



Resource
Recycling
Systems

City of Ann Arbor Single Stream Recycling Upgrade Business Case



October 12, 2009

Overview for
CITY COUNCIL WORKSESSION



Single Stream Recycling



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Separating all recyclables from trash at the source (home or business) into one "single stream" of commingled recyclables (paper and containers) that are collected in one truck compartment and processed at the MRF for deliver to recycling markets



Single Stream Recycling Summary



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- Overview
 - Single Stream MRF Upgrade
 - Single Stream for Businesses and Residences
 - Automated Recycling Collection
 - Incentive System for Residential Recycling
 - Driven by Commercial Recycling Roll-out
- Key Variables
 - City's Capital Investment in MRF/Carts
 - Financial Agreements with RAA and FCR
 - Market Conditions



Major Single Stream Recycling Benefits



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- Adding more materials to recycle
 - More plastics
- Rewarding households for recycling
 - RecycleBank rewards up to \$540/yr/household
- Diverting more of our waste stream
 - Reach 70% by 2012
 - Currently at 50%
- Reducing program costs
 - Save \$500,000 to \$750,000 per year



Upcoming Council Actions



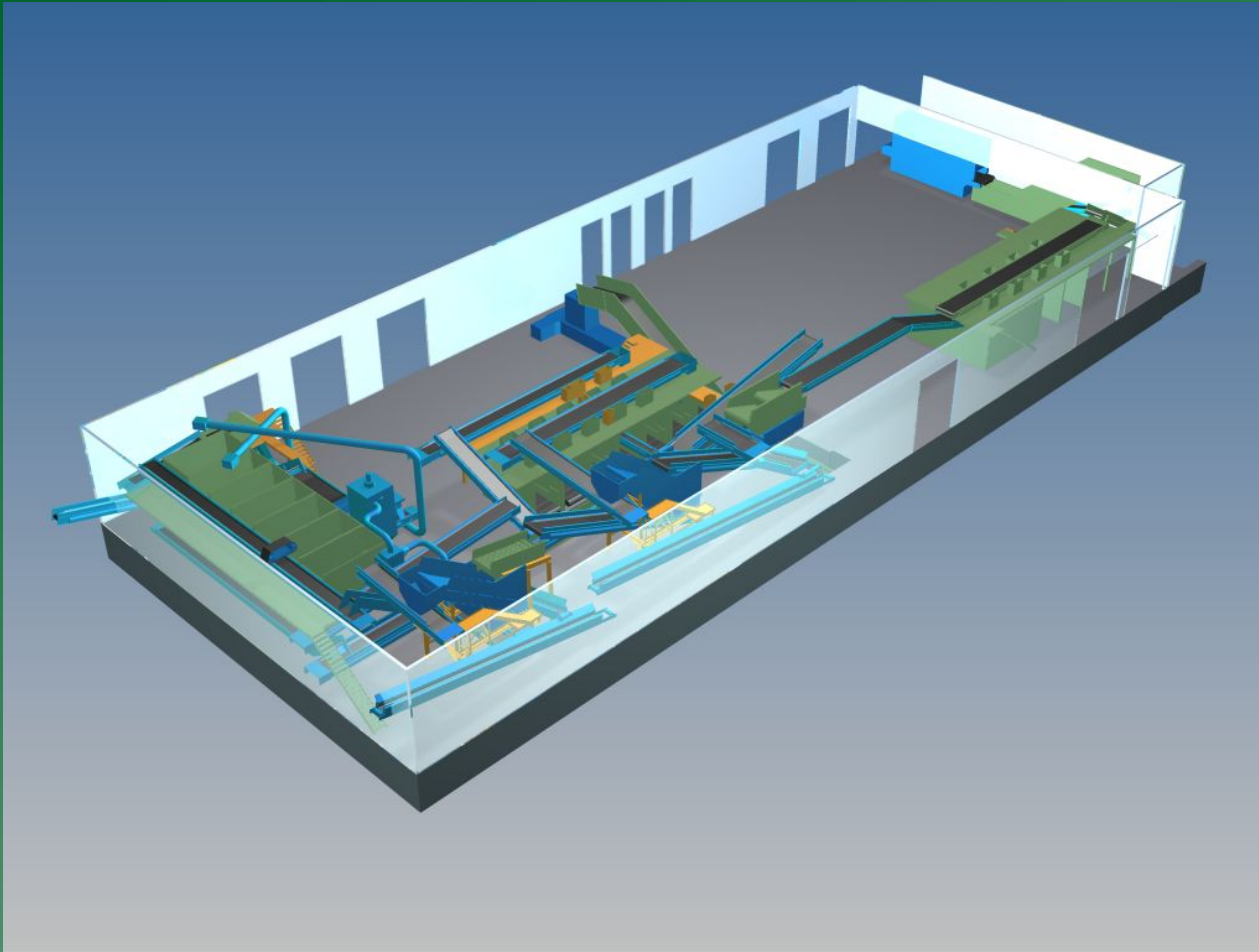
- November 5, 2009
 - FCR Contract Amendment (MRF upgrades)
 - RRSI Consulting Contract
- December 2009 – January 2010
 - RAA Contract Amendment
 - RecycleBank Contract
 - Automated Recycle Truck Purchases
 - Recycle Cart Purchases
- Single Stream Upgrade Timeline
 - MRF Equipment Upgrade by July, 2010
 - Single Stream Collection July, 2010
 - MRF Addition by December, 2011



Single Stream MRF Upgrade Phase I Equipment Upgrade



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Single Stream MRF Upgrade Capital Costs and Roles



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- FCR has vendor proposals from BHS and CP
 - Equipment pricing @ \$3.2 to \$3.3 million
 - Building expansion pricing @ \$500,000 to \$600,000
 - City proposed to fund equipment (7/10)
 - \$3.5 million budgeted (in CIP) – Partial expenditure FY 09/10
 - Includes engineering and contingency
 - 8 week downtime for conversion (transfer required)
 - FCR to fund building expansion later (by 12/11)
 - More bale storage area and improved material flow
 - Flexibility in receiving materials
 - Allows FCR to handle more merchant tons
 - Requires 5 year contract extension



Single Stream Conversion "Nuts and Bolts" Benefits



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- Enables Addition of More Types of Recyclables
- Enables use of RecycleBank Rewards System
- Increases City's overall Diversion Rate
- Shrinks City's carbon footprint (108,000 GHG ton reduction over 5 years)
- Lowers Costs:
 - Residential and Commercial Recycling Collection
 - Expanded Flexibility of Deployed Recycling Dumpsters
 - Reduces Number of MF and Commercial Carts
 - Enables Residential Refuse Route Reduction
 - Lowers Overall Annual Operating Costs
- Increases Long Term Enterprise Fund Balance



New Materials for Recycling



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- All plastic bottles
- Household plastic containers #1, #2, and #4-7, excluding Styrofoam and #3
- Bulky HDPE such as buckets, crates, toys, trays, and furniture



RecycleBank Rewards



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- Recycling Reward program - incentive for households to recycle
 - RFID tags in carts used to monitor participation
 - Truck records cart lift and route weight in database
 - Households receive rewards for setout
 - Maximum reward value is \$540, average @ \$240
 - Can opt to transfer reward to non-profit/schools
 - Proven to dramatically increase recycling

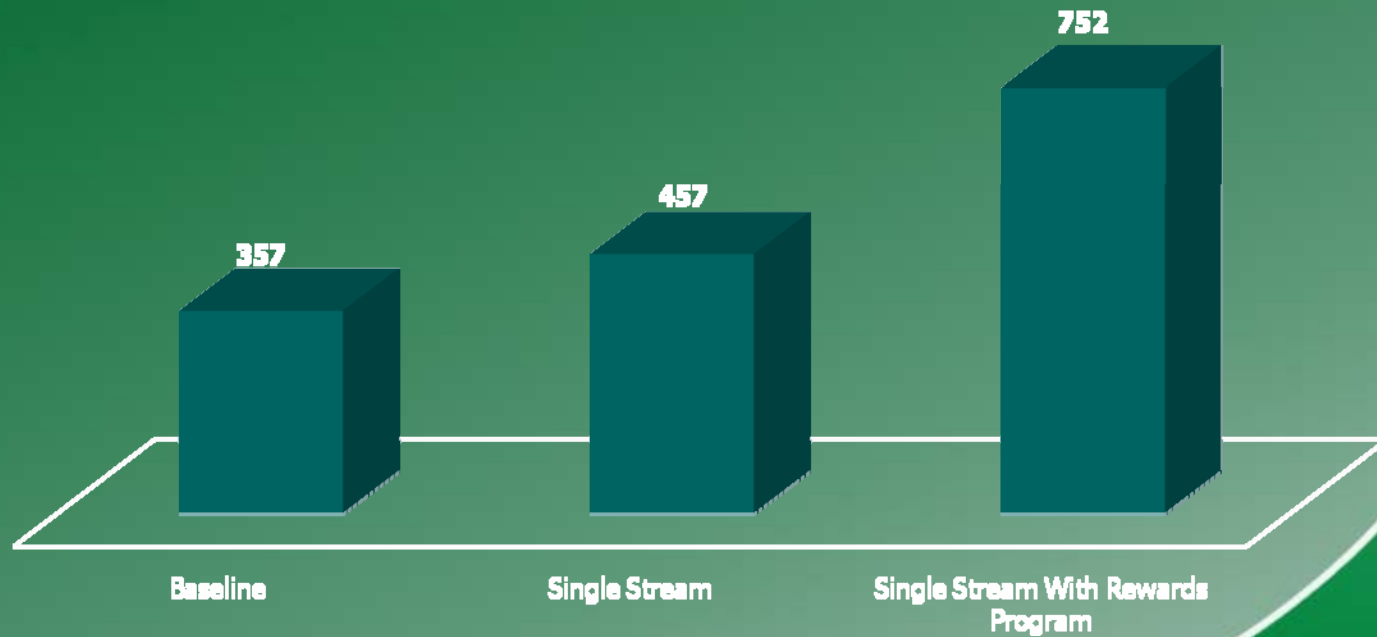


Single Stream Recycling Volume Projections



Estimated Material from Single Stream Residential Programs (Adjusted for Drop in Newspaper)

■ Lb/HH/Year



www.recycle.com



Single Stream Recycling RAA Contract Assumptions



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- RAA compensation structure modified to achieve targeted total compensation
 - Moderation in per ton incentive structure
 - Adjustment to monthly charge per service unit
- Total compensation targets existing level:
 - Reflects the increased efficiency
 - Enables route reduction
 - Requires at least 4 automated trucks in Year 1
 - Built into analysis
- Five year contract extension to 2018



Single Stream Recycling FCR Contract Assumptions



- FCR compensation - changes:
 - Per ton tip fee: inflated by cost of operation
 - Recycling revenue changes: City Tons
 - Tier 1 - 80% to City when value above \$54
 - Tier 2 - 90% to City when value above \$70
 - Current is 70% above \$42
 - Recycling Revenue Changes: All Other Tons
 - 30% to City when value above \$54
 - Merchant tons projected to reach 32,000 tpy



Budget Impact: Waste Collection Savings



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- Cost Savings on Trash Collection
 - Higher residential recycling rates create
 - less trash on refuse routes
 - lower trash set-out rates on refuse routes
 - greater efficiencies in collection
 - One waste collection route can be eliminated
 - Enabled by greater efficiencies
 - Estimated savings at \$150,000 per year
 - Phased in during 2011



Single Stream Recycling Enterprise Fund Budget



- Curb Cart Commercial Recycling Service
 - Commercial curb cart service no longer needed at some locations, as dumpsters converted to single stream
 - Results in delay in cart roll-out and fewer carts being purchased
 - Five year net return to fund balance: \$325,387

Commercial Curb-Cart Recycling	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15
Return to Fund Balance	\$ 44,080	\$ 65,334	\$ 65,446	\$ 72,792	\$ 72,792
Deduct Capital Utilization	\$ (20,394)	\$ 19,313	\$ (3,863)	\$ -	\$ -
Net Return to Fund Balance	\$ 64,474	\$ 110,496	\$ 179,804	\$ 252,596	\$ 325,387



Single Stream Recycling Enterprise Fund Budget



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- Curb-Cart Recycling Program
 - Switch to automated collection
 - Payment to RAA renegotiated
- Five year net return to fund balance: \$1,461,041

Curb-Cart Recycling	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15
Return to Fund Balance	\$ (246,540)	\$ 409,549	\$ 456,147	\$ 513,298	\$ 271,999
Deduct Capital Utilization	\$ (20,394)	\$ 19,313	\$ (3,863)	\$ -	\$ -
Net Return to Fund Balance	\$ (226,146)	\$ 164,091	\$ 624,100	\$ 1,137,398	\$ 1,409,397



Single Stream Recycling Enterprise Fund Budget



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- Capital Budget
 - Includes MRF upgrade and cart purchase
 - MRF upgrade @ \$3,500,000 (Partial expenditure FY 09/10)
 - Cart purchases @ \$1,281,600
 - From current \$9,000,000 fund balance
 - Increased revenue from non-City tons
- Five year net cost to fund balance: -\$2,923,809

Infrastructure Capital Recovery

	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15
Return to Fund Balance	\$ 182,967	\$ 191,613	\$ 489,386	\$ 501,069	\$ 492,756
Deduct Capital Utilization	\$ 4,781,600	\$ -	\$ -	\$ -	\$ -
Net Return to Fund Balance	\$ (4,598,633)	\$ (4,407,020)	\$ (3,917,634)	\$ (3,416,565)	\$ (2,923,809)



Single Stream Recycling Enterprise Fund Budget



- Five year net cost to fund balance:
– -\$1,389,740

	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	5 year NPV
RETURN TO FUND BALANCE						
Dumpster Commercial Recycling	\$ 6,924	\$ 24,181	\$ 30,567	\$ 31,500	\$ 31,500	\$107,246.82
Curb-Cart Recycling	\$ (246,540)	\$ 409,549	\$ 456,147	\$ 513,298	\$ 271,999	\$1,187,530.96
Infrastructure Capital Recovery	\$ 182,967	\$ 191,613	\$ 489,386	\$ 501,069	\$ 492,756	\$1,594,990.73
TOTAL RETURN	\$ (56,648)	\$ 625,344	\$ 976,099	\$ 1,045,867	\$ 796,254	\$2,889,768.51
DEDUCT CAPITAL UTILIZATION	\$ 4,761,206	\$ 19,313	\$ (3,863)	\$ -	\$ -	\$4,570,478.33
NET RETURN TO FUND BALANCE	\$ (4,817,854)	\$ (4,211,823)	\$ (3,231,861)	\$ (2,185,994)	\$ (1,389,740)	(\$1,680,709.82)

- Pays back investment in 6.75 years



Single Stream Recycling Payback Period



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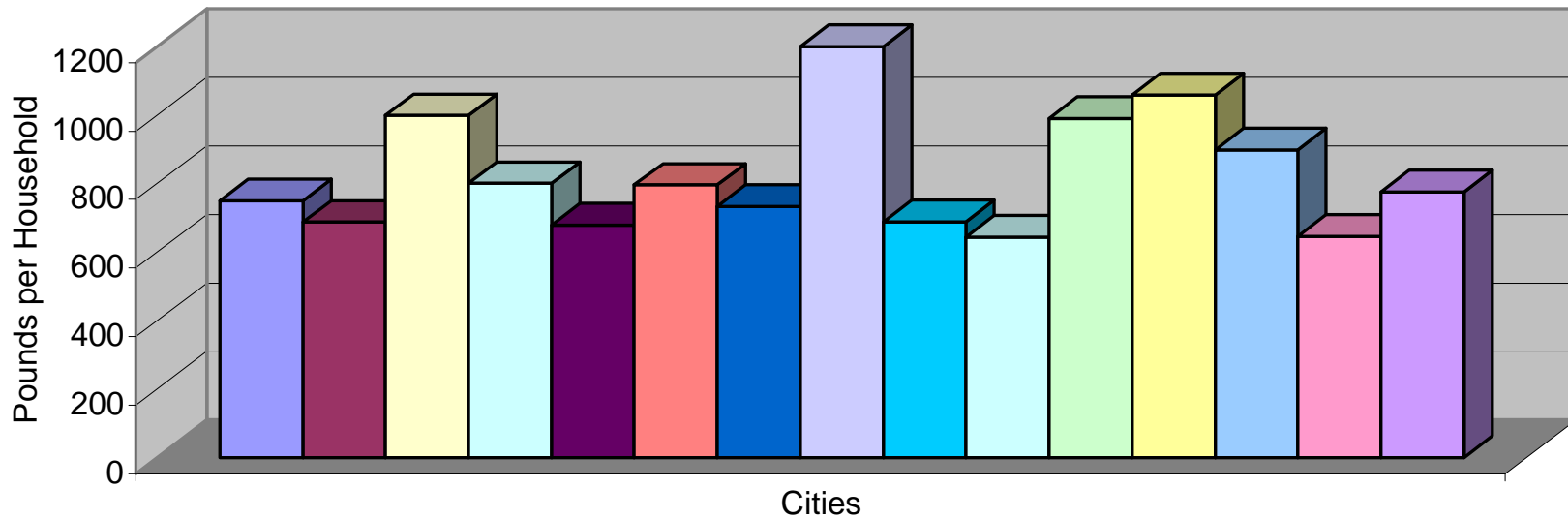
	Market Scenario Comparison
	Payback Period
Average Market	6.75 years
High Market	4.30 years
Low Market	7.80 years



Rewards Performance



Annual Recycling Diversion



- | | | | |
|---------------------|-----------------------|------------------|--------------------|
| Ann Arbor, MI | Carrollton, TX | Cherry Hill, NJ | East Greenwich, NJ |
| Knoxville, TN | Lower Gwynedd Twp, PA | Maple Grove, MN | Montgomery, OH |
| Rochester Hills, MI | Sioux Falls, SD | Upper Dublin, PA | Whitemarsh Twp, PA |
| Wichita, KS | Wilmington, DE | Woolwich, NJ | |



Communities with Colleges or Universities



Annual Recycling Diversion

