

**Concord Solid Waste/ Resource Recovery Cooperative
Single Stream Recycling Evaluation**

**Cooperative Joint Board Meeting
October 18, 2007**

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2007 Concord Cooperative Recycling/Single Stream Visits Community Recycling Information

Community	Population	Total Recycling Tonnage** (Total Tons (lbs/cap/yr))	2006 Gross Annual Recycling Revenue Total \$ (\$ per capita)	Ordinances	Changes to Implement Single Stream Recycling	Transition Time Needed	Scale*
Allenstown	4,991	32(13)	None	None	Town would need to purchase single stream curbside collection equipment	Requires Town Meeting vote	4
Andover	2,215	225(203)	\$12,000 (\$5.42)	Mandatory Recycling	Minimal	Within a month	2.5
Belmont	7,167	X	None	None	Town would need to fund curbside recycling of single stream material	Requires Town Meeting vote	3
Boscawen	3,912	127(65)	\$18,600 (\$4.75) (includes scrap metal)	None	Minimal	Within a month	2.5
Bow	7,790	735(189)	None	None	Current recycling curbside collection contract would need to be amended	Current contract expires 7/1/08 or new contract 7/1/09	5
Bradford (?)	1,578	56(71)	\$14,000 (\$8.87) (\$250/ton??)	Mandatory Recycling	Minimal	May need to go to Town Meeting, although not sure	5
Bristol	3,168	158(98)	\$7,000 (\$2.21)	None	Minimal	Within a month	3 5
Canterbury	2,239	359(321)	\$4,400 (\$1.97)	PAYT	Minimal, but depends on economics of single stream and resulting equipment needed	Requires Town Meeting Vote	3-5
Concord	42,076	1,960(93)	None	None	Current recycling curbside collection contract would need to be amended	Three to four months	4-5
Deering	2,058	X	X	X	See Hillsboro	See Hillsboro	X
Dunbarton	2,540	164 (129)	\$13,000 (\$5.12)	None	Roll off or compactor needed for collecting single stream material	Two years - may Require Town Meeting vote	5 4
Franklin	8,667	59 (14)	Minimal	None	City would need to purchase single stream curbside collection equipment	Six months	4
Gilford	7,306	Estimated at 300 to 400 (82-109)	Minimal	None	Town would need to fund curbside recycling of single stream material	Two years	5

*Scale -- Communities Interest in Single Stream Recycling

5- Very Interested 4-Probably Interested 3- Neutral/Not Sure Yet 2-Likely Not Interested 1-Little or No Interest 0-Not Likely

**Note - these tonnages include only marketable recyclables and exclude items such as scrap metal, construction demolition debris, bulky wastes, yard wastes, etc., except where otherwise noted.

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Gilmanton	3,431	163 (95)	\$15,000 (\$4.37)	None	Minimal	Six months	0 2.5
Henniker	4,963	366 (147)	\$19,500 (\$3.93)	None	Liquidate balers Layoff employees Minor changes to facility	Six months	0
Hill	1,076	58(108)	\$2,000 (\$1.86)	None	None	Within a month	4
Hillsboro	5,723	498 (174)	\$36,000 (\$6.29)	Mandatory Recycling	None	Within a month	3
Hopkinton	5,592	619 (221)	\$32,000 (\$5.72)	None	Current facility becomes obsolete Major financial expense to go to single stream	May require Town Meeting vote	0
Laconia	17,104	565 (66)	None	None	Current recycling curbside collection contract would need to be amended	Two years	4-5
Loudon	5,069	225 (89)	\$15,500 (\$3.06)	None	Minimal	Within a month	4-5
Northfield	5,069	116 (46)	\$9,400 (\$1.85)	None	Town would need to fund curbside recycling of single stream material	Two years - requires Town Meeting vote	
Pembroke	7,336	29 (8)	\$1,300 (\$0.18)	None	Town would need to fund curbside recycling of single stream material	Two years- requires Town Meeting vote	5
Salisbury	1,266	59 (93)	\$1,700 (\$1.34)	None	None	Within a month	3 4
Tilton	3,648	37 (20)	Minimal	None	Town would need to fund curbside recycling of single stream material	Two years - may require Town Meeting vote	3
Warner	2,934	576 (393)	\$24,500(\$8.35)	Mandatory Recycling	Roll off or compactor needed for collecting single stream material	Two years - requires Town Meeting vote	1.5 2.5
Wheare(?)	8,800	306 (70)	\$60,000 (\$6.82) (\$196/ton??)	Mandatory Recycling	Roll off or compactor needed for collecting single stream material	Within a month	3
Webster	1,774	X	X	X	See Hopkinton	See Hopkinton	X
Totals	169,492	7,920					

*Scale -- Communities Interested in Single Stream Recycling
 5- Very Interested 4-Probably Interested 3- Neutral/Not Sure Yet 2-Likely Not Interested 1-Little or No Interest 0-Not Likely

**Note -- these tonnages include only marketable recyclables and exclude items such as scrap metal, construction demolition debris, bulky wastes, yard wastes, etc., except where otherwise noted.

**Concord Solid Waste/ Resource Recovery Cooperative
Recycling Tonnage Comparisons**

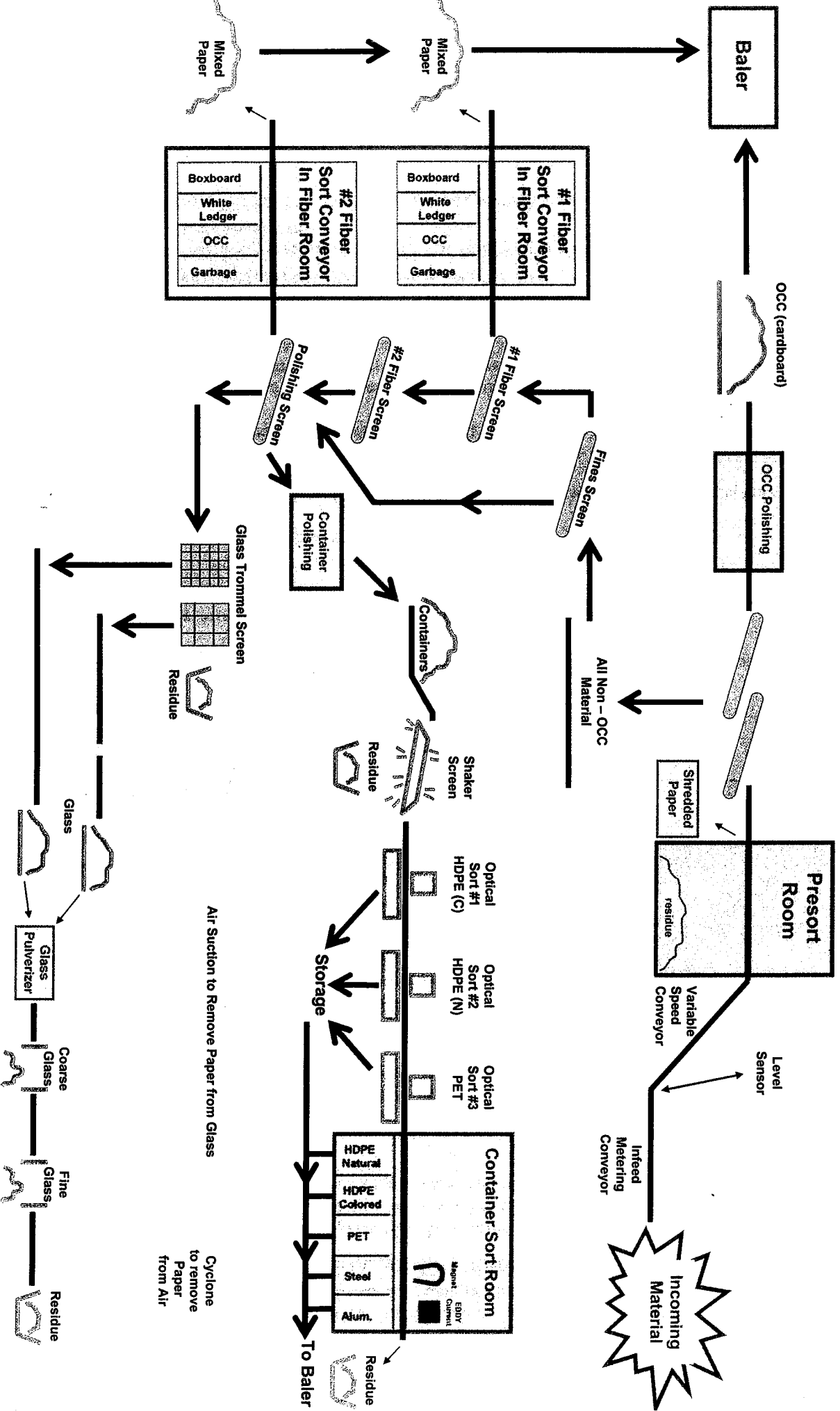
Pounds of Recyclable Materials Recycled per Capita per Year (lbs/capita/yr)

Cooperative Community	Recycling Rate (lbs/cap/yr) 2006	Tons Recycled 2006	Tons MSW 2006	MSW Rate (lb/cap/yr) 2006
1. Warner	393	576	2,085	1,412
2. Canterbury	321	359	768	687
3. Hopkinton/Webster	221	619	4,503	1,219
4. Andover	203	225	1,373	1,237
5. Bow	189	735	5,940	1,522
6. Hillsboro/Deering	174	498	4,439	1,136
7. Henniker	147	366	3,128	1,263
8. Dunbarton	129	164	1,071	850
9. Hill	108	58	464	857
10. Bristol	98	158	3,080	1,934
11. Gilmanton	95	163	1,473	859
12. Salisbury	93	59	612	974
13. Concord	93	1,960	49,180	2,330
14. Loudon	89	225	3,916	1,552
15. Gilford	82	300 (+/-)	7,494	2,057
16. Bradford	71	56 (?)	892	1,140
17. Weare	70	306 (?)	3,614	816
18. Laconia	66	565	17,517	2,049
19. Boscawen	65	127	2,613	1,358
20. Northfield	46	116	3,117	1,269
21. Tilton	20	37	6,052	3,328
22. Franklin	14	59	6,576	1,514
23. Allenstown	13	32	3,552	1,412
24. Pembroke	8	29	5,185	1,411
25. Belmont	N/A	N/A	6,986	1,939
Overall Cooperative	93	7,920	145,627	1,718

Single Stream curbside programs, w/ toters, for comparison purposes:

Goffstown, NH (full year)	269
Scarborough, ME (4 months)	241 (+126 from drop-offs)
Hollis, ME (2 months)	193

Single Stream Materials Recovery Facility (typical)



**Concord Regional Solid Waste/ Resource Recovery Cooperative
Single Stream Recycling Evaluation
Equipment Evaluation**

Bollegraaf / Van Dyke (visited Portland, ME; Syracuse and Chesapeake, VA) –

- Consortium of US and European technology/equipment manufacturing companies,
- Excellent equipment, stretching the state of the practice in optical sorting.
- Growing share of US market

CP Manufacturing– (visited Denver, CO)

- US firm from California from material processing/screening base early on
- Excellent equipment, optical sorting plants are in California – haven't visited yet.

Machinex (visited Chittenden Co., VT and Three Rivers, PQ)

- Quebec firm from material processing/screening base early on
- Experienced firm, valid equipment option; performance may not be commensurate with others
- Appears to have a declining share of US market.

Conclusions –

- Two or more valid and interested proposers.
- Equipment technologies are variations on the same theme, improving rapidly.
- Optical sorting merits careful consideration to save operating (labor) costs long term.
- Costs among vendors are likely to be competitive.

Procurement Alternatives

1. Private Ownership – Similar to Waste to Energy Facility Project, 1988-2018

Cooperative would request design/build/own/operate proposals. Casella, WMI, perhaps others may respond.

- Risks and benefits primarily accrue to the private sector facility owner/operator.
- Minimizes risk to Cooperative.
- Cooperative would still need to assume material market price risks at some level.
- Allows private owner to pursue multiple business opportunities.

If this option is preferred, suggest contracting with other private entities proposing to, or currently operating, recycling facilities – CES, WMI.

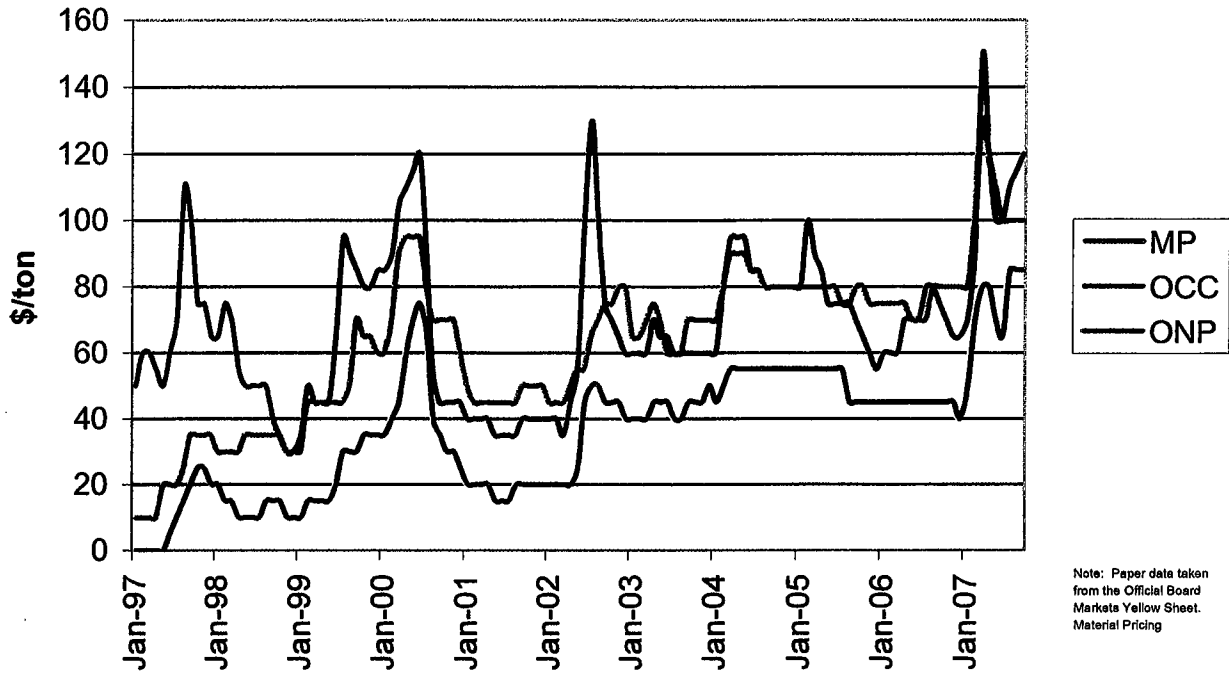
2. Public Ownership – Similar to Franklin Ash Landfill Project, 1988-2018.

Cooperative would site, permit and build facility through conventional construction contract. Equipment would be procured and installed separately. Equipment vendors would propose on equipment. Facility operations would be procured separately and coordinated with equipment procurement and facility design. Casella, several others, would likely propose on operations.

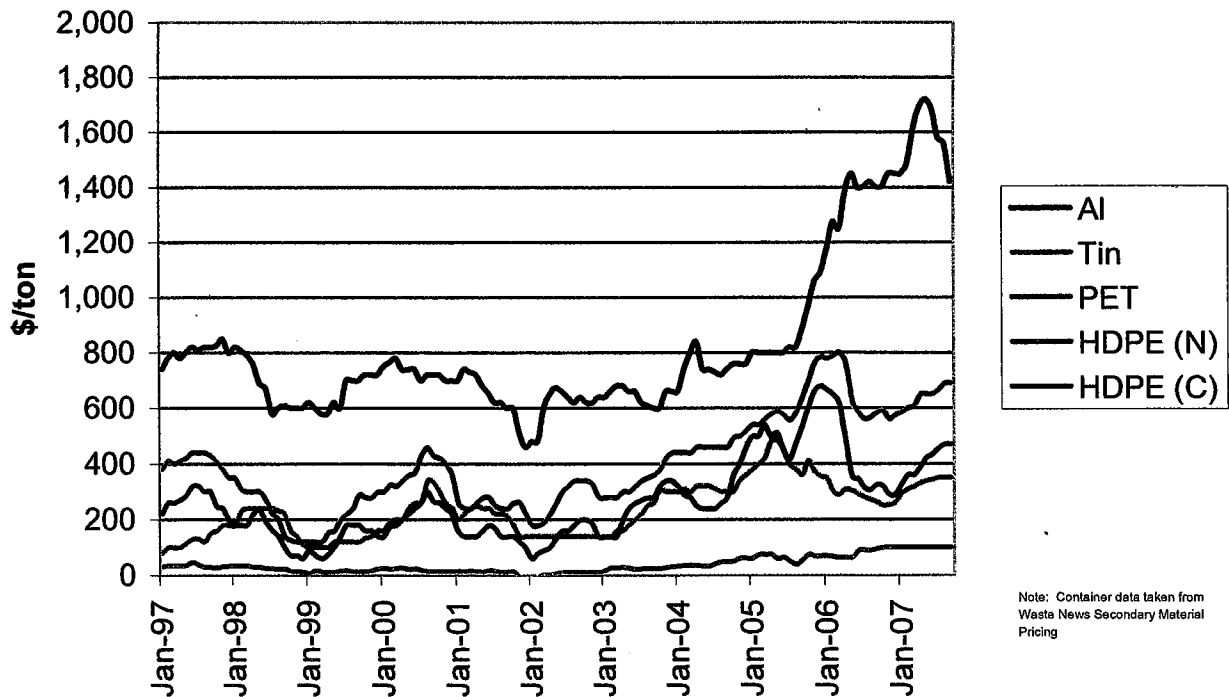
- Risks and benefits primarily accrue to Cooperative members
- Cooperative responsible for procuring materials – ie filling the plant with materials from additional communities beyond the Cooperative
- Cooperative/operator would need to work together to pursue multiple business opportunities.

Either option is viable.

Paper - Historical Recyclables Market

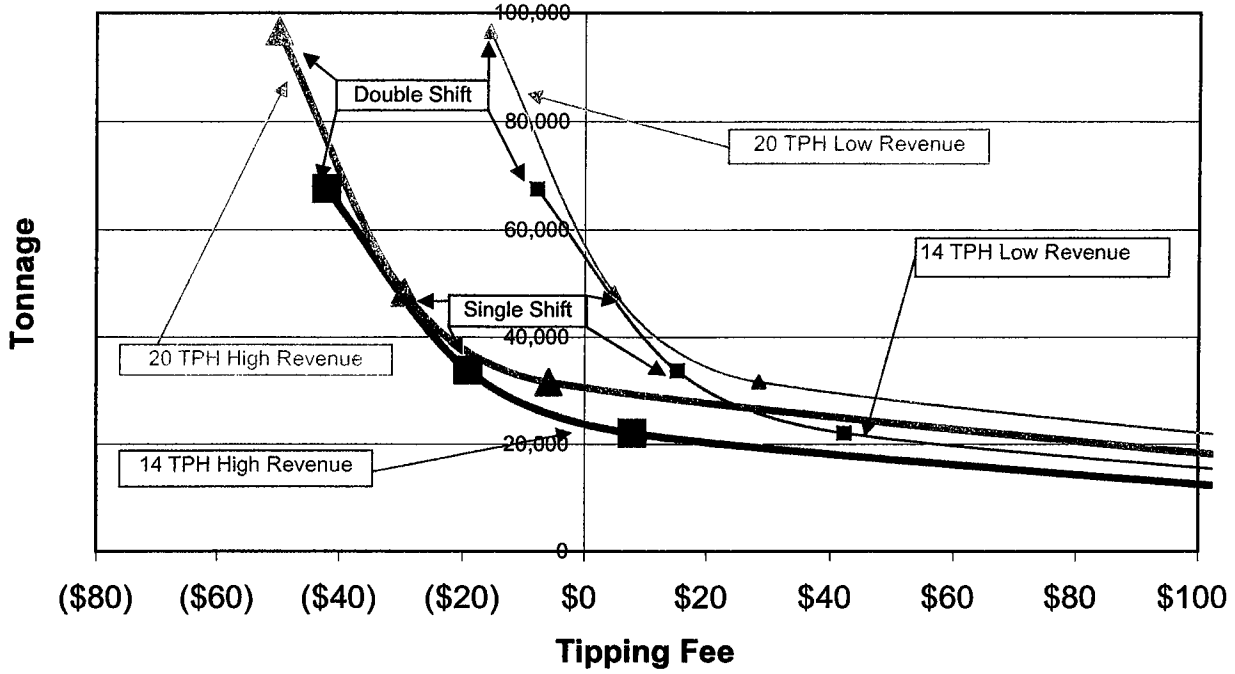


Containers - Historical Recyclables Market

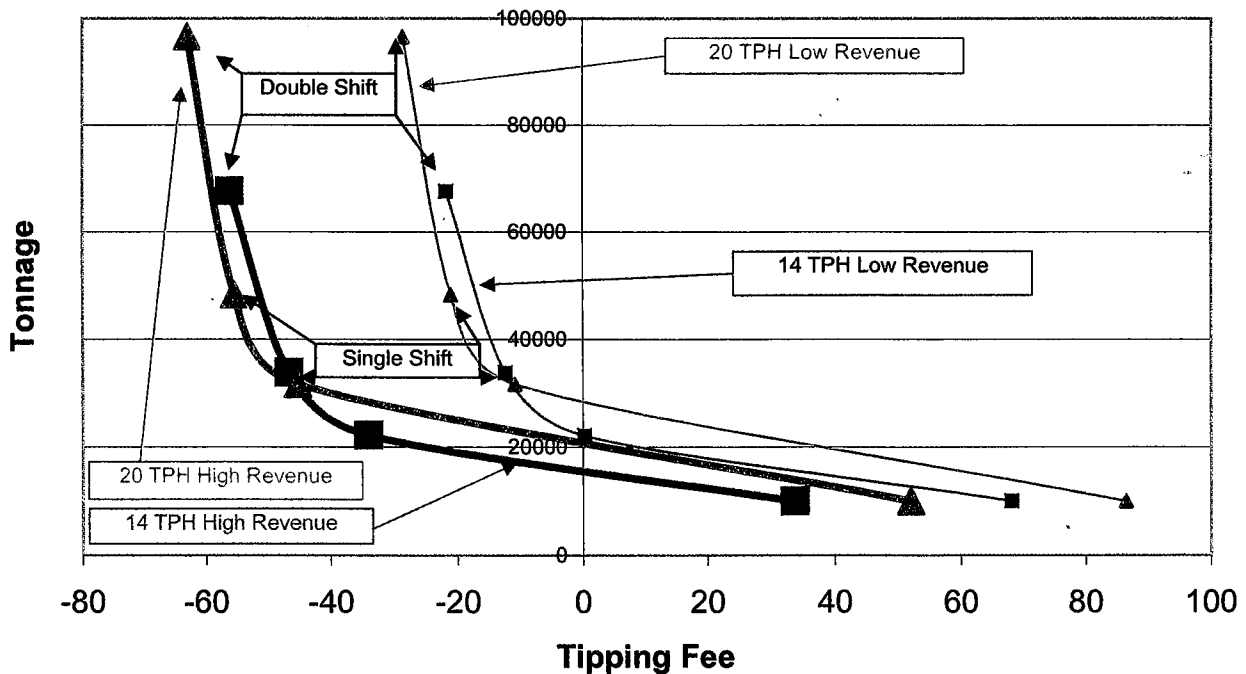


Portland returning 110/10N to county

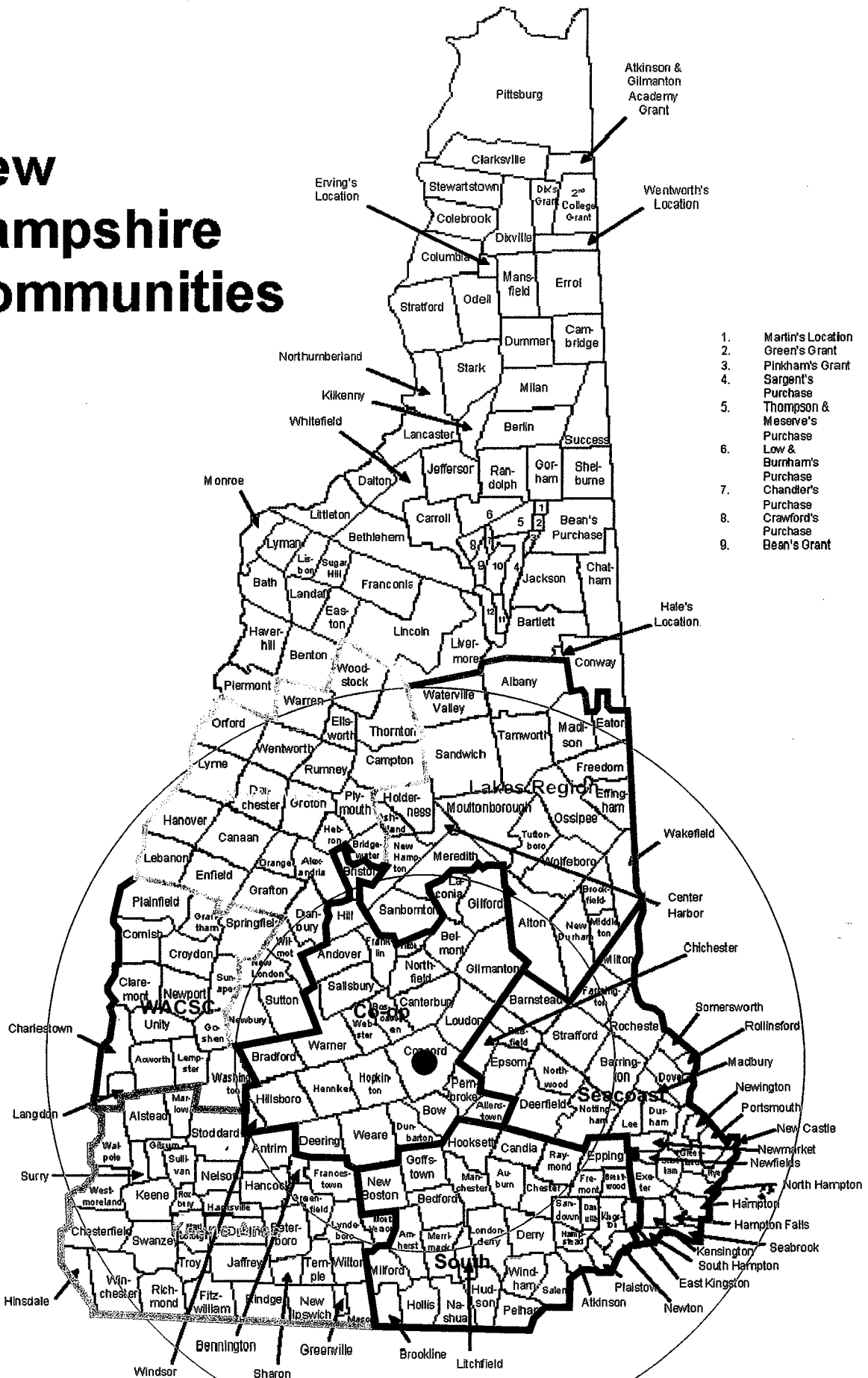
TIPPING FEE PROJECTION - 100% DEBT SERVICE



TIPPING FEE PROJECTION - 20% DEBT SERVICE



New Hampshire Communities



1. Martin's Location
2. Green's Grant
3. Pinkham's Grant
4. Sargent's Purchase
5. Thompson & Meserve's Purchase
6. Low & Burrham's Purchase
7. Chandler's Purchase
8. Crawford's Purchase
9. Bean's Grant

**Concord Regional Solid Waste/ Resource Recovery Cooperative
Single Stream Recycling Facility Evaluation
Tonnage Analysis**

Recent Co-op Tonnages (as reported to NH DES for Fiber and Containers)

- 6,401 tons in 2006 (Recycle rate of 4.8%)
- 7,900 tons estimated in 2007

Note: Tonnages do not include materials picked up by commercial haulers or from commercial establishments

Single stream recycling will further increase recycling rates because recycling programs will be simplified

- Easier use for residences
- Higher potential for commercial involvement
- More curbside recycling programs likely.

Co-op estimated to generate approximately 10,000 tons by 2010 and 25-30,000 tons/yr by 2030

Tipping Fee

No-cost tipping fee if revenue from processed recyclables equals operational and amortized capital costs

Tonnage required for \$0 tip fee

	14 TPH	20 TPH
Full Debt Service (High Revenue)	24,000	30,000
Full Debt Service (Low Revenue)	55,000	57,000
20% Debt Service (High Revenue)	16,000	20,000
20% Debt Service (Low Revenue)	21,000	28,000

Tonnage from outside the Co-op is required in the short-term and could be provided by southern NH cities and towns

Surrounding communities with significant estimated tonnage are (in 2006 tons)

Nashua	4,800	Londonderry	1,900	Durham	900
Sullivan County	3,000	Exeter	1,800	Hanover	900
Portsmouth	2,800	Windham	1,600	Hollis	800
Goffstown	2,300	Salem	1,500	New London	700
Souhegan District	2,300	Merrimack	1,000	Sunapee	500
Derry	2,200	Bedford	900	Meredith	400
Subtotal Larger Communities			30,000		
100+ Other Communities			25,000		
Total Within 50 mile radius			55,000		

Need: 10-20,000 tons from beyond Cooperative

Potential Procurement of Outside Waste

- Agreements with Communities
- Partnership with NRRA (estimated potential annual single stream tonnage, 40,000 TPY)
- Contracts with Private Haulers
- Processing of segregated materials (w/ NRRA and haulers)

**Concord Regional Solid Waste/ Resource Recovery Cooperative
Single Stream Recycling Evaluation
Siting**

Siting Criteria

- Access to I-93 and secondary roads
- Commercial/Industrial area with limited impact on residences
- 5 Acres +/-
- Water supply available; sewerage preferable
- Three phase power available
- Workable site conditions – limited ledge, wetlands impacts, no floodplain encroachment.

Sites Identified to Date – On list for evaluation:

1. Whitney Road site, adjacent to Waste to Energy Plant, Concord.
2. Merrimack County Complex, Route 3, Boscawen
3. Canterbury Landfill Site, off Route 4, Canterbury
4. Franklin Landfill Site/back parcel, off Route 3, Franklin
5. Weglarz property, (Franklin Industrial Park) off Route 127, Franklin

Sites Proposed for Evaluation by Cooperative Members:

6. Franklin Development Corp., (Franklin Industrial Park) off Route 3, Franklin

Suggestions from Cooperative members of other prospective sites are encouraged.

**Concord Regional Solid Waste/ Resource Recovery Cooperative
Single Stream Recycling Evaluation
Organizational Structure and Cooperative Assistance to Community**

Ownership Alternatives

1. Concord Regional Solid Waste/Resource Recovery Cooperative

- Implement by existing Cooperative
- Indemnify non-participating Cooperative members from any and all costs and benefits of the single stream recycling facility
- Enterprise fund accounting for the single stream facility
- Consider long term financing with project reserves, to be paid back annually to the Cooperative with interest (or proportionally credited annually to non-participating municipalities through either tipping fee reductions or contributions to municipality-dedicated reserves)
- Enter into contracts with other interested communities with potential cost and risk sharing

Option 1, if financed using internal reserves, could place the single stream recycling facility on a firm financial footing regardless of competition and materials market variations.

2. New Central New Hampshire Recycling Cooperative

- Implement by a new separate entity
- Participating Cooperative municipalities and outside municipalities all to consider formation of Cooperative at 2009 Town Meetings.
- Finance capital costs using new debt – NH Municipal Bond Bank, or otherwise (could consider financing from existing Cooperative to new Cooperative).

Cooperative Assistance to Communities

1. Provide general information.
2. Perform Generic Operational and Economic Evaluations
3. Consider assistance as requested in evaluating individual community's program and facilities
4. Provide information on Ordinances, Rules and Regulations
5. Provide assistance in the Town Meeting process, if applicable, and as requested
6. Public Education assistance

ID	Task Name	Duration	9/07	10/07	11/07	12/07	1/08	2/08	3/08	4/08
1	A. Siting	18.77 mons								
2	Evaluate Sites	4 mons								
3	Select Site	1 mon								
4	Sign Purchase/Sale Agreement	1 mon								
5	Acquire Site	3 mons								
6	B. Waste Recyclables Supply	25.86 mons								
7	Pursue Joint Venture with NRRA	2 mons								
8	Meet With Municipalities/Regional Entities	4 mons								
9	Assess Regional Interest - Go/No Go	0.9 mons								
10	Formulate Founder/Municipality Provisions	5 mons								
11	Meet With Potential Founder/Municipalities	7 mons								
12	Pursue Public and Private Short Term Waste/Recyclables Supplies	9 mons								
13	C. Organizational Structure	18.77 mons								
14	Evaluate Organizational Options/Obtain Legal Input	6 mons								
15	Evaluate Financing/Accounting Alternatives	6 mons								
16	Select Proposed Organizational Structure	0.91 mons								
17	Formulate Documents	7 mons								
18	Vote to Authorize All Project Agreements	2 mons								
19	D. Equipment Procurement	25.73 mons								
20	Visit Additional CP and Bollegraaf Facilities	4 mons								
21	Evaluate Processes/Optical Sort Options	5 mons								
22	Prepare Equipment Request for Proposals	1 mon								
23	Issue RFP	1 mon								
24	Accept Proposals	1 mon								
25	Evaluate and Select Equipment Manufacturer	1 mon								
26	Execute Contract	2 mons								
27	Deliver and Install Equipment	2 mons								
28	Start-up and Test	1 mon								
29	Facility Operations	1 mon								
30	E. Permitting	6 mons								
31	Document Preparation	3 mons								
32	NHDES Submission	1 mon								
33	Public Hearing	1 mon								
34	Receive Permits	1 mon								
35	F. Facility Design and Construction	18 mons								
36	Survey and Borings	2 mons								
37	Plans and Specifications	6 mons								
38	Advertise for Bids	1 mon								
39	Accept Bids	1 mon								
40	Execute Construction Contract	1.85 mons								
41	Facility Construction	8 mons								
42	G. Operating Contract	17.86 mons								
43	Request for Qualifications	1 mon								
44	Comment Period - Equipment RFP	1 mon								
45	Prepare Operations RFP	2 mons								
46	Comment Period - Selected Equipment	1 mon								
47	Issue Operations RFP	1 mon								
48	Accept Operations Proposals	1 mon								
49	Evaluate Proposals and Select Operator	1 mon								
50	Execute Operations Contract	1 mon								
51	Begin Operations	2 mons								
52	H. Cooperative Assistance to Communities	16.91 mons								
53	Project Planning Meeting	5 mons								
54	Assistance in Operational and Economic Analyses (as requested)	7 mons								
55	Recycling Ordinances, Rules and Regulations Assistance (as requested)	7 mons								
56	Town Decision Making Assistance (as requested)	4 mons								