.
<i>Montgomery County, MD</i>	Recycling has been required for all businesses and households in Montgomery County since 1993. County residents and businesses are required to recycle cardboard, office paper, newspaper, aluminum and tin cans, glass and plastic containers, yard waste, Christmas trees, and scrap metal. In addition, commercial businesses with more than 100 employees are required to submit a waste reduction and recycling plan to county on how they will achieve a 50% recycling rate.
<i>Chittenden County, VT</i>	All businesses and residents must recycle aluminum and steel cans, glass food and beverage bottles and jars, PET and HDPE plastic bottles and jugs, and mixed paper including cardboard, newspaper, and magazines. Trash haulers are required to provide recycling services to businesses as part of their service package, and property owners must provide recycling services to residents and tenants.
<i>Mecklenburg County, NC</i>	Businesses must recycle cardboard and office paper. The policy has been in place since 2002 and affects about 5000 businesses.
<i>Seattle, WA</i>	All residents and businesses to recycle paper, cardboard and yard waste. These materials are also banned from the trash.
<i>Aspen, CO</i>	Trash haulers must provide recycling services to businesses at no additional cost. Businesses must have recycling bins for beverage containers, office paper and cardboard. The price of recycling service is included in the base rate for trash so businesses cannot contract for just trash service. Yard waste is also banned from the trash.

Which businesses are affected by the regulations and which are exempted?

City	Inclusions and Exemptions
<i>Portland, OR</i>	All businesses must recycle. Businesses can be exempted for a 12-month period due to extreme financial hardship. The business must demonstrate that the costs of implementing a recycling system is more than 4% of their gross annual income for a small business and more than 5% of gross income for larger businesses. Exemptions can be renewed annually.
<i>Austin, TX</i>	The program rolled out in phases, starting with the largest properties—offices greater than 100,000 sq. ft. and MFUs with more than 75 units. Over four years the ordinance will apply to all commercial office buildings, institutional properties, private educational facilities and all MFU properties. Businesses can apply for a waiver up to once per year and requested an exemption on which materials are collected, where the recycling bins are located, how much recycling service they receive or other provisions.
<i>Collier County, FL</i>	The ordinance applies to any business, non-profit organization or institution (government, schools, churches and hospitals) located within the unincorporated areas of the county. Businesses are required to recycle each of the designated materials if they produce more than 96 gallons of the material per month. All businesses are required to designate at least one material for recycling. Properties are exempt if they produce less than one 96-gallon container of trash twice a week, if no recyclable materials are generated, or if no market/collection system exists for the recyclable materials. Hardship exemptions are also granted for period of one year and then reviewed.
<i>Alameda County, CA</i>	Phase 1 applied only to businesses and institutions that subscribe to four or more cubic yards of garbage service per week. Two years later, all businesses and institutions were required to recycle and compost. Properties can be exempted for physical space limitations, if recyclable materials make up less than 10% of solid waste from that location, or if there is a financial hardship, defined as a 30% or greater increase in collection costs. Businesses can also ask for additional time to meet the requirements.
<i>Montgomery County, MD</i>	All business must recycle, regardless of size. Businesses may request a recycling exemption of up two items if the business can show the items are hard to recycle. Temporary or permanent waivers can be granted if markets are not available for recycling specific materials, there is a significant difference in cost of recycling a material and disposing of that material, or if a preparation and storage location is unavailable for recyclable materials.
<i>Chittenden County, VT</i>	All businesses must recycle but can apply for an exemption from the requirement to have curbside recycling services if the business hauls their own materials to the drop-off center.
<i>Mecklenburg County, NC</i>	The ordinance applies to only the largest businesses in the county, defined as any business that generates 16 cubic yards or more of trash per week. Businesses are exempt if they produce less than 500 lbs. of corrugated cardboard or office paper per month. Businesses may apply for an exemption due to space limitations or if compliance with the ordinance would require them to violate other municipal codes or regulations such as the zoning ordinance.
<i>Seattle, WA</i>	All businesses are required to recycle, regardless of size or industry. Businesses with limited space for recycling containers can apply for an exemption and must pass a stringent application process and onsite inspection in order to receive the exemption. Only a small number of businesses have applied for the exemption over the past 10 years.
<i>Aspen, CO</i>	Applies to all businesses, including retail establishments, restaurants, hospitals, schools, day care centers, offices, nursing homes, clubs, churches and public facilities. Businesses are exempted from the cardboard requirement if they self-haul their cardboard to the recycling drop-off center.

Does the business recycling policy include composting?

City	Composting policy
<i>Portland, OR</i>	YES. Large food businesses must compost food scraps and soiled paper products. The city determines which businesses must comply based on estimates of the amount of food waste generated, starting with the largest businesses. There is no formal standard for the policy and it has not been enforced by the city due to inadequate infrastructure. There are an estimated 900-1000 businesses currently composting food waste.
<i>Austin, TX</i>	NO. The city is developing Phase 2 of the recycling policy and is working toward requiring all food businesses to have composting service by 2017.
<i>Collier County, FL</i>	NO. The Board of County Commissioners may require other materials, such as organic waste, to be recycled if a recycling market exists and is cost-effective to use.
<i>Alameda County, CA</i>	YES. Phase 2 of the policy begins in mid-2014 and requires all businesses to compost discarded food and compostable/soiled paper. Yard waste is already banned from the landfill for all residents and businesses.
<i>Montgomery County, MD</i>	NO.
<i>Chittenden County, VT</i>	The County mandates recycling of leaf and yard debris. The state of Vermont has passed a law in 2012 phasing in both mandatory recycling and mandatory composting, eventually banning those materials from landfills by 2020.
<i>Mecklenburg County, NC</i>	NO.
<i>Seattle, WA</i>	Yard waste must be recycled/composted by all businesses and residents. Food waste generators are required to use compostable or recyclable packaging for single-serve packaging and must collect these products from customers for recycling and composting.
<i>Aspen, CO</i>	Yard waste is banned from the trash for all residents and businesses. There is a voluntary compost service for businesses for an additional fee.

How is the policy enforced?

City	Policy enforcement
<i>Portland, OR</i>	The city does not actively enforce the ordinance although it has the ability to conduct onsite inspections and issue fines starting at \$200 and rising up to \$1500. Portland encourages businesses to recycle and reach the 75% recycling goal through their Sustainability at Work program. This program offers free technical assistance, collection containers, waste audits and educational materials to businesses, and has a three-tiered green awards certificate program to recognize a business's positive impact on the environment and community.
<i>Austin, TX</i>	Property owners are required to submit recycling plan forms to the city to demonstrate compliance every year. The city waived the right to levy fines for the first 12 months of the program to focus on education. City staff may visit and inspect any property for compliance. If a violation is found, a notice is sent and the property has 30 days to comply before a second notice is sent, also with a 30-day compliance period. After two notices, the city can issue a fine between \$100 and \$2000. The program is estimated to cost the city \$500,000 for hiring four staffers for enforcement, educating tenants and managers about the rules, and having a website to record the progress of the plan.
<i>Collier County, FL</i>	The county offers waste and recycling assessments, educational presentations, brochures, a training DVD and technical assistance to help businesses comply with the ordinance, as well as a Waste Reduction Awards program. Businesses had 12 months to comply with the ordinance before enforcement began. The county enforces the ordinance when staff members are on a property to investigate another complaint. A warning is issued for the first offense with possible fines for the second offense. To demonstrate compliance, properties may be asked to provide a service agreement with a contracted hauler or self-hauling receipts from a recycling facility.
<i>Alameda County, CA</i>	Properties first receive a warning for any violations along with information on finding assistance to correct the situation. Only warnings will be issued for the six months following implementation. Multiple violations of the ordinance could result in an Administrative Citation and Fine in an amount not to exceed \$500 for the first violation, \$750 for the second violation and \$1,000 for the third and subsequent violations in a year. A separate notice of violation may be issued for each day on which a violation occurs.
<i>Montgomery County, MD</i>	The County employs six program specialists for outreach and education. There are an additional 4 code enforcers. Violators are ticketed. In addition haulers are interviewed and their route sheets reviewed at the transfer station to check for potential violations of the ordinance. The County can also review business recycling plans for compliance.
<i>Chittenden County, VT</i>	It is the responsibility of the hauler to notify businesses of recycling violations. The district provides businesses with education and technical assistance on the mandatory recycling policy, including grants for collection containers, an onsite waste assessment and waste sort, and an evaluation for composting service. Fines are issued if necessary for businesses that are not recycling, up to \$500 per incident. There is a form on the district's website to report businesses that are not recycling.
<i>Mecklenburg County, NC</i>	The County employs one full-time staff to oversee enforcement. Between 2003 (when enforcement began) and 2012, over 1,000 inspections were conducted and 38 notices of notices of violation were issued. All sites came into compliance as a result of the notices. If businesses do not comply after the third notice of violation, they will be assessed a \$50 per day fine. The County offer free technical assistance along with each notice of violation.
<i>Seattle, WA</i>	If the city or the trash hauler finds more than 10% recyclable material in the trash, the city issues a violation to the business and works with the business to resolve the problem. The city has the authority to issue fines of up to \$50 but has yet to do so—over nearly 10 years, every business has come into compliance when contacted. When the program began, the city spent 9 months educating businesses about the new policy and then 12 months placing educational

	warnings on garbage carts that contained recyclable materials before it had the authority to issue fines.
<i>Aspen, CO</i>	The city provides an audit card for haulers to notify businesses when there is contamination in the recycling bin or excess recycling or yard waste in the trash cans. The city is responsible for educating the customer and correcting the issue. The ordinance came into effect when the businesses' current trash contract expired. This staged approach gave the city several years to educate businesses about the requirements. The city originally hired a full time staff to focus on the commercial implementation of the ordinance and later reduced the position to half time. Staff was critical in ensuring hauler participation and having a "real person" to answer questions. Staff went door-to-door before and after the ordinance to educate businesses, speaking directly to or dropping off information with about 400 businesses, as well as offering assistance to set up bins and train staff. There was some difficulty in working with the non-local haulers on recycling education and in working with landlords and property managers from out of state, but otherwise the implementation was relatively smooth.

How was the policy developed and implemented?

City	Policy background
<i>Portland, OR</i>	Portland first required businesses to recycle in 1996. Businesses had to submit recycling plans to the city on how they would meet a 50% recycling goal. Lack of enforcement and efficiency within that system, as well as the desire to maintain open competitive hauling system for businesses collections, led businesses to support a mandatory recycling policy. The city's climate action plan identified business recycling as a key action item and was dominant factor in the push to implement mandatory recycling. The city's recycling goals are 75% recovery by 2015 and 90% recovery by 2030, and to reduce per capita waste generation below 2005 levels by 2015 and 25% by 2030.
<i>Austin, TX</i>	In 1999 Austin required recycling at only the largest businesses, designating that those with more than 100 employees and multi-family properties with more than 100 units must provide recycling services for a minimum of two designated materials at least twice a month. In order to meet the city's Zero Waste goals, extend the life of the landfill and reduce disposal costs, the city expanded the policy in 2010 to eventually include all businesses and apartments. Phase 2 of the policy will include composting at food-generating businesses. Phase 2 is currently undergoing extensive stakeholder meetings with different sectors of the business community and is being overseen by a staff and citizen committee.
<i>Collier County, FL</i>	After conducting a small pilot program that showed 75% of businesses could save money with recycling by reducing trash costs, Collier County introduced a business recycling ordinance in 2002. Due to business and community group opposition the ordinance was not passed. The county instead developed an 18-month pilot program to encourage voluntary recycling for Collier's 3,200 commercial enterprises. The results were disappointing, with the number of companies recycling rising only from 10% to 12%. This led the county to reconsider the ordinance, and the following provisions were developed to gain the support of the local business community: required businesses to recycle as many materials as practical; lifted land development code requirements if there are conflicts with the ordinance (these include possible exemptions for the required number of spaces or the enclosures around waste and recycling containers); created an education and outreach program, including the awards program, and pledged to conduct a report on the efficacy of the ordinance; provided a 12-month grace period before enforcement, and coordinated enforcement with other county departments such as code enforcement and pollution control; and set minimum standards for a business to be in compliance, including providing recycling containers and the choice to contract for collection services or self-haul materials.
<i>Alameda County, CA</i>	In 2012 the state of California required all businesses and multi-family properties to recycle as part of its efforts to reduce climate change. Alameda County, a leader in the state, passed its own ordinance to surpass the state standards by requiring all businesses to recycle specific materials, to have an adequate amount of recycling service, and to compost food scraps and soiled paper. In 2008 Alameda County found 60% of its landfilled materials could have been recycled or

	composted. The County has a goal of having recyclables and compostables make up less than 10% of materials going to the landfill by 2020.
<i>Montgomery County, MD</i>	The county started to promote recycling in the 1980s with door-to-door education for businesses. The county conducted free mini-waste audits, prepared a free waste stream report and worked with the business to develop a recycling plan. The county then approached the local chamber of commerce to set up an environmental subcommittee to address recycling. This helped to build support in the business community as well as create champions of recycling within the business community itself. Several prominent business leaders saw the economic value of recycling and began to support County efforts to expand recycling to businesses. This bridge building allowed for the eventual smooth passage of mandatory recycling for all businesses within the County, in part because the county addressed these three main concerns from the business community: (1) businesses were concerned at the potential time and cost of preparing recycling plans every year. In response, the County created a one page, easy to use report form for businesses to use and these are now completed online. (2) Businesses were concerned the reported information could be considered proprietary or sensitive, so the County agreed to keep all records private. (3) Businesses did not want to be singled out regarding their waste stream amounts so the County agreed that quarterly reporting would be aggregated and does not list material amounts collected per company.
<i>Chittenden County, VT</i>	In 1992, citizens of Chittenden County voted 70% in favor of a nonbinding referendum to make recycling mandatory within the waste district and in 1993 the policy was created. There was little push-back from businesses when mandatory recycling began, thanks in part to buy-in from the three largest employees in the county: University of Vermont, the local hospital, and IBM. However, there was initial reluctance on the part of haulers regarding the new law. They felt requiring haulers to collect recycling was an infringement upon private business. However, the strong price difference between high landfill fees and the revenues from recycling were a strong driver to bring haulers on board with the program, as was the fact that the policy applied to all the haulers across the board.
<i>Mecklenburg County, NC</i>	In 2000, Mecklenburg County adopted a Solid Waste Management 10-Year Plan and set goals to reduce its per capita waste generations by 19% by 2006 and by 23% by 2010 (compared to 1999 levels). The plan was developed in direct response to North Carolina's state goal of 40% per capita reduction in disposal of municipal solid waste by 2001. Mecklenburg County identified that a tremendous 78% of its waste was from nonresidential sources. In order to reduce some of this waste from businesses, the plan recommended a mandatory source separation ordinance for corrugated cardboard and office paper.
<i>Seattle, WA</i>	Mandatory recycling began in 2003 to help the city meet its 60% recycling goal. Businesses were concerned about the costs and enforcement so the city offered an exemption for businesses with space limitations and created an incentive for recycling—businesses that receive trash collection from the city are eligible for free recycling pickup, up to 2 carts picked up every other week. This helped some smaller businesses adjust to the new requirements, but because of the limited size of the carts and the frequency of collection, most businesses contract with a private hauler for recycling.
<i>Aspen, CO</i>	In 2004 Aspen city council asked staff to review options to increase recycling. Staff then met with waste haulers, businesses and residents, primarily through one-on-one meetings, phone conversations and emails to discuss how Aspen could increase its recycling rate. The result was a citywide recycling ordinance. The biggest concerns around the ordinance were space limitations, financial hardships, extra traffic, enforcement and education. The original ordinance included a three-year sunset clause to reflect these concerns, and in 2008 the ordinance was renewed.

How successful has the policy been to date?

City	Policy success and data metrics
<i>Portland, OR</i>	The Metro Portland area boasted a 62% recycling rate in 2012. The area was at 41% in 1996 when the city began requiring businesses to recycle.
<i>Austin, TX</i>	Austin had a recycling rate of 38% in 2010. The city is expected to increase recycling by 100,000 tons by 2015 from businesses and MFUs as a result of the ordinance and to double the amount of tons recycled from this sector by 2020. The program is estimated to cost the city \$500,000 for hiring four staffers for enforcement, educating tenants and managers about the rules, and having a website to record the progress of the plan.
<i>Collier County, FL</i>	The county visited more than 400 businesses in 2005-2006 and found 98% were in compliance. Oversight and implementation of the program was expected to cost the county \$2.7 million over 20 years while providing \$18 million in savings from avoided disposal costs at an out-of-county landfill.
<i>Alameda County, CA</i>	Phase 1 began in 2012 and phase 2 in 2014 so data is limited.
<i>Montgomery County, MD</i>	The County has a recycling rate of 44% and a high level of compliance with the ordinance. The policy has increased business opportunities for recycling haulers.
<i>Chittenden County, VT</i>	Chittenden had a 46% recycling rate in 2010 and very high levels of participation in the program. The publicly owned recycling center has been very profitable for the county.
<i>Mecklenburg County, NC</i>	About 4900 businesses are affected by the current ordinance. The average business spends \$75 on recycling services (not including savings from avoided disposal) and the net cost to the businesses in the county, determined by adding the costs of providing services minus the revenue from recyclable materials, is about \$1.8 million per year. However, only 23% of small businesses are affected by the mandatory recycling policy and despite voluntary recycling efforts, half of small businesses in Mecklenburg County are not recycling. Paper and cardboard are the largest categories of materials in the trash from these businesses. The county is considering revising the ordinance to include more small businesses and more materials for recycling.
<i>Seattle, WA</i>	Business recycling has nearly doubled since the policy was enacted in 2003. Businesses recycled 61% in 2012 compared to only 37% in 2003.
<i>Aspen, CO</i>	In the first three years, Aspen saw more than 170 businesses start or expand recycling service, with another 100 ready to go once their contract expired. The number of recycling haulers increased from four to six. Out of the hundreds of businesses, the city only received 7 complaints about the cost of the new services. The number of trucks increased by only 12 trips per week which were greatly offset by the increase in recycling.

Are there plans to change the policy in the future?

City	Policy revisions
<i>Portland, OR</i>	The city is working to expand commercial composting infrastructure, increase construction recycling and develop innovative programs to reduce total waste generation by promoting sharing services, reuse and repair opportunities and other programs.
<i>Austin, TX</i>	Austin will require businesses to have more recycling services and less trash service. Originally the policy required commercial properties to have at least one unit of recycling service for every three units of trash service. In 2014 the ratio shifts to a 1:1 ratio of weekly recycling service capacity to weekly trash service capacity. The proposed Phase 2 policy will require all food generating businesses (grocers, restaurants, bars and catering) to provide composting service by 2017, starting first in 2015 with the largest businesses.
<i>Collier County, FL</i>	Unknown.
<i>Alameda County, CA</i>	The second phase of the ordinance requires all businesses to recycle and extends the requirements to the composting of food and soiled paper.
<i>Montgomery County, MD</i>	The County would like to add organics to the ordinance but there is currently little market or infrastructure for the composted material.
<i>Chittenden County, VT</i>	The state of Vermont has passed a law phasing in both mandatory recycling and mandatory composting, eventually banning those materials from landfills by 2020.
<i>Mecklenburg County, NC</i>	The County is considering expanding its mandatory recycling policy to businesses that generate more than 8 cubic yards of trash per week. This would affect nearly 60% of small businesses and 90% of the waste generated by small businesses. A survey of these businesses found the majority were willing to pay more for better recycling services. These businesses also supported expanded outreach and education efforts. The county is also require recycling for beverage containers and to drop the minimum threshold for the amount of paper and cardboard for recycling.
<i>Seattle, WA</i>	The city will require businesses to recycle aluminum, glass, tin and plastic containers in 2014, adding to the mandatory recycling of paper, cardboard and yard waste. Residents have been required to recycle these materials since 2003. Adding these new materials to the recycling requirements will increase the business recycling rate by at least 1% by 2019.
<i>Aspen, CO</i>	A voluntary business compost program has started and there are now three compost haulers in the community.

General advice for Boulder

City	Policy advice
<i>Portland, OR</i>	Be sure to include best practices around education and recycling program operations, including appropriate recycling containers and adequate signage regular outreach and education to tenants.
<i>Austin, TX</i>	The city provides trash and recycling collection services to some small businesses located within residential areas or within the downtown service district. This helps to provide cost-effective services to small businesses.
<i>Collier County, FL</i>	Allow businesses to apply for exemptions to land development code requirements if there are conflicts with the ordinance. These include possible exemptions for the required number of spaces or design standards for the enclosures around waste and recycling containers.
<i>Alameda County, CA</i>	
<i>Montgomery, MD</i>	Work closely with businesses to address their concerns prior to implementing mandatory business recycling. Be an ally and partner to businesses to gain their respect. Concentrate on education and outreach first before code enforcement. Allow room in the policy to expand the list of materials that can be recycled as new markets develop.
<i>Chittenden County, VT</i>	
<i>Mecklenburg County, NC</i>	Include small to medium size businesses in the program by setting a lower threshold of who is affected by the policy.
<i>Seattle, WA</i>	Although many violations have been issued, the city has yet to fine a business for not recycling thanks to the pro-recycling culture in Seattle and extensive educational resources.
<i>Aspen, CO</i>	The city continues to offer businesses education and training to reduce waste. Ten businesses each year receive a free waste audit, recycling and composting bins, and informational materials. Staff trainings are available for all businesses in both English and Spanish. Haulers' biggest concerns were that government was telling them what to do and asked that the city ensure an even playing field for all businesses.

¹ Compiled by Eco-Cycle, Inc.

Public Input Summary

Compiled Strategy Votes from Community Events

Compiled Votes: NOW	
Business Recycling Requirement	78
Increased Enforcement of Existing Policies	75
Take-Out Packing Requirement	75
Food Business Composting Requirement	72
Multi-Family Building Compost Service	57
Every Other Week Trash Collection	55
Zero-Waste Special Events Requirement	55
City Supported Compost Facility	47
Creative Reuse Center (Arts Parts)	40
C&D Recycling Deposit Program	39
Required Subscription to Trash-Hauling for All Homes	36
Improvements to Recycling Center Equipment	35
CHaRM/ReSource Expansion	31
C&D Recycling Facility	26
Total votes:	721

Compiled Votes: WITHIN TWO YEARS	
C&D Recycling Deposit Program	42
C&D Recycling Facility	41
Improvements to Recycling Center Equipment	38
CHaRM/ReSource Expansion	38
Business Recycling Requirement	36
Multi-Family Building Compost Service	36
Zero-Waste Special Events Requirement	36
Food Business Composting Requirement	35
Every Other Week Trash Collection	35
Required Subscription to Trash-Hauling for All Homes	33
City Supported Compost Facility	30
Take-Out Packing Requirement	29
Increased Enforcement of Existing Policies	27
Creative Reuse Center (Arts Parts)	22
Total votes:	478

Compiled Votes: TWO-FIVE YEARS	
CHaRM/ReSource Expansion	30
Creative Reuse Center (Arts Parts)	30
C&D Recycling Facility	29
C&D Recycling Deposit Program	28
Improvements to Recycling Center Equipment	26
Required Subscription to Trash-Hauling for All Homes	21
Take-Out Packing Requirement	18
City Supported Compost Facility	18
Multi-Family Building Compost Service	17
Food Business Composting Requirement	15
Zero-Waste Special Events Requirement	13
Every Other Week Trash Collection	13
Increased Enforcement of Existing Policies	9
Business Recycling Requirement	5
Total votes:	272

Compiled Votes: FIVE-TEN YEARS	
1. Required Subscription to Trash-Hauling for All Homes	22
1. Creative Reuse Center (Arts Parts)	19
4. City Supported Compost Facility	14
6. Construction & Deconstruction Recycling Facility	12
6. Improvements to Recycling Center Equipment	12
6. CHaRM/ReSource Expansion	11
6. Multi-Family Building Compost Service	11
2. Construction & Deconstruction Recycling Deposit Program	10
3. Every Other Week Trash Collection (w/increased recyclables or compost collection)	10
5. Increased Enforcement of Existing Policies	8
5. Zero-Waste Special Events Requirement	7
6. Business Recycling Requirement	4
6. Take-Out Packing Requirement	3
6. Food Business Composting Requirement	2
Total votes:	145

Input from Inspire Boulder**What are the key issues that the Zero Waste Strategic Plan should address? (Choose up to 3)**

Recycling waste produced by businesses	28 votes
Food waste produced by businesses	23 votes
Ability to compost for residents of apartments, condos and townhomes	10 votes
Recovery of construction and demolition waste	11 votes
Recyclability/compostability of take-out containers	7 votes
Expansion of current recycling facilities, such as the to allow for increased capacity and acceptance of new materials (e.g. plastic clamshells)	8 votes
Recovery and low-cost resale of reusable art supplies to educators, students, artists and the public	3 votes

What programs, services, or facilities would MOST help you recycle or compost more at home? (Choose all that apply)

Every week curbside recycling and compost collection	10 votes
Compost collection at apartments, townhomes and condos	21 votes
Information about where to drop off hard to recycle materials (e.g. electronics, building materials)	10 votes
Clear recycle and compost guidelines	19 votes
Instructional video with tips on countertop composting and reducing odors	6 votes
1-on-1 advising or composting hotline	4 votes

Additional Comments:

- A Boulder County composting facility is greatly needed. - Eco-Cycle would like to double the commercial recycling rate within the next five years; that goal is much too conservative. - We are paying "trash tax" to "educate" businesses. What a waste of taxpayers' money! Obviously they are not quick learners. Now is the time for requiring recycling and composting, and enforcing the requirement!

29Th ST Mall (Maceritich?) Offers NO recycling for bussiness or customers. Exception of a cardboard dumpster but not sure if it'srecycled: This is a new development that Boulder approved with NO requirements. I'm sure this is only ONE example of many multi unit complex's in Boulder.

2nd question, "key issues": - Imperative that businesses be subjected to a "pay as you throw" -type of arrangement, just like residences. I kinda have the sense that while at work, people lose some of their sensibility around environmental responsibility... different receptacles for different materials aren't respected, etc.. -'Imperative that composting be mandated amongst all businesses. Satellite collection facilities!... east A'hoie is too far to pedal. Why drive?!?

At the same time we expand recycling facilities to accept more types of materials, there must be a push to make businesses financially responsible for the unusable waste and "use once throw away" products that they sell. For example the centuries long life of plastic packaging materials. They are generating waste far faster than we can deal with it..

I do not think every week recycling & composting collection is necessary. I prefer to keep every week trash collection. Packaging for meat, poultry & fish must go in the trash bin, and it usually generates more odor than the cooked scraps in the compost bin. I prefer to dispose of uncooked scraps of this type in the sink disposal unit.



Study Session MEMORANDUM



TO: Members of City Council

FROM: Jane S. Brautigam, City Manager
Maureen Rait, Executive Director of Public Works
Tracy Winfree, Director of Public Works for Transportation
David Driskell, Director of Community Planning and Sustainability
Susan Richstone, Deputy Director of Community Planning and Sustainability
Michael Gardner-Sweeney, Transportation Planning and Operations Coordinator
Lesli Ellis, Comprehensive Planning Manager
Molly Winter, Director, Downtown and University Hill Management Division
and Parking Services (DUHMD/PS)
Kathleen Bracke, GO Boulder Manager, Public Works Transportation
Jay Sugnet, Senior Planner, Community Planning and Sustainability

DATE: July 29, 2014

SUBJECT: Access and Parking Management Strategy (AMPS)

I. EXECUTIVE SUMMARY

This study session is a continuation of the June 10, 2014 AMPS study session. The purpose is to:

1. Review and discuss the draft Access Management and Parking Strategy (AMPS) project purpose, goals, guiding principles, proposed schedule and milestones; and
2. Review and discuss the AMPS seven areas of focus.

The city of Boulder's parking management system has a long history. Parking meters were first installed on Pearl Street in 1946. Over the past decades, Boulder's parking system has evolved into a nationally recognized, district-based, multi-modal access system incorporating alternative modes (transit, bicycling and pedestrians) along with automobile parking in order to meet city

goals, support the viability of the city’s historic commercial centers and maintain the livability of its neighborhoods.

AMPS is updating the current access and parking management policies and programs and developing a new, overarching citywide strategy in alignment with city goals. The project goal is to evolve and continuously improve Boulder’s citywide access and parking management strategies and programs tailored to address the unique character and needs of the different parts of the city.

The [June 10 City Council Study Session Memorandum](#) contains background information on the project including the following topics:

- Board and Commission feedback;
- Public feedback;
- Work to date on the seven focus areas;
- Priority areas for Council and community feedback;
- Project overview (the compass diagram);
- Timeline and engagement opportunities;
- Early action item – updates to TDM tool kit for private development;

This memo contains additional material in preparation for the July 29 continuation of the AMPS study session:

- Draft summary of the June 10 City Council study session (Attachment A);
- Revised project guiding principles based on Council, board, and community input. Revisions are shown in yellow highlights below; and
- Revised best practices matrix that distinguishes between peer cities and non peer cities. Non peer cities may have polices or programs that we could learn from (Attachment B).

A work plan for 2014 and 2015 has been created. Phase 1 in 2014 will focus on best practices analysis in all focus areas, quick fix parking code changes, assessment of downtown garage technology, coordination with North Boulder Plan Update and Envision East Arapahoe, development of an integrated project framework, and the design of the public engagement process. The second Phase will be influenced by the results of Phase 1 and will include analysis of options, program development or refinement, policy review and recommendations. AMPS is projected to be completed by the second quarter of 2015.

II. QUESTIONS FOR CITY COUNCIL

- 1. Does City Council have comments on the seven AMPS areas of focus?**
- 2. Are there any additional comments on the project purpose, goals, guiding principles, approach and timeline?**
- 3. What are we missing that should be included in AMPS?**

III. BACKGROUND

The city of Boulder's parking management system has a long history. Parking meters were first installed on Pearl Street in 1946. Over the past decades, Boulder's parking system has evolved into a nationally recognized, district-based, multi-modal access system incorporating all modes of travel (walking, biking, transit, and autos) to meet community goals, including support for the vitality of the city's historic commercial and employment centers, and livability of its neighborhoods.

AMPS encompasses updating the current access and parking management policies and programs and developing a new, overarching citywide strategy for access and parking management in alignment with city-wide goals. The project goal is to evolve and continuously improve Boulder's citywide access and parking management strategies and programs tailored to address the unique character and needs of the different parts of the city.

The AMPS project approach emphasizes collaboration among city departments and acknowledges the numerous current and anticipated planning efforts and initiatives such as the Transportation Master Plan (TMP) Update, Economic Sustainability Strategy, and Climate Commitment.

Elements of the AMPS project approach are:

- AMPS is a strategy which is defined as an integrated planning approach coordinated with other master planning efforts and plans which focuses on a particular set of goals and principles that are cross-cutting and create an adaptable set of tools and methods allowing the city to continually improve and innovate to achieve its goals.
- Evaluating existing parking and access management policies and practices within existing districts and across the community based on the city's Sustainability Framework.
- Developing context appropriate strategies using the existing districts as role models for other transitioning areas within the community and incorporating national best practices research.

IV. REVISED PROJECT PURPOSE, GOALS, AND GUIDING PRINCIPLES

Purpose

Building on the foundation of the successful multi-modal, district-based access and parking system, the Access Management and Parking Strategy (AMPS) will define priorities and develop over-arching policies, and tailored programs and tools to address citywide access management in a manner consistent with the community's social, economic and environmental sustainability principles.

Goal

Develop tools and strategies to evolve Boulder's access and parking management to a state of the art system reflecting the city's sustainability goals.

Guiding Principles

- 1. Provide for All Transportation Modes and Safety:** Support a balance of all modes of access for a safe transportation system: pedestrian, bicycle, transit, and multiple forms of motorized vehicles—with the pedestrian at the center.
- 2. Customize Tools by Area:** Use of a toolbox with a variety of programs, policies, and initiatives customized for the unique needs and character of the city’s diverse neighborhoods both residential and commercial.
- 3. Support a Diversity of People:** Address the transportation needs of different people at all ages and stages of life and with different levels of mobility – residents, employees, employers, seniors, business owners, students and visitors.
- 4. Seek Solutions with Co-Benefits:** Find common ground and address tradeoffs between community character, economic vitality, and community well-being with elegant solutions—those that achieve multiple objectives and have co-benefits.
- 5. Plan for the Present and Future:** While focusing on today’s needs, develop solutions that address future demographic, economic, travel, and community design needs. Align with the city’s Master Plans, Climate Commitment and Sustainability Framework.
- 6. Cultivate Partnerships:** Be open to collaboration and public and private partnerships to achieve desired outcomes.

V. NEXT STEPS

Staff will continue to engage stakeholders over the summer and fall and return to Council on October 28 with the results of the policy and code analysis along with program options.

Summaries of the two study sessions will return to Council for adoption in August.

For more information, please contact Molly Winter at winterm@bouldercolorado.gov, or Kathleen Bracke at brackek@bouldercolorado.gov or www.bouldercolorado.gov/amps.

ATTACHMENTS

Attachment A: June 10 City Council AMPS Study Session Draft Summary

Attachment B: Best Practices Matrix

Access Management and Parking Strategy Study Session

DRAFT Summary
COUNCIL CHAMBERS
JUNE 10, 2014

PRESENT:

City Council: Karakehian, Plass, Jones, Young, Weaver, Cowles, Shoemaker

Staff members: City Manager Jane S. Brautigam, City Manager, Molly Winter, Downtown and University Hill Management Division and Parking Services Director, Tracy Winfree, Director of Public Works for Transportation, Kathleen Bracke, GO Boulder Manager, Chris Hagelin Senior Transportation Planner/GO Boulder, Kurt Matthews, Manager Parking Services, Eric Guenther, Assistant Parking Manager, Lesli Ellis, Comprehensive Planning Manager.

STAFF PRESENTATION:

Winter and Bracke provided a project overview and update to City Council on the Access Management and Parking Strategy (AMPS) project emphasizing these key points:

- AMPS encompasses existing access and parking districts and programs as well as taking a citywide approach tailored to addressing existing and future needs of different areas throughout the community.
- AMPS includes exploring opportunities to improve managed parking and multimodal access for public and private parking areas, including both on and off-street, within existing districts and throughout the community.
- AMPS considers all modes of transportation – autos, transit, biking and walking.
- AMPS is an interdepartmental effort and supports the city’s sustainability framework.
- City boards and commissions are involved and engaged providing valuable feedback and ideas throughout AMPS process.
- AMPS includes seven focus areas:
 - District Management (Existing & New Districts)
 - On & Off Street Parking
 - Technology
 - Transportation Demand Management
 - Parking Code Changes (Auto & Bike)
 - Parking Pricing
 - Enforcement
- Cultivating partnerships and on-going collaboration across city departments and with community stakeholders is key and will maximize co-benefits of AMPS outcomes with other integrated planning initiatives such as Transportation Master Plan, Climate Commitment, Economic Vitality plan, corridor plans, and upcoming update to the Boulder Valley Comprehensive Plan (BVCP).

AMPS is a multi-year project that integrates with existing city planning efforts and on-going programs and operations. Community engagement is an important aspect to ensure a breadth of input from residents, businesses, employers/employees and visitors and a communication strategy plan is being developed and implemented beginning this summer.

The first phase of the project in 2014 includes best practices research followed by policy analysis for all of the seven AMPS focus areas. Work will continue into 2015 on developing recommendations and short-term as well as long-range implementation strategies.

Staff will be checking in with boards and commissions in September and will return to Council in October to provide an update and seek feedback on policy analysis, options, and next steps.

Expert panels will be used at specific points in the project to bring input from practitioners who are considered to be implementing best practices and innovative strategies in their communities.

The outcome of AMPS will be a citywide access management and parking strategy that will be incorporated into planning, operations, projects and programs moving forward.

Since AMPS covers both existing efforts as well as creating a future, citywide access management strategy, there are a number of early action items as a part of ongoing work programs. These include:

- Technology improvements including parking pay by cell, variable messaging signs in the garages
- Installation of electrical vehicle powering stations
- Creation of first pilot parklet on the hill
- Public private partnerships for shared parking on the hill and downtown.
- Coordination with other city plans including the Civic Area Plan, North Boulder Area Plan, Transportation Master Plan update, Envision East Arapahoe corridor plan, Civic Area, and Climate Commitment as well as update for the BVCP
- First phase of auto and bicycle parking code changes
- On-street car share policy
- Transportation Demand Management (TDM) Toolkit for private development

Bracke and Hagelin provided background on the TDM Toolkit for private development early action item. The city works with Boulder Transportations Connections (BTC) to implement the existing program and the evaluation criteria for the private TDM plans. The AMPS' TDM focus area work is being coordinated with the Transportation Master Plan Update. Currently the TDM programs are voluntary and city involvement and oversight/evaluation is done on a short term (< 3 year basis). Staff and BTC currently provides basic level of on-going technical assistance to developments and businesses. The best practices research includes options to broaden the package of services including car share, bike share, along with the Eco Pass as well as provision of technical support by the city and/or community partners. Initial findings from the research indicate the importance of the development context, the size and location of projects, and access options available. This research will also include exploring longer term TDM program evaluation methods for compliance and effectiveness. Options range from continuing with the current voluntary and encouragement based approach, to a more systematic, regulated and/or required approach. Staff is seeking input from community stakeholders as well as considering research on national best practices to develop potential options to bring forward for boards and City Council to review in the fall 2014.

Winter provided background on the district access projection methods and how the model incorporates all modes (transit, bike, walking, vehicles) in making transportation access projections for the future; the important role of TDM programs being the first option and the interplay of using incentive and disincentive to affect mode shift. The district access projections include an expectation that additional private sector parking may need to be considered in conjunction with the district parking provided to meet the area's needs. Partnerships with private developers and property owners will be a strategy for the future as land options decrease with build out. Also the partnership approach supports the "SUMP" principles – parking that is shared, unbundled, managed and paid. Winter also provided information about the downtown garage waitlists being the longest in recent memory and the downtown alternative mode share being approximately 60%.

COUNCIL DISCUSSION:

Specific feedback was provided in response to questions requested by staff:

1. *Does City Council agree with the AMPS project purpose, goals, and guiding principles?*

- Council members suggested adding the following to the AMPS guiding principles: safety, and more emphasis on the relationship to the city's climate commitment and other planning projects, and ensuring it supports a diversity of people – all ages and stages of life.

2. *Does City Council have input on the proposed AMPS approach and timeline for AMPS?*

- Concern was expressed regarding the communities selected for best practices research; a broader range of communities needs to be considered that reflect the values of Boulder, including international communities that have made greater strides in reducing cars in the downtown areas.
- A greater focus on providing evaluation data to assess impacts and effectiveness needs to be incorporated into the best practices research, and more information needs to be included regarding how AMPS will support the city's sustainability framework, Climate Commitment, and master plan goals.
- The pros and cons of different measures of levels of service and traffic congestion were discussed and their role in supporting walking, biking, and transit. Traffic congestion can be a sign of a healthy downtown; and it can be an incentive for people to take other modes of transportation. Need to develop strategies to support and balance the needs of all modes.

3. *Does City Council have input on the AMPS list of 2014 work program topics? Are any missing?*

- There was general sentiment from Council that the TDM Tool Kit for private development needs to have more “teeth” in the regulations in order to ensure effectiveness of the program both in the short and long term.
- Look at a broad range of tools in the TDM toolkit to ensure equity across the city including the possibility of charging for parking elsewhere, the impacts of new development. Need to keep a vibrant downtown and find a balance. Cannot park our way out of the situation; need a variety of options.
- Look to Boulder Junction as a model for other areas of the community.
- Offer different programs that are targeted to reach the variety of audiences – employees, residents, visitors.
- Consider different options for different areas of the community, existing districts as well as new areas. Integrate AMPS work with other city planning projects such as North Boulder, Civic Area, and East Arapahoe.
- Adequate parking for downtown is a concern as downtown grows along with increasing the use of other travel modes.
- Include consideration of “edge” parking options - lots at the fringes of the city to intercept automobiles and provide transit to the center of the city.

NEXT STEPS

City Council has requested that staff provide an additional Study Session on July 29th as well as continue work in all areas of AMPS with community engagement and discussions with city boards throughout the summer/fall. Staff will also be returning to City Council for a Study Session on October 28th. Staff will also continue to collaborate and integrate work with AMPS and other city-wide planning initiatives.

Related to AMPS, staff is bringing forward the updated Boulder Transportation Master Plan (TMP) for City Council consideration of acceptance on August 5th. The TMP provides the broad multimodal policy foundation for the Boulder community and as the city and Boulder community move into the implementation phase, the TMP policies support the AMPS project’s guiding principles and goals. The TMP and AMPS are two examples of the city’s dynamic, integrated planning approach.

For more information, please visit: www.bouldercolorado.gov/amps

City of Boulder
23-Jun-14
Best Practices Research



	District Management	On & Off Street Parking	Trans. Demand Management	Technology and Innovation	Code Requirements	Enforcement	Parking Pricing
Peer Cities							
Ann Arbor, MI	X	x	X	x	x	x	
Austin, TX		x	x		x		
Berkeley, CA		x	x	x			
Burlington, VT							
Ft. Collins, CO		x			x		
Madison, WI		x	x		x		
Palo Alto, CA		x	x				
Santa Monica, CA		x	x	x	x		x
Cities we can learn from							
Portland, OR	x	x	x		x		
San Francisco, CA	x	x	x	x	x		x
Seattle, WA	x	x	x	x	x	x	x
Potential Additions							
Arlington County, VA			x				
Washington, DC		x	x				x
Los Angeles, CA				x			x
Charlotte, NC		x	x		x		
Raleigh, NC					x		
Houston, TX	x						
International							
Odense, Denmark		x	x		x		x
Frieberg, Germany		x	x		x		x