REGULAR MEETING AGENDA

Date: 5/17/2017
Time: 6:30 p.m.
City Hall/Administration Building
701 Laurel St., Menlo Park, CA 94025

A. Call To Order

B. Roll Call – Bedwell, DeCardy, Dickerson, Vice Chair London, Marshall, Chair Martin, Smolke

C. Public Comment

Under "Public Comment," the public may address the Commission on any subject not listed on the agenda. Each speaker may address the Commission once under Public Comment for a limit of three minutes. Please clearly state your name and address or political jurisdiction in which you live. The Commission cannot act on items not listed on the agenda and, therefore, the Commission cannot respond to non-agenda issues brought up under Public Comment other than to provide general information.

D. Regular Business

D1. Select new commission chair and vice chair – 10 min

D2. Discuss and make a recommendation to the City Council on adoption of the community zero waste plan (Attachment – amended May 16, 2017) - 60 min

D3. Discuss and make a recommendation to the City Council on environmental issues related to the Middle Plaza at 500 El Camino Real project – 45 min

D4. Approve the April 19, 2017, Environmental Quality Commission meeting minutes (Attachment) – 5 mins

E. Reports and Announcements

E1. Commissioner reports – 10 min

E2. Staff update and announcements (Attachment) – 10 min

E3. Future agenda items – 5 min

F. Adjournment

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At every Regular Meeting of the Commission, in addition to the Public Comment period where the public shall have the right to address the Commission on any matters of public interest not listed on the agenda, members of the public have the right to directly address the Commission on any item listed on the agenda at a time designated by the Chair, either before or during the Commission's consideration of the item.

At every Special Meeting of the Commission, members of the public have the right to directly address the Commission on any item listed on the agenda at a time designated by the Chair, either before or during consideration of the item.

Any writing that is distributed to a majority of the Commission by any person in connection with an agenda item is a public record (subject to any exemption under the Public Records Act) and is available for inspection at the City Clerk's Office, 701 Laurel St., Menlo Park, CA 94025 during regular business hours.

Persons with disabilities, who require auxiliary aids or services in attending or participating in Commission meetings, may call the City Clerk's Office at 650-330-6620.

STAFF REPORT

Environmental Quality Commission
Meeting Date: **5/17/2017**
Staff Report Number: **17-006-EQC**

Regular Business: Discuss and make a recommendation to the City Council on adoption of the community zero waste plan
REPORT AMENDED: MAY 16, 2017

Recommendation

Staff recommends the Environmental Quality Commission discuss and make a recommendation to adopt the community zero waste plan.

Policy Issues

Development of a community zero waste plan is identified in both the 2016 and 2017 City Council Work Plans and funding for this plan was included in the fiscal year 2016-17 Capital Improvement Program budget. This is also consistent with the City's five-year Climate Action Plan strategy and will help in achieving the City Council's adopted target of reducing citywide greenhouse gas emissions by 27 percent by 2020, from 2005 levels.

Background

Following a competitive proposal process, the City selected R3 Consulting Group, Inc., and began the process of developing a community zero waste plan in August 2016.

As approved by City Council, two projects: 1) zero waste plan, and 2) rate structure study were combined under one contract. This allows for the zero waste plan implementation to be incorporated into the anticipated costs, helps with strategically phasing in additional parts of the program and ensures the funding is in place to meet current and future obligations.

Zero waste is generally defined as 90 percent overall diversion of non-hazardous materials from both landfill and incineration, resulting in discarded materials being reduced, reused, recycled or composted. The zero waste plan will guide our implementation of residential, commercial and municipal programs to help us achieve our zero waste goal.

The project team conducted stakeholder outreach to obtain input on potential new and expanded programs to be included in the city's community zero waste plan. There were two workshops, an online survey and additional stakeholder meetings and follow up phone calls with representatives from the environmental community, property managers, service providers, faith organizations, school community, business groups and regional agencies.

Based on this input, the project team developed a revised list of zero waste strategy options. The final list of recommended policies, programs and infrastructure enhancements is included in the draft community zero waste plan (Attachment A).

Analysis

Potential diversion

Menlo Park has the opportunity to significantly increase its citywide diversion rate through the implementation of the new and expanded policies, programs and infrastructure improvements.

In 2015, the City's franchise diversion rate (based on materials collected by Recology) was 56%. To estimate the diversion potential of each of the zero waste strategies, the project team developed a diversion model. The model uses waste composition data for each generator sector (single-family, multifamily, commercial, C&D, self-haul) to estimate tons by material type by sector. The model then applies an estimated capture rate (the percentage of the material type estimated be diverted) to the tons to derive the potential diversion tons associated with each strategy. The capture rates were developed from research of comparable programs and educated estimates. The model predicts that implementation of the zero waste strategies would result in a 70% franchise diversion rate. Additional regional programs, such as mixed waste processing, would assist the City in reaching 73 percent franchised diversion, and potentially beyond.

Greenhouse gas emission reduction

If these zero waste strategies were to be fully implemented, approximately 13,700 metric tons of carbon dioxide (Attachment B) could be avoided through recycling and composting currently landfilled waste materials. Additional carbon emissions could be achieved through source reduction of nonrecoverable materials and reuse activities.

This is equivalent to:

- Removing annual emissions from 2,790 passenger vehicles
- Conserving 1,491,273 gallons of gasoline
- Conserving 552,206 cylinders of propane used for home barbeques
- Conserving 71 railway cars of coal
- Conserving 867 households' annual energy consumption
- Conserving 17,155 barrels of oil
- Conserving 802,273 gallons of gasoline

The Waste Reduction Model (WARM) was used to calculate the estimated amount of greenhouse gas emission reduction. WARM was created by the U.S. Environmental Protection Agency to help solid waste planners and organizations estimate greenhouse gas emission reductions from several different waste management practices. The model calculates emissions in metric tons of carbon dioxide equivalent ($MTCO_2E$) and metric tons of carbon equivalent (MTCE) across a wide range of material types commonly found in municipal solid waste.

Economic analysis

Costs for implementing the zero waste strategies were developed by estimating the number of staff or contractor hours that would be needed to develop and maintain each program, the outreach materials (training, materials, advertising, promotional flyers, promotional kits, outreach campaign) needed for each program and the capital costs for upgrades at the Shoreway Environmental Center, to be shared throughout the service area

The project team used the following assumptions:

- The average, fully-burdened hourly rate used for estimating staff costs is $68 per hour
- $15 each for training materials

- $500 each for newspaper advertising
- $2 each for promotional flyers
- $50 each for promotional kits
- $2,000 for an outreach campaign
- $2 million to add optical sorting equipment to the recyclables processing at Shoreway Environmental Center (Menlo Park's share would be $200,000 based on its proportionate share of the materials)
- $500,000 to add upgrades to the Shoreway Environmental Center's self-haul area (Menlo Parks' share would be $50,000)
- Costs would be annualized over a 10-year planning period

These assumptions were used to project the annual estimated costs for each program. Based on the estimated diversion tons, the costs per ton diverted were also projected. Based on the 9,058 single family, multifamily and commercial customers in the City, full implementation of all the zero waste strategies could result in an approximate ~~$2.06~~ $0.85 per month increase in the monthly rates. Other funding mechanisms may also be considered.

Implementation plan timeline and strategies

These zero waste strategies could be implemented over a 10-year period from 2018 through 2027. The implementation timeframe is divided into three phases:

- Short-term 2018-2020
- Medium-term 2021-2024
- Long-term 2025-2027

Timing for the development of new programs is subject to the City's budget process, contract extensions with Recology or new contracts with another service provider, and potential upgrades to the Shoreway Environmental Center. For planning purposes, it is anticipated that the zero waste strategies will be implemented in the following sequence.

Short-term zero waste strategies

The following strategies would be implemented over a three-year period from 2018 through 2020 and subject to the City's budget process. Most of these strategies could be implemented by City staff and some may be incorporated into their current duties. However, full implementation of these strategies would require more staff or contractor resources (approximately 0.5 full-time equivalent).

- Recycling ambassadors and door-to-door outreach
- Outreach, education and technical assistance for construction and demolition generators
- Outreach to elementary and secondary schools
- Outreach to faith-based organizations
- Support for reuse, repair, leasing or sharing efforts
- Promote reusable bottles and bottle filling stations

Medium-term zero waste strategies

The medium-term strategies would be implemented during the four years from 2021 through 2024. Two of these strategies would require changes to the City's franchise agreement and would be subject to negotiation. Several are City policies that require one-time staff support and others are ongoing programs that require annual staffing support (approximately 0.5 full-time equivalent). One strategy (expanding the list of curbside recyclables) would require upgrades to the Shoreway facility, which would be shared with all of the communities in the service area.

- Universal recycling and composting collection service
- Increase recycling requirements in construction and demolition ordinance

- Additional commercial technical assistance
- Expanded bulky item recycling collection
- Expanded list of curbside recyclables
- Participating partners program
- Zero waste event requirements
- Material bans of products or packaging
- Textile recycling

Long-term zero waste strategies
The long-term strategies would be implemented during the three years from 2025 through 2027. These include City policies that would require one-time staff support and one strategy that would require upgrades to the Shoreway facility, which would be shared with all of the communities in the service area.

- Mandatory sorting of self-hauled waste at Shoreway Environmental Center
- Mandatory participation in recycling and composting programs
- Require all projects to direct construction and demolition materials to designated facilities
- Rate structure that incentivizes waste prevention
- Mandatory recycling percentage

Impact on City Resources

Implementation costs would be paid out of the City's Solid Waste Fund. Full implementation of the one-time policies and program startup activities over the 10-year planning period would require approximately 3,500 staff hours spread over the 10-year period. Ongoing program implementation would require 2,200 staff hours annually. This along with the capital costs amounts to approximately ~~$224,125 in annual costs at full implementation~~ $921,375 over the 10 year term of the plan. The zero waste strategies are anticipated to be implemented gradually over time. Impact on rates would be incremental and would result in a rate impact of about ~~$2.06 per customer per month~~ $0.85 per customer per month.

Public Notice

Public notification was achieved by posting the agenda, with the agenda items being listed, at least 72 hours prior to the meeting.

Attachments

A. Draft Community Zero Waste Plan - amended
B. Draft Community Zero Waste Plan Cost and GHG Reduction Estimates - amended

Report prepared by:
Clay J. Curtin, Assistant to the City Manager/Interim Sustainability Manager

DRAFT DOCUMENT

Community Zero Waste Plan

SUBMITTED TO:

City of Menlo Park

Acknowledgements

The City of Menlo Park's zero waste plan was created through the collaboration of City staff, R3 Consulting Group, Inc., and sub-consultants Abbe & Associates, LLC and Cascadia Consulting Group. Together, these parties form the zero waste plan project team.

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1 Executive summary

Introduction
The City of Menlo Park has taken several actions in recent years to promote environmental practices and policies. In 2009 the City Council approved Menlo Park's Climate Action Plan to assist the City in meeting or exceeding the emission reduction targets of AB 31 (California's Global Warming Solutions Act of 2006). The Climate Action Plan is a "living document" that provides strategies for reducing local greenhouse gas emissions, including the adoption of a zero waste plan. Menlo Park continues to make strides as a leader in sustainability through the development of this zero waste plan to help guide the community in diverting its waste from landfill disposal, effectively managing resources to their highest and best use while reducing waste at the source.

Goal statement
Reduce landfilled materials generation to 3.1 pounds per person per day and achieve at least 73 percent diversion of franchised waste from landfill disposal by 2035. These goals are based on increases in rates of recovery for divertible materials to reach zero waste, or 90 percent capture of recoverable materials in the City's waste stream by 2035. See Menlo Park zero waste goals and milestones in Table 1.

Table 1: Zero waste goals and milestones

Menlo Park Zero Waste Goals					
Goal	**2015**	**2020**	**2025**	**2030**	**2035**
1 - Franchised Diversion (Franchised Waste % Diversion)	56%	61%	65%	69%	73%
2 - Per Capita Disposal (CalRecycle PPD)	5.0	4.5	4.0	3.5	3.1
Goals Based On Increases In Rates of Recovery for Divertible Materials					
Capture Rates of Recoverable Materials (Cascadia Modeling)	70%	75%	80%	85%	90%
Estimated Amounts of Landfill Disposal					
Franchised Disposal (Generation Static, Nearest 100 Tons)	16,600	15,000	13,300	11,800	10,200
Total Disposal (Population Static, Nearest 100 Tons)	30,200	27,200	24,100	21,300	18,600

Zero waste strategies
Menlo Park's zero waste plan serves as a guiding document for the implementation of waste reduction policies, programs and infrastructure enhancements that will support the City in diverting resources from landfill disposal. These zero waste strategies build upon Menlo Park's achievements in waste reduction and reinforce waste diversion practices. Please see Section 5 for more information. Table 2 on the following page provides a summary of recommended zero waste strategies and target waste generation sectors by category.

Table 2: Zero waste strategy recommendations by category

Item #	Zero waste strategy	Recommendation	Target sectors
Category: Program/collection service enhancements			
10	Expanded bulky item recycling collection	Offer expanded large item pickup service that includes hard to recycle materials such as mattresses, textiles, carpet, window glass and large metal items.	commercial, multifamily, single family
11	Expanded list of curbside recyclables	Expand the types of materials accepted in curbside recycling.	commercial, multifamily, single-family
9	Additional commercial technical assistance	Additional commercial technical assistance to supplement Recology staff. Prioritize largest commercial generators for technical assistance.	commercial
3	Outreach to elementary and secondary schools	Encourage local schools, and the school community, to recycle and compost at home, support school "share tables" for extra food, and target cafeteria waste reduction.	commercial
4	Outreach to faith-based organizations	Encourage houses of worship and congregations to recycle and compost.	commercial
2	Outreach, education and technical assistance for construction and demolition generators	Encourage construction and demolition generators to reuse and recycle.	self-haul
12	Participating partners program	Partner with and promote organizations that accept or collect items for reuse, repair, recycling or composting in Menlo Park (including participating partner window decal).	commercial, multifamily, single-family
19	Rate structure that incentivizes waste prevention	Modify the customer rate structure to incentivize recycling, composting and source reduction.	commercial, multifamily, single-family
1	Recycling ambassadors and door-to-door outreach	Identify key community members and elected officials to help spread the message to recycle; organize door-to-door outreach for residential customers and in the business community.	commercial, multifamily, single-family

Table 2: Zero waste strategy recommendations by category

Item #	Zero waste strategy	Recommendation	Target sectors
15	Textile recycling	Start a textile recycling program. For example, promote and partner with Goodwill and others to offer more drop-off locations.	single-family
7	Universal recycling and composting collection service	Provide universal recycling and composting collection services to all commercial and multifamily customers who have trash collection.	commercial, multifamily
Category: City action/policy initiatives			
8	Increase recycling requirements in construction and demolition ordinance	Increase construction and demolition diversion requirements, for example 75 percent of all materials or 100 percent of all readily recyclable materials.	self-haul
17	Mandatory participation in recycling and composting programs	Mandate that waste generators participate in recycling and composting programs.	commercial, multifamily, single-family
20	Mandatory diversion percentage	Mandate a minimum diversion percentage for businesses and multifamily.	commercial, multifamily
14	Material bans of products or packaging	Additional bans of specified products or packaging.	commercial, multifamily, single-family
6	Promote reusable bottles and bottle filling stations	Promote alternatives to bottled water, including an ordinance requiring new buildings that have drinking fountains to provide bottle filling stations.	commercial
18	Require all projects to direct construction and demolition materials to designated facilities	Require all projects that generate construction and demolition debris to direct materials to designated facilities with guaranteed minimum recycling rates.	self-haul
5	Support for reuse, repair, leasing or sharing efforts	Support materials diversion from landfill via Repair Café or Fix It Clinics, car share, tool lending library and workshops.	commercial, multifamily, single-family
13	Zero waste event requirements	Require special events to have recycling and compostable materials collection.	commercial
Category: Facilities and infrastructure			

Table 2: Zero waste strategy recommendations by category

Item #	Zero waste strategy	Recommendation	Target sectors
16	Mandatory sorting of self-hauled waste at Shoreway Environmental Center	Change Shoreway Environmental Center operational practices to ensure that all self-hauled waste is sorted for maximum recovery.	self-haul

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Landfill diversion potential of zero waste strategies
In 2015, Menlo Park generated 5.0 pounds of landfilled material per person per day and the City's franchise diversion rate was 56 percent. To estimate the diversion potential of each of the zero waste strategies, the project team developed a diversion model. The model predicts that implementation of the zero waste strategies would result in a 70 percent franchise diversion rate, and reduce the amount of waste sent to landfill by approximately 8,500 tons. See Section 6 for more information and a breakdown of the additional diversion potential for each zero waste strategy.

Other measures may be needed at the national, statewide and local level in order for the City to reach its zero waste goals. Additional diversion can be achieved through the South Bayside Waste Management Authority's implementation of mixed waste processing and other regional waste reduction initiatives, which can be supported by social marketing efforts to further reduce waste in Menlo Park. Together, these initiatives will assist the City in reaching its goal of 73 percent diversion by 2035.

Estimates of greenhouse gas reduction
The Environmental Protection Agency's Waste Reduction Model (WARM) was used to estimate greenhouse gas reductions resulting from the implementation of this zero waste plan. WARM estimates that the emission of approximately 13,000 metric tons of carbon dioxide would be avoided by recycling and composting currently landfill, yet recoverable, waste materials captured through zero waste strategies. This is equivalent to the annual emissions from 2,790 passenger vehicles, conserving 802,273 gallons of gasoline, or 867 household's annual energy consumption. Additional carbon emissions could be achieved through source reduction of non-recoverable materials and reuse activities.

Implementation costs
Table 3 on the following page provides a summary of zero waste strategy implementation costs and timeframes. Costs for implementing the zero waste strategies were developed by estimating:

- The number of staff or contractor hours that would be needed to develop and maintain each program;
- The outreach materials (training, materials, advertising, promotional flyers, promotional kits, outreach campaign) needed for each program; and
- The capital costs for upgrades at the Shoreway Environmental Center, to be shared throughout the service area.

Based on the 9,058 single family, multifamily and commercial customers in the City, full implementation of all the zero waste strategies could result in an approximate $0.85 per month increase in the monthly rates. Other funding mechanisms may also be considered. Please see Section 8 for more information.

Timeline
Timing for the development of new programs is subject to the City's budget process, contract extensions with Recology or new contracts with another service provider, and potential upgrades to the Shoreway Environmental Center. For planning purposes, it is anticipated that the zero waste strategies will be implemented in the following sequence over a 10 year period: Short-term (2018-2020), Medium-term (2021-2024), and Long-term (2025-2027). See Section 9 for details. The remaining years leading up to the 2035 milestone date for achieving zero waste allow time for program participation to grow as a cultural shift occurs in Menlo Park,

implemented policies to take full effect, programs and progress to be reassessed, and new strategies to arise as conditions change.

Table 3: Implementation timeframe and estimated cost

Item #	Zero waste strategy	Implementation timeframe			
		Short-term 2018-2020	Medium-term 2021-2025	Long-term 2026-2027	Full implementation
1	Recycling ambassadors and door-to-door outreach	X			X
2	Outreach, education and technical assistance for C&D generators	X			X
3	Outreach to elementary and secondary schools	X			X
4	Outreach to faith-based organizations	X			X
5	Support for reuse, repair, leasing or sharing efforts	X			X
6	Promote reusable bottles and bottle filling stations	X			X
7	Universal recycling and composting collection service		X		X
8	Increase recycling requirements in C&D ordinance		X		X
9	Additional commercial technical assistance		X		X
10	Expanded bulky item recycling collection		X		X
11	Expanded list of curbside recyclables		X		X
12	Participating partners program		X		X
13	Zero Waste Event Requirements		X		X
14	Material bans of products or packaging		X		X
15	Textile recycling		X		X
16	Mandatory sorting of self-hauled waste at Shoreway Environmental Center			X	X
17	Mandatory participation in recycling and composting programs			X	X
18	Require all projects to direct C&D materials to designated facilities			X	X
19	Rate structure that incentivizes waste prevention			X	X
20	Mandatory diversion percentage			X	X
	One-time hours	250	1,750	1,500	3,500
	Annual hours	900	1,300	0	2,200
	Annualized cost (capital and one-time labor annualized over a 10-year planning period)	$70,938	$134,063	$19,125	$92,138
	Cost per customer per month	$0.65	$1.23	$0.18	$0.85

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2 Background

This section provides an overview of current conditions in Menlo Park, including solid waste programs and policies, partnerships and facilities. The City's achievements in diversion by sector and overall trends in disposal are also presented.

Solid waste franchised collection services
Recology San Mateo County is the City's franchised waste hauler and provides many solid waste services to Menlo Park's residents and businesses. Recology also conducts outreach and education in the community, provides technical assistance to multifamily and commercial customers, and assists in the implementation of state solid waste legislative requirements. A summary of Recology's collection services in Menlo Park is included in Table 4.

Table 4: Recology franchised solid waste collection services

Services	Single-family	Multifamily	Commercial[1]
Landfill trash	X	X	X
Recyclable materials	X	X	X
Compostable materials	X	X	X
Used batteries and cell phones	X	X	
Used motor oil and oil filters	X		
Large item pickup[2]	X	X	
Holiday tree collection	X	X	

City leadership
Menlo Park currently has several City-led initiatives in place to promote diversion of waste from the landfill, engage with community members on recycling and provide a strong foundation for the implementation future zero waste strategies. The following list highlights key policies and programs.

<u>City facility diversion</u>
The City leads by example through participation in recycling and composting programs. The franchised hauler provides desk-side and other interior recycling and compostable materials collection containers for use in City facilities, and staff are educated on best practices to divert materials from landfill disposal.

<u>Environmentally preferable purchasing policy</u>
In 2014, the City implemented a new environmentally preferable purchasing (EPP) policy to address the environmental impacts of the City's purchasing practices, including its contribution to waste reduction and recycling.

[1] The collection of commercial source separated recycling and compostable materials, and non-putrescible waste placed in roll-off containers, is non-exclusive under the franchise agreement.

[2] Single family customers are limited to 2 pickups per year, and property managers may schedule large item pickups, at no additional charge. Large item pickup service is available to businesses for a fee.

Outreach and education
The City distributes quarterly solid waste billing inserts to its residents. Solid waste-related topics covered in recent years include, but at not limited to, the following: household hazardous waste collection, monthly compost giveaways and promotion of document shredding and e-waste collection events.

Paper shredding and e-waste collection events
The City works with Recology to organize two paper shredding and e-waste collection events per year. These events are free to residents and businesses with proof of address in Menlo Park.

Polystyrene foodware ban
The City Council adopted San Mateo County's polystyrene foodware ordinance in 2012. The ordinance applies to all food vendors in the city and prohibits restaurants, delis, cafes, markets, fast-food establishments, vendors at fairs, and food trucks from dispensing prepared food in polystyrene containers labeled as No. 6.

Reusable bag ordinance
In 2013, the City Council adopted San Mateo County's reusable bag ordinance, mandating a minimum charge of 10 cents per recycled paper bag or reusable bag provided at checkout. As of Jan. 1, 2015, the minimum charge increased to 25 cents per recycled paper or reusable bag.

Construction and demolition debris recycling
The municipal code, Chapter 12.48 entitled Recycling and Salvaging of Construction and Demolition Debris, requires that covered projects divert 60 percent of construction and demolition (C&D) debris from the landfill.

Partnerships
Menlo Park is one of 12 public agencies that form the South Bayside Waste Management Authority (SBWMA or RethinkWaste) in San Mateo County. RethinkWaste's primary goal is to provide cost effective waste reduction, recycling and solid waste programs to Menlo Park and other member agencies through franchised collection services and partnerships with other organizations.

As a part of RethinkWaste, the city benefits from a number of programs and services, including contract management of the city's franchise agreement with Recology of San Mateo County (Recology), a local recycling center and Materials Recovery Facility (MRF) owned by RethinkWaste and operated by South Bay Recycling, and several public education and outreach programs. Public education programs include tours of the MRF, Earth Day and America Recycles Day events, compost giveaways and more.

Recology is also a key partner in providing materials diversion programs and educating the Menlo Park community on recycling, composting and waste reduction. Under the City's franchise agreement, Recology has exclusive franchise rights to residential and commercial trash, City waste collection and residential compostable materials and recycling.[3] The "three stream system" forms the core of the solid waste programs that residents and business engage with on a daily basis. Recology recycling coordinators offer technical assistance to help

[3] The collection of commercial source separated recycling and compostable materials, and non-putrescible waste placed in roll-off containers, is non-exclusive under the franchise agreement.

commercial and multifamily customers divert more materials and conduct site visits to identify opportunities for increasing diversion.

Recology's collection services are supplemented by additional programs and events offered by the City, RethinkWaste and the County of San Mateo (County). The County produces model ordinances, manages waste diversion programs and conducts public education efforts, which are available to and benefit the residents and businesses of Menlo Park. RecycleWorks (the public education program run by the county) runs composting workshops on a countywide basis, which the City also promotes to its residents. In addition, the City also actively promotes its own diversion programs, engaging its residents in the achievement of higher levels of waste diversion.

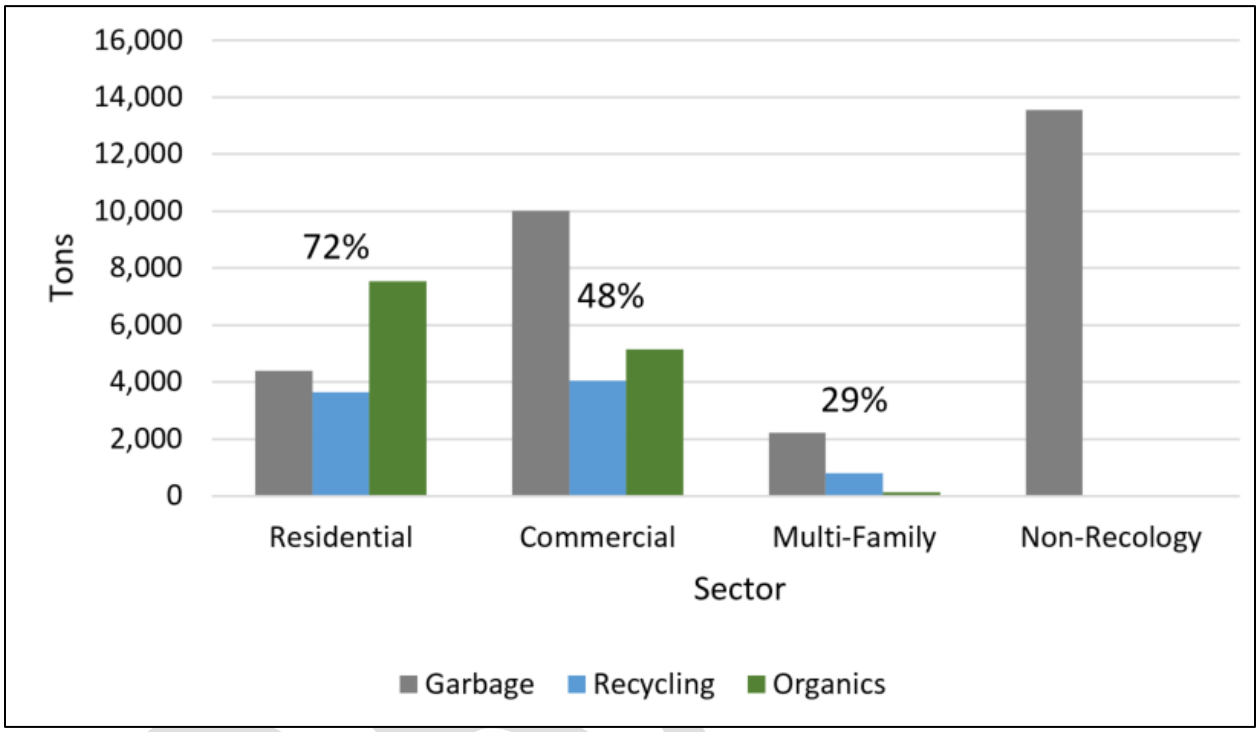
Shoreway Environmental Center

The Shoreway Environmental Center is a state-of-the-art recycling and transfer station facility. It also offers residents and businesses of Menlo Park a convenient option to drop-off materials for recycling or disposal, and offers SBWMA service area residents free compost year-round. Several potential facility enhancements are outlined in RethinkWaste's Long Range Plan, including a mixed waste processing system, transfer station expansion, MRF single stream processing equipment and building expansion, office space for RethinkWaste, a public meeting space and other upgrades.

Menlo Park diversion achievements

Figure 1, provides a snapshot of Menlo Park's 2015 landfill trash, recycling and compostable material tons. Notable is the very high tonnage from Menlo Park that does not pass through Recology. This tonnage will be discussed in the Construction and Demolition Recycling and Non-Recology Disposal section.

Figure 1: 2015 Diversion across sectors



Residential

Under the residential recycling and compost collection services provided by Recology, in 2015 residents diverted 11,170 tons of their sector's total waste stream (15,537 tons) from landfill, representing 72 percent diversion before processing.[4] This is the highest diversion rate of all Menlo Park generator groups and is an achievement that speaks to the high participation and engagement of its residents.

Commercial

The Menlo Park commercial sector continues to increase the amount of materials it recycles. Based on Recology data, in 2015 businesses recycled over 1,300 tons more than they did just five years ago, an increase of 35 percent. Approximately 93 percent of commercial and multifamily landfill trash customers recycle with Recology, and the remainder of these customers either do not generate more than four cubic yards of landfill trash per week, or recycle with another provider. Overall, the commercial sector diverted 48 percent of its waste from landfill disposal in 2015. Business and multifamily participation in recycling and composting programs is also driven by new state legislation, AB 341 (mandatory commercial recycling) and AB 1826 (mandatory commercial organics recycling).

[4] Some materials collected in recycling and compost carts can't be diverted and go to landfill after processing.

Multifamily

Successfully engaging the multifamily sector to participate in diversion programs is a challenge, especially for compostable materials.[5] In 2015, only 29 percent of the materials generated in the multifamily sector was diverted, with compostable materials representing just 4 percent of that total. Recycling in the multifamily sector is more successful, and the total tons recycled has increased by 287 tons over the period 2011-2015. High turnover in multifamily residences can contribute to an ongoing need for outreach, education and follow-up.

Self-haul

There is also a substantial amount of non-franchised waste being delivered to landfills across California and allocated by the haulers to the City. This waste can be hauled by customers directly to transfer stations or landfills, or it might be hauled by non-franchised haulers other than Recology.

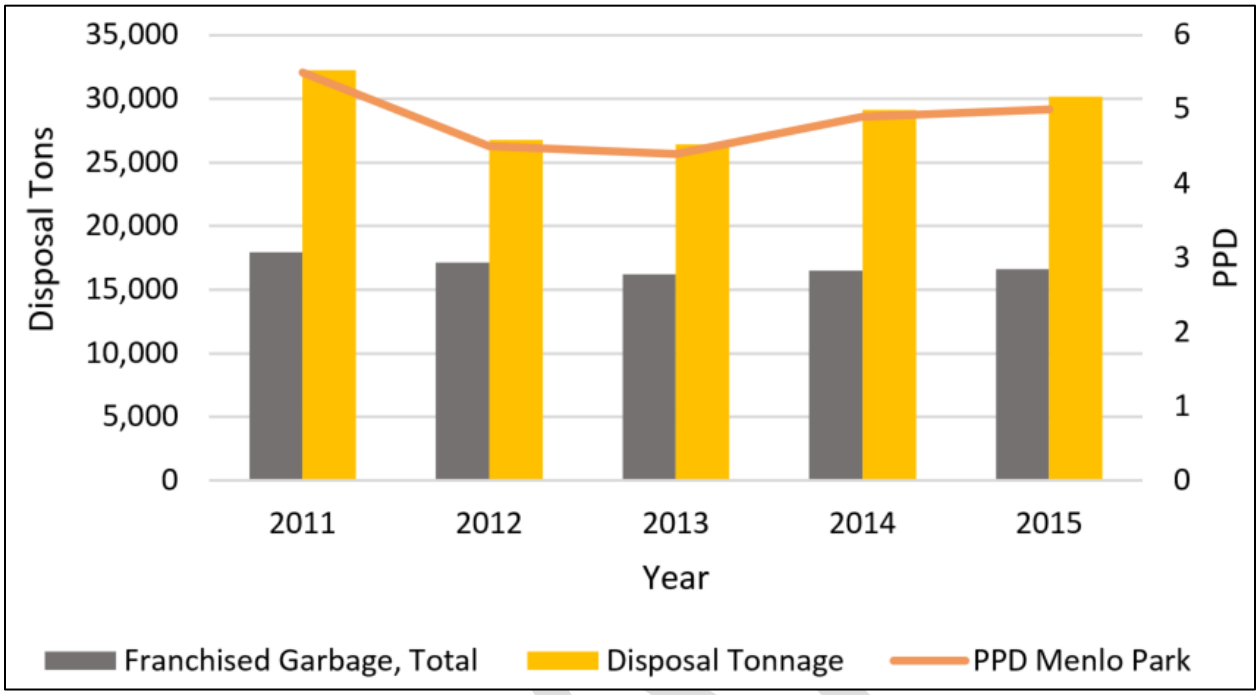
Trends in disposal

The State of California Integrated Waste Management Act (AB 939) of 1989 established a system of reporting for landfill disposal, enabling jurisdictions to track disposal trends over time. It also mandated 50 percent reduction in disposal tons (tons being sent to landfill) by the year 2000, a goal tracked through the establishment of a base level of disposal. This level was set by Senate Bill 1016 in 2008 as a "pounds per person per day" measure, and remains a useful method for tracking disposal trends in a jurisdiction over time.

Figure 2 displays the trends in disposal tonnage in Menlo Park as tracked by the State of California Disposal Reporting System. Also included in this figure is the franchised landfill trash (i.e., garbage) collected by Recology. The difference between the two is landfill trash hauled by independent actors such as Menlo Park residents and businesses engaged in self-haul, and non-franchised waste haulers. Over the period depicted in the chart, "pounds per person per day" goes up slightly and franchised landfill trash remains relatively stable. In 2015, Menlo Park produced 5.0 pounds per person per day of waste, a diversion rate equivalent of 67 percent.

[5] This problem is not unique to Menlo Park: several Bay Area communities have low multi-family sector diversion rates. This sector represents both great challenge and opportunity for diverting waste from being landfilled.

Figure 2: Menlo Park Disposal and "Pounds Per Person Per Day" Over Time

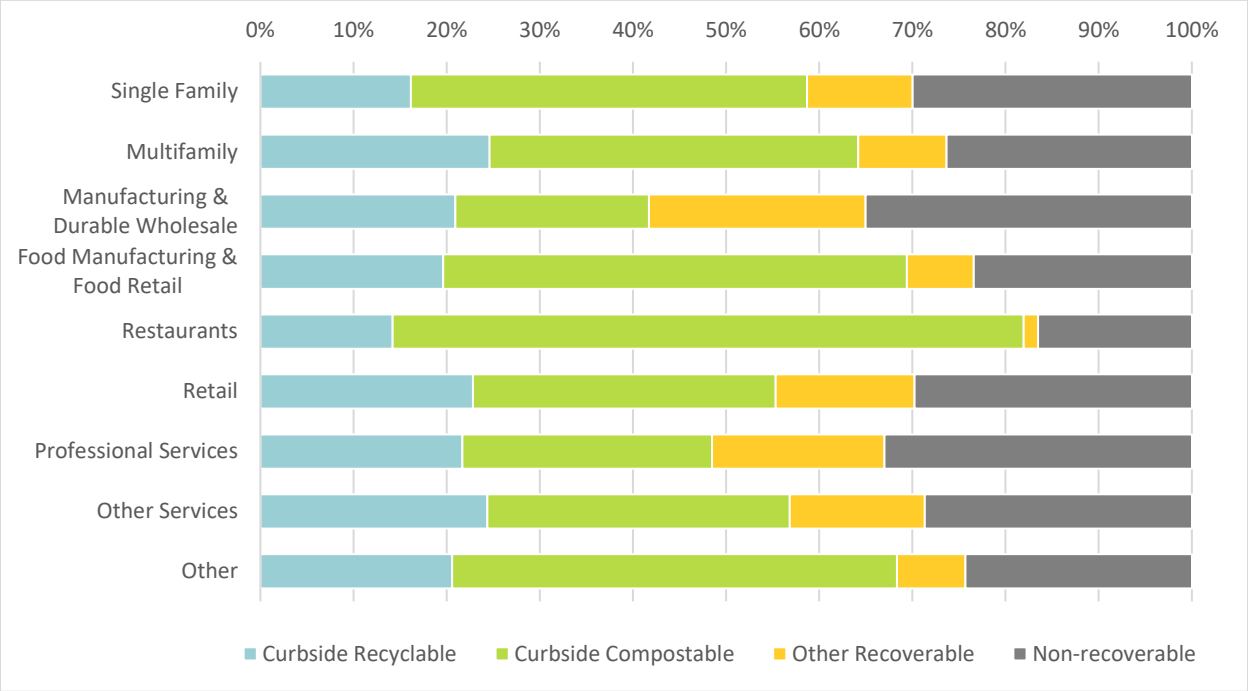


3 Service opportunities

This section provides recommendations for the City to consider when negotiating with its solid waste hauler to enhance service offerings. These potential changes could be implemented under a future franchise agreement, or amendment to the current franchise agreement.

Opportunities for Solid Waste Collection Service Enhancements
Based on waste composition data modeling for the City of Menlo Park, commercial and multifamily sectors represent substantial opportunity for additional waste diversion. See Figure 3 for an overview of the recoverability of disposed materials. This waste modeling guides the following recommendations solid waste collection service enhancements.

Figure 3: Recoverability of disposed materials



Franchise commercial and multifamily recycling and composting collection

Currently, the hauling of commercial source separated recyclable materials and compostable materials is non-exclusive under the franchise agreement with Recology, and the actual amount of materials collected is greater than what is captured by the Recology collection tonnage data.[6] An agreement with the City's franchised hauler that defines commercial recycling and compostable material as exclusive franchised materials would ensure more accurate and consistent reporting of commercial sector diversion.[7] It would also give the City more control over the handling of these materials from the point of collection to the designated processing facility to maximize recovery.

Accurate tracking of commercial sector recycling and compostable material collections is necessary to measure progress toward achieving zero waste, and current non-Recology collections should be counted toward commercial sector diversion. The City could instigate its own regulation of non-franchised commercial recycling haulers, however, negotiating with Recology is likely a better alternative in terms of City staff time and resources.

Mandatory recycling and composting participation

The City's solid waste ordinance could be updated to engage the business community and multifamily properties in the diversion of recyclable and compostable materials. Doing so will set the expectation that these sectors contribute to the attainment of Menlo Park's zero waste goals, and allow the City to more effectively collaborate with its franchised hauler on commercial and multifamily recycling and compostable material diversion.

6 RethinkWaste passed an ordinance that requires commercial recycling haulers to report the amounts and types of materials collected for recycling. However, non-compliance remains a barrier for gathering data on these recycling activities in Menlo Park and other Member Agencies.

7 Such an agreement would likely exclude temporary "roll-off" containers.

To avoid token compliance and acknowledge the dynamic change in materials generation as the city progresses toward zero waste, it is advised that the subscription requirement specify that each commercial generator subscribe to a level of service that is sufficient to handle the volume of recyclable materials and compostable materials generated or accumulated on the premises. Alternatively, businesses or multifamily customers may self-haul their recyclables and/or compostable materials to a facility for diversion as long as they can demonstrate their compliance with the ordinance. Should the City's franchised waste hauler be granted the exclusive collection of commercial recyclable and compostable materials, the ordinance could be structured and implemented as follows:

- Annually, work with the franchised hauler to identify all commercial generators subject to the ordinance and review subscription data to confirm whether all subject commercial generators are compliant;
- Review franchised hauler subscription data to confirm whether all commercial generators are compliant with the ordinance requirements.
- Notify commercial generators who do not subscribe to the required collection services with the franchised hauler of the requirement to subscribe or self-haul recyclable and compostable materials. Those commercial generators who do not subscribe to the required services with the franchised hauler but who can produce evidence of legitimate self-haul of recyclable materials and compostable materials will be deemed compliant, whereas those who cannot will be deemed noncompliant.
- Work with the franchised hauler to conduct site visits with select commercial generators each year, covering all commercial generators every five years, in order to document whether commercial generators participate in the required recycling and compostable material collection programs (not just subscribe) and are therefore in compliance.
- Annually, work with any noncompliant commercial generators in order to bring them into compliance with the ordinance requirements by providing outreach, education, and technical assistance to facilitate compliance.
- Commercial generators shall be responsible for ensuring and demonstrating compliance with ordinance requirements within 30 days of notification of noncompliance. Failure to demonstrate compliance would be cause for enforcement.

A municipal code update would also allow the City to address changes in state legislation in support of compliance, namely AB 939 (state diversion requirement/goal), AB 341 (mandatory commercial recycling), AB 1826 (mandatory commercial organics recycling) and AB 1594 (green waste as alternative daily cover for diversion credit ban).

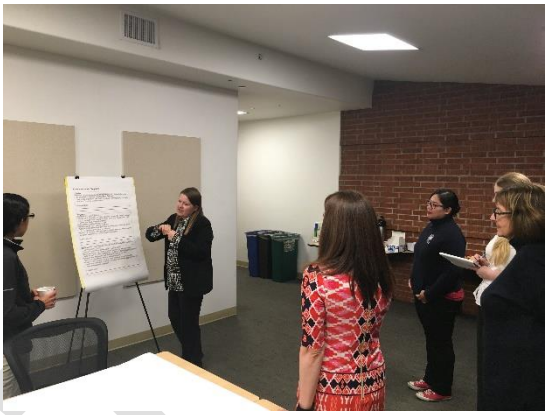
<u>Universal recycling and composting collection service</u>

To achieve even higher levels of diversion in the commercial and multifamily sectors, the City could consider negotiating for universal provision of recycling and composting collection services under a future solid waste franchise agreement. This would provide all commercial and multifamily waste generators easy access to diversion programs as part of their solid waste service, supporting greater program participation and ultimately greater diversion of materials from landfill disposal.

<u>Other service enhancement opportunities</u>

These opportunities and other potential new service enhancements requiring franchised hauler collaboration are discussed in Section 5.

4 Community Planning Process



The City of Menlo Park conducted stakeholder outreach to obtain input on potential new and expanded programs to be included in the community zero waste plan. The City held two public workshops, conducted a community survey and engaged the Environmental Quality Commission to contribute to the development of this zero waste plan. The project team also conducted additional stakeholder meetings and follow-up phone calls with representatives from the environmental community, property managers, service providers, faith-based organizations, school community, business groups and regional agencies.

Workshop 1 – Policies, programs and infrastructure
During Workshop 1, held Nov. 2, 2016, the project team highlighted some of the City's existing programs and policies, including the polystyrene foodware ordinance and reusable bag ordinance. The team also identified potential new service opportunities, in addition to policy and program options in support of zero waste. Posters were placed around the room identifying additional potential diversion opportunities for the different generator sectors: single family residential, multifamily residential, commercial, self-haul and construction and demolition (C&D). Participants in the workshop reviewed the potential options for diverting more waste from landfill disposal and suggested the types of additional information needed to refine the selections.

Workshop 2 – Zero waste strategy options
During Workshop 2, held Dec. 5, 2016, the workshop participants reviewed a refined list of options, including estimates for diversion potential and cost ranges for implementation. Based on this input, and input from additional stakeholder meetings and follow up calls, the project team developed a revised list of zero waste strategy options that was presented to City staff for their review. The final list of recommended policies, programs and infrastructure enhancements is detailed in Section 5.

5 Zero waste strategies

Program/collection service enhancements

<u>Expanded bulky item recycling collection</u>
Twice per year, Recology San Mateo County offers pickup of large or bulky household items from single family home customers for no additional charge. Property managers can also schedule large item pickups for multifamily properties. Residents may set out:

- Two cubic yards of bagged/boxed solid waste
- One large appliance (such as a washing machine, dryer, refrigerator or freezer)
- One bulky item (such as a mattress, couch or tires)
- Electronic scrap (such as a TV, computer or computer monitor)

Appliances, tires, mattresses and e-scrap are diverted from disposal. Most of the other bulky items collected by Recology are landfilled.

For this strategy, the Bulky Item program would change focus to encourage diversion of more materials from landfill disposal. The City would contract with Recology to expand the list of materials acceptable for recycling, including items that are hard to recycle through the curbside program. These materials could include:

- Scrap metal
- Window glass
- Carpet
- Textiles

This program could also potentially be extended to businesses at no additional cost, and structured similarly to the multifamily building service.

The City could also partner with a number of reuse entities (thrift stores, repair shops, and nonprofits such as Goodwill Industries and Salvation Army) to repair, reuse, and resell appropriate bulky items that are currently being landfilled. The City would enter into service contracts with reuse partners to define operating procedures, service requirements and performance standards, and to establish program parameters to ensure that the bulky-item reuse program is closely coordinated with the bulky-item collection program operated by Recology, and does not impede Recology operations.

The City would continue to encourage residents to donate bulky items through charitable organizations and thrift stores. An additional component of this program would include City sponsorship of, or promotion for, neighborhood and/or apartment complex swap meets or garage sales to encourage residents to donate, rather than discard, reusable bulky items. Recology's costs for collection should not be significantly impacted. Instead of transporting solid waste to the transfer station for disposal, Recology would deliver recyclable materials for processing. The reuse organizations would be expected to collect materials for resale without compensation from the City.

Some upfront staff resources are needed for negotiating the service agreements and for annual monitoring of the program.

Targeted generators include all single family residential, multifamily and commercial customers.

<u>Expanded list of curbside recyclables</u>

Recyclable materials collected from residents and businesses in the City are delivered to the Shoreway Environmental Center in San Carlos. Shoreway is owned by the South Bayside Waste Management Authority (RethinkWaste) and operated by South Bay Recycling. Materials targeted for recycling include: glass bottles and jars; metal cans, lids and foil and small pieces of scrap metal; plastic bottles, tubs, clamshells, cups and berry baskets; paper bags, cardboard, office paper, junk mail and magazines.

Some materials that have recycling markets are not currently processed at Shoreway. One option for increasing diversion would be to add additional types of materials that can be placed into the recycling cart; including aseptic containers (such as juice boxes or soup boxes), plastic film (including produce bags and packaging overwrap), rigid plastics (such as toys and laundry baskets), expanded polystyrene blocks and textiles.

Under this program, the City would work with RethinkWaste to add recyclable materials with local markets for recycling to the list of materials that can be collected. It is possible that more processing equipment, such as optical sorters, would be needed to process additional material types. However, these costs would be shared throughout the service area.

Some upfront staff resources are needed for negotiating the service agreements, and for potential upgrades to the recyclables processing line at Shoreway.

Targeted generators include all single family residential, multifamily and commercial customers.

Additional commercial technical assistance

Currently Recology Waste Zero staff respond to requests from their customers in Menlo Park and assist them to increase recycling services. Recology conducts a minimum of 100 waste assessments every three years.

This program would provide enhanced technical assistance to commercial customers to help them initiate or expand recycling and waste reduction practices. The City would publicize the program and encourage businesses to use this free service to increase recycling wherever feasible; participation in the program may also help them lower their disposal costs.

Technical assistance would include conducting on-site waste assessments to identify target materials for recycling and waste reduction, providing contact information for securing recycling equipment, training custodial and operations staff, and distributing appropriate outreach materials describing best practices for setting up or expanding recycling services for different types of businesses. Trained staff would help to minimize or overcome various obstacles to recycling faced by commercial customers (space constraints, labor and sorting requirements, lack of information or training, etc.). Additionally, enhanced technical assistance would encourage more commercial customers to set up an effective recycling program that is suited to their place of business, whether it be a large office complex, bar, restaurant, factory, warehouse, shopping center, small retail store or other type of commercial site. This program provides additional support to businesses, target the largest waste generators, and complement the outreach and education services currently offered through Recology.

A significant amount of staff or contractor resources would be needed to provide this technical assistance (approximately 0.5 full-time equivalent). However, this program has the potential to be very effective in increasing diversion.

Targeted generators include all commercial customers.

Outreach to elementary and secondary schools

Public schools in Menlo Park are not currently part of the City's collection program and contract separately with collection service providers (Recology South Bay and Recology Peninsula Services). Currently, they do not get the same level of support that other commercial customers receive through Recology San Mateo County. Providing outreach and technical assistance to public and private schools in Menlo Park can help to reinforce recycling and composting messaging that students can carry home to their families.

The school community provides unique access to the families within the City that may otherwise be difficult to reach. A strong school program can reinforce behavior change (as children often tell their parents how to recycle and compost). Notably, school programs are the most successful when they are aligned with the practices that students have at home. There is a wealth of environmental curriculum available to schools and teachers, but schools have a distinct need for technical assistance to meaningfully reduce trash. This can also be complemented through service-learning where students participate in the greening of their schools.

Existing outreach and education programs (including San Mateo County's Green Star Schools, Cool the Earth, California Education and the Environment Initiative Curriculum, CalRecycle Closing the Loop Curriculum, and others) can supplement and enhance student learning. Direct technical assistance would encourage local schools and the larger school community to recycle and compost at home, support school "share tables" for extra food, and target cafeteria waste reduction.

Some staff or contractor resources would be needed to provide support to the schools in Menlo Park (approximately 0.1 full-time equivalent).

Targeted generators are public and private schools, students and their families, and school staff.

Outreach to faith-based organizations

Churches and faith-based organizations can provide direct access to community members for engagement and education on waste reduction and recycling. Greening the house of worship can also lead to the greening of the congregation. People are more likely to change habits if they attempt to do so with friends and neighbors, introduce change a little at a time with support and encouragement provided along the way, and see leaders in the community taking steps as well. Reaching out to faith-based organizations can help the organization and its members reduce waste sent to landfill, benefiting the wider Menlo Park community and the environment.

Under this program, the City could provide direct technical assistance to faith-based organizations and support them in the development of green teams, as well as encouraging them to work with their networks to pursue zero waste.

Some staff or contractor resources would be needed to provide support to the faith-based organizations in Menlo Park (approximately 0.1 full-time equivalent).

Targeted generators are churches and other faith-based organizations, including their congregations.

Outreach, education and technical assistance for C&D Generators

City municipal code requires that construction projects divert 60 percent of construction and demolition (C&D) debris from landfill. In 2015, the City began implementing GreenHalo, an online database which allows contractors and City staff to track and verify whether the amount of recycled materials comply with the City's C&D recycling ordinance. Weight tickets are uploaded by the contractor and checked by the building inspector for compliance. However, recoverable C&D remains a large component of the City disposal stream and much of this material could be diverted from disposal.

Under this program, the City would provide direct technical assistance to encourage project sponsors and stakeholders to initiate effective recycling and waste reduction practices during construction and demolition activities. The City would also undertake targeted education and outreach on how to reduce and reuse C&D materials by promoting activities such as salvage, deconstruction, and construction techniques that minimize waste.

Some staff or contractor resources would be needed to provide support to the C&D generators in Menlo Park (approximately 0.1 full-time equivalent).

Targeted generators include self-haul and C&D generators.

Participating partners program

Many retailers are willing to take back materials for reuse or recycling (including used motor oil, fluorescent lamps, batteries, paint, corks and hangers) and numerous organizations exist that focus on repair and reuse (including thrift stores, consignment stores, and electronics and appliance repair stores).

Under this program, the City would partner with and promote local organizations that accept or collect items for reuse, repair, recycling or composting. Partner organizations would be recognized and provided with a window decal indicating participation in the program. The participating partners would be advertised on the City's website and its other publications.

Through this program, the City would:

- Encourage a local "ecology of commerce" for promoting the sale of reusable items in the area
- Encourage the marketing of used lumber, building materials, compost products and used appliances through major home repair, hardware stores and nurseries
- Encourage the marketing of used furniture through furniture stores

- Facilitate development of a network of repair and refurbishing businesses or nonprofits to upgrade materials and products that are collected through large-scale reuse programs to attain a higher price in retail activities
- Promote retailers that are willing to take back materials for reuse, recycling or composting

Some staff or contractor resources would be needed to recruit and recognize the participating partners (approximately 0.05 full-time equivalent).

Targeted generators include all single family residential, multifamily and commercial customers.

Rate structure that incentivizes waste prevention

Currently, the majority of what customers pay for solid waste collection services is based on the size of their landfill trash bin and frequency of pickup. This approach encourages customers to take advantage of recycling and composting collection services provided at no extra charge or at a subsidized rate. Under this program, the City would modify the customer rate structure to incentivize recycling, composting and source reduction. The result could be that customers are rewarded for reducing the total amounts of recyclable materials, compostable materials, and landfill trash that they generate, and are incentivized to divert more materials from landfill disposal.

To complement this type of rate structure and further incentivize waste reduction, the City could investigate offering smaller solid waste carts and/or less than weekly solid waste collection.

Some upfront staff resources are needed for researching alternatives and developing alternative rate structures.

Targeted generators include all single family residential, multifamily and commercial customers.

Recycling ambassadors and door-to-door outreach

This program takes a community based social marketing approach to outreach and education. It can be easy for customers to ignore outreach and solicitations from service providers or staff, however, it is hard for them to say “no” to their friends and neighbors. For this program, the City would identify key community members and elected officials to help spread the message to recycle and organize door-to-door outreach for residential customers and in the business community.

A good example of this approach is the “Miss Alameda Says, “Compost!” program in the City of Alameda. Miss Alameda ran for Miss California in 2011 and then volunteered her time going door-to-door at restaurants to encourage them to participate in the City’s compostable materials collection program. The results were highly successful and all the restaurants contacted agreed to participate. The program grew to include student volunteers assisting in going door-to-door at multifamily buildings. Miss Alameda also provides assemblies and training at schools.

In Castro Valley, the “Green Hearts” program recruits and trains volunteer community members to support the outreach and education at public events.

While the program would be volunteer-based, it would require staff or contractor resources to recruit, train and organize the volunteers (approximately 0.1 full-time equivalent).

Targeted generators include all single family residential, multifamily and commercial customers.

Textile recycling

Textiles are a sizable component of the disposal stream, and a contaminant in the recycling collection system. For this program the City can explore:

- Collection of textiles through the bulky-item collection program
- Addition of clean, bagged textiles in the recycling collection program
- No-cost collection service to get textiles and other reusable items to a charity or textile processor
- Promotion and partnerships with Goodwill and others to offer more drop-off locations, and/or quarterly curbside collection

Some upfront staff resources are needed for evaluating options and negotiating the service agreements.

Targeted generators are single family residential customers.

Universal recycling and composting collection service

Currently, commercial and multifamily customers can subscribe to service through Recology for recycling and composting collection, or choose another service provider. An analysis of service level data provided by Recology indicates that many commercial and multifamily customers have opted out of composting collection and are not being adequately serviced.

Through this program, the City would provide universal recycling and composting collection services to all commercial and multifamily customers who have landfill trash collection through its agreement with Recology (i.e., any customer that signs up to receive landfill trash collection would automatically receive recycling and composting collection service). This approach can be very effective in ensuring that all customers are in compliance with mandatory state requirements. It is similar to the approach that the City implemented for all single family customers where households receive recycling, compost and solid waste collection services.

Some upfront staff resources are needed for negotiating the service agreements.

Targeted generators are multifamily and commercial customers.

City action/policy initiatives

Increase recycling requirements in construction and demolition ordinance
Currently, the City's construction and demolition ordinance requires construction projects to divert 60 percent of construction and demolition materials. Many construction and demolition materials, including concrete, asphalt, wallboard, wood, metal, plastic and glass are readily recyclable and the increased capture of these materials to prevent their landfill disposal represents an important opportunity for achieving additional diversion. For this program, the City would increase the construction and demolition diversion requirements, for example 75 percent of all materials or 100 percent of all readily recyclable materials would be required to be diverted from disposal. As a point of comparison, the City of Oakland requires that all new construction, all demolition projects, commercial projects valued at $50,000 or more recycle 100 percent of asphalt and concrete and 65 percent of the remaining waste generated.

Some upfront staff resources are needed for updating the construction and demolition ordinance.

Targeted generators are self-haul and construction and demolition generators.

Mandatory participation in recycling and composting programs
State law requires all multifamily (five units or more) and commercial businesses generating over four cubic yards of solid waste per week must have recycling collection. In addition, increasingly strict thresholds are being phased in that require multifamily and commercial businesses to also have compostable material collection service. However, small multifamily and commercial generators, and residential customers, are not subject to these requirements. The City could implement mandatory requirements in order to motivate all residential, commercial, institutional, and public agency generators to separate recyclable and compostable materials from the waste they generate at their homes or places of business, and place it in the appropriate container for collection and greater diversion.
This program would:

- Consider a future requirement for mandatory recycling (goal of significantly reducing recyclables in the trash via subscription to and participation in recycling programs) for single family, multifamily and commercial customers
- Consider a future requirement for mandatory composting (goal of significantly reducing organics in the trash via subscription to and participation in composting programs) for single family, multifamily and commercial customers

To consider a case study, the City of San Carlos enacted a mandatory commercial and multifamily recycling and composting ordinance in 2010. Enforcement of the ordinance is a three-step process: issuance of a courtesy notice, issuance of a warning notice, and issuance of a violation notice. The City has the authority to impose administrative penalties of up to $500 per violation. Businesses in San Carlos were very supportive of the City's efforts to move from a voluntary to a mandatory recycling program. Very few enforcement actions have been necessary.

Some upfront staff resources are needed to develop a mandatory participation ordinance and ongoing resources would be required to conduct an annual outreach program.
Targeted generators include all single family, multifamily and commercial customers.

Mandatory diversion percentage

While single family generators have achieved 72 percent diversion of waste from landfill in Menlo Park, the commercial sector is at 48 percent and the multifamily sector is at 29 percent. This program would mandate a minimum diversion percentage for businesses and multifamily such as 50 percent and 75 percent by specific milestone dates. This program could be implemented along with universal rollout of recycling and compostable materials collection services to all multifamily and commercial customers. Diversion rates would be monitored and, if needed, enforcement measures could be triggered based on mandatory participation requirements.

These policies could be implemented in the following sequence:

- Monitoring of state requirements - all multifamily customers and commercial customers with four cubic yards of solid waste or more required to have compost collection service by 2019
- Universal rollout of recycling and compost collection service to all multifamily and commercial customers by 2021
- Monitoring of diversion percentages, if 50 percent not reached by 2025, mandatory participation requirements enacted
- Monitoring of diversion percentages, if 75 percent not reached by 2030, enforcement measures enacted

Some upfront staff resources are needed to develop a mandatory recycling percentage ordinance and ongoing resources would be required to conduct an annual outreach program. Targeted generators are multifamily and commercial customers.

Material bans of products or packaging

The City has enacted bans of specific problem waste materials:

- Polystyrene foodware ordinance, enacted in 2012, prohibits food vendors, including restaurants, delis, cafes, markets, fast-food establishments, vendors at fairs and food trucks, from dispensing prepared food in polystyrene containers labeled as No. 6
- Reusable bag ordinance, enacted in 2013, bans the distribution of plastic bags at retail stores and requires retailers to charge 25 cents per bag for the distribution of reusable bags or paper bags

This program would consider additional bans of specified products or packaging. For example, Santa Cruz County has banned the sale of all polystyrene foam products including cups, plates, bowls, coolers and similar products at all retail stores. The San Luis Obispo Waste Management Authority has developed a model ordinance that would restrict distribution of plastic straws at restaurants unless a customer requests one. Some upfront staff resources are needed to develop additional product or packaging bans and ongoing resources would be required to conduct an annual outreach program.

Targeted generators include all single family residential, multifamily and commercial customers.

Promote reusable bottles and bottle filling stations

Menlo Park residents and businesses have access to high quality tap water. However, bottled water is often purchased for drinking water away from home. While plastic water bottles are recyclable, the Container Recycling Institute estimates that 85 percent are either disposed or littered.

This program would promote alternatives to bottled water, including an ordinance requiring new buildings that have drinking fountains to provide bottle filling stations. Other jurisdictions have adopted ordinances to reduce waste from plastic water bottles by promoting source reduction, supporting a cultural shift. In 2013, the Santa Clara County board of supervisors adopted an ordinance that provided local amendments to the California Plumbing Code requiring bottle filling stations wherever drinking fountains are required in new buildings.

Some upfront staff resources are needed for developing the water bottle filling station ordinance.

Targeted generators are commercial generators.

Require all projects to direct construction and demolition materials to designated facilities

Currently, builders must comply with the City's construction and demolition recycling ordinance by submitting reports and receipts documenting 60 percent recycling for their projects. Going forward, the City could require all projects that generate construction and demolition debris to direct materials to designated facilities with guaranteed minimum recycling rates. Many communities in the region already register or certify recycling rates by facility (including the cities of San Jose and San Francisco). This approach could simplify and expedite the reporting requirements. Use of designated facilities could also maximize recovery by ensuring that construction and demolition materials are processed effectively, as independently verified by the City via a facility certification process.

Some upfront staff resources are needed for updating the construction and demolition ordinance.

Targeted generators are self-haul and construction and demolition generators.

Support for reuse, repair, leasing or sharing efforts

Many products and pieces of equipment can be reused or repaired. However, residents and businesses often do not have the knowledge or skills to repair broken items, and would benefit from coaching or could be directed to reuse and repair services.

Repair Cafés or Fixit Clinics are models of free events organized by volunteers to repair things together. In the place where a Repair Café or Fixit Clinic is located, participants have access to tools, materials, and coaches to help make needed repairs on clothes, furniture, electrical appliances, bicycles, appliances, toys, etc. Participants bring their broken items from home or places of business. Working with the specialists they can start making their repairs and/or lend a hand on someone else's repair job.

The City can also promote the "sharing economy" where owners rent or lend tools, equipment, and other items that are seldom used and can be shared.

This program would support materials diversion from landfill through repair and reuse:

- Promote reuse and repair for residents and businesses with web-based directories (e.g., e-Bay, Craigslist and FreeCycle.org), utility bill inserts and cooperative advertisements
- Promote local antique and thrift stores, repair shops and local electronic equipment, furniture and appliance resellers including a brochure/website listing where these are located
- Support organizations that can sponsor quarterly repair workshops
    - Connect with Boy Scouts, Girl Scouts, and other service clubs to organize workshops
    - Help recruit volunteer "fixers"
    - Recruit appropriate free venue
    - Promote repair workshops

Ongoing staff or contractor resources and outreach materials would be needed to support reuse outreach and repair events (approximately 0.05 full-time equivalent).

Targeted generators include all single family residential, multifamily and commercial customers.

Zero waste event requirements

Special events provide a unique opportunity for the City to demonstrate to its residents, businesses, and visitors how to practice zero waste concepts. Through its contract with the City, Recology provides recycling, compost and trash collection at public events and venues in the City including:

- Downtown block parties (3 per year)
- Egg hunts
- Fourth of July Celebration
- Summer concerts (8 per year)
- Kite Day
- Summerfest
- Breakfast with Santa
- Earth Day
- Seasonal community cleanup events (2 per year)

Under this program, the City would require event organizers of all events that require a permit to arrange for recycling and compost collection service, require all vendors to use only recyclable and compostable materials, provide education and environmental awareness, and provide adequate recycling staff or volunteers at the event.

The City would also provide technical assistance to public and private venues and events to support waste reduction and recycling.

Some upfront staff resources are needed for developing the zero waste event ordinance and ongoing staff or contractor resources would be needed to support event organizers (approximately 0.05 full-time equivalent).

Facilities and infrastructure

Mandatory sorting of self-hauled waste at Shoreway Environmental Center

A significant amount of material in the City's disposal stream comes from self-haul generators. Out of the 30,000 tons of materials disposed in 2015, 45 percent is handled by self-haul generators, including construction and demolition generators and individual residents and businesses. This program would address the self-hauled materials that are delivered to the Shoreway Environmental Center.

Materials delivered by self-haul customers are often highly recoverable, including:

- Materials leftover from construction projects (dimensional lumber and wood, gypsum wallboard and other construction and demolition materials)
- Traditional recyclables (metal, paper, plastic and glass)
- Compostable materials (yard trimmings, food, and other compostable organics)
- Bulky items (furniture, carpet and mattresses).

Different material types require different handling approaches in order to maximize diversion. For example, an effective means of diverting mixed construction and demolition materials is through a sort line. Materials are unloaded by self-haul customers and placed on a conveyor belt by facility operations staff. Workers at sorting stations recover recyclable construction and demolition materials, including wood, paper, rigid plastic and wallboard. Both the Davis Street Transfer Station in San Leandro and SF Recycling & Disposal operate sort lines for self-haul materials separately from their C&D sort lines for commercial construction and demolition materials. Both facilities are able to recycle 50 to 70 percent of materials processed through the self-haul sort lines.

Alternatively, self-haul customers could separate their materials to achieve higher diversion from landfill disposal. For example, all self-haul customers at the Cold Canyon Resource Recovery Park in San Luis Obispo are directed to bunkers for separating materials. Customers are required to separate their materials or pay a surcharge. As a result, 97 percent of customers elect to self-separate.

Shoreway also has a free drop-off center for a wide variety of materials, including batteries, paint, scrap metal and small appliances. However, many self-haul customers bypass the drop-off center and go directly to the tipping area. An emerging trend in design at transfer stations is to conduct all separation and processing after the fee gate. This allows transfer station staff to monitor and assist in appropriate sorting of materials and provides a more stable funding mechanism as facilities transition to higher diversion rates.

This program would be a joint project to change Shoreway operational practices to ensure that all self-hauled waste is sorted for maximum recovery, either through on-site processing or self-separation. Under this program, the City would work with RethinkWaste to add features to the self-haul area for increased diversion of self-haul materials at Shoreway. It is possible that additional processing equipment, such as processing lines, would be needed to process additional material types. However, these costs would be shared throughout the service area. Some upfront staff resources are needed for negotiating the service agreements, and for potential upgrades to the self-haul area at Shoreway.

Targeted generators are self-haul generators.

Regional considerations and social marketing
The zero waste strategies outlined are leadership opportunities the City can take to directly impact waste diversion activities in the community. As a RethinkWaste member agency, Menlo Park will also benefit from wider regional efforts to reduce waste, such as the JPA's implementation of its Long Range Plan. Included in the Long Range Plan are Shoreway infrastructure enhancements, model solid waste ordinances, extended producer responsibility, and an every other week garbage collection pilot. In addition, the City should also consider the importance of social marketing for increasing participation in diversion program. RethinkWaste's future mixed waste processing program, and example social marketing strategies the City could implement to support a cultural shift and enhance zero waste strategy implementation, are discussed later in this plan.

<u>Mixed waste processing</u>
Mixed waste processing is included in RethinkWaste's long range plan for potential future program implementation. The City should continue to monitor RethinkWaste's plans to implement mixed waste processing at the Shoreway facility, as this may be a potential avenue for additional diversion.

The long range plan notes that the mixed waste processing system will recover recyclables and organics from residential and commercial (including multifamily) waste. Such a program could yield approximately 1,500 tons of additional diversion for Menlo Park, which would enable the

City to reach its zero waste goal of 73 percent franchised diversion by 2035 as shown by diversion modeling (Section 6).

Targeted outreach and education on problematic materials

Targeted outreach and education to raise awareness about particular materials that tend to be disposed incorrectly would bring current efforts into focus, assisting residents in proper sorting of waste into landfill trash, recycling and compost carts. To start, proper sorting of paper and compostable materials could be emphasized to reduce the amount of material sent to landfill. Other communities, such as the City of Livermore, have used this strategy and report positive results. Moreover, the results are easily measurable through the periodic monitoring of this sector's waste stream compositions, by checking the contents of carts, or conducting more detailed waste audits. The franchised hauler is well-positioned to partner with City on such an effort, both through its outreach and education work in the community and ability to monitor and report on changes.

Comparative basis education on progress

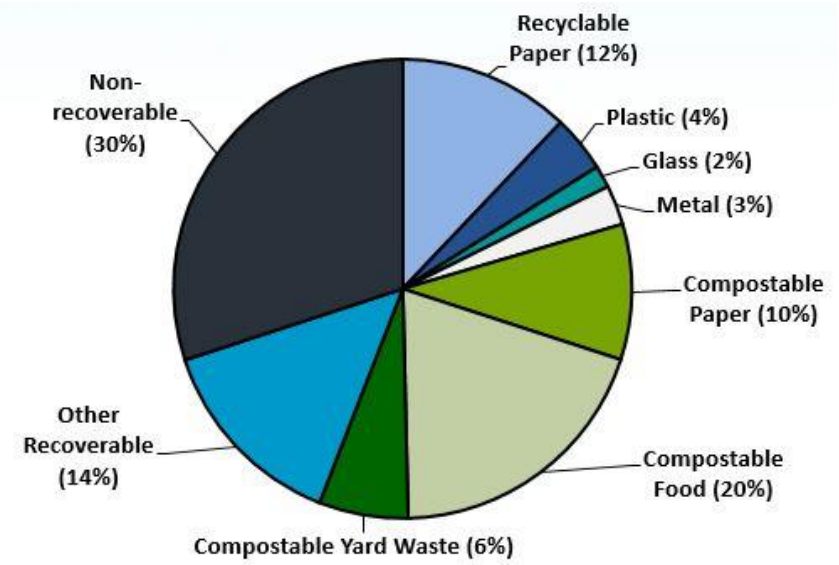
Communicating the results of diversion progress and waste stream composition monitoring is another method that helps focus outreach and motivate behavior change, particularly when data are presented on a comparative basis. Strategies like StopWaste's benchmark services and Pacific Gas and Electric's bill inserts that compare energy usage to similar nearby homes are based on studies that show people pay attention to how they compare to others and are motivated to change (and maintain high achievement) when they receive feedback on their performance.

In the context of zero waste, comparing the service level of a customer's home, multifamily complex or business to the average sector service level, and/or the preferred zero waste service level, could be valuable. Comparisons of waste stream composition, waste stream generation, and other key metrics could also be used in alignment with the City's zero waste goals.

6 Additional potential diversion analysis

Menlo Park has the opportunity to significantly increase its citywide diversion rate through the implementation of the new and expanded policies, programs and infrastructure.

Figure 4: Materials in Menlo Park Trash



In 2015, the City's franchise diversion rate (based on materials collected by Recology) was 56 percent. To estimate the diversion potential of each of the zero waste strategies, the Project Team developed a diversion model. The model uses waste composition data for each generator sector (single family, multifamily, commercial, construction and demolition, self-haul) to estimate tons by material type by sector.[8] The model then applies an estimated capture rate (the percentage of the material type estimated be diverted) to the tons to derive the potential diversion tons associated with each strategy. The capture rates were developed from research of comparable programs and educated estimates. The model predicts that implementation of the zero waste strategies would result in a 70 percent franchise diversion rate. Regional programs, such as mixed waste processing, would assist the City in reaching 73 percent franchised diversion, and potentially beyond.

Table 5 lists the estimated capture rate for each zero waste strategy and the resulting potential diversion tons.

[8] The diversion model is based on landfilled waste composition data for the City of Menlo Park prepared by Cascadia Consulting Group.

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Table 5: Estimated capture rate and diversion tons

Item #	Zero waste strategy	Additional potential diversion					Targeted material capture rate
		Single-family	Multifamily	Commercial	Self-haul	Total all sectors	
Short-term 2018-2020							
1	Recycling ambassadors and door-to-door outreach	130	70	290		**490**	5%
2	Outreach, education and technical assistance for construction and demolition Generators				360	**360**	5%
3	Outreach to elementary and secondary schools			50		**50**	1%
4	Outreach to faith-based organizations			50		**50**	1%
5	Support for reuse, repair, leasing or sharing efforts	3	2	5		**10**	1%
6	Promote reusable bottles and bottle filling stations			1		**1**	1%
Mid-term 2021-2025							
7	Universal recycling and composting collection service		180	740		**920**	13%
8	Increase recycling requirements in C&D ordinance				790	**790**	11%
9	Additional commercial technical assistance			630		**630**	11%
10	Expanded bulky item recycling collection	20	10	100		**130**	5%
11	Expanded list of curbside recyclables	20	10	90		**120**	10%
12	Participating Partners Program	30	20	70		**120**	1%
13	Zero waste event requirements			50		**50**	1%
14	Material bans of products or packaging	10	10	20		**40**	1%
15	Textile recycling	6				**6**	3%
Long-term 2026-2027							
16	Mandatory sorting of self-hauled waste at Shoreway Environmental Center				1,130	**1,130**	15%
17	Mandatory participation in recycling and composting	280	160	630		**1070**	11%
18	Require all projects to direct C&D materials to				860	**860**	12%
19	Rate structure that incentivizes waste prevention	220	130	480		**830**	11%
20	Mandatory diversion percentage		160	630		**790**	11%
	TOTAL	**720**	**750**	**3,840**	**3140**	**8,450**	
	RethinkWaste Long Range Plan: mixed waste	400	200	900		**1500**	15%

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7 Greenhouse Gas Emission Reduction

If these zero waste strategies were to be fully implemented, approximately 13,000 metric tons of carbon dioxide could be avoided through recycling and composting currently landfilled waste materials. This is the equivalent to the annual emissions from 2,790 passenger vehicles, conserving 867 households' annual energy consumption, or conserving 17,155 barrels of oil. See Table 6 for more information. Additional carbon emissions could be achieved through source reduction of nonrecoverable materials and reuse activities.

Table 6: Greenhouse Gas Emission Reduction

Total change in $MTCO_2E$: (13,253)	**Total change in energy use (99,673) million BTU**	**Total change in MTCO: (3,614)**
This is equivalent to…		
Removing annual emissions from 2,790 passenger vehicles		
Conserving 1,491,273 gallons of gasoline		
Conserving 552,206 cylinders of propane used for home barbeques		
Conserving 71 railway cars of coal		
Conserving 867 households' annual energy consumption		
Conserving 17,155 barrels of oil		
Conserving 802,273 gallons of gasoline		

The Waste Reduction Model (WARM) was used to calculate the estimated amount of greenhouse gas emission reduction. WARM was created by the U.S. Environmental Protection Agency to help solid waste planners and organizations estimate greenhouse gas emission reductions from several different waste management practices. The model calculates emissions in metric tons of carbon dioxide equivalent ($MTCO_2E$) and metric tons of carbon equivalent (MTCE) across a wide range of material types commonly found in municipal solid waste.

8 Economic Analysis

Costs for implementing the zero waste strategies were developed by estimating:

- The number of staff or contractor hours that would be needed to develop and maintain each program
- The outreach materials (training, materials, advertising, promotional flyers, promotional kits, outreach campaign) needed for each program
- The capital costs for upgrades at the Shoreway Environmental Center, to be shared throughout the service area

The project team used the following assumptions:

- The average, fully-burdened hourly rate used for estimating staff costs is $68 per hour.
- One-time costs are annualized over a 10-year planning period

Outreach materials cost:

- $15 each for training materials
- $500 each for newspaper advertising
- $2 each for promotional flyers
- $50 each for promotional kits
- $2,000 for an outreach campaign

Capital costs for upgrades at Shoreway Environmental Center cost:

- $2 million to add optical sorting equipment to the recyclables processing. Menlo Park's share would be $200,000 based on its proportionate share of the materials.
- $500,000 to add upgrades to the self-haul area. Menlo Parks' share would be $50,000.
- Costs would be annualized over a 10-year planning period

These assumptions were used to project the annual estimated costs for each program. Based on the estimated diversion tons, the costs per ton diverted were also projected. Based on the 9,058 single family, multifamily and commercial customers in the City, full implementation of all the zero waste strategies could result in an approximate $0.85 per month increase in the monthly rates. Other funding mechanisms may also be considered.

Table 7 provides the cost estimates for the zero waste strategies.

Table 7: Zero waste strategy cost estimates

Item #	Zero waste strategy	One-time hours	Annual hours	Annual labor cost	Annual outreach	Capital	Total annual cost	Annual tons diverted	Dollars per ton diverted
Short-term 2018-2020									
1	Recycling ambassadors and door-to-door		200	$13,500	$4,000		$17,500	490	$36
2	Outreach, education and technical		200	$13,500	$1,500		$15,000	360	$42
3	Outreach to elementary and secondary		200	$13,500	$500		$14,000	50	$280
4	Outreach to faith-based organizations		200	$13,500	$500		$14,000	50	$280
5	Support for reuse, repair, leasing or sharing		100	$6,750	$2,000		$8,750	10	$870
6	Promote reusable bottles and bottle filling stations	250		$1,688			$1,688	1	$1,814
Medium-term 2021-2025									
7	Universal recycling and composting	250		$1,688			$1,688	920	$2
8	Increase recycling requirements in C&D	250		$1,688			$1,688	790	$2
9	Additional commercial technical assistance		1,000	$67,500	$7,500		$75,000	630	$119
10	Expanded bulky item recycling collection	250	100	$8,438			$8,438	130	$65
11	Expanded list of curbside recyclables	250		$1,688		$200,000	$21,688	120	$181
12	Participating partners program		100	$6,750	$2,000		$8,750	120	$73
13	Zero waste event requirements	250	100	$8,438	$3,000		$11,438	50	$228
14	Material bans of products or packaging	250		$1,688	$2,000		$3,688	40	$92
15	Textile recycling	250		$1,688			$1,688	6	$303
Long-term 2026-2027									
16	Mandatory sorting of self-hauled waste at	250		$1,688		$50,000	$6,688	1130	$6
17	Mandatory participation in recycling and	250		$1,688	$2,000		$3,688	1070	$3
18	Require all projects to direct C&D materials	250		$1,688			$1,688	860	$2
19	Rate structure that incentivizes waste	500		$3,375			$3,375	830	$4
20	Mandatory recycling percentage	250		$1,688	$2,000		$3,688	790	$5
Total		**3,500**	**2,200**	**$172,125**	**$27,000**	**$250,000**		**8,447**	

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9 Implementation Plan

These zero waste strategies could be implemented over a 10-year period from 2018 through 2027. The implementation timeframe is divided into three phases:

- Short-term 2018-2020
- Medium-term 2021-2024
- Long-term 2025-2027

Timing for the development of new programs is subject to the City's budget process, contract extensions with Recology or new contracts with another service provider, and potential upgrades to the Shoreway Environmental Center. For planning purposes, it is anticipated that the zero waste strategies will be implemented in the following sequence.

Short-term zero waste strategies
The following strategies would be implemented over a three-year period from 2018 through 2020 and subject to the City's budget process. Most of these strategies could be implemented by City staff and some may be incorporated into their current duties. However, full implementation of these strategies would require more staff or contractor resources (approximately 0.5 full-time equivalent).

Ongoing programs

- Recycling ambassadors and door-to-door outreach
- Outreach, education and technical assistance for construction and demolition generators
- Outreach to elementary and secondary schools
- Outreach to faith-based organizations
- Support for reuse, repair, leasing or sharing efforts

Policies requiring one-time staff support

- Promote reusable bottles and bottle filling stations

Medium-term zero waste strategies
The medium-term strategies would be implemented during the four years from 2021 through 2024. Two of these strategies would require changes to the City's franchise agreement and would be subject to negotiation. Several are City policies that require one-time staff support and others are ongoing programs that require annual staffing support (approximately 0.5 full-time equivalent). One strategy (expanding the list of curbside recyclables) would require upgrades to the Shoreway facility, which would be shared with all of the communities in the service area.

Franchise-related

- Universal recycling and composting collection service
- Expanded bulky item recycling collection

Ongoing programs

- Additional commercial technical assistance
- Participating partners program
- Zero waste event requirements
- Textile recycling

Policies requiring one-time staff support

- Increase recycling requirements in construction and demolition ordinance

- Material bans of products or packaging

Shoreway Environmental Center facility upgrades

- Expanded list of curbside recyclables

Long-term zero waste strategies

The long-term strategies would be implemented during the three years from 2025 through 2027. These include City policies that would require one-time staff support and one strategy that would require upgrades to the Shoreway facility, which would be shared with all of the communities in the service area.

Policies requiring one-time staff support

- Mandatory sorting of self-hauled waste at Shoreway Environmental Center
- Mandatory participation in recycling and composting programs
- Require all projects to direct construction and demolition materials to designated facilities
- Rate structure that incentivizes waste prevention
- Mandatory recycling percentage

Implementation plan resources

Full implementation of the one-time policies and program startup activities over the 10-year planning period would require approximately 3,500 staff hours spread over the 10-year period. Ongoing program implementation would require 2,200 staff hours annually. This along with the capital costs amounts to approximately $921,375 over the 10 year term of the plan. The zero waste strategies are anticipated to be implemented gradually over time. Impact on rates would be incremental and would result in a cumulative rate impact of about $0.85 per customer per month. Other funding mechanisms could also be considered.

Menlo Park Community Zero Waste Plan Cost Estimates

ATTACHMENT B

Zero waste strategy	Category	Implementation timeline	One-time hours	Labor annualized over 10 years	Annual hours	Annual labor cost	Annual outreach	Capital	Capital annualized over 10 years	Total annual cost	Annual tons diverted	Dollars per ton diverted	Dollars per ton diverted rounded to nearest $5	Total change in GHG emissions ($MTCO_2$)
Recycling ambassadors and door-to-door outreach	Program/collection service enhancements	Short-term 2018-2020			200	$13,500	$4,000			$17,500	490	$36	$35	957
Outreach, education and technical assistance for C&D generators	Program/collection service enhancements	Short-term 2018-2020			200	$13,500	$1,500			$15,000	360	$42	$40	357
Outreach to elementary and secondary schools	Program/collection service enhancements	Short-term 2018-2020			200	$13,500	$500			$14,000	50	$280	$280	119
Outreach to faith-based organizations	Program/collection service enhancements	Short-term 2018-2020			200	$13,500	$500			$14,000	50	$280	$280	119
Support for reuse, repair, leasing or sharing efforts	City action/policy initiatives	Short-term 2018-2020			100	$6,750	$2,000			$8,750	10	$870	$870	4
Promote reusable bottles and bottle filling stations	City action/policy initiatives	Short-term 2018-2020	250	25		$1,688				$1,688	1	$1,814	$1,815	1
Universal recycling and composting collection service	Program/collection service enhancements	Medium-term 2021-2025	250	25		$1,688				$1,688	920	$2	$2	1,897
Increase recycling requirements in C&D ordinance	City action/policy initiatives	Medium-term 2021-2025	250	25		$1,688				$1,688	790	$2	$2	786
Additional commercial technical assistance	Program/collection service enhancements	Medium-term 2021-2025			1000	$67,500	$7,500			$75,000	630	$119	$120	1,341
Expanded bulky item recycling collection	Program/collection service enhancements	Medium-term 2021-2025	250	25	100	$8,438				$8,438	130	$65	$65	286
Expanded list of curbside recyclables	Program/collection service enhancements	Medium-term 2021-2025	250	25		$1,688		$200,000	$20,000	$21,688	120	$181	$180	47
Participating partners program	Program/collection service enhancements	Medium-term 2021-2025			100	$6,750	$2,000			$8,750	120	$73	$75	197
Zero waste event requirements	City action/policy initiatives	Medium-term 2021-2025	250	25	100	$8,438	$3,000			$11,438	50	$228	$230	122
Material bans of products or packaging	City action/policy initiatives	Medium-term 2021-2025	250	25		$1,688	$2,000			$3,688	40	$92	$90	NA
Textile recycling	Program/collection service enhancements	Medium-term 2021-2025	250	25		$1,688				$1,688	6	$303	$305	NA
Mandatory sorting of self-hauled waste at Shoreway	Facilities and infrastructure	Long-term 2026-2027	250	25		$1,688		$50,000	$5,000	$6,688	1130	$6	$5	1,175
Mandatory participation in recycling and composting programs	City action/policy initiatives	Long-term 2026-2027	250	25		$1,688	$2,000			$3,688	1070	$3	$5	2,061
Require all projects to direct C&D materials to designated facilities	City action/policy initiatives	Long-term 2026-2027	250	25		$1,688				$1,688	860	$2	$2	858
Rate structure that incentivizes waste prevention	Program/collection service enhancements	Long-term 2026-2027	500	50		$3,375				$3,375	830	$4	$5	1,782
Mandatory recycling percentage	City action/policy initiatives	Long-term 2026-2027	250	25		$1,688	$2,000			$3,688	790	$5	$5	1,612
		TOTALS	**3500**	**350**	**2200**	**$172,125**	**$27,000**	**$250,000**	**$25,000**		**8,447**			**13,721**
		Short-term 2018-2020	250		900	$62,438	$8,500			$70,938	961			
		Medium-term 2021-2025	1750		1300	$99,563	$14,500			$134,063	2,806			
		Long-term 2026-2027	1500		0	$10,125	$4,000			$19,125	4,680			

REGULAR MEETING MINUTES - DRAFT

Date: 4/19/2017
Time: 6:30 p.m.
City Hall/Administration Building
701 Laurel St., Menlo Park, CA 94025

A. Chair Martin called the meeting to order at 6:34 p.m.

B. Roll Call

Present: Allan Bedwell (arrived 6:36 p.m.), Chris DeCardy, Joyce Dickerson, Vice Chair Janelle London, Chair Deb Martin, Scott Marshall, Christina Smolke
Staff: Clay Curtin, Assistant to the City Manager/Interim Sustainability Manager
Vanessa Marcadejas, Senior Sustainability Specialist

C. Public Comment

Bruce Odrenato stated he supports removing two trees adjacent to his property related to PG&E's Community Pipeline Safety Initiative.

D. Regular Business

D1. Review and acceptance of the PG&E tree removal mitigation plan for the Community Pipeline Safety Initiative

Clay Curtin provided a presentation to the commission.

ACTION: Motion and Second (Martin/Dickerson) to review and accept the PG&E tree removal mitigation plan for the Community Pipeline Safety Initiative with the assurance from the City Attorney that the plan will not set a precedent or limit the City's ability to set penalty and compliance valuations for enforcement of the City's Heritage Tree Ordinance passes unanimously (7-0).

D2. Informational presentation on Peninsula Advanced Energy Community (PAEC) projects

Diane Bailey, Executive Director of Menlo Spark provided a presentation to the commission.

D3. Discuss Arbor Day tree planting event

Clay Curtin provided an update, including potential dates and locations. Based on feedback from the commissioners, late afternoon April 28 was tentatively selected. Staff was directed to confirm with the City Arborist.

D4. Approve the March 15, 2017, Environmental Quality Commission meeting minutes

ACTION: Motion and second (Dickerson/Martin) to approve the March 15, 2017, meeting minutes passes unanimously (7-0).

E. Reports and Announcements

E1. Commissioner reports

Chair Martin reported her April 18 quarterly report to City Council was well received. She reported that City Council offered feedback including interest in more residential outreach, more homeowners off the grid and the installation of more electric vehicle charging stations throughout the city.

Vice Chair London updated the commission on the Middle Plaza at 500 El Camino Real project.

Commissioner Bedwell recused himself from the meeting at 8:41 p.m. to speak as a representative of Friends of Bedwell Bayfront Park.

Vice Chair London provided the commission with an update on the Bedwell Bayfront Park Oversight and Outreach committee meeting held April 8.

Public comment on the item:

Allan Bedwell, representing Friends of Bedwell Bayfront Park, clarified that the one-million dollars from Facebook will be used for docent and park education programs only and will not be used for park maintenance. He also stated that Friends of Bedwell Bayfront Park is opposed to any development of the park (including solar) that may potentially cause negative impacts to wildlife and the aesthetics of the park.

Commissioner Smolke left the meeting at 8:52 p.m.

Allan Bedwell returned to the meeting as a commissioner at 8:54 p.m.

Vice Chair London also updated the commission on “do-it-yourself” energy and water conservation toolkits that will soon be available for checkout at libraries countywide.

E2. Staff updates

Clay Curtin provided the following updates:

Upcoming events

- April 22 – Earth Day at Bedwell Bayfront Park
- April 29 – Tree Care and Maintenance water-efficient landscaping class
- May 4 – Stanford Middle Plaza community meeting
- May 6 – Compost giveaway event at Bedwell Bayfront Park
- May 6 – Water-efficient edible gardening landscaping class
- May 13 – Shredding and electronic waste recycling event
- May 16 – Annual commissioner training (Brown Act and ethics) and appreciation event
- May 31 – City Manager’s budget workshop

Item updates

- The permanent Sustainability Manager recruitment is on hold pending approval of changes to the salary schedule. At its April 4, 2017, meeting, the City Council had some additional questions and staff will return to them with more information, possibly as part of the budget

adoption process.

- The City hosted a household hazardous waste collection event April 8 with over 150 participants. These are held twice annually and the next will be in November 2017.
- At its April 18, 2017, meeting, the City Council authorized the City Manager to enter into an agreement with California Tree and Landscaping (CalTLC) for the heritage tree ordinance update project. Staff is finalizing the contract.

Chair Martin left the meeting at 9:07 p.m.

E3. Future agenda items

- Selection of new Chair and Vice Chair
- Discuss and make a recommendation to the City Council to approve the community zero waste plan
- Discuss and make a recommendation to the City Council on environmental issues related to the Middle Plaza at 500 El Camino Real project
- Update on Climate Action Plan

F. Adjournment

ACTION: Motion and second (Marshall/Bedwell) to adjourn the Environmental Quality Commission until the June 14, 2017, regular meeting passes (5-0-2) (Ayes: Bedwell, DeCardy, Dickerson, London, Marshall; Absent: Martin, Smolke)

Vice Chair London adjourned the meeting at 9:10 p.m.

Minutes prepared by Vanessa Marcadejas.

MENLO SPARK

Peninsula Advanced Energy Communities

Clean Energy Measures for Cities

Menlo Park, EQC
April 19, 2017

Diane Bailey, Menlo Spark

Peninsula Advanced Energy Communities (PAEC) Project

- CA Energy Commission funded collaboration to create a replicable model leveraging energy efficiency, local renewables, EV charging stations, and energy storage to provide more affordable, cleaner, and resilient power.
- Focused on Mid-Peninsula Cities

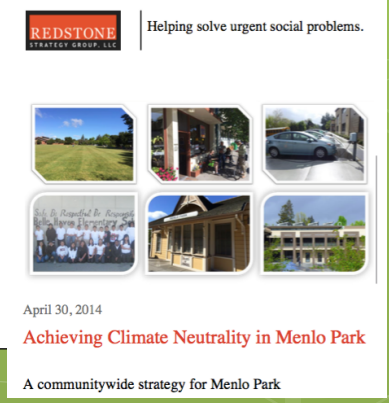
PAEC Project Components

- **Streamlining permits, codes, and ordinances** to ease implementation of clean energy measures
- **Financial and business models** to help make Advanced Energy Communities affordable and attractive investments.
- **Streamlining grid connections** working with PG&E and PCE to reduce the time, cost, and uncertainty associated with connecting local energy resources to the grid.
- **EV Charging Infrastructure Master Plan**
- **Atherton Civic Center**: A Sustainable Model.
- **Solar Siting Survey** to identify commercial-scale sites capable of solar installations > 100 kW.
- **Solar Emergency Microgrids** to provide renewables-driven power backup to a critical facility.

Top Measures

City Clean Energy Measures

- **Clean Energy Categories:**
  - **Renewables (RE),**
  - **Energy Efficiency (EE),**
  - **Zero Net Energy (ZNE)**
  - **Electric Vehicle Charging Infrastructure (EVCI)**
- **General Survey** of Best Practices that have been successful in **U.S. Cities & Abroad**.



Overview Cont'd

Best Practices

- Measures include:
  - Policies
  - Ordinances
  - Initiatives
  - Reach codes, zoning, building & energy codes
  - permitting processes
  - Advanced energy technology programs
- **Summary of Local Policies**: in Atherton, East Palo Alto, Menlo Park, Redwood City, & San Mateo County (PAEC Corridor)
- **Gap Analysis:** Where are good areas for improvement on RE, EE, ZNE, and EVCI within the Region?

Renewable Energy

- **Solar Rooftops (mandatory ordinance examples)**
  - Many Cities now have requirements for *new or renovated* buildings
  - Blanket Solar PV on all rooftops, e.g. 0.5 – 1.5 kW in Lancaster
  - Larger buildings, > 10,000 square feet in Culver City
  - Rooftop PV *or* solar water heaters, SF & San Mateo
  - "Cool Roofs" (> 0.70), San Mateo
  - PV or Vegetative Cover, Paris

- **Solar Carports** covering surface parking, Palo Alto
  - Could be coupled with energy storage and/or EV Charging (e.g. Green Charge)

Renewable Energy (Continued)

- **Financing**: Rebates, PACE, on-bill financing etc.
- **Zoning or Building Codes** requiring 100% Renewable Energy (Menlo Park; covers electricity & gas)
- **New technology** – in-pipe hydro, Pressure Relieving Valve (PRV)/Turbine technology, Portland – Lucid project

- *Not considering **Permitting** guidelines because mandatory streamlining per CA state law.*

Energy Efficiency

New Buildings & Renovations:

- **Reach Codes** – Palo Alto & Santa Monica (e.g. 15% efficiency improvement over title 24)
- **Incentives**
  - **Permitting**
    - **Fees** waived for energy efficiency improvements, Culver City
    - **Expedited**, San Diego

Energy Efficiency

Existing Buildings:

- **Audit programs** – Green @ Home, Green House Calls, PG&E, etc.
  - *For example*, **Retrofit Accelerator** in NYC, combines benchmarking, audits, & data, offering free technical assistance to owners of buildings in low- & moderate-income neighborhoods → EE upgrades.
- **Point of Sale** energy audits & disclosure – Berkeley, Austin
- Existing Commercial Building Benchmarking Ordinance (**ECBO**) - San Francisco Property owners must report total energy use annually & do an energy audit ***or*** conduct retro-commissioning every 5 years → *Equity improvement resulting in lower energy bills for renters.*

A Novel Energy Efficiency Program in Lithuania

- **Mapping building energy use**: Vilnius, Lithuania is encouraging energy efficiency upgrades in its aging apartment buildings through an interactive, user-friendly online energy map enabling residents to see the benefits of undertaking renovations.

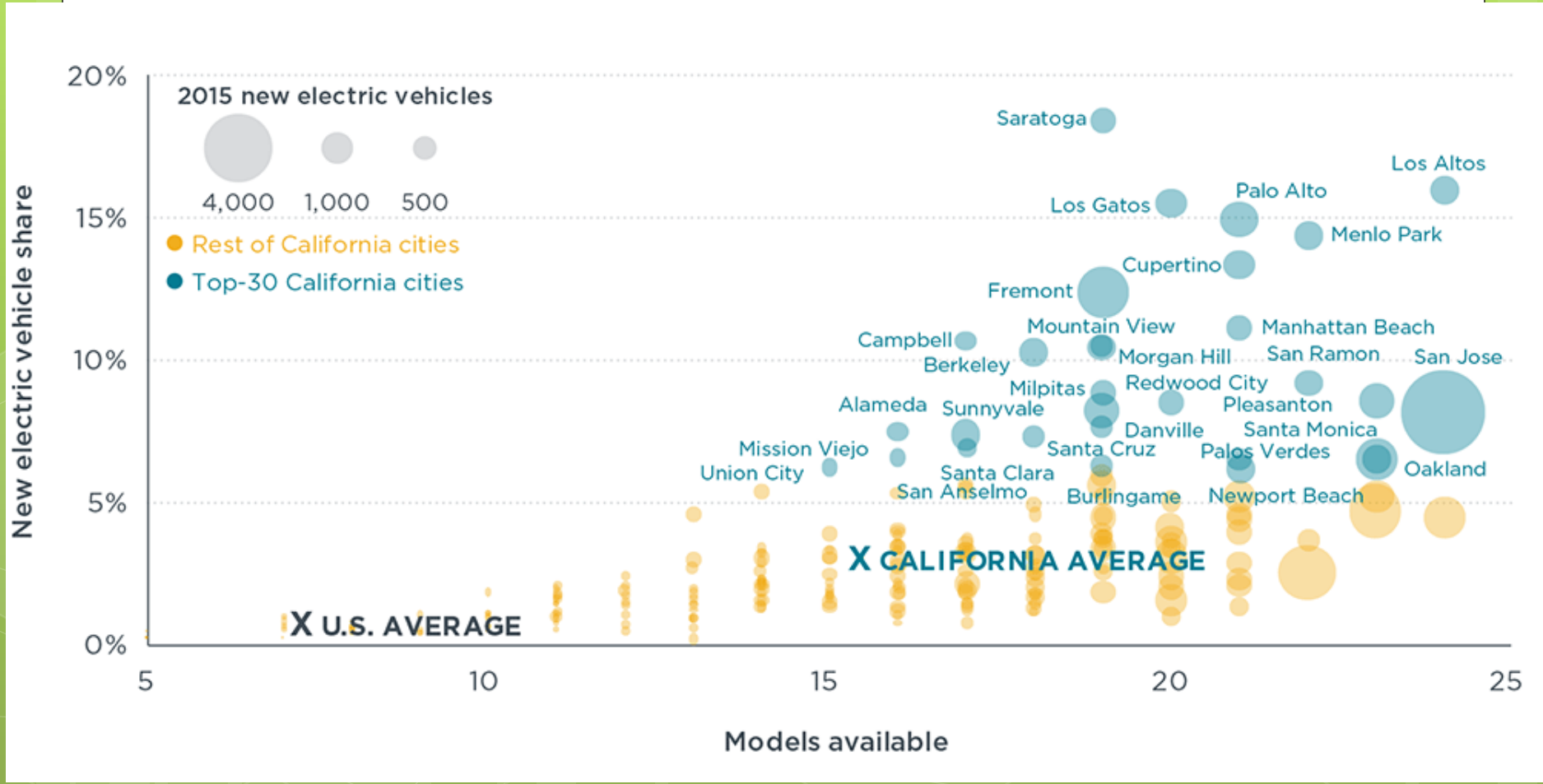
* It's possible that privacy concerns could prevent this here.

Zero Net Energy

- **Reach Codes** for CA ZNE, Santa
- **District Approaches**
  - 2030 Districts (Architecture 2030; Reduction by 2030)
  - Fort ZED, Fort Collins, CO;
  - Cambridge, MA
- **RFP & Lease Language**
  - zero-energy consumption and carbon-neutral buildings for Community Colleges in LA
- **Financial Incentives**: New Climate Impact Fee, fully refunded for ZNE, City of Watsonville
- **Existing Building Retrofits** - Energiesprong, ZNE overhauls with modular lego-like components, the Netherlands

Highest EV Uptake:

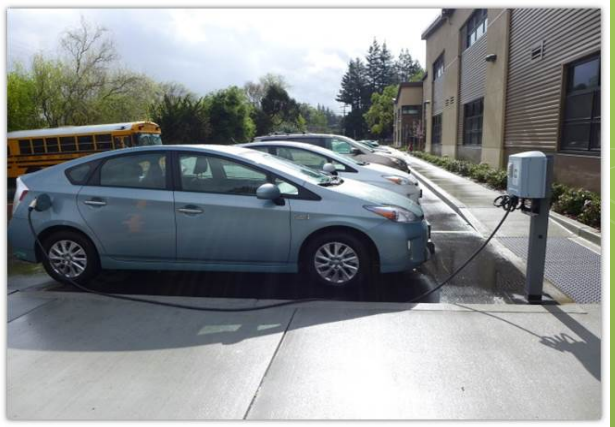
Local Promotion Activities boost the EV market.



Source: ICCT, Sept. 2016

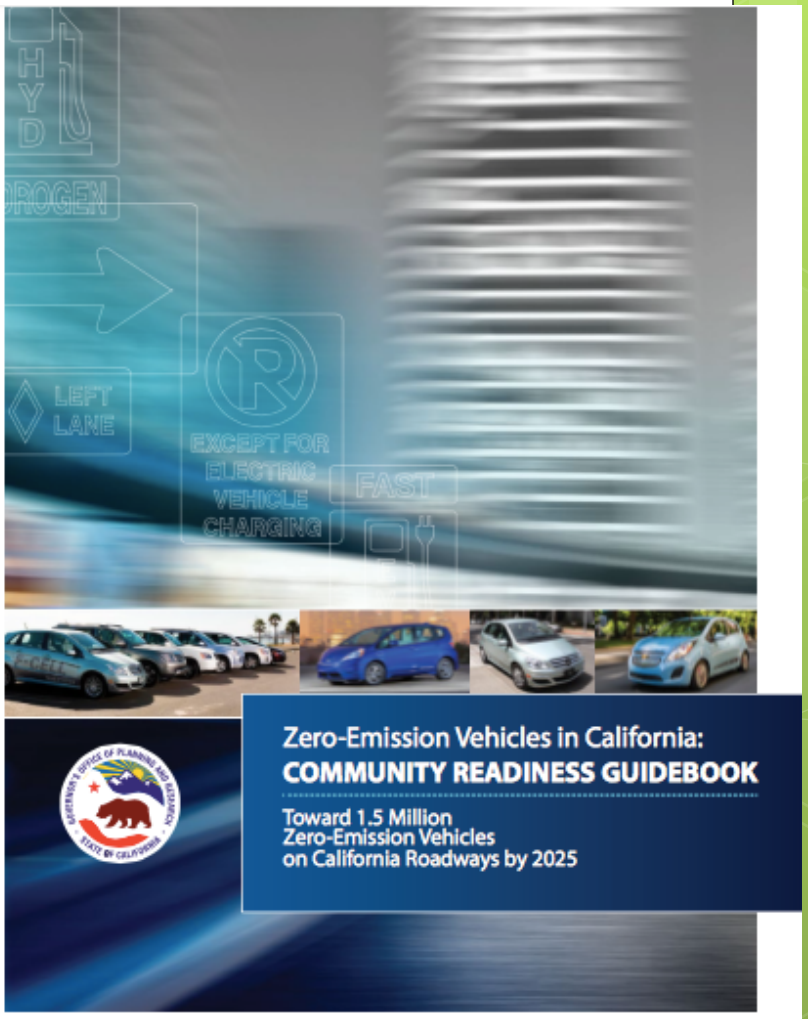
Electric Vehicle Charging Infrastructure

- **City Ordinance & Zoning**: Minimum parking spaces required with pre-wiring or EV Chargers for **new** homes, multi-family, commercial or parking → Many Cities have requirements surpassing CA
- **City Charging Stations**
  - No Cost Infrastructure - Ads, PPAs or other financing
  - Coupling with street lights – *easy electrical access but potential conflicts with bike lanes*
- **Incentives**
  - Preferred Parking
  - Free Charging or free parking
- **Streamlined Permitting**



Electric Vehicle Charging Permitting

- **Streamlined Permitting**
  - Clear and regionally consistent website information
  - Permitting guide (*Oceanside*)
  - Specific and fillable permit application (*Over the counter permits, Chula Vista*)
  - Permit fee incentives (*City of Encenitas waives fees*)
  - Plan review and inspection corrections lists
  - Online permitting and inspection services (*City of San Diego*)



Additional Clean Energy Measures

- Solar Emergency Microgrids
- Energy Storage (other)
  - RWC Green Charge Project
- Building Electrification / Natural Gas Replacement
- Innovations through CCEs
  - Aggregated solar
  - EV Deployment
- New Technology
- Fees: Adder for Natural Gas offsets, Palo Alto → *Fee could also reduce use*

Criteria for Best Practices Selection

- Maximize GHG reductions
- Minimize Fossil Fuel Use
- Innovate on technology or deployment
- Community Co-Benefits
  - Economic/Local Jobs
  - Air Quality
  - Community Resiliency/ Adaptation
  - Social & Environmental Justice / Assistance for Low-income families

Other Issues

- Overlap of measures
  - ZNE covers RE & EE
- Stacking/Phasing
  - Some measures soon to be required (e.g. ZNE)
  - As PCE nears a 5 year goal to provide zero carbon power, should emphasis shift more to natural gas?
- Anticipating Future Needs
  - How Much Public EV Charging is needed in 10-20 years?
- Aiming for Net Positive?

RICAPS Survey

- **SurveyMonkey Results**
  - **Top scoring criteria:** Maximize GHG reductions and community resiliency
  - **Top scoring measures:**
    - RE3 – requiring 100% renewable energy
    - EE3 – Existing building benchmarking requirement
    - ZNE1 – Reach codes for new construction
    - EVCI1 – Requiring EV chargers
    - RE4 – Solar or zero carbon water heaters
  - **Top scoring measures for GHG reductions:**
    - RE1 – Mandatory solar rooftops
    - RE3 – requiring 100% renewable energy

Model Policies Analysis

- **Analysis by DNV-GL for PAEC**

Electric vehicles and solar carports

- EVCI1a: Require EV charger cost-share for existing multi-family building owners
- EVCI1b: Require DC fast charger on new retail buildings
- RE2: Require solar carports on new surface-level parking

Model Policies Analysis 2

Electrification

- RE4a: Require or incentivize electric heat pumps (or FF Alternatives) in new multi-family buildings
- RE4b: Require or incentivize electric heat pumps (or FF Alternatives) in new commercial buildings

Model Policies Analysis 3

Energy efficiency

- EE2A: Require energy audit and use disclosure at time-of-sale for commercial buildings
- EE2B: Require energy audit and use disclosure at time-of-sale for homes
- EE3: Adopt outcome-based reach code requiring energy benchmarking after building is constructed

Closing

What is Next?

CITY OF MENLO PARK

STAFF REPORT

Environmental Quality Commission
Meeting Date: **5/17/2017**
Staff Report Number: **17-007-EQC**
Manager's Report: Sustainability Manager's update and announcements

Recommendation

Staff recommends the Environmental Quality Commission receive the Sustainability Manager's update and announcements.

Policy Issues

This written report is meant to supplement the verbal report provided at the Environmental Quality Commission's regular meeting. It is informational only.

Updates and Announcements

Heritage Tree Ordinance Update project
Staff is finalizing the contract and has an initial meeting with the project consultant scheduled for May 18.

Appeal of 318 Pope St. heritage tree permit denial
This item is scheduled for the June 6, 2017, City Council meeting.

Sustainability Manager recruitment
An updated staff report on the requested salary schedule modification is tentatively scheduled for consideration by the City Council at its May 23, 2017, meeting.

Upcoming dates of note
May 19 – Environmental Quality Commission tree planting (Arbor Day observed)
May 20 – Native and drought tolerant plants workshop
May 23 – City Council meeting including the following items:

1. Study session on solid waste (garbage) franchise agreement with Recology and rate structure changes
2. Informational item on PG&E tree removal mitigation plan required by the Community Pipeline Safety Initiative

May 31 – City Manager's budget workshop (open to the community)
June 3 – Monthly compost giveaway
June 6 – City Council public hearing for FY 2017-18 budget
June 20 – City Council consideration of the term sheet for the Middle Plaza at 500 El Camino Real project

Report prepared by:
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