



South Tahoe Refuse & Recycling Services

**Switch from manual to automated and
semi-automated collection system**

Basics of the system

- ▶ Customers receive carts for:
 - ▶ Yard waste - Green lid
 - ▶ Recyclables - Blue lid
 - ▶ MSW - Grey/black lid
 - Bear-resistant options
- ▶ Each material picked up in separate truck
- ▶ Alternate weeks for recycle/yard waste - 7 new routes for each
- ▶ Continue to service bear boxes manually



How we arrived at this point

- ▶ Industry expert for consultation: Mike Davis
 - Operations specialist with over forty years experience in solid waste
 - Spearheaded the conversion of manual residential collection of solid waste and recyclables to automated collection in the Midwest Region of Republic Services

- ▶ Analyzed existing routes and services

- ▶ Developed recommendations for routes & equipment based on analysis and our unique situation

City Residential														
	Stops Scheduled	Total Weight	Density Stops per Mile	Stops per Hour	Lbs per Stop	MSW Weight at 30 Lbs per Stop	Rearload Loads at 10 Tons	Disposal Time at 1 Hour per Trip	Collection Time In Seconds	Collection Time In Hours	Stem Time	Total Time per Day	Route Quantity	Time per Route
M														
T														
W														
R														
F														
Total														
Average														

Why Change? Employee Safety

- ▶ Minimize manual lifting
- ▶ Reduce walking/jogging between stops
 - ▶ Currently, STR collection helpers walk or jog 7-12 miles per day and can lift more than 500 cans/bags
- ▶ Reduce risk of winter slip & fall injuries
- ▶ Reduce injuries from opening bags on MRF Line
- ▶ Eliminate dangers from sharp/hazardous material
- ▶ Ratepayer savings: reduced risk of injury = reduced work comp premiums



In one community that switched from manual collection to automated, worker injuries were reduced from 23 per year to 3 per year.

Additional Benefits

- ▶ Compliance with California's requirement of separating waste streams (SB 1383)
- ▶ Eliminates plastic blue bags and yard waste bags
 - STR to work with jurisdictions on seasonal yard waste programs
- ▶ Capture more yard waste and recyclables for diversion
 - Estimate we'll recycle at least 2x more green waste



Examples of New Equipment



- **Rear loader** with cart tipper
- MSW, services carts and bear boxes
- Driver plus helpers



- **Front loader** with cart tippers
- All materials, services carts and bear boxes
- Driver plus helpers



- **Mini Side Loader**
- Services hard to access areas
- 4-wheel drive
- Driver plus helper



- **Automated Curotto truck**
- Recycle and yard waste cart service in select areas
- Driver only, right hand steer



** All trucks will be compliant with current CARB regulations and STR will be monitoring CARB decisions that may affect equipment purchases*

Program Expenses

* Details for operational and capital costs are included in the STR Rate Application.

Item	Capital Cost	Notes
Animal resistant MSW carts	\$3,321,130	financed over 6 years
Single stream recycling carts	\$1,165,495	\$1,470,994 less grant funding \$305,499, financed over 10 years
Yard waste carts	\$2,233,223	financed over 10 years
Commercial containers	\$35,250	financed over 5 years
Purchase of 8 trucks with cart tippers	\$3,162,861	financed over 10 years
Cart delivery truck & staff dedicated to cart delivery / pickup / service calls	\$176,556	financed over 10 years
Total Capital Cost	\$10,094,515	

Operational costs will include:

- ▶ Extensive customer service outreach for roll-out of program
- ▶ Staffing: 3 additional drivers plus 2 new positions for route logistics and customer service



Timeline & Next Steps

- ▶ Implementation goal is Spring/Summer 2024
- ▶ Must begin ordering equipment January 2023
- ▶ Amendments to franchise agreements critical to secure financing

Step	Description	2022		2023										2024							
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
1	3-cart program application submittal	■																			
2	JPA & STR commitment		■																		
3	Obtain preliminary financing/bridge loan			■																	
4	Order trucks and totes			■																	
5	STR prepares/submits base year rate application					■	■														
6	Anticipated franchise extension approval							■													
7	Crowe review base year & 3-cart apps/final report to JPA								■	■	■										
8	Notify customers of rate hearing												■								
9	Receive approval of rates from City Council & County Boards													■							
10	Implement new rates															1/1					
11	Anticipated roll out of new totes/routes																			■	■
12	First loan payment due																				■