



# PUBLIC EDUCATION AND OUTREACH





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## STAFF REPORT

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To: SBWMA Board Members  
From: Julia Au, Recycling Outreach Programs Manager  
Date: May 23, 2019 Board of Directors Meeting  
Subject: Review of SBWMA 2018 Annual Report

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### Recommendation:

This staff report is for discussion purposes only and no formal action is requested of the Board of Directors.

### Summary

The purpose of this report is to provide the Board a first look at the SBWMA 2018 Annual Report. Each year, the SBWMA produces an annual report of the Agency's key financials and program accomplishments by the April Board meeting. This report is considered an essential communications document that helps the general public understand the work that our agency and contracting partners do on the rate payers' behalf, and why we do it. It should also be noted that the San Mateo County Civil Grand Jury has historically provided a directive for the SBWMA to issue an annual report on the agency's activities and initiatives as part of a fully transparent governance model regarding the agency's structure, its leadership, its priorities, mandates and accomplishments.

### Analysis

The 2018 Annual Report was put together by Staff and a graphic designer to create a new look and feel for future annual reports. The 2018 Annual Report highlights the SBWMA activities and major accomplishments which you will find detailed in **Attachment A**. The Report will also be available the Agency's website after Board review.

### Background

On July 31, 2018, the San Mateo County Grand Jury issued a report entitled *South Bayside Waste Management Authority Board: Stakeholder Satisfaction with a Board of Elected Officials*. The Report included a series of findings and recommendations addressed to SBWMA that included failure to provide annual Agency reports on its website. Staff subsequently put together a 2017 Annual Report in November 2018 and has established internal procedures to produce an annual report for public distribution every year.

### Fiscal Impact

The Agency has allocated in FY 18/19 \$5,000 for Annual Reports.

### Attachments:

Attachment A – [2018 RethinkWaste Annual Report \(Available online only at www.rethinkwaste.org\)](http://www.rethinkwaste.org)





## STAFF REPORT

**To:** SBWMA Board Members  
**From:** Emi Hashizume, Environmental Education Manager  
 Madison Guzman, Environmental Education Coordinator  
 Adele Halili, Environmental Education Fellow  
 Dennis Uyat, Environmental Education Fellow  
**Date:** May 23, 2019 Board of Directors Meeting  
**Subject:** Presentation on Long Range Plan Pilot Program – Schools Pilot

**Recommendation:**

This staff report is for discussion purposes only and no formal action is requested of the Board of Directors.

**Summary**

The purpose of this report is to provide the Board and the public with a summary of the Schools Pilot to date. In Fall 2018, the RethinkWaste Environmental Education team kicked-off the pilot program to expand and complement the SBWMA education provided during the Tour Program by increasing waste reduction, recycling, and composting at **9 school sites** within the agency’s service area. With input and guidance from Board Vice Chair Alicia Aguirre and support from the Board, the Schools Pilot focused on the Redwood City School District and private schools within Redwood City. This pilot has been conducted in close collaboration with the school sites’ current collection service providers, Recology San Mateo County and Peninsula Services.

Staff coordinated with a variety of faculty members (principals, custodians, yard duty monitors, teachers, and others) to identify the needs of each school and build

*Table 1: Key Performance Stats from Schools Pilot*



individualized action plans. In addition to numerous site visits and technical assistance, participating schools received waste infrastructure (bins, dollies, etc.) paired with training and education at **no-cost**.

Staff also collaborated with SBWMA counterparts at the County of San Mateo’s Office of Sustainability to avoid program redundancy or gaps. Should this program be approved for full rollout, both organizations are discussing exciting ways to continue this future collaboration.

Throughout the pilot, Staff collected data to better serve the schools and make recommendations for moving forward. The data and related proposals for future program actions are summarized in **Table 1** (above) and below:

- Prioritize schools according to their **individual or district’s readiness and expressed interest**
- Focus on **public elementary schools** where students are most engaged
- Implement the program at **12 new public schools per year**
- Hire **one additional full-time staff** member to increase staff capacity

The results of this pilot will be used for planning a proposed agency-wide program expansion, with the first phase being factored into the draft FY 19/20 budget and in the new 2020-2025 SBWMA Long Range Plan.



*RethinkWaste Staff helps students sort at bins*

**Analysis**

Between late September 2018 and mid-April 2019, the Schools Pilot was launched at 9 Redwood City schools in the following order:

School	Public/Private	Grades
Our Lady of Mount Carmel	Private	K-8
Redeemer Lutheran School	Private	K-8
Hoover Community School	Public	K-8
Fair Oaks Elementary	Public	K-5
Connect Community Charter	Charter	K-8
McKinley Institute of Technology	Public	6-8
North Star Academy	Public	3-8
KIPP Excelencia Community Prep	Charter	5-8
Redwood Shores Elementary	Public	K-5

The pilot program was first initiated at private schools due to their shorter approval cycles (relative to public schools) and their strong eagerness to participate.

Staff provided a range of no-cost services and materials to schools participating in the pilot, including:

**1. Training and Education**

- Custodial and faculty member trainings
- Student education about the 4R’s with an emphasis on the importance of waste reduction
- **Over 70 kick-off assemblies and sorting lessons** in individual classrooms (**Attachment A, Chart 1**)
- **Coaching of over 3,000 students and faculty** on proper sorting technique (**Attachment A, Chart 2**)
- **60 hours of bin monitoring** during lunch periods (**Attachment A, Table 2**)
- Recruitment and training of green teams and student groups

**2. No-Cost Materials**

- Delivery and installation of bins, dollies, liquid buckets, signage, and accessories at no-cost to the schools
- Additional educational resources (**Attachments B, C, and D**)
- **Doubled waste infrastructure** from 27 to 54 bins over the 9 schools (**Attachment A, Table 3**)
- Average value of **\$1,400 in materials** given to each school (**Attachment A, Table 4**)

**3. On-Site Technical Assistance**

- Evaluation of existing campus waste infrastructure and guidance on implementation of new bin system
- **More than 40 site visits and waste audits**
- Support evaluating the collection services needs of each school (in partnership with Recology), resulting in **service level adjustments at 3 school sites**
- Tracking and analysis of baseline and post-program roll-out data
- Collection of feedback from stakeholders and recording of best practices



Images on the far left show the existing bin system and waste stream before the program launch at Hoover Community School.



Adjacent image displays one of the new color-coded 3-bin systems installed in the cafeteria and resulting waste diversion!

The pilot-provided education, technical assistance, and waste-related materials cost SBWMA an average of **\$2,750 per school** (including storage and transportation of materials). These combined services drastically reduce the amount of trash sent to the landfill. As seen in **Table 2, schools improved their waste diversion by an average of 70%** by participating in the pilot program!

**Table 2: Cafeteria Waste Bag Count at Participating Public Schools (baseline and post roll-out)**

Cafeteria Waste Bag Count Per Day (Breakfast and/or Lunch)							
Baseline (Before)				Post-Roll-Out (After)			
Participating Schools	Recycling	Compost	Trash	Recycling	Compost	Trash	New Diversion
Hoover Community	-	-	40	5	9	5	<b>74%</b>
Fair Oaks/Connect	-	-	20	2	4	2	<b>75%</b>
McKinley/North Star	-	-	45	4	5	5	<b>64%</b>
KIPP	-	-	3	1	1	1	<b>67%</b>
Redwood Shores	-	-	5	2	2	2	<b>67%</b>
Average:	-	-	23	3	5	3	
<b>Total</b>	<b>113</b>			<b>50</b>			
<b>Material diverted from landfill:</b>	<b>0%</b>			<b>70%</b>			

*\*Note: Cafeteria waste includes breakfast and lunch or just lunch, depending on school.*

In addition to increased waste diversion, schools received other program-related benefits, such as:

- Increased campus pride and boost in school community spirit!
- Greater environmental and scientific engagement amongst teachers, administration, students and families
- The introduction of **liquid buckets prevented liquid from going into bins**, reducing the weight of bags and eliminating the need for custodians to double line bins
- **Litter reduction** around campus through student use of pickers and increased green team activity
- Clearer communication about what school-provided lunch items students are required to take resulted in **less food waste**

### **Testimonials**

The RethinkWaste team established strong relationships with a variety of stakeholders, including principals and school administrators, custodians, teachers, and students. The accomplishments of the Schools Pilot could not have been achieved without their support and coordination! A few shared their thoughts on the program:

*“We saw an immediate change in student habits after the Rethink Waste presentations. Students are more conscientious of what to compost and recycle in order to create less waste.”*

- **Claudia Reyes, Director of Operations, Connect Community Charter School**

*“The RethinkWaste program has created a better work flow for bin monitoring and management. At first it was tough because it was new, but once I nailed down a flow and pattern it became easy-peezy-lemon-squeezy. The staff has been awesome to work/communicate with the past few months with this pilot program as we have gone back and forth with new ideas and such. Though the liquid buckets and recycle bins have created more work with spills, management, and clean up, the work load is not too much to bear. All in all, it is a great program and I definitely would recommend it for all schools.”*

- **Chappell Bell Jr., Custodial Lead, Hoover Community School**

*“RethinkWaste has been transformational at our school. With all the priorities of school, it could have been years before we really focused on a compost or recycling program. However, RethinkWaste came in ready to work... the efficiency, responsiveness, and flexibility of the team was so supportive of a fast-paced school environment. I can't tell you how excited the whole school has been for this initiative, and so many people have remarked as to how great the whole experience has been with the roll-out of the new system.”*

- **Katie Cromack, School Operations Leader, KIPP Excelencia Community Prep**



*RethinkWaste Staff and Custodial Lead at Hoover Community School*

### **Lessons Learned**

As with any pilot program or school-related work, there were many speed bumps on the path to success. However, these challenges informed recommendations for future program development. **Busy schedules, high rates of staff turn-over, and the low priority of waste-related projects** made it difficult to establish and maintain working relationships with decision-makers at many schools.

**Lack of student buy-in and weak administrative support** were large obstacles, particularly at schools with middle school students. It was no surprise that students in upper grades are less receptive to the program than their elementary level counterparts and very hard to convince to adopt proper sorting habits.

Issues related to campus location and layout, existing waste infrastructure, and school-provided lunches proved hard to overcome. Schools that share campuses with other community facilities (such as churches and family centers) or are located next to parks and public spaces have **higher rates of contamination** from the general public using the bins. The **excessive packaging of school-provided food items** hinders student efforts to remove plastic wrapping and sort properly.

The capacity of the RethinkWaste Environmental Education team caused internal challenges as well. **Program roll-out weeks are very demanding and time consuming** since presentations and bin monitoring necessitates all 4 team members be on campus the entire day. This created extreme scheduling conflicts and serious challenges in trying to align the Shoreway Tour Program schedule with the Schools Pilot schedule.

### **Coordination with Partner Organizations**

Fortunately for SBWMA, there are several agencies with similar goals that are excited to collaborate on efforts related to environmental education in the service area and greater San Mateo County. The Environmental Education team and the County of San Mateo's Office of Sustainability initiated the **establishment of a local waste-focused educational collaborative** that now includes both organizations and Recology. This group meets regularly to discuss opportunities to for partnering on projects and "cross pollination", maximize shared resources, and eliminate areas of overlap.

Continuing a strong working partnership with the school site haulers, Recology, is essential to this program's success. Fortunately, SBWMA has excellent relationships with the Recology Peninsula Services team for public schools (non-Franchise Agreement contract) led by GM Kirsten Pinochi and Waste Zero Specialist Reyna Ocegüera, as well as Recology San Mateo County for private schools (within Franchise Agreement) led by GM Mike Kelly, Administrative Manager Tamera Del Bene, Zero Waste Manager Mia Rossi, and the Zero Waste Team.

Beginning in early 2019, the team also started working more closely with the San Mateo County Office of Education on its new Zero Waste initiatives, as well as the County's Environmental Health Services and the school district's Child Nutrition Services to support the School Food Share Table Program.

### **Recommendations**

The SBWMA Board of Directors is asked to consider expanding the Schools Pilot throughout the service area. There are **148 public and private elementary, K-8, middle, and high schools** within the 12 Member Agencies, representing **53,000 students and 3,000 staff members**.

**Recommendation I: Prioritize schools based on their individual or district's readiness and expressed interest**, while ensuring as much equity as possible across the service area within each Member Agency. Services will be offered on a first come-first served basis with considerations for school districts that are typically underserved.

**Recommendation II: Focus on public elementary schools first.** Students in lower grades are more receptive to the program and much more likely to actively participate in proper bin sorting techniques than older students. Most public schools currently have contracts with Recology Peninsula Services for baseline services. In contrast, private schools in the RethinkWaste service area are covered under the Franchise Agreement with Recology San Mateo County and receive a higher level of service.

**Recommendation III:** Implement program at 12 new schools per year to reach all 50 public elementary schools by FY 23/24 (5 years). Given staff capacity and the academic year schedule, it is achievable to launch at a new school every two to three weeks. **Attachment E** contains the full list of schools.

**Recommendation IV:** Hire one additional full-time employee to increase staff capacity. In addition to the Schools Pilot, the Environmental Education team is responsible for the Shoreway Tours Program. To continue to maintain both the quantity and quality of tours comparable to previous years, the team needs more coverage to accommodate the added tasks and commitments related to the Schools Pilot.

### **Background**

The 2015 Long Range Plan identified an opportunity spread awareness of SBWMA services and increase school participation in waste diversion programs by more directly supporting schools with waste prevention initiatives. The impact of school programs can extend far beyond campus – students and faculty that receive the education and resources to sort correctly at school are able to reinforce efforts to recycle and compost at home.



*Students help each other sort at Redwood Shores Elementary School*

As directed by the Board, the team worked with schools located in Redwood City. Starting in August 2018, RethinkWaste staff conducted initial site visits and began rolling-out the program at schools in Fall 2018.

The goals of the pilot program were to:

- Expand and complement the environmental education provided during the Shoreway Tour Program
- Increase waste reduction, recycling, and composting at 6 school sites in Redwood City
- Develop a template for the roll-out of waste infrastructure and education to be used throughout the RethinkWaste service area

This pilot program supports school compliance with the state requirements of Assembly Bill (AB) 341 and its **75% statewide recycling goal** by 2020, as well as AB 1826, which **mandates commercial composting** of organics.

### **Fiscal Impact**

All pilot launch expenses incurred are included in approved FY 18/19 budget and are within the approved line item amounts.

### **Attachments:**

Attachment A – Schools Pilot Program Report  
Attachment B – “What We Offer” Materials Sheet  
Attachment C – Sample Action Plan  
Attachment D – Sample Letter Home  
Attachment E – Master List of Schools



# DRAFT SCHOOLS PILOT REPORT

Summer 2018 – Spring 2019

Emi Hashizume, Environmental Education Manager

Madison Guzman, Environmental Education Coordinator

Adele Halili, Environmental Education Fellow

Dennis Uyat, Environmental Education Fellow

**Overview**

The 2015 Long Range Plan identified an opportunity to spread awareness of SBWMA services and increase school participation in waste diversion programs by more directly supporting schools with waste prevention initiatives. The impact of school programs can extend far beyond campus – students and faculty that receive the education and resources to sort correctly at school are able to reinforce efforts to recycle and compost at home. By encouraging students to share waste-related information with their families, households throughout the service area will receive consistent messaging about appropriate sorting habits and the importance of reducing contamination.

With input and guidance from Board Vice Chair Alicia Aguirre and support from the Board, the pilot initially focused on schools located in Redwood City that already receive compost services from their waste hauler. Working with a variety of faculty (district facility managers, principals, custodians, yard duty monitors, teachers, and other school administrators) helped Staff identify the needs of each school and build individualized action plans. In addition to numerous site visits and technical assistance, participating schools received waste infrastructure (bins, dollies, etc.) paired with training and education at no-cost.

**Timeline**

Starting in August 2018, RethinkWaste staff conducted initial site visits at public and private schools in Redwood City. In Fall 2018, the RethinkWaste Environmental Education team kicked-off the pilot program at 2 private schools. The pilot phase was closed in April 2019 upon completion of the 7<sup>th</sup> public school roll-out.

**Goals**

- Expand and complement the environmental education provided during the Shoreway Tour Program
- Increase waste reduction, recycling, and composting at 6 school sites in Redwood City
- Develop a template for the roll-out of waste infrastructure and education to be used throughout the RethinkWaste service area
- Support school compliance with the state requirements of Assembly Bill (AB) 341 and its 75% statewide recycling goal by 2020, as well as AB 1826, which mandates commercial composting of organics

**Fiscal Impact**

All pilot launch expenses incurred are included in approved FY 18/19 budget and are within the approved line item amounts. The results of this pilot will be used for planning a proposed agency-wide program expansion, with the first phase being factored into the draft FY 19/20 budget and in the new 2020-2025 SBWMA Long Range Plan.

**Summary of Results**

Throughout the pilot, Staff collected data to better serve the schools and make

*Table 1: Key Performance Stats from Schools Pilot*



recommendations for moving forward. Highlights from the data and related proposals for future program actions are summarized in **Table 1** and below:

- Prioritize schools according to their individual or district's readiness and expressed interest
- Focus on public elementary schools where students are most engaged
- Implement the program at 12 new schools per year to reach 50 public elementary schools in service area within 5 years
- Hire one additional full-time staff member to increase staff capacity
- Emphasize goal of 75% reduction in materials sent to the landfill and compliance with state mandates
- Continue coordination with agency partners to standardize messaging, maximize resources, and reach the most schools in the shortest amount of time



*RethinkWaste staff helps students sort at bins*

### **Analysis**

Between late September 2018 and mid-April 2019, the Schools Pilot was launched at 9 Redwood City schools in the following order:

- Our Lady of Mount Carmel School – private (K-8)
- Redeemer Lutheran School – private (K-8)
- Hoover Community School – public (K-8)
- Fair Oaks Elementary School – public (K-5)
- Connect Community Charter School – charter (K-8)
- McKinley Institute of Technology – public (6-8)
- North Star Academy – public (3-8)
- KIPP Excelencia Community Prep – charter (5-8)
- Redwood Shores Elementary – public (K-8)

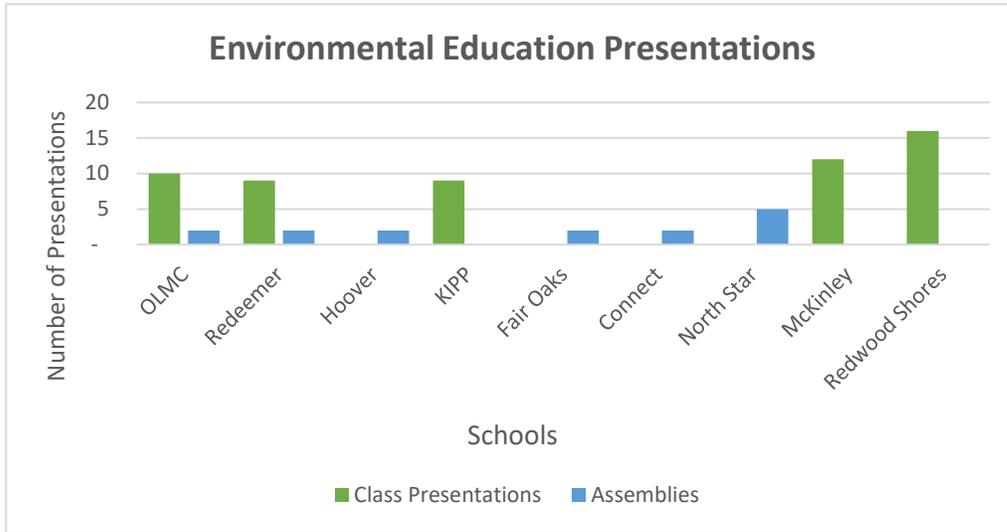
The pilot program was first initiated at private schools due to their shorter approval cycles (relative to public schools) and their eagerness to participate.

Staff provided a range of no-cost services and materials to schools participating in the pilot, including:

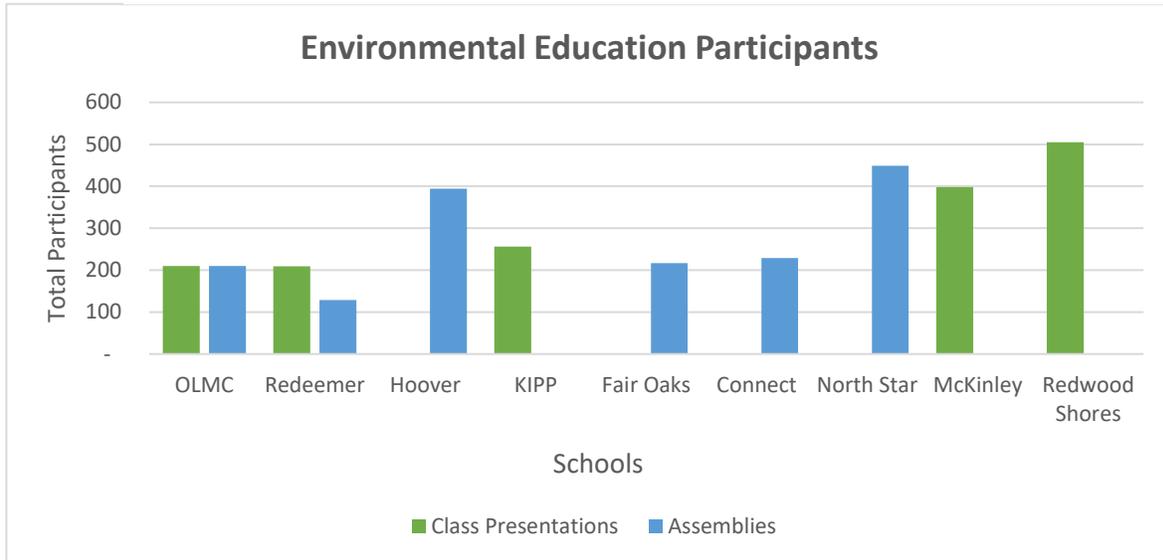
### ***Training and Education***

- Custodial and faculty member trainings and presentations
- Student education about the 4R's with an emphasis on the importance of waste reduction
- Over 70 kick-off assemblies and sorting lessons in individual classrooms (**Chart 1**)
- Coaching of over 3,000 students and faculty on proper sorting technique (**Chart 2**)
- 60 hours of bin monitoring and assisting students with bin sorting during lunch periods for 1-2 weeks following implementation of the new bin system (**Table 2**)
- Recruitment and training of green teams and student groups
- Creation of school-specific materials, such as letters and educational materials for families of students to reinforce waste reduction and sorting at home

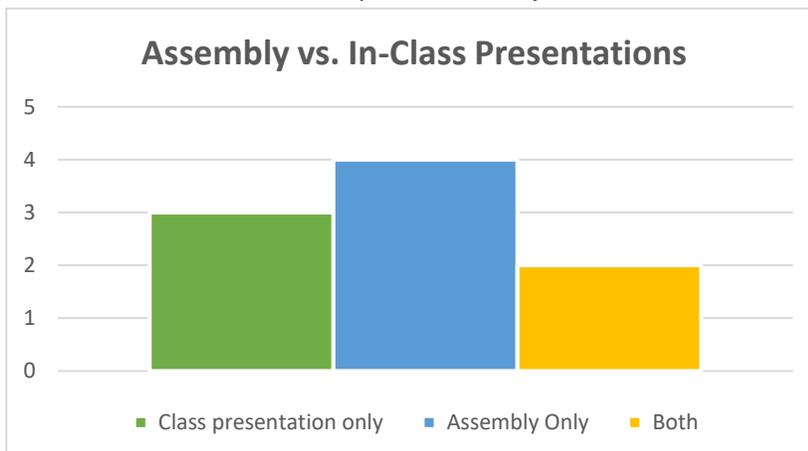
**Chart 1: Number of Educational Presentations (presentations include in-classroom lessons and assemblies)**



**Chart 2: Number of Pilot Participants Educated (participants includes students and staff)**



**Chart 3: Education Options Chosen by Schools**



**Table 2: Time at Schools (includes presentations, assemblies, and lunch bin monitoring)**

Time Spent in Schools	Presentations			Lunch Monitoring		
	School Name	Presentation Type	Average Presentation Length (minutes)	Total Hours for Presentations	Lunch Period Length (hours)	Total Lunch Monitoring (hours)
	Our Lady of Mt. Carmel	Class Presentation & Assembly	37	6	1	6
	Redeemer	Assembly	60	13	2	10
	Hoover	Assembly	20	1	2	12
	Fair Oaks	Assembly	20	1	2	10
	Connect	Assembly	20	1		
	McKinley Institute of Technology	Class Presentation	53	11	2	6
	North Star Academy	Class Presentation	55	5		
	KIPP Excelencia	Class Presentation	55	3		
	Redwood Shores Elementary	Class Presentation	20	5	1	3
	<b>TOTAL</b>			<b>47</b>		<b>56</b>
	<b>AVERAGE</b>		<b>38</b>	<b>4</b>	<b>1</b>	<b>6</b>
	<b>Average Assembly Length (minutes)</b>		<b>34</b>			
	<b>Average Presentation Length (minutes)</b>		<b>47</b>			

**No- Cost Materials**

- Delivery and installation of bins, dollies, liquid buckets, signage, and accessories at no-cost to the schools (**Table 4**)
- Additional educational resources (**see Attachments**)
- Doubled waste infrastructure from 27 to 54 bins over the 9 schools (**Table 3**)
- Gifted an average of \$1,400 worth of materials to each school (**Table 4**)



*RethinkWaste Staff sets up new bins*

**Table 3: Bin Tally (baseline and post-roll-out)**

Cafeteria Bin Count and Type									
Existing Bins							Post-Roll-Out		
Bins	Recycling		Compost		Trash		Recycling	Compost	Trash*
School	Carts	Brutes	Carts	Brutes	Carts	Brutes	Brutes	Brutes	Brutes
Mt. Carmel	2	-	2	-	2	-	2	2	2
Redeemer	1	-	1	-	1	-	3	3	3
Hoover Community	-	-	-	-	-	8	3	3	3
Fair Oaks/Connect	-	-	-	-	-	3	1	1	1
McKinley/North Star	-	-	-	-	-	-	6	6	6
KIPP	-	-	-	-	-	2	1	1	1
Redwood Shores	-	-	-	-	-	5	2	2	2
<b>Average</b>	<b>0.2</b>		<b>0.2</b>		<b>1.5</b>		<b>2.6</b>	<b>3</b>	<b>2.6</b>
<b>Total</b>	<b>27</b>						<b>54</b>		

\*Note: Trash Brutes not provided by RethinkWaste for pilot (schools utilized existing infrastructure). Additional Brutes and Slim Jims given to schools for office, kitchen, and staff room areas.

**Table 4: Materials Distributed and Associated Costs Per School**

Product	Cost/ item	Our Lady of Mt. Carmel	Redeemer Lutheran	Hoover	KIPP	Fair Oaks	Connect Charter	McKinley/ North Star	Redwood Shores	Average/ school (rounded)
<b>Waste - Related Materials</b>										
<i>Slim Jims</i>										
Organics	\$18	3	6	1	5	3	1	2	1	<b>2.8</b>
Recycling	\$18	3	7	1	4	2	1	1	-	<b>2.4</b>
Garbage	\$20	3	6	2	4	2	1	-	1	<b>2.4</b>
<i>Brute</i>										
Organics	\$42	2	3	9	1	1	-	6	2	<b>3</b>
Recycling	\$42	2	3	6	1	1	-	6	2	<b>2.6</b>
Recycling 44 gallon	\$60	-	-	2	-	-	-	-	-	<b>0.3</b>
Recycling 14 gallon	\$25	10	2	-	-	-	-	3	-	<b>1.9</b>
Organic lid	\$6	-	2	-	-	-	-	-	-	<b>0.3</b>
Recycling lid	\$14	-	3	-	-	-	-	-	-	<b>0.4</b>
<i>Labels</i>										
Stickers	\$3	11	24	28	-	-	3	-	14	<b>10</b>

<i>Dollies</i>										
Brute single	\$56	2	2	11	1	1	-	3	2	<b>2.8</b>
Brute double	\$196	2	3	4	1	1	-	3	2	<b>2</b>
<i>Liquid Buckets</i>										
Bucket 10 qt.	\$11	3	2	3	1	2	-	1	2	<b>1.8</b>
Strainer 5 qt.	\$5	3	2	3	1	2	-	1	2	<b>1.8</b>
Bucket dolly	\$43	-	-	3	1	-	-	-	2	<b>0.8</b>
<b>Extras</b>										
Picker kid size	\$17	3	3	3	3	3	-	3	4	<b>2.8</b>
Picker adult size	\$17	1	1	1	1	1	-	1	2	<b>1</b>
Apron	\$8	6	4	4	4	4	-	4	5	<b>3.9</b>
Worm Bin	\$0	-	1	-	-	-	-	-	-	<b>0.1</b>
Worm Book	\$8	1	2	1	-	1	1	-	-	<b>0.8</b>
Gardening Book 1	\$7	1	1	1	-	1	1	-	-	<b>0.6</b>
Gardening Book 2	\$13	1	1	1	-	1	1	-	-	<b>0.6</b>
<b>Giveaways</b>										
Bookmarks	\$1	200	200	373	-	207	215	444	489	<b>266</b>
<b>Cost/ School (rounded to nearest \$)</b>		<b>\$1,477</b>	<b>\$1,788</b>	<b>\$2,890</b>	<b>\$731</b>	<b>\$778</b>	<b>\$253</b>	<b>\$1,831</b>	<b>\$1,378</b>	
<b>Average Cost/ School</b>		<b>\$1,389</b>								

### **On-Site Technical Assistance**

- Evaluation of existing campus waste infrastructure and guidance on implementation of new bin system
- More than 40 site visits and waste audits, as well as multiple follow-up meetings with custodians, school administrators, and students
- Support evaluating the collection services needs of each school (in partnership with Recology), resulting in 3 adjustments in service levels at 3 school sites
- Tracking and analysis of baseline and post-program roll-out data
- Necessary adjustments and improvements after initial program roll-out phase

- Collection of feedback from stakeholders and recording of best practices



Images on the far left show the existing bin system and waste stream before the program launch at Hoover Community School.



The adjacent image displays one of the new color-coded 3-bin systems installed in the cafeteria.

The pilot-provided education, technical assistance, and waste-related materials cost SBWMA an average of \$2,749 per school (including storage and transportation of materials). These combined services drastically reduced the amount of trash sent to the landfill. As seen in **Table 5**, schools improved their waste diversion by an average of 70% by participating in the pilot program!

**Table 5: Cafeteria Waste Bag Count and Resulting Diversion (both baseline and post roll-out)**

Cafeteria Waste Bag Count Per Day (Breakfast and/or Lunch)							
Baseline (Before)				Post-Roll-Out (After)			
Participating Schools	Recycling	Compost	Trash	Recycling	Compost	Trash	Diversion
Hoover Community	-	-	40	5	9	5	74%
Fair Oaks/Connect	-	-	20	2	4	2	75%
McKinley/North Star	-	-	45	4	5	5	64%
KIPP	-	-	3	1	1	1	67%
Redwood Shores	-	-	5	2	2	2	67%
Average:	-	-	23	3	5	3	
<b>Total</b>	<b>113</b>			<b>50</b>			
<b>Material diverted from landfill:</b>	<b>0%</b>			<b>70%</b>			

\*Note: baseline numbers were estimated based on custodian feedback and Staff observations. Post roll-out data taken over multiple days and averaged. Data not collected for Mt. Carmel or Redeemer.

In addition to increased waste diversion, schools received other program-related benefits, such as:

- Increased campus pride and boost in spirit of school community!

- Greater environmental and scientific engagement amongst teachers, administration, students and families
- The introduction of liquid buckets prevented liquid from going into bins, reducing the weight of bags and eliminating the need for custodians to double line bins
- Litter reduction around campus through student use of pickers and increased green team activity
- Clearer communication about what school-provided lunch items students are required to take resulted in less food waste
- Clearer communication about most updated Recology bag liner policies (clear bags for compost and recycling) helped ensure school compliance and avoid service fines from waste hauler



RethinkWaste Staff gives assembly

### **Metrics and Data Tracking**

In order to measure the success of the pilot program, Staff kept close tabs on the schools. Data points in the previous section were collected over the course of the pilot and Staff is continuing to track the schools, further review findings, and organize the detailed notes and observations to build on the program moving forward. See **Attachments** for an example of the data collection sheet used for pre- and post pilot program evaluations.

The main metrics tracked during the pilot include:

- Bag count by waste stream
- Waste diversion rate
- Number of students and teachers engaged
- Number of presentations and assemblies
- Number of waste audits and site visits performed
- Adjustments in waste hauler service level
- Material inventory (number, type, and cost)
- Costs per school

### **Testimonials**

The RethinkWaste team established strong relationships with a variety of stakeholders, including principals and school administrators, custodians, teachers, and students. The accomplishments of the Schools Pilot could not have been achieved without their support and coordination! A few shared their thoughts on the program:

*“We saw an immediate change in student habits after the Rethink Waste presentations. Students are more conscientious of what to compost and recycle in order to create less waste.”*

- Claudia Reyes, Director of Operations, Connect Community Charter School

*“The community has benefited greatly as it gave our students a chance to learn how to use the proper bins to dispose of items correctly. Not only have they learned an important life lesson, but they also realize that their small part makes a huge difference in our world and they are excited about that. Having the materials delivered and ready for us makes it so easy to implement. I see kids being intentional about how they dispose of garbage and see that they actually care about our environment. Parents, teachers, and staff all rave about how this is a great lesson for our kids.”*

- Jude Noyes, Principal, Fair Oaks Elementary School

*“RethinkWaste has been transformational at our school. With all of the priorities of school, it could have been years before we really focused on a compost or recycling program. However, RethinkWaste came in ready to work and*

brought in all the necessary materials to make the launch a success. The efficiency, responsiveness, and flexibility of the team was so supportive of a fast-paced school environment... I can't tell you how excited the whole team has been for this initiative, and so many people have remarked as to how great the whole experience has been with the roll-out of the new system."

- Katie Cromack, School Operations Leader, KIPP

"The RethinkWaste program has created a better work flow for bin monitoring and management. At first it was tough because it was new, but once I nailed down a flow and pattern it became easy-peezy-lemon-squeezy. The staff has been awesome to work/communicate with the past few months with this pilot program as we have gone back and forth with new ideas and such. Though the liquid buckets and recycle bins have created more work with spills, management, and clean up, the work load is not too much to bear. All in all, it is a great program and I definitely would recommend it for all schools."

- Chappell Bell Jr., Custodial Lead, Hoover Community School

"I'm so happy you're here – this is such a good idea!"

- Student, Hoover Community School

### **Challenges**

As with any pilot program or school-related work, there were many speed bumps on the path to success. However, these challenges informed recommendations for future program development.



RethinkWaste staff and Custodial Lead at Hoover Community School

### **Stakeholder Engagement**

- Busy schedules, high rates of staff turn-over, and the low priority of waste-related projects made it difficult to establish and maintain working relationships with decision-makers at many schools
  - Having to coordinate with and wait for approval from multiple decision-makers (facility managers, principals, school administration, etc.) slowed the momentum of the program
  - Programmatic institutional knowledge was difficult to build at schools experiencing faculty changes and fluctuations in staff size
  - School closures in the Redwood City School District further impacted the program – schools scheduled for closure next academic year had particularly high rates of principal and staff turn-over
- Lack of student buy-in and weak administrative support
  - Students in upper grades are less receptive to the program than their elementary level counterparts and are very hard to convince to adopt proper sorting habits
  - Middle schoolers engaged in disrespectful student behavior that discouraged custodians and fellow classmates; in one instance, middle schoolers kicked the liquid bucket so it had to be removed.
  - Teachers who tuned out during presentations and did not support classroom management made maintaining good student behavior difficult for the RethinkWaste team
- Even once the right school champion was identified and committed to the program, getting time in the classrooms was not a given

- Although in-class presentations provide more opportunities for student participation and engagement, schools often only had time for multi-class or multi-grade assemblies

### **Campus Layout**

- Issues related to campus location and layout, existing waste infrastructure, and school-provided lunches
  - Schools that share campuses with other community facilities (such as churches and family centers) or are located next to parks and public spaces have higher rates of contamination from the general public using the bins
  - Some campuses have permanent trash receptacles placed around the school yard or eating areas that compete with the 3-bin system
  - Larger schools often have several different eating areas for students, making it difficult to monitor multiple sets of bins

### **School-Provided Meals**

- The excessive packaging of school-provided food items hinders student efforts to remove plastic wrapping and sort properly
  - Adequately unwrapping and separating the food, paper, and plastic into the different bins is so time consuming that students are less likely to do it
  - Students do not eat most of the items they are required to take (primarily milk, fruits, and veggies) because they do not like the quality of the food, the portions are too big, or they are not given adequate time to eat and are not allowed to bring food home.

### **Staff Capacity**

- Limited capacity of the RethinkWaste Environmental Education team
  - Program roll-out weeks are very demanding and time consuming since presentations and bin monitoring necessitates all 4 team members be on campus the entire day
- Scheduling conflicts and difficulty in trying to align the Shoreway Tour Program schedule with the Schools Pilot schedule – little to no time for other meetings and projects during roll-out weeks

### **Best Practices**

Despite the hurdles we encountered during the Schools Pilot, we gathered just as many helpful tips and tricks that can be utilized on the next go-around.

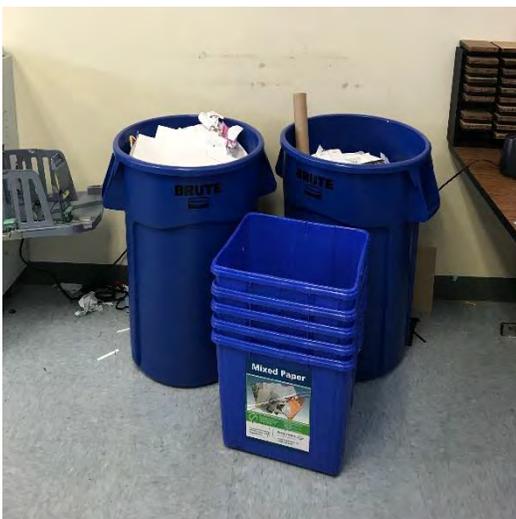
### **Stakeholder Engagement**

- Custodians
  - Give custodians opportunity to voice concerns, give feedback, ask questions and get clarification
  - Custodians expressed pride in their work and knowledge of their campus – acknowledge their efforts
    - Ask how to help them do their jobs even better while also making it easier
    - Ask for feedback often
  - Consistent friendliness
    - Custodians can take time to warm up to you!
  - Better to communicate in person
- School Staff
  - Support of yard duty and lunch monitors are essential
    - Train on sorting so they can reiterate and reinforce messaging everyday
  - Make nice with front desk and office staff
    - Take time to greet them and socialize – they will be more likely to advocate for you and nudge principal about your requests

- Teachers must stay during assemblies and pay attention during in-class presentations to help with classroom management
- Connect with staff as many ways as possible
  - Staff meeting training
  - Extra resources or materials for class lessons
  - Ask for support in enforcing program (e.g. discipline students not respecting bins or custodians)
- Principals and Facility Managers
  - Be persistent and concise
    - Short emails with clear “ask”
    - Constant follow-up (in-person, phone calls, emails, texts)
    - Ask about preferred communication methods
    - Just drop-in (even if you must wait or do not actually get to talk, it shows you are committed)
    - Better to send too many emails and include too many people
      - Make sure everyone is in the loop!
- Nutrition Services and Kitchen Staff
  - Clarify with Nutrition Services about what food items must be taken and then remind students
  - Offer vs. Serve policy – differs by district
  - Request items with less packaging
    - Utensil packets
    - Individually wrapped food items

### **Waste Infrastructure and Processes**

- Encourage students to pre-sort lunch items on trays
  - Empty everything out of the plastic wrapping before getting to the bins
  - Faster and more efficient
  - Teach students to stack trays on nearby table or dolly to save space in compost bin (custodian can move to compost later)
- 3-Bin System
  - Be consistent about order of the bins



*2 Brutes replace multiple smaller containers*



*New 3-bin system at Fair Oaks Community School*

### **Additional Resources**

- Leave classes with something to remind them about waste sorting
  - RethinkWaste give-away
  - Poster or other educational materials
- Send letter home
  - Notify parents of new program and RethinkWaste's presence on campus
  - Share waste reduction metrics!
  - Attach sorting guide for students to share with families
  - Translate all materials into Spanish

### **Next Steps**

Staff plans on following-through with schools already participating in the program. Planned actions include:

- End-of-year recognitions
  - Appreciation event and/or gift for custodial team
  - Celebration for Green Team students
- Solidify official procedures
  - Stream-line data collection methods
  - Organize data
  - Document roll-out process
- Review and refresh educational materials and resources
  - Develop follow-up lesson plans for teachers
  - Update presentation
  - Consider creating a RethinkWaste In-School Program mascot
- End-of-year check-ins with schools currently in program
  - Schedule "refresh" assemblies for next year
  - Review current status
- Continue coordination with partner programs (see below)

### **Coordination with Partner Organizations**

Fortunately for SBWMA, there are several agencies with similar goals that are excited to collaborate on efforts related to environmental education in the service area and greater San Mateo County. The Environmental Education team and the San Mateo County Office of Sustainability initiated the establishment of a local waste-focused educational collaborative that now includes both organizations and Recology. This group meets regularly to discuss opportunities to for partnering on projects and "cross pollination", maximize shared resources, and eliminate areas of overlap.

Continuing a strong working partnership with the school site haulers, Recology, is essential to this program's success. Fortunately, SBWMA has excellent relationships with the Recology Peninsula Services team for public schools (non-Franchise Agreement contract) led by GM Kirsten Pinochi and Waste Zero Specialist Reyna Oceguera, as well as Recology San Mateo County for private schools (within Franchise Agreement) led by GM Mike Kelly, Administrative Manager Tamera Del Bene, Zero Waste Manager Mia Rossi, and the Zero Waste Team.

Beginning in early 2019, the team also started working more closely with the San Mateo County Office of Education on its new Zero Waste initiatives, as well as the County's Environmental Health Services and the school district's Child Nutrition Services to support the School Share Table Program.

RethinkWaste provides the following support to partner organizations:

***San Mateo County Office of Education (SMCOE)***

Key Contact – Andra Yeghoyan, Environmental Literacy Coordinator

- Assistance in reviewing and negotiating district and individual contracts with waste haulers
- Participate in learning collaboratives, educator workshops and fellowships, and offer support at stakeholder meetings
- Collaboration on Zero Waste initiatives
  - Help develop universal, standardized waste checklist for to use at all schools
  - Advise on creation of structure and processes for implementing necessary waste infrastructure at schools
  - Support district efforts to comply with mandatory recycling and composting requirements of Assembly Bill 341 and 1826

***County of San Mateo Office of Sustainability (OOS)***

Key Contacts – Gerald Schwartz, Sustainability Coordinator

Gordon Tong, Waste Reduction Program Manager

- Referral process for different program offerings
- Align materials and presentations and standardize messaging about 4R's
- Share resources and educational tools
- Possible funding from OOS grant

***County of San Mateo Environmental Health***

Key Contacts – Allison Milch, Pollution Prevention Program

Kathryn Cooke, Pollution Prevention Program Coordinator

- Assistance preparing for and rolling-out Food Share Table Program at schools located in RethinkWaste service area
- Share information about Hazardous Waste programs and resources with schools when applicable

***Child Nutrition Services – Redwood City School District***

Key Contact – Anna Lague, Child Nutrition Director

- Train kitchen staff about proper sorting practices
- Ensure kitchens and food prep areas are equipped with necessary bins
- Create posters and signage to remind students about milk and school food policies
- Evaluate waste reduction opportunities
  - Request food with less packaging
  - Recommend non-wrapped, individual utensils over pre-packaged utensil kits

***Recology – San Mateo County and Peninsula Services***

Key Contacts – Mia Rossi, Waste Zero Manager (San Mateo County)

Reyna Ocegüera, Waste Zero Specialist (Peninsula)

- Conduct pre and post waste audits with representative from Recology
- Conduct outreach and updates about what items belong in each bin
  - Rules for bag liners change often and can differ between two branches of Recology

**Recommendations**

The pilot was successful in understanding the level of effort needed at each school, identifying best practices for program implementation, and strategies for making the programs sustainable at each school.

### **Service Area-Wide Expansion**

The SBWMA Board of Directors is asked to consider expanding the Schools Pilot throughout the service area. There are 148 public and private elementary, K-8, middle, and high schools within the 12 Member Agencies, representing 53,000 students and 3,000 staff members.

**Recommendation I:** Prioritize schools based on their individual or district's readiness and expressed interest, while ensuring as much equity as possible across the service area within each Member Agency. Services will be offered on a first-come, first-served basis with considerations for school districts that are typically underserved.

There are many schools within the service area that are "raring to go" and have requested guidance and training. Some already have compost and recycling bins available to students. All school districts that have expressed interest in the pilot program are listed below.



*Students help each other sort at Redwood Shore Elementary*

- Burlingame School District, Burlingame
- Belmont Redwood Shores School District, Belmont and Redwood City
- Menlo Park School District, Menlo Park
- San Mateo Foster City School District, San Mateo and Foster City

All individual schools that have expressed interest in the pilot program are listed below.

- Central Elementary, Belmont
- Carlmont High School, Belmont
- Burlingame High School, Burlingame
- Franklin Elementary, Burlingame
- Foster City School, Foster City
- North Hillsborough Elementary, Hillsborough
- Nativity School, Menlo Park
- White Oaks Elementary, San Carlos
- Arundel Elementary, San Carlos
- Highlands Elementary, San Mateo
- Bayside STEM, San Mateo
- George Hall, San Mateo

**Recommendation II:** Focus on public elementary schools first. Students in lower grades are more receptive to the program and much more likely to actively participate in proper bin sorting techniques than older students. In general, middle and high schoolers are not as willing to change behavior or break engrained habits. If RethinkWaste supports elementary school students in developing positive attitudes toward sorting and waste reduction at an early age, it empowers them with knowledge and enthusiasm to carry with them as they move through the school system.

Because private schools in the RethinkWaste service area are covered under the Franchise Agreement with Recology San Mateo County, they receive a higher level of service than public schools. Currently, most public schools currently have contracts with Recology Peninsula Services either at the district or individual school level. These contracts are for baseline services that the In-School Program can supplement to a higher degree.

An alternative would be to roll-out the program strictly by school district, or by following the path of the students. Rethinkwaste would determine the path students follow from elementary, middle, to high school in every district or city and implement the program in that order. This progression would maintain consistency in the waste infrastructure for students as they move up in grade levels, ensuring that that they continue to have access to all necessary bins and are able to practice correct sorting habits.

### **Schedule**

**Recommendation III:** Implement program at 12 new schools per year to reach all 50 public elementary schools within 5 years. Given staff capacity and the academic year schedule, it is achievable to launch at a new school every two to three weeks. This allows for 2 weeks of bin monitoring and multiple follow-up site visits per school, time to prep and recover between roll-out weeks, as well as check-ins at schools that are already in the program. The team may also get started working with the 23 public K-8 schools. According to a recently conducted survey of schools, the service area has a total of 148 public and private elementary, K-8, middle, and high schools. See **Attachments** for the full list of schools.

Prior to the end of the school year, RethinkWaste Staff will meet with principals and custodians at targeted schools to plan the program launches for the next academic year. Custodians are at school throughout the summer conducting maintenance tasks and principals are typically available for two weeks after school ends and for two weeks prior to school start.

Before the start of next school year, RethinkWaste will also connect with schools currently in the program and ensure they have what they need to re-launch in the fall. The team will offer “refresher” assemblies to help remind students about proper sorting technique and pump them up for the rest of the school year

### **Staff Capacity**

**Recommendation IV:** Hire one additional full-time employee to increase staff capacity and accommodate on-going implementation of the pilot program. At this level of staffing, RethinkWaste estimates it can support approximately 12 new schools per year while providing on-going support (additional containers, stickers, training) to schools that have been trained in prior years.

The Environmental Education team is also responsible for the Shoreway Tours Program and must consider the tour schedule. With the support of the Public Spaces Fellows, the team was able to maintain both the quantity and quality of tours comparable to previous years, despite the addition of tasks and commitments related to the In-School Pilot. However, team needs more coverage to ensure program longevity and avoid staff burn-out.



*RethinkWaste Staff, Fair Oaks Elementary Custodial Lead, and Recology Peninsula Services Staff*

Staff members and the estimated percentage of total work time dedicated to the Schools Program:

- Environmental Education Manager – 33%
- Environmental Education Coordinator – 50%
- Environmental Education Fellow 1 – 50%
- Environmental Education Fellow 2 – 50%

Agencies with similar programs are listed below, including the number of staff working on school-related projects:

Program Name	Schools Worked With	Number of Staff	Annual Budget
Monterey	50-60 (tours only)	2 FTE	
StopWaste	70 (field trips only)	3 FTE, 5 associates	\$283,800
Zanker	2	3 FTE	\$30,000 (not including staff time)
OOS	100	2 FTE, 2 PTE	\$315,000

### **Equipment and Associated Costs**

The provision of recycling and composting equipment is one of the most effective public outreach tools that RethinkWaste can provide to the schools in its service area. Based on pilot findings, an average of \$1,400 is needed to fully equip an elementary school and set it up for success. Larger middle and high school may require additional equipment. Predict pilot costs are compared to actual pilot costs below in **Table 6**.

As of May 2019, surplus equipment is available from the original pilot program purchases. Costs for storage and rental truck delivery are included in the first-year budget. Approximately \$12,240 was spent on storage and transportation of materials during the pilot. To eliminate this expense, RethinkWaste is currently in the process of moving the surplus equipment from rental storage units to a newly purchased shipping container located at Shoreway. After the move, there will no longer be a need to continue paying for storage. In subsequent years, the team will work with suppliers to have equipment delivered directly to the schools – eliminating the need for any storage or transportation.

Staff estimates the average cost of the pilot program implementation per school (\$2,749) will decrease or remain the same moving forward. Some school districts within the SBWMA service area have already provided schools with compost and recycling bins, so the schools will only require education, technical assistance, and additional waste-related accessories (such as dollies and liquid buckets). A few school districts are also currently looking into grant and funding options to secure new waste-related materials for schools.



At the same time, if more schools continue to implement and participate in the Schools Pilot, bins and other waste-related accessories will need to be replaced over the years. Already, schools in the pilot have required replacement signage, additional trash pickers, and new bins to replace ones that have been stolen or lost.

*Green Team members show off their new gear at Redwood Shores Elementary*

**Table 6: Pilot Cost per School Estimates, Average, and Projections**

Pre-Pilot Estimates				Post-Pilot Projected Annual Costs	
Product	Cost Actuals	Predicted Quantity/ School	Predicted Cost/ School	Average Actual Quantity/ School 18/19	Average Actual Cost/ School 18/19
<b>Program Materials</b>					
<i>Slim Jims</i>					
Organics	\$17.54	6	\$105.24	3	\$48
Recycling	\$17.54	6	\$105.24	2	\$42
Garbage	\$19.63	5	\$98.15	2	\$47
<i>Brute</i>					
Organics	\$41.67	4.5	\$187.52	3	\$125
Recycling	\$41.67	6	\$250.02	3	\$109
Recycling 44 gallon	\$59.90	3	\$179.70	0.3	\$15
Recycling 14 gallon	\$24.69	10	\$246.90	2	\$46
Organic lid	\$5.86		\$0	0.3	\$1
Recycling lid	\$13.50	6	\$81	0.4	\$5
<i>Labels</i>					
Posters	\$3	37	\$111	0	\$0
Stickers	\$3	47	\$141	10	\$30
<i>Dollies</i>					
Brute single	\$56	4	\$224	3	\$154
Brute double	\$196	2	\$392	2	\$392
<i>Liquid Buckets</i>					
Bucket 10 qt.	\$11.31	0	\$0	2	\$20
Strainer 5 qt.	\$5.43	0	\$0	2	\$10
Bucket dolly	\$43.49	0	\$0	1	\$33
<b>Extras</b>					
Picker kid size	\$16.97	3	\$50.91	3	\$47
Picker adult size	\$16.97	1	\$16.97	1	\$17
Apron	\$7.77	7	\$54.34	4	\$30
Worm Bin	\$0	1	\$0	0	\$0
Worm Book	\$7.90	7	\$55.30	1	\$6
Gardening Book 1	\$6.90	7	\$48.30	1	\$4
Gardening Book 2	\$13.02	8.5	\$111.67	1	\$8
Gardening Book 3	\$9.95	7	\$69.65	0	\$0
<b>Giveaways</b>					
Bookmarks	\$0.75	315	\$236.25	266	\$200
<b>Total Cost Estimates(\$):</b>			<b>\$2,764.21</b>		<b>\$1,388</b>
<b>Projected annual cost (12 schools/year):</b>					<b>\$16,659</b>

## Attachment B—“What We Offer” Materials Sheet

### 23-Gallon Slim Jim



Slim design takes up minimal space. Typically placed indoors in kitchens, hallways, staff rooms, and lunch rooms. Blue for recycling. Black for landfill. Green for compost.

### 32-Gallon Brute



Larger container for higher-traffic areas. Typically placed indoor in cafeterias and outdoors in eating and play areas. Blue for recycling. Green for compost. Lids can be provided upon request.

### Brute Double and Single dollies



Attachable wheels for ease of transporting double or single 32-gallon Brute bins.

### 10-Quart Liquid Bucket & 5-Quart Colander



Liquid buckets are paired with strainers to separate solids from liquids. Liquid bucket can be emptied in janitorial drain or toilet.

## Education



We provide education on how to properly sort waste, ranging from:

- custodial trainings
- assemblies
- in-classroom presentations,
- lunch monitoring, and
- assessments

to guarantee staff and students know what goes where at school.

## Signage for all Bins



## Aprons and Pickers



For student green team volunteers to help safely pick-out mistakes from the bins.

## Worm Compost Bin & Free Compost Drop-off for Schools (optional)



- Portable compost bin. The worms will eat fruits, vegetables, and plants to turn into compost for your school garden!
- Up to 20 cubic-yards of compost delivered at no cost to your school.

Attachment C—Sample Action Plan  
Hoover Community School  
January 7, 2019

**Collection**

Current Collection:

Type	Size	Amount	Collection Frequency/week
Garbage	10 yds <sup>3</sup>	1	0.35x (1.4x/month average)
Organics	6 yds <sup>3</sup>	1	2x
Recycling	6 yds <sup>3</sup>	1	2x
	96 g	3 1	2x
	64 g	6 3	2x

Proposed Collection Changes: To be determined by school, district, RethinkWaste, and Recology Peninsula Services post-pilot implementation

**Infrastructure**

Brutes: 3 sets (pictured to the right) + 7 non-sets

- 3 sets in cafeteria (1 set used outside for 8<sup>th</sup> graders)
- 3 compost in kitchen
- 2 compost in staff bathrooms
- 2 44-gallon recycling for staff copy room

Slim Jims: 1 bin

- 1 trash in staff copy room

Other:

- 3 sets of dollies (pictured with Brute set above) and 6 single dollies for 44-gallon recycling bins and kitchen compost bins
- Stickers and/or posters provided for each bin
- 3 liquid buckets + strainers
- Signage for staff kitchen
- 2 stickers “paper towels only” for staff bathroom
- Student involvement: Student council for MS and all grades involved with lunch monitoring
  - 4 grabbers: 3 small, 1 large
  - 4 aprons
- Optional: 1 set of books



## Education

3 assemblies: Tk-3; 4-5; 6-8

Upon pilot follow-up, we will determine if classroom presentations will be necessary for additional education

- Total classes: 26
- Tk-8<sup>th</sup>
- 655 students



## Proposed Roll-Out Schedule

Week of: **January 14-18<sup>th</sup>, 2019**

Monday 1/14: Bin delivery and set-up before lunch. Lunch monitoring from 11am-1:20pm.

Tuesday 1/15: Assembly 1 (K-3<sup>rd</sup>) 9-9:20am; Assembly 2 (4<sup>th</sup>-5<sup>th</sup>) 9:25-9:45am; Lunch monitoring from 11am-1:20pm.

Wednesday 1/16: Lunch monitoring from 11am-1:20pm.

Thursday 1/17: Lunch monitoring from 11am-1:20pm.

Friday 1/18: Lunch monitoring from 11am-1:20pm.

## **Principal Approval**

X \_\_\_\_\_

Date: \_\_\_\_\_

## **Contacts:**

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610 Elm Street, Suite 202 | P: 650-802-3500 | RethinkWaste.org  
San Carlos, CA 94070 | F: 650-802-3501

MEMBER AGENCIES: Town of Atherton • City of Belmont • City of Burlingame • City of East Palo Alto • City of Foster City • Town of Hillsborough  
City of Menlo Park • City of Redwood City • City of San Carlos • City of San Mateo • County of San Mateo • West Bay Sanitary District



For Further Information:  
Emi Hashizume, RethinkWaste  
Phone: 650-802-3506  
Email: [ehashizume@rethinkwaste.org](mailto:ehashizume@rethinkwaste.org)

**Attachment D—Sample Letter Home**  
**RETHINKWASTE SCHOOL RECYCLING AND COMPOST PROGRAM**  
**March 2019 – KIPP Excelencia Community Prep**

RethinkWaste is very excited to partner with KIPP Excelencia Community Prep to provide students and staff with access to recycling and composting services at no-cost to the school.

The RethinkWaste team was on campus the weeks of March 18<sup>th</sup> and 25<sup>th</sup>, working directly with students and staff (including school administration, teachers, and custodial staff) to help identify the needs of KIPP and deliver resources and technical assistance.

- **Materials:** Connect received various sizes and types of new recycling and compost containers, informational posters and stickers, and educational materials
- **Environmental Education:** Students learned about the new program and the importance of recycling and composting during classroom presentations led by the RethinkWaste team
- **Training:** During lunch periods, the RethinkWaste team coached students about what lunch items go into each bin

By participating in the new program, KIPP has already drastically reduced the amount of trash sent to the landfill. Check out the image below to see exactly how much!



We look forward to continuing to help the KIPP community “rethink” about waste and where it goes!

610 Elm Street, Suite 202 | P: 650-802-3500 | RethinkWaste.org  
San Carlos, CA 94070 | F: 650-802-3501

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City of Menlo Park • City of Redwood City • City of San Carlos • City of San Mateo • County of San Mateo • West Bay Sanitary District

Please let us know if you have any questions or would like additional information.

Sincerely,  
RethinkWaste

#### About RethinkWaste

RethinkWaste is a joint powers authority of twelve public agencies in San Mateo County (Atherton, Belmont, Burlingame, East Palo Alto, Foster City, Hillsborough, Menlo Park, Redwood City, San Carlos, City of San Mateo, parts of unincorporated San Mateo County, and the West Bay Sanitary District). We own and manage the Shoreway Environmental Center, which processes all the collected trash, recyclable and compostable materials. See [www.RethinkWaste.org](http://www.RethinkWaste.org) and follow us on Facebook and Twitter at @RethinkWaste.

610 Elm Street, Suite 202 : P: 650-802-3500 :  
San Carlos, CA 94070 : F: 650-802-3501 : [RethinkWaste.org](http://RethinkWaste.org)

MEMBER AGENCIES: Town of Atherton • City of Belmont • City of Burlingame • City of East Palo Alto • City of Foster City • Town of Hillsborough  
City of Menlo Park • City of Redwood City • City of San Carlos • City of San Mateo • County of San Mateo • West Bay Sanitary District

**Attachment E—Master List of Schools**

<u>Member Agency</u>	<u>City</u>	<u>School District</u>	<u>School Name</u>	<u>Private/Public</u>	<u>Grades</u>	<u>*** Students</u>
<b>Atherton</b>	Atherton	Las Lomas	Las Lomas	Public	Elementary	634
<b>Atherton</b>	Atherton	Menlo Park City	*Encinal Elementary School	Public	K-8	775
<b>Atherton</b>	Atherton	Menlo Park City	Laurel Elementary	Public	Elementary	544
<b>Atherton</b>	Atherton	Redwood City	*Selby Lane Elementary	Public	K-8	694
<b>Atherton</b>	Atherton		*Sacred Heart School	Private	K-8	-
<b>Atherton</b>	Atherton		*Menlo School	Private	K-8	-
<b>Atherton</b>	Atherton		Menlo School	Private	Elementary	-
<b>Belmont</b>	Belmont	Belmont-Redwood Shores	Fox Elementary School	Public	Elementary	449
<b>Belmont</b>	Belmont	Belmont-Redwood Shores	Central Elementary School	Public	Elementary	478
<b>Belmont</b>	Belmont	Belmont-Redwood Shores	Nesbit Elementary School	Public	Elementary	380
<b>Belmont</b>	Belmont	Belmont-Redwood Shores	Cipriani Elementary School	Public	Elementary	365
<b>Belmont</b>	Belmont	Belmont-Redwood Shores	Ralston Middle	Public	Middle	1089
<b>Belmont</b>	Belmont	Sequoia Union High School District	Carlmont High	Public	High School	2194
<b>Belmont</b>	Belmont		Belmont Oaks Academy	Private	Elementary	365
<b>Belmont</b>	Belmont		Charles Armstrong School	Private	Elementary	250
<b>Belmont</b>	Belmont		Gloria Dei Lutheran Elementary	Private	Elementary	22
<b>Belmont</b>	Belmont		*Immaculate Heart of Mary School	Private	K-8	-
<b>Belmont</b>	Belmont		Serendipity School	Private	Elementary	-
<b>Belmont</b>	Belmont		*Notre Dame Elementary School	Private	K-8	-
<b>Belmont</b>	Belmont		Notre Dame	Private	High School	-

<b>Burlingame</b>	Burlingame	Burlingame	Franklin Elementary School	Public	Elementary	625
<b>Burlingame</b>	Burlingame	Burlingame	Lincoln Elementary School	Public	Elementary	504
<b>Burlingame</b>	Burlingame	Burlingame	McKinley Elementary School	Public	Elementary	482
<b>Burlingame</b>	Burlingame	Burlingame	Roosevelt Elementary School	Public	Elementary	325
<b>Burlingame</b>	Burlingame	Burlingame	Hoover Elementary School	Public	Elementary	
<b>Burlingame</b>	Burlingame	Burlingame	Washington Elementary School	Public	Elementary	341
<b>Burlingame</b>	Burlingame	Burlingame	Burlingame Intermediate	Public	Middle	953
<b>Burlingame</b>	Burlingame	San Mateo Union High School District	Design Tech High	Public	High School	-
<b>Burlingame</b>	Burlingame	San Mateo Union High School District	Burlingame High	Public	High School	1306
<b>Burlingame</b>	Burlingame		*St. Catherine of Siena	Private	K-8	-
<b>Burlingame</b>	Burlingame		*Our Lady of Angels School	Private	K-8	-
<b>Burlingame</b>	Burlingame		Mercy High School	Private	High School	-
<b>County of San Mateo</b>	San Mateo	San Mateo Union High School District	Gateway Community School	Public	High School	71
<b>County of SM</b>	Redwood City	Redwood City	*Connect Community Charter School	Private	K-8	
<b>County of SM</b>	Redwood City	Redwood City	Fair Oaks Elementary School	Public	Elementary	366
<b>County of SM</b>	Redwood City	Redwood City	*Clifford Elementary School	Public	K-8	709
<b>County of SM</b>	Menlo Park	Redwood City	Garfield Elementary	Public	Elementary	693
<b>County of SM</b>	San Mateo	San Mateo-Foster City	Highlands Elementary	Public	Elementary	606
<b>County of SM</b>	Woodside	Woodside Elementary	*Woodside Elementary	Public	Elementary	
<b>County of SM</b>	Menlo Park		*Peninsula School	Private	K-8	-
<b>County of SM</b>	Menlo Park		*Synapse School	Private	K-8	-
<b>County of SM</b>	San Mateo		*Odyssey Middle School	Private	K-8	48

<b>East Palo Alto</b>	East Palo Alto	Ravenswood City	*East Palo Alto Charter School	Public	K-8	533
<b>East Palo Alto</b>	East Palo Alto	Ravenswood City	*Los Robles Magnet Academy	Public	K-8	338
<b>East Palo Alto</b>	East Palo Alto	Ravenswood City	*Cesar Chavez Academy	Public	K-8	269
<b>East Palo Alto</b>	East Palo Alto	Ravenswood City	*Costano Elementary School	Public	K-8	587
<b>East Palo Alto</b>	East Palo Alto	Ravenswood City	*KIPP Valiant Community Prep	Public	K-8	-
<b>East Palo Alto</b>	East Palo Alto	Ravenswood City	Brentwood Academy	Public	Elementary	597
<b>East Palo Alto</b>	East Palo Alto	Ravenswood City	East Palo Alto Phoenix Academy	Public	Middle	-
<b>East Palo Alto</b>	East Palo Alto	Ravenswood City	Ravenswood Middle School	Public	Middle	-
<b>East Palo Alto</b>	East Palo Alto	San Mateo County Office of Education	Oxford Day Academy	Public	Elementary	-
<b>East Palo Alto</b>	East Palo Alto	San Mateo Union High School District	East Palo Alto Academy**	Public	High School	-
<b>East Palo Alto</b>	East Palo Alto		*Lavengamalie Christian	Private	K-8	-
<b>Foster City</b>	Foster City	San Mateo-Foster City	Audubon Elementary	Public	Elementary	688
<b>Foster City</b>	Foster City	San Mateo-Foster City	Brewer Island Elementary School	Public	Elementary	715
<b>Foster City</b>	Foster City	San Mateo-Foster City	Foster City Elementary	Public	Elementary	800
<b>Foster City</b>	Foster City	San Mateo-Foster City	Bowditch Middle	Public	Middle	939
<b>Foster City</b>	Foster City		*Ronald C. Wornick Jewish Day School	Private	K-8	212
<b>Foster City</b>	Foster City		Bright Horizon Chinese School	Private	Elementary	-
<b>Foster City</b>	Foster City		Kids Connection Elementary School	Private	Elementary	60
<b>Foster City</b>	Foster City		Challenge School	Private	Elementary	80
<b>Hillsborough</b>	Hillsborough	Hillsborough City	West Hillsborough Elementary	Public	Elementary	375
<b>Hillsborough</b>	Hillsborough	Hillsborough City	South Hillsborough Elementary	Public	Elementary	251

<b>Hillsborough</b>	Hillsborough	Hillsborough City	*The Bridge School	Public	K-8	-
<b>Hillsborough</b>	Hillsborough	Hillsborough City	*The Nueva School	Private	K-8	713
<b>Hillsborough</b>	Hillsborough	Hillsborough City	North Hillsborough Elementary	Public	Elementary	350
<b>Hillsborough</b>	Hillsborough	Hillsborough City	Crocker Middle School	Public	Middle	547
<b>Hillsborough</b>	Hillsborough		*Crystal Springs Uplands	Private	High School	-
<b>Menlo Park</b>	Menlo Park	Las Lomas	*St. Raymond School	Private	K-8	300
<b>Menlo Park</b>	Menlo Park	Las Lomas	La Entrada School	Public	Middle	688
<b>Menlo Park</b>	Menlo Park	Menlo Park City	Oak Knoll School	Public	Elementary	723
<b>Menlo Park</b>	Menlo Park	Menlo Park City	Hillview Middle	Public	Middle	-
<b>Menlo Park</b>	Menlo Park	Ravenswood City	*Belle Haven School	Public	K-8	591
<b>Menlo Park</b>	Menlo Park	Ravenswood City	*Willow Oaks Elementary	Public	K-8	687
<b>Menlo Park</b>	Menlo Park	Redwood City	*Garfield Elementary School	Public	K-8	677
<b>Menlo Park</b>	Menlo Park		*Beechwood School	Private	K-8	170
<b>Menlo Park</b>	Menlo Park		*German-American International School	Private	K-8	300
<b>Menlo Park</b>	Menlo Park		*Nativity Catholic School	Private	K-8	272
<b>Menlo Park</b>	Menlo Park		Phillips Brooks School	Private	Elementary	227
<b>Menlo Park</b>	Menlo Park		*Stanford New School	Private	K-8	238
<b>Menlo Park</b>	Menlo Park		Trinity School	Private	Elementary	121
<b>Redwood City</b>	Redwood City	Belmont-Redwood Shores	*Sandpiper Elementary School	Public	K-8	510
<b>Redwood City</b>	Redwood City	Belmont-Redwood Shores	Redwood Shores Elementary School	Public	Elementary	430
<b>Redwood City</b>	Redwood City	Redwood City	Adelante Spanish Immersion	Public	Elementary	
<b>Redwood City</b>	Redwood City	Redwood City	*Henry Ford Elementary	Public	K-8	
<b>Redwood City</b>	Redwood City	Redwood City	John Gill Elementary School	Public	Elementary	451
<b>Redwood City</b>	Redwood City	Redwood City	*KIPP Excelencia Community Prep-Hoover	Public	K-8	-

<b>Redwood City</b>	Redwood City	Redwood City	KIPP Excelencia Community Prep-Taft	Public	Elementary	
<b>Redwood City</b>	Redwood City	Redwood City	*Hoover Elementary	Public	K-8	-
<b>Redwood City</b>	Redwood City	Redwood City	*North Star Academy	Public	K-8	549
<b>Redwood City</b>	Redwood City	Redwood City	Rocketship Redwood City Prep-Kennedy	Public	Elementary	-
<b>Redwood City</b>	Redwood City	Redwood City	Orion Alternative Elementary School	Public	Elementary	251
<b>Redwood City</b>		Redwood City	Hawes Elementary	Public	Elementary	
<b>Redwood City</b>	Redwood City	Redwood City	*Kennedy Middle School	Public	K-8	774
<b>Redwood City</b>	Redwood City	Redwood City	*Roosevelt Elementary School	Public	K-8	612
<b>Redwood City</b>	Redwood City	Redwood City	*Roy Cloud Elementary School	Public	K-8	777
<b>Redwood City</b>	Redwood City	Redwood City	*Taft Elementary School	Public	K-8	540
<b>Redwood City</b>	Redwood City	Redwood City	McKinley Institute of Technology	Public	Middle	391
<b>Redwood City</b>	Redwood City	Sequoia Union High School District	Sequoia High	Public	High School	2031
<b>Redwood City</b>	Redwood City	Sequoia Union High School District	Everest Public High School**	Public	High School	400
<b>Redwood City</b>	Redwood City	Sequoia Union High School District	Redwood High	Public	High School	309
<b>Redwood City</b>	Redwood City	Sequoia Union High School District	Summit Preparatory Charter High School**	Public	High School	
<b>Redwood City</b>	Redwood City		Holy Family School	Private	Elementary	
<b>Redwood City</b>	Redwood City		*Our Lady of Mt. Carmel	Private	K-8	-
<b>Redwood City</b>	Redwood City		*Redeemer Lutheran Elementary	Private	K-8	-
<b>Redwood City</b>	Redwood City		*St. Pius Elementary	Private	K-8	-
<b>San Carlos</b>	San Carlos	San Carlos	Arundel Elementary School	Public	Elementary	514
<b>San Carlos</b>	San Carlos	San Carlos	Arroyo Upper Elementary	Public	Elementary	-

<b>San Carlos</b>	San Carlos	San Carlos	Brittan Acres Elementary School	Public	Elementary	449
<b>San Carlos</b>	San Carlos	San Carlos	*Charter Learning Center	Public	K-8	-
<b>San Carlos</b>	San Carlos	San Carlos	Heather Elementary	Public	Elementary	447
<b>San Carlos</b>	San Carlos	San Carlos	Mariposa Upper Elementary	Public	Elementary	-
<b>San Carlos</b>	San Carlos	San Carlos	White Oaks Elementary	Public	Elementary	406
<b>San Carlos</b>	San Carlos	San Carlos	Central Middle School	Public	Middle	634
<b>San Carlos</b>	San Carlos	San Carlos	Tierra Linda Middle School	Public	Middle	591
<b>San Carlos</b>	San Carlos		*Arbor Bay School	Private	K-8	-
<b>San Carlos</b>	San Carlos		*St. Charles School	Private	K-8	-
<b>San Mateo</b>	San Mateo	San Mateo Union High School District	Aragon High School	Public	High School	1441
<b>San Mateo</b>	San Mateo	San Mateo Union High School District	Hillsdale High	Public	High School	1350
<b>San Mateo</b>	San Mateo	San Mateo Union High School District	San Mateo High	Public	High School	1469
<b>San Mateo</b>	San Mateo	San Mateo Union High School District	San Mateo Middle College High	Public	High School	-
<b>San Mateo</b>	San Mateo	San Mateo-Foster City	*Bayside Academy	Public	Middle	
<b>San Mateo</b>	San Mateo	San Mateo-Foster City	*Abbott Middle School	Public	Middle	778
<b>San Mateo</b>	San Mateo	San Mateo-Foster City	*Borel Middle School	Public	Middle	948
<b>San Mateo</b>	San Mateo	San Mateo-Foster City	Baywood Elementary	Public	Elementary	699
<b>San Mateo</b>	San Mateo	San Mateo-Foster City	Beresford Elementary	Public	Elementary	279
<b>San Mateo</b>	San Mateo	San Mateo-Foster City	Fiesta Gardens International	Public	Elementary	504
<b>San Mateo</b>	San Mateo	San Mateo-Foster City	Lead Elementary	Public	Elementary	520
<b>San Mateo</b>	San Mateo	San Mateo-Foster City	Laurel Elementary	Public	Elementary	512
<b>San Mateo</b>	San Mateo	San Mateo-Foster City	Meadow Heights Elementary	Public	Elementary	336
<b>San Mateo</b>	San Mateo	San Mateo-Foster City	*North Shoreview Montessori	Public	K-8	338

<b>San Mateo</b>	San Mateo	San Mateo-Foster City	San Mateo Park Elementary	Public	Elementary	491
<b>San Mateo</b>	San Mateo	San Mateo-Foster City	Parkside Montessori	Public	Elementary	390
<b>San Mateo</b>	San Mateo	San Mateo-Foster City	Sunnybrae Elementary	Public	Elementary	523
<b>San Mateo</b>	San Mateo	San Mateo-Foster City	*College Park Elementary	Public	Elementary	428
<b>San Mateo</b>	San Mateo	San Mateo-Foster City	George Hall Elementary	Public	Elementary	464
<b>San Mateo</b>	San Mateo		*St. Gregory School	Private	K-8	-
<b>San Mateo</b>	San Mateo		*St. Matthew Catholic School	Private	K-8	-
<b>San Mateo</b>	San Mateo		The Carey School	Private	Elementary	-
<b>San Mateo</b>	San Mateo		Centennial Montessori	Public	Elementary	-
<b>San Mateo</b>	San Mateo		*Grace Lutheran	Private	K-8	-
<b>San Mateo</b>	San Mateo		*Pacific Rim International School	Private	K-8	-
<b>San Mateo</b>	San Mateo		*St. Matthew's Episcopal Day School	Private	K-8	-
<b>San Mateo</b>	San Mateo		*St. Timothy Catholic School	Private	K-8	-
<b>San Mateo</b>	San Mateo		*Stanbridge Academy	Private	K-8	-
<b>San Mateo</b>	San Mateo		Serra High School	Private	High School	-
<b>West Bay</b>	Atherton	Sequoia Union High School District	Menlo-Atherton High School	Public	High School	2073
<b>West Bay Sanitary District</b>	Portola Valley		*Woodland School		K-8	



## STAFF REPORT

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To: SBWMA Board Members  
From: Julia Au, Recycling Outreach Programs Manager  
Joanna Rosales, Public Spaces Fellow  
Shirley Ng, Public Spaces Fellow  
Date: May 23, 2019 Board of Directors Meeting  
Subject: Presentation on Long Range Plan Pilot Program: Public Spaces Pilot

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### Recommendation:

This staff report is for discussion purposes only and no formal action is requested of the Board of Directors.

### Summary

The purpose of this report is to provide the Board and the public with a summary of the Public Spaces pilot that began in late 2017. After launching two pilots in two member agencies, Redwood City and San Carlos, in collaboration with City Staff and Recology, SBWMA Staff (Staff) collected and analyzed data through surveys in the community, installing new receptacles, and testing the effectiveness of different versions of signage. Staff conducted pre-pilot waste audits and participation surveys to create appropriate signage to encourage the public to sort their waste in public settings correctly. After new receptacles were installed, four versions of signage were tested, and post installation waste audits and surveys were conducted with members of the public who were observed using the receptacles. The data collected helped Staff better understand the level of public knowledge and determine which signage provided the best motivator for the public to sort correctly and to compare the frequency of items thrown away.

The results of this pilot will be used for planning a proposed Agency-wide program expansion, with the first phase being factored in the draft budget for FY 19/20 and in the new 2020-2025 SBWMA Long Range Plan.

### Analysis

In October and November 2017, SBWMA onboarded Julia Au as the SBWMA's Recycling and Outreach Programs Manager, as well as two Public Spaces fellows, Carlos Moreno, and Joanna Rosales, to focus on the Public Spaces program. In October 2018, Shirley Ng assumed Carlos Moreno's role in the agency upon his departure.

In December 2017, Staff engaged with 11 Member Agencies to discuss each of their current initiatives and day-to-day operations to identify opportunities to increase recycling and composting in public spaces, which also included inventorying the Member Agency's public spaces locations. West Bay Sanitary District does not have public spaces so was not included in consideration of this pilot. Staff also met with Recology and other cities and organizations to learn their best practice systems to build foundational program knowledge before launching the pilot. These efforts included visiting cities' Corporation Yards and learning how to conduct waste audits from Recology's Waste Zero team. With TAC members and related department input, Staff identified common issues and offered potential pilot options to implement with the Member Agencies. Potential pilots ranged from

installation of receptacles, cigarette butt only receptacles, signage, event waste management, and painting existing receptacles to match the current black, blue and green cart system. New outdoor receptacles and signage were voted by TAC members as the most important issues to tackle and, therefore, were chosen as the Public Spaces pilot projects. Each pilot had different objectives. The objective of the signage pilot was to find the most effective signage in both parks and downtown areas to increase diversion. The objective of the receptacles pilot was to add recycling and organics options in parks to create uniformity and consistency across Member Agencies and between bins at home and in parks. After evaluation of Member Agency interest, opportunity and staff support, the cities of Redwood City and San Carlos were chosen to launch the two pilot projects. The pilot project was presented by Carlos and Joanna at the March 8, 2018 TAC meeting, which can be viewed at this [link](#).

From March 2018 to August 2018, SBWMA staff conducted pre-pilot waste audits in both downtown areas and parks of the cities of Belmont, Redwood City, San Carlos, and San Mateo. The cities of Belmont and San Mateo were used as baseline because Belmont offers an organics option in their parks and San Mateo offers recycling in their downtown area. Staff conducted waste audits in six parks in San Carlos and Redwood City: Arguello, Burton, and Laureola Parks in San Carlos; and Maddux, Spinax, and Stafford Parks in Redwood City. City staff discussed which parks they wanted SBWMA Staff to focus on and decided the selected parks for the pilot would be: Burton Park in San Carlos, and Maddux, Spinax, and Stafford Park in Redwood City.

Staff used Community Based Social Marketing (CBSM) techniques to learn about the motivators and barriers of residents sorting waste materials correctly and to gauge their level of knowledge of what goes in which bin by surveying park and downtown goers. See **Attachment A** for the survey used for park-goers. From the park's pre-pilot surveys, Staff learned that though most participants understood which items went into the correct bin, there were a handful of items participants thought belonged in the incorrect bin. For example, when asked for items that belong in the landfill bin, incorrect answers included food, pizza box, napkins, kitchen garbage, batteries, paper, and foil. Among these items, most could be composted or recycled. For both compost and recycling, more than two-thirds of participants understood food waste belonged in the compost and almost all participants knew plastics were recyclable and over half knew paper products and metals are recyclable. When asked the question "Why is it beneficial to sort your waste correctly?" over half of the participants' answers included environmental importance, keeping the city clean, and lessening pollution. The remaining participants mentioned sorting is beneficial because it is helping the back-end of the process, making it easier for sorting workers and for the facility.

Staff used the information gathered in the surveys to help create the types of signage to test in the various parks along with assistance from Recology and City staff.

### ***Receptacles (Cost: \$47,713)***

After researching different types of receptacles and gaining consensus from Recology, San Carlos, and Redwood City staff, the following outdoor receptacles (made by Securr) were chosen for the pilot. When purchasing these outdoor receptacles, City staff benefitted from the SBWMA pilot's bulk purchase pricing. **Graphic 1** (below) shows the chosen receptacles that fit a 64-gallon Recology cart for practical service by staff and a covered top to comply with the Municipal Regional Stormwater Permit (MRP). The overall size of the containers (or just one container) was taken into consideration to allow for fewer overall receptacles in the park. After an audit of the parks themselves, City and Staff realized some parks had too many trash receptacles. Prior to installation of the new receptacles, Burton Park in San Carlos had 23 trash cans in the general playground area. For the pilot, there are now 11 sets of the 3-bin system in the entire park. In Redwood City, Maddux, Spinax, and Stafford Park had 10-20 receptacles, consisting of trash and recycle receptacles. For the pilot, there are now 3-4 sets of the 3-bin system in all three parks. Refer to **Attachment B** for maps of the parks and locations of receptacles before and after the pilot.

Graphic 1:



***Signage (Cost: \$2,902)***

SBWMA staff collaborated with a graphic designer, City staff, and Recology to create and test four different versions of signage, to determine the best option that increases diversion from the landfill. Signage ranged from simplistic to Comprehensive information to measure the public's motivator for proper disposal. **Graphic 3** below shows the different types of signage for the recycling receptacles. Version 1 ('Text Only') had multi-lingual text and color to match current cart colors and was installed at Maddux Park. Version 2 ('Images Only') had multi-lingual text, color to match cart colors, and images, and was installed at Stafford Park. Version 3 ('Simple') had the same features as Version 2, but with text under the images, and minimal color, and was installed at Spinus Park. Version 4 ('Comprehensive') had similar features as Version 3, but with unaccepted items and full color, and was installed at Burton Park.

Graphic 2:

Version 1 — Text Only



Version 2 — Images Only



Version 3 — Simple



Version 4 — Comprehensive



**Waste Audit Signage/Receptacle Results**

Staff conducted 74 waste audits on the new receptacles in parks for five months from September 2018 – February 2019. During this five month period, 677 gallons of correctly sorted recycling and 708 gallons of correctly sorted compost were diverted from the landfill. This amount was calculated by taking the total gallons in the recycling and compost carts at the time of the waste audit and subtracting the incorrectly sorted material. From the data collected, Staff found the public correctly sorted over 50% of items tossed in the recycling and compost bins. Recycling at all four parks yielded 58-75% correctly sorted items overall, while compost was 51-76% correctly sorted.

The waste audits with the most accurately sorted items were at Burton Park where Comprehensive signage was used. Waste audits conducted at Burton Park bins showed 75% of items in the recycling and 65% items in the compost were sorted correctly. The second-best performing signage was the Text only signs used at Maddux Park. Waste audits in Maddux Park had 58% correctly sorted items in the recycling and 76% correctly sorted items in the compost. The third ranked signage was the Images only signage used at Stafford Park. This signage yielded 69% correct sorting of recycling and 68% correct sorting of compost. The fourth and lowest performing signage was the Simple signage used at Spinax Park. This signage had 59% accurate sorting of items in the recycling while 51% of items in the compost were correctly sorted.

From the pilot results, it can be concluded that the Comprehensive signage with images and text of what is and is not accepted provided the best motivator and education for park goers to sort properly. As reflected in the data

shown in **Table 1**, the Comprehensive signage has the highest percentage of properly sorted material at 70%. Moving beyond the pilot, Staff recommends that a Comprehensive-type signage be used for receptacles in Member Agency parks. This is supported by feedback we received from park participants we surveyed post receptacle installation. Three-quarters of the people we surveyed noted a visual aspect of the signs helped them to sort their waste better.

Table 1 Properly Sorted Material By Sign (percentage)				
Signage	% Garbage	% Recycling	% Compost	% Average Accuracy
Text Only	72%	58%	76%	69%
Images Only	67%	69%	68%	68%
Simple	48%	59%	51%	52%
Comprehensive	71%	75%	65%	70%

***Downtown (Active Corridors) Pilot (Signage Cost: \$964)***

Concurrent to the parks pilot, Staff launched a downtown pilot to test different versions of signage in downtown corridors in both San Carlos and Redwood City. Receptacles for these locations were not added since both downtown locations had existing recycling and landfill options. Additionally, adding a compost option was deemed too difficult since there was a wide variety of receptacles that were observed in these two locations. Staff chose similar existing receptacles in both Redwood City and San Carlos for consistency and to allow for signage to be easily be installed on top of the receptacles. **Graphic 3** (below) shows the chosen receptacles in both cities.

**Graphic 3:**



After conducting downtown waste audits to gain a baseline of what the public are throwing in the landfill and recycle containers, Staff adjusted the parks signage into signage that would relate to a downtown setting. **Graphic 4** (below) shows the different versions of signage. As a result of both Redwood City and San Carlos having one main downtown area, Staff chose two versions of signage to test in each city – ‘Images Only’ and ‘Comprehensive.’ Both cities offer landfill disposal and recycle services downtown, and not organics services, resulting in Staff adjusting the signage accordingly. Staff conducted waste audits, surveys, and observations from

August 2018 to January 2019. Pre-installation observations were conducted to see if the public noticed the signage on the receptacles. This consisted of collecting data of the public throwing their landfill, recycling, and compost material in the available receptacles downtown. Over half of the observed public did not look at the signage, whereas the remaining participants did check to see which receptacle was landfill or recycling and then proceeded to throw their item in the correct receptacle.

Similar to the parks pilot, Staff surveyed the participating public to learn their motivators and barriers of sorting correctly and to gauge their level of knowledge of what goes in which bin. When asked the question “Why is it beneficial to sort your waste correctly?” over half of the participants’ answers included helping the back-end of the process, making it easier for sorting workers and for the facility. The remaining participants mentioned the importance of keeping the environment clean. In December 2018, both signage versions were implemented in Redwood City and San Carlos downtown areas, and Staff are continuing to test both versions of downtown signage.

#### Graphic 4:

Multi-lingual signage with images and color to match CartSmart colors

Multi-lingual signage with images, text, color to match CartSmart colors, and unaccepted items



#### Background

On June 25, 2015, the SBWMA 2015 Final Long Range Plan identified parks and downtown shopping corridors as the best potential to increase the amount of recyclables captured. Staff recommended the implementation of a pilot project to increase recycling in two different public space settings—a downtown shopping district area and a park.

The goals of the pilot program were to:

- 1) Test public education and promotion strategies
- 2) Monitor participation, diversion, contamination of the pilot program
- 3) Assess operational impacts and costs

This program addresses policy needs to meet the state requirements of Assembly Bill (AB) 341, with its 75% statewide recycling goal by 2020, and AB 1826, with its mandatory commercial organics recycling goals.

#### Fiscal Impact

All program launch expenses incurred were included in approved FY 18/19 budget and are within the approved line item amounts. Staff continues to work with Recology to identify costs associated with requested site-specific service level adjustments that have been identified to support this program. Staff anticipates finalizing this important information of the pilot in time for an informational presentation prior to FY19/20 budget consideration at the June Board meeting.

**Attachments:**

Attachment A – Public Survey

Attachment B – Maps of Park Receptacles

Attachment A:

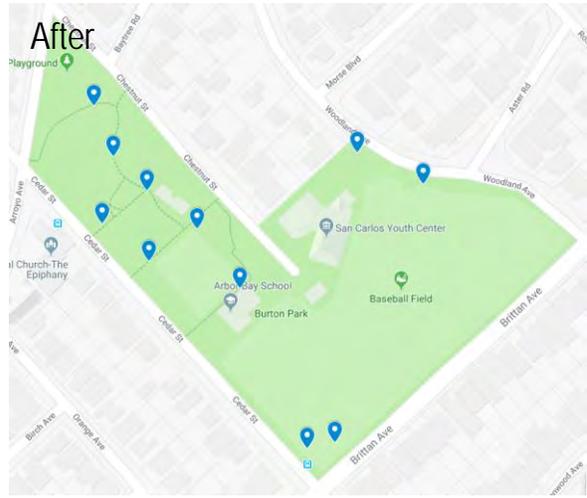
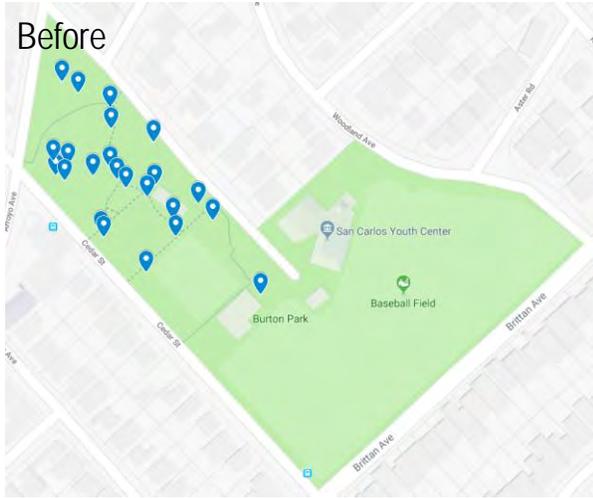
**Post Pilot Survey - Waste in Parks**

Date/Location: \_\_\_\_\_

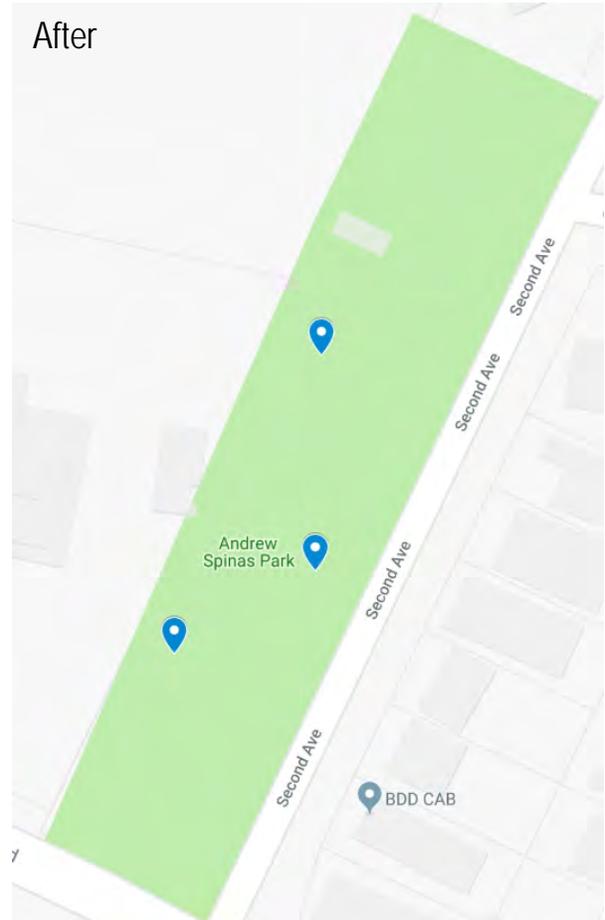
1. What items belong in:
  - a. Compost: \_\_\_\_\_
  - b. Recycling: \_\_\_\_\_
  - c. Landfill: \_\_\_\_\_
  
2. Why is it beneficial to sort your waste correctly?  
\_\_\_\_\_
  
3. What, if anything, would you find difficult about sorting your waste correctly?  
\_\_\_\_\_
  
4. Did you notice the signage?  
\_\_\_\_\_  
  - a. If answer to above question is 'no,' ask 'Why?'; If 'yes,' ask 'How?'  
\_\_\_\_\_
  
5. What, if anything, do you see as beneficial to having the same cans at the park to the ones you have at home?  
\_\_\_\_\_

Attachment B:

Burton Park, San Carlos



Spinas Park, Redwood City



Maddux Park, Redwood City



Stafford Park, Redwood City

